CUSTOM DESIGN & ENGINEERING, INC

Structural Calculations

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8/3/2023

Beam Framing Analysis

Analysis of Bm 4 - 5.125 x 13.500 GLB 24F-V4

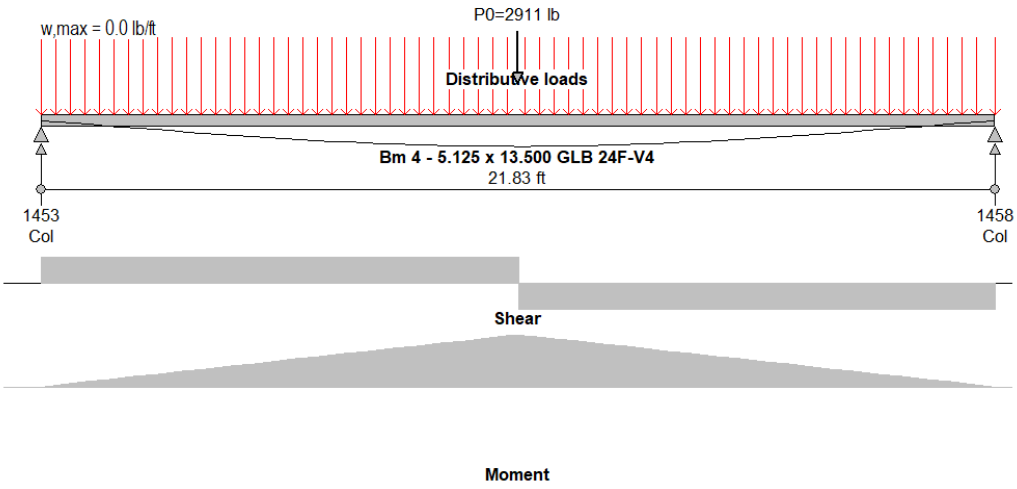

Table 1 - Point load table

LOAD	D	S	L	W+/-	E+/-	LOC	NOTES
0	1092	1820	0	0	0 |	10.94	| From BM 40 from Level 2

(1) Un-factored loads in lbs.
(2) Load location measured from left end of beam.

Table 3 - Distributive load table (pressures)

LOAD	ELEMENT	AREA ID	WALL HEIGHT	D	S	L
1	Floor/Roof	1	-	15.0	25.0	0.0
2	Floor/Roof	1	-	15.0	25.0	0.0
3	Floor/Roof	18	-	15.0	25.0	0.0

(1) loads in psf.

Table 4 - Distributive load table (line loads)

LOAD	ELEMENT	TRIB WIDTH	from loc	to loc	D	S	L
1	Floor/Roof	21.8 |	21.8	21.8 |	163.8	272.9	0.0
2	Floor/Roof	21.8 |	0.0	0.0 |	163.8	272.9	0.0
3	Floor/Roof	10.9 |	21.8	21.8 |	81.7	136.2	0.0

(1) From loc and to loc are load segments starting and ending
measured from the left of the beam

->Computed moments and shears (Factored) :
Max shear = 1453 lbs D + S (2.4-3)
Min shear = -1458 lbs D + S (2.4-3)
Max moment = 15892 ft-lbs D + S (2.4-3)
Min moment = -0 ft-lbs D + S (2.4-3)
->Beam properties (2D xy axis) :
Span = 21.83 ft
Area = 69.19 sq.in
Sx = 155.67 sq.in
Ixx = 1050.79 sq.in
->Check shear :
fv = 1.5 * V / Area = 1458 / 69.19 = 31.62 psi
F'v = 190.00 x 1.15 x 1.00 x 1.00 x 1.00 = 218.50 psi
Fv = 190 psi, CD = 1.15, Cm = 1.00, Ct = 1.00, Ci = 1.00.
->Check moment :
fb-top = M x 12 / Sx = -0 / 155.67 = 0.00 psi
fb-btm = M x 12 / Sx = 190701 / 155.67 = 1225.02 psi
Fb = 2400 psi, CD = 1.15, Cm = 1.00, Ct = 1.00, Cl = 1.00,
Cv = 0.77, Cfu = 1.00, Ci = 1.00, Cr = 1.00.
Cv controls
Fb'top x CD x CM x CT x CV x CFU x CI x CR = 1060 psi
Fb'btm x CD x CM x CT x CV x CFU x CI x CR = 2119 psi
->Check bearing :
->Check deflections :
Number of deflection spans = 1
Deflection span 0, Length = 21.83 ft Combined deflection = -0.577 [D + S (2.4-3)]
Allowed = 21.83 x 12 / 360.0 = 0.728 in.
Allowed (Seismic controled) = 21.83 x 12 / 180.0 = 1.456 in.

Analysis of Bm 7 - (2) 2 x 10 DF #2

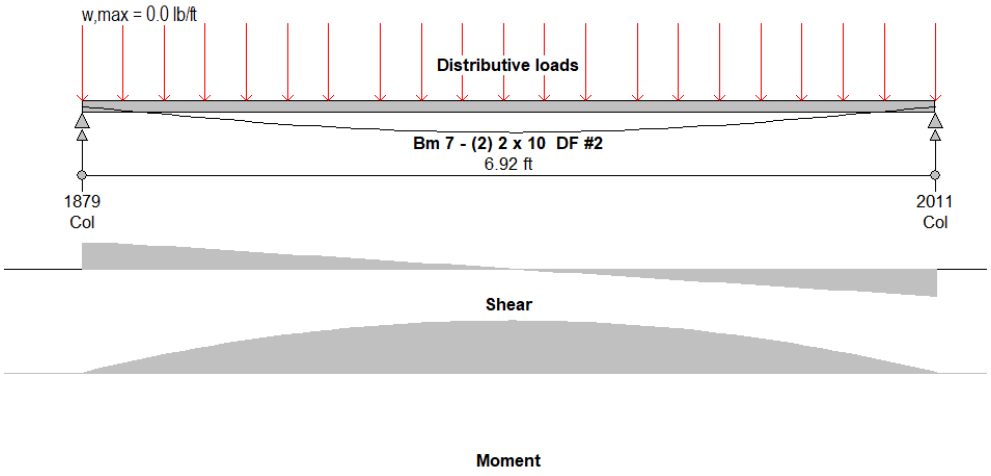

Table 1 - Point load table

LOAD	D	S	L	W+/-	E+/-	LOC	NOTES
No Applied point loads							

(1) Un-factored loads in lbs.
(2) Load location measured from left end of beam.

Table 3 - Distributive load table (pressures)

LOAD	ELEMENT	AREA ID	WALL HEIGHT	D	S	L
0	Floor/Roof	16	-	15.0	25.0	0.0

(1) loads in psf.

Table 4 - Distributive load table (line loads)

LOAD	ELEMENT	TRIB WIDTH	from loc	to loc	D	S	L
0	Floor/Roof	29.1 |	6.9	0.2 |	218.1	363.5	0.0

(1) From loc and to loc are load segments starting and ending
    measured from the left of the beam

->Computed moments and shears (Factored) :

Max shear	= 1879 lbs	D + S (2.4-3)
Min shear	= -2011 lbs	D + S (2.4-3)
Max moment	= 3476 ft-lbs	D + S (2.4-3)
Min moment	= -0 ft-lbs	D + S (2.4-3)

->Beam properties (2D xy axis) :

Span = 6.92 ft
Area = 27.75 sq.in
Sx   = 42.78 sq.in
Ixx   = 197.86 sq.in

->Check shear :

fv = 1.5 x V / Area = 2011 / 27.75 = 108.71 psi
F'v = 180.00 x 1.15 x 1.00 x 1.00 x 1.00 = 207.00 psi
  Fv = 180 psi, CD = 1.15, Cm = 1.00, Ct = 1.00, Ci = 1.00.

->Check bending :

fb-top = M x 12 / Sx = 41713 / 42.78 = 975.02 psi
fb-btm = M x 12 / Sx = 0 / 42.78 = 0.00 psi
  Fb = 900 psi, CD = 1.15, Cm = 1.00, Ct = 1.00, Cl = 1.00,
 Cf = 1.10, Cfu = 1.00, Ci = 1.00, Cr = 1.00.
  Fb'x CD x CM x CT x CL x CFx CFU x CI x CR = 1138 psi

->Check bearing :

->Check deflections :

Number of deflection spans = 1
Deflection span 0, Length = 6.92 ft Combined deflection = -0.095 [D + S (2.4-3)]
        Allowed = 6.92 x 12 / 360.0 = 0.231 in.
        Allowed (Seismic controled) = 6.92 x 12 / 180.0 = 0.462 in.

Analysis of Bm 8 - (2) 2 x 8 DF #2

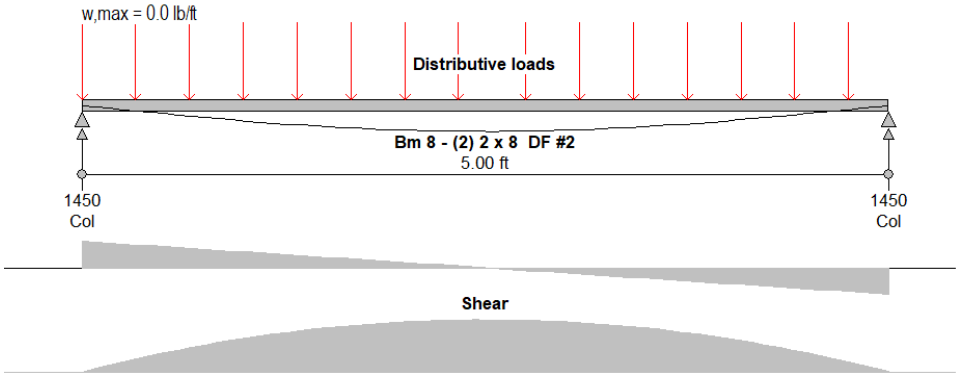

Table 1 - Point load table

LOAD	D	S	L	W+/-	E+/-	LOC	NOTES
No Applied point loads							

(1) Un-factored loads in lbs.
(2) Load location measured from left end of beam.

Table 3 - Distributive load table (pressures)

LOAD	ELEMENT	AREA ID	WALL HEIGHT	D	S	L
0	Floor/Roof	0	-	15.0	25.0	0.0
1	Floor/Roof	0	-	15.0	25.0	0.0
2	Floor/Roof	0	-	15.0	25.0	0.0

(1) loads in psf.

Table 4 - Distributive load table (line loads)

LOAD	ELEMENT	TRIB WIDTH	from loc	to loc	D	S	L
0	Floor/Roof	29.0 |	5.3	5.0 |	217.5	362.5	0.0
1	Floor/Roof	29.0 |	5.0	0.0 |	217.5	362.5	0.0
2	Floor/Roof	29.0 |	0.0	-0.2 |	217.5	362.5	0.0

(1) From loc and to loc are load segments starting and ending
    measured from the left of the beam

->Computed moments and shears (Factored) :
        Max shear =   1450 lbs   D + S (2.4-3)
        Min shear =   -1450 lbs   D + S (2.4-3)
        Max moment =   1812 ft-lbs   D + S (2.4-3)
        Min moment =   -0 ft-lbs   D + S (2.4-3)
->Beam properties (2D xy axis) :
        Span = 5.00 ft
        Area = 21.75 sq.in
        Sx   = 26.28 sq.in
        Ixx   = 95.27 sq.in
->Check shear :
        fv = 1.5 x V / Area = 1450 / 21.75 = 100.00 psi
        F'v = 180.00 x 1.15 x 1.00 x 1.00 x 1.00 = 207.00 psi
          Fv = 180 psi, CD = 1.15, Cm = 1.00, Ct = 1.00, Ci = 1.00.
->Check bending :
        fb-top = M x 12 / Sx = 21744 / 26.28 = 827.35 psi
        fb-btm = M x 12 / Sx = 0 / 26.28 = 0.00 psi
          Fb = 900 psi, CD = 1.15, Cm = 1.00, Ct = 1.00, Cl = 1.00,
         Cf = 1.20, Cfu = 1.00, Ci = 1.00, Cr = 1.00.
          Fb'x CD x CM x CT x CL x CFx CFU x CI x CR = 1242 psi
->Check bearing :
->Check deflections :
        Number of deflection spans = 1
        Deflection span 0, Length = 5.00 ft Combined deflection = -0.053 [D + S (2.4-3)]
                Allowed = 5.00 x 12 / 360.0 = 0.167 in.
                Allowed (Seismic controled) = 5.00 x 12 / 180.0 = 0.333 in.

Analysis of Bm 9 - (2) 2 x 6 DF #2

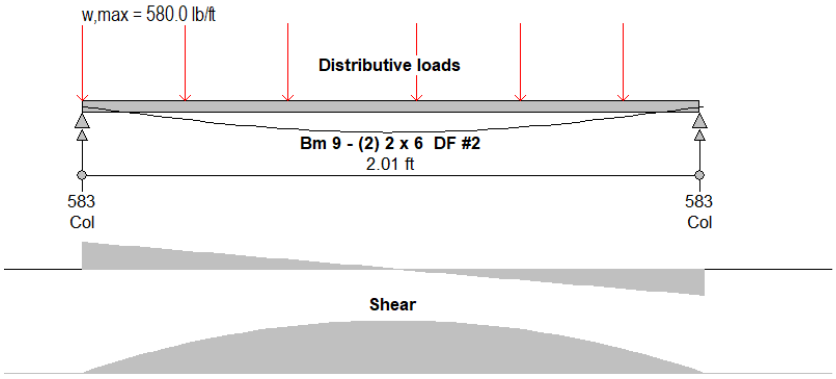


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Table 1 - Point load table
LOAD    D       S       L     W+/-     E+/-        LOC             NOTES
-------------------------------------------------------------------------------
No Applied point loads
-------------------------------------------------------------------------------
(1) Un-factored loads in lbs.
(2) Load location measured from left end of beam.
Table 3 - Distributive load table (pressures)
LOAD  ELEMENT     AREA   WALL     D        S      L
                   ID   HEIGHT
-----------------------------------------------------------
 0  Floor/Roof      0     -      15.0    25.0     0.0
-----------------------------------------------------------
(1) loads in psf.
Table 4 - Distributive load table (line loads)
LOAD  ELEMENT              TRIB     from    to       D         S      L
                           WIDTH     loc    loc
-------------------------------------------------------------------------
 0  Floor/Roof             29.0 |    0.0    2.0 |   217.5   362.5     0.0
-------------------------------------------------------------------------
(1) From loc and to loc are load segments starting and ending
    measured from the left of the beam
->Computed moments and shears (Factored) :
        Max shear  =        583 lbs          D + S (2.4-3)
        Min shear  =       -583 lbs          D + S (2.4-3)
        Max moment =        293 ft-lbs       D + S (2.4-3)
        Min moment =         -0 ft-lbs       D + S (2.4-3)
->Beam properties (2D xy axis) :
        Span  = 2.01 ft
        Area  = 16.50 sq.in
        Sx    = 15.12 sq.in
        Ixx   = 41.59 sq.in
->Check shear :
        fv = 1.5 x V / Area  = 583 / 16.50 = 53.04 psi
        F'v = 180.00 x 1.15 x 1.00 x 1.00 x 1.00 =  207.00 psi
          Fv = 180 psi, CD = 1.15, Cm = 1.00, Ct = 1.00, Ci = 1.00.
->Check bending :
        fb-top = M x 12 / Sx  = 3521 / 15.12 = 232.76 psi
        fb-btm = M x 12 / Sx  = 0 / 15.12 = 0.00 psi
          Fb = 900 psi, CD = 1.15, Cm = 1.00, Ct = 1.00, Cl = 1.00,
         Cf = 1.30, Cfu = 1.00, Ci = 1.00, Cr = 1.00.
          Fb'x CD x CM x CT x CL x CFx CFU x CI x CR = 1346 psi
->Check bearing :
->Check deflections :
        Number of deflection spans = 1
        Deflection span 0, Length = 2.01 ft Combined deflection = -0.003 [D + S (2.4-3)]
                Allowed = 2.01 x 12 / 360.0 = 0.067 in.
                Allowed (Seismic controled) = 2.01 x 12 / 180.0 = 0.134 in.
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Analysis of Bm 10 - 7.000 x 16.000 LVL 2.0E

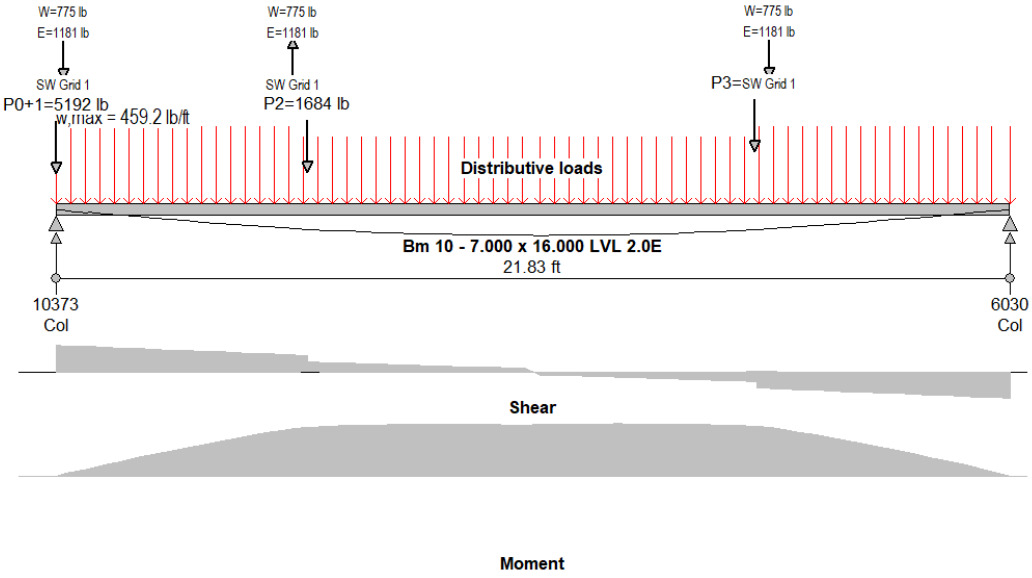

Table 1 - Point load table

LOAD	D	S	L	W+/-	E+/-	LOC	NOTES
0	754	1257	0	0	0	0.08	From BM 7 from Level 2
1	1193	1988	0	0	0	0.00	From BM 35 from Level 2
2	632	1053	0	0	0	5.77	From BM 41 from Level 2
3	639	1065	0	0	0	16.04	From BM 41 from Level 2
8	0	0	0	775	1181	0.23	From SW supt from Level 1
9	0	0	0	775	1181	5.47	From SW supt from Level 1
10	0	0	0	775	1181	16.35	From SW supt from Level 1

(1) Un-factored loads in lbs.
(2) Load location measured from left end of beam.

Table 2 - Seismic load table

LOAD	E	E X OMEGA	NOTES
8	1181	3544	Overstrength factor = 3.0 applied
9	1181	3544	Overstrength factor = 3.0 applied
10	1181	3544	Overstrength factor = 3.0 applied

(1) Un-factored loads with overstrength factor applied as applicable, in lbs.

Table 3 - Distributive load table (pressures)

LOAD	ELEMENT	AREA ID	WALL HEIGHT	D	S	L
4	Wall	-	9.2	10.0		
5	Wall	-	9.2	10.0		
6	Floor/Roof	2	-	40.0	0.0	60.0
7	Floor/Roof	18	-	15.0	25.0	0.0

(1) Wall height in feet.
(2) loads in psf.

Table 4 - Distributive load table (line loads)

LOAD	ELEMENT	TRIB WIDTH	from loc	to loc	D	S	L
4	Wall		0.0	5.8	92.5		
5	Wall		16.0	21.8	92.5		
6	Floor/Roof	7.3	0.0	21.8	146.7	0.0	220.0
7	Floor/Roof	10.9	21.8	21.8	81.7	136.2	0.0

(1) From loc and to loc are load segments starting and ending
measured from the left of the beam
(2) Wall weight, lb/ft = height x weight in psf

->Computed moments and shears (Factored) :

Max shear =	6017 lbs	D - (0.75)0.7E + 0.75S + 0.75L (2.4-6c)
Min shear =	-6030 lbs	D + (0.75)0.7E + 0.75S + 0.75L (2.4-6c)
Max moment =	31991 ft-lbs	D + (0.75)0.7E + 0.75S + 0.75L (2.4-6c)
Min moment =	-4845 ft-lbs	0.6D - 0.7E (2.4-8b)

->Beam properties (2D xy axis) :

Span	= 21.83 ft
Area	= 112.00 sq.in
Sx	= 298.67 sq.in
Ixx	= 2389.33 sq.in

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->Check shear :
        fv = 1.5 x V / Area  = 6030 / 112.00 = 80.75 psi
        F'v = 285 x 1.60 =  456.00 psi
          Fv = 285 psi, CD = 1.00
->Check moment :
        fb = M x 12 / Sx  = 383890 / 298.67 = 1285.35 psi
          Fb = 2600 psi, CD = 1.60, Cf = 0.97, Cl = 1.00.
          Fb' x CD x CF x CL = 4029 psi
->Check bearing :
->Check deflections :
        Number of deflection spans = 1
        Deflection span 0, Length = 21.83 ft Combined deflection = -0.541 [D + (0.75)0.7E + 0.75S + 0.75L (2.4-6c)]
                Allowed = 21.83 x 12 / 360.0 = 0.728 in.
                Allowed (Seismic controled) = 21.83 x 12 / 180.0 = 1.456 in.
```

Analysis of Bm 11 - 5.250 x 14.000 LVL 2.0E

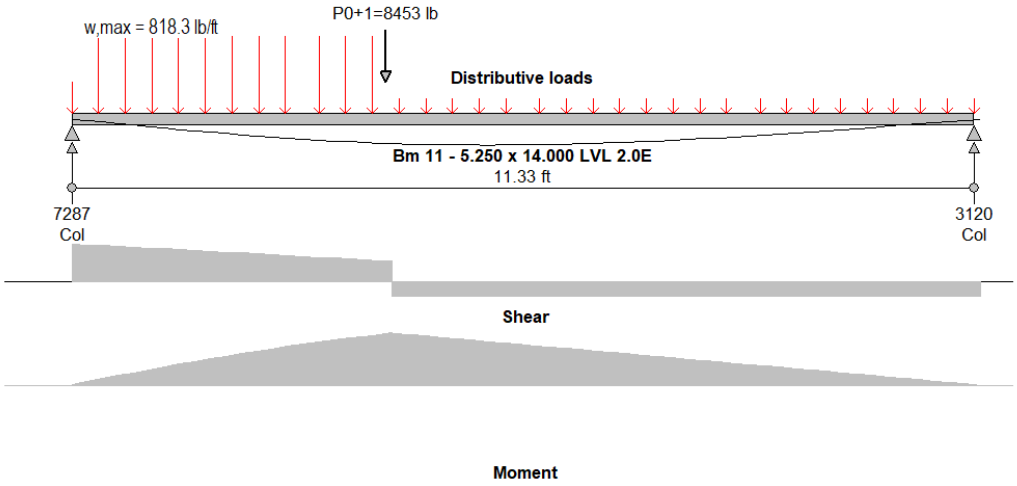

Table 1 - Point load table

LOAD	D	S	L	W+/-	E+/-	LOC	NOTES
0	2769	1061	2402	237	1263	0.00	From BM 10 from Level 1
1	611	859	0	417	2224	0.00	From BM 12 from Level 1

(1) Un-factored loads in lbs.
(2) Load location measured from left end of beam.

Table 2 - Seismic load table

LOAD	E	E X OMEGA	NOTES
0	1263	1263	Transfered load which includes overstrength factor
1	2224	2224	Transfered load which includes overstrength factor

(1) Un-factored loads with overstrength factor applied as applicable, in lbs.

Table 3 - Distributive load table (pressures)

LOAD	ELEMENT	AREA ID	WALL HEIGHT	D	S	L
2	Floor/Roof	3	-	15.0	0.0	40.0
3	Floor/Roof	8	-	15.0	0.0	60.0
4	Floor/Roof	18	-	15.0	25.0	0.0

(1) loads in psf.

Table 4 - Distributive load table (line loads)

LOAD	ELEMENT	TRIB WIDTH	from loc	to loc	D	S	L
2	Floor/Roof	21.8	0.2	4.0	163.8	0.0	436.7
3	Floor/Roof	7.0	3.7	0.5	52.5	0.0	210.0
4	Floor/Roof	10.9	0.0	3.9	81.7	136.2	0.0

(1) From loc and to loc are load segments starting and ending
    measured from the left of the beam

```
->Computed moments and shears (Factored) :
        Max shear  =       7287 lbs    D - (0.75)0.7E + 0.75S + 0.75L (2.4-6c)
        Min shear  =      -3268 lbs    D + (0.75)0.7E + 0.75S + 0.75L (2.4-6c)
        Max moment =      22880 ft-lbs D - (0.75)0.7E + 0.75S + 0.75L (2.4-6c)
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        Min moment =      -1741 ft-lbs    D + 0.7E (2.4-5c)
->Beam properties (2D xy axis) :
        Span  = 11.33 ft
        Area  = 73.50 sq.in
        Sx    = 171.50 sq.in
        Ixx   = 1200.50 sq.in
->Check shear :
        fv = 1.5 x V / Area  = 7287 / 73.50 = 148.72 psi
        F'v = 285 x 1.60 =  456.00 psi
          Fv = 285 psi, CD = 1.00
->Check moment :
        fb = M x 12 / Sx  = 274561 / 171.50 = 1600.94 psi
          Fb = 2600 psi, CD = 1.60, Cf = 0.98, Cl = 1.00.
          Fb' x CD x CF x CL = 4089 psi
->Check bearing :
->Check deflections :
        Number of deflection spans = 1
        Deflection span 0, Length = 11.33 ft Combined deflection = -0.175 [D - (0.75)0.7E + 0.75S + 0.75L (2.4-6c)]
                Allowed = 11.33 x 12 / 360.0 = 0.378 in.
                Allowed (Seismic controled) = 11.33 x 12 / 180.0 = 0.756 in.
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Analysis of Bm 12 - (2) 2 x 12 DF #2

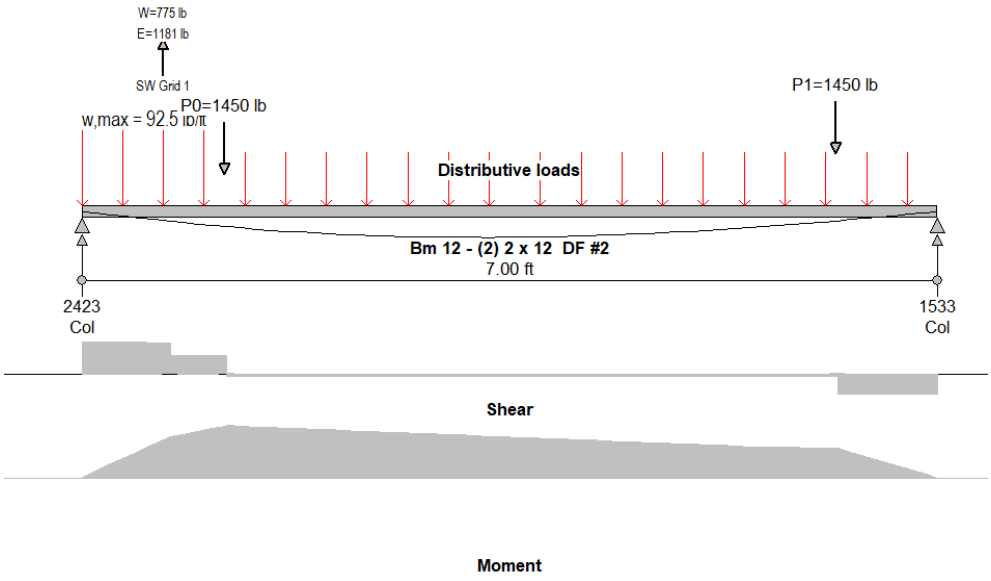

Table 1 - Point load table

LOAD	D	S	L	W+/-	E+/-	LOC	NOTES
0	544	906	0	0	0	1.18	From BM 8 from Level 2
1	544	906	0	0	0	6.18	From BM 8 from Level 2
3	0	0	0	775	1181	0.72	From SW supt from Level 1

(1) Un-factored loads in lbs.
(2) Load location measured from left end of beam.

Table 2 - Seismic load table

LOAD	E	E X OMEGA	NOTES
3	1181	3544	Overstrength factor = 3.0 applied

(1) Un-factored loads with overstrength factor applied as applicable, in lbs.

Table 3 - Distributive load table (pressures)

LOAD	ELEMENT	AREA ID	WALL HEIGHT	D	S	L
2	Wall	-	9.2	10.0		

(1) Wall height in feet.
(2) loads in psf.

Table 4 - Distributive load table (line loads)

LOAD	ELEMENT	TRIB WIDTH	from loc	to loc	D	S	L
2	Wall		0.0	1.2	92.5		

(1) From loc and to loc are load segments starting and ending
    measured from the left of the beam

```
(2) Wall weight, lb/ft = height x weight in psf
->Computed moments and shears (Factored) :
        Max shear  =       2423 lbs    D - (0.75)0.7E + 0.75S + 0.75L (2.4-6c)
        Min shear  =      -2463 lbs    D + (0.75)0.7E + 0.75S + 0.75L (2.4-6c)
        Max moment =       2263 ft-lbs D - (0.75)0.7E + 0.75S + 0.75L (2.4-6c)
        Min moment =      -1126 ft-lbs    D + 0.7E (2.4-5c)
->Beam properties (2D xy axis) :
        Span  = 7.00 ft
        Area  = 33.75 sq.in
        Sx    = 63.28 sq.in
        Ixx   = 355.96 sq.in
->Check shear :
        fv = 1.5 x V / Area  = 2463 / 33.75 = 109.46 psi
        F'v = 180.00 x 1.60 x 1.00 x 1.00 x 1.00 =  288.00 psi
          Fv = 180 psi, CD = 1.60, Cm = 1.00, Ct = 1.00, Ci = 1.00.
->Check bending :
        fb-top = M x 12 / Sx  = 27160 / 63.28 = 429.19 psi
        fb-btm = M x 12 / Sx  = 13508 / 63.28 = 213.47 psi
          Fb = 900 psi, CD = 1.60, Cm = 1.00, Ct = 1.00, Cl = 1.00,
         Cf = 1.00, Cfu = 1.00, Ci = 1.00, Cr = 1.00.
          Fb'x CD x CM x CT x CL x CFx CFU x CI x CR = 1440 psi
->Check bearing :
->Check deflections :
        Number of deflection spans = 1
        Deflection span 0, Length = 7.00 ft Combined deflection = -0.031 [D - (0.75)0.7E + 0.75S + 0.75L (2.4-6c)]
                Allowed = 7.00 x 12 / 360.0 = 0.233 in.
                Allowed (Seismic controled) = 7.00 x 12 / 180.0 = 0.467 in.
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Analysis of Bm 13 - 7.000 x 14.000 LVL 2.0E

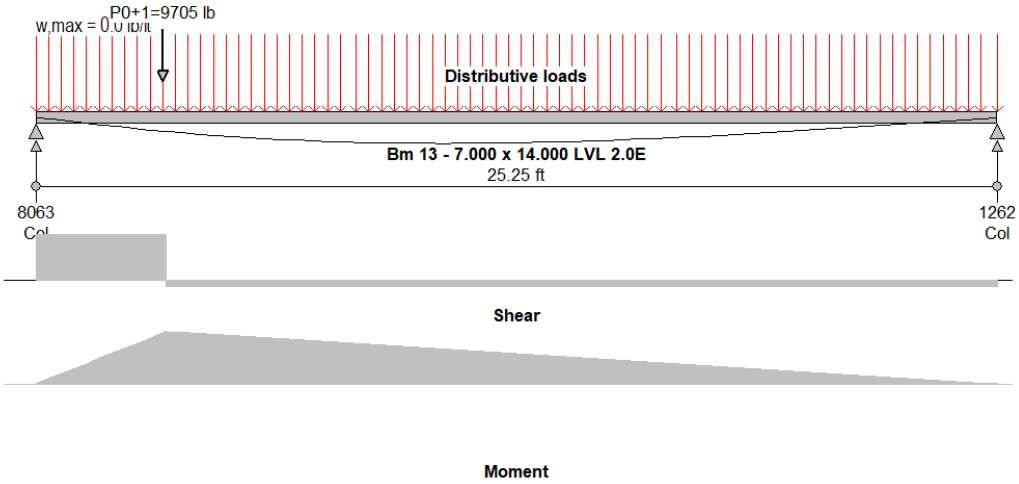


Table 1 - Point load table

LOAD	D	S	L	W+/-	E+/-	LOC	NOTES
0	402	0	1609	0	0	3.42	From BM 14 from Level 1
1	2240	1191	5072	342	1439	3.42	From BM 27 from Level 1

(1) Un-factored loads in lbs.
(2) Load location measured from left end of beam.

Table 2 - Seismic load table

LOAD	E	E X OMEGA	NOTES
1	1439	1439	Transfered load which includes overstrength factor

(1) Un-factored loads with overstrength factor applied as applicable, in lbs.

Table 3 - Distributive load table (pressures)

LOAD	ELEMENT	AREA ID	WALL HEIGHT	D	S	L
2	Floor/Roof	5	-	15.0	0.0	60.0
3	Floor/Roof	5	-	15.0	0.0	60.0
4	Floor/Roof	15	-	15.0	0.0	40.0
5	Floor/Roof	15	-	15.0	0.0	40.0

(1) loads in psf.

Table 4 - Distributive load table (line loads)

LOAD	ELEMENT	TRIB WIDTH	from loc	to loc	D	S	L
2	Floor/Roof	21.8	25.3	25.3	163.8	0.0	655.0
3	Floor/Roof	21.8	3.4	3.4	163.8	0.0	655.1
4	Floor/Roof	3.4	0.0	0.0	25.6	0.0	68.3
5	Floor/Roof	3.4	3.4	3.4	25.6	0.0	68.3

(1) From loc and to loc are load segments starting and ending
measured from the left of the beam
->Computed moments and shears (Factored) :
Max shear = 8063 lbs D + L (2.4-2)
Min shear = -1810 lbs D - (0.75)0.7E + 0.75S + 0.75L (2.4-6c)
Max moment = 27547 ft-lbs D + L (2.4-2)
Min moment = 2976 ft-lbs D - 0.7E (2.4-5d)
->Beam properties (2D xy axis) :
Span = 25.25 ft
Area = 98.00 sq.in
Sx = 228.67 sq.in
Ixx = 1600.67 sq.in
->Check shear :
fv = 1.5 x V / Area = 8063 / 98.00 = 123.41 psi
F'v = 285 x 1.00 = 285.00 psi
Fv = 285 psi, CD = 1.00
->Check moment :
fb = M x 12 / Sx = 330569 / 228.67 = 1445.64 psi
Fb = 2600 psi, CD = 1.00, Cf = 0.98, Cl = 1.00.
Fb' x CD x CF x CL = 2556 psi
->Check bearing :
->Check deflections :
Number of deflection spans = 1
Deflection span 0, Length = 25.25 ft Combined deflection = -0.684 [D + L (2.4-2)]
Allowed = 25.25 x 12 / 360.0 = 0.842 in.
Allowed (Seismic controled) = 25.25 x 12 / 180.0 = 1.683 in.

Analysis of Bm 14 - 3.500 x 14.000 LSL 1.55E

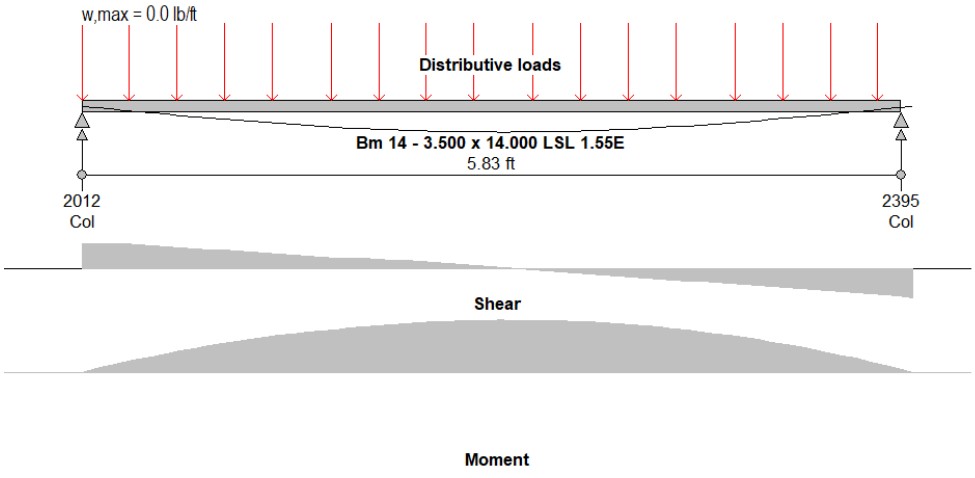


Table 1 - Point load table

LOAD	D	S	L	W+/-	E+/-	LOC	NOTES

No Applied point loads

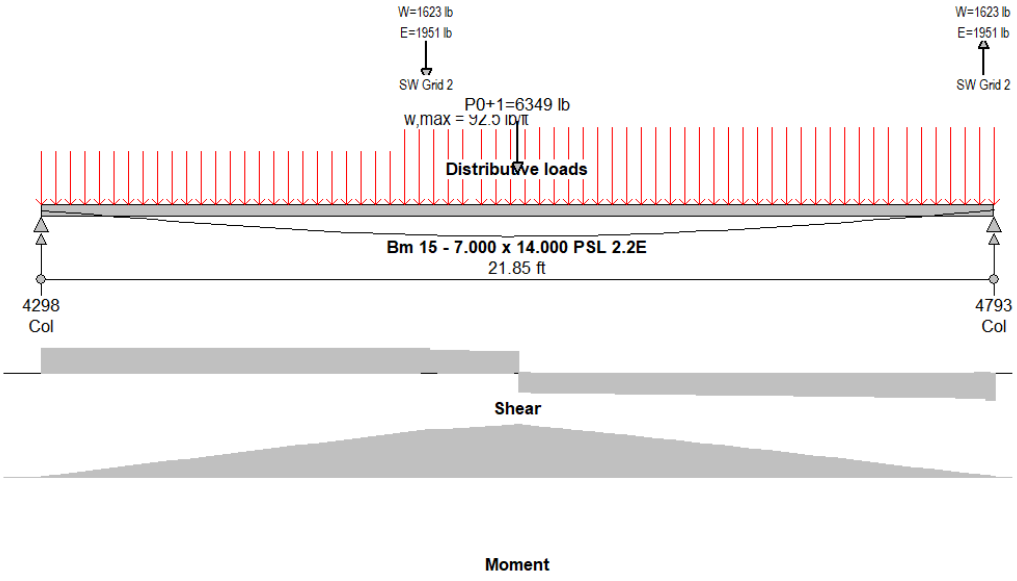
(1) Un-factored loads in lbs.
(2) Load location measured from left end of beam.
Table 3 - Distributive load table (pressures)

LOAD	ELEMENT	AREA ID	WALL HEIGHT	D	S	L
0	Floor/Roof	4	-	15.0	0.0	60.0
1	Floor/Roof	4	-	15.0	0.0	60.0
2	Floor/Roof	5	-	15.0	0.0	60.0

(1) loads in psf.
Table 4 - Distributive load table (line loads)

```
LOAD  ELEMENT              TRIB      from     to       D          S       L
                           WIDTH      loc     loc
-------------------------------------------------------------------------------
 0  Floor/Roof             21.8 |     5.7     5.8 |    163.8      0.0    655.0
 1  Floor/Roof             21.8 |     5.8     2.0 |    163.8      0.0    655.0
 2  Floor/Roof             21.8 |     1.8     0.3 |    163.8      0.0    655.0
-------------------------------------------------------------------------------
(1) From loc and to loc are load segments starting and ending
    measured from the left of the beam
->Computed moments and shears (Factored) :
        Max shear  =       2012 lbs          D + L (2.4-2)
        Min shear  =      -2395 lbs          D + L (2.4-2)
        Max moment =       3274 ft-lbs       D + L (2.4-2)
        Min moment =         -0 ft-lbs       D + L (2.4-2)
->Beam properties (2D xy axis) :
        Span  = 5.83 ft
        Area  = 49.00 sq.in
        Sx    = 114.33 sq.in
        Ixx   = 800.33 sq.in
->Check shear :
        fv = 1.5 x V / Area  = 2395 / 49.00 = 73.32 psi
        F'v = 310 x 1.00 =  310.00 psi
          Fv = 310 psi, CD = 1.00
->Check moment :
        fb = M x 12 / Sx  = 39291 / 114.33 = 343.65 psi
          Fb = 2325 psi, CD = 1.00, Cf = 0.98, Cl = 1.00.
          Fb' x CD x CF x CL = 2286 psi
->Check bearing :
->Check deflections :
        Number of deflection spans = 1
        Deflection span 0, Length = 5.83 ft Combined deflection = -0.016 [D + L (2.4-2)]
                Allowed = 5.83 x 12 / 360.0 = 0.194 in.
                Allowed (Seismic controled) = 5.83 x 12 / 180.0 = 0.388 in.
```

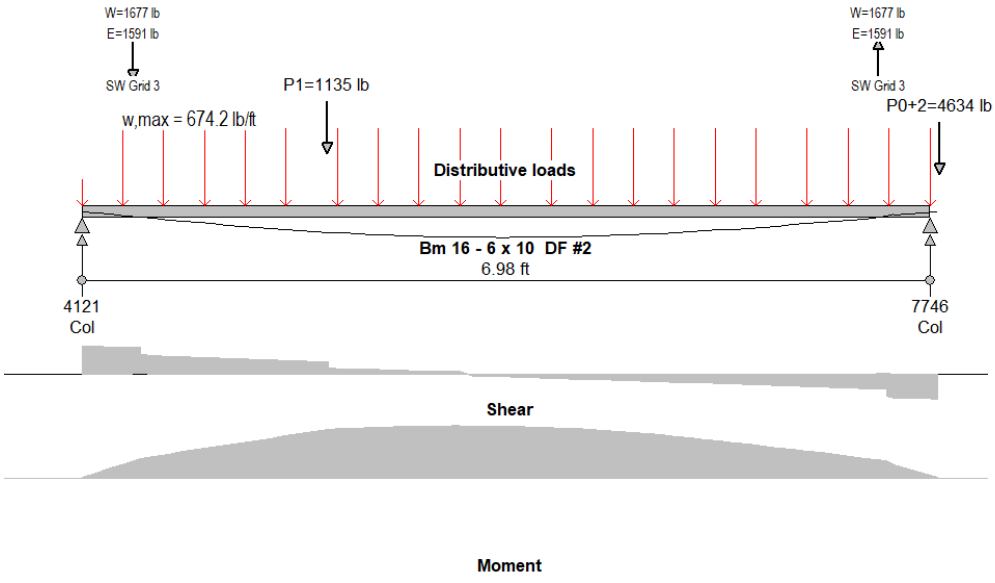
Analysis of Bm 15 - 7.000 x 14.000 PSL 2.2E




```
Table 1 - Point load table
LOAD    D       S       L     W+/-     E+/-        LOC            NOTES
-------------------------------------------------------------------------------
 0    1271    2118       0       0        0 |   10.95    | From BM 39 from Level 2
 1    1110    1850       0       0        0 |   10.95    | From BM 40 from Level 2
 4       0       0       0    1623     1951 |    8.89    | From SW supt from Level 1
 5       0       0       0    1623     1951 |   21.64    | From SW supt from Level 1
-------------------------------------------------------------------------------
(1) Un-factored loads in lbs.
(2) Load location measured from left end of beam.
Table 2 - Seismic load table
LOAD   E     E X OMEGA                  NOTES
-------------------------------------------------------------------------
 4    1951     5852    | Overstrength factor = 3.0 applied
 5    1951     5852    | Overstrength factor = 3.0 applied
-------------------------------------------------------------------------
(1) Un-factored loads with overstrength factor applied as applicable, in lbs.
Table 3 - Distributive load table (pressures)
LOAD  ELEMENT     AREA   WALL     D        S      L
```

```
                  ID   HEIGHT
-------------------------------------------------------------
 2  Wall            -     9.2    10.0
 3  Wall            -     9.2    10.0
-------------------------------------------------------------
(1) Wall height in feet.
(2) loads in psf.
Table 4 - Distributive load table (line loads)
LOAD  ELEMENT              TRIB     from    to       D         S      L
                           WIDTH     loc    loc
-------------------------------------------------------------------------
 2  Wall                        |    8.4   11.0 |    92.5
 3  Wall                        |   11.0   21.9 |    92.5
-------------------------------------------------------------------------
(1) From loc and to loc are load segments starting and ending
    measured from the left of the beam
(2) Wall weight, lb/ft = height x weight in psf
->Computed moments and shears (Factored) :
        Max shear  =       4298 lbs    D + (0.75)0.7E + 0.75S + 0.75L (2.4-6c)
        Min shear  =      -4793 lbs    D - (0.75)0.7E + 0.75S + 0.75L (2.4-6c)
        Max moment =      44226 ft-lbs D + (0.75)0.7E + 0.75S + 0.75L (2.4-6c)
        Min moment =      14881 ft-lbs    D - 0.7E (2.4-5d)
->Beam properties (2D xy axis) :
        Span  = 21.85 ft
        Area  = 98.00 sq.in
        Sx    = 228.67 sq.in
        Ixx   = 1600.67 sq.in
->Check shear :
        fv = 1.5 x V / Area  = 4793 / 98.00 = 73.36 psi
        F'v = 290 x 1.60 =  464.00 psi
          Fv = 290 psi, CD = 1.00
->Check moment :
        fb = M x 12 / Sx  = 530710 / 228.67 = 2320.89 psi
          Fb = 2900 psi, CD = 1.60, Cf = 0.98, Cl = 1.00.
          Fb' x CD x CF x CL = 4561 psi
->Check bearing :
->Check deflections :
        Number of deflection spans = 1
        Deflection span 0, Length = 21.85 ft Combined deflection = -0.874 [D + (0.75)0.7E + 0.75S + 0.75L (2.4-6c)]
                Allowed = 21.85 x 12 / 240.0 = 1.093 in.
                Allowed (Seismic controled) = 21.85 x 12 / 180.0 = 1.457 in.
```

Analysis of Bm 16 - 6 x 10 DF #2




```
Table 1 - Point load table
LOAD    D       S       L     W+/-     E+/-        LOC            NOTES
-------------------------------------------------------------------------------
 0     545     908       0        0        0 |     7.02     | From BM 4 from Level 2
 1     426     709       0        0        0 |     2.01     | From BM 25 from Level 1
 2    1193    1988       0        0        0 |     7.02     | From BM 35 from Level 2
 7       0       0       0     1677     1591 |     0.48     | From SW supt from Level 1
 8       0       0       0     1677     1591 |     6.56     | From SW supt from Level 1
-------------------------------------------------------------------------------
(1) Un-factored loads in lbs.
```

(2) Load location measured from left end of beam.

Table 2 - Seismic load table

LOAD	E	E X OMEGA	NOTES
7	1591	4772	Overstrength factor = 3.0 applied
8	1591	4772	Overstrength factor = 3.0 applied

(1) Un-factored loads with overstrength factor applied as applicable, in lbs.

Table 3 - Distributive load table (pressures)

LOAD	ELEMENT	AREA ID	WALL HEIGHT	D	S	L
3	Wall	-	9.2	10.0		
4	Wall	-	9.2	10.0		
5	Floor/Roof	16	-	15.0	25.0	0.0
6	Floor/Roof	16	-	15.0	25.0	0.0

(1) Wall height in feet.
(2) loads in psf.

Table 4 - Distributive load table (line loads)

LOAD	ELEMENT	TRIB WIDTH	from loc	to loc	D	S	L
3	Wall		0.0	2.0	92.5		
4	Wall		2.0	7.0	92.5		
5	Floor/Roof	29.1	0.3	2.0	218.1	363.5	0.0
6	Floor/Roof	29.1	2.0	7.0	218.1	363.5	0.0

(1) From loc and to loc are load segments starting and ending
measured from the left of the beam
(2) Wall weight, lb/ft = height x weight in psf

->Computed moments and shears (Factored) :

Max shear = 4121 lbs D + (0.75)0.7E + 0.75S + 0.75L (2.4-6c)
Min shear = -3836 lbs D - (0.75)0.7E + 0.75S + 0.75L (2.4-6c)
Max moment = 5341 ft-lbs D + S (2.4-3)
Min moment = -972 ft-lbs 0.6D - 0.7E (2.4-8b)

->Beam properties (2D xy axis) :

Span = 6.98 ft
Area = 50.88 sq.in
Sx = 78.43 sq.in
Ixx = 362.75 sq.in

->Check shear :

fv = 1.5 x V / Area = 4121 / 50.88 = 121.50 psi
F'v = 180.00 x 1.15 x 1.00 x 1.00 x 1.00 = 207.00 psi
Fv = 180 psi, CD = 1.15, Cm = 1.00, Ct = 1.00, Ci = 1.00.

->Check bending :

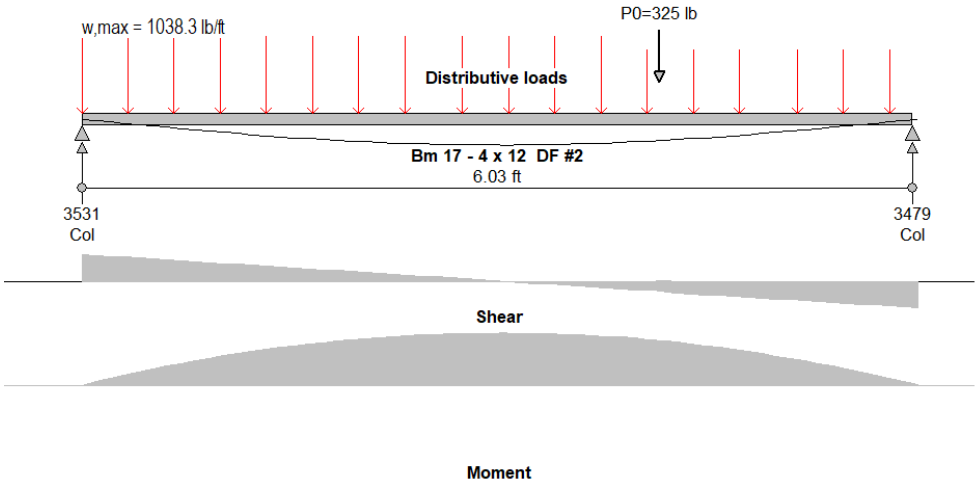
fb-top = M x 12 / Sx = 64087 / 78.43 = 817.10 psi
fb-btm = M x 12 / Sx = 11664 / 78.43 = 148.71 psi
Fb = 900 psi, CD = 1.15, Cm = 1.00, Ct = 1.00, Cl = 1.00,
Cf = 1.02, Cfu = 1.00, Ci = 1.00, Cr = 1.00.
Fb'x CD x CM x CT x CL x CFx CFU x CI x CR = 1056 psi

->Check bearing :

->Check deflections :

Number of deflection spans = 1
Deflection span 0, Length = 6.98 ft Combined deflection = -0.082 [D + S (2.4-3)]
Allowed = 6.98 x 12 / 360.0 = 0.233 in.
Allowed (Seismic controled) = 6.98 x 12 / 180.0 = 0.465 in.

Analysis of Bm 17 - 4 x 12 DF #2




```
Table 1 - Point load table
LOAD    D       S       L     W+/-     E+/-        LOC            NOTES
-------------------------------------------------------------------------------------
 0     122     203       0       0       0 |    0.00    | From BM 37 from Level 2
-------------------------------------------------------------------------------------
(1) Un-factored loads in lbs.
(2) Load location measured from left end of beam.
Table 3 - Distributive load table (pressures)
LOAD  ELEMENT     AREA   WALL     D        S      L
                   ID   HEIGHT
-----------------------------------------------------
 1  Floor/Roof      7     -      15.0     0.0    60.0
 2  Floor/Roof      8     -      15.0     0.0    60.0
 3  Floor/Roof     18     -      15.0    25.0     0.0
-----------------------------------------------------
(1) loads in psf.
Table 4 - Distributive load table (line loads)
LOAD  ELEMENT              TRIB     from    to       D         S      L
                           WIDTH     loc    loc
-------------------------------------------------------------------------
 1  Floor/Roof             21.9 |    0.0    6.0 |   164.1     0.0   656.3
 2  Floor/Roof              7.0 |    6.0    0.0 |    52.5     0.0   210.0
 3  Floor/Roof             10.9 |    0.0    4.2 |    81.7   136.2     0.0
-------------------------------------------------------------------------
(1) From loc and to loc are load segments starting and ending
    measured from the left of the beam
->Computed moments and shears (Factored) :
        Max shear  =       3531 lbs           D + L (2.4-2)
        Min shear  =      -3479 lbs           D + L (2.4-2)
        Max moment =       5352 ft-lbs        D + L (2.4-2)
        Min moment =         -0 ft-lbs        D + L (2.4-2)
->Beam properties (2D xy axis) :
        Span  = 6.03 ft
        Area  = 39.38 sq.in
        Sx    = 73.83 sq.in
        Ixx   = 415.28 sq.in
->Check shear :
        fv = 1.5 x V / Area  = 3531 / 39.38 = 134.51 psi
        F'v = 180.00 x 1.00 x 1.00 x 1.00 x 1.00 =  180.00 psi
          Fv = 180 psi, CD = 1.00, Cm = 1.00, Ct = 1.00, Ci = 1.00.
->Check bending :
        fb-top = M x 12 / Sx  = 64227 / 73.83 = 869.95 psi
        fb-btm = M x 12 / Sx  = 0 / 73.83 = 0.00 psi
          Fb = 900 psi, CD = 1.00, Cm = 1.00, Ct = 1.00, Cl = 1.00,
         Cf = 1.00, Cfu = 1.00, Ci = 1.00, Cr = 1.00.
          Fb'x CD x CM x CT x CL x CFx CFU x CI x CR = 900 psi
->Check bearing :
->Check deflections :
        Number of deflection spans = 1
        Deflection span 0, Length = 6.03 ft Combined deflection = -0.053 [D + L (2.4-2)]
                Allowed = 6.03 x 12 / 360.0 = 0.201 in.
                Allowed (Seismic controled) = 6.03 x 12 / 180.0 = 0.402 in.
```

Analysis of Bm 18 - 3.500 x 14.000 LSL 1.55E

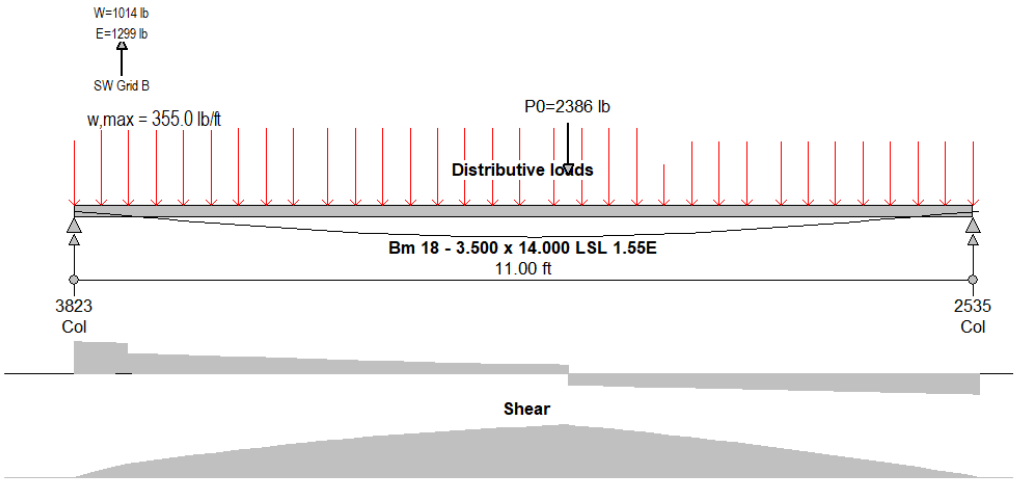


Table 1 - Point load table

LOAD	D	S	L	W+/-	E+/-	LOC	NOTES
0	895	1491	0	0	0	0.00	From BM 22 from Level 1
6	0	0	0	1014	1299	0.00	From SW supt from Level 1

(1) Un-factored loads in lbs.
(2) Load location measured from left end of beam.

Table 2 - Seismic load table

LOAD	E	E X OMEGA	NOTES
6	1299	3898	Overstrength factor = 3.0 applied

(1) Un-factored loads with overstrength factor applied as applicable, in lbs.

Table 3 - Distributive load table (pressures)

LOAD	ELEMENT	AREA ID	WALL HEIGHT	D	S	L
1	Wall	-	9.2	10.0		
2	Wall	-	9.2	10.0		
3	Floor/Roof	8	-	15.0	0.0	60.0
4	Floor/Roof	8	-	15.0	0.0	60.0
5	Floor/Roof	8	-	15.0	0.0	60.0

(1) Wall height in feet.
(2) loads in psf.

Table 4 - Distributive load table (line loads)

LOAD	ELEMENT	TRIB WIDTH	from loc	to loc	D	S	L
1	Wall		0.2	6.0	92.5		
2	Wall		6.0	11.0	92.5		
3	Floor/Roof	4.3	7.5	11.0	32.3	0.0	129.4
4	Floor/Roof	7.0	0.0	6.0	52.5	0.0	210.0
5	Floor/Roof	7.0	6.0	7.0	52.5	0.0	210.0

(1) From loc and to loc are load segments starting and ending
measured from the left of the beam
(2) Wall weight, lb/ft = height x weight in psf
->Computed moments and shears (Factored) :
Max shear = 3823 lbs D - (0.75)0.7E + 0.75S + 0.75L (2.4-6c)
Min shear = -3799 lbs D + (0.75)0.7E + 0.75S + 0.75L (2.4-6c)
Max moment = 10444 ft-lbs D - (0.75)0.7E + 0.75S + 0.75L (2.4-6c)
Min moment = -1162 ft-lbs D + 0.7E (2.4-5c)
->Beam properties (2D xy axis) :
Span = 11.00 ft
Area = 49.00 sq.in
Sx = 114.33 sq.in
Ixx = 800.33 sq.in
->Check shear :
fv = 1.5 x V / Area = 3823 / 49.00 = 117.03 psi
F'v = 310 x 1.60 = 496.00 psi
Fv = 310 psi, CD = 1.00
->Check moment :
fb = M x 12 / Sx = 125330 / 114.33 = 1096.18 psi
Fb = 2325 psi, CD = 1.60, Cf = 0.98, Cl = 1.00.
Fb' x CD x CF x CL = 3657 psi

```
->Check bearing :
->Check deflections :
        Number of deflection spans = 1
        Deflection span 0, Length = 11.00 ft Combined deflection = -0.158 [D - (0.75)0.7E + 0.75S + 0.75L (2.4-6c)]
                Allowed = 11.00 x 12 / 360.0 = 0.367 in.
                Allowed (Seismic controled) = 11.00 x 12 / 180.0 = 0.733 in.
```

Analysis of Bm 19 - 5.250 x 14.000 LVL 2.0E

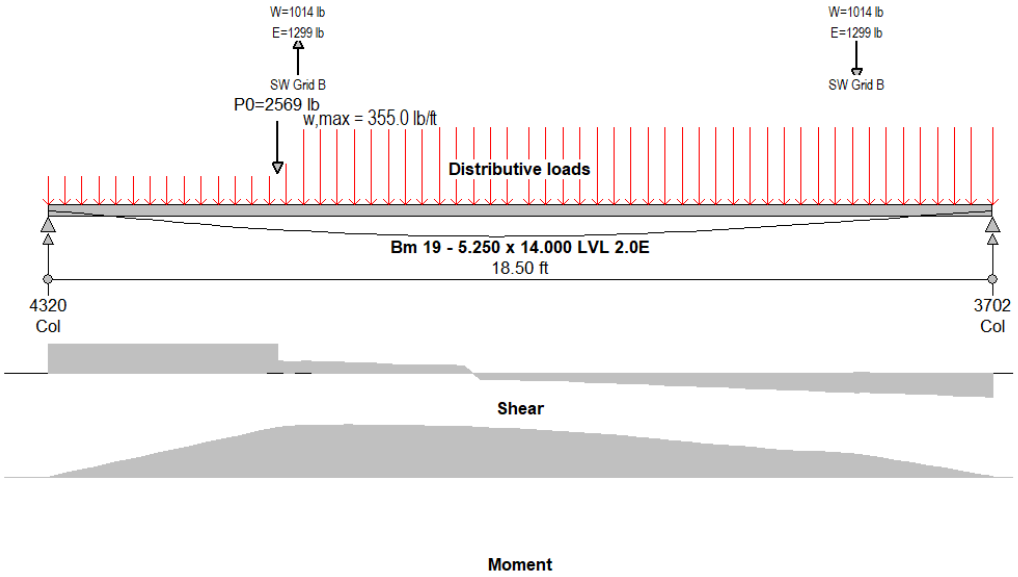


Table 1 - Point load table

LOAD	D	S	L	W+/-	E+/-	LOC	NOTES
0	857	1253	0	443	1471	0.00	From BM 20 from Level 1
4	0	0	0	1014	1299	0.01	From SW supt from Level 1
5	0	0	0	1014	1299	0.01	From SW supt from Level 1

(1) Un-factored loads in lbs.
(2) Load location measured from left end of beam.

Table 2 - Seismic load table

LOAD	E	E X OMEGA	NOTES
0	1471	1471	Transfered load which includes overstrength factor
4	1299	3898	Overstrength factor = 3.0 applied
5	1299	3898	Overstrength factor = 3.0 applied

(1) Un-factored loads with overstrength factor applied as applicable, in lbs.

Table 3 - Distributive load table (pressures)

LOAD	ELEMENT	AREA ID	WALL HEIGHT	D	S	L
1	Wall	-	9.2	10.0		
2	Wall	-	9.2	10.0		
3	Floor/Roof	8	-	15.0	0.0	60.0

(1) Wall height in feet.
(2) loads in psf.

Table 4 - Distributive load table (line loads)

LOAD	ELEMENT	TRIB WIDTH	from loc	to loc	D	S	L
1	Wall		16.3	18.5	92.5		
2	Wall		4.5	16.3	92.5		
3	Floor/Roof	7.0	5.0	18.5	52.5	0.0	210.0

(1) From loc and to loc are load segments starting and ending
    measured from the left of the beam
(2) Wall weight, lb/ft = height x weight in psf

```
->Computed moments and shears (Factored) :
        Max shear  =       4320 lbs    D - (0.75)0.7E + 0.75S + 0.75L (2.4-6c)
        Min shear  =      -4474 lbs    D + (0.75)0.7E + 0.75S + 0.75L (2.4-6c)
        Max moment =      23130 ft-lbs D - (0.75)0.7E + 0.75S + 0.75L (2.4-6c)
        Min moment =      -8978 ft-lbs    D + 0.7E (2.4-5c)
->Beam properties (2D xy axis) :
        Span  = 18.50 ft
        Area  = 73.50 sq.in
```

```
        Sx    = 171.50 sq.in
        Ixx   = 1200.50 sq.in
->Check shear :
        fv = 1.5 x V / Area  = 4474 / 73.50 = 91.31 psi
        F'v = 285 x 1.60 =  456.00 psi
          Fv = 285 psi, CD = 1.00
->Check moment :
        fb = M x 12 / Sx  = 277559 / 171.50 = 1618.42 psi
          Fb = 2600 psi, CD = 1.60, Cf = 0.98, Cl = 1.00.
          Fb' x CD x CF x CL = 4089 psi
->Check bearing :
->Check deflections :
        Number of deflection spans = 1
        Deflection span 0, Length = 18.50 ft Combined deflection = -0.495 [D - (0.75)0.7E + 0.75S + 0.75L (2.4-6c)]
                Allowed = 18.50 x 12 / 360.0 = 0.617 in.
                Allowed (Seismic controled) = 18.50 x 12 / 180.0 = 1.233 in.
```

Analysis of Bm 20 - 6 x 12 DF #2

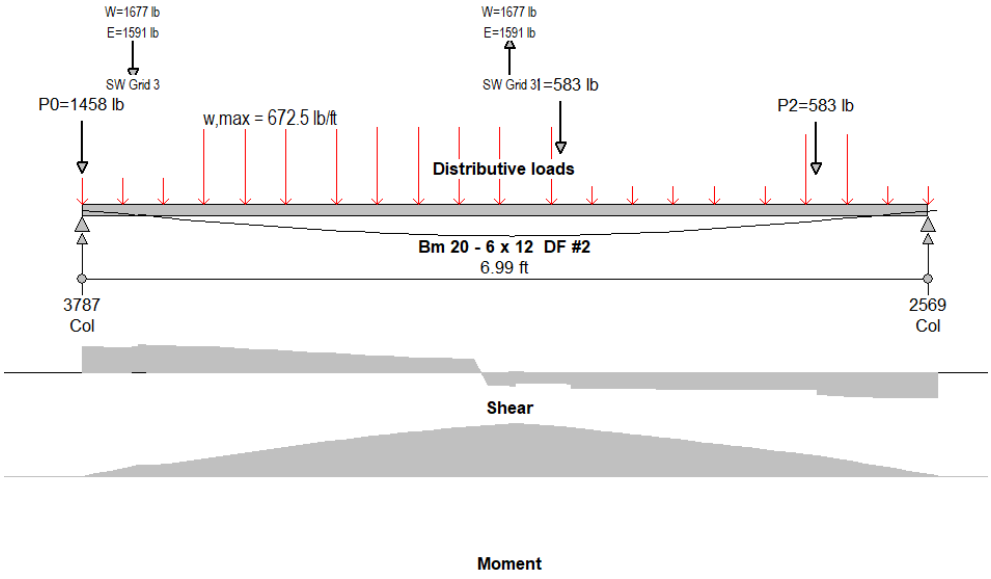


Table 1 - Point load table

LOAD	D	S	L	W+/-	E+/-	LOC	NOTES
0	547	912	0	0	0	0.00	From BM 4 from Level 2
1	219	365	0	0	0	4.00	From BM 9 from Level 2
2	219	365	0	0	0	6.01	From BM 9 from Level 2
7	0	0	0	1677	1591	0.46	From SW supt from Level 1
8	0	0	0	1677	1591	3.54	From SW supt from Level 1

(1) Un-factored loads in lbs.
(2) Load location measured from left end of beam.

Table 2 - Seismic load table

LOAD	E	E X OMEGA	NOTES
7	1591	4772	Overstrength factor = 3.0 applied
8	1591	4772	Overstrength factor = 3.0 applied

(1) Un-factored loads with overstrength factor applied as applicable, in lbs.

Table 3 - Distributive load table (pressures)

LOAD	ELEMENT	AREA ID	WALL HEIGHT	D	S	L
3	Wall	-	9.2	10.0		
4	Floor/Roof	0	-	15.0	25.0	0.0
5	Floor/Roof	0	-	15.0	25.0	0.0
6	Floor/Roof	9	-	15.0	25.0	0.0

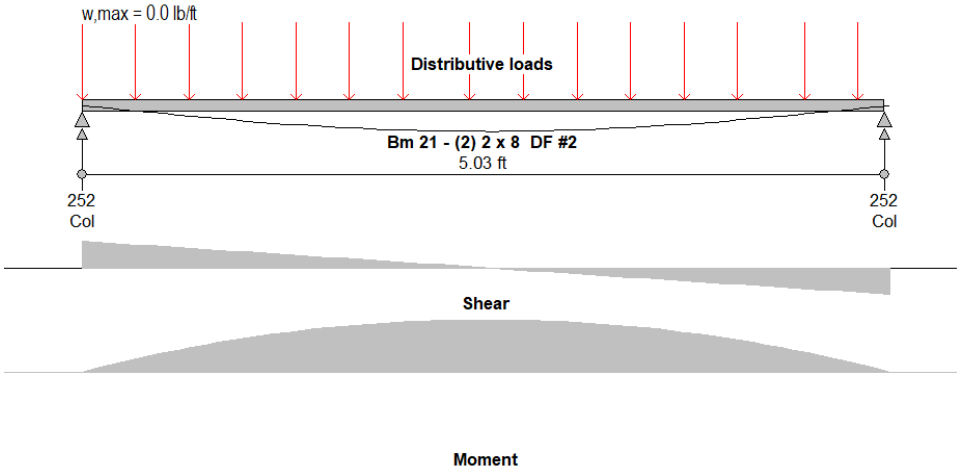
(1) Wall height in feet.
(2) loads in psf.

Table 4 - Distributive load table (line loads)

LOAD	ELEMENT	TRIB WIDTH	from loc	to loc	D	S	L
3	Wall		0.0	4.0	92.5		
4	Floor/Roof	29.0	1.0	4.0	217.5	362.5	0.0

```
 5  Floor/Roof             29.0 |    6.0    6.5 |   217.5   362.5     0.0
 6  Floor/Roof              4.5 |    7.0    0.0 |    33.8    56.3     0.0
-------------------------------------------------------------------------
(1) From loc and to loc are load segments starting and ending
    measured from the left of the beam
(2) Wall weight, lb/ft = height x weight in psf
->Computed moments and shears (Factored) :
        Max shear  =       2765 lbs    D - (0.75)0.7E + 0.75S + 0.75L (2.4-6c)
        Min shear  =      -2778 lbs    D + (0.75)0.7E + 0.75S + 0.75L (2.4-6c)
        Max moment =       6344 ft-lbs D - (0.75)0.7E + 0.75S + 0.75L (2.4-6c)
        Min moment =      -3558 ft-lbs    D + 0.7E (2.4-5c)
->Beam properties (2D xy axis) :
        Span  = 6.99 ft
        Area  = 63.25 sq.in
        Sx    = 121.23 sq.in
        Ixx   = 697.07 sq.in
->Check shear :
        fv = 1.5 x V / Area  = 2778 / 63.25 = 65.88 psi
        F'v = 180.00 x 1.60 x 1.00 x 1.00 x 1.00 =  288.00 psi
          Fv = 180 psi, CD = 1.60, Cm = 1.00, Ct = 1.00, Ci = 1.00.
->Check bending :
        fb-top = M x 12 / Sx  = 76123 / 121.23 = 627.92 psi
        fb-btm = M x 12 / Sx  = 42699 / 121.23 = 352.22 psi
          Fb = 900 psi, CD = 1.60, Cm = 1.00, Ct = 1.00, Cl = 1.00,
         Cf = 1.00, Cfu = 1.00, Ci = 1.00, Cr = 1.00.
          Fb'x CD x CM x CT x CL x CFx CFU x CI x CR = 1440 psi
->Check bearing :
->Check deflections :
        Number of deflection spans = 1
        Deflection span 0, Length = 6.99 ft Combined deflection = -0.044 [D - (0.75)0.7E + 0.75S + 0.75L (2.4-6c)]
                Allowed = 6.99 x 12 / 360.0 = 0.233 in.
                Allowed (Seismic controled) = 6.99 x 12 / 180.0 = 0.466 in.
```

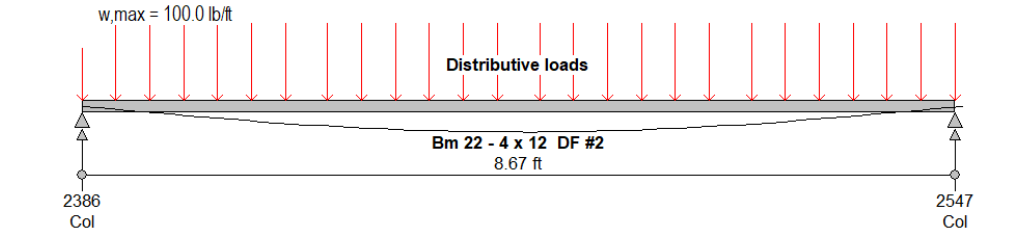
Analysis of Bm 21 - (2) 2 x 8 DF #2




```
Table 1 - Point load table
LOAD    D       S       L     W+/-     E+/-        LOC            NOTES
-------------------------------------------------------------------------------
No Applied point loads
-------------------------------------------------------------------------------
(1) Un-factored loads in lbs.
(2) Load location measured from left end of beam.
Table 3 - Distributive load table (pressures)
LOAD  ELEMENT     AREA   WALL     D        S      L
                   ID   HEIGHT
-----------------------------------------------------------
 0  Floor/Roof     10     -      15.0    25.0     0.0
-----------------------------------------------------------
(1) loads in psf.
Table 4 - Distributive load table (line loads)
LOAD  ELEMENT              TRIB     from    to       D         S      L
                           WIDTH     loc    loc
-------------------------------------------------------------------------
 0  Floor/Roof              5.0 |    5.0    0.0 |    37.5    62.5     0.0
-------------------------------------------------------------------------
```

```
(1) From loc and to loc are load segments starting and ending
    measured from the left of the beam
->Computed moments and shears (Factored) :
        Max shear  =        252 lbs          D + S (2.4-3)
        Min shear  =       -252 lbs          D + S (2.4-3)
        Max moment =        317 ft-lbs       D + S (2.4-3)
        Min moment =         -0 ft-lbs       D + S (2.4-3)
->Beam properties (2D xy axis) :
        Span  = 5.03 ft
        Area  = 21.75 sq.in
        Sx    = 26.28 sq.in
        Ixx   = 95.27 sq.in
->Check shear :
        fv = 1.5 x V / Area  = 252 / 21.75 = 17.35 psi
        F'v = 180.00 x 1.15 x 1.00 x 1.00 x 1.00 =  207.00 psi
          Fv = 180 psi, CD = 1.15, Cm = 1.00, Ct = 1.00, Ci = 1.00.
->Check bending :
        fb-top = M x 12 / Sx  = 3798 / 26.28 = 144.53 psi
        fb-btm = M x 12 / Sx  = 0 / 26.28 = 0.00 psi
          Fb = 900 psi, CD = 1.15, Cm = 1.00, Ct = 1.00, Cl = 1.00,
         Cf = 1.20, Cfu = 1.00, Ci = 1.00, Cr = 1.00.
          Fb'x CD x CM x CT x CL x CFx CFU x CI x CR = 1242 psi
->Check bearing :
->Check deflections :
        Number of deflection spans = 1
        Deflection span 0, Length = 5.03 ft Combined deflection = -0.009 [D + S (2.4-3)]
                Allowed = 5.03 x 12 / 360.0 = 0.168 in.
                Allowed (Seismic controled) = 5.03 x 12 / 180.0 = 0.336 in.
```

Analysis of Bm 22 - 4 x 12 DF #2



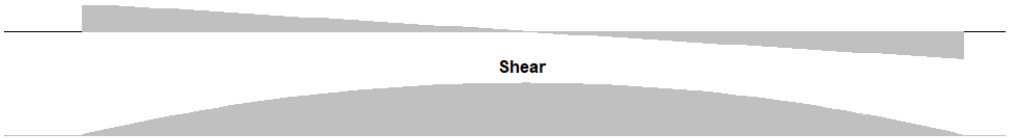


Table 1 - Point load table

LOAD	D	S	L	W+/-	E+/-	LOC	NOTES
No Applied point loads							

(1) Un-factored loads in lbs.
(2) Load location measured from left end of beam.

Table 3 - Distributive load table (pressures)

LOAD	ELEMENT	AREA ID	WALL HEIGHT	D	S	L
0	Floor/Roof	10	-	15.0	25.0	0.0
1	Floor/Roof	10	-	15.0	25.0	0.0
2	Floor/Roof	11	-	15.0	25.0	0.0

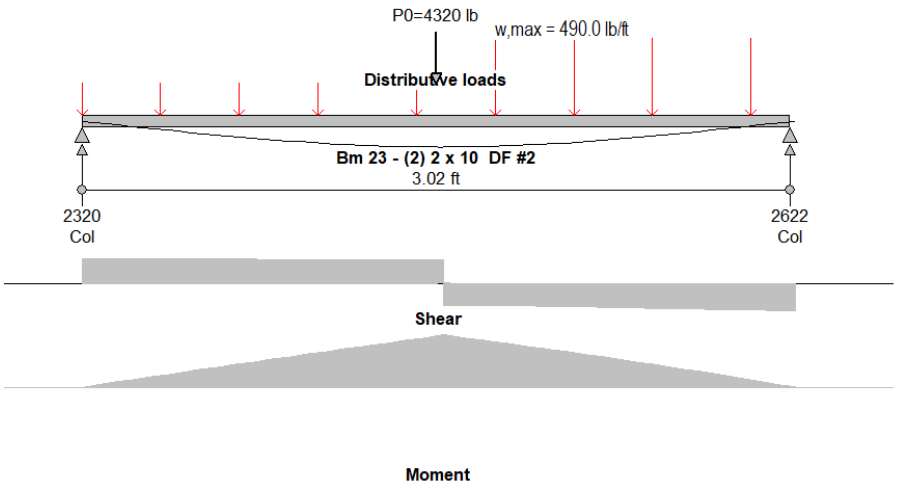
(1) loads in psf.

Table 4 - Distributive load table (line loads)

LOAD	ELEMENT	TRIB WIDTH	from loc	to loc	D	S	L
0	Floor/Roof	5.0 |	0.2	8.5 |	37.5	62.5	0.0
1	Floor/Roof	5.0 |	8.5	8.7 |	37.5	62.5	0.0
2	Floor/Roof	24.5 |	8.7	0.2 |	183.8	306.3	0.0

```
--------------------------------------------------------------------------
(1) From loc and to loc are load segments starting and ending
    measured from the left of the beam
->Computed moments and shears (Factored) :
        Max shear  =       2386 lbs          D + S (2.4-3)
        Min shear  =      -2547 lbs          D + S (2.4-3)
        Max moment =       5525 ft-lbs       D + S (2.4-3)
        Min moment =         -0 ft-lbs       D + S (2.4-3)
->Beam properties (2D xy axis) :
        Span  = 8.67 ft
        Area  = 39.38 sq.in
        Sx    = 73.83 sq.in
        Ixx   = 415.28 sq.in
->Check shear :
        fv = 1.5 x V / Area  = 2547 / 39.38 = 97.01 psi
        F'v = 180.00 x 1.15 x 1.00 x 1.00 x 1.00 =  207.00 psi
          Fv = 180 psi, CD = 1.15, Cm = 1.00, Ct = 1.00, Ci = 1.00.
->Check bending :
        fb-top = M x 12 / Sx  = 66295 / 73.83 = 897.97 psi
        fb-btm = M x 12 / Sx  = 0 / 73.83 = 0.00 psi
          Fb = 900 psi, CD = 1.15, Cm = 1.00, Ct = 1.00, Cl = 1.00,
         Cf = 1.00, Cfu = 1.00, Ci = 1.00, Cr = 1.00.
          Fb'x CD x CM x CT x CL x CFx CFU x CI x CR = 1035 psi
->Check bearing :
->Check deflections :
        Number of deflection spans = 1
        Deflection span 0, Length = 8.67 ft Combined deflection = -0.112 [D + S (2.4-3)]
                Allowed = 8.67 x 12 / 360.0 = 0.289 in.
                Allowed (Seismic controled) = 8.67 x 12 / 180.0 = 0.578 in.
```

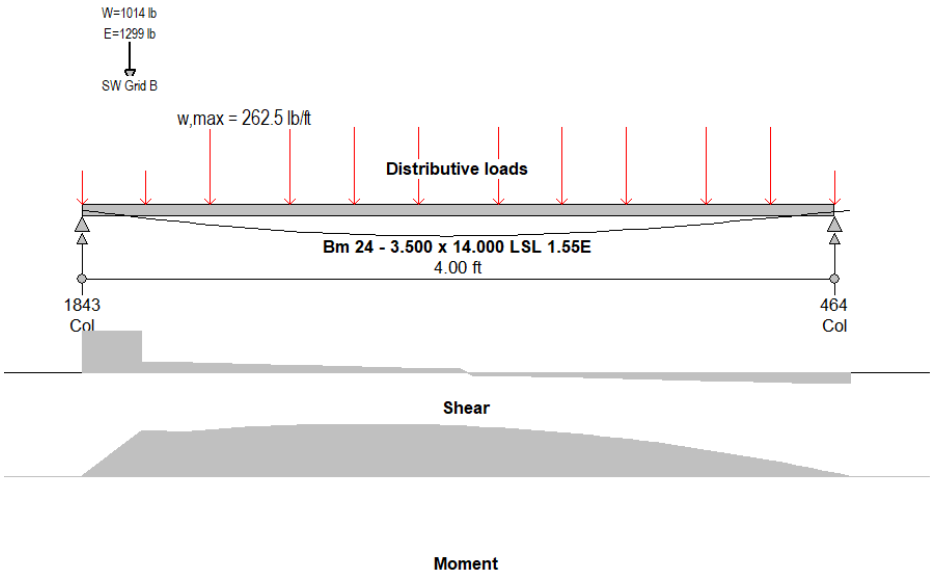
Analysis of Bm 23 - (2) 2 x 10 DF #2




```
Table 1 - Point load table
LOAD    D       S       L      W+/-      E+/-         LOC             NOTES
-------------------------------------------------------------------------------------
 0    1399     948     1041     694     2723 |     1.53     | From BM 19 from Level 1
-------------------------------------------------------------------------------------
(1) Un-factored loads in lbs.
(2) Load location measured from left end of beam.
Table 2 - Seismic load table
LOAD    E      E X OMEGA                  NOTES
-----------------------------------------------------------------------------
 0    2723     2723     | Transfered load which includes overstrength factor
-----------------------------------------------------------------------------
(1) Un-factored loads with overstrength factor applied as applicable, in lbs.
Table 3 - Distributive load table (pressures)
LOAD  ELEMENT      AREA    WALL      D         S       L
                    ID    HEIGHT
-----------------------------------------------------------
 1  Floor/Roof       9      -       15.0     25.0     0.0
 2  Floor/Roof      11      -       15.0     25.0     0.0
-----------------------------------------------------------
(1) loads in psf.
Table 4 - Distributive load table (line loads)
LOAD  ELEMENT              TRIB     from     to       D         S       L
```

```
                          WIDTH     loc    loc
-------------------------------------------------------------------------------
 1  Floor/Roof             4.5 |    0.0    1.5 |    33.8    56.3     0.0
 2  Floor/Roof            24.5 |    1.8    3.0 |   183.8   306.3     0.0
-------------------------------------------------------------------------------
(1) From loc and to loc are load segments starting and ending
    measured from the left of the beam
->Computed moments and shears (Factored) :
        Max shear  =       2339 lbs    D + (0.75)0.7E + 0.75S + 0.75L (2.4-6c)
        Min shear  =      -2622 lbs    D - (0.75)0.7E + 0.75S + 0.75L (2.4-6c)
        Max moment =       3463 ft-lbs D - (0.75)0.7E + 0.75S + 0.75L (2.4-6c)
        Min moment =      -1439 ft-lbs    D + 0.7E (2.4-5c)
->Beam properties (2D xy axis) :
        Span  = 3.02 ft
        Area  = 27.75 sq.in
        Sx    = 42.78 sq.in
        Ixx   = 197.86 sq.in
->Check shear :
        fv = 1.5 x V / Area  = 2622 / 27.75 = 141.74 psi
        F'v = 180.00 x 1.60 x 1.00 x 1.00 x 1.00 =  288.00 psi
          Fv = 180 psi, CD = 1.60, Cm = 1.00, Ct = 1.00, Ci = 1.00.
->Check bending :
        fb-top = M x 12 / Sx  = 41553 / 42.78 = 971.29 psi
        fb-btm = M x 12 / Sx  = 17269 / 42.78 = 403.66 psi
          Fb = 900 psi, CD = 1.60, Cm = 1.00, Ct = 1.00, Cl = 1.00,
         Cf = 1.10, Cfu = 1.00, Ci = 1.00, Cr = 1.00.
          Fb'x CD x CM x CT x CL x CFx CFU x CI x CR = 1584 psi
->Check bearing :
->Check deflections :
        Number of deflection spans = 1
        Deflection span 0, Length = 3.02 ft Combined deflection = -0.015 [D - (0.75)0.7E + 0.75S + 0.75L (2.4-6c)]
                Allowed = 3.02 x 12 / 360.0 = 0.101 in.
                Allowed (Seismic controled) = 3.02 x 12 / 180.0 = 0.201 in.
```

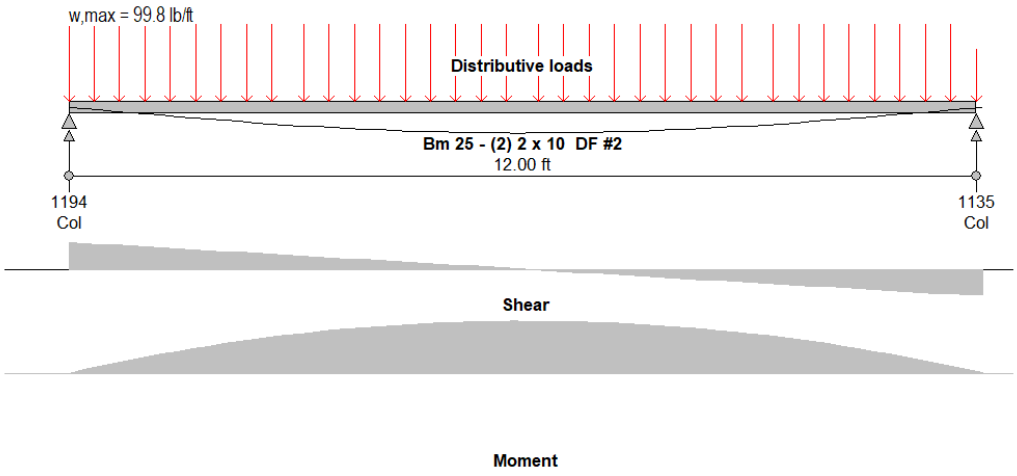
Analysis of Bm 24 - 3.500 x 14.000 LSL 1.55E




```
Table 1 - Point load table
LOAD    D       S       L      W+/-     E+/-        LOC            NOTES
-------------------------------------------------------------------------------
 1       0       0       0     1014     1299 |     0.00     | From SW supt from Level 1
-------------------------------------------------------------------------------
(1) Un-factored loads in lbs.
(2) Load location measured from left end of beam.
Table 2 - Seismic load table
LOAD    E      E X OMEGA                  NOTES
-------------------------------------------------------------------------
 1     1299      3898     | Overstrength factor = 3.0 applied
-------------------------------------------------------------------------
(1) Un-factored loads with overstrength factor applied as applicable, in lbs.
Table 3 - Distributive load table (pressures)
LOAD  ELEMENT      AREA    WALL      D        S       L
                    ID    HEIGHT
-----------------------------------------------------------
 0  Floor/Roof       8      -       15.0     0.0     60.0
```

```
-------------------------------------------------------------
(1) loads in psf.
Table 4 - Distributive load table (line loads)
LOAD  ELEMENT              TRIB     from    to       D         S      L
                           WIDTH     loc    loc
-------------------------------------------------------------------------
 0  Floor/Roof              7.0 |    0.5    3.8 |    52.5     0.0   210.0
-------------------------------------------------------------------------
(1) From loc and to loc are load segments starting and ending
    measured from the left of the beam
->Computed moments and shears (Factored) :
        Max shear  =       1843 lbs       D + 0.7E (2.4-5c)
        Min shear  =      -1814 lbs    0.6D - 0.7E (2.4-8b)
        Max moment =        814 ft-lbs D + (0.75)0.7E + 0.75S + 0.75L (2.4-6c)
        Min moment =       -547 ft-lbs 0.6D - 0.7E (2.4-8b)
->Beam properties (2D xy axis) :
        Span  = 4.00 ft
        Area  = 49.00 sq.in
        Sx    = 114.33 sq.in
        Ixx   = 800.33 sq.in
->Check shear :
        fv = 1.5 x V / Area  = 1843 / 49.00 = 56.40 psi
        F'v = 310 x 1.60 =  496.00 psi
          Fv = 310 psi, CD = 1.00
->Check moment :
        fb = M x 12 / Sx  = 9764 / 114.33 = 85.40 psi
          Fb = 2325 psi, CD = 1.60, Cf = 0.98, Cl = 1.00.
          Fb' x CD x CF x CL = 3657 psi
->Check bearing :
->Check deflections :
        Number of deflection spans = 1
        Deflection span 0, Length = 4.00 ft Combined deflection = -0.002 [D + (0.75)0.7E + 0.75S + 0.75L (2.4-6c)]
                Allowed = 4.00 x 12 / 360.0 = 0.133 in.
                Allowed (Seismic controled) = 4.00 x 12 / 180.0 = 0.267 in.
```

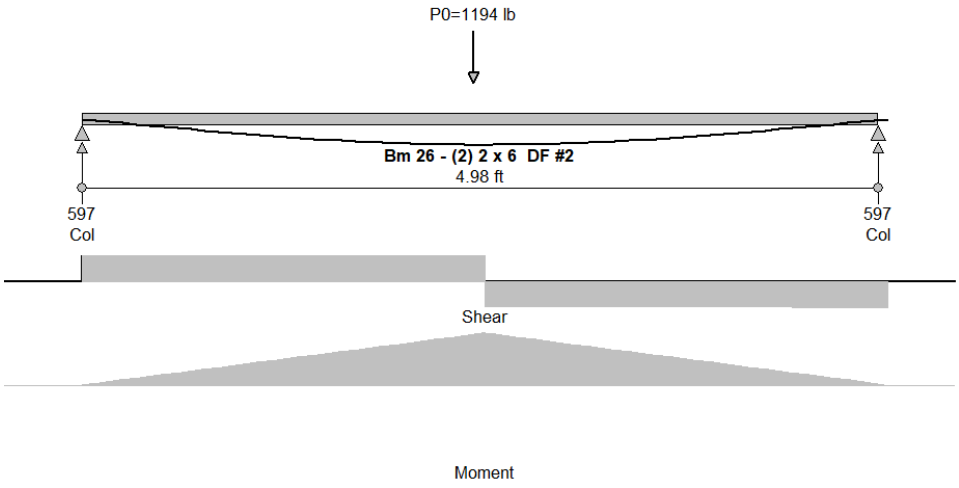
Analysis of Bm 25 - (2) 2 x 10 DF #2




```
Table 1 - Point load table
LOAD    D       S       L     W+/-     E+/-        LOC            NOTES
-------------------------------------------------------------------------------------------
No Applied point loads
-------------------------------------------------------------------------------------------
(1) Un-factored loads in lbs.
(2) Load location measured from left end of beam.
Table 3 - Distributive load table (pressures)
LOAD  ELEMENT     AREA   WALL     D        S      L
                   ID   HEIGHT
-------------------------------------------------------------
 0  Floor/Roof     12     -      15.0     25.0     0.0
 1  Floor/Roof     13     -      15.0     25.0     0.0
-------------------------------------------------------------
(1) loads in psf.
Table 4 - Distributive load table (line loads)
LOAD  ELEMENT              TRIB     from    to       D         S      L
                           WIDTH     loc    loc
```

```
-------------------------------------------------------------------------------
 0  Floor/Roof              5.0 |    0.0   11.8 |    37.4    62.4     0.0
 1  Floor/Roof              5.0 |   11.8    0.0 |    37.3    62.1     0.0
-------------------------------------------------------------------------------
(1) From loc and to loc are load segments starting and ending
    measured from the left of the beam
->Computed moments and shears (Factored) :
        Max shear  =       1194 lbs           D + S (2.4-3)
        Min shear  =      -1135 lbs           D + S (2.4-3)
        Max moment =       3579 ft-lbs        D + S (2.4-3)
        Min moment =         -0 ft-lbs D + 0.75(0.6)W + 0.75S + 0.75L (2.4-6a)
->Beam properties (2D xy axis) :
        Span  = 12.00 ft
        Area  = 27.75 sq.in
        Sx    = 42.78 sq.in
        Ixx   = 197.86 sq.in
->Check shear :
        fv = 1.5 x V / Area  = 1194 / 27.75 = 64.54 psi
        F'v = 180.00 x 1.15 x 1.00 x 1.00 x 1.00 =  207.00 psi
          Fv = 180 psi, CD = 1.15, Cm = 1.00, Ct = 1.00, Ci = 1.00.
->Check bending :
        fb-top = M x 12 / Sx  = 42945 / 42.78 = 1003.82 psi
        fb-btm = M x 12 / Sx  = 0 / 42.78 = 0.00 psi
          Fb = 900 psi, CD = 1.15, Cm = 1.00, Ct = 1.00, Cl = 1.00,
         Cf = 1.10, Cfu = 1.00, Ci = 1.00, Cr = 1.00.
          Fb'x CD x CM x CT x CL x CFx CFU x CI x CR = 1138 psi
->Check bearing :
->Check deflections :
        Number of deflection spans = 1
        Deflection span 0, Length = 12.00 ft Combined deflection = -0.293 [D + S (2.4-3)]
                Allowed = 12.00 x 12 / 360.0 = 0.400 in.
                Allowed (Seismic controled) = 12.00 x 12 / 180.0 = 0.800 in.
```

Analysis of Bm 26 - (2) 2 x 6 DF #2




```
Table 1 - Point load table
LOAD    D       S       L     W+/-     E+/-        LOC            NOTES
-------------------------------------------------------------------------------------
 0     448     746       0       0       0 |    2.49    | From BM 25 from Level 1
-------------------------------------------------------------------------------------
(1) Un-factored loads in lbs.
(2) Load location measured from left end of beam.
Table 3 - Distributive load table (pressures)
LOAD  ELEMENT     AREA   WALL     D        S      L
                   ID   HEIGHT
-------------------------------------------------------
No distributive loads
.-------------------------------------------------------
(1) loads in psf.
Table 4 - Distributive load table (line loads)
LOAD  ELEMENT              TRIB     from    to       D         S      L
                           WIDTH     loc    loc
-------------------------------------------------------------------------------
No distributive loads
```

```
.------------------------------------------------------------------------
(1) From loc and to loc are load segments starting and ending
    measured from the left of the beam
->Computed moments and shears (Factored) :
        Max shear  =        597 lbs          D + S (2.4-3)
        Min shear  =       -597 lbs          D + S (2.4-3)
        Max moment =       1486 ft-lbs       D + S (2.4-3)
        Min moment =         -0 ft-lbs       D + S (2.4-3)
->Beam properties (2D xy axis) :
        Span  = 4.98 ft
        Area  = 16.50 sq.in
        Sx    = 15.12 sq.in
        Ixx   = 41.59 sq.in
->Check shear :
        fv = 1.5 x V / Area  = 597 / 16.50 = 54.27 psi
        F'v = 180.00 x 1.15 x 1.00 x 1.00 x 1.00 =  207.00 psi
          Fv = 180 psi, CD = 1.15, Cm = 1.00, Ct = 1.00, Ci = 1.00.
->Check bending :
        fb-top = M x 12 / Sx  = 17826 / 15.12 = 1178.59 psi
        fb-btm = M x 12 / Sx  = 0 / 15.12 = 0.00 psi
          Fb = 900 psi, CD = 1.15, Cm = 1.00, Ct = 1.00, Cl = 1.00,
         Cf = 1.30, Cfu = 1.00, Ci = 1.00, Cr = 1.00.
          Fb'x CD x CM x CT x CL x CFx CFU x CI x CR = 1346 psi
->Check bearing :
->Check deflections :
        Number of deflection spans = 1
        Deflection span 0, Length = 4.98 ft Combined deflection = -0.080 [D + S (2.4-3)]
                Allowed = 4.98 x 12 / 360.0 = 0.166 in.
                Allowed (Seismic controled) = 4.98 x 12 / 180.0 = 0.332 in.
```

Analysis of Bm 27 - 7.000 x 14.000 LVL 2.0E

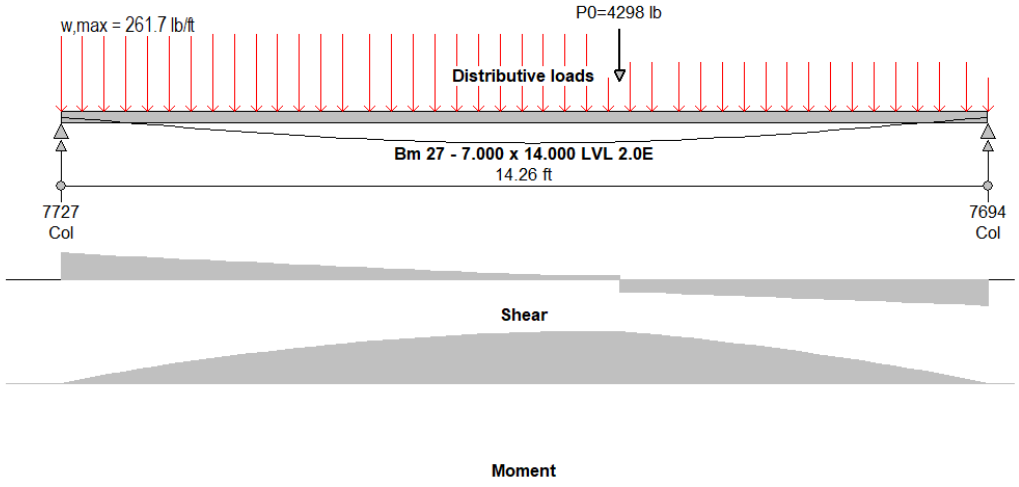


Table 1 - Point load table

LOAD	D	S	L	W+/-	E+/-	LOC	NOTES
0	1559	1979	0	568	2390	0.03	From BM 15 from Level 1

(1) Un-factored loads in lbs.
(2) Load location measured from left end of beam.

Table 2 - Seismic load table

LOAD	E	E X OMEGA	NOTES
0	2390	2390	Transfered load which includes overstrength factor

(1) Un-factored loads with overstrength factor applied as applicable, in lbs.

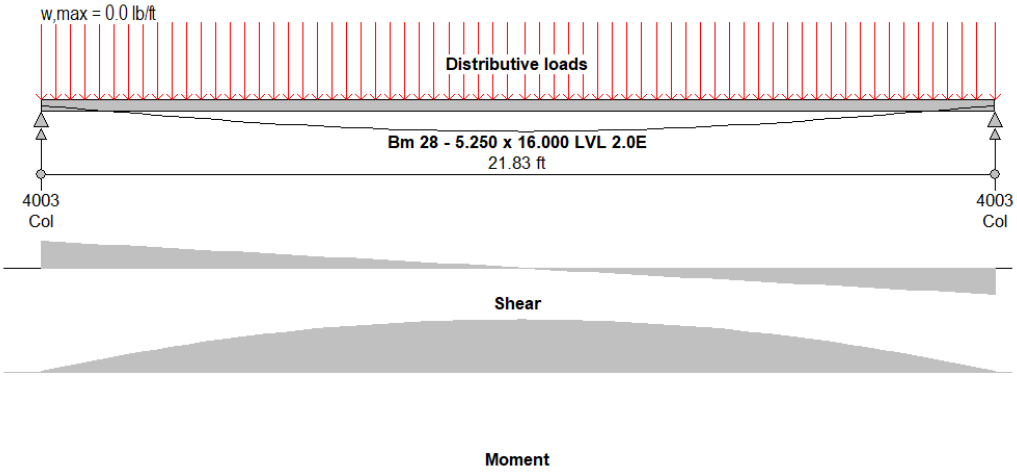
Table 3 - Distributive load table (pressures)

LOAD	ELEMENT	AREA ID	WALL HEIGHT	D	S	L
1	Floor/Roof	5	-	15.0	0.0	60.0
2	Floor/Roof	6	-	15.0	0.0	60.0
3	Floor/Roof	7	-	15.0	0.0	60.0
4	Floor/Roof	15	-	15.0	0.0	40.0

(1) loads in psf.

```
Table 4 - Distributive load table (line loads)
LOAD  ELEMENT              TRIB     from    to       D         S      L
                           WIDTH     loc    loc
-------------------------------------------------------------------------
 1  Floor/Roof             21.8 |   14.3    9.1 |   163.8     0.0   655.0
 2  Floor/Roof              7.0 |    0.0    8.3 |    52.3     0.0   209.3
 3  Floor/Roof             21.9 |    8.3    0.0 |   164.1     0.0   656.3
 4  Floor/Roof              3.4 |    8.8   14.1 |    25.5     0.0    68.0
-------------------------------------------------------------------------
(1) From loc and to loc are load segments starting and ending
    measured from the left of the beam
->Computed moments and shears (Factored) :
        Max shear  =       7727 lbs           D + L (2.4-2)
        Min shear  =      -7694 lbs    D + (0.75)0.7E + 0.75S + 0.75L (2.4-6c)
        Max moment =      32961 ft-lbs D + (0.75)0.7E + 0.75S + 0.75L (2.4-6c)
        Min moment =      -5716 ft-lbs 0.6D - 0.7E (2.4-8b)
->Beam properties (2D xy axis) :
        Span  = 14.26 ft
        Area  = 98.00 sq.in
        Sx    = 228.67 sq.in
        Ixx   = 1600.67 sq.in
->Check shear :
        fv = 1.5 x V / Area  = 7727 / 98.00 = 118.27 psi
        F'v = 285 x 1.60 =  456.00 psi
          Fv = 285 psi, CD = 1.00
->Check moment :
        fb = M x 12 / Sx  = 395535 / 228.67 = 1729.75 psi
          Fb = 2600 psi, CD = 1.60, Cf = 0.98, Cl = 1.00.
          Fb' x CD x CF x CL = 4089 psi
->Check bearing :
->Check deflections :
        Number of deflection spans = 1
        Deflection span 0, Length = 14.26 ft Combined deflection = -0.345 [D + (0.75)0.7E + 0.75S + 0.75L (2.4-6c)]
                Allowed = 14.26 x 12 / 360.0 = 0.475 in.
                Allowed (Seismic controled) = 14.26 x 12 / 180.0 = 0.950 in.
```

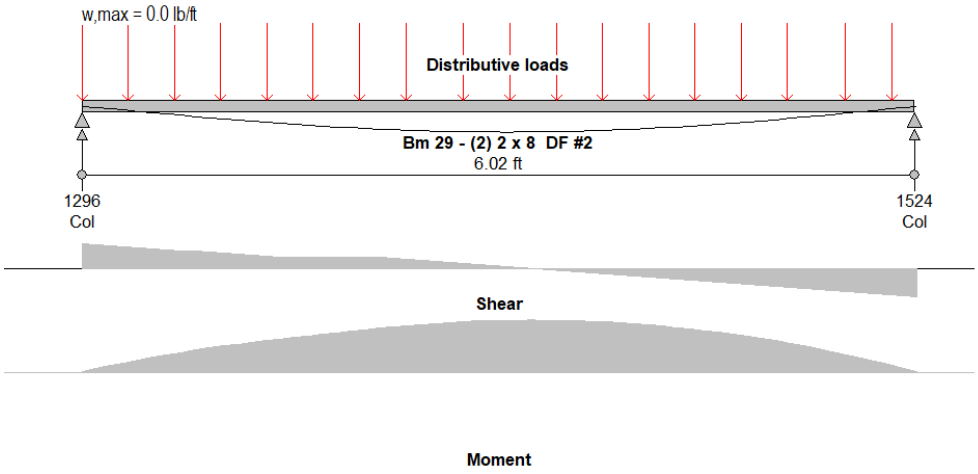
Analysis of Bm 28 - 5.250 x 16.000 LVL 2.0E




```
Table 1 - Point load table
LOAD    D       S       L     W+/-     E+/-        LOC            NOTES
-------------------------------------------------------------------------------
No Applied point loads
-------------------------------------------------------------------------------
(1) Un-factored loads in lbs.
(2) Load location measured from left end of beam.
Table 3 - Distributive load table (pressures)
LOAD  ELEMENT     AREA   WALL     D        S      L
                   ID   HEIGHT
-----------------------------------------------------------
 0  Floor/Roof      2     -      40.0     0.0    60.0
-----------------------------------------------------------
(1) loads in psf.
Table 4 - Distributive load table (line loads)
LOAD  ELEMENT              TRIB     from    to       D         S      L
```

```
                          WIDTH     loc     loc
-------------------------------------------------------------------------------
 0  Floor/Roof              7.3 |   21.8    0.0 |   146.7     0.0   220.0
-------------------------------------------------------------------------------
(1) From loc and to loc are load segments starting and ending
    measured from the left of the beam
->Computed moments and shears (Factored) :
        Max shear  =       4003 lbs           D + L (2.4-2)
        Min shear  =      -4003 lbs           D + L (2.4-2)
        Max moment =      21842 ft-lbs        D + L (2.4-2)
        Min moment =         -0 ft-lbs        D + L (2.4-2)
->Beam properties (2D xy axis) :
        Span  = 21.83 ft
        Area  = 84.00 sq.in
        Sx    = 224.00 sq.in
        Ixx   = 1792.00 sq.in
->Check shear :
        fv = 1.5 x V / Area  = 4003 / 84.00 = 71.48 psi
        F'v = 285 x 1.00 =  285.00 psi
          Fv = 285 psi, CD = 1.00
->Check moment :
        fb = M x 12 / Sx  = 262107 / 224.00 = 1170.12 psi
          Fb = 2600 psi, CD = 1.00, Cf = 0.97, Cl = 1.00.
          Fb' x CD x CF x CL = 2518 psi
->Check bearing :
->Check deflections :
        Number of deflection spans = 1
        Deflection span 0, Length = 21.83 ft Combined deflection = -0.523 [D + L (2.4-2)]
                Allowed = 21.83 x 12 / 360.0 = 0.728 in.
                Allowed (Seismic controled) = 21.83 x 12 / 180.0 = 1.456 in.
```

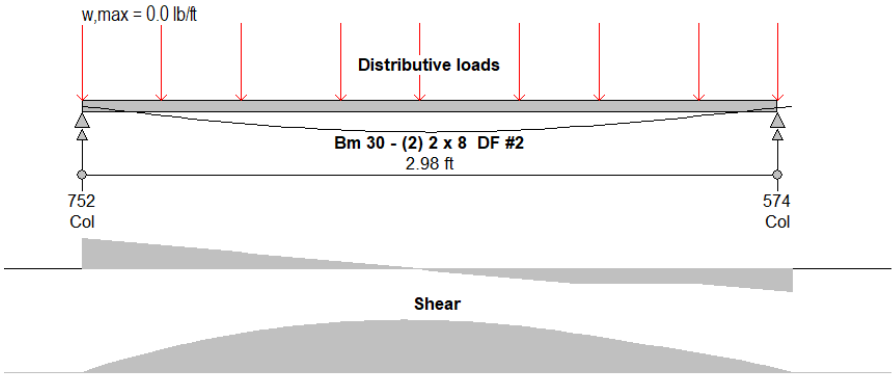
Analysis of Bm 29 - (2) 2 x 8 DF #2




```
Table 1 - Point load table
LOAD    D       S       L     W+/-     E+/-        LOC            NOTES
-------------------------------------------------------------------------------------
No Applied point loads
-------------------------------------------------------------------------------------
(1) Un-factored loads in lbs.
(2) Load location measured from left end of beam.
Table 3 - Distributive load table (pressures)
LOAD  ELEMENT     AREA   WALL     D        S      L
                   ID   HEIGHT
-----------------------------------------------------------
 0  Floor/Roof     14     -      15.0    25.0     0.0
 1  Floor/Roof     14     -      15.0    25.0     0.0
-----------------------------------------------------------
(1) loads in psf.
Table 4 - Distributive load table (line loads)
LOAD  ELEMENT              TRIB     from    to       D         S      L
                           WIDTH     loc    loc
-------------------------------------------------------------------------------
 0  Floor/Roof             27.5 |    6.0    2.2 |   206.2   343.7     0.0
 1  Floor/Roof             25.0 |    1.4    0.0 |   187.5   312.5     0.0
-------------------------------------------------------------------------------
```

```
(1) From loc and to loc are load segments starting and ending
    measured from the left of the beam
->Computed moments and shears (Factored) :
        Max shear  =       1296 lbs           D + S (2.4-3)
        Min shear  =      -1524 lbs           D + S (2.4-3)
        Max moment =       2111 ft-lbs        D + S (2.4-3)
        Min moment =          0 ft-lbs  D - (0.6)W (2.4-5b)
->Beam properties (2D xy axis) :
        Span  = 6.02 ft
        Area  = 21.75 sq.in
        Sx    = 26.28 sq.in
        Ixx   = 95.27 sq.in
->Check shear :
        fv = 1.5 x V / Area  = 1524 / 21.75 = 105.09 psi
        F'v = 180.00 x 1.15 x 1.00 x 1.00 x 1.00 =  207.00 psi
          Fv = 180 psi, CD = 1.15, Cm = 1.00, Ct = 1.00, Ci = 1.00.
->Check bending :
        fb-top = M x 12 / Sx  = 25330 / 26.28 = 963.82 psi
        fb-btm = M x 12 / Sx  = 0 / 26.28 = 0.00 psi
          Fb = 900 psi, CD = 1.15, Cm = 1.00, Ct = 1.00, Cl = 1.00,
         Cf = 1.20, Cfu = 1.00, Ci = 1.00, Cr = 1.00.
          Fb'x CD x CM x CT x CL x CFx CFU x CI x CR = 1242 psi
->Check bearing :
->Check deflections :
        Number of deflection spans = 1
        Deflection span 0, Length = 6.02 ft Combined deflection = -0.089 [D + S (2.4-3)]
                Allowed = 6.02 x 12 / 360.0 = 0.201 in.
                Allowed (Seismic controled) = 6.02 x 12 / 180.0 = 0.401 in.
```

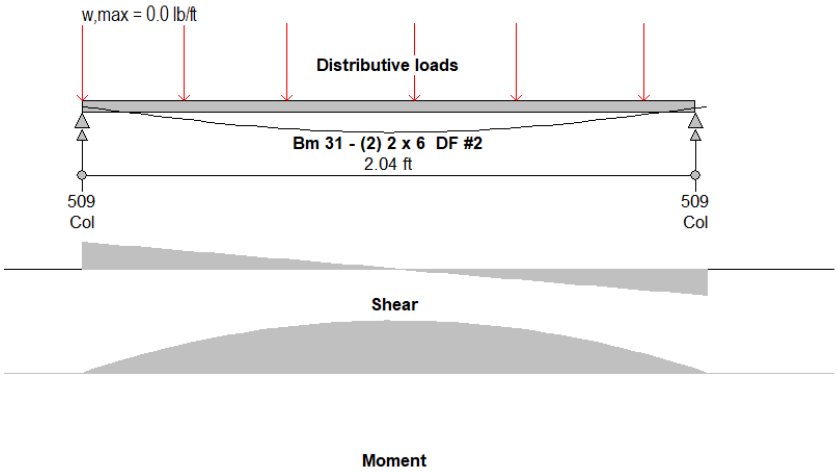
Analysis of Bm 30 - (2) 2 x 8 DF #2




```
Table 1 - Point load table
LOAD    D       S       L     W+/-     E+/-        LOC            NOTES
-------------------------------------------------------------------------------
No Applied point loads
-------------------------------------------------------------------------------
(1) Un-factored loads in lbs.
(2) Load location measured from left end of beam.
Table 3 - Distributive load table (pressures)
LOAD  ELEMENT     AREA   WALL     D        S      L
                   ID   HEIGHT
-----------------------------------------------------------
 0  Floor/Roof     14     -      15.0     25.0     0.0
 1  Floor/Roof     14     -      15.0     25.0     0.0
-----------------------------------------------------------
(1) loads in psf.
Table 4 - Distributive load table (line loads)
LOAD  ELEMENT              TRIB     from    to       D         S      L
                           WIDTH     loc    loc
-------------------------------------------------------------------------
 0  Floor/Roof             25.0 |    3.0    2.6 |   187.5   312.5     0.0
 1  Floor/Roof             27.5 |    2.1    0.0 |   206.2   343.7     0.0
-------------------------------------------------------------------------------
(1) From loc and to loc are load segments starting and ending
```

```
    measured from the left of the beam
->Computed moments and shears (Factored) :
        Max shear  =        752 lbs          D + S (2.4-3)
        Min shear  =       -574 lbs          D + S (2.4-3)
        Max moment =        514 ft-lbs       D + S (2.4-3)
        Min moment =         -0 ft-lbs       D + S (2.4-3)
->Beam properties (2D xy axis) :
        Span  = 2.98 ft
        Area  = 21.75 sq.in
        Sx    = 26.28 sq.in
        Ixx   = 95.27 sq.in
->Check shear :
        fv = 1.5 x V / Area  = 752 / 21.75 = 51.85 psi
        F'v = 180.00 x 1.15 x 1.00 x 1.00 x 1.00 =  207.00 psi
          Fv = 180 psi, CD = 1.15, Cm = 1.00, Ct = 1.00, Ci = 1.00.
->Check bending :
        fb-top = M x 12 / Sx  = 6166 / 26.28 = 234.61 psi
        fb-btm = M x 12 / Sx  = 0 / 26.28 = 0.00 psi
          Fb = 900 psi, CD = 1.15, Cm = 1.00, Ct = 1.00, Cl = 1.00,
         Cf = 1.20, Cfu = 1.00, Ci = 1.00, Cr = 1.00.
          Fb'x CD x CM x CT x CL x CFx CFU x CI x CR = 1242 psi
->Check bearing :
->Check deflections :
        Number of deflection spans = 1
        Deflection span 0, Length = 2.98 ft Combined deflection = -0.005 [D + S (2.4-3)]
                Allowed = 2.98 x 12 / 360.0 = 0.099 in.
                Allowed (Seismic controled) = 2.98 x 12 / 180.0 = 0.198 in.
```

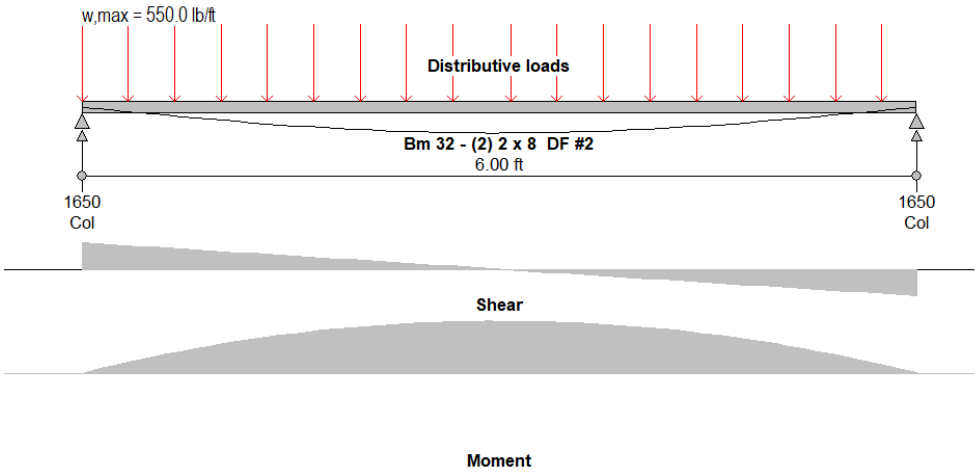
Analysis of Bm 31 - (2) 2 x 6 DF #2




```
Table 1 - Point load table
LOAD    D       S       L      W+/-      E+/-        LOC             NOTES
-------------------------------------------------------------------------------------
No Applied point loads
-------------------------------------------------------------------------------------
(1) Un-factored loads in lbs.
(2) Load location measured from left end of beam.
Table 3 - Distributive load table (pressures)
LOAD  ELEMENT     AREA   WALL     D        S      L
                   ID   HEIGHT
-----------------------------------------------------------
 0  Floor/Roof     14     -      15.0     25.0     0.0
-----------------------------------------------------------
(1) loads in psf.
Table 4 - Distributive load table (line loads)
LOAD  ELEMENT              TRIB     from    to       D         S      L
                           WIDTH     loc    loc
-------------------------------------------------------------------------
 0  Floor/Roof             25.0 |    2.0    0.0 |   187.5   312.5     0.0
-------------------------------------------------------------------------
(1) From loc and to loc are load segments starting and ending
    measured from the left of the beam
->Computed moments and shears (Factored) :
        Max shear  =        509 lbs          D + S (2.4-3)
        Min shear  =       -509 lbs          D + S (2.4-3)
```

```
        Max moment =        259 ft-lbs        D + S (2.4-3)
        Min moment =         -0 ft-lbs        D + S (2.4-3)
->Beam properties (2D xy axis) :
        Span  = 2.04 ft
        Area  = 16.50 sq.in
        Sx    = 15.12 sq.in
        Ixx   = 41.59 sq.in
->Check shear :
        fv = 1.5 x V / Area  = 509 / 16.50 = 46.32 psi
        F'v = 180.00 x 1.15 x 1.00 x 1.00 x 1.00 =  207.00 psi
          Fv = 180 psi, CD = 1.15, Cm = 1.00, Ct = 1.00, Ci = 1.00.
->Check bending :
        fb-top = M x 12 / Sx  = 3114 / 15.12 = 205.87 psi
        fb-btm = M x 12 / Sx  = 0 / 15.12 = 0.00 psi
          Fb = 900 psi, CD = 1.15, Cm = 1.00, Ct = 1.00, Cl = 1.00,
         Cf = 1.30, Cfu = 1.00, Ci = 1.00, Cr = 1.00.
          Fb'x CD x CM x CT x CL x CFx CFU x CI x CR = 1346 psi
->Check bearing :
->Check deflections :
        Number of deflection spans = 1
        Deflection span 0, Length = 2.04 ft Combined deflection = -0.003 [D + S (2.4-3)]
                Allowed = 2.04 x 12 / 360.0 = 0.068 in.
                Allowed (Seismic controled) = 2.04 x 12 / 180.0 = 0.136 in.
```

Analysis of Bm 32 - (2) 2 x 8 DF #2




```
Table 1 - Point load table
LOAD    D       S       L     W+/-     E+/-        LOC            NOTES
-------------------------------------------------------------------------------
No Applied point loads
-------------------------------------------------------------------------------
(1) Un-factored loads in lbs.
(2) Load location measured from left end of beam.
Table 3 - Distributive load table (pressures)
LOAD  ELEMENT     AREA   WALL     D        S      L
                   ID   HEIGHT
-----------------------------------------------------------
 0  Floor/Roof     14     -      15.0    25.0     0.0
-----------------------------------------------------------
(1) loads in psf.
Table 4 - Distributive load table (line loads)
LOAD  ELEMENT              TRIB     from    to       D         S      L
                           WIDTH     loc    loc
-------------------------------------------------------------------------
 0  Floor/Roof             27.5 |    0.0    6.0 |   206.2   343.7     0.0
-------------------------------------------------------------------------
(1) From loc and to loc are load segments starting and ending
    measured from the left of the beam
->Computed moments and shears (Factored) :
        Max shear  =       1650 lbs          D + S (2.4-3)
        Min shear  =      -1650 lbs          D + S (2.4-3)
        Max moment =       2475 ft-lbs       D + S (2.4-3)
        Min moment =         -0 ft-lbs       D + S (2.4-3)
->Beam properties (2D xy axis) :
```

```
        Span  = 6.00 ft
        Area  = 21.75 sq.in
        Sx    = 26.28 sq.in
        Ixx   = 95.27 sq.in
->Check shear :
        fv = 1.5 x V / Area  = 1650 / 21.75 = 113.82 psi
        F'v = 180.00 x 1.15 x 1.00 x 1.00 x 1.00 =  207.00 psi
          Fv = 180 psi, CD = 1.15, Cm = 1.00, Ct = 1.00, Ci = 1.00.
->Check bending :
        fb-top = M x 12 / Sx  = 29703 / 26.28 = 1130.21 psi
        fb-btm = M x 12 / Sx  = 0 / 26.28 = 0.00 psi
          Fb = 900 psi, CD = 1.15, Cm = 1.00, Ct = 1.00, Cl = 1.00,
         Cf = 1.20, Cfu = 1.00, Ci = 1.00, Cr = 1.00.
          Fb'x CD x CM x CT x CL x CFx CFU x CI x CR = 1242 psi
->Check bearing :
->Check deflections :
        Number of deflection spans = 1
        Deflection span 0, Length = 6.00 ft Combined deflection = -0.105 [D + S (2.4-3)]
                Allowed = 6.00 x 12 / 360.0 = 0.200 in.
                Allowed (Seismic controled) = 6.00 x 12 / 180.0 = 0.400 in.
```

Analysis of Bm 33 - (2) 2 x 8 DF #2

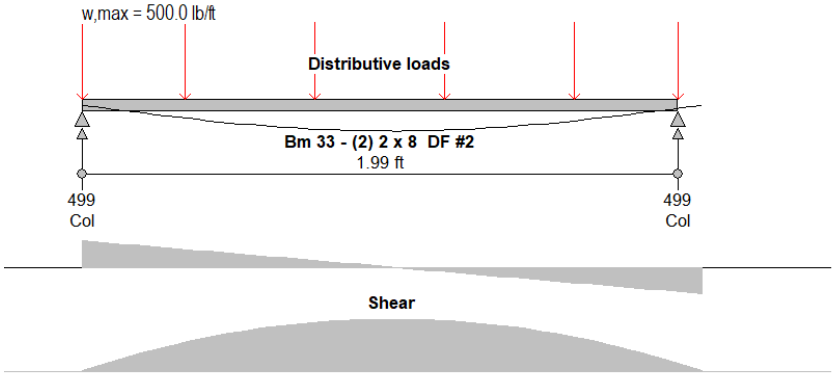


Table 1 - Point load table

LOAD	D	S	L	W+/-	E+/-	LOC	NOTES
No Applied point loads							

(1) Un-factored loads in lbs.
(2) Load location measured from left end of beam.

Table 3 - Distributive load table (pressures)

LOAD	ELEMENT	AREA ID	WALL HEIGHT	D	S	L
0	Floor/Roof	14	-	15.0	25.0	0.0

(1) loads in psf.

Table 4 - Distributive load table (line loads)

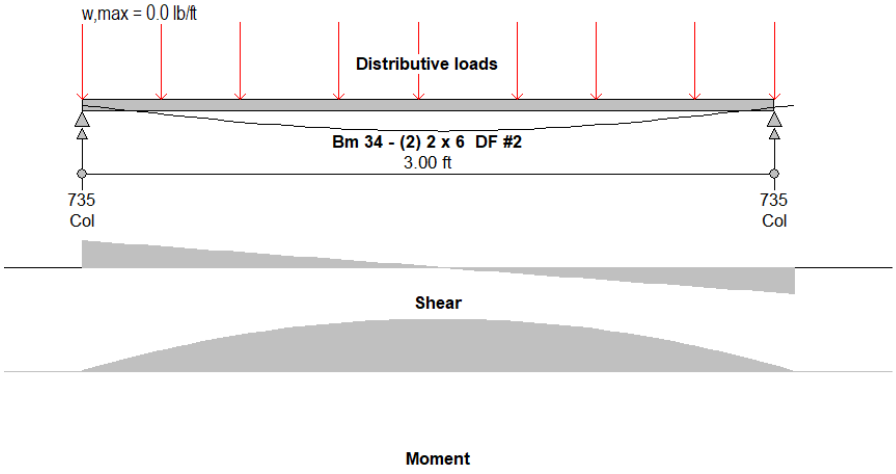
LOAD	ELEMENT	TRIB WIDTH	from loc	to loc	D	S	L
0	Floor/Roof	25.0	0.0	2.0	187.5	312.5	0.0

(1) From loc and to loc are load segments starting and ending
    measured from the left of the beam

```
->Computed moments and shears (Factored) :
        Max shear  =        499 lbs          D + S (2.4-3)
        Min shear  =       -499 lbs          D + S (2.4-3)
        Max moment =        249 ft-lbs       D + S (2.4-3)
        Min moment =         -0 ft-lbs       D + S (2.4-3)
->Beam properties (2D xy axis) :
        Span  = 1.99 ft
        Area  = 21.75 sq.in
        Sx    = 26.28 sq.in
        Ixx   = 95.27 sq.in
```

```
->Check shear :
        fv = 1.5 x V / Area  = 499 / 21.75 = 34.39 psi
        F'v = 180.00 x 1.15 x 1.00 x 1.00 x 1.00 =  207.00 psi
          Fv = 180 psi, CD = 1.15, Cm = 1.00, Ct = 1.00, Ci = 1.00.
->Check bending :
        fb-top = M x 12 / Sx  = 2983 / 26.28 = 113.50 psi
        fb-btm = M x 12 / Sx  = 0 / 26.28 = 0.00 psi
          Fb = 900 psi, CD = 1.15, Cm = 1.00, Ct = 1.00, Cl = 1.00,
         Cf = 1.20, Cfu = 1.00, Ci = 1.00, Cr = 1.00.
          Fb'x CD x CM x CT x CL x CFx CFU x CI x CR = 1242 psi
->Check bearing :
->Check deflections :
        Number of deflection spans = 1
        Deflection span 0, Length = 1.99 ft Combined deflection = -0.001 [D + S (2.4-3)]
                Allowed = 1.99 x 12 / 360.0 = 0.066 in.
                Allowed (Seismic controled) = 1.99 x 12 / 180.0 = 0.133 in.
```

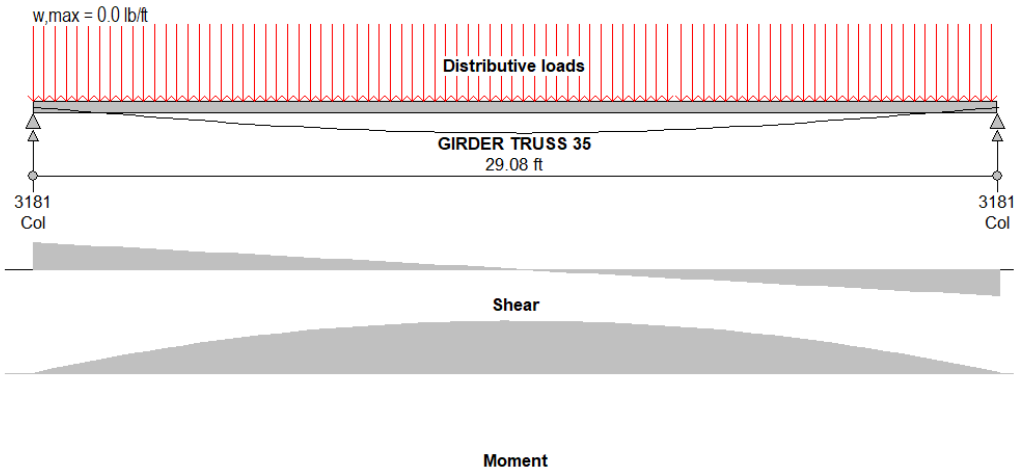
Analysis of Bm 34 - (2) 2 x 6 DF #2




```
Table 1 - Point load table
LOAD    D       S       L     W+/-     E+/-        LOC            NOTES
-------------------------------------------------------------------------------
No Applied point loads
-------------------------------------------------------------------------------
(1) Un-factored loads in lbs.
(2) Load location measured from left end of beam.
Table 3 - Distributive load table (pressures)
LOAD  ELEMENT     AREA   WALL     D        S      L
                   ID   HEIGHT
-----------------------------------------------------------
 0  Floor/Roof     11     -      15.0    25.0     0.0
-----------------------------------------------------------
(1) loads in psf.
Table 4 - Distributive load table (line loads)
LOAD  ELEMENT              TRIB     from    to       D         S      L
                           WIDTH     loc    loc
-------------------------------------------------------------------------
 0  Floor/Roof             24.5 |    3.0    0.0 |   183.8   306.3     0.0
-------------------------------------------------------------------------
(1) From loc and to loc are load segments starting and ending
    measured from the left of the beam
->Computed moments and shears (Factored) :
        Max shear  =        735 lbs          D + S (2.4-3)
        Min shear  =       -735 lbs          D + S (2.4-3)
        Max moment =        551 ft-lbs       D + S (2.4-3)
        Min moment =         -0 ft-lbs       D + S (2.4-3)
->Beam properties (2D xy axis) :
        Span  = 3.00 ft
        Area  = 16.50 sq.in
        Sx    = 15.12 sq.in
        Ixx   = 41.59 sq.in
->Check shear :
        fv = 1.5 x V / Area  = 735 / 16.50 = 66.82 psi
        F'v = 180.00 x 1.15 x 1.00 x 1.00 x 1.00 =  207.00 psi
```

```
          Fv = 180 psi, CD = 1.15, Cm = 1.00, Ct = 1.00, Cl = 1.00.
->Check bending :
        fb-top = M x 12 / Sx  = 6613 / 15.12 = 437.21 psi
        fb-btm = M x 12 / Sx  = 0 / 15.12 = 0.00 psi
          Fb = 900 psi, CD = 1.15, Cm = 1.00, Ct = 1.00, Cl = 1.00,
         Cf = 1.30, Cfu = 1.00, Ci = 1.00, Cr = 1.00.
          Fb'x CD x CM x CT x CL x CFx CFU x CI x CR = 1346 psi
->Check bearing :
->Check deflections :
        Number of deflection spans = 1
        Deflection span 0, Length = 3.00 ft Combined deflection = -0.013 [D + S (2.4-3)]
                Allowed = 3.00 x 12 / 360.0 = 0.100 in.
                Allowed (Seismic controled) = 3.00 x 12 / 180.0 = 0.200 in.
```

Loads on Truss 35

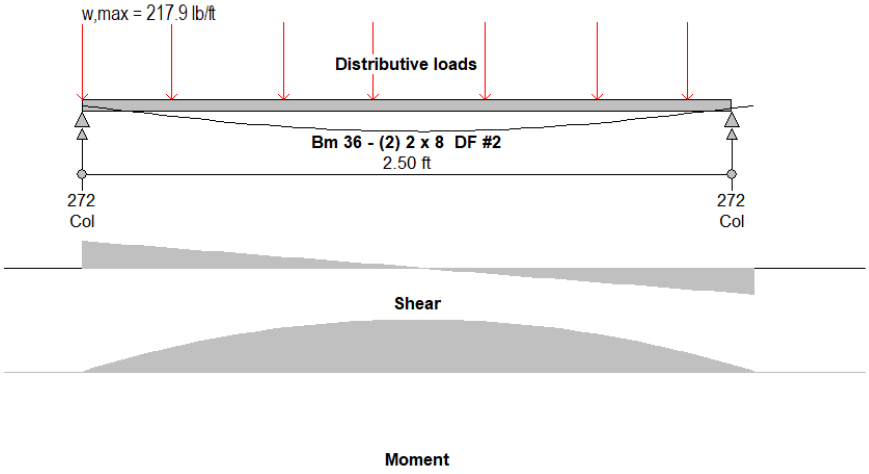



```
->Design Loads:
Notes:  (1) Point and distributive loads are sequential.
        (2) wD = Dead, wS = Snow, wL = Live, wW = Wind (similar for point loads).
        (3) All loads are measured from the left end of member.
        ---------------------
->Distributive load on beam, w0 - from level 2
->From location 29.09 ft to 25.08 ft
        Compute typical distributive loads
                Joist cantilever span 1, a = 0.00 ft
                Joist cantilever span 2, c = 0.00 ft
                b1 = L1 - a - c = 10.94 - 0.00 - 0.00 = 10.94 ft
                b2 = L2 - a - c = 10.94 - 0.00 - 0.00 = 10.94 ft
                w1 or w2 = load, psf x L x (L - 2 x c) / (2 x b1 or b2)
        wS = 25.00 psf x 10.94 ft x (10.94 ft - 2 x 0.00) / (2 x 10.94) = 136.71 lb/ft
        wD = 15.00 psf x 10.94 ft x (10.94 ft - 2 x 0.00) / (2 x 10.94) = 82.03 lb/ft
        ---------------------
->Distributive load on beam, w1 - from level 2
->From location 25.08 ft to 19.26 ft
        wS = 25.00 psf x 10.94 ft x (10.94 ft - 2 x 0.00) / (2 x 10.94) = 136.71 lb/ft
        wD = 15.00 psf x 10.94 ft x (10.94 ft - 2 x 0.00) / (2 x 10.94) = 82.03 lb/ft
        ---------------------
->Distributive load on beam, w2 - from level 2
->From location 19.26 ft to 13.58 ft
        wS = 25.00 psf x 10.94 ft x (10.94 ft - 2 x 0.00) / (2 x 10.94) = 136.71 lb/ft
        wD = 15.00 psf x 10.94 ft x (10.94 ft - 2 x 0.00) / (2 x 10.94) = 82.03 lb/ft
        ---------------------
->Distributive load on beam, w3 - from level 2
->From location 13.58 ft to 5.00 ft
        wS = 25.00 psf x 10.94 ft x (10.94 ft - 2 x 0.00) / (2 x 10.94) = 136.71 lb/ft
        wD = 15.00 psf x 10.94 ft x (10.94 ft - 2 x 0.00) / (2 x 10.94) = 82.03 lb/ft
        ---------------------
->Distributive load on beam, w4 - from level 2
->From location 5.00 ft to 0.08 ft
        wS = 25.00 psf x 10.94 ft x (10.94 ft - 2 x 0.00) / (2 x 10.94) = 136.71 lb/ft
        wD = 15.00 psf x 10.94 ft x (10.94 ft - 2 x 0.00) / (2 x 10.94) = 82.03 lb/ft
Loads on Truss 35
->Design Loads:
Notes:  (1) Point and distributive loads are sequential.
        (2) wD = Dead, wS = Snow, wL = Live, wW = Wind (similar for point loads).
```

```
        (3) All loads are measured from the left end of member.
        ---------------------
->Distributive load on beam, w0 - from level 2
->From location 29.09 ft to 25.08 ft
        Compute typical distributive loads
                Joist cantilever span 1, a = 0.00 ft
                Joist cantilever span 2, c = 0.00 ft
                b1 = L1 - a - c = 10.94 - 0.00 - 0.00 = 10.94 ft
                b2 = L2 - a - c = 10.94 - 0.00 - 0.00 = 10.94 ft
                w1 or w2 = load, psf x L x (L - 2 x c) / (2 x b1 or b2)
        wS = 25.00 psf x 10.94 ft x (10.94 ft - 2 x 0.00) / (2 x 10.94) = 136.71 lb/ft
        wD = 15.00 psf x 10.94 ft x (10.94 ft - 2 x 0.00) / (2 x 10.94) = 82.03 lb/ft
        ---------------------
->Distributive load on beam, w1 - from level 2
->From location 25.08 ft to 19.26 ft
        wS = 25.00 psf x 10.94 ft x (10.94 ft - 2 x 0.00) / (2 x 10.94) = 136.71 lb/ft
        wD = 15.00 psf x 10.94 ft x (10.94 ft - 2 x 0.00) / (2 x 10.94) = 82.03 lb/ft
        ---------------------
->Distributive load on beam, w2 - from level 2
->From location 19.26 ft to 13.58 ft
        wS = 25.00 psf x 10.94 ft x (10.94 ft - 2 x 0.00) / (2 x 10.94) = 136.71 lb/ft
        wD = 15.00 psf x 10.94 ft x (10.94 ft - 2 x 0.00) / (2 x 10.94) = 82.03 lb/ft
        ---------------------
->Distributive load on beam, w3 - from level 2
->From location 13.58 ft to 5.00 ft
        wS = 25.00 psf x 10.94 ft x (10.94 ft - 2 x 0.00) / (2 x 10.94) = 136.71 lb/ft
        wD = 15.00 psf x 10.94 ft x (10.94 ft - 2 x 0.00) / (2 x 10.94) = 82.03 lb/ft
        ---------------------
->Distributive load on beam, w4 - from level 2
->From location 5.00 ft to 0.08 ft
        wS = 25.00 psf x 10.94 ft x (10.94 ft - 2 x 0.00) / (2 x 10.94) = 136.71 lb/ft
        wD = 15.00 psf x 10.94 ft x (10.94 ft - 2 x 0.00) / (2 x 10.94) = 82.03 lb/ft
Loads on Truss 35
->Design Loads:
Notes:  (1) Point and distributive loads are sequential.
        (2) wD = Dead, wS = Snow, wL = Live, wW = Wind (similar for point loads).
        (3) All loads are measured from the left end of member.
        ---------------------
->Distributive load on beam, w0 - from level 2
->From location 29.09 ft to 25.08 ft
        Compute typical distributive loads
                Joist cantilever span 1, a = 0.00 ft
                Joist cantilever span 2, c = 0.00 ft
                b1 = L1 - a - c = 10.94 - 0.00 - 0.00 = 10.94 ft
                b2 = L2 - a - c = 10.94 - 0.00 - 0.00 = 10.94 ft
                w1 or w2 = load, psf x L x (L - 2 x c) / (2 x b1 or b2)
        wS = 25.00 psf x 10.94 ft x (10.94 ft - 2 x 0.00) / (2 x 10.94) = 136.71 lb/ft
        wD = 15.00 psf x 10.94 ft x (10.94 ft - 2 x 0.00) / (2 x 10.94) = 82.03 lb/ft
        ---------------------
->Distributive load on beam, w1 - from level 2
->From location 25.08 ft to 19.26 ft
        wS = 25.00 psf x 10.94 ft x (10.94 ft - 2 x 0.00) / (2 x 10.94) = 136.71 lb/ft
        wD = 15.00 psf x 10.94 ft x (10.94 ft - 2 x 0.00) / (2 x 10.94) = 82.03 lb/ft
        ---------------------
->Distributive load on beam, w2 - from level 2
->From location 19.26 ft to 13.58 ft
        wS = 25.00 psf x 10.94 ft x (10.94 ft - 2 x 0.00) / (2 x 10.94) = 136.71 lb/ft
        wD = 15.00 psf x 10.94 ft x (10.94 ft - 2 x 0.00) / (2 x 10.94) = 82.03 lb/ft
        ---------------------
->Distributive load on beam, w3 - from level 2
->From location 13.58 ft to 5.00 ft
        wS = 25.00 psf x 10.94 ft x (10.94 ft - 2 x 0.00) / (2 x 10.94) = 136.71 lb/ft
        wD = 15.00 psf x 10.94 ft x (10.94 ft - 2 x 0.00) / (2 x 10.94) = 82.03 lb/ft
        ---------------------
->Distributive load on beam, w4 - from level 2
->From location 5.00 ft to 0.08 ft
        wS = 25.00 psf x 10.94 ft x (10.94 ft - 2 x 0.00) / (2 x 10.94) = 136.71 lb/ft
        wD = 15.00 psf x 10.94 ft x (10.94 ft - 2 x 0.00) / (2 x 10.94) = 82.03 lb/ft
Loads on Truss 35
->Design Loads:
Notes:  (1) Point and distributive loads are sequential.
        (2) wD = Dead, wS = Snow, wL = Live, wW = Wind (similar for point loads).
        (3) All loads are measured from the left end of member.
        ---------------------
->Distributive load on beam, w0 - from level 2
->From location 29.09 ft to 25.08 ft
        Compute typical distributive loads
                Joist cantilever span 1, a = 0.00 ft
                Joist cantilever span 2, c = 0.00 ft
                b1 = L1 - a - c = 10.94 - 0.00 - 0.00 = 10.94 ft
                b2 = L2 - a - c = 10.94 - 0.00 - 0.00 = 10.94 ft
                w1 or w2 = load, psf x L x (L - 2 x c) / (2 x b1 or b2)
        wS = 25.00 psf x 10.94 ft x (10.94 ft - 2 x 0.00) / (2 x 10.94) = 136.71 lb/ft
        wD = 15.00 psf x 10.94 ft x (10.94 ft - 2 x 0.00) / (2 x 10.94) = 82.03 lb/ft
        ---------------------
->Distributive load on beam, w1 - from level 2
->From location 25.08 ft to 19.26 ft
        wS = 25.00 psf x 10.94 ft x (10.94 ft - 2 x 0.00) / (2 x 10.94) = 136.71 lb/ft
        wD = 15.00 psf x 10.94 ft x (10.94 ft - 2 x 0.00) / (2 x 10.94) = 82.03 lb/ft
        ---------------------
->Distributive load on beam, w2 - from level 2
->From location 19.26 ft to 13.58 ft
        wS = 25.00 psf x 10.94 ft x (10.94 ft - 2 x 0.00) / (2 x 10.94) = 136.71 lb/ft
        wD = 15.00 psf x 10.94 ft x (10.94 ft - 2 x 0.00) / (2 x 10.94) = 82.03 lb/ft
```

```
        ---------------------
->Distributive load on beam, w3 - from level 2
->From location 13.58 ft to 5.00 ft
        wS = 25.00 psf x 10.94 ft x (10.94 ft - 2 x 0.00) / (2 x 10.94) = 136.71 lb/ft
        wD = 15.00 psf x 10.94 ft x (10.94 ft - 2 x 0.00) / (2 x 10.94) = 82.03 lb/ft
        ---------------------
->Distributive load on beam, w4 - from level 2
->From location 5.00 ft to 0.08 ft
        wS = 25.00 psf x 10.94 ft x (10.94 ft - 2 x 0.00) / (2 x 10.94) = 136.71 lb/ft
        wD = 15.00 psf x 10.94 ft x (10.94 ft - 2 x 0.00) / (2 x 10.94) = 82.03 lb/ft
```

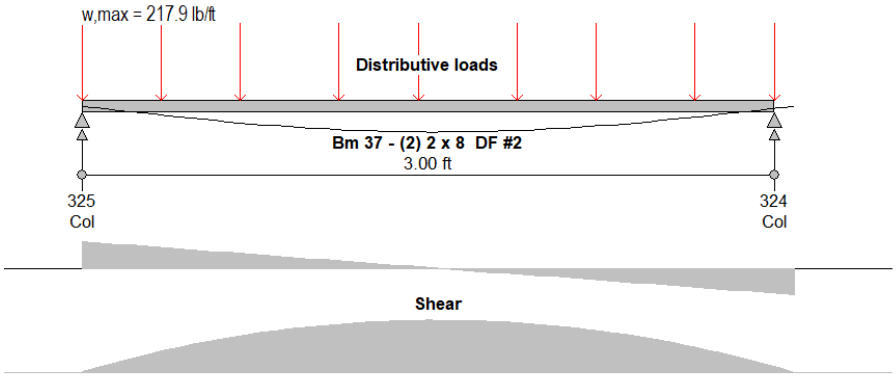
Analysis of Bm 36 - (2) 2 x 8 DF #2




```
Table 1 - Point load table
LOAD    D       S       L     W+/-     E+/-        LOC            NOTES
-------------------------------------------------------------------------------
No Applied point loads
-------------------------------------------------------------------------------
(1) Un-factored loads in lbs.
(2) Load location measured from left end of beam.
Table 3 - Distributive load table (pressures)
LOAD  ELEMENT     AREA   WALL     D        S      L
                   ID   HEIGHT
-----------------------------------------------------------
 0  Floor/Roof     18     -      15.0     25.0     0.0
 1  Floor/Roof     18     -      15.0     25.0     0.0
-----------------------------------------------------------
(1) loads in psf.
Table 4 - Distributive load table (line loads)
LOAD  ELEMENT              TRIB     from    to       D         S      L
                           WIDTH     loc    loc
-------------------------------------------------------------------------
 0  Floor/Roof             10.9 |    0.0    2.5 |    81.7   136.2     0.0
 1  Floor/Roof             10.9 |    2.5    2.8 |    81.7   136.2     0.0
-------------------------------------------------------------------------
(1) From loc and to loc are load segments starting and ending
    measured from the left of the beam
->Computed moments and shears (Factored) :
        Max shear  =        272 lbs          D + S (2.4-3)
        Min shear  =       -272 lbs          D + S (2.4-3)
        Max moment =        170 ft-lbs       D + S (2.4-3)
        Min moment =         -0 ft-lbs  D - (0.6)W (2.4-5b)
->Beam properties (2D xy axis) :
        Span  = 2.50 ft
        Area  = 21.75 sq.in
        Sx    = 26.28 sq.in
        Ixx   = 95.27 sq.in
->Check shear :
        fv = 1.5 x V / Area  = 272 / 21.75 = 18.79 psi
        F'v = 180.00 x 1.15 x 1.00 x 1.00 x 1.00 =  207.00 psi
          Fv = 180 psi, CD = 1.15, Cm = 1.00, Ct = 1.00, Ci = 1.00.
->Check bending :
        fb-top = M x 12 / Sx  = 2043 / 26.28 = 77.72 psi
        fb-btm = M x 12 / Sx  = 0 / 26.28 = 0.00 psi
```

```
          Fb = 900 psi, CD = 1.15, Cm = 1.00, Ct = 1.00, Cl = 1.00,
         Cf = 1.20, Cfu = 1.00, Ci = 1.00, Cr = 1.00.
          Fb'x CD x CM x CT x CL x CFx CFU x CI x CR = 1242 psi
->Check bearing :
->Check deflections :
        Number of deflection spans = 1
        Deflection span 0, Length = 2.50 ft Combined deflection = -0.001 [D + S (2.4-3)]
                Allowed = 2.50 x 12 / 360.0 = 0.083 in.
                Allowed (Seismic controled) = 2.50 x 12 / 180.0 = 0.167 in.
```

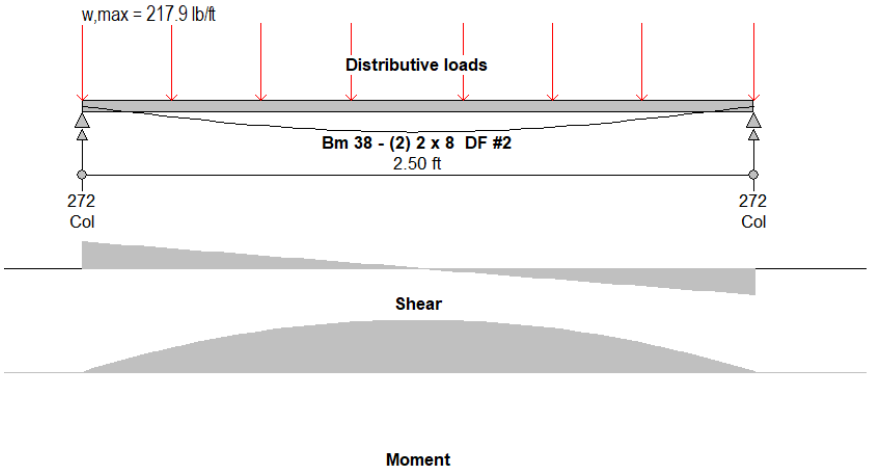
Analysis of Bm 37 - (2) 2 x 8 DF #2




```
Table 1 - Point load table
LOAD    D       S       L     W+/-     E+/-        LOC            NOTES
-------------------------------------------------------------------------------------
No Applied point loads
-------------------------------------------------------------------------------------
(1) Un-factored loads in lbs.
(2) Load location measured from left end of beam.
Table 3 - Distributive load table (pressures)
LOAD  ELEMENT     AREA   WALL     D        S      L
                   ID   HEIGHT
-----------------------------------------------------------
 0  Floor/Roof     18     -      15.0     25.0     0.0
 1  Floor/Roof     18     -      15.0     25.0     0.0
-----------------------------------------------------------
(1) loads in psf.
Table 4 - Distributive load table (line loads)
LOAD  ELEMENT              TRIB     from     to       D         S      L
                           WIDTH     loc     loc
-------------------------------------------------------------------------------
 0  Floor/Roof             10.9 |    0.0     1.8 |    81.7   136.2     0.0
 1  Floor/Roof             10.9 |    1.8     3.0 |    81.7   136.2     0.0
-------------------------------------------------------------------------------
(1) From loc and to loc are load segments starting and ending
    measured from the left of the beam
->Computed moments and shears (Factored) :
        Max shear  =        325 lbs           D + S (2.4-3)
        Min shear  =       -324 lbs           D + S (2.4-3)
        Max moment =        242 ft-lbs        D + S (2.4-3)
        Min moment =         -0 ft-lbs        D + S (2.4-3)
->Beam properties (2D xy axis) :
        Span  = 3.00 ft
        Area  = 21.75 sq.in
        Sx    = 26.28 sq.in
        Ixx   = 95.27 sq.in
->Check shear :
        fv = 1.5 x V / Area  = 325 / 21.75 = 22.39 psi
        F'v = 180.00 x 1.15 x 1.00 x 1.00 x 1.00 =  207.00 psi
          Fv = 180 psi, CD = 1.15, Cm = 1.00, Ct = 1.00, Ci = 1.00.
->Check bending :
        fb-top = M x 12 / Sx  = 2902 / 26.28 = 110.44 psi
        fb-btm = M x 12 / Sx  = 0 / 26.28 = 0.00 psi
          Fb = 900 psi, CD = 1.15, Cm = 1.00, Ct = 1.00, Cl = 1.00,
         Cf = 1.20, Cfu = 1.00, Ci = 1.00, Cr = 1.00.
```

```
          Fb'x CD x CM x CT x CL x CFx CFU x CI x CR = 1242 psi
->Check bearing :
->Check deflections :
        Number of deflection spans = 1
        Deflection span 0, Length = 3.00 ft Combined deflection = -0.003 [D + S (2.4-3)]
                Allowed = 3.00 x 12 / 360.0 = 0.100 in.
                Allowed (Seismic controled) = 3.00 x 12 / 180.0 = 0.200 in.
```

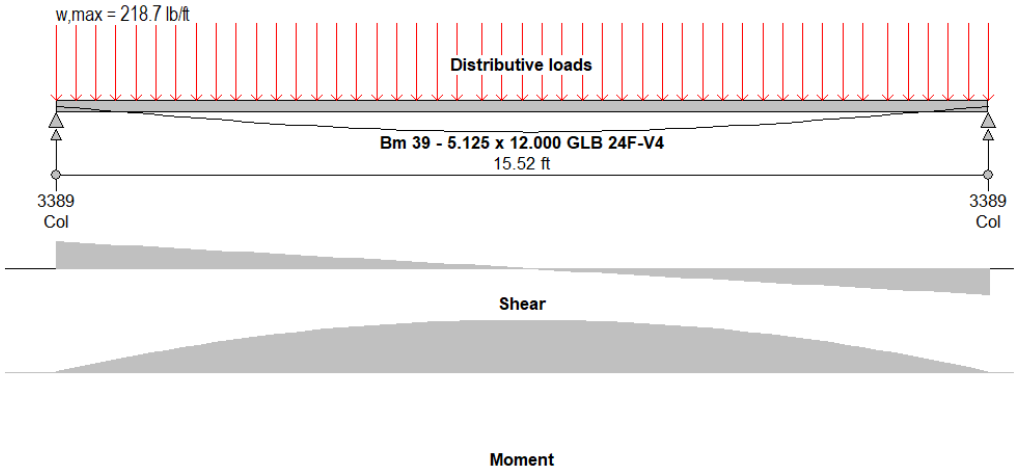
Analysis of Bm 38 - (2) 2 x 8 DF #2




```
Table 1 - Point load table
LOAD    D       S       L     W+/-     E+/-        LOC             NOTES
-------------------------------------------------------------------------------------
No Applied point loads
-------------------------------------------------------------------------------------
(1) Un-factored loads in lbs.
(2) Load location measured from left end of beam.
Table 3 - Distributive load table (pressures)
LOAD  ELEMENT     AREA   WALL     D        S      L
                   ID   HEIGHT
-----------------------------------------------------------
 0  Floor/Roof     18     -      15.0     25.0     0.0
-----------------------------------------------------------
(1) loads in psf.
Table 4 - Distributive load table (line loads)
LOAD  ELEMENT              TRIB     from    to       D         S      L
                           WIDTH     loc    loc
-------------------------------------------------------------------------
 0  Floor/Roof             10.9 |    0.0    2.5 |    81.7   136.2     0.0
-------------------------------------------------------------------------
(1) From loc and to loc are load segments starting and ending
    measured from the left of the beam
->Computed moments and shears (Factored) :
        Max shear  =        272 lbs           D + S (2.4-3)
        Min shear  =       -272 lbs           D + S (2.4-3)
        Max moment =        170 ft-lbs        D + S (2.4-3)
        Min moment =         -0 ft-lbs        D + S (2.4-3)
->Beam properties (2D xy axis) :
        Span  = 2.50 ft
        Area  = 21.75 sq.in
        Sx    = 26.28 sq.in
        Ixx   = 95.27 sq.in
->Check shear :
        fv = 1.5 x V / Area  = 272 / 21.75 = 18.79 psi
        F'v = 180.00 x 1.15 x 1.00 x 1.00 x 1.00 =  207.00 psi
          Fv = 180 psi, CD = 1.15, Cm = 1.00, Ct = 1.00, Ci = 1.00.
->Check bending :
        fb-top = M x 12 / Sx  = 2043 / 26.28 = 77.72 psi
        fb-btm = M x 12 / Sx  = 0 / 26.28 = 0.00 psi
          Fb = 900 psi, CD = 1.15, Cm = 1.00, Ct = 1.00, Cl = 1.00,
         Cf = 1.20, Cfu = 1.00, Ci = 1.00, Cr = 1.00.
          Fb'x CD x CM x CT x CL x CFx CFU x CI x CR = 1242 psi
->Check bearing :
->Check deflections :
```

```
Number of deflection spans = 1
Deflection span 0, Length = 2.50 ft Combined deflection = -0.001 [D + S (2.4-3)]
        Allowed = 2.50 x 12 / 360.0 = 0.083 in.
        Allowed (Seismic controled) = 2.50 x 12 / 180.0 = 0.167 in.
```

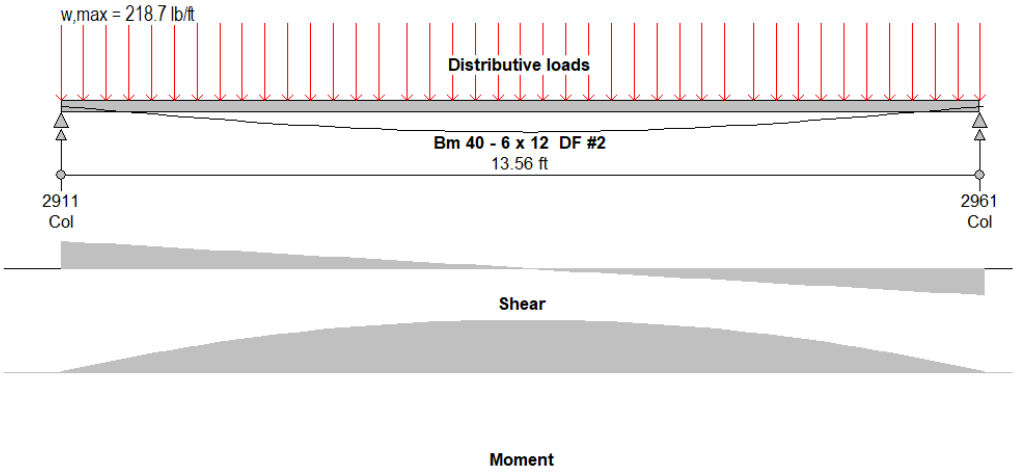
Analysis of Bm 39 - 5.125 x 12.000 GLB 24F-V4




```
Table 1 - Point load table
LOAD    D       S       L     W+/-     E+/-        LOC            NOTES
-------------------------------------------------------------------------------
No Applied point loads
-------------------------------------------------------------------------------
(1) Un-factored loads in lbs.
(2) Load location measured from left end of beam.
Table 3 - Distributive load table (pressures)
LOAD  ELEMENT     AREA   WALL     D        S      L
                   ID   HEIGHT
-----------------------------------------------------------
 0  Floor/Roof     17     -      15.0    25.0     0.0
 1  Floor/Roof     18     -      15.0    25.0     0.0
 2  Floor/Roof     18     -      15.0    25.0     0.0
-----------------------------------------------------------
(1) loads in psf.
Table 4 - Distributive load table (line loads)
LOAD  ELEMENT              TRIB     from    to       D         S      L
                           WIDTH     loc    loc
-------------------------------------------------------------------------
 0  Floor/Roof             10.9 |    0.0   15.4 |    82.0   136.7     0.0
 1  Floor/Roof             10.9 |   15.4   15.5 |    81.7   136.2     0.0
 2  Floor/Roof             10.9 |   15.5    0.0 |    81.7   136.2     0.0
-------------------------------------------------------------------------
(1) From loc and to loc are load segments starting and ending
    measured from the left of the beam
->Computed moments and shears (Factored) :
        Max shear  =       3389 lbs           D + S (2.4-3)
        Min shear  =      -3389 lbs           D + S (2.4-3)
        Max moment =      13145 ft-lbs        D + S (2.4-3)
        Min moment =         -0 ft-lbs        D + S (2.4-3)
->Beam properties (2D xy axis) :
        Span  = 15.52 ft
        Area  = 61.50 sq.in
        Sx    = 123.00 sq.in
        Ixx   = 738.00 sq.in
->Check shear :
        fv = 1.5 * V / Area  = 3389 / 61.50 = 82.65 psi
        F'v = 190.00 x 1.15 x 1.00 x 1.00 x 1.00 =  218.50 psi
          Fv = 190 psi, CD = 1.15, Cm = 1.00, Ct = 1.00, Ci = 1.00.
->Check moment :
        fb-top = M x 12 / Sx  = -0 / 123.00 = 0.00 psi
        fb-btm = M x 12 / Sx  = 157742 / 123.00 = 1282.45 psi
          Fb = 2400 psi, CD = 1.15, Cm = 1.00, Ct = 1.00, Cl = 1.00,
          Cv = 0.80, Cfu = 1.00, Ci = 1.00, Cr = 1.00.
        Cv controls
          Fb'top x CD x CM x CT x CV x CFU x CI x CR = 1109 psi
          Fb'btm x CD x CM x CT x CV x CFU x CI x CR = 2219 psi
```

```
->Check bearing :
->Check deflections :
        Number of deflection spans = 1
        Deflection span 0, Length = 15.52 ft Combined deflection = -0.429 [D + S (2.4-3)]
                Allowed = 15.52 x 12 / 360.0 = 0.517 in.
                Allowed (Seismic controled) = 15.52 x 12 / 180.0 = 1.035 in.
```

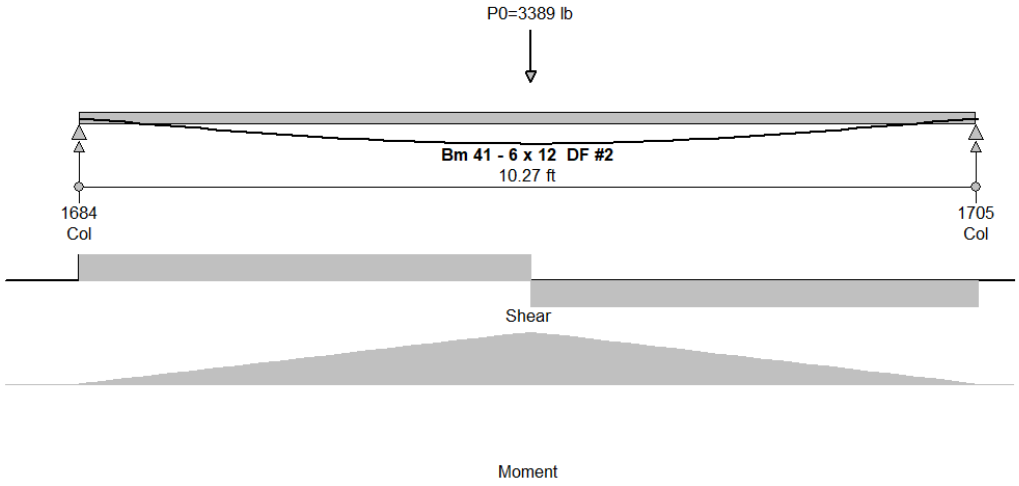
Analysis of Bm 40 - 6 x 12 DF #2




```
Table 1 - Point load table
LOAD    D       S       L     W+/-     E+/-        LOC             NOTES
-------------------------------------------------------------------------------
No Applied point loads
-------------------------------------------------------------------------------
(1) Un-factored loads in lbs.
(2) Load location measured from left end of beam.
Table 3 - Distributive load table (pressures)
LOAD  ELEMENT     AREA   WALL     D        S      L
                   ID   HEIGHT
-----------------------------------------------------------
 0  Floor/Roof     17     -      15.0     25.0     0.0
 1  Floor/Roof     18     -      15.0     25.0     0.0
-----------------------------------------------------------
(1) loads in psf.
Table 4 - Distributive load table (line loads)
LOAD  ELEMENT              TRIB     from    to       D         S      L
                           WIDTH     loc    loc
-------------------------------------------------------------------------
 0  Floor/Roof             10.9 |    0.0   13.6 |    82.0   136.7     0.0
 1  Floor/Roof             10.9 |   13.6    0.2 |    81.7   136.2     0.0
-------------------------------------------------------------------------
(1) From loc and to loc are load segments starting and ending
    measured from the left of the beam
->Computed moments and shears (Factored) :
        Max shear  =       2911 lbs           D + S (2.4-3)
        Min shear  =      -2961 lbs           D + S (2.4-3)
        Max moment =      10034 ft-lbs        D + S (2.4-3)
        Min moment =         -0 ft-lbs        D + S (2.4-3)
->Beam properties (2D xy axis) :
        Span  = 13.56 ft
        Area  = 63.25 sq.in
        Sx    = 121.23 sq.in
        Ixx   = 697.07 sq.in
->Check shear :
        fv = 1.5 x V / Area  = 2961 / 63.25 = 70.21 psi
        F'v = 180.00 x 1.15 x 1.00 x 1.00 x 1.00 =  207.00 psi
          Fv = 180 psi, CD = 1.15, Cm = 1.00, Ct = 1.00, Ci = 1.00.
->Check bending :
        fb-top = M x 12 / Sx  = 120413 / 121.23 = 993.27 psi
        fb-btm = M x 12 / Sx  = 0 / 121.23 = 0.00 psi
          Fb = 900 psi, CD = 1.15, Cm = 1.00, Ct = 1.00, Cl = 1.00,
         Cf = 1.00, Cfu = 1.00, Ci = 1.00, Cr = 1.00.
          Fb'x CD x CM x CT x CL x CFx CFU x CI x CR = 1035 psi
->Check bearing :
```

```
->Check deflections :
        Number of deflection spans = 1
        Deflection span 0, Length = 13.56 ft Combined deflection = -0.298 [D + S (2.4-3)]
                Allowed = 13.56 x 12 / 360.0 = 0.452 in.
                Allowed (Seismic controled) = 13.56 x 12 / 180.0 = 0.904 in.
```

Analysis of Bm 41 - 6 x 12 DF #2




```
Table 1 - Point load table
LOAD    D       S       L     W+/-     E+/-        LOC            NOTES
-------------------------------------------------------------------------------------
 0    1271    2118       0       0       0 |    5.17    | From BM 39 from Level 2
-------------------------------------------------------------------------------------
(1) Un-factored loads in lbs.
(2) Load location measured from left end of beam.
Table 3 - Distributive load table (pressures)
LOAD  ELEMENT     AREA   WALL     D        S      L
                   ID   HEIGHT
-----------------------------------------------------------
No distributive loads
.-----------------------------------------------------------
(1) loads in psf.
Table 4 - Distributive load table (line loads)
LOAD  ELEMENT              TRIB     from    to       D         S      L
                           WIDTH     loc    loc
-------------------------------------------------------------------------
No distributive loads
.-------------------------------------------------------------------------
(1) From loc and to loc are load segments starting and ending
    measured from the left of the beam
->Computed moments and shears (Factored) :
        Max shear  =       1684 lbs          D + S (2.4-3)
        Min shear  =      -1705 lbs          D + S (2.4-3)
        Max moment =       8702 ft-lbs       D + S (2.4-3)
        Min moment =         -0 ft-lbs       D + S (2.4-3)
->Beam properties (2D xy axis) :
        Span  = 10.27 ft
        Area  = 63.25 sq.in
        Sx    = 121.23 sq.in
        Ixx   = 697.07 sq.in
->Check shear :
        fv = 1.5 x V / Area  = 1705 / 63.25 = 40.42 psi
        F'v = 180.00 x 1.15 x 1.00 x 1.00 x 1.00 =  207.00 psi
          Fv = 180 psi, CD = 1.15, Cm = 1.00, Ct = 1.00, Ci = 1.00.
->Check bending :
        fb-top = M x 12 / Sx  = 104418 / 121.23 = 861.33 psi
        fb-btm = M x 12 / Sx  = 0 / 121.23 = 0.00 psi
          Fb = 900 psi, CD = 1.15, Cm = 1.00, Ct = 1.00, Cl = 1.00,
         Cf = 1.00, Cfu = 1.00, Ci = 1.00, Cr = 1.00.
          Fb'x CD x CM x CT x CL x CFx CFU x CI x CR = 1035 psi
->Check bearing :
->Check deflections :
        Number of deflection spans = 1
        Deflection span 0, Length = 10.27 ft Combined deflection = -0.119 [D + S (2.4-3)]
                Allowed = 10.27 x 12 / 360.0 = 0.342 in.
```

Allowed (Seismic controled) = 10.27 x 12 / 180.0 = 0.685 in.

Analysis of Bm 42 - (2) 2 x 8 DF #2

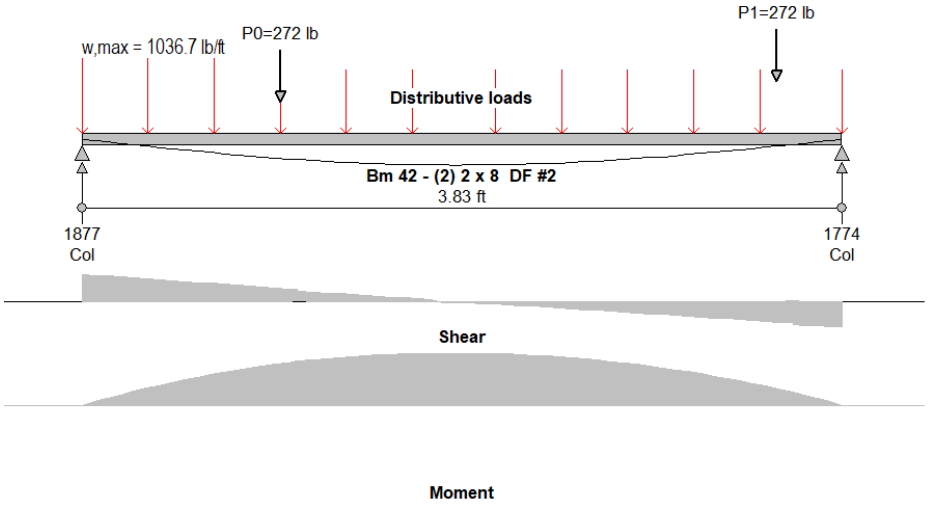


Table 1 - Point load table

LOAD	D	S	L	W+/-	E+/-	LOC	NOTES
0	102	170	0	0	0	0.00	From BM 36 from Level 2
1	102	170	0	0	0	0.00	From BM 36 from Level 2

(1) Un-factored loads in lbs.
(2) Load location measured from left end of beam.

Table 3 - Distributive load table (pressures)

LOAD	ELEMENT	AREA ID	WALL HEIGHT	D	S	L
2	Floor/Roof	4	-	15.0	0.0	60.0
3	Floor/Roof	8	-	15.0	0.0	60.0
4	Floor/Roof	18	-	15.0	25.0	0.0
5	Floor/Roof	19	-	15.0	0.0	40.0

(1) loads in psf.

Table 4 - Distributive load table (line loads)

LOAD	ELEMENT	TRIB WIDTH	from loc	to loc	D	S	L
2	Floor/Roof	21.8	0.0	3.8	163.8	0.0	655.0
3	Floor/Roof	7.0	-0.2	0.0	52.5	0.0	210.0
4	Floor/Roof	10.9	0.0	1.1	81.7	136.2	0.0
5	Floor/Roof	2.7	3.8	0.0	20.2	0.0	53.7

(1) From loc and to loc are load segments starting and ending
    measured from the left of the beam
->Computed moments and shears (Factored) :
        Max shear =   1877 lbs   D + L (2.4-2)
        Min shear =   -1774 lbs   D + L (2.4-2)
        Max moment =   1741 ft-lbs   D + L (2.4-2)
        Min moment =   -0 ft-lbs   D + L (2.4-2)
->Beam properties (2D xy axis) :
        Span = 3.83 ft
        Area = 21.75 sq.in
        Sx   = 26.28 sq.in
        Ixx   = 95.27 sq.in
->Check shear :
        fv = 1.5 x V / Area = 1877 / 21.75 = 129.48 psi
        F'v = 180.00 x 1.00 x 1.00 x 1.00 x 1.00 = 180.00 psi
          Fv = 180 psi, CD = 1.00, Cm = 1.00, Ct = 1.00, Ci = 1.00.
->Check bending :
        fb-top = M x 12 / Sx = 20897 / 26.28 = 795.14 psi
        fb-btm = M x 12 / Sx = 0 / 26.28 = 0.00 psi
          Fb = 900 psi, CD = 1.00, Cm = 1.00, Ct = 1.00, Cl = 1.00,
         Cf = 1.20, Cfu = 1.00, Ci = 1.00, Cr = 1.00.
          Fb'x CD x CM x CT x CL x CFx CFU x CI x CR = 1080 psi
->Check bearing :

->Check deflections :
Number of deflection spans = 1
Deflection span 0, Length = 3.83 ft Combined deflection = -0.030 [D + L (2.4-2)]
Allowed = 3.83 x 12 / 360.0 = 0.128 in.
Allowed (Seismic controled) = 3.83 x 12 / 180.0 = 0.256 in.

Lateral Analysis

Wind Design

ASCE 7-16 Chapter 26 & 27 (Directional Procedure)

Given data

Wind speed 110, Exposure B
Given Roof angle = 18.43 (4.0:12 Pitch)
Building width = 36.6 ft
Building length = 35.8 ft

Total height = 25.1 ft
Height to average roof height = 19.00 ft + 6.10/3 = 21.03 ft
Bldg height = 19.00 ft
Roof height = = 6.10 ft

Velocity pressures, $q_z = 0.00256 K_z K_{zt} K_d K_e V^2 I_w$ Eq 26.10-1

Topography factor, $K_{zt} = 1.00$

Directionality factor, $K_d = 0.85$ (Table 26.6.1)

Ground Elevation Factor, $K_e = 1.00$ (Section 26.9)

Wind pressure, $p = q_h G C_p - q_i (G C_{pi})$

$q_z = 0.00256(1.00)(0.85)(110.00)^2\ 1.00 K_z = 26.33 K_z$

		Load Case 1		Load Case 2	
Surface	Height,ft	Kz	qz (psf)	Kz	qz (psf)
Diaphragm	9.50	0.70	18.43	0.57	15.01
	15.00	0.70	18.43	0.57	15.01
Diaphragm	19.00	0.70	18.43	0.62	16.32
	20.00	0.70	18.43	0.62	16.32
Mean Roof	22.05	0.70	18.43	0.66	17.38
	25.00	0.70	18.43	0.66	17.38
Max Height	25.10	0.70	18.43	0.70	18.43

Gust effect factor $G = 0.85$, assume Rigid Structure (ASCE 7-10 Section 26.9.1)
Internal pressure coefficient ($G\ Cpi$) = +/- 0.18 (ASCE 7-10 Table 26.11-1)

External wall *Cp* from Figure 27.4-1

Windward wall, $Cp = 0.80$ for all L /B ratios
Side wall, $Cp = -0.70$ for all L /B ratios

Leeward wall pressure coefficient, *Cp* if a function of the L /B ratio
For load direction 1, $B = 35.8$ ft. and $L = 36.6$ ft.
$L/B = 36.6 / 35.8 = 1.0$, $Cp = -0.50$
For load direction 2, $B = 36.6$ ft. and $L = 35.8$ ft.
$L/B = 35.8 / 36.6 = 1.0$, $Cp = -0.50$

Surface	Wind Direction	L/B	Cp
Windward wall	All	All	0.80
Leeward wall	Direction 1	1.02	-0.50
Leeward wall	Direction 2	0.98	-0.50
Side wall	All	All	-0.70

External roof *Cp* - Load direction 1, from Figure 27.4-1

Surface	Angle 18.43, degrees
Windward roof	-0.56
	-0.08
Leeward roof	-0.58

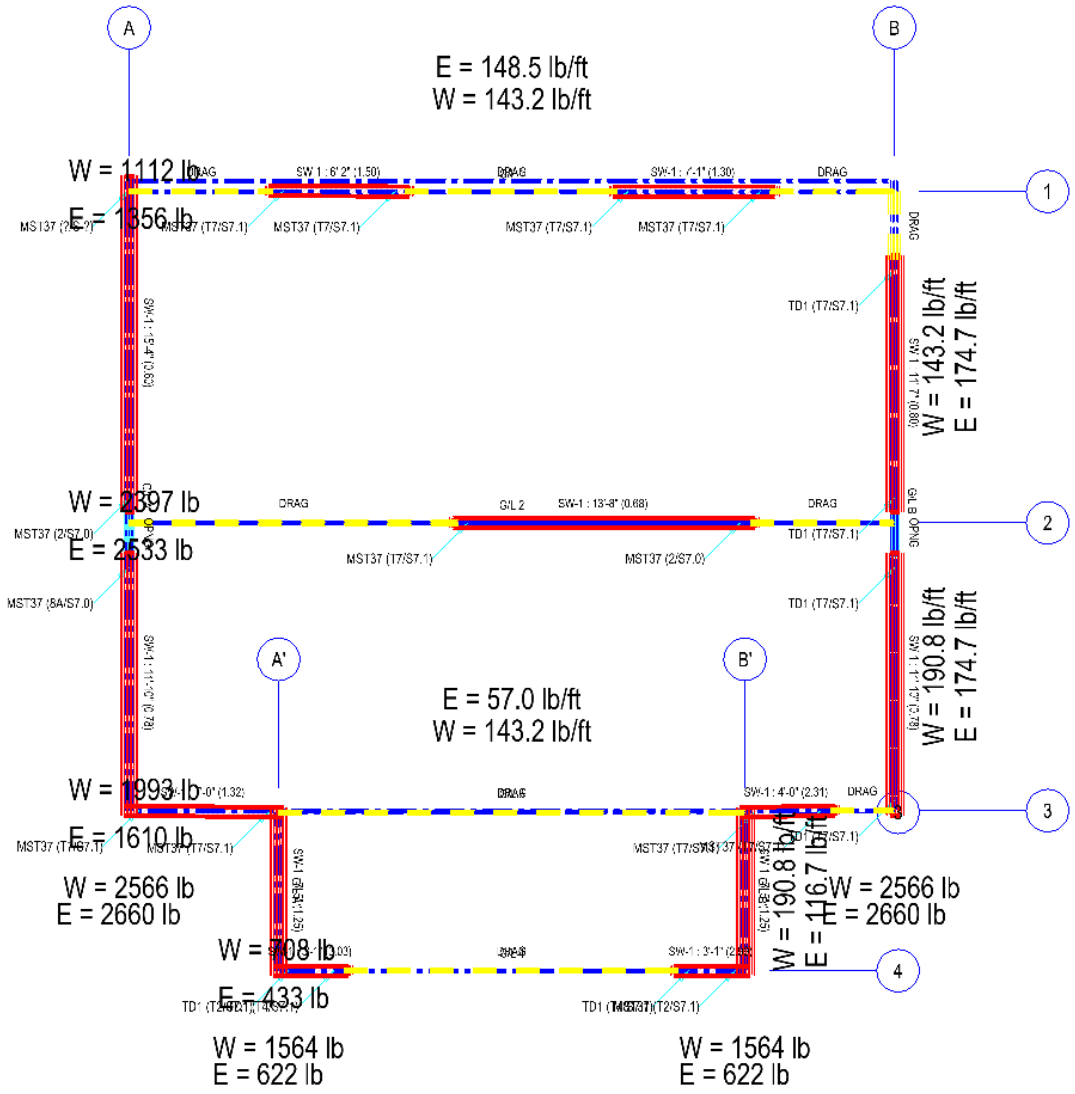
The above table reflects C_p values based on h/L 22.1/36.6 = 0.60

Internal pressure coefficient (G Cpi) - Load direction 1

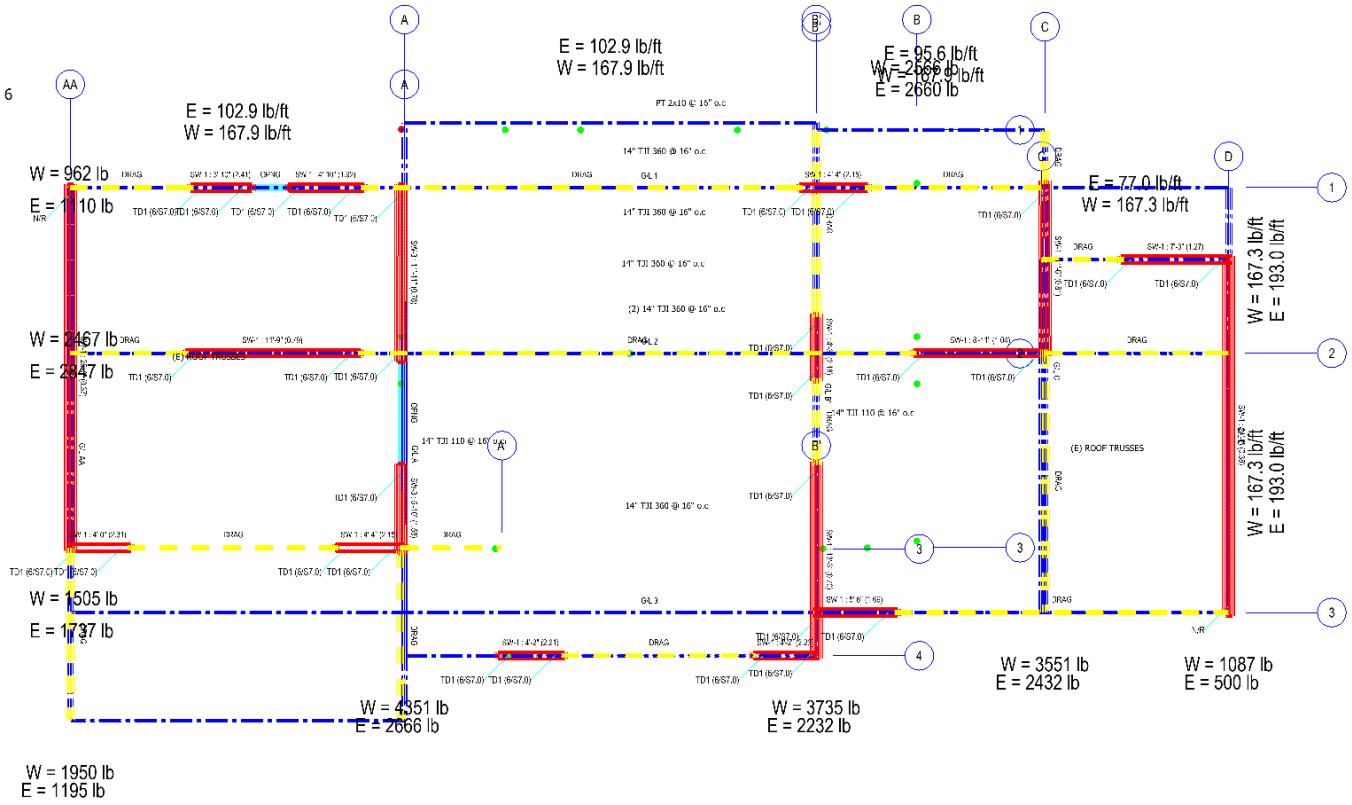
$G\ Cpi$ = +/- 0.18 acting at 22.1 ft.
Velocity pressure at $q_i = q_h = 17.38$ psf (Load case 2-Occurs at roof mid height)

MWFRS Net pressures - Load direction 1

ROOF LATERAL GRIDLINES & WALL LINES



UPPER FLOOR LATERAL GRIDLINES & WALL LINES



$p = q_h G C_p - q_i (G C_{pi})$

$p = q_h (0.85)C_p - 17.38(+/- 0.18)$, psf

MWFRS pressures: Direction 1

Surface	z ft	q psf	G	Cp	Net pressure psf with (+Gpi)	(-Gpi)
Windward wall	9.5	15.0	0.85	0.80	7.1	13.3
	15.0	15.0	0.85	0.80	7.1	13.3
	19.0	16.3	0.85	0.80	8.0	14.2
Leeward wall	All	17.4	0.85	-0.50	-10.4	-4.2
Side wall	All	17.4	0.85	-0.70	-13.5	-7.2
Windward roof	-	17.4	0.85	-0.56	-11.3	-5.1
Windward roof	-	17.4	0.85	-0.08	-4.3	1.9
Leeward roof	-	17.4	0.85	-0.58	-11.6	-5.4

External roof C_p-Load direction 2 (L = 35.8 ft.), from Figure 6 - 6

For Angle = 0.0 degrees

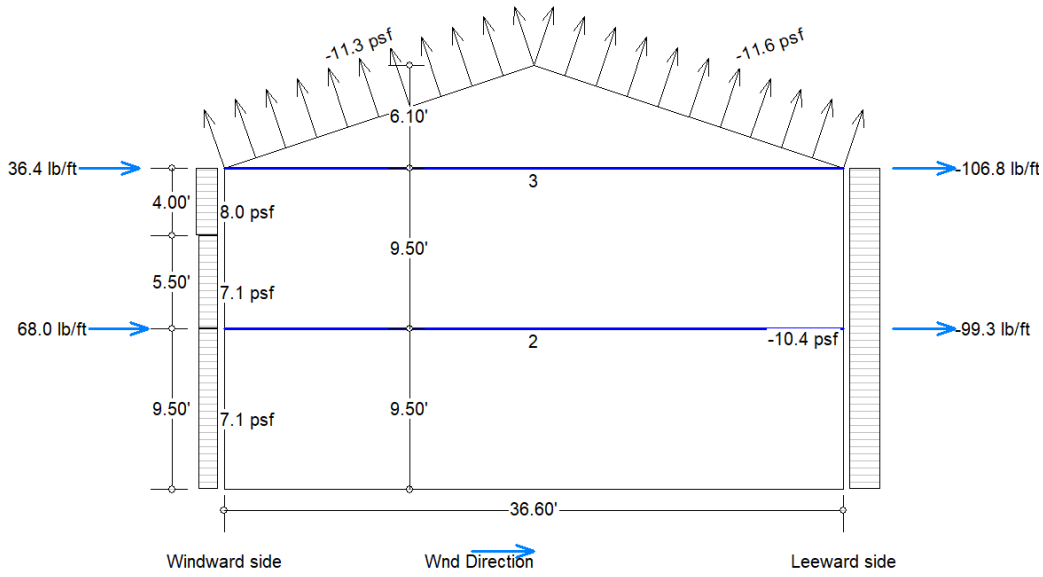
Surface : Windward roof 0 to h/2, 0 to 22.1/2 = 11.0 ft, Cp = -1.30

Surface : Windward roof h > h/2 = 11.0 ft, Cp = -0.70

The above table reflects C_p values based on h / L of 22.1 / 35.8 = 0.6

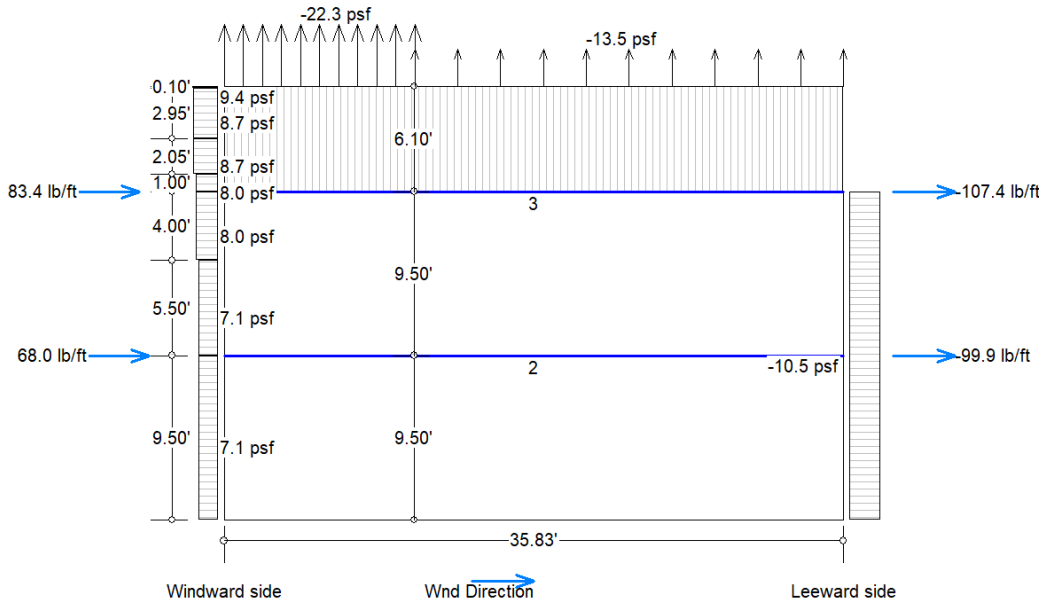
MWFRS pressures : Direction 2

Surface	z ft	q psf	G	Cp	Net pressure psf with (+Gpi)	(-Gpi)
Windward wall	9.5	15.0	0.85	0.80	7.1	13.3
	15.0	15.0	0.85	0.80	7.1	13.3
	19.0	16.3	0.85	0.80	8.0	14.2
	20.0	16.3	0.85	0.80	8.0	14.2
	22.1	17.4	0.85	0.80	8.7	14.9
	25.0	17.4	0.85	0.80	8.7	14.9
	25.1	18.4	0.85	0.80	9.4	15.7
Leeward wall	All	17.4	0.85	-0.50	-10.5	-4.3
side wall	All	17.4	0.85	-0.70	-13.5	-7.2
Windward roof	>0-h/2	17.4	0.85	-1.30	-22.3	-16.1
Windward roof	>>h/2	17.4	0.85	-0.70	-13.5	-7.2
Leeward roof	N/A					



Transverse Direction - with positive internal pressure

Diaphragm	Windward	Leeward	Total
1	36.4 lb/ft	-106.8 lb/ft	143.2 lb/ft
2	68.0 lb/ft	-99.3 lb/ft	167.3 lb/ft



Longitudinal Direction - with positive internal pressure

Diaphragm	Windward	Leeward	Total
1	83.4 lb/ft	-107.4 lb/ft	190.8 lb/ft
2	68.0 lb/ft	-99.9 lb/ft	167.9 lb/ft

Seismic Design

Maximum considered earthquake spectral response accelerations
Given position:

Lat = 47.568, Long = -122.233

Short period, S_S = 147.21% of g

1 second period, S_1 = 56.64% of g

Site class and adjusted maximum spectral accelerations:

Site class = D

For Site Class = D, Site coefficient, F_a = 1.30 Par 11.4.4

Site coefficient, F_v = 1.73 Table 11.4-2 - Interpolated

The adjusted maximum spectral response per §11.4.3

$S_{MS} = F_a S_S = 1.30(1.47) = 1.77g$ Eq 11.4-1

$S_{M1} = F_v S_1 = 1.73(0.57) = 0.98g$ Eq 11.4-2

Design spectral accelerations parameters:

$S_{DS} = 2/3 S_{MS} = 2/3(1.767g) = 1.178g$ Eq 11.4-3

$S_{D1} = 2/3 S_{M1} = 2/3(0.982) = 0.655g$ Eq 11.4-4

Building Risk Category and importance factors:

Category = II (per Table 1.5-1)

Category = I (as defined per Table 1.5-1)

Importance factor, I_e = 1.00

Seismic Design Category (SDC)

Table 11.6-1, Pg 85

For S_{DS} = 117.77g, SDC = D

Table 11.6-2, Pg 85

For S_{D1} = 65.46g, SDC = D

SDC D controls.

Building system

<15. Light-frame (wood) walls sheathed with wood structural panels rated for shear resistance or steeý□Ì>

R = 6.5 (Table 12.2-1)

Ω_0 = 3.0 (2.5 for flexible diaphragm - Note 9)

C_d = 4.0

Building element weights

Level 2, Roof weight = 15.0 psf

Exterior wall weight = 10.0 psf

Interior partition wall weight = 0.0 psf

Level 1, Floor weight = 15.0 psf

Exterior wall weight = 10.0 psf

Interior partition wall weight = 0.0 psf

Building weights lumped on roof and floor diaphragms

Total levels = 2

At Roof Level

WRoof = Roof weight x Area + 1/2 x Partition weight x Area + 1/2 x Ext Wall weight x Perim x Height

WRoof = 15.0 psf x 1255 sq.ft. + 1/2 x 0.0 psf x 1255 sq.ft. + 1/2 x 10.0 psf x 148 ft x 9.5 ft = 25831 lb

At Floor Level 1

WFloor = Floor weight x Area + Partition weight x Area + (1/2 x Ext Wall upper + Ext Wall lwr) + Ave Perim x Ave Height

WFloor = 15.0 psf x 2555 sq.ft. + 0.0 psf x 2555 sq.ft. + (1/2 x 10.0 psf + 1/2 x 10.0 psf) x 196 ft x 9.5 ft = 56974 lb

Total weight = 25831 + 56974 = 82806 lbs

Compute structure period

Structure type: All other structures

C_T = 0.020 (Table 12.8-2)

Structure height, h_n = 19.0 ft.

$T_a = C_T (h_n)^{3/4} = 0.020(19.0)^{3/4} = 0.182$ sec. (Eq 12.8-7)

Compute base shear

The design value of C_s is the smaller value of

$C_s = I_e S_{DS} / R = 1.00(1.18)/6.50 = 0.1812$ EQ 12.8-2

and

$C_s = I_e S_{D1} / (R T_a) = 1.00(0.65)/[(6.50)(0.18)] = 0.5533$ EQ 12.8-3

but not less

$C_s = 0.01$ EQ 12.8-4

Therefore C_s = 0.1812

Design base shear, $V = C_s W = 0.1812(82806) = 15003$ lbs (15.0 kips) Eq 12.8-1

Vertical distribution of force

$F_x = C_{vx} V$ Eq 12.8-11

where $C_{vx} = W_x h_x^k / (\Sigma W_i h_i^k)$ Eq 12.8-12

Compute distribution component, k

k = 1.0 for $T_a \leq 0.5$ seconds, and k = 2 for $T_a \geq 2.5$.

k = 1.00 for T_a = 0.182 sec

Level x	h_x	h^k_x	w_x	$w_x \times h^k_x$	C_{vx}	$F_x = C_{vx} V$	$F_x/w_x = S_a$
2	19.0	19.0	25.8	491	0.476	7.1	0.276
1	9.5	9.5	57.0	541	0.524	7.9	0.138
SUM			82.8	1032		15.0	

Compute Diaphragm shears per ASCE 7-16 Par 12.10.1.1

$$F_p = \Sigma F_i / \Sigma w_i \times w_{px}$$

$$\text{Min } F_{px} = 0.20 S_{DS} I_e w_{px}$$

$$\text{Max } F_{px} = 0.40 S_{DS} I_e w_{px}$$

Level	w_{px}	F_i	F_{px}	Min F_{px}	Max F_{px}	Design F_{px}
2	25.8 k	7.1 k	7.1 k	6.1 k	12.2 k	7.1 k
1	57.0 k	7.9 k	10.3 k	13.4 k	26.8 k	13.4 k

Diaphragm design shears

The diaphragm design shears are calculated based on a unit width of diaphragm length including interior walls per the calculation:

Load between grid lines (lb/ft) = 1 ft diaphragm width x diaphragm length x (diaphragm weight + interior partition weight) + exterior wall weight x ave height above and below the diaphragm.

Analysis Direction 1

Current Level 2

Shear Forces Table

DIAPHRAGM SPAN	WIDTH ft	WIND LOAD lb/ft	SEISMIC LOAD lb/ft
A-B	35.8	143.2	148.5
A'-B'	21.8	143.2	57.0

Direct Shear Forces Table

DIAPHRAGM SPAN	GRID LINE	WIND lb	SEISMIC lb	GRID LINE	WIND lb	SEISMIC lb
A-B	A	2566	2660	B	2566	2660
A'-B'	A'	1564	622	B'	1564	622

Current Level 1

Shear Forces Table

DIAPHRAGM SPAN	WIDTH ft	WIND LOAD lb/ft	SEISMIC LOAD lb/ft
AA-A	23.2	167.9	102.9
A-B'	28.6	167.9	102.9
B'-C	15.9	167.9	95.6
C-D	13.0	167.3	77.0

Direct Shear Forces Table

DIAPHRAGM SPAN	GRID LINE	WIND lb	SEISMIC lb	GRID LINE	WIND lb	SEISMIC lb
AA-A	AA	1950	1195	A	4351	2666
A-B'	A	4351	2666	B'	3735	2232
B'-C	B'	3735	2232	C	2421	1261
C-D	C	2421	1261	D	1087	500

Transfer Shear Forces Table**

DIAPHRAGM SPAN	GRID LINE	WIND lb	SEISMIC lb	GRID LINE	WIND lb	SEISMIC lb
AA-A	AA	0	0	A	0	0
A-B'	A	0	0	B'	0	0
B'-C	B'	1436	1489	C	1130	1171
C-D	C	0	0	D	0	0

**Transfer force from upper diaphragms

Analysis Direction 2

Current Level 2

Shear Forces Table

DIAPHRAGM SPAN	WIDTH ft	WIND LOAD lb/ft	SEISMIC LOAD lb/ft
1-2	15.5	143.2	174.7
2-3	13.5	190.8	174.7
3-4	7.4	190.8	116.7

Direct Shear Forces Table

DIAPHRAGM SPAN	GRID LINE	WIND lb	SEISMIC lb	GRID LINE	WIND lb	SEISMIC lb
1-2	1	1112	1356	2	2397	2533
2-3	2	2397	2533	3	1993	1610
3-4	3	1993	1610	4	708	433

Current Level 1

Shear Forces Table

DIAPHRAGM SPAN	WIDTH ft	WIND LOAD lb/ft	SEISMIC LOAD lb/ft
1-2	11.5	167.3	193.0
2-3	18.0	167.3	193.0

Direct Shear Forces Table

DIAPHRAGM SPAN	GRID LINE	WIND lb	SEISMIC lb	GRID LINE	WIND lb	SEISMIC lb
1-2	1	962	1110	2	2467	2847
2-3	2	2467	2847	3	1505	1737

Compute Rho

```
Redundancy calculation rho, per ASCE 12.3.4.2 - Summary
-------------------------------------------------
Level = 2
              Condition
Direction     A       B    Rho
------------------------------
   1        PASS    PASS   1.0
   2        PASS    PASS   1.0
------------------------------
Level = 1
              Condition
Direction     A       B    Rho
------------------------------
   1        PASS    PASS   1.0
   2        PASS    PASS   1.0
------------------------------
Design rho for Direction 1 = 1.0
Design rho for Direction 2 = 1.0
Analysis
Redundancy calculations
-----------------------------------------------
*** D E S I G N   L E V E L  = 2 ***
-----------------------------------------------
*** Direction 1 ***
--------------------
Check condition A
Grid Line A, Height = 9.25 ft
  #      Length    Height/Length
--------------------------------
  1      15.32'       0.60
  2      11.84'       0.78
--------------------------------
Grid Line A', Height = 9.25 ft
  #      Length    Height/Length
--------------------------------
  1       7.42'       1.25
--------------------------------
```

Grid Line B', Height = 9.25 ft

#	Length	Height/Length
1	7.42'	1.25

Grid Line B, Height = 9.25 ft

#	Length	Height/Length
1	11.58'	0.80
2	11.83'	0.78

Total shear wall length = 65.4 ft

Check shear wall piers that have h/L > 1.0. Remove that pier and check the length of removed pier ratio to total shear wall length is less than 0.33.

Removed

Grid/Pier	Length	Length/Total Length
A'	7.42'	0.11 --> OK
B'	7.42'	0.11 --> OK

Condition A, PASSED

Check condition B

Grid Line	Length	Height	2L/H
A	27.16'	9.25'	5.87
A'	7.42'	9.25'	1.60
B'	7.42'	9.25'	1.60
B	23.41'	9.25'	5.06
Sum			14.14

There are 14.14 bays > 4 req'd, therefore OK

Condition B, PASSED

*** Direction 2 ***

Check condition A

Grid Line 1, Height = 9.25 ft

#	Length	Height/Length
1	6.15'	1.50
2	7.12'	1.30

Grid Line 2, Height = 9.25 ft

#	Length	Height/Length
1	13.67'	0.68

Grid Line 3, Height = 9.25 ft

#	Length	Height/Length
1	7.00'	1.32
2	4.00'	2.31

Grid Line 4, Height = 9.25 ft

#	Length	Height/Length

1	3.05'	3.03
2	3.09'	2.99

Total shear wall length = 44.1 ft

Check shear wall piers that have h/L > 1.0. Remove that pier and check the length of removed pier ratio to total shear wall length is less than 0.33.

Removed

Grid/Pier	Length	Length/Total Length
1	6.15'	0.14 --> OK
1	7.12'	0.16 --> OK
3	7.00'	0.16 --> OK
3	4.00'	0.09 --> OK
4	3.05'	0.07 --> OK
4	3.09'	0.07 --> OK

Condition A, PASSED

Check condition B

Grid Line	Length	Height	2L/H
1	13.27'	9.25'	2.87
2	13.67'	9.25'	2.95
3	11.00'	9.25'	2.38
4	6.15'	9.25'	1.33
Sum			9.53

There are 9.53 bays > 4 req'd, therefore OK

Condition B, PASSED

*** D E S I G N L E V E L = 1 ***

*** Direction 1 ***

Check condition A

Grid Line AA, Height = 9.25 ft

#	Length	Height/Length
1	25.00'	0.37

Grid Line A, Height = 9.25 ft

#	Length	Height/Length
1	11.90'	0.78
2	5.84'	1.58

Grid Line B', Height = 9.25 ft

#	Length	Height/Length
1	4.23'	2.18
2	13.23'	0.70

Grid Line C, Height = 9.25 ft

#	Length	Height/Length
1	11.48'	0.81

Grid Line D, Height = 9.25 ft

#	Length	Height/Length
1	24.50'	0.38

Total shear wall length = 96.2 ft

Check shear wall piers that have h/L > 1.0. Remove that pier and check the length of removed pier ratio to total shear wall length is less than 0.33.

Removed

Grid/Pier	Length	Length/Total Length
A	5.84'	0.06 --> OK
B'	4.23'	0.04 --> OK

Condition A, PASSED

Check condition B

Grid Line	Length	Height	2L/H
AA	25.00'	9.25'	5.41
A	17.75'	9.25'	3.84
B'	17.47'	9.25'	3.78
C	11.48'	9.25'	2.48
D	24.50'	9.25'	5.30

Sum 20.80

There are 20.80 bays > 4 req'd, therefore OK

Condition B, PASSED

*** Direction 2 ***

Check condition A

Grid Line 1, Height = 9.25 ft

#	Length	Height/Length
1	3.83'	2.41
2	4.82'	1.92
3	4.30'	2.15
4	7.26'	1.27

Grid Line 2, Height = 9.25 ft

#	Length	Height/Length
1	11.75'	0.79
2	8.92'	1.04

Grid Line 3, Height = 9.25 ft

#	Length	Height/Length
1	4.00'	2.31
2	4.30'	2.15
3	4.19'	2.21
4	4.15'	2.23
5	5.46'	1.69

Total shear wall length = 63.0 ft

Check shear wall piers that have h/L > 1.0. Remove that pier and check the length of removed pier ratio to total shear wall length is less than 0.33.

Removed

Grid/Pier	Length	Length/Total Length
1	3.83'	0.06 --> OK
1	4.82'	0.08 --> OK
1	4.30'	0.07 --> OK
1	7.26'	0.12 --> OK
2	8.92'	0.14 --> OK
3	4.00'	0.06 --> OK
3	4.30'	0.07 --> OK
3	4.19'	0.07 --> OK
3	4.15'	0.07 --> OK
3	5.46'	0.09 --> OK

Condition A, PASSED

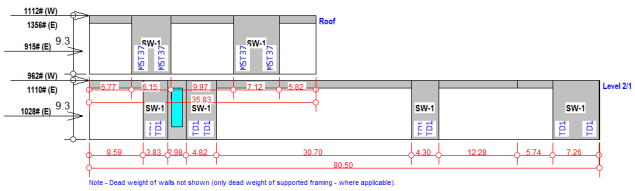
Check condition B

Grid Line	Length	Height	2L/H
1	20.21'	9.25'	4.37
2	20.67'	9.25'	4.47
3	22.10'	9.25'	4.78
Sum		13.62	

There are 13.62 bays > 4 req'd, therefore OK

Condition B, PASSED

Shear Wall at Grid 1



Design Rho = 1.0

Table 1 - Shears

Level	Sum B ft	H ft	Max Aspect Ratio	E lb	Ew lb	E+Ew lb	W lb	vE plf	vW plf	Max plf	MARK
2	13.3	9.2	1.5	1356	339	1695	1112	89	36	89	SW-1
1	20.2	9.2	2.4**	2465	616	3082	2073	153*	62*	153	SW-1

Shear panel(s) in the braced wall line exceed aspect ratio as defined per SDPWS 4.3.4.

Reduction per SDPWS 4.3.4.2 is required. The capacity of the shear wall is reduced by

WSP = 1.25 - 0.125(h/bs) Aspect Ratio Factor. It is more convenient to increase

the demand load by the factor 1 / WSP and size the SW accordingly. Where WSP > 1.0.

Level	Max Aspect Ratio	WSP	1/WSP	Design Shear	Adjusted Shear	Revised SW MARK

1	2.41	0.95	1.05	153	161	SW-1

Notes

1. b = sum of all solid panels.
2. H / W = Maximum aspect ratio of all panels within a SW.
3. E - Unfactored seismic forces(Summed between levels) = rho x Qe.
4. Ew - Unfactored Wall inertia force (wall & window panels) includes rho.
5. E + Ew = Total unfactored seismic load.
6. W - Unfactored wind forces(Summed between levels).
7. vE = 0.7 x vE(ASD factored shear).
8. wW = 0.6 x vW / 1.4.
9. * = Shear values includes effects of vertical shears due hold-down reactions from upper levels (if applicable).

Table 2a - Vertical loads on panels

Level	Panel#/ Type	Length ft	x1 ft	x2 ft	Dead lb/ft	Snow lb/ft	Live lb/ft	Wind Uplift lb/ft
2	0/DRAG	6.77	0.00	6.77	0.0*	-	-	-
2	1/SW	6.15	0.00	6.15	92.5*	-	-	-
2	2/DRAG	9.97	0.00	9.97	0.0*	-	-	-
2	3/SW	7.12	0.00	7.12	92.5*	-	-	-
2	4/DRAG	5.82	0.00	5.82	0.0*	-	-	-
1	0/DRAG	8.59	0.00	8.59	0.0*	-	-	-
1	1/SW	3.83	0.00	3.83	92.5*	-	-	-
1	2/OPEN	2.98	0.00	2.98	0.0*	-	-	-
1	3/SW	4.82	0.00	4.82	92.5*	-	-	-
1	4/DRAG	30.70	0.00	30.70	0.0*	-	-	-
1	5/SW	4.30	0.00	4.30	92.5*	-	-	-
1	6/DRAG	12.28	0.00	12.28	0.0*	-	-	-
1	7/DRAG	5.74	0.00	5.74	0.0*	-	-	-
1	8/SW	7.26	0.00	7.26	92.5*	-	-	-

Notes:

1. A panel is considered an element within a braced wall line. such as shear wall, window, filler (non-shear load), drag element.
2. length = indivisual panel length (within a braced wall line).
3. x1 = the start dimension for the distributive load - measured from LHS end of panel.
4. x2 = the end dimension for the distributive load - measured from LHS end of panel.
5. Multiple distributive loads may be supported by a panel.
6. Multiple distributive loads shown are not sorted - along the span of the panel.
7. * = Wall Dead load (wall dead load does not apply to drag elements and window panels). Wall dead loads are summed up with framing dead loads where applicable (which includes beam drag elements and window hdrs). See Table 2b below.
8. OPEN = Window/Door, DRAG = Drag strut, NO-SW = filler panel (no shear capacity) SW = Shear panel.

Table 2b - Unfactored Reaction forces at panels

						DIRECTION 1		DIRECTION 2	
Reaction	Location from end (ft)	D lb	S lb	L lb	W Uplift lb	E lb	W lb	E lb	W lb
2-0	23.00	0	0	0	0	0	0	0	0
2-1	29.77	285	0	0	0	-1181	-775	1181	775
2-2	35.92	285	0	0	0	1181	775	-1181	-775
2-3	45.90	329	0	0	0	-1181	-775	1181	775
2-4	53.01	329	0	0	0	1181	775	-1181	-775
2-5	58.83	0	0	0	0	0	0	0	0

1-0	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-1	8.59	177	0	0	0	-1410	-949	1410	949						
1-2	12.42	177	0	0	0	1410	949	-1410	-949						
1-3	15.40	223	0	0	0	-1410	-949	1410	949						
1-4	20.22	223	0	0	0	980	667	-980	-667						
1-5	23.00	0	0	0	0	0	0	0	0						
1-6	29.77	285	0	0	0	0	0	0	0						
1-7	35.92	285	0	0	0	0	0	0	0						
1-8	45.90	329	0	0	0	0	0	0	0						
1-9	50.92	199	0	0	0	-1556	-1044	1556	1044						
1-10	53.01	329	0	0	0	0	0	0	0						
1-11	55.22	199	0	0	0	1986	1326	-1986	-1326						
1-12	58.83	0	0	0	0	0	0	0	0						
1-13	67.50	0	0	0	0	0	0	0	0						
1-14	73.24	336	0	0	0	-1410	-949	1410	949						
1-15	80.50	336	0	0	0	1410	949	-1410	-949						

Notes:

1. Reaction X-Y, X = level, Y = panel sequence id
2. D = DEAD LOAD, L = LIVE LOAD, W-UPLIFT = WIND UPLIFT LOAD
   W = WIND LOAD, E = SEISMIC LOAD
3. D = (Panel Height x Panel Width x Panel weight = 10.0 psf) / 2
   Dead load vectors are summed at abutting panels
4. DIRECTION 1 = LOAD DIRECTION LEFT TO RIGHT
5. DIRECTION 2 = LOAD DIRECTION RIGHT TO LEFT
6. NEGATIVE VALUES = UPLIFT OR TENSION

Table 3 - Factored Reaction forces at panels

Reaction	Location	DIRECTION 1						DIRECTION 2						MIN	MAX
	from end	LC1	LC2	LC3	LC4	LC5	LC6	LC1	LC2	LC3	LC4	LC5	LC6	LOAD	LOAD
	(ft)	lb	lb	lb	lb	lb	lb	lb	lb	lb	lb	lb	lb	lb	lb
2-0	23.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2-1	29.8	-180	-542	-64	-336	-294	-695	749	1111	633	905	636	959	-695	1111
2-2	35.9	749	1111	633	905	636	959	-180	-542	-64	-336	-294	-695	-695	1111
2-3	45.9	-136	-498	-19	-291	-267	-674	794	1156	678	949	662	980	-674	1156
2-4	53.0	794	1156	678	949	662	980	-136	-498	-19	-291	-267	-674	-674	1156
2-5	58.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-1	8.6	-392	-810	-250	-563	-463	-905	747	1165	604	918	676	1070	-905	1165
1-2	12.4	747	1165	604	918	676	1070	-392	-810	-250	-563	-463	-905	-905	1165
1-3	15.4	-346	-764	-204	-517	-435	-884	792	1210	650	964	703	1091	-884	1210
1-4	20.2	623	909	523	738	534	790	-177	-463	-77	-292	-266	-583	-583	909
1-5	23.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-6	29.8	285	285	285	285	171	132	285	285	285	285	171	132	132	285
1-7	35.9	285	285	285	285	171	132	285	285	285	285	171	132	132	285
1-8	45.9	329	329	329	329	198	153	329	329	329	329	198	153	153	329
1-9	50.9	-428	-890	-271	-618	-507	-997	825	1288	669	1016	746	1182	-997	1288
1-10	53.0	329	329	329	329	198	153	329	329	329	329	198	153	153	329
1-11	55.2	995	1589	796	1241	915	1483	-597	-1192	-398	-844	-677	-1298	-1298	1589
1-12	58.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-13	67.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-14	73.2	-234	-652	-91	-405	-368	-831	905	1323	763	1076	771	1143	-831	1323
1-15	80.5	905	1323	763	1076	771	1143	-234	-652	-91	-405	-368	-831	-831	1323

Notes

1. LC = Load combination
2. LC1 = D + 0.6W ASCE 2.4.1 - 5a
3. LC2 = D + 0.7E ASCE 2.4.1 - 5b
4. LC3 = D + 0.75L + 0.75(0.6W) + 0.75S ASCE 2.4.1 - 6a
5. LC4 = D + 0.75L + 0.75(0.7E) + 0.75S ASCE 2.4.1 - 6b
6. LC5 = 0.6D + 0.6W ASCE 2.4.1 - 7
7. LC6 = (0.6 - 0.14SDS)D + 0.7E ASCE 2.4.1 - 8, SDS = 0.970

8. MIN LOAD = Maximum negative tension force

9. MAX LOAD = Maximum positive compression force

10. W = W uplift + W shear overturning

Table 4 - Tie down schedule

Reaction Location from end (ft)	MIN LOAD lb	MAX LOAD lb	HOLD-DOWN MARK
2-0 23.0	0	0	
2-1 29.8	-695	636	MST37
2-2 35.9	-695	636	MST37
2-3 45.9	-674	678	MST37
2-4 53.0	-674	678	MST37
2-5 58.8	0	0	
1-0 0.0	0	0	TD1
1-1 8.6	-905	676	TD1
1-2 12.4	-905	676	TD1
1-3 15.4	-884	703	TD1
1-4 20.2	-583	534	TD1
1-5 23.0	0	0	TD1
1-6 29.8	132	285	TD1
1-7 35.9	132	285	TD1
1-8 45.9	153	329	TD1
1-9 50.9	-997	746	TD1
1-10 53.0	153	329	TD1
1-11 55.2	-1298	915	TD1
1-12 58.8	0	0	TD1
1-13 67.5	0	0	TD1
1-14 73.2	-831	771	TD1
1-15 80.5	-831	771	TD1

Notes

1. N/R = Not required - compression controls.

2. NONE = Uplift exceeded specified hold-down.

3. Due to the applied dead loads, some hold-downs may differ within a shear panel. The highest capacity hold-down will be used at both ends.

Table 5 - Drag forces (Unfactored loads)

Level = 2

LOAD	q lb/ft	v lb/ft	dq lb/ft
WIND	31.02	83.75	-52.73
SEISMIC	47.30	127.70	-80.40

		PANEL END#1		PANEL END #2	
PANEL ID	TYPE	WIND	SEISMIC	WIND	SEISMIC
		LB	LB	LB	LB
1	DRAG-STRUT	0	0	210	320
2	SHEAR WALL	210	320	-114	-174
3	DRAG-STRUT	-114	-174	195	297

4	SHEAR WALL	195	297	-180	-275
5	DRAG-STRUT	-180	-275	0	0

Level = 1

	q	v	dq
LOAD	lb/ft	lb/ft	lb/ft
WIND	11.95	145.49	-6.88
SEISMIC	17.23	217.91	-7.54

		PANEL END#1		PANEL END #2	
PANEL ID	TYPE	WIND	SEISMIC	WIND	SEISMIC
		LB	LB	LB	LB
1	DRAG-STRUT	0	0	103	148
2	SHEAR WALL	103	148	76	119
3	WINDOW/DOOR	76	119	112	170
4	SHEAR WALL	112	170	79	134
5	DRAG-STRUT	79	134	445	663
6	SHEAR WALL	445	663	416	630
7	DRAG-STRUT	416	630	563	842
8	DRAG-STRUT	563	842	631	941
9	SHEAR WALL	631	941	581	886

Notes:

q = Diaphragm shear.

v = Shear wall shear.

dq = q - v (this level) + v (upper level)

Table 6 - Drag forces (Factored loads)

Level = 2

		PANEL END #1		PANEL END #2	
PANEL ID	TYPE	WIND	SEISMIC	WIND	SEISMIC
		LB	LB	LB	LB
1	DRAG-STRUT	0	0	126	560
2	SHEAR WALL	126	560	-69	-305
3	DRAG-STRUT	-69	-305	117	520
4	SHEAR WALL	117	520	-108	-482
5	DRAG-STRUT	-108	-482	0	0

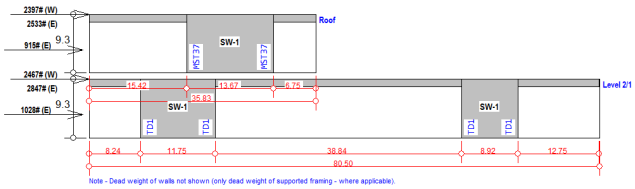
Level = 1

		PANEL END #1		PANEL END #2	
PANEL ID	TYPE	WIND	SEISMIC	WIND	SEISMIC
		LB	LB	LB	LB
1	DRAG-STRUT	0	0	62	259
2	SHEAR WALL	62	259	46	208
3	WINDOW/DOOR	46	208	67	298
4	SHEAR WALL	67	298	47	234
5	DRAG-STRUT	47	234	267	1160
6	SHEAR WALL	267	1160	249	1103
7	DRAG-STRUT	249	1103	338	1474
8	DRAG-STRUT	338	1474	379	1647
9	SHEAR WALL	379	1647	349	1551

Notes

1. Wind load, W = 0.6 x Load
2. Seismic load, E = 0.7 x 1.25 x Load. Apply requirements of ASCE 7-10 (SEC 12.3.3.4)

Shear Wall at Grid 2



Design Rho = 1.0

Table 1 - Shears

Level	Sum B ft	H ft	Max Aspect Ratio	E lb	Ew lb	E+Ew lb	W lb	vE plf	vW plf	Max plf	MARK
2	13.7	9.2	0.7	2533	349	2882	2397	148	75	148	SW-1
1	20.7	9.2	1.0	5380	613	5993	4864	203	101	203	SW-1

Notes

1. b = sum of all solid panels.
2. H / W = Maximum aspect ratio of all panels within a SW.
3. E - Unfactored seismic forces(Summed between levels) = rho x Qe.
4. Ew - Unfactored Wall inertia force (wall & window panels) includes rho.
5. E + Ew = Total unfactored seismic load.
6. W - Unfactored wind forces(Summed between levels).
7. vE = 0.7 x vE(ASD factored shear).
8. wW = 0.6 x vW / 1.4.
9. * = Shear values includes effects of vertical shears due hold-down reactions from upper levels (if applicable).

Table 2a - Vertical loads on panels

Level	Panel#/ Type	Length ft	x1 ft	x2 ft	Dead lb/ft	Snow lb/ft	Live lb/ft	Wind Uplift lb/ft
2	0/DRAG	15.42	0.00	15.42	0.0*	-	-	-
2	1/SW	13.67	0.00	13.67	92.5*	-	-	-
2	2/DRAG	6.75	0.00	6.75	0.0*	-	-	-
1	0/DRAG	8.24	0.00	8.24	0.0*	-	-	-
1	1/SW	11.75	0.00	11.75	92.5*	-	-	-
1	2/DRAG	38.84	0.00	38.84	0.0*	-	-	-
1	3/SW	8.92	0.00	8.92	92.5*	-	-	-
1	4/DRAG	12.75	0.00	12.75	0.0*	-	-	-

Notes:

1. A panel is considered an element within a braced wall line. such as shear wall, window, filler (non-shear load), drag element.
2. length = indivisual panel length (within a braced wall line).
3. x1 = the start dimension for the distributive load - measured from LHS end of panel.
4. x2 = the end dimension for the distributive load - measured from LHS end of panel.
5. Multiple distributive loads may be supported by a panel.
6. Multiple distributive loads shown are not sorted - along the span of the panel.
7. * = Wall Dead load (wall dead load does not apply to drag elements and window panels).

Wall dead loads are summed up with framing dead loads where applicable

(which includes beam drag elements and window hdrs). See Table 2b below.

8. OPEN = Window/Door, DRAG = Drag strut, NO-SW = filler panel (no shear capacity)

SW = Shear panel.

Table 2b - Unfactored Reaction forces at panels

Reaction Location from end (ft)	D lb	S lb	L lb	W Uplift lb	DIRECTION 1 E lb	DIRECTION 1 W lb	DIRECTION 2 E lb	DIRECTION 2 W lb
2-0 23.00	0	0	0	0	0	0	0	0
2-1 38.42	632	0	0	0	-1951	-1623	1951	1623
2-2 52.08	632	0	0	0	1951	1623	-1951	-1623
2-3 58.83	0	0	0	0	0	0	0	0
1-0 0.00	0	0	0	0	0	0	0	0
1-1 8.24	543	0	0	0	-2682	-2177	2682	2177
1-2 19.99	543	0	0	0	1996	1606	-1996	-1606
1-3 23.00	0	0	0	0	0	0	0	0
1-4 38.42	632	0	0	0	0	0	0	0
1-5 52.08	632	0	0	0	0	0	0	0
1-6 58.83	412	0	0	0	-1996	-1606	1996	1606
1-7 67.75	412	0	0	0	2682	2177	-2682	-2177
1-8 80.50	0	0	0	0	0	0	0	0

Notes:

1. Reaction X-Y, X = level, Y = panel sequence id
2. D = DEAD LOAD, L = LIVE LOAD, W-UPLIFT = WIND UPLIFT LOAD

W = WIND LOAD, E = SEISMIC LOAD

3. D = (Panel Height x Panel Width x Panel weight = 10.0 psf) / 2

Dead load vectors are summed at abutting panels

4. DIRECTION 1 = LOAD DIRECTION LEFT TO RIGHT
5. DIRECTION 2 = LOAD DIRECTION RIGHT TO LEFT
6. NEGATIVE VALUES = UPLIFT OR TENSION

Table 3 - Factored Reaction forces at panels

Reaction Location from end (ft)	DIRECTION 1 LC1 lb	LC2 lb	LC3 lb	LC4 lb	LC5 lb	LC6 lb	DIRECTION 2 LC1 lb	LC2 lb	LC3 lb	LC4 lb	LC5 lb	LC6 lb	MIN LOAD lb	MAX LOAD lb
2-0 23.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2-1 38.4	-341	-733	-98	-392	-594	-1072	1606	1998	1362	1656	1353	1659	-1072	1998
2-2 52.1	1606	1998	1362	1656	1353	1659	-341	-733	-98	-392	-594	-1072	-1072	1998
2-3 58.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-0 0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-1 8.2	-763	-1334	-436	-865	-980	-1625	1850	2421	1523	1952	1632	2130	-1625	2421
1-2 20.0	1507	1941	1266	1591	1290	1649	-420	-854	-179	-504	-638	-1145	-1145	1941
1-3 23.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-4 38.4	632	632	632	632	379	293	632	632	632	632	379	293	293	632
1-5 52.1	632	632	632	632	379	293	632	632	632	632	379	293	293	632
1-6 58.8	-551	-985	-310	-635	-716	-1206	1376	1810	1135	1460	1211	1589	-1206	1810
1-7 67.7	1719	2290	1392	1821	1554	2069	-894	-1465	-567	-996	-1059	-1686	-1686	2290
1-8 80.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Notes

1. LC = Load combination
2. LC1 = D + 0.6W ASCE 2.4.1 - 5a
3. LC2 = D + 0.7E ASCE 2.4.1 - 5b
4. LC3 = D + 0.75L + 0.75(0.6W) + 0.75S ASCE 2.4.1 - 6a
5. LC4 = D + 0.75L + 0.75(0.7E) + 0.75S ASCE 2.4.1 - 6b
6. LC5 = 0.6D + 0.6W ASCE 2.4.1 - 7

7. LC6 = (0.6 - 0.14SDS)D + 0.7E ASCE 2.4.1 - 8, SDS = 0.970

8. MIN LOAD = Maximum negative tension force

9. MAX LOAD = Maximum positive compression force

10. W = W uplift + W shear overturning

Table 4 - Tie down schedule

Reaction Location from end (ft)	MIN LOAD lb	MAX LOAD lb	HOLD-DOWN MARK
2-0 23.0	0	0	
2-1 38.4	-1072	1362	MST37
2-2 52.1	-1072	1362	MST37
2-3 58.8	0	0	
1-0 0.0	0	0	TD1
1-1 8.2	-1625	1632	TD1
1-2 20.0	-1145	1290	TD1
1-3 23.0	0	0	TD1
1-4 38.4	293	632	TD1
1-5 52.1	293	632	TD1
1-6 58.8	-1206	1211	TD1
1-7 67.7	-1686	1554	TD1
1-8 80.5	0	0	TD1

Notes

1. N/R = Not required - compression controls.

2. NONE = Uplift exceeded specified hold-down.

3. Due to the applied dead loads, some hold-downs may differ within a shear panel. The highest capacity hold-down will be used at both ends.

Table 5 - Drag forces (Unfactored loads)

Level = 2

	q	v	dq
LOAD	lb/ft	lb/ft	lb/ft
WIND	66.90	175.42	-108.51
SEISMIC	80.44	210.90	-130.46

		PANEL END#1		PANEL END #2	
PANEL ID	TYPE	WIND	SEISMIC	WIND	SEISMIC
		LB	LB	LB	LB
1	DRAG-STRUT	0	0	1031	1240
2	SHEAR WALL	1031	1240	-452	-543
3	DRAG-STRUT	-452	-543	-0	-0

Level = 1

	q	v	dq
LOAD	lb/ft	lb/ft	lb/ft
WIND	30.65	235.38	-29.31

SEISMIC 38.64 289.98 -40.44

		PANEL END#1		PANEL END #2	
PANEL ID	TYPE	WIND	SEISMIC	WIND	SEISMIC
		LB	LB	LB	LB
1	DRAG-STRUT	0	0	253	318
2	SHEAR WALL	253	318	-92	-157
3	DRAG-STRUT	-92	-157	1098	1344
4	SHEAR WALL	1098	1344	837	984
5	DRAG-STRUT	837	984	1228	1476

Notes:

q = Diaphragm shear.

v = Shear wall shear.

dq = q - v (this level) + v (upper level)

Table 6 - Drag forces (Factored loads)

Level = 2

		PANEL END #1		PANEL END #2		
PANEL ID	TYPE	WIND	SEISMIC	WIND	SEISMIC	
		LB	LB	LB	LB	
1	DRAG-STRUT	0	0	619	2170	MST27
2	SHEAR WALL	619	2170	-271	-950	MST27
3	DRAG-STRUT	-271	-950	-0	-0	

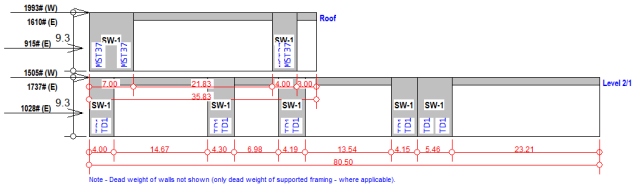
Level = 1

		PANEL END #1		PANEL END #2		
PANEL ID	TYPE	WIND	SEISMIC	WIND	SEISMIC	
		LB	LB	LB	LB	
1	DRAG-STRUT	0	0	152	557	
2	SHEAR WALL	152	557	-55	-274	
3	DRAG-STRUT	-55	-274	659	2352	MST27
4	SHEAR WALL	659	2352	502	1721	MST27
5	DRAG-STRUT	502	1721	737	2583	MST27

Notes

1. Wind load, W = 0.6 x Load
2. Seismic load, E = 0.7 x 1.25 x Load. Apply requirements of ASCE 7-10 (SEC 12.3.3.4)

Shear Wall at Grid 3



Design Rho = 1.0

Table 1 - Shears

Level	Sum B ft	H ft	Max Aspect Ratio	E lb	Ew lb	E+Ew lb	W lb	vE plf	vW plf	Max plf	MARK
2	11.0	9.2	2.3**	1610	281	1891	1993	120	78	120	SW-1
1	22.1	9.2	2.3**	3347	563	3910	3499	153*	87*	153	SW-1

Shear panel(s) in the braced wall line exceed aspect ratio as defined per SDPWS 4.3.4.
Reduction per SDPWS 4.3.4.2 is required. The capacity of the shear wall is reduced by
WSP = 1.25 - 0.125(h/bs) Aspect Ratio Factor. It is more convenient to increase
the demand load by the factor 1 / WSP and size the SW accordingly. Where WSP > 1.0.

Level	Max Aspect Ratio	WSP	1/WSP	Design Shear	Adjusted Shear	Revised SW MARK
2	2.31	0.96	1.04	120	125	SW-1
1	2.31	0.96	1.04	153	160	SW-1

Notes

1. b = sum of all solid panels.
2. H / W = Maximum aspect ratio of all panels within a SW.
3. E - Unfactored seismic forces(Summed between levels) = rho x Qe.
4. Ew - Unfactored Wall inertia force (wall & window panels) includes rho.
5. E + Ew = Total unfactored seismic load.
6. W - Unfactored wind forces(Summed between levels).
7. vE = 0.7 x vE(ASD factored shear).
8. wW = 0.6 x vW / 1.4.
9. * = Shear values includes effects of vertical shears due hold-down reactions
   from upper levels (if applicable).

Table 2a - Vertical loads on panels

Level	Panel#/ Type	Length ft	x1 ft	x2 ft	Dead lb/ft	Snow lb/ft	Live lb/ft	Wind Uplift lb/ft
2	0/SW	7.00	0.00	7.00	92.5*	-	-	-
2	1/DRAG	21.83	0.00	21.83	0.0*	-	-	-
2	2/SW	4.00	0.00	4.00	92.5*	-	-	-
2	3/DRAG	3.00	0.00	3.00	0.0*	-	-	-
1	0/SW	4.00	0.00	4.00	92.5*	-	-	-
1	1/DRAG	14.67	0.00	14.67	0.0*	-	-	-
1	2/SW	4.30	0.00	4.30	92.5*	-	-	-
1	3/DRAG	6.98	0.00	6.98	0.0*	-	-	-
1	4/SW	4.19	0.00	4.19	92.5*	-	-	-
1	5/DRAG	13.54	0.00	13.54	0.0*	-	-	-
1	6/SW	4.15	0.00	4.15	92.5*	-	-	-
1	7/SW	5.46	0.00	5.46	92.5*	-	-	-
1	8/DRAG	23.21	0.00	23.21	0.0*	-	-	-

Notes:

1. A panel is considered an element within a braced wall line.
   such as shear wall, window, filler (non-shear load), drag element.
2. length = indivisual panel length (within a braced wall line).
3. x1 = the start dimension for the distributive load - measured from LHS end of panel.
4. x2 = the end dimension for the distributive load - measured from LHS end of panel.
5. Multiple distributive loads may be supported by a panel.
6. Multiple distributive loads shown are not sorted - along the span of the panel.
7. * = Wall Dead load (wall dead load does not apply to drag elements and window panels).
   Wall dead loads are summed up with framing dead loads where applicable
   (which includes beam drag elements and window hdrs). See Table 2b below.
8. OPEN = Window/Door, DRAG = Drag strut, NO-SW = filler panel (no shear capacity)

SW = Shear panel.

Table 2b - Unfactored Reaction forces at panels

Reaction	Location from end (ft)	D lb	S lb	L lb	W Uplift lb	DIRECTION 1 E lb	DIRECTION 1 W lb	DIRECTION 2 E lb	DIRECTION 2 W lb
2-0	23.13	324	0	0	0	-1591	-1677	1591	1677
2-1	30.13	324	0	0	0	1591	1677	-1591	-1677
2-2	51.96	185	0	0	0	-1591	-1677	1591	1677
2-3	55.96	185	0	0	0	1591	1677	-1591	-1677
2-4	58.96	0	0	0	0	0	0	0	0
1-0	0.00	185	0	0	0	-1637	-1464	1637	1464
1-1	4.00	185	0	0	0	1637	1464	-1637	-1464
1-2	18.67	199	0	0	0	-1637	-1464	1637	1464
1-3	22.98	199	0	0	0	46	-212	-46	212
1-4	29.96	194	0	0	0	-46	212	46	-212
1-5	34.15	194	0	0	0	1637	1464	-1637	-1464
1-6	47.69	192	0	0	0	-1637	-1464	1637	1464
1-7	51.83	444	0	0	0	-1202	-1267	1202	1267
1-8	55.96	185	0	0	0	0	0	0	0
1-9	57.29	253	0	0	0	2838	2731	-2838	-2731
1-10	58.96	0	0	0	0	0	0	0	0
1-11	80.50	0	0	0	0	0	0	0	0

Notes:

1. Reaction X-Y, X = level, Y = panel sequence id
2. D = DEAD LOAD, L = LIVE LOAD, W-UPLIFT = WIND UPLIFT LOAD
   W = WIND LOAD, E = SEISMIC LOAD
3. D = (Panel Height x Panel Width x Panel weight = 10.0 psf) / 2
   Dead load vectors are summed at abutting panels
4. DIRECTION 1 = LOAD DIRECTION LEFT TO RIGHT
5. DIRECTION 2 = LOAD DIRECTION RIGHT TO LEFT
6. NEGATIVE VALUES = UPLIFT OR TENSION

Table 3 - Factored Reaction forces at panels

Reaction	Location from end (ft)	DIRECTION 1 LC1 lb	LC2 lb	LC3 lb	LC4 lb	LC5 lb	LC6 lb	DIRECTION 2 LC1 lb	LC2 lb	LC3 lb	LC4 lb	LC5 lb	LC6 lb	MIN LOAD lb	MAX LOAD lb
2-0	23.1	-682	-790	-431	-511	-812	-963	1330	1437	1078	1159	1200	1264	-963	1437
2-1	30.1	1330	1437	1078	1159	1200	1264	-682	-790	-431	-511	-812	-963	-963	1437
2-2	52.0	-821	-929	-570	-650	-895	-1028	1191	1298	939	1020	1117	1199	-1028	1298
2-3	56.0	1191	1298	939	1020	1117	1199	-821	-929	-570	-650	-895	-1028	-1028	1298
2-4	59.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-0	0.0	-694	-961	-474	-674	-768	-1060	1064	1331	844	1044	990	1232	-1060	1331
1-1	4.0	1064	1331	844	1044	990	1232	-694	-961	-474	-674	-768	-1060	-1060	1331
1-2	18.7	-680	-947	-460	-660	-759	-1053	1078	1345	858	1058	998	1238	-1053	1345
1-3	23.0	72	231	104	223	-8	125	326	167	295	175	247	60	-8	326
1-4	30.0	321	161	289	170	244	58	66	226	98	218	-11	122	-11	321
1-5	34.1	1072	1339	853	1053	995	1236	-685	-952	-465	-666	-762	-1056	-1056	1339
1-6	47.7	-687	-954	-467	-668	-764	-1057	1070	1337	851	1051	994	1235	-1057	1337
1-7	51.8	-316	-397	-126	-187	-493	-635	1204	1285	1014	1075	1026	1047	-635	1285
1-8	56.0	185	185	185	185	111	86	185	185	185	185	111	86	86	185
1-9	57.3	1891	2239	1481	1743	1790	2104	-1386	-1734	-976	-1238	-1487	-1870	-1870	2239
1-10	59.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-11	80.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Notes

1. LC = Load combination

2. LC1 = D + 0.6W ASCE 2.4.1 - 5a

3. LC2 = D + 0.7E ASCE 2.4.1 - 5b

4. LC3 = D + 0.75L + 0.75(0.6W) + 0.75S ASCE 2.4.1 - 6a

5. LC4 = D + 0.75L + 0.75(0.7E) + 0.75S ASCE 2.4.1 - 6b

6. LC5 = 0.6D + 0.6W ASCE 2.4.1 - 7

7. LC6 = (0.6 - 0.14SDS)D + 0.7E ASCE 2.4.1 - 8, SDS = 0.970

8. MIN LOAD = Maximum negative tension force

9. MAX LOAD = Maximum positive compression force

10. W = W uplift + W shear overturning

Table 4 - Tie down schedule

Reaction Location from end (ft)	MIN LOAD lb	MAX LOAD lb	HOLD-DOWN MARK
2-0 23.1	-963	1159	MST37
2-1 30.1	-963	1159	MST37
2-2 52.0	-1028	1020	MST37
2-3 56.0	-1028	1020	MST37
2-4 59.0	0	0	
1-0 0.0	-1060	990	TD1
1-1 4.0	-1060	990	TD1
1-2 18.7	-1053	998	TD1
1-3 23.0	-8	223	TD1
1-4 30.0	-11	218	TD1
1-5 34.1	-1056	995	TD1
1-6 47.7	-1057	994	TD1
1-7 51.8	-635	1026	TD1
1-8 56.0	86	185	TD1
1-9 57.3	-1870	1743	TD1
1-10 59.0	0	0	TD1
1-11 80.5	0	0	TD1

Notes

1. N/R = Not required - compression controls.

2. NONE = Uplift exceeded specified hold-down.

3. Due to the applied dead loads, some hold-downs may differ within a shear panel. The highest capacity hold-down will be used at both ends.

Table 5 - Drag forces (Unfactored loads)

Level = 2

LOAD	q lb/ft	v lb/ft	dq lb/ft
WIND	55.63	181.26	-125.63
SEISMIC	52.77	171.96	-119.18

PANEL ID	TYPE	PANEL END#1 WIND LB	PANEL END#1 SEISMIC LB	PANEL END #2 WIND LB	PANEL END #2 SEISMIC LB
1	SHEAR WALL	0	0	-879	-834
2	DRAG-STRUT	-879	-834	335	318

3	SHEAR WALL	335	318	-167	-158
4	DRAG-STRUT	-167	-158	0	0

Level = 1

	q	v	dq
LOAD	lb/ft	lb/ft	lb/ft
WIND	18.70	202.65	41.64
SEISMIC	25.08	219.01	20.10

		PANEL END#1		PANEL END #2	
PANEL ID	TYPE	WIND	SEISMIC	WIND	SEISMIC
		LB	LB	LB	LB
1	SHEAR WALL	0	0	167	80
2	DRAG-STRUT	167	80	441	448
3	SHEAR WALL	441	448	620	535
4	DRAG-STRUT	620	535	751	710
5	SHEAR WALL	751	710	925	794
6	DRAG-STRUT	925	794	1178	1134
7	SHEAR WALL	1178	1134	1351	1217
8	SHEAR WALL	1351	1217	1578	1327
9	DRAG-STRUT	1578	1327	2012	1909

Notes:

q = Diaphragm shear.

v = Shear wall shear.

dq = q - v (this level) + v (upper level)

Table 6 - Drag forces (Factored loads)

Level = 2

		PANEL END #1		PANEL END #2	
PANEL ID	TYPE	WIND	SEISMIC	WIND	SEISMIC
		LB	LB	LB	LB
1	SHEAR WALL	0	0	-528	-1460
2	DRAG-STRUT	-528	-1460	201	556
3	SHEAR WALL	201	556	-100	-277
4	DRAG-STRUT	-100	-277	0	0

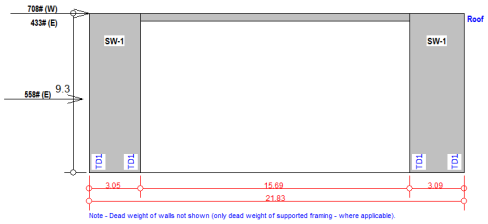
Level = 1

		PANEL END #1		PANEL END #2		
PANEL ID	TYPE	WIND	SEISMIC	WIND	SEISMIC	
		LB	LB	LB	LB	
1	SHEAR WALL	0	0	100	141	
2	DRAG-STRUT	100	141	265	785	
3	SHEAR WALL	265	785	372	936	
4	DRAG-STRUT	372	936	450	1243	
5	SHEAR WALL	450	1243	555	1390	
6	DRAG-STRUT	555	1390	707	1984	
7	SHEAR WALL	707	1984	811	2130	MST27
8	SHEAR WALL	811	2130	947	2322	MST27
9	DRAG-STRUT	947	2322	1207	3341	MST37

Notes

1. Wind load, W = 0.6 x Load
2. Seismic load, E = 0.7 x 1.25 x Load. Apply requirements of ASCE 7-10 (SEC 12.3.3.4)

Shear Wall at Grid 4



Design Rho = 1.0

Table 1 - Shears

Level	Sum B ft	H ft	Max Aspect Ratio	E lb	Ew lb	E+Ew lb	W lb	vE plf	vW plf	Max plf	MARK
2	6.1	9.2	3.0**	433	157	590	708	67	49	67	SW-1

Shear panel(s) in the braced wall line exceed aspect ratio as defined per SDPWS 4.3.4.
Reduction per SDPWS 4.3.4.2 is required. The capacity of the shear wall is reduced by
WSP = 1.25 - 0.125(h/bs) Aspect Ratio Factor. It is more convenient to increase
the demand load by the factor 1 / WSP and size the SW accordingly. Where WSP > 1.0.

Level	Max Aspect Ratio	WSP	1/WSP	Design Shear	Adjusted Shear	Revised SW MARK
2	3.03	0.87	1.15	67	77	SW-1

Notes

1. b = sum of all solid panels.
2. H / W = Maximum aspect ratio of all panels within a SW.
3. E - Unfactored seismic forces(Summed between levels) = rho x Qe.
4. Ew - Unfactored Wall inertia force (wall & window panels) includes rho.
5. E + Ew = Total unfactored seismic load.
6. W - Unfactored wind forces(Summed between levels).
7. vE = 0.7 x vE(ASD factored shear).
8. wW = 0.6 x vW / 1.4.
9. * = Shear values includes effects of vertical shears due hold-down reactions from upper levels (if applicable).

Table 2a - Vertical loads on panels

Level	Panel#/ Type	Length ft	x1 ft	x2 ft	Dead lb/ft	Snow lb/ft	Live lb/ft	Wind Uplift lb/ft
2	0/SW	3.05	0.00	3.05	92.5*	-	-	-
2	1/DRAG	15.69	0.00	15.69	0.0*	-	-	-
2	2/SW	3.09	0.00	3.09	92.5*	-	-	-

Notes:

1. A panel is considered an element within a braced wall line.
   such as shear wall, window, filler (non-shear load), drag element.
2. length = indivisual panel length (within a braced wall line).
3. x1 = the start dimension for the distributive load - measured from LHS end of panel.
4. x2 = the end dimension for the distributive load - measured from LHS end of panel.
5. Multiple distributive loads may be supported by a panel.
6. Multiple distributive loads shown are not sorted - along the span of the panel.
7. * = Wall Dead load (wall dead load does not apply to drag elements and window panels).
   Wall dead loads are summed up with framing dead loads where applicable
   (which includes beam drag elements and window hdrs). See Table 2b below.
8. OPEN = Window/Door, DRAG = Drag strut, NO-SW = filler panel (no shear capacity)
   SW = Shear panel.

Table 2b - Unfactored Reaction forces at panels

Reaction Location from end (ft)	D lb	S lb	L lb	W Uplift lb	DIRECTION 1 E lb	DIRECTION 1 W lb	DIRECTION 2 E lb	DIRECTION 2 W lb
2-0 0.00	141	0	0	0	-888	-1065	888	1065
2-1 3.05	141	0	0	0	888	1065	-888	-1065
2-2 18.74	143	0	0	0	-888	-1065	888	1065
2-3 21.83	143	0	0	0	888	1065	-888	-1065

Notes:

1. Reaction X-Y, X = level, Y = panel sequence id
2. D = DEAD LOAD, L = LIVE LOAD, W-UPLIFT = WIND UPLIFT LOAD
   W = WIND LOAD, E = SEISMIC LOAD
3. D = (Panel Height x Panel Width x Panel weight = 10.0 psf) / 2
   Dead load vectors are summed at abutting panels
4. DIRECTION 1 = LOAD DIRECTION LEFT TO RIGHT
5. DIRECTION 2 = LOAD DIRECTION RIGHT TO LEFT
6. NEGATIVE VALUES = UPLIFT OR TENSION

Table 3 - Factored Reaction forces at panels

Reaction Location from end (ft)	DIRECTION 1 LC1 lb	LC2 lb	LC3 lb	LC4 lb	LC5 lb	LC6 lb	DIRECTION 2 LC1 lb	LC2 lb	LC3 lb	LC4 lb	LC5 lb	LC6 lb	MIN LOAD lb	MAX LOAD lb
2-0 0.0	-498	-480	-338	-325	-554	-556	780	763	620	607	724	687	-556	780
2-1 3.1	780	763	620	607	724	687	-498	-480	-338	-325	-554	-556	-556	780
2-2 18.7	-496	-478	-336	-323	-553	-555	782	764	622	609	725	688	-555	782
2-3 21.8	782	764	622	609	725	688	-496	-478	-336	-323	-553	-555	-555	782

Notes

1. LC = Load combination
2. LC1 = D + 0.6W ASCE 2.4.1 - 5a
3. LC2 = D + 0.7E ASCE 2.4.1 - 5b
4. LC3 = D + 0.75L + 0.75(0.6W) + 0.75S ASCE 2.4.1 - 6a
5. LC4 = D + 0.75L + 0.75(0.7E) + 0.75S ASCE 2.4.1 - 6b
6. LC5 = 0.6D + 0.6W ASCE 2.4.1 - 7
7. LC6 = (0.6 - 0.14SDS)D + 0.7E ASCE 2.4.1 - 8, SDS = 0.970
8. MIN LOAD = Maximum negative tension force
9. MAX LOAD = Maximum positive compression force
10. W = W uplift + W shear overturning

Table 4 - Tie down schedule

Reaction Location from end (ft)	MIN LOAD lb	MAX LOAD lb	HOLD-DOWN MARK

2-0	0.0		-556	620	TD1
2-1	3.1		-556	620	TD1
2-2	18.7		-555	622	TD1
2-3	21.8		-555	622	TD1

Notes

1. N/R = Not required - compression controls.
2. NONE = Uplift exceeded specified hold-down.
3. Due to the applied dead loads, some hold-downs may differ within a shear panel. The highest capacity hold-down will be used at both ends.

Table 5 - Drag forces (Unfactored loads)

Level = 2

	q	v	dq
LOAD	lb/ft	lb/ft	lb/ft
WIND	32.40	115.13	-82.72
SEISMIC	27.01	95.97	-68.95

		PANEL END#1		PANEL END #2	
PANEL ID	TYPE	WIND	SEISMIC	WIND	SEISMIC
		LB	LB	LB	LB
1	SHEAR WALL	0	0	-253	-211
2	DRAG-STRUT	-253	-211	256	213
3	SHEAR WALL	256	213	-0	-0

Notes:

q = Diaphragm shear.

v = Shear wall shear.

dq = q - v (this level) + v (upper level)

Table 6 - Drag forces (Factored loads)

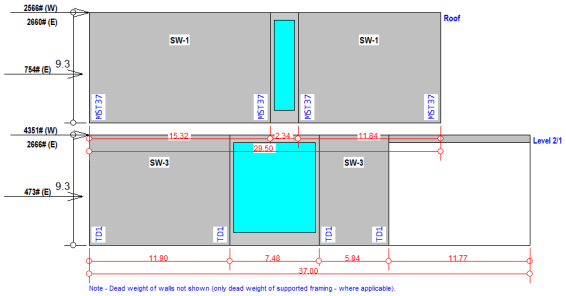
Level = 2

		PANEL END #1		PANEL END #2	
PANEL ID	TYPE	WIND	SEISMIC	WIND	SEISMIC
		LB	LB	LB	LB
1	SHEAR WALL	0	0	-152	-368
2	DRAG-STRUT	-152	-368	153	373
3	SHEAR WALL	153	373	-0	-0

Notes

1. Wind load, W = 0.6 x Load
2. Seismic load, E = 0.7 x 1.25 x Load. Apply requirements of ASCE 7-10 (SEC 12.3.3.4)

Shear Wall at Grid A



Note - Dead weight of walls not shown (only dead weight of supported framing - where applicable).

Design Rho = 1.0

Table 1 - Shears

Level	Sum B ft	H ft	Max Aspect Ratio	E lb	Ew lb	E+Ew lb	W lb	vE plf	vW plf	Max plf	MARK
2	27.2	9.2	0.8	2660	724	3384	2566	87	40	87	SW-1
1	17.7	9.2	1.6	5326	998	6325	6917	255*	170*	255	SW-3

Notes

1. b = sum of all solid panels.
2. H / W = Maximum aspect ratio of all panels within a SW.
3. E - Unfactored seismic forces(Summed between levels) = rho x Qe.
4. Ew - Unfactored Wall inertia force (wall & window panels) includes rho.
5. E + Ew = Total unfactored seismic load.
6. W - Unfactored wind forces(Summed between levels).
7. vE = 0.7 x vE(ASD factored shear).
8. wW = 0.6 x vW / 1.4.
9. * = Shear values includes effects of vertical shears due hold-down reactions from upper levels (if applicable).

Table 2a - Vertical loads on panels

Level	Panel#/ Type	Length ft	x1 ft	x2 ft	Dead lb/ft	Snow lb/ft	Live lb/ft	Wind Uplift lb/ft
2	0/SW	15.32	0.00	15.32	92.5*	-	-	-
2	1/OPEN	2.34	0.00	2.34	0.0*	-	-	-
2	2/SW	11.84	0.00	11.84	92.5*	-	-	-
1	0/SW	11.90	0.00	11.90	92.5*	-	-	-
1	1/OPEN	7.48	0.00	7.48	0.0*	-	-	-
1	2/SW	5.84	0.00	5.84	92.5*	-	-	-
1	3/DRAG	11.77	0.00	11.77	0.0*	-	-	-

Notes:

1. A panel is considered an element within a braced wall line. such as shear wall, window, filler (non-shear load), drag element.
2. length = indivisual panel length (within a braced wall line).
3. x1 = the start dimension for the distributive load - measured from LHS end of panel.
4. x2 = the end dimension for the distributive load - measured from LHS end of panel.
5. Multiple distributive loads may be supported by a panel.

6. Multiple distributive loads shown are not sorted - along the span of the panel.

7. * = Wall Dead load (wall dead load does not apply to drag elements and window panels).
   Wall dead loads are summed up with framing dead loads where applicable
   (which includes beam drag elements and window hdrs). See Table 2b below.

8. OPEN = Window/Door, DRAG = Drag strut, NO-SW = filler panel (no shear capacity)
   SW = Shear panel.

Table 2b - Unfactored Reaction forces at panels

Reaction	Location from end (ft)	D lb	S lb	L lb	W Uplift lb	DIRECTION 1 E lb	DIRECTION 1 W lb	DIRECTION 2 E lb	DIRECTION 2 W lb
2-0	0.00	708	0	0	0	-1152	-874	1152	874
2-1	15.32	708	0	0	0	1152	874	-1152	-874
2-2	17.66	548	0	0	0	-1152	-874	1152	874
2-3	29.50	548	0	0	0	1152	874	-1152	-874
1-0	4.16	551	0	0	0	-3224	-3550	3224	3550
1-1	15.32	708	0	0	0	0	0	0	0
1-2	16.07	551	0	0	0	3469	3736	-3469	-3736
1-3	17.66	548	0	0	0	0	0	0	0
1-4	23.55	270	0	0	0	-3541	-3791	3541	3791
1-5	29.39	270	0	0	0	4449	4479	-4449	-4479
1-6	41.16	0	0	0	0	0	0	0	0

Notes:

1. Reaction X-Y, X = level, Y = panel sequence id
2. D = DEAD LOAD, L = LIVE LOAD, W-UPLIFT = WIND UPLIFT LOAD
   W = WIND LOAD, E = SEISMIC LOAD
3. D = (Panel Height x Panel Width x Panel weight = 10.0 psf) / 2
   Dead load vectors are summed at abutting panels
4. DIRECTION 1 = LOAD DIRECTION LEFT TO RIGHT
5. DIRECTION 2 = LOAD DIRECTION RIGHT TO LEFT
6. NEGATIVE VALUES = UPLIFT OR TENSION

Table 3 - Factored Reaction forces at panels

Reaction	Location from end (ft)	DIRECTION 1 LC1 lb	LC2 lb	LC3 lb	LC4 lb	LC5 lb	LC6 lb	DIRECTION 2 LC1 lb	LC2 lb	LC3 lb	LC4 lb	LC5 lb	LC6 lb	MIN LOAD lb	MAX LOAD lb
2-0	0.0	184	-98	315	103	-99	-478	1233	1515	1102	1313	949	1135	-478	1515
2-1	15.3	1233	1515	1102	1313	949	1135	184	-98	315	103	-99	-478	-478	1515
2-2	17.7	23	-259	155	-57	-196	-552	1072	1354	941	1153	853	1061	-552	1354
2-3	29.5	1072	1354	941	1153	853	1061	23	-259	155	-57	-196	-552	-552	1354
1-0	4.2	-1580	-1706	-1047	-1142	-1800	-2001	2681	2808	2148	2243	2461	2513	-2001	2808
1-1	15.3	708	708	708	708	425	329	708	708	708	708	425	329	329	708
1-2	16.1	2792	2979	2232	2372	2572	2684	-1691	-1878	-1131	-1271	-1911	-2173	-2173	2979
1-3	17.7	548	548	548	548	329	254	548	548	548	548	329	254	254	548
1-4	23.6	-2004	-2209	-1436	-1589	-2112	-2354	2545	2749	1976	2129	2437	2604	-2354	2749
1-5	29.4	2958	3385	2286	2606	2850	3240	-2417	-2844	-1746	-2066	-2525	-2989	-2989	3385
1-6	41.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Notes

1. LC = Load combination
2. LC1 = D + 0.6W ASCE 2.4.1 - 5a
3. LC2 = D + 0.7E ASCE 2.4.1 - 5b
4. LC3 = D + 0.75L + 0.75(0.6W) + 0.75S ASCE 2.4.1 - 6a
5. LC4 = D + 0.75L + 0.75(0.7E) + 0.75S ASCE 2.4.1 - 6b
6. LC5 = 0.6D + 0.6W ASCE 2.4.1 - 7
7. LC6 = (0.6 - 0.14SDS)D + 0.7E ASCE 2.4.1 - 8, SDS = 0.970
8. MIN LOAD = Maximum negative tension force

9. MAX LOAD = Maximum positive compression force

10. W = W uplift + W shear overturning

Table 4 - Tie down schedule

Reaction Location from end (ft)	MIN LOAD lb	MAX LOAD lb	HOLD-DOWN MARK
2-0	0.0	-478	1102	MST37
2-1	15.3	-478	1102	MST37
2-2	17.7	-552	941	MST37
2-3	29.5	-552	941	MST37
1-0	4.2	-2001	2243	TD1
1-1	15.3	329	708	TD1
1-2	16.1	-2173	2372	TD1
1-3	17.7	254	548	TD1
1-4	23.6	-2354	2129	TD1
1-5	29.4	-2989	2606	TD1
1-6	41.2	0	0	TD1

Notes

1. N/R = Not required - compression controls.

2. NONE = Uplift exceeded specified hold-down.

3. Due to the applied dead loads, some hold-downs may differ within a shear panel. The highest capacity hold-down will be used at both ends.

Table 5 - Drag forces (Unfactored loads)

Level = 2

LOAD	q lb/ft	v lb/ft	dq lb/ft
WIND	86.99	94.48	-7.49
SEISMIC	114.70	124.57	-9.87

PANEL ID	TYPE	PANEL END#1 WIND LB	PANEL END#1 SEISMIC LB	PANEL END #2 WIND LB	PANEL END #2 SEISMIC LB
1	SHEAR WALL	0	0	-115	-151
2	WINDOW/DOOR	-115	-151	89	117
3	SHEAR WALL	89	117	0	0

Level = 1

LOAD	q lb/ft	v lb/ft	dq lb/ft
WIND	117.58	395.72	-177.72
SEISMIC	79.48	364.25	-152.35

PANEL END#1 PANEL END #2

PANEL ID	TYPE	WIND	SEISMIC	WIND	SEISMIC
		LB	LB	LB	LB
1	SHEAR WALL	0	0	-2116	-1814
2	WINDOW/DOOR	-2116	-1814	-1236	-1219
3	SHEAR WALL	-1236	-1219	-2274	-2109
4	DRAG-STRUT	-2274	-2109	-890	-1173

Notes:

q = Diaphragm shear.

v = Shear wall shear.

dq = q - v (this level) + v (upper level)

Table 6 - Drag forces (Factored loads)

Level = 2

		PANEL END #1		PANEL END #2	
PANEL ID	TYPE	WIND	SEISMIC	WIND	SEISMIC
		LB	LB	LB	LB
1	SHEAR WALL	0	0	-69	-265
2	WINDOW/DOOR	-69	-265	53	205
3	SHEAR WALL	53	205	0	0

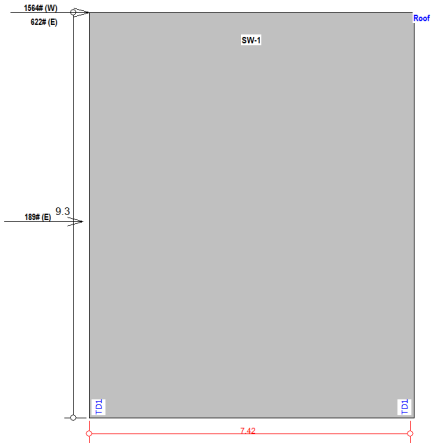
Level = 1

		PANEL END #1		PANEL END #2	
PANEL ID	TYPE	WIND	SEISMIC	WIND	SEISMIC
		LB	LB	LB	LB
1	SHEAR WALL	0	0	-1269	-3174
2	WINDOW/DOOR	-1269	-3174	-741	-2133
3	SHEAR WALL	-741	-2133	-1364	-3690
4	DRAG-STRUT	-1364	-3690	-534	-2053

Notes

1. Wind load, W = 0.6 x Load
2. Seismic load, E = 0.7 x 1.25 x Load. Apply requirements of ASCE 7-10 (SEC 12.3.3.4)

Shear Wall at Grid A'



Note - Dead weight of walls not shown (only dead weight of supported framing - where applicable).

Design Rho = 1.0

Table 1 - Shears

Level	Sum B ft	H ft	Max Aspect Ratio	E lb	Ew lb	E+Ew lb	W lb	vE plf	vW plf	Max plf	MARK
2	7.4	9.2	1.2	622	189	811	1564	77	90	90	SW-1

Notes

1. b = sum of all solid panels.
2. H / W = Maximum aspect ratio of all panels within a SW.
3. E - Unfactored seismic forces(Summed between levels) = rho x Qe.
4. Ew - Unfactored Wall inertia force (wall & window panels) includes rho.
5. E + Ew = Total unfactored seismic load.
6. W - Unfactored wind forces(Summed between levels).
7. vE = 0.7 x vE(ASD factored shear).
8. wW = 0.6 x vW / 1.4.
9. * = Shear values includes effects of vertical shears due hold-down reactions from upper levels (if applicable).

Table 2a - Vertical loads on panels

Level	Panel#/ Type	Length ft	x1 ft	x2 ft	Dead lb/ft	Snow lb/ft	Live lb/ft	Wind Uplift lb/ft
2	0/SW	7.42	0.00	7.42	92.5*	-	-	-

Notes:

1. A panel is considered an element within a braced wall line.
   such as shear wall, window, filler (non-shear load), drag element.
2. length = indivisual panel length (within a braced wall line).
3. x1 = the start dimension for the distributive load - measured from LHS end of panel.
4. x2 = the end dimension for the distributive load - measured from LHS end of panel.
5. Multiple distributive loads may be supported by a panel.
6. Multiple distributive loads shown are not sorted - along the span of the panel.
7. * = Wall Dead load (wall dead load does not apply to drag elements and window panels).
   Wall dead loads are summed up with framing dead loads where applicable
   (which includes beam drag elements and window hdrs). See Table 2b below.
8. OPEN = Window/Door, DRAG = Drag strut, NO-SW = filler panel (no shear capacity)
   SW = Shear panel.

Table 2b - Unfactored Reaction forces at panels

						DIRECTION 1		DIRECTION 2	
Reaction Location	D	S	L	W		E	W	E	W
from end				Uplift					
(ft)	lb	lb	lb	lb		lb	lb	lb	lb
2-0	0.00	343	0	0	0	-1012	-1950	1012	1950
2-1	7.42	343	0	0	0	1012	1950	-1012	-1950

Notes:

1. Reaction X-Y, X = level, Y = panel sequence id
2. D = DEAD LOAD, L = LIVE LOAD, W-UPLIFT = WIND UPLIFT LOAD
   W = WIND LOAD, E = SEISMIC LOAD
3. D = (Panel Height x Panel Width x Panel weight = 10.0 psf) / 2
   Dead load vectors are summed at abutting panels
4. DIRECTION 1 = LOAD DIRECTION LEFT TO RIGHT
5. DIRECTION 2 = LOAD DIRECTION RIGHT TO LEFT
6. NEGATIVE VALUES = UPLIFT OR TENSION

Table 3 - Factored Reaction forces at panels

Reaction Location	DIRECTION 1						DIRECTION 2						MIN	MAX
from end	LC1	LC2	LC3	LC4	LC5	LC6	LC1	LC2	LC3	LC4	LC5	LC6	LOAD	LOAD
(ft)	lb	lb	lb	lb	lb	lb	lb	lb	lb	lb	lb	lb	lb	lb
2-0 0.0	-827	-365	-535	-188	-964	-549	1513	1051	1221	874	1376	868	-964	1513
2-1 7.4	1513	1051	1221	874	1376	868	-827	-365	-535	-188	-964	-549	-964	1513

Notes

1. LC = Load combination
2. LC1 = D + 0.6W ASCE 2.4.1 - 5a
3. LC2 = D + 0.7E ASCE 2.4.1 - 5b
4. LC3 = D + 0.75L + 0.75(0.6W) + 0.75S ASCE 2.4.1 - 6a
5. LC4 = D + 0.75L + 0.75(0.7E) + 0.75S ASCE 2.4.1 - 6b
6. LC5 = 0.6D + 0.6W ASCE 2.4.1 - 7
7. LC6 = (0.6 - 0.14SDS)D + 0.7E ASCE 2.4.1 - 8, SDS = 0.970
8. MIN LOAD = Maximum negative tension force
9. MAX LOAD = Maximum positive compression force
10. W = W uplift + W shear overturning

Table 4 - Tie down schedule

Reaction Location	MIN	MAX	HOLD-DOWN
from end	LOAD	LOAD	MARK
(ft)	lb	lb	
2-0 0.0	-964	874	TD1
2-1 7.4	-964	874	TD1

Notes

1. N/R = Not required - compression controls.
2. NONE = Uplift exceeded specified hold-down.
3. Due to the applied dead loads, some hold-downs may differ within a shear panel. The highest capacity hold-down will be used at both ends.

Table 5 - Drag forces (Unfactored loads)

Level = 2

	q	v	dq
LOAD	lb/ft	lb/ft	lb/ft
WIND	210.82	210.82	0.00
SEISMIC	109.40	109.40	0.00

		PANEL END#1		PANEL END #2	
PANEL ID	TYPE	WIND	SEISMIC	WIND	SEISMIC
		LB	LB	LB	LB
1	SHEAR WALL	0	0	0	0

Notes:

q = Diaphragm shear.

v = Shear wall shear.

dq = q - v (this level) + v (upper level)

Table 6 - Drag forces (Factored loads)

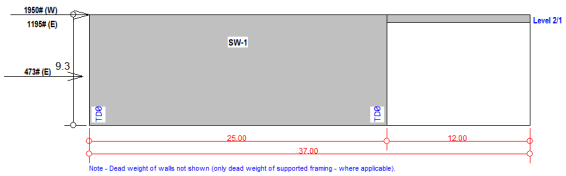
Level = 2

		PANEL END #1		PANEL END #2	
PANEL ID	TYPE	WIND	SEISMIC	WIND	SEISMIC
		LB	LB	LB	LB
1	SHEAR WALL	0	0	0	0

Notes

1. Wind load, W = 0.6 x Load
2. Seismic load, E = 0.7 x 1.25 x Load. Apply requirements of ASCE 7-10 (SEC 12.3.3.4)

Shear Wall at Grid AA



Design Rho = 1.0

Table 1 - Shears

Level	Sum B ft	H ft	Max Aspect Ratio	E lb	Ew lb	E+Ew lb	W lb	vE plf	vW plf	Max plf	MARK
1	25.0	9.2	0.4	1195	319	1514	1950	42	33	42	SW-1

Notes

1. b = sum of all solid panels.
2. H / W = Maximum aspect ratio of all panels within a SW.
3. E - Unfactored seismic forces(Summed between levels) = rho x Qe.
4. Ew - Unfactored Wall inertia force (wall & window panels) includes rho.
5. E + Ew = Total unfactored seismic load.
6. W - Unfactored wind forces(Summed between levels).
7. vE = 0.7 x vE(ASD factored shear).
8. wW = 0.6 x vW / 1.4.
9. * = Shear values includes effects of vertical shears due hold-down reactions from upper levels (if applicable).

Table 2a - Vertical loads on panels

Level	Panel#/ Type	Length ft	x1 ft	x2 ft	Dead lb/ft	Snow lb/ft	Live lb/ft	Wind Uplift lb/ft
1	0/SW	25.00	0.00	25.00	92.5*	-	-	-
1	1/DRAG	12.00	0.00	12.00	0.0*	-	-	-

Notes:

1. A panel is considered an element within a braced wall line. such as shear wall, window, filler (non-shear load), drag element.
2. length = indivisual panel length (within a braced wall line).
3. x1 = the start dimension for the distributive load - measured from LHS end of panel.
4. x2 = the end dimension for the distributive load - measured from LHS end of panel.
5. Multiple distributive loads may be supported by a panel.
6. Multiple distributive loads shown are not sorted - along the span of the panel.
7. * = Wall Dead load (wall dead load does not apply to drag elements and window panels). Wall dead loads are summed up with framing dead loads where applicable (which includes beam drag elements and window hdrs). See Table 2b below.
8. OPEN = Window/Door, DRAG = Drag strut, NO-SW = filler panel (no shear capacity) SW = Shear panel.

Table 2b - Unfactored Reaction forces at panels

Reaction Location from end (ft)	D lb	S lb	L lb	W Uplift lb	DIRECTION 1 E lb	DIRECTION 1 W lb	DIRECTION 2 E lb	DIRECTION 2 W lb
1-0 0.00	1156	0	0	0	-560	-721	560	721
1-1 25.00	1156	0	0	0	560	721	-560	-721
1-2 37.00	0	0	0	0	0	0	0	0

Notes:

1. Reaction X-Y, X = level, Y = panel sequence id
2. D = DEAD LOAD, L = LIVE LOAD, W-UPLIFT = WIND UPLIFT LOAD W = WIND LOAD, E = SEISMIC LOAD
3. D = (Panel Height x Panel Width x Panel weight = 10.0 psf) / 2 Dead load vectors are summed at abutting panels
4. DIRECTION 1 = LOAD DIRECTION LEFT TO RIGHT
5. DIRECTION 2 = LOAD DIRECTION RIGHT TO LEFT
6. NEGATIVE VALUES = UPLIFT OR TENSION

Table 3 - Factored Reaction forces at panels

Reaction Location from end (ft)	DIRECTION 1 LC1 lb	LC2 lb	LC3 lb	LC4 lb	LC5 lb	LC6 lb	DIRECTION 2 LC1 lb	LC2 lb	LC3 lb	LC4 lb	LC5 lb	LC6 lb	MIN LOAD lb	MAX LOAD lb
1-0 0.0	723	764	832	862	261	145	1589	1548	1481	1450	1127	929	145	1589
1-1 25.0	1589	1548	1481	1450	1127	929	723	764	832	862	261	145	145	1589
1-2 37.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Notes

1. LC = Load combination
2. LC1 = D + 0.6W ASCE 2.4.1 - 5a
3. LC2 = D + 0.7E ASCE 2.4.1 - 5b
4. LC3 = D + 0.75L + 0.75(0.6W) + 0.75S ASCE 2.4.1 - 6a
5. LC4 = D + 0.75L + 0.75(0.7E) + 0.75S ASCE 2.4.1 - 6b
6. LC5 = 0.6D + 0.6W ASCE 2.4.1 - 7
7. LC6 = (0.6 - 0.14SDS)D + 0.7E ASCE 2.4.1 - 8, SDS = 0.970
8. MIN LOAD = Maximum negative tension force
9. MAX LOAD = Maximum positive compression force
10. W = W uplift + W shear overturning

Table 4 - Tie down schedule

Reaction Location from end (ft)	MIN LOAD lb	MAX LOAD lb	HOLD-DOWN MARK
1-0 0.0	145	1127	TD0
1-1 25.0	145	1127	TD0
1-2 37.0	0	0	TD1

Notes

1. N/R = Not required - compression controls.
2. NONE = Uplift exceeded specified hold-down.
3. Due to the applied dead loads, some hold-downs may differ within a shear panel. The highest capacity hold-down will be used at both ends.

Table 5 - Drag forces (Unfactored loads)

Level = 1

	q	v	dq
LOAD	lb/ft	lb/ft	lb/ft
WIND	52.69	77.99	-25.29
SEISMIC	40.93	60.57	-19.65

PANEL ID	TYPE	PANEL END#1 WIND LB	PANEL END#1 SEISMIC LB	PANEL END #2 WIND LB	PANEL END #2 SEISMIC LB
1	SHEAR WALL	0	0	-632	-491
2	DRAG-STRUT	-632	-491	0	0

Notes:

q = Diaphragm shear.

v = Shear wall shear.

dq = q - v (this level) + v (upper level)

Table 6 - Drag forces (Factored loads)

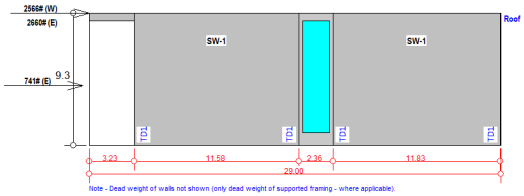
Level = 1

		PANEL END #1		PANEL END #2	
PANEL ID	TYPE	WIND	SEISMIC	WIND	SEISMIC
		LB	LB	LB	LB
1	SHEAR WALL	0	0	-379	-859
2	DRAG-STRUT	-379	-859	0	0

Notes

1. Wind load, W = 0.6 x Load
2. Seismic load, E = 0.7 x 1.25 x Load. Apply requirements of ASCE 7-10 (SEC 12.3.3.4)

Shear Wall at Grid B



Design Rho = 1.0

Table 1 - Shears

Level	Sum B	H	Max Aspect	E	Ew	E+Ew	W	vE	vW	Max	MARK
	ft	ft	Ratio	lb	lb	lb	lb	plf	plf	plf	
2	23.4	9.2	0.8	2660	628	3288	2566	98	47	98	SW-1

Notes

1. b = sum of all solid panels.
2. H / W = Maximum aspect ratio of all panels within a SW.
3. E - Unfactored seismic forces(Summed between levels) = rho x Qe.
4. Ew - Unfactored Wall inertia force (wall & window panels) includes rho.
5. E + Ew = Total unfactored seismic load.
6. W - Unfactored wind forces(Summed between levels).
7. vE = 0.7 x vE(ASD factored shear).
8. wW = 0.6 x vW / 1.4.
9. * = Shear values includes effects of vertical shears due hold-down reactions from upper levels (if applicable).

Table 2a - Vertical loads on panels

Level	Panel#/ Type	Length ft	x1 ft	x2 ft	Dead lb/ft	Snow lb/ft	Live lb/ft	Wind Uplift lb/ft
2	0/DRAG	3.23	0.00	3.23	0.0*	-	-	-
2	1/SW	11.58	0.00	11.58	92.5*	-	-	-

2	2/OPEN	2.36	0.00	2.36	0.0*	-	-	-
2	3/SW	11.83	0.00	11.83	92.5*	-	-	-

Notes:

1. A panel is considered an element within a braced wall line.
   such as shear wall, window, filler (non-shear load), drag element.
2. length = indivisual panel length (within a braced wall line).
3. x1 = the start dimension for the distributive load - measured from LHS end of panel.
4. x2 = the end dimension for the distributive load - measured from LHS end of panel.
5. Multiple distributive loads may be supported by a panel.
6. Multiple distributive loads shown are not sorted - along the span of the panel.
7. * = Wall Dead load (wall dead load does not apply to drag elements and window panels).
   Wall dead loads are summed up with framing dead loads where applicable
   (which includes beam drag elements and window hdrs). See Table 2b below.
8. OPEN = Window/Door, DRAG = Drag strut, NO-SW = filler panel (no shear capacity)
   SW = Shear panel.

Table 2b - Unfactored Reaction forces at panels

						DIRECTION 1		DIRECTION 2	
Reaction	Location from end (ft)	D lb	S lb	L lb	W Uplift lb	E lb	W lb	E lb	W lb
2-0	0.00	0	0	0	0	0	0	0	0
2-1	3.23	536	0	0	0	-1299	-1014	1299	1014
2-2	14.81	536	0	0	0	1299	1014	-1299	-1014
2-3	17.17	547	0	0	0	-1299	-1014	1299	1014
2-4	29.00	547	0	0	0	1299	1014	-1299	-1014

Notes:

1. Reaction X-Y, X = level, Y = panel sequence id
2. D = DEAD LOAD, L = LIVE LOAD, W-UPLIFT = WIND UPLIFT LOAD
   W = WIND LOAD, E = SEISMIC LOAD
3. D = (Panel Height x Panel Width x Panel weight = 10.0 psf) / 2
   Dead load vectors are summed at abutting panels
4. DIRECTION 1 = LOAD DIRECTION LEFT TO RIGHT
5. DIRECTION 2 = LOAD DIRECTION RIGHT TO LEFT
6. NEGATIVE VALUES = UPLIFT OR TENSION

Table 3 - Factored Reaction forces at panels

		DIRECTION 1						DIRECTION 2						MIN	MAX
Reaction	Location from end (ft)	LC1 lb	LC2 lb	LC3 lb	LC4 lb	LC5 lb	LC6 lb	LC1 lb	LC2 lb	LC3 lb	LC4 lb	LC5 lb	LC6 lb	LOAD lb	LOAD lb
2-0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2-1	3.2	-73	-374	79	-146	-287	-661	1144	1445	992	1218	930	1158	-661	1445
2-2	14.8	1144	1445	992	1218	930	1158	-73	-374	79	-146	-287	-661	-661	1445
2-3	17.2	-61	-362	91	-135	-280	-656	1155	1457	1003	1229	937	1163	-656	1457
2-4	29.0	1155	1457	1003	1229	937	1163	-61	-362	91	-135	-280	-656	-656	1457

Notes

1. LC = Load combination
2. LC1 = D + 0.6W ASCE 2.4.1 - 5a
3. LC2 = D + 0.7E ASCE 2.4.1 - 5b
4. LC3 = D + 0.75L + 0.75(0.6W) + 0.75S ASCE 2.4.1 - 6a
5. LC4 = D + 0.75L + 0.75(0.7E) + 0.75S ASCE 2.4.1 - 6b
6. LC5 = 0.6D + 0.6W ASCE 2.4.1 - 7
7. LC6 = (0.6 - 0.14SDS)D + 0.7E ASCE 2.4.1 - 8, SDS = 0.970
8. MIN LOAD = Maximum negative tension force
9. MAX LOAD = Maximum positive compression force
10. W = W uplift + W shear overturning

Table 4 - Tie down schedule

Reaction	Location from end (ft)	MIN LOAD lb	MAX LOAD lb	HOLD-DOWN MARK
2-0	0.0	0	0	TD1
2-1	3.2	-661	992	TD1
2-2	14.8	-661	992	TD1
2-3	17.2	-656	1003	TD1
2-4	29.0	-656	1003	TD1

Notes

1. N/R = Not required - compression controls.
2. NONE = Uplift exceeded specified hold-down.
3. Due to the applied dead loads, some hold-downs may differ within a shear panel. The highest capacity hold-down will be used at both ends.

Table 5 - Drag forces (Unfactored loads)

Level = 2

	q	v	dq
LOAD	lb/ft	lb/ft	lb/ft
WIND	88.49	109.62	-21.13
SEISMIC	113.38	140.46	-27.08

		PANEL END#1		PANEL END #2	
PANEL ID	TYPE	WIND	SEISMIC	WIND	SEISMIC
		LB	LB	LB	LB
1	DRAG-STRUT	0	0	286	366
2	SHEAR WALL	286	366	41	53
3	WINDOW/DOOR	41	53	250	320
4	SHEAR WALL	250	320	-0	-0

Notes:

q = Diaphragm shear.

v = Shear wall shear.

dq = q - v (this level) + v (upper level)

Table 6 - Drag forces (Factored loads)

Level = 2

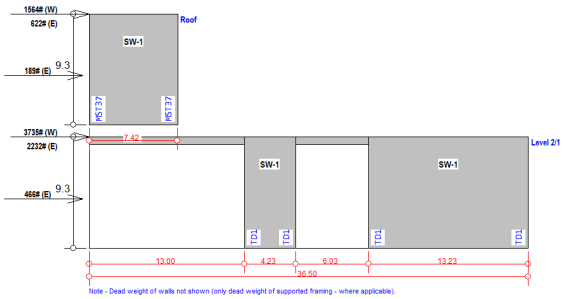
		PANEL END #1		PANEL END #2	
PANEL ID	TYPE	WIND	SEISMIC	WIND	SEISMIC
		LB	LB	LB	LB
1	DRAG-STRUT	0	0	172	641
2	SHEAR WALL	172	641	25	92
3	WINDOW/DOOR	25	92	150	561
4	SHEAR WALL	150	561	-0	-0

Notes

1. Wind load, W = 0.6 x Load

2. Seismic load, E = 0.7 x 1.25 x Load. Apply requirements of ASCE 7-10 (SEC 12.3.3.4)

Shear Wall at Grid B'



Note - Dead weight of walls not shown (only dead weight of supported framing - where applicable).

Design Rho = 1.0

Table 1 - Shears

Level	Sum B ft	H ft	Max Aspect Ratio	E lb	Ew lb	E+Ew lb	W lb	vE plf	vW plf	Max plf	MARK
2	7.4	9.2	1.2	622	189	811	1564	77	90	90	SW-1
1	17.5	9.2	2.2**	2853	413	3266	5299	165*	170*	170	SW-1

Shear panel(s) in the braced wall line exceed aspect ratio as defined per SDPWS 4.3.4.
Reduction per SDPWS 4.3.4.2 is required. The capacity of the shear wall is reduced by
WSP = 1.25 - 0.125(h/bs) Aspect Ratio Factor. It is more convenient to increase
the demand load by the factor 1 / WSP and size the SW accordingly. Where WSP > 1.0.

Level	Max Aspect Ratio	WSP	1/WSP	Design Shear	Adjusted Shear	Revised SW MARK
1	2.18	0.98	1.02	170	174	SW-1

Notes

1. b = sum of all solid panels.
2. H / W = Maximum aspect ratio of all panels within a SW.
3. E - Unfactored seismic forces(Summed between levels) = rho x Qe.
4. Ew - Unfactored Wall inertia force (wall & window panels) includes rho.
5. E + Ew = Total unfactored seismic load.
6. W - Unfactored wind forces(Summed between levels).
7. vE = 0.7 x vE(ASD factored shear).
8. wW = 0.6 x vW / 1.4.
9. * = Shear values includes effects of vertical shears due hold-down reactions
   from upper levels (if applicable).

Table 2a - Vertical loads on panels

Level	Panel#/ Type	Length ft	x1 ft	x2 ft	Dead lb/ft	Snow lb/ft	Live lb/ft	Wind Uplift lb/ft
2	0/SW	7.42	0.00	7.42	92.5*	-	-	-

1	0/DRAG	13.00	0.00	13.00	0.0*	-	-	-
1	1/SW	4.23	0.00	4.23	92.5*	-	-	-
1	2/DRAG	6.03	0.00	6.03	0.0*	-	-	-
1	3/SW	13.23	0.00	13.23	92.5*	-	-	-

Notes:

1. A panel is considered an element within a braced wall line.
   such as shear wall, window, filler (non-shear load), drag element.
2. length = indivisual panel length (within a braced wall line).
3. x1 = the start dimension for the distributive load - measured from LHS end of panel.
4. x2 = the end dimension for the distributive load - measured from LHS end of panel.
5. Multiple distributive loads may be supported by a panel.
6. Multiple distributive loads shown are not sorted - along the span of the panel.
7. * = Wall Dead load (wall dead load does not apply to drag elements and window panels).
   Wall dead loads are summed up with framing dead loads where applicable
   (which includes beam drag elements and window hdrs). See Table 2b below.
8. OPEN = Window/Door, DRAG = Drag strut, NO-SW = filler panel (no shear capacity)
   SW = Shear panel.

Table 2b - Unfactored Reaction forces at panels

Reaction Location from end (ft)	D lb	S lb	L lb	W Uplift lb	DIRECTION 1 E lb	DIRECTION 1 W lb	DIRECTION 2 E lb	DIRECTION 2 W lb
2-0 29.08	343	0	0	0	-1012	-1950	1012	1950
2-1 36.50	343	0	0	0	1012	1950	-1012	-1950
1-0 0.00	0	0	0	0	0	0	0	0
1-1 13.00	196	0	0	0	-1730	-2806	1730	2806
1-2 17.23	196	0	0	0	1730	2806	-1730	-2806
1-3 23.27	612	0	0	0	-2297	-3899	2297	3899
1-4 29.08	343	0	0	0	0	0	0	0
1-5 36.50	955	0	0	0	2297	3899	-2297	-3899

Notes:

1. Reaction X-Y, X = level, Y = panel sequence id
2. D = DEAD LOAD, L = LIVE LOAD, W-UPLIFT = WIND UPLIFT LOAD
   W = WIND LOAD, E = SEISMIC LOAD
3. D = (Panel Height x Panel Width x Panel weight = 10.0 psf) / 2
   Dead load vectors are summed at abutting panels
4. DIRECTION 1 = LOAD DIRECTION LEFT TO RIGHT
5. DIRECTION 2 = LOAD DIRECTION RIGHT TO LEFT
6. NEGATIVE VALUES = UPLIFT OR TENSION

Table 3 - Factored Reaction forces at panels

Reaction Location from end (ft)	DIRECTION 1 LC1 lb	LC2 lb	LC3 lb	LC4 lb	LC5 lb	LC6 lb	DIRECTION 2 LC1 lb	LC2 lb	LC3 lb	LC4 lb	LC5 lb	LC6 lb	MIN LOAD lb	MAX LOAD lb
2-0 29.1	-827	-365	-535	-188	-964	-549	1513	1051	1221	874	1376	868	-964	1513
2-1 36.5	1513	1051	1221	874	1376	868	-827	-365	-535	-188	-964	-549	-964	1513
1-0 0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-1 13.0	-1488	-1015	-1067	-712	-1566	-1120	1879	1407	1459	1104	1801	1302	-1566	1879
1-2 17.2	1879	1407	1459	1104	1801	1302	-1488	-1015	-1067	-712	-1566	-1120	-1566	1879
1-3 23.3	-1728	-996	-1143	-594	-1972	-1324	2951	2220	2367	1818	2707	1892	-1972	2951
1-4 29.1	343	343	343	343	206	159	343	343	343	343	206	159	159	343
1-5 36.5	3294	2563	2710	2161	2912	2051	-1384	-653	-800	-251	-1766	-1165	-1766	3294

Notes

1. LC = Load combination

2. LC1 = D + 0.6W ASCE 2.4.1 - 5a

3. LC2 = D + 0.7E ASCE 2.4.1 - 5b

4. LC3 = D + 0.75L + 0.75(0.6W) + 0.75S ASCE 2.4.1 - 6a

5. LC4 = D + 0.75L + 0.75(0.7E) + 0.75S ASCE 2.4.1 - 6b

6. LC5 = 0.6D + 0.6W ASCE 2.4.1 - 7

7. LC6 = (0.6 - 0.14SDS)D + 0.7E ASCE 2.4.1 - 8, SDS = 0.970

8. MIN LOAD = Maximum negative tension force

9. MAX LOAD = Maximum positive compression force

10. W = W uplift + W shear overturning

Table 4 - Tie down schedule

Reaction Location from end (ft)	MIN LOAD lb	MAX LOAD lb	HOLD-DOWN MARK
2-0 29.1	-964	874	MST37
2-1 36.5	-964	874	MST37
1-0 0.0	0	0	TD1
1-1 13.0	-1566	1302	TD1
1-2 17.2	-1566	1302	TD1
1-3 23.3	-1972	1892	TD1
1-4 29.1	159	343	TD1
1-5 36.5	-1766	2161	TD1

Notes

1. N/R = Not required - compression controls.

2. NONE = Uplift exceeded specified hold-down.

3. Due to the applied dead loads, some hold-downs may differ within a shear panel. The highest capacity hold-down will be used at both ends.

Table 5 - Drag forces (Unfactored loads)

Level = 2

LOAD	q lb/ft	v lb/ft	dq lb/ft
WIND	210.82	210.82	0.00
SEISMIC	109.40	109.40	0.00

PANEL ID	TYPE	PANEL END#1 WIND LB	PANEL END#1 SEISMIC LB	PANEL END #2 WIND LB	PANEL END #2 SEISMIC LB
1	SHEAR WALL	0	0	0	0

Level = 1

LOAD	q lb/ft	v lb/ft	dq lb/ft
WIND	102.33	396.01	9.79
SEISMIC	67.25	235.07	-10.34

		PANEL END#1		PANEL END #2	
PANEL ID	TYPE	WIND	SEISMIC	WIND	SEISMIC
		LB	LB	LB	LB
1	DRAG-STRUT	0	0	1330	874
2	SHEAR WALL	1330	874	1372	830
3	DRAG-STRUT	1372	830	1989	1236
4	SHEAR WALL	1989	1236	2119	1099

Notes:

q = Diaphragm shear.

v = Shear wall shear.

dq = q - v (this level) + v (upper level)

Table 6 - Drag forces (Factored loads)

Level = 2

		PANEL END #1		PANEL END #2	
PANEL ID	TYPE	WIND	SEISMIC	WIND	SEISMIC
		LB	LB	LB	LB
1	SHEAR WALL	0	0	0	0

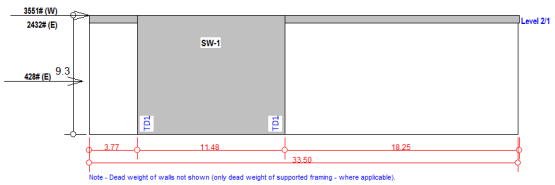
Level = 1

		PANEL END #1		PANEL END #2		
PANEL ID	TYPE	WIND	SEISMIC	WIND	SEISMIC	
		LB	LB	LB	LB	
1	DRAG-STRUT	0	0	798	1530	
2	SHEAR WALL	798	1530	823	1453	
3	DRAG-STRUT	823	1453	1193	2163	MST27
4	SHEAR WALL	1193	2163	1271	1924	MST27

Notes

1. Wind load, W = 0.6 x Load
2. Seismic load, E = 0.7 x 1.25 x Load. Apply requirements of ASCE 7-10 (SEC 12.3.3.4)

Shear Wall at Grid C



Design Rho = 1.0

Table 1 - Shears

Level	Sum B	H	Max Aspect	E	Ew	E+Ew	W	vE	vW	Max	MARK
	ft	ft	Ratio	lb	lb	lb	lb	plf	plf	plf	

1	11.5	9.2	0.8	2432	147	2579	3551	157	133	157	SW-1

Notes

1. b = sum of all solid panels.
2. H / W = Maximum aspect ratio of all panels within a SW.
3. E - Unfactored seismic forces(Summed between levels) = rho x Qe.
4. Ew - Unfactored Wall inertia force (wall & window panels) includes rho.
5. E + Ew = Total unfactored seismic load.
6. W - Unfactored wind forces(Summed between levels).
7. vE = 0.7 x vE(ASD factored shear).
8. wW = 0.6 x vW / 1.4.
9. * = Shear values includes effects of vertical shears due hold-down reactions from upper levels (if applicable).

Table 2a - Vertical loads on panels

Level	Panel#/ Type	Length ft	x1 ft	x2 ft	Dead lb/ft	Snow lb/ft	Live lb/ft	Wind Uplift lb/ft
1	0/DRAG	3.77	0.00	3.77	0.0*	-	-	-
1	1/SW	11.48	0.00	11.48	92.5*	-	-	-
1	2/DRAG	18.25	0.00	18.25	0.0*	-	-	-

Notes:

1. A panel is considered an element within a braced wall line.
   such as shear wall, window, filler (non-shear load), drag element.
2. length = indivisual panel length (within a braced wall line).
3. x1 = the start dimension for the distributive load - measured from LHS end of panel.
4. x2 = the end dimension for the distributive load - measured from LHS end of panel.
5. Multiple distributive loads may be supported by a panel.
6. Multiple distributive loads shown are not sorted - along the span of the panel.
7. * = Wall Dead load (wall dead load does not apply to drag elements and window panels).
   Wall dead loads are summed up with framing dead loads where applicable
   (which includes beam drag elements and window hdrs). See Table 2b below.
8. OPEN = Window/Door, DRAG = Drag strut, NO-SW = filler panel (no shear capacity)
   SW = Shear panel.

Table 2b - Unfactored Reaction forces at panels

Reaction	Location from end (ft)	D lb	S lb	L lb	W Uplift lb	DIRECTION 1 E lb	DIRECTION 1 W lb	DIRECTION 2 E lb	DIRECTION 2 W lb
1-0	0.00	0	0	0	0	0	0	0	0
1-1	3.77	531	0	0	0	-2078	-2862	2078	2862
1-2	15.25	531	0	0	0	2078	2862	-2078	-2862
1-3	33.50	0	0	0	0	0	0	0	0

Notes:

1. Reaction X-Y, X = level, Y = panel sequence id
2. D = DEAD LOAD, L = LIVE LOAD, W-UPLIFT = WIND UPLIFT LOAD
   W = WIND LOAD, E = SEISMIC LOAD
3. D = (Panel Height x Panel Width x Panel weight = 10.0 psf) / 2
   Dead load vectors are summed at abutting panels
4. DIRECTION 1 = LOAD DIRECTION LEFT TO RIGHT
5. DIRECTION 2 = LOAD DIRECTION RIGHT TO LEFT
6. NEGATIVE VALUES = UPLIFT OR TENSION

Table 3 - Factored Reaction forces at panels

Reaction	Location from end (ft)	DIRECTION 1 LC1 lb	LC2 lb	LC3 lb	LC4 lb	LC5 lb	LC6 lb	DIRECTION 2 LC1 lb	LC2 lb	LC3 lb	LC4 lb	LC5 lb	LC6 lb	MIN LOAD lb	MAX LOAD lb

1-0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-1	3.8	-1186	-924	-757	-560	-1399	-1208	2248	1985	1819	1622	2036	1701	-1399	2248		
1-2	15.3	2248	1985	1819	1622	2036	1701	-1186	-924	-757	-560	-1399	-1208	-1399	2248		
1-3	33.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0		

Notes

1. LC = Load combination
2. LC1 = D + 0.6W ASCE 2.4.1 - 5a
3. LC2 = D + 0.7E ASCE 2.4.1 - 5b
4. LC3 = D + 0.75L + 0.75(0.6W) + 0.75S ASCE 2.4.1 - 6a
5. LC4 = D + 0.75L + 0.75(0.7E) + 0.75S ASCE 2.4.1 - 6b
6. LC5 = 0.6D + 0.6W ASCE 2.4.1 - 7
7. LC6 = (0.6 - 0.14SDS)D + 0.7E ASCE 2.4.1 - 8, SDS = 0.970
8. MIN LOAD = Maximum negative tension force
9. MAX LOAD = Maximum positive compression force
10. W = W uplift + W shear overturning

Table 4 - Tie down schedule

Reaction	Location from end (ft)	MIN LOAD lb	MAX LOAD lb	HOLD-DOWN MARK
1-0	0.0	0	0	TD1
1-1	3.8	-1399	1701	TD1
1-2	15.3	-1399	1701	TD1
1-3	33.5	0	0	TD1

Notes

1. N/R = Not required - compression controls.
2. NONE = Uplift exceeded specified hold-down.
3. Due to the applied dead loads, some hold-downs may differ within a shear panel. The highest capacity hold-down will be used at both ends.

Table 5 - Drag forces (Unfactored loads)

Level = 1

LOAD	q lb/ft	v lb/ft	dq lb/ft
WIND	106.01	309.38	-203.37
SEISMIC	76.97	224.62	-147.65

PANEL ID	TYPE	PANEL END#1 WIND	PANEL END#1 SEISMIC	PANEL END #2 WIND	PANEL END #2 SEISMIC
		LB	LB	LB	LB
1	DRAG-STRUT	0	0	400	290
2	SHEAR WALL	400	290	-1935	-1405
3	DRAG-STRUT	-1935	-1405	0	0

Notes:

q = Diaphragm shear.

v = Shear wall shear.

dq = q - v (this level) + v (upper level)

Table 6 - Drag forces (Factored loads)

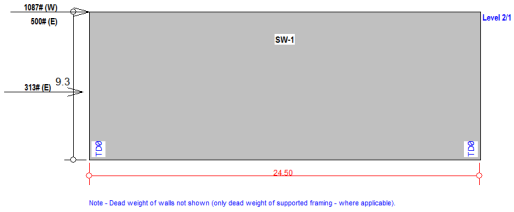
Level = 1

		PANEL END #1		PANEL END #2	
PANEL ID	TYPE	WIND	SEISMIC	WIND	SEISMIC
		LB	LB	LB	LB
1	DRAG-STRUT	0	0	240	508
2	SHEAR WALL	240	508	-1161	-2458
3	DRAG-STRUT	-1161	-2458	0	0

Notes

1. Wind load, W = 0.6 x Load
2. Seismic load, E = 0.7 x 1.25 x Load. Apply requirements of ASCE 7-10 (SEC 12.3.3.4)

Shear Wall at Grid D



Design Rho = 1.0

Table 1 - Shears

Level	Sum B	H	Max Aspect	E	Ew	E+Ew	W	vE	vW	Max	MARK
	ft	ft	Ratio	lb	lb	lb	lb	plf	plf	plf	
1	24.5	9.2	0.4	500	313	813	1087	23	19	23	SW-1

Notes

1. b = sum of all solid panels.
2. H / W = Maximum aspect ratio of all panels within a SW.
3. E - Unfactored seismic forces(Summed between levels) = rho x Qe.
4. Ew - Unfactored Wall inertia force (wall & window panels) includes rho.
5. E + Ew = Total unfactored seismic load.
6. W - Unfactored wind forces(Summed between levels).
7. vE = 0.7 x vE(ASD factored shear).
8. wW = 0.6 x vW / 1.4.
9. * = Shear values includes effects of vertical shears due hold-down reactions from upper levels (if applicable).

Table 2a - Vertical loads on panels

Level	Panel#/ Type	Length ft	x1 ft	x2 ft	Dead lb/ft	Snow lb/ft	Live lb/ft	Wind Uplift lb/ft
1	0/SW	24.50	0.00	24.50	92.5*	-	-	-

Notes:

1. A panel is considered an element within a braced wall line.
   such as shear wall, window, filler (non-shear load), drag element.
2. length = indivisual panel length (within a braced wall line).
3. x1 = the start dimension for the distributive load - measured from LHS end of panel.
4. x2 = the end dimension for the distributive load - measured from LHS end of panel.
5. Multiple distributive loads may be supported by a panel.
6. Multiple distributive loads shown are not sorted - along the span of the panel.
7. * = Wall Dead load (wall dead load does not apply to drag elements and window panels).
   Wall dead loads are summed up with framing dead loads where applicable
   (which includes beam drag elements and window hdrs). See Table 2b below.
8. OPEN = Window/Door, DRAG = Drag strut, NO-SW = filler panel (no shear capacity)
   SW = Shear panel.

Table 2b - Unfactored Reaction forces at panels

						DIRECTION 1		DIRECTION 2	
Reaction Location	D	S	L	W		E	W	E	W
from end				Uplift					
(ft)	lb	lb	lb	lb		lb	lb	lb	lb
1-0	0.00	1133	0	0	0	-307	-410	307	410
1-1	24.50	1133	0	0	0	307	410	-307	-410

Notes:

1. Reaction X-Y, X = level, Y = panel sequence id
2. D = DEAD LOAD, L = LIVE LOAD, W-UPLIFT = WIND UPLIFT LOAD
   W = WIND LOAD, E = SEISMIC LOAD
3. D = (Panel Height x Panel Width x Panel weight = 10.0 psf) / 2
   Dead load vectors are summed at abutting panels
4. DIRECTION 1 = LOAD DIRECTION LEFT TO RIGHT
5. DIRECTION 2 = LOAD DIRECTION RIGHT TO LEFT
6. NEGATIVE VALUES = UPLIFT OR TENSION

Table 3 - Factored Reaction forces at panels

Reaction Location	DIRECTION 1						DIRECTION 2						MIN	MAX
from end	LC1	LC2	LC3	LC4	LC5	LC6	LC1	LC2	LC3	LC4	LC5	LC6	LOAD	LOAD
(ft)	lb	lb	lb	lb	lb	lb	lb	lb	lb	lb	lb	lb	lb	lb
1-0	0.0	887	918	948	972	434	311	1379	1348	1318	1294	926	741	311	1379
1-1	24.5	1379	1348	1318	1294	926	741	887	918	948	972	434	311	311	1379

Notes

1. LC = Load combination
2. LC1 = D + 0.6W ASCE 2.4.1 - 5a
3. LC2 = D + 0.7E ASCE 2.4.1 - 5b
4. LC3 = D + 0.75L + 0.75(0.6W) + 0.75S ASCE 2.4.1 - 6a
5. LC4 = D + 0.75L + 0.75(0.7E) + 0.75S ASCE 2.4.1 - 6b
6. LC5 = 0.6D + 0.6W ASCE 2.4.1 - 7
7. LC6 = (0.6 - 0.14SDS)D + 0.7E ASCE 2.4.1 - 8, SDS = 0.970
8. MIN LOAD = Maximum negative tension force
9. MAX LOAD = Maximum positive compression force
10. W = W uplift + W shear overturning

Table 4 - Tie down schedule

Reaction Location	MIN	MAX	HOLD-DOWN
from end	LOAD	LOAD	MARK
(ft)	lb	lb	
1-0	0.0	311	972	TD0

| 1-1 | 24.5 | | 311 | 972 | TD0 | |

Notes

1. N/R = Not required - compression controls.
2. NONE = Uplift exceeded specified hold-down.
3. Due to the applied dead loads, some hold-downs may differ within a shear panel. The highest capacity hold-down will be used at both ends.

Table 5 - Drag forces (Unfactored loads)

Level = 1

	q	v	dq
LOAD	lb/ft	lb/ft	lb/ft
WIND	44.38	44.38	0.00
SEISMIC	33.20	33.20	0.00

		PANEL END#1		PANEL END #2	
PANEL ID	TYPE	WIND	SEISMIC	WIND	SEISMIC
		LB	LB	LB	LB
1	SHEAR WALL	0	0	0	0

Notes:

q = Diaphragm shear.

v = Shear wall shear.

dq = q - v (this level) + v (upper level)

Table 6 - Drag forces (Factored loads)

Level = 1

		PANEL END #1		PANEL END #2	
PANEL ID	TYPE	WIND	SEISMIC	WIND	SEISMIC
		LB	LB	LB	LB
1	SHEAR WALL	0	0	0	0

Notes

1. Wind load, W = 0.6 x Load
2. Seismic load, E = 0.7 x 1.25 x Load. Apply requirements of ASCE 7-10 (SEC 12.3.3.4)