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MGENIDY@GPMENGINEERS.COM

STRUCTURAL CALCULATIONS

FOR

Residence

AT

3766 Eastwood Cr., Santa Clara, CA 95054



CODES: CBC 2019

DESIGN LOADS:

Roof Loads

	<u>SLOPED ROOF:</u>	Vaulted ceiling	Dropped Ceiling
	Roofing	6.0 psf	6.0 psf
	Sheathing	2.0 psf	2.0 psf
	Framing	2.5 psf	1.5 psf
	Insulat/Sprinkler	1.5 psf	
	Gypsum	2.5 psf	
	Sum	14.5 psf	9.5 psf
	Slope equal or less than	6	/12 max pitch
Dead Load		16.0 psf	11.0 psf
Roof Live Load		<u>20.0 psf</u>	<u>20.0 psf</u>

Floor Loads

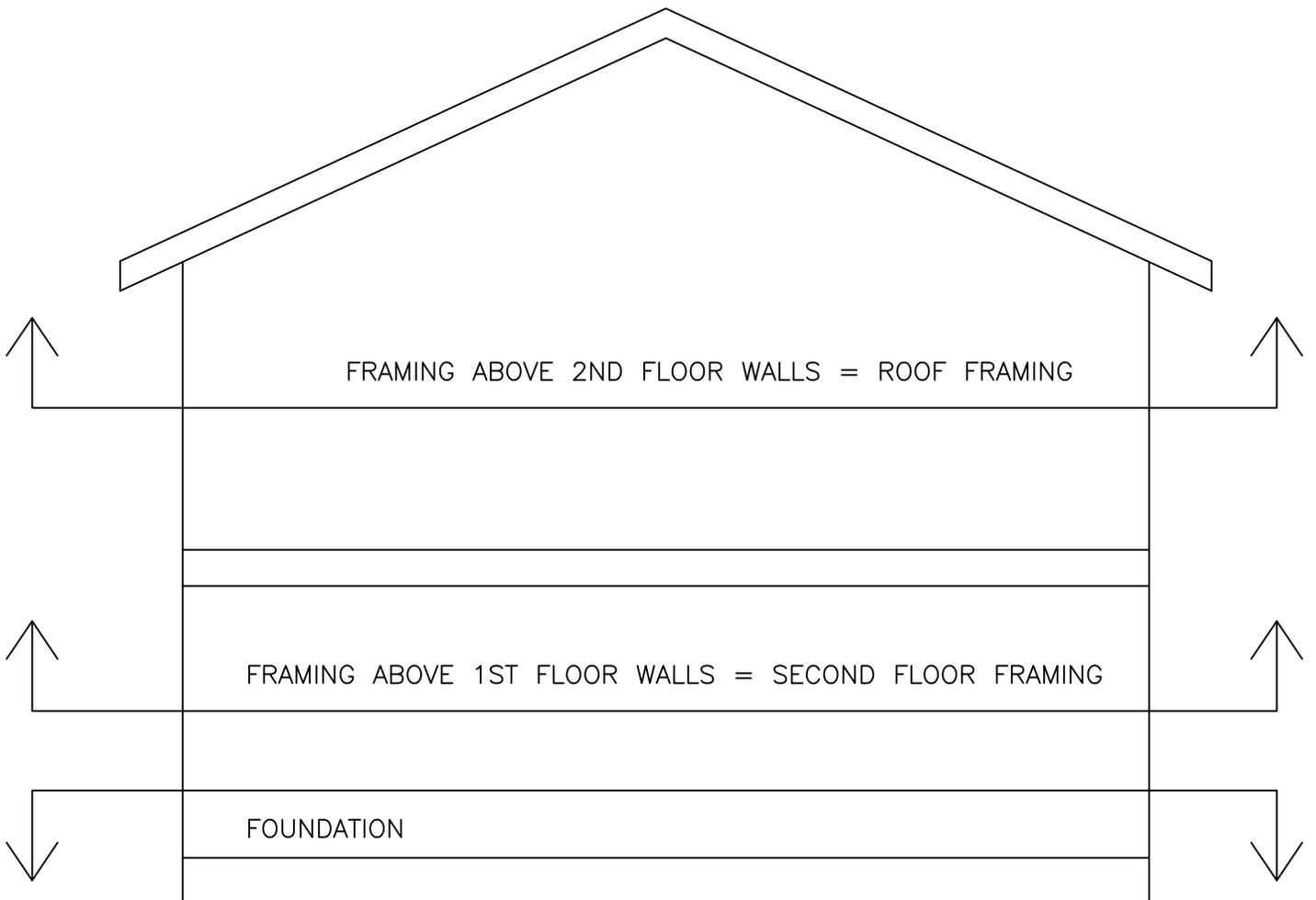
	Finish	4.0 psf
	3/4" Plyd @ 61#/4'x8'	2.6 psf
	Framing	3.2 psf
	Insulat/Sprinkler	1.5 psf
	Gypsum	2.7 psf
	1.5" Conc	n/a psf
Dead load		<u>14.0 psf</u>
Live load		40 psf

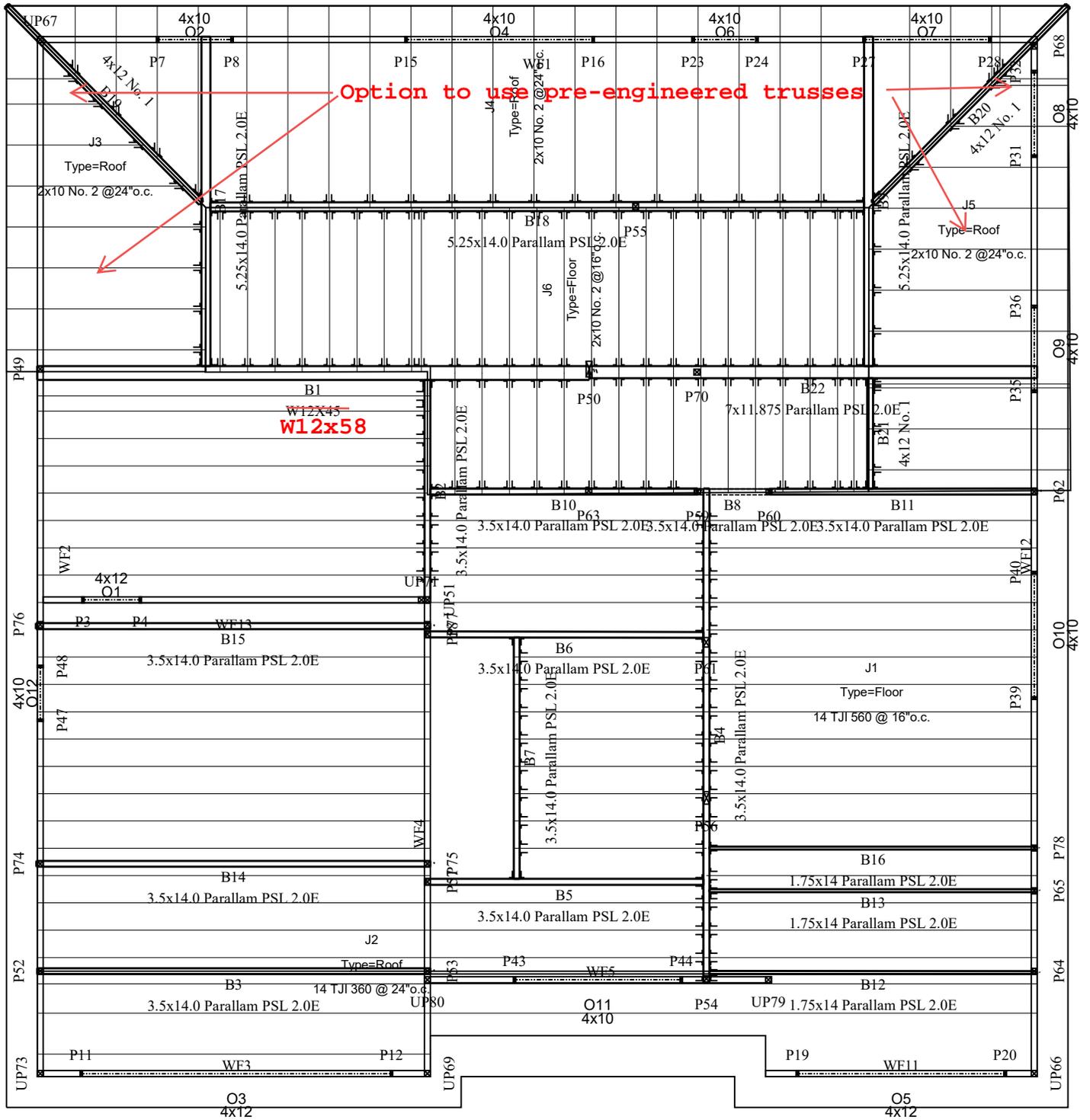
Exterior walls (stucco)	19 psf
Exterior walls (siding)	15 psf
Interior Walls	9 psf

LOAD ASSIGNMENT AND DISTRIBUTION IN COMPUTER MODEL:

- FLOOR UNIFORM LOADS ARE APPLIED TO JOISTS/RAFTERS
- REACTION OF JOISTS/RAFTERS ARE TRANSFERRED TO SUPPORTING BEAMS AND BEARING WALLS
- REACTION OF BEAMS ARE TRANSFERRED TO SUPPORTING GIRDERS, POSTS AND OTHER BEARING ELEMENTS
- REACTIONS ARE TRANSFERRED TO FLOOR BELOW TO FOUNDATION

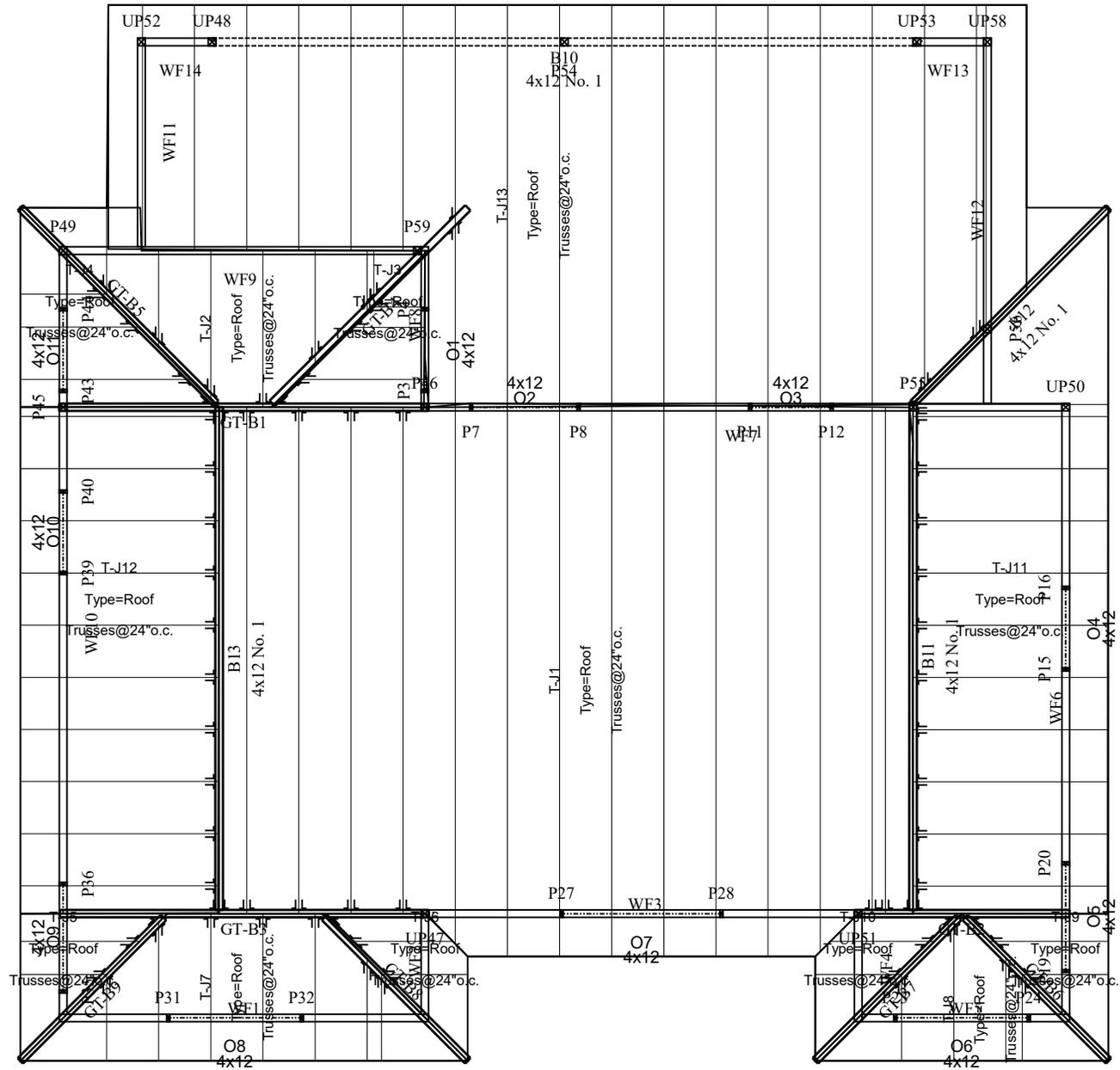
FRAMING MODEL – FLOOR DESIGNATION





PROJECT NAME:

FRAMING LAYOUT OF (2ND)

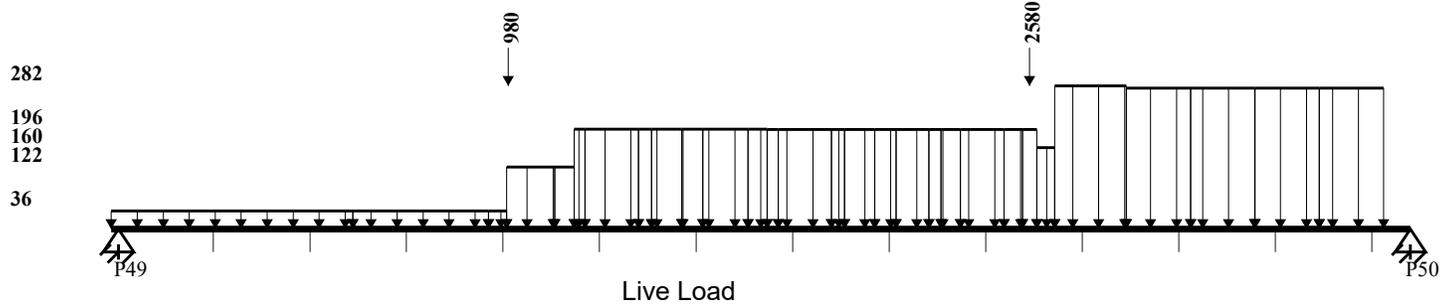
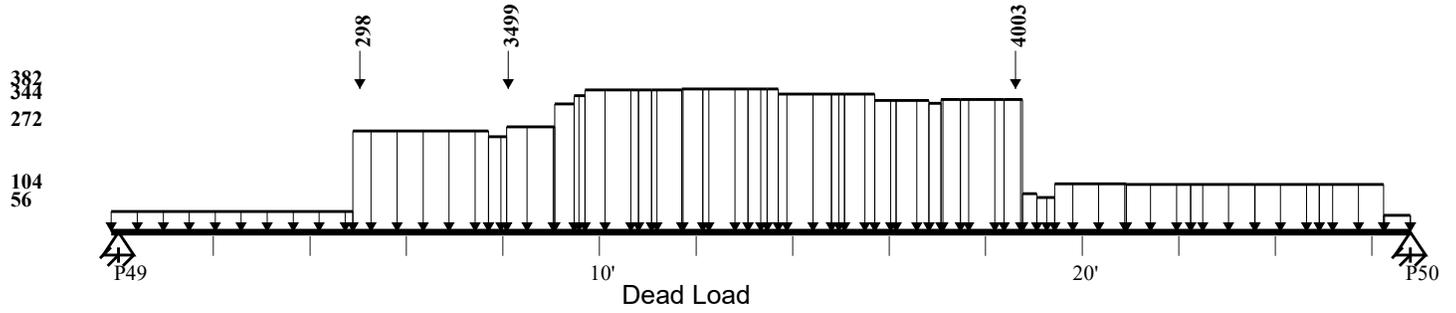


PROJECT NAME:

Company Name _____	DESIGNED _____	JOB NO 6 of 95
PROJECT _____	CHECKED _____	SHT _____ OF _____
SUBJECT _____	DATE _____	

BEAM LOAD REPORT

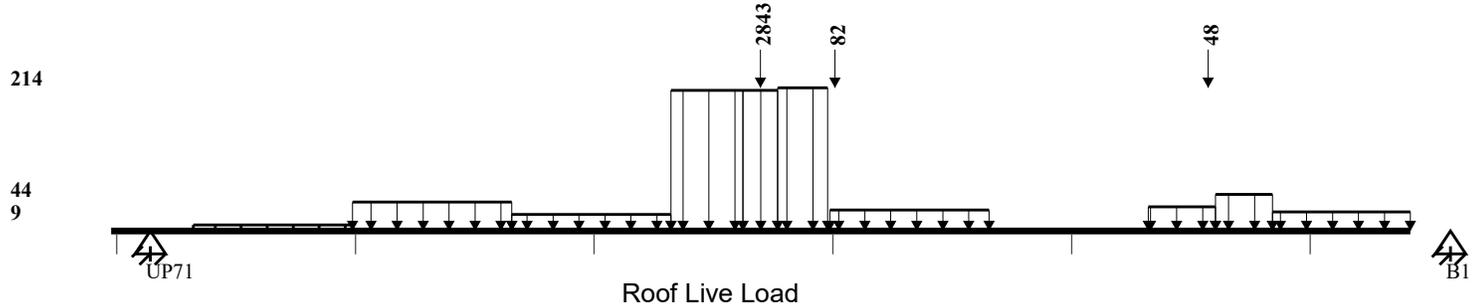
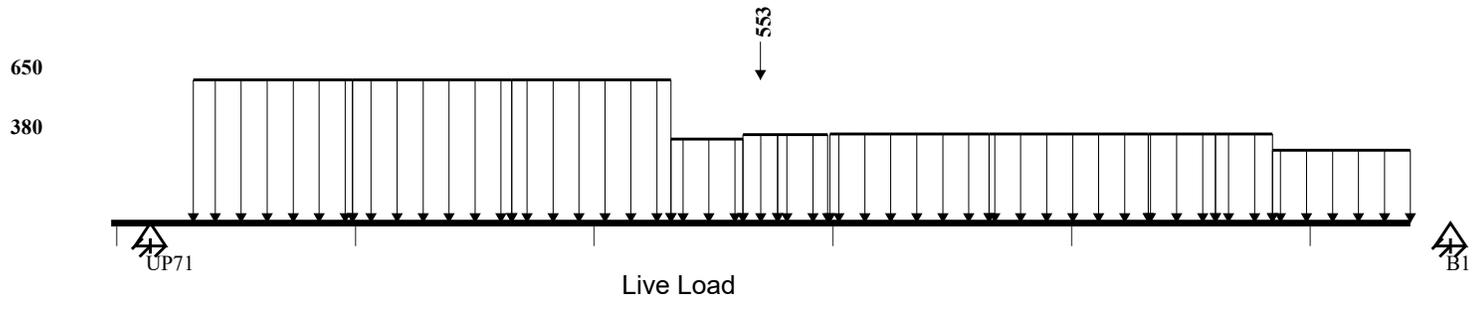
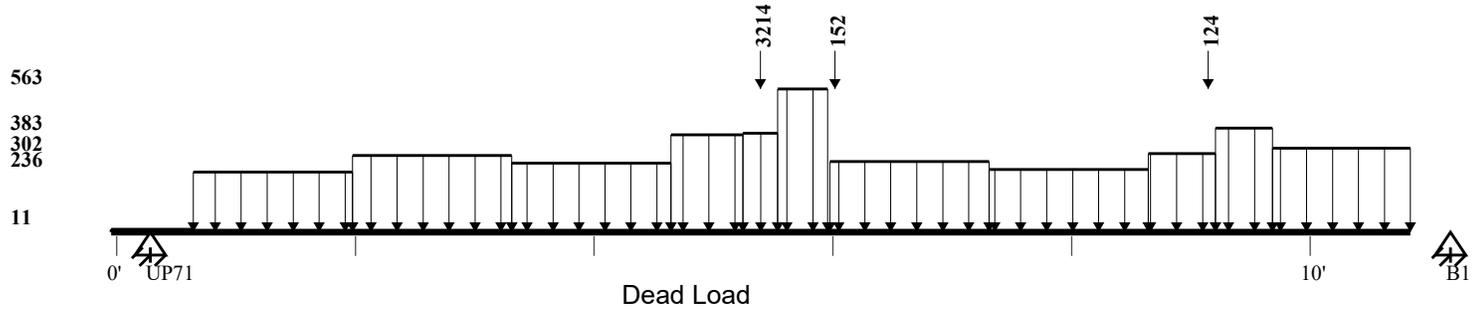
Beam ID : B1 Length : 26'-10" Floor: 1st



Company Name _____	DESIGNED _____	JOB NO 7 of 95
PROJECT _____	CHECKED _____	SHT _____ OF _____
SUBJECT _____	DATE _____	

BEAM LOAD REPORT

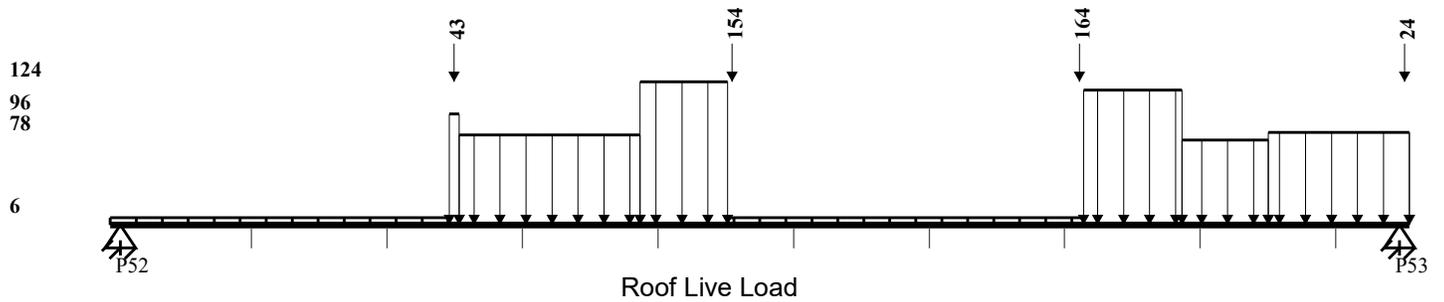
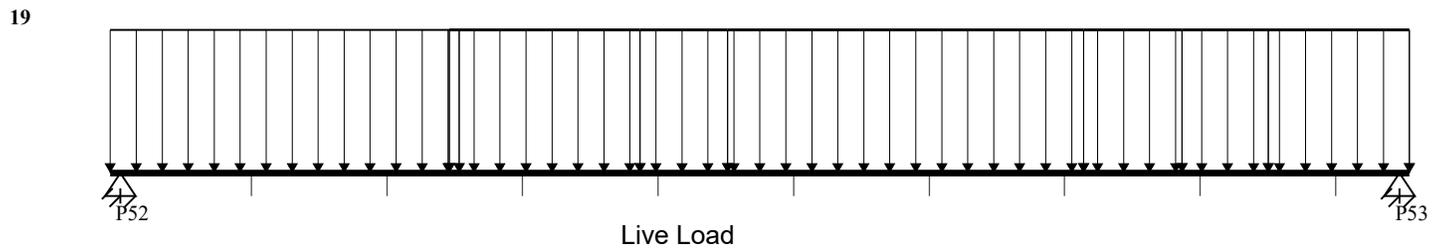
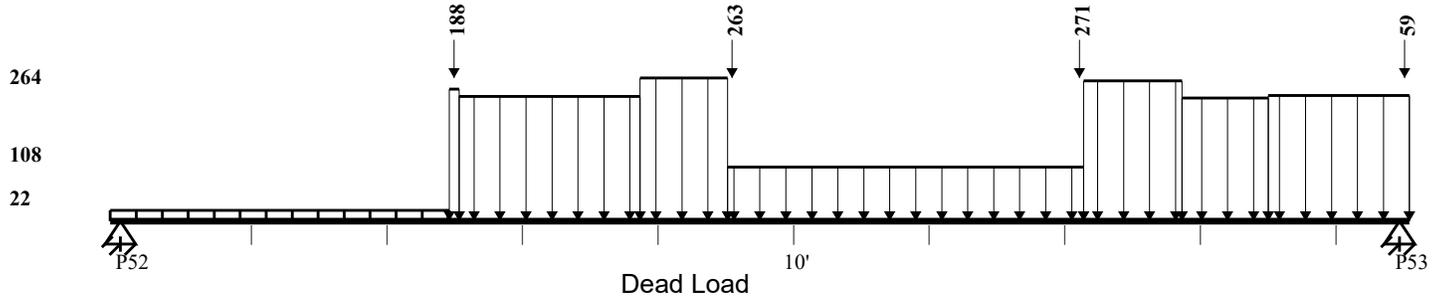
Beam ID : B2 Length : 10'-10" Floor: 1st



Company Name _____	DESIGNED _____	JOB NO 8 of 95
PROJECT _____	CHECKED _____	SHT _____ OF _____
SUBJECT _____	DATE _____	

BEAM LOAD REPORT

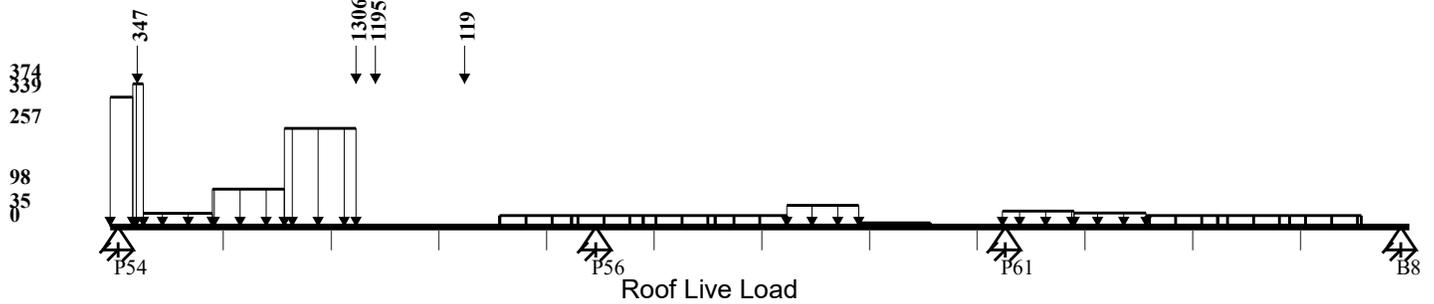
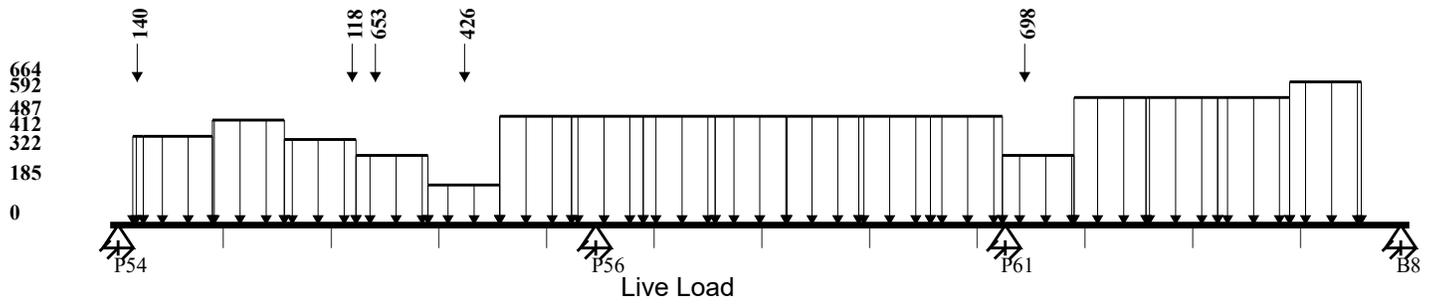
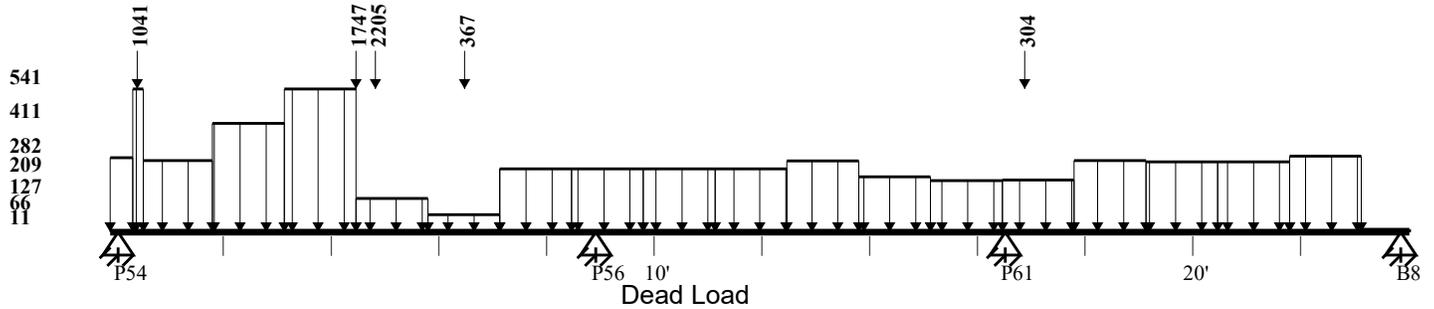
Beam ID : B3 Length : 19'-2" Floor: 1st



Company Name _____	DESIGNED _____	JOB NO 9 of 95
PROJECT _____	CHECKED _____	SHT _____ OF _____
SUBJECT _____	DATE _____	

BEAM LOAD REPORT

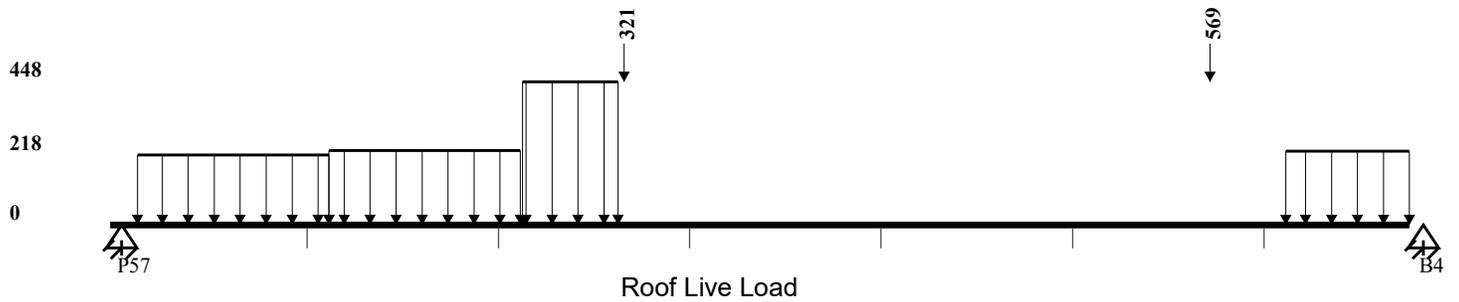
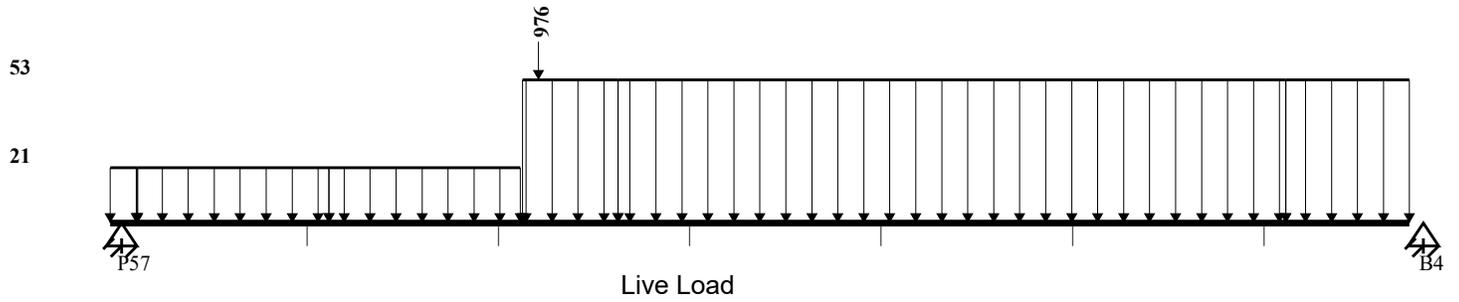
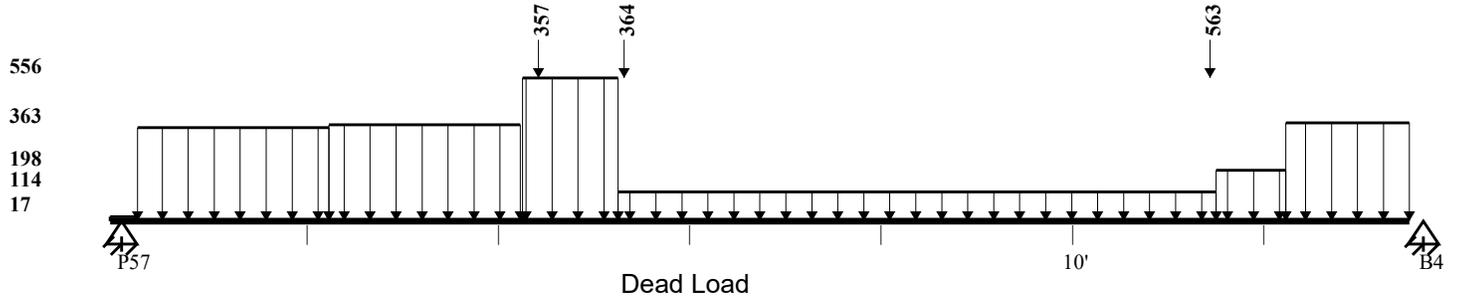
Beam ID : B4 Length :24'-1" Floor: 1st



Company Name _____	DESIGNED _____	JOB NO 10 of 95
PROJECT _____	CHECKED _____	SHT _____ OF _____
SUBJECT _____	DATE _____	

BEAM LOAD REPORT

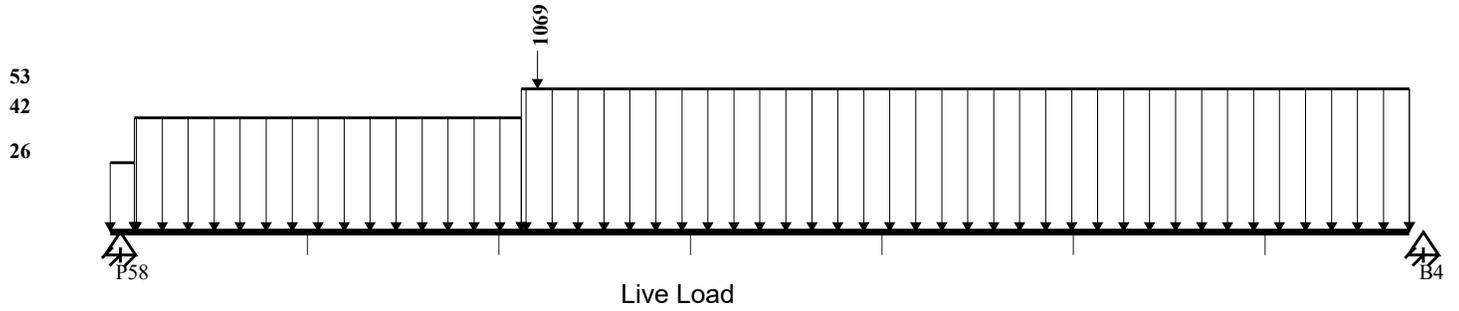
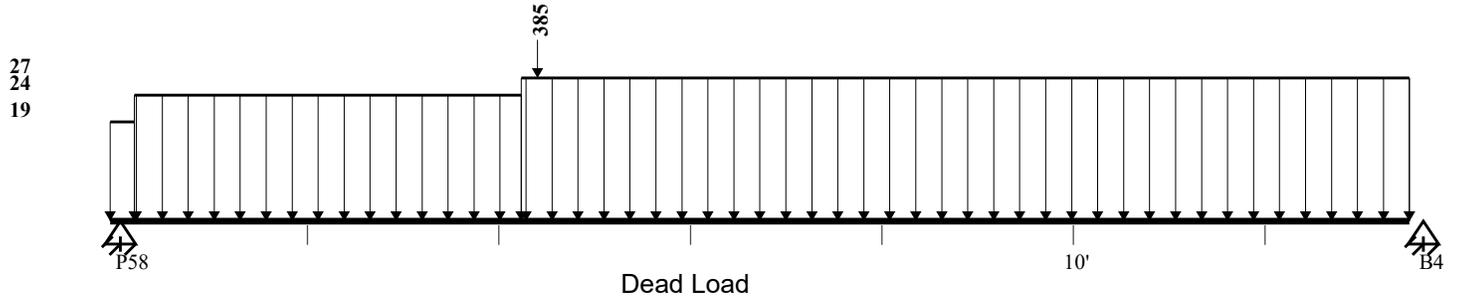
Beam ID : B5 Length : 13'-6" Floor: 1st



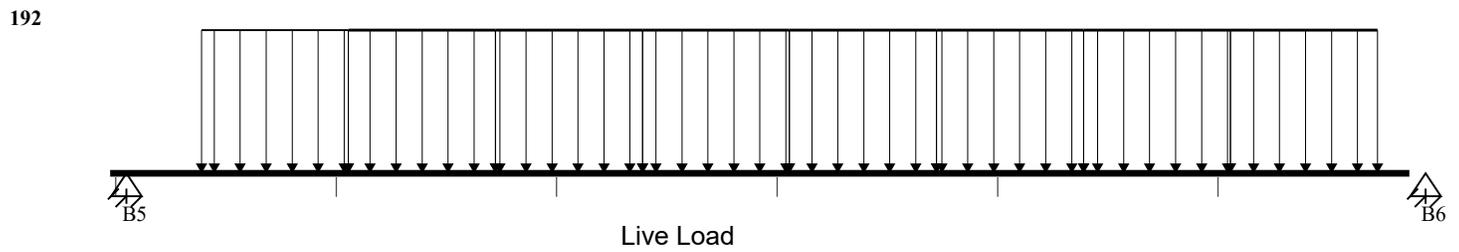
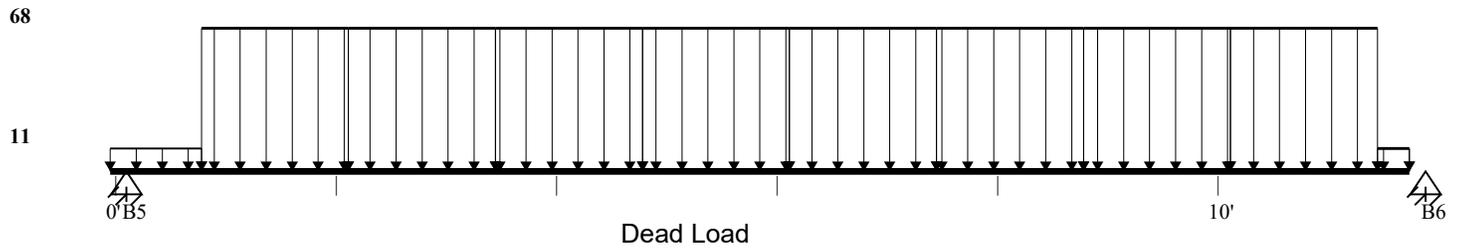
Company Name _____	DESIGNED _____	JOB NO 11 of 95
PROJECT _____	CHECKED _____	SHT _____ OF _____
SUBJECT _____	DATE _____	

BEAM LOAD REPORT

Beam ID : B6 Length : 13'-6" Floor: 1st



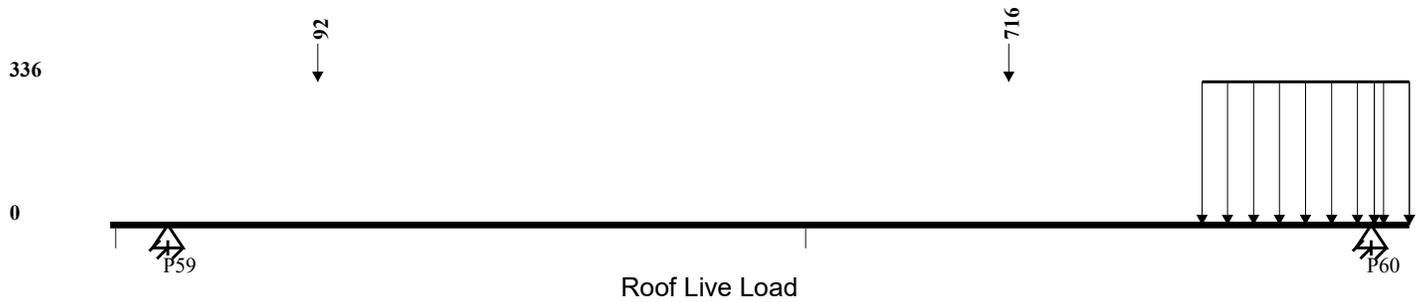
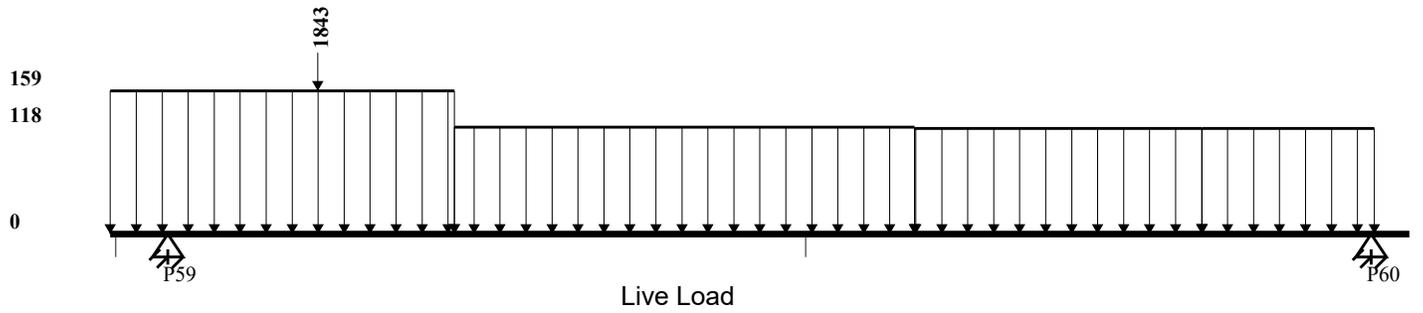
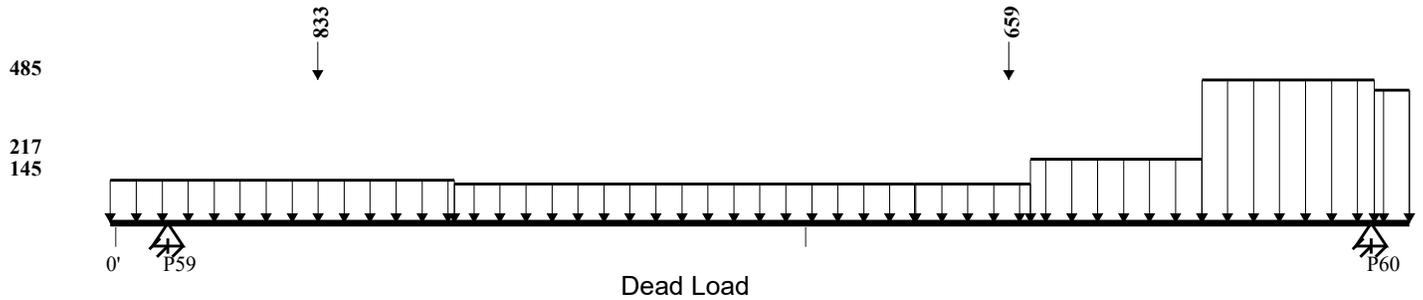
Beam ID : B7 Length : 11'-9" Floor: 1st



Company Name _____	DESIGNED _____	JOB NO 12 of 95
PROJECT _____	CHECKED _____	SHT _____ OF _____
SUBJECT _____	DATE _____	

BEAM LOAD REPORT

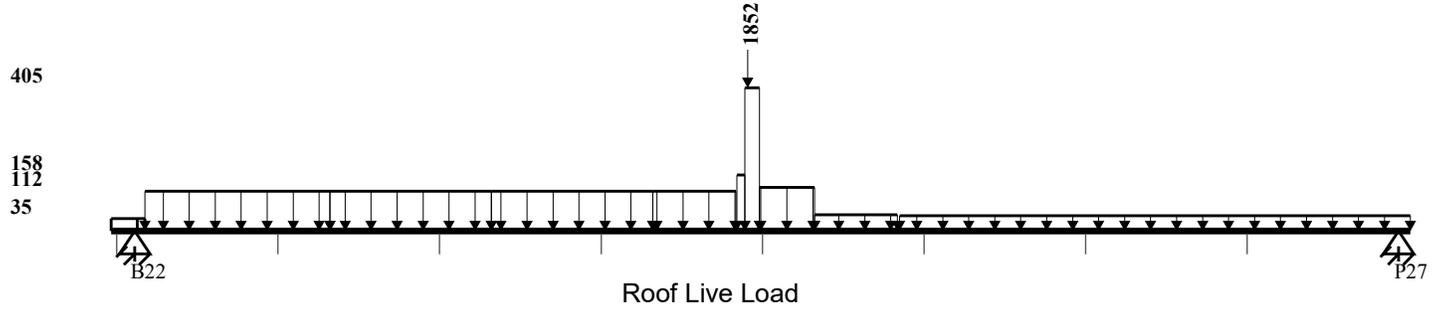
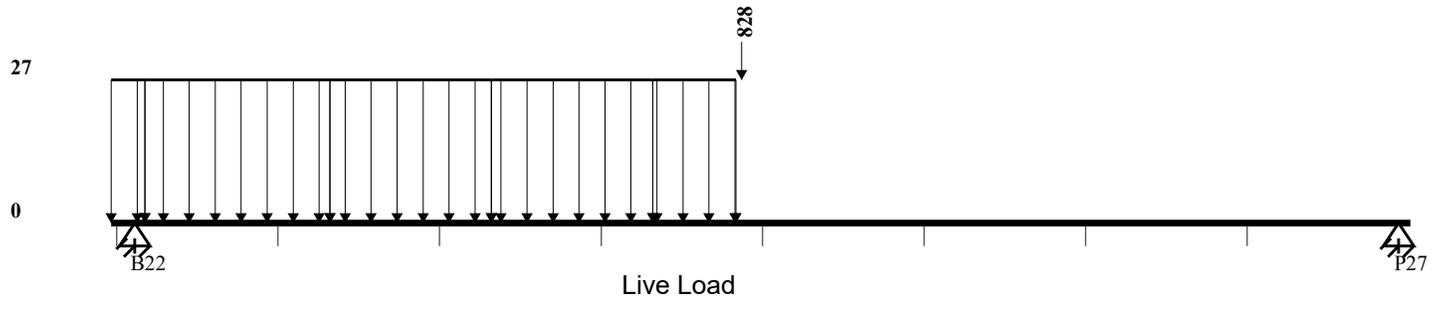
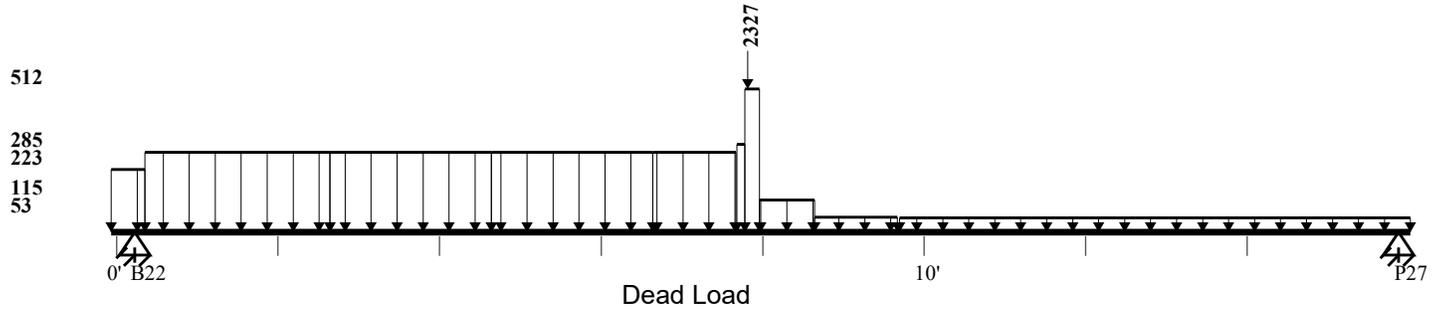
Beam ID : B8 Length : 3'-9" Floor: 1st



Company Name _____	DESIGNED _____	JOB NO 13 of 95
PROJECT _____	CHECKED _____	SHT _____ OF _____
SUBJECT _____	DATE _____	

BEAM LOAD REPORT

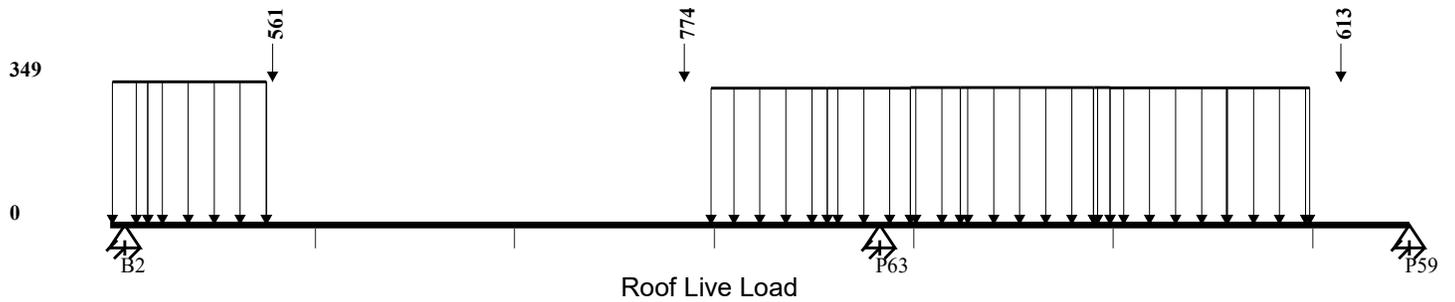
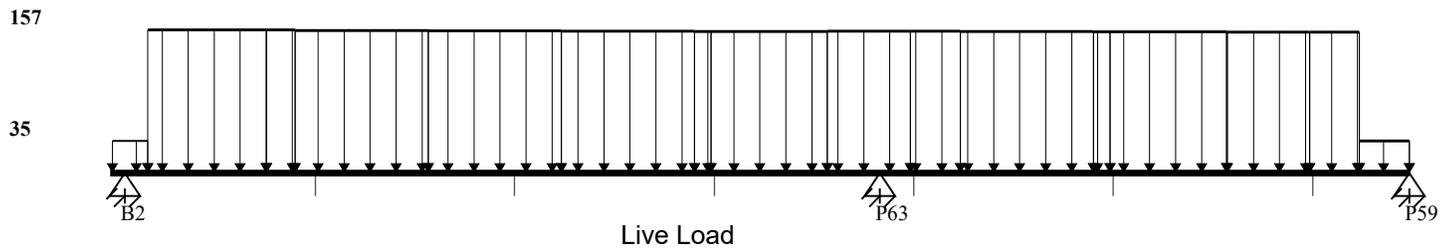
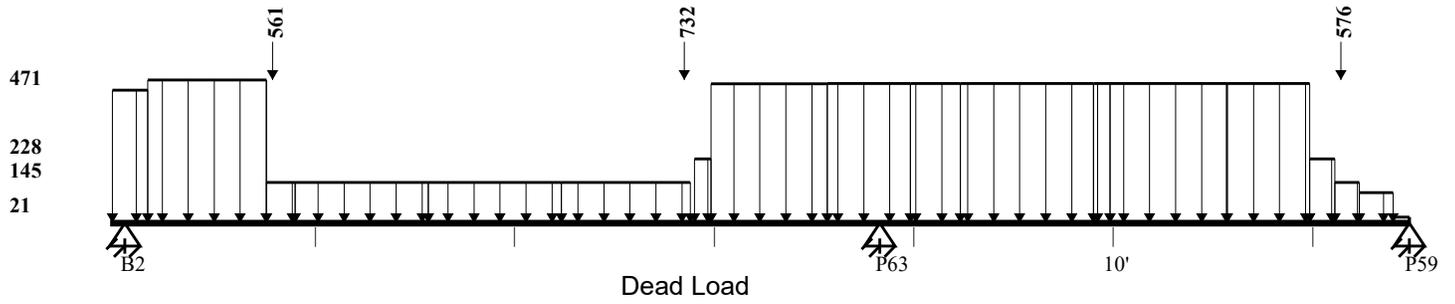
Beam ID : B9 Length : 16'-1" Floor: 1st



Company Name _____	DESIGNED _____	JOB NO 14 of 95
PROJECT _____	CHECKED _____	SHT _____ OF _____
SUBJECT _____	DATE _____	

BEAM LOAD REPORT

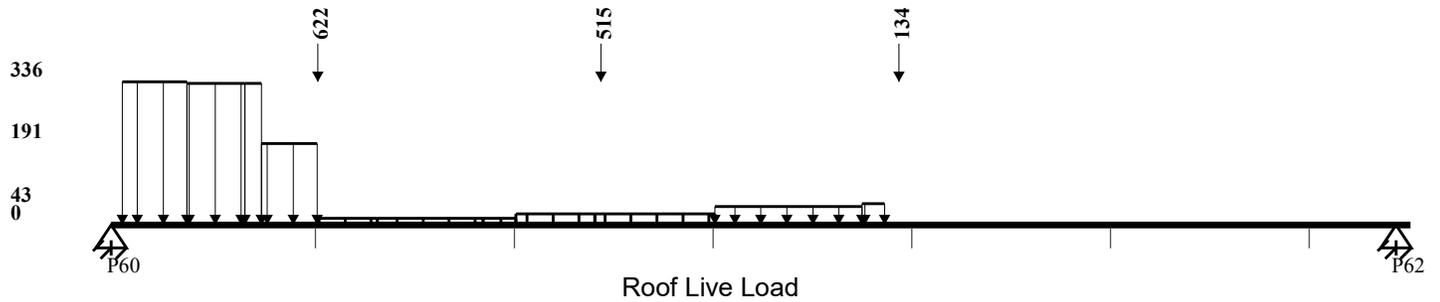
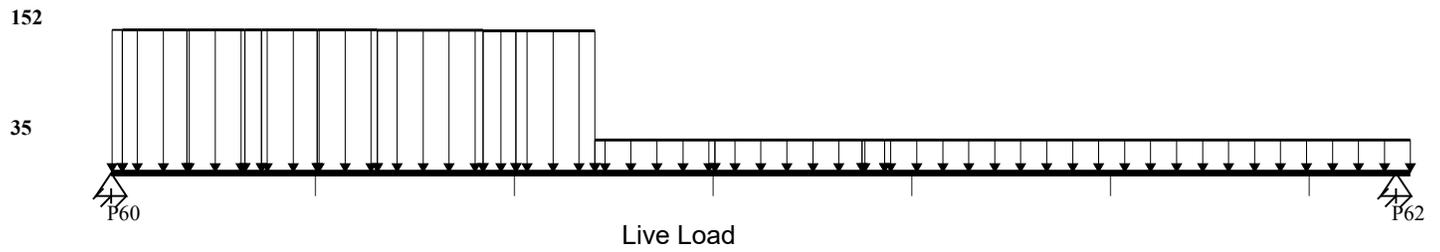
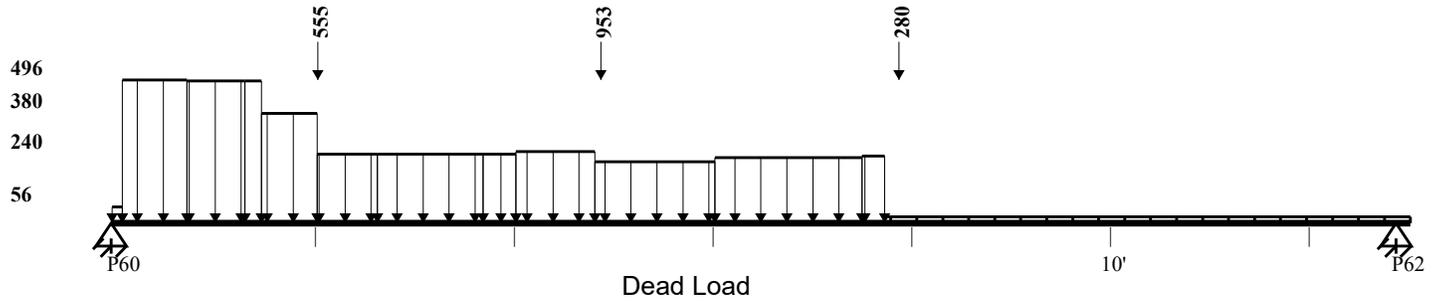
Beam ID : B10 Length : 13'-0" Floor: 1st



Company Name _____	DESIGNED _____	JOB NO 15 of 95
PROJECT _____	CHECKED _____	SHT _____ OF _____
SUBJECT _____	DATE _____	

BEAM LOAD REPORT

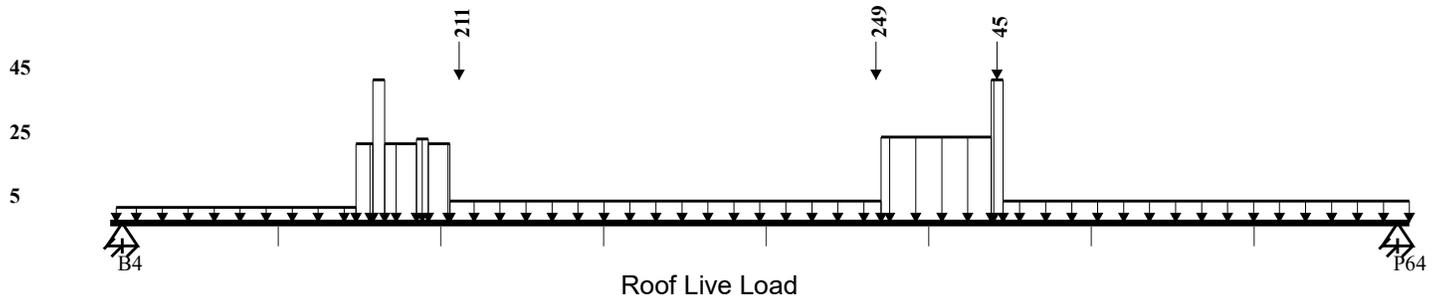
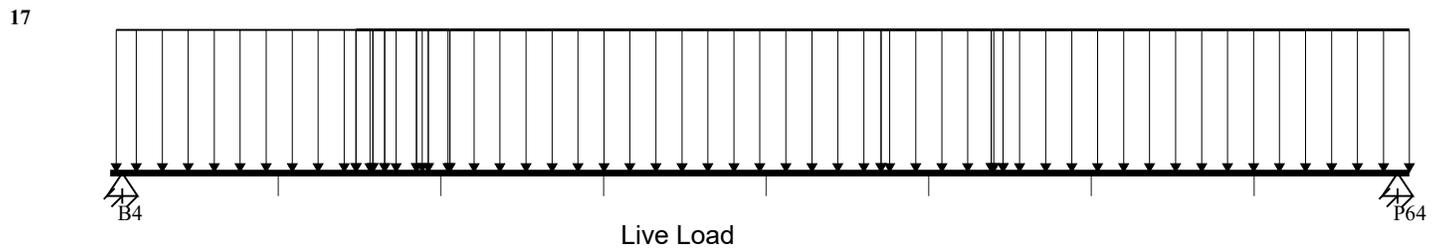
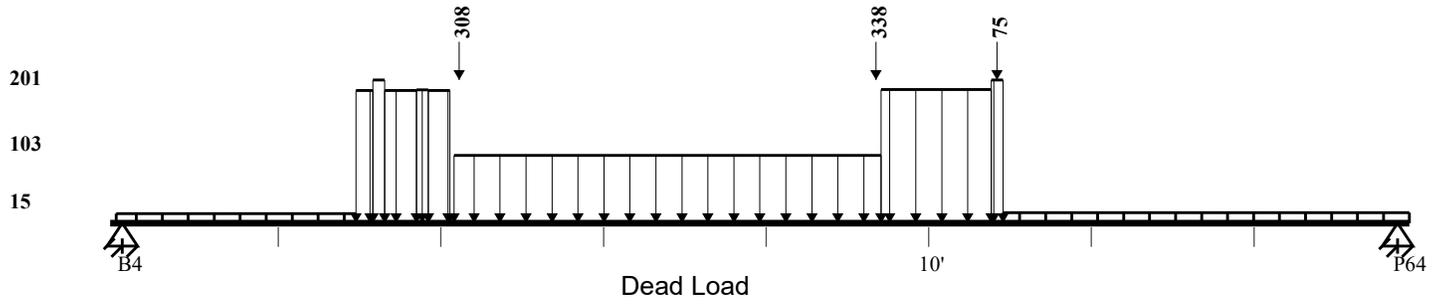
Beam ID : B11 Length : 13'-0" Floor: 1st



Company Name _____	DESIGNED _____	JOB NO 16 of 95
PROJECT _____	CHECKED _____	SHT _____ OF _____
SUBJECT _____	DATE _____	

BEAM LOAD REPORT

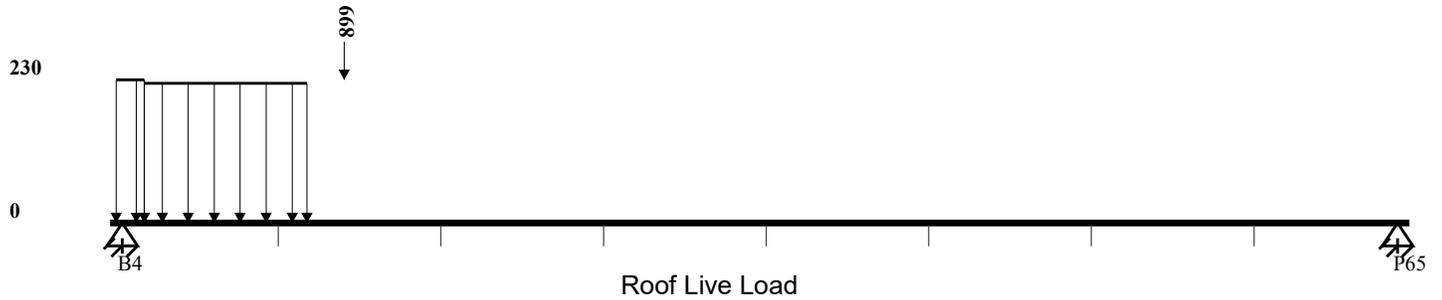
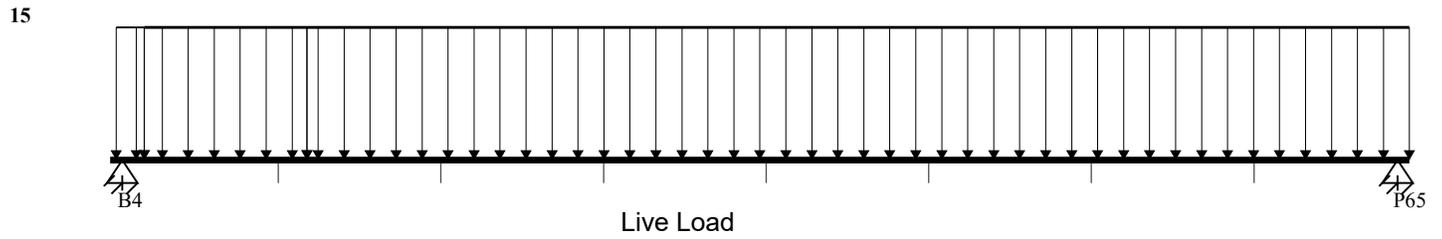
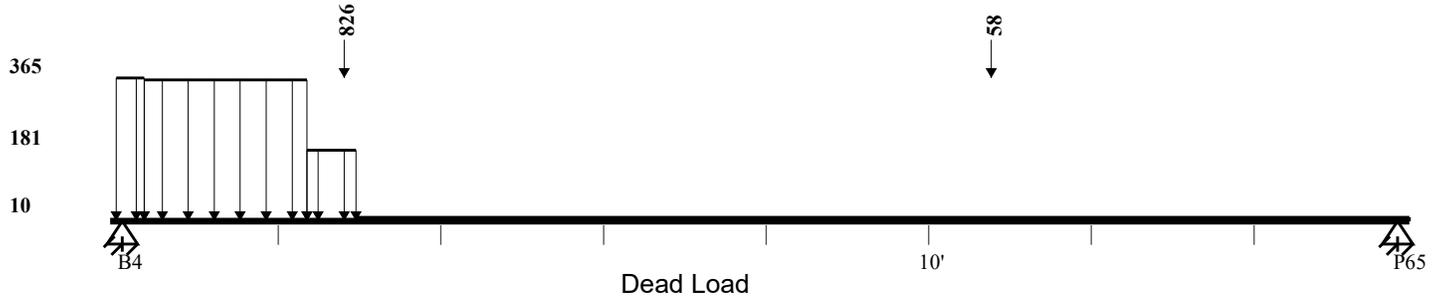
Beam ID : B12 Length : 15'-11" Floor: 1st



Company Name _____	DESIGNED _____	JOB NO 17 of 95
PROJECT _____	CHECKED _____	SHT _____ OF _____
SUBJECT _____	DATE _____	

BEAM LOAD REPORT

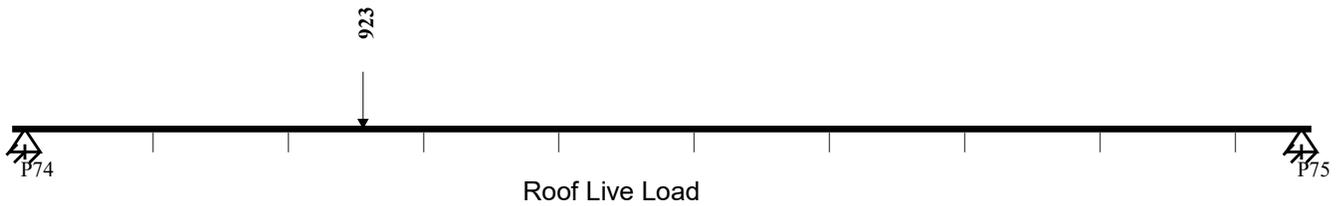
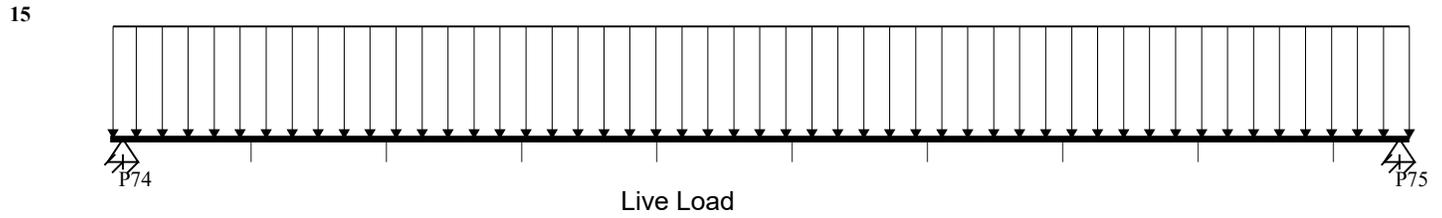
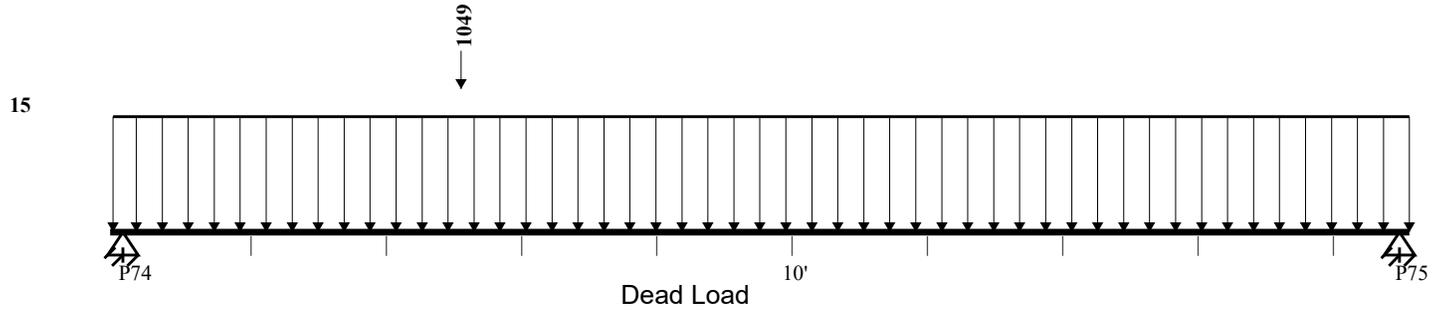
Beam ID : B13 Length : 15'-11" Floor: 1st



Company Name _____	DESIGNED _____	JOB NO 18 of 95
PROJECT _____	CHECKED _____	SHT _____ OF _____
SUBJECT _____	DATE _____	

BEAM LOAD REPORT

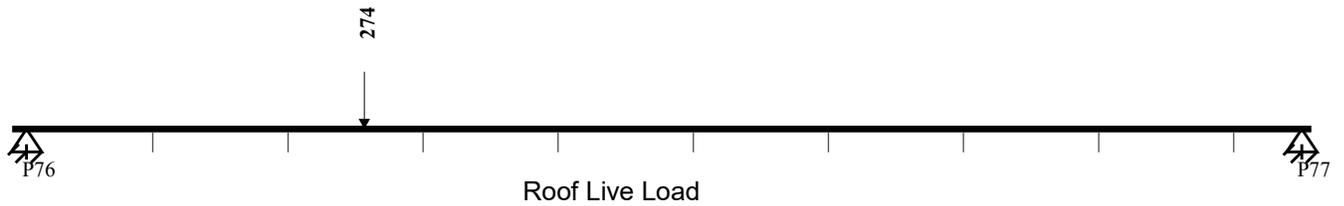
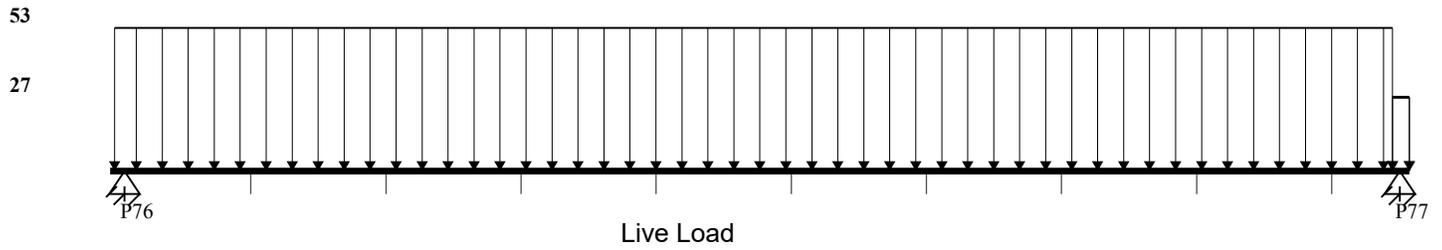
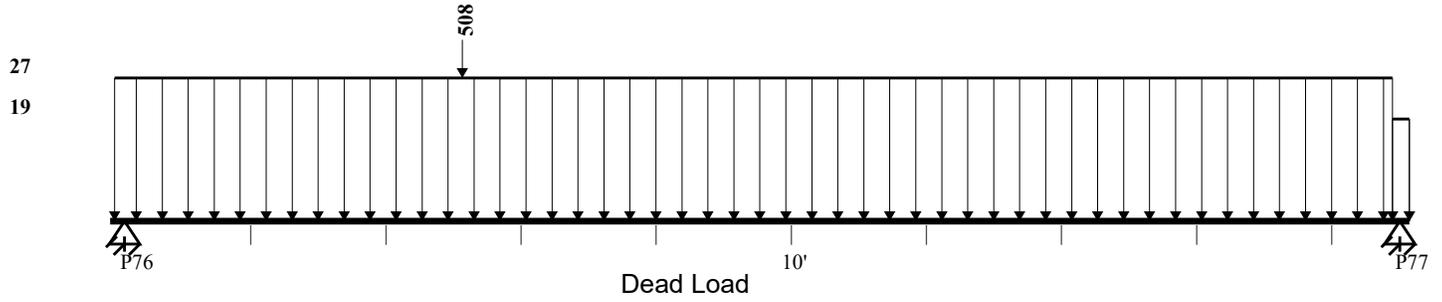
Beam ID : B14 Length : 19'-2" Floor: 1st



Company Name _____	DESIGNED _____	JOB NO 19 of 95
PROJECT _____	CHECKED _____	SHT _____ OF _____
SUBJECT _____	DATE _____	

BEAM LOAD REPORT

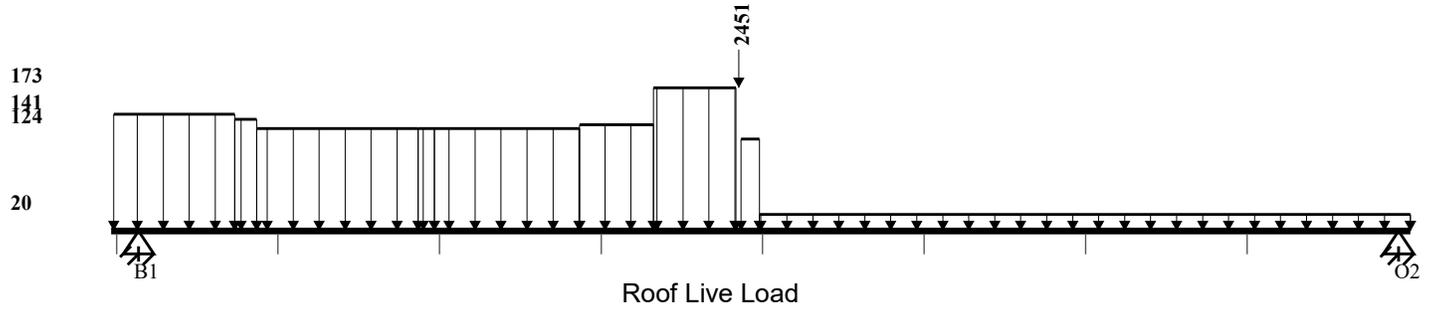
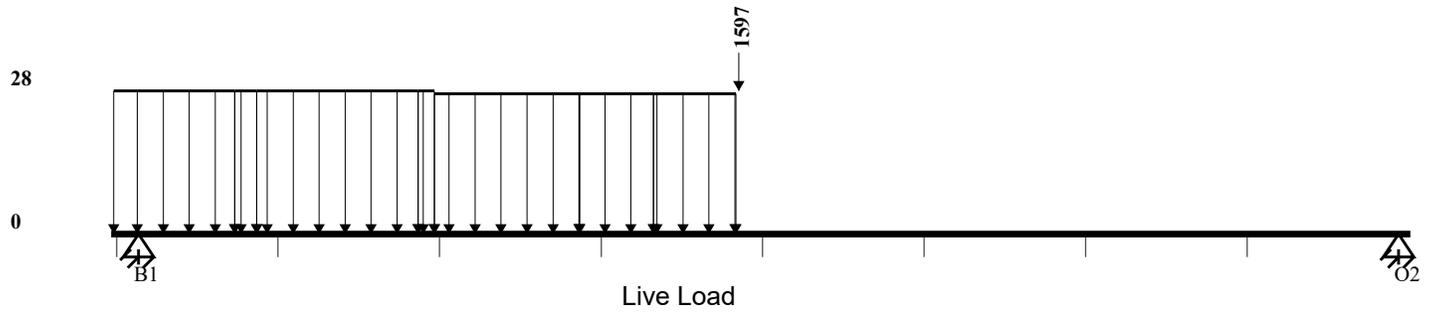
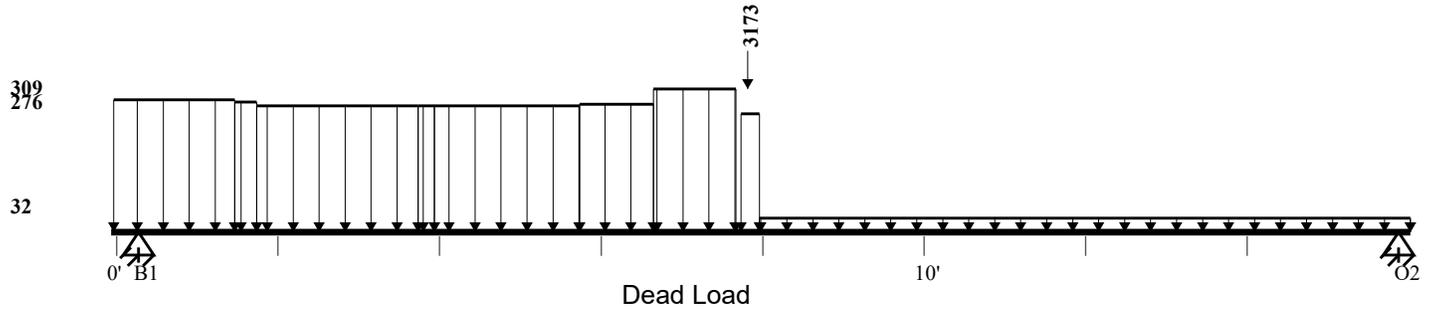
Beam ID : B15 Length : 19'-2" Floor: 1st



Company Name _____	DESIGNED _____	JOB NO 20 of 95
PROJECT _____	CHECKED _____	SHT _____ OF _____
SUBJECT _____	DATE _____	

BEAM LOAD REPORT

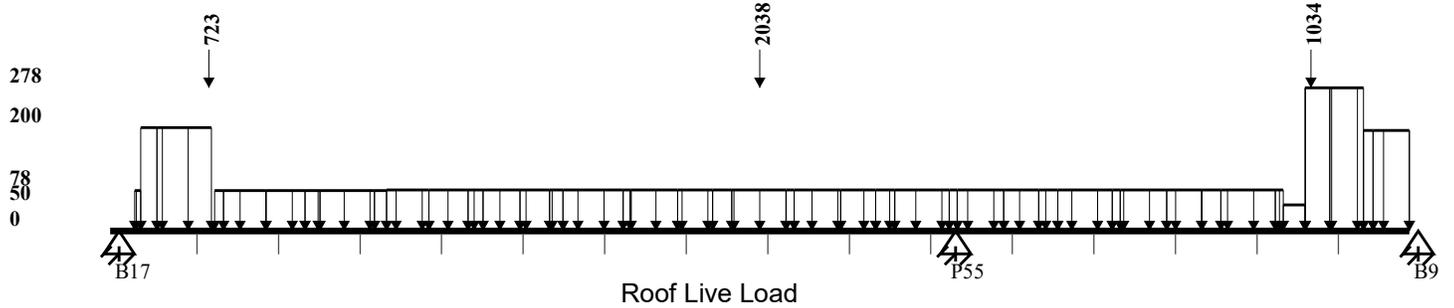
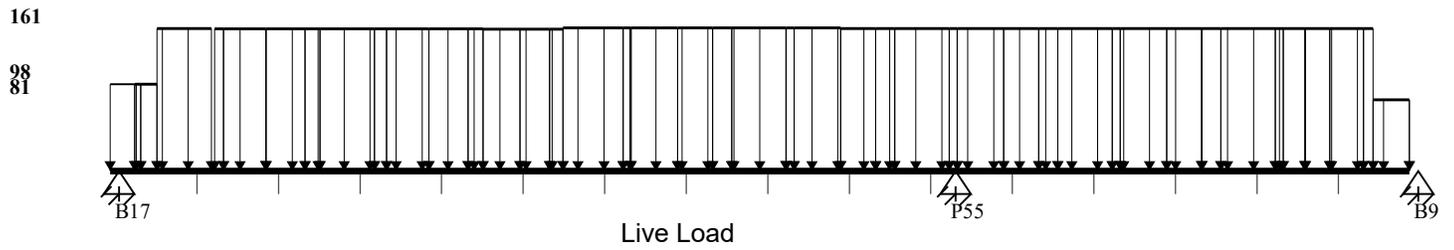
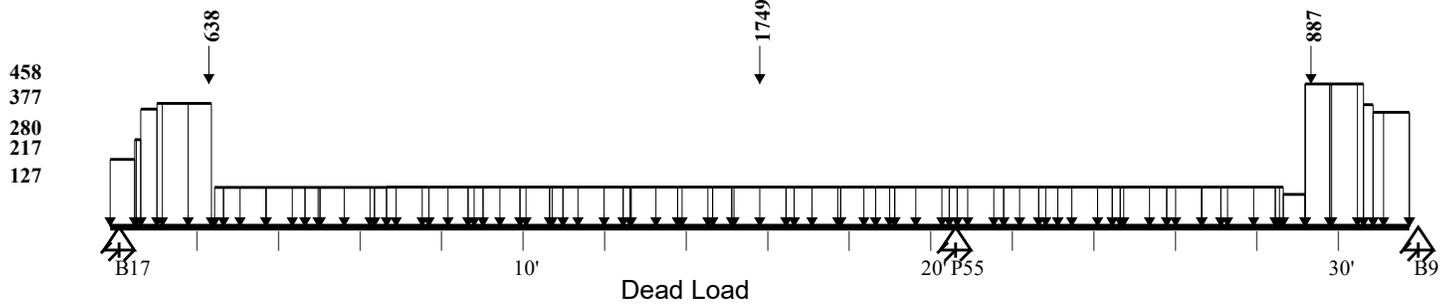
Beam ID : B17 Length :16'-1" Floor: 1st



Company Name _____	DESIGNED _____	JOB NO 21 of 95
PROJECT _____	CHECKED _____	SHT _____ OF _____
SUBJECT _____	DATE _____	

BEAM LOAD REPORT

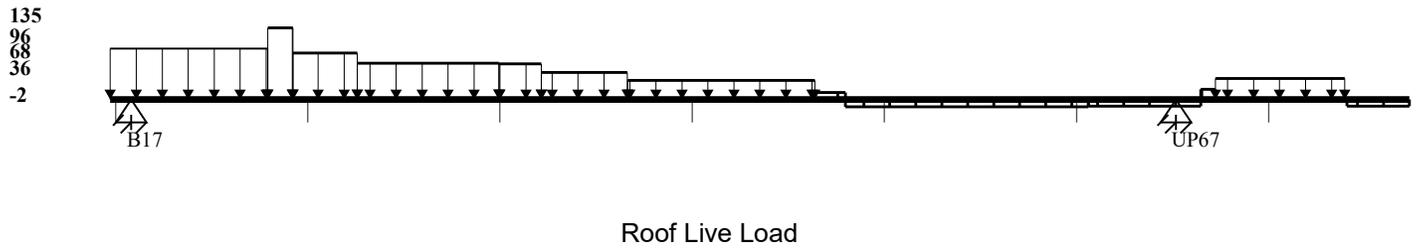
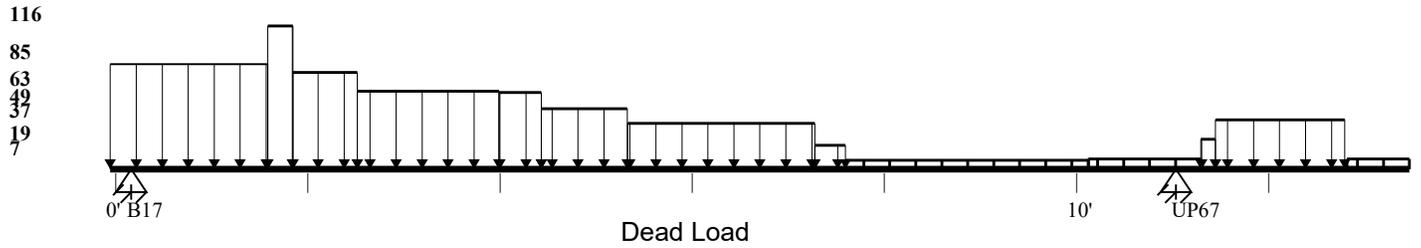
Beam ID : B18 Length :31'-10" Floor: 1st



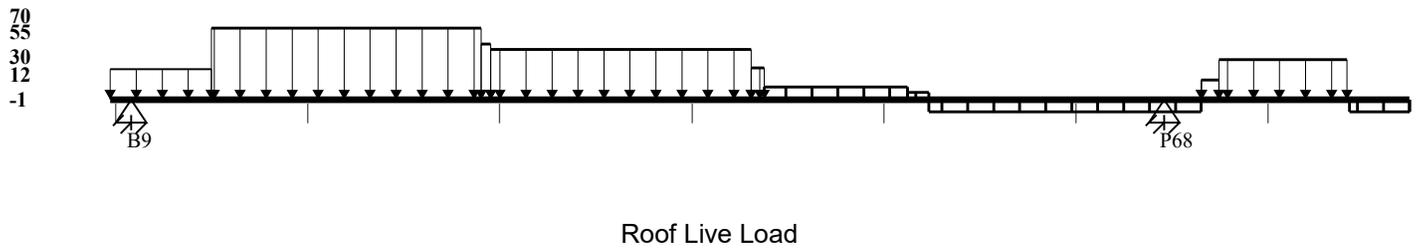
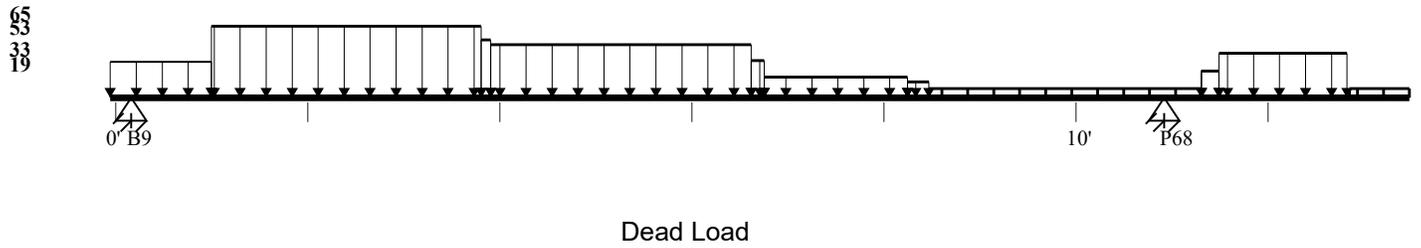
Company Name _____	DESIGNED _____	JOB NO 22 of 95
PROJECT _____	CHECKED _____	SHT _____ OF _____
SUBJECT _____	DATE _____	

BEAM LOAD REPORT

Beam ID : B19 Length :13'-6" Floor: 1st



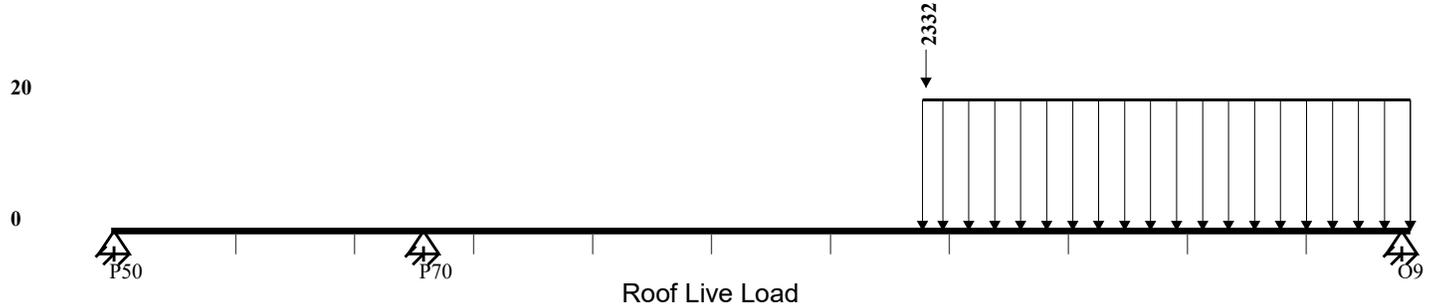
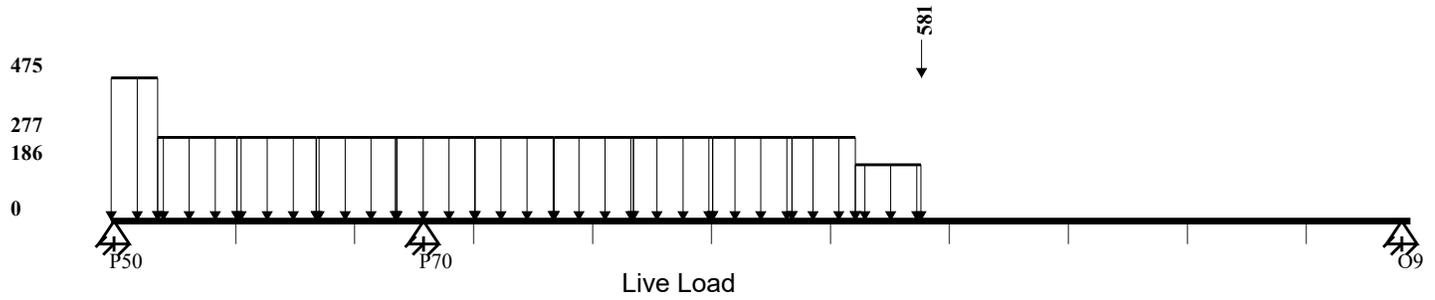
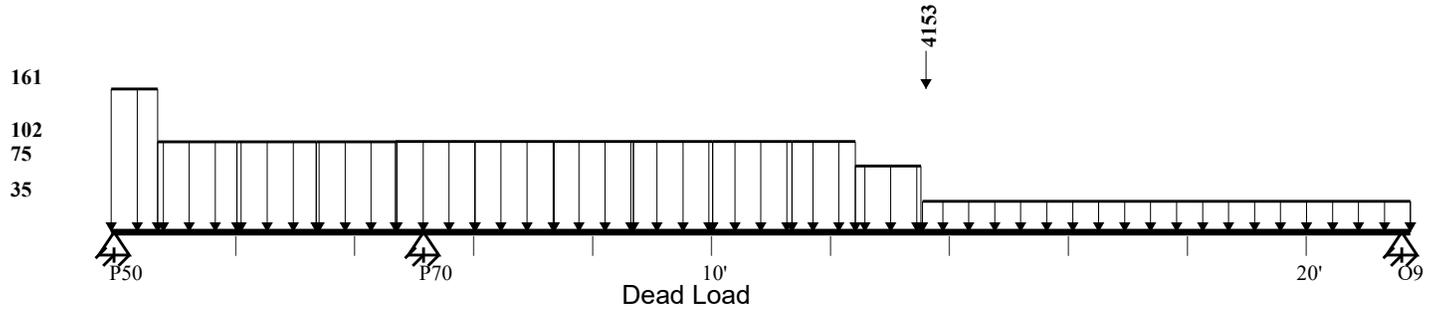
Beam ID : B20 Length :13'-6" Floor: 1st



Company Name _____	DESIGNED _____	JOB NO 23 of 95
PROJECT _____	CHECKED _____	SHT _____ OF _____
SUBJECT _____	DATE _____	

BEAM LOAD REPORT

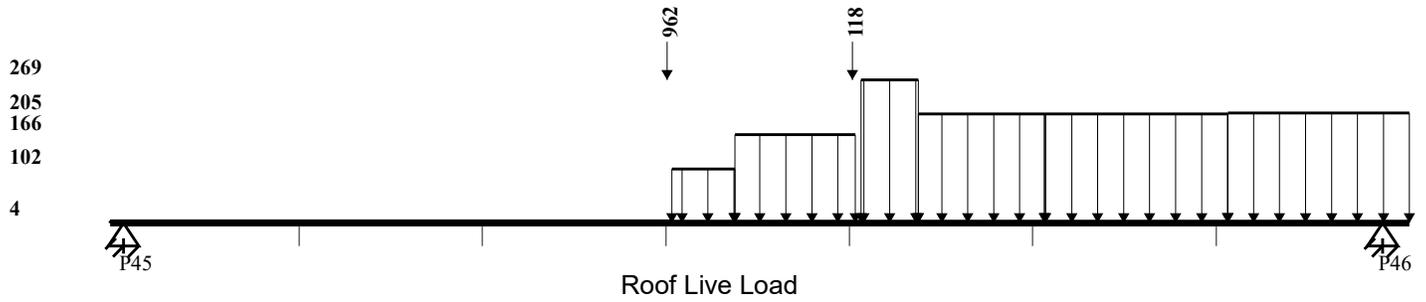
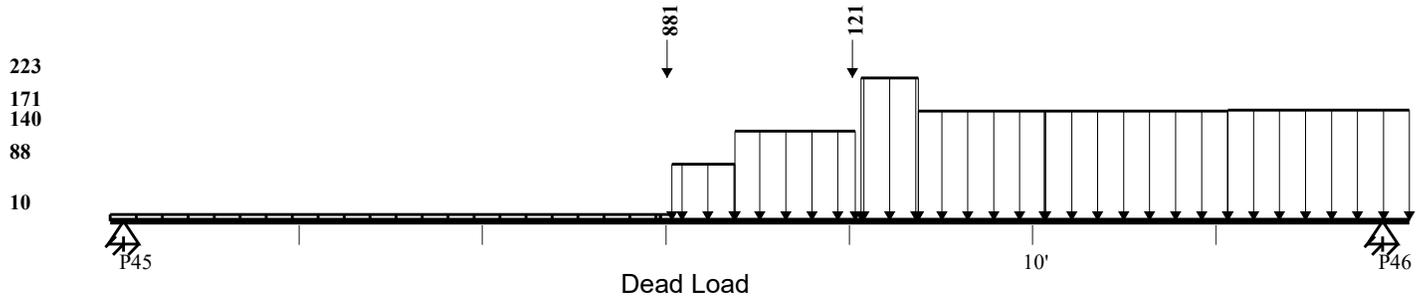
Beam ID : B22 Length : 21'-10" Floor: 1st



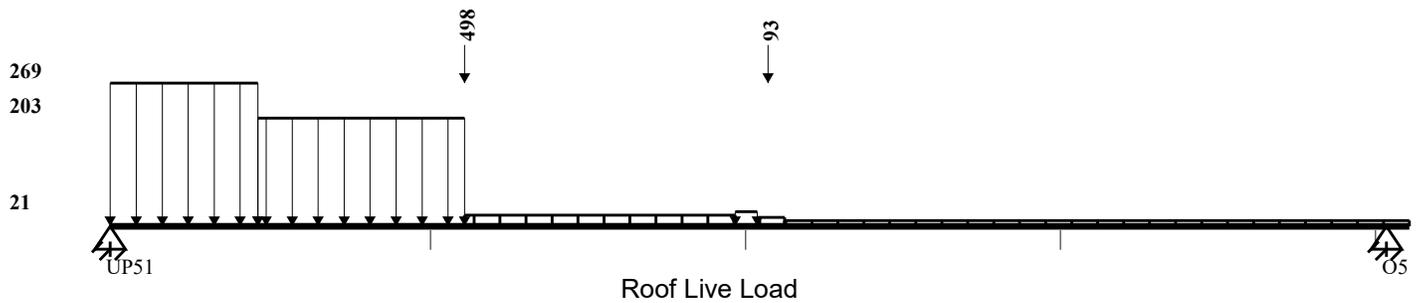
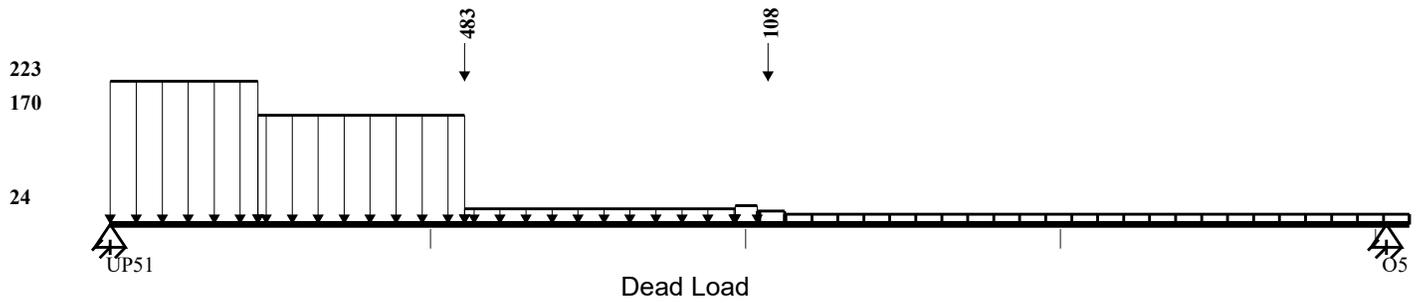
Company Name _____	DESIGNED _____	JOB NO 24 of 95
PROJECT _____	CHECKED _____	SHT _____ OF _____
SUBJECT _____	DATE _____	

BEAM LOAD REPORT

Beam ID : GT-B1 Length : 14'-2" Floor: 2nd



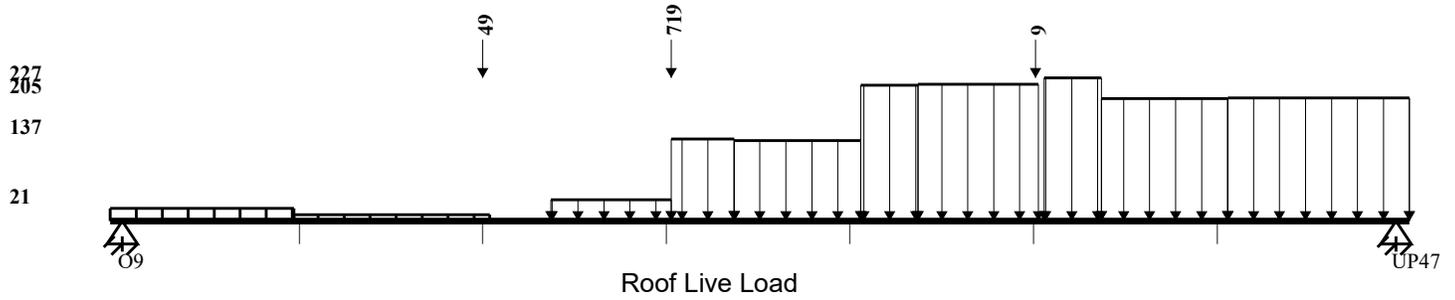
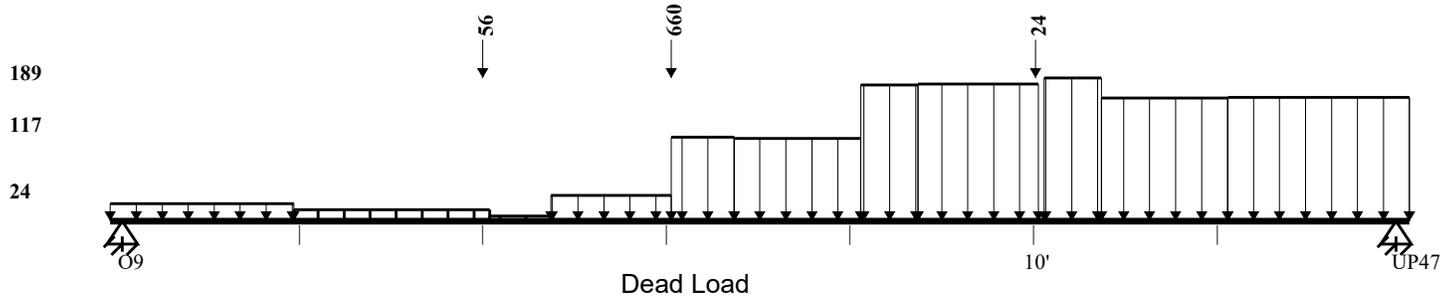
Beam ID : GT-B2 Length : 8'-3" Floor: 2nd



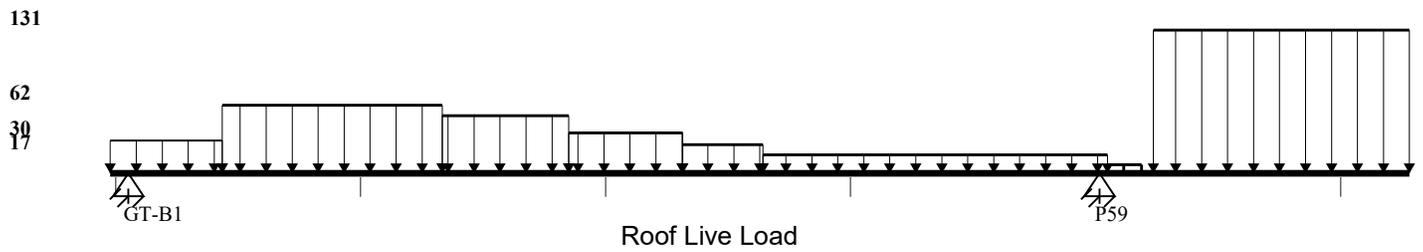
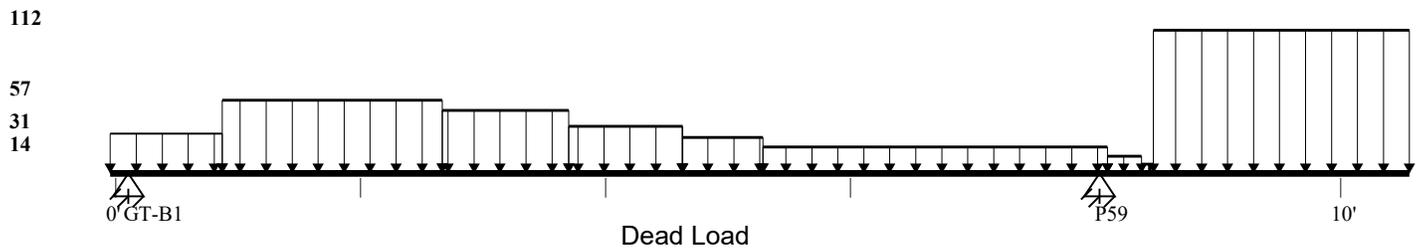
Company Name _____	DESIGNED _____	JOB NO 25 of 95
PROJECT _____	CHECKED _____	SHT _____ OF _____
SUBJECT _____	DATE _____	

BEAM LOAD REPORT

Beam ID : GT-B3 Length :14'-1" Floor: 2nd



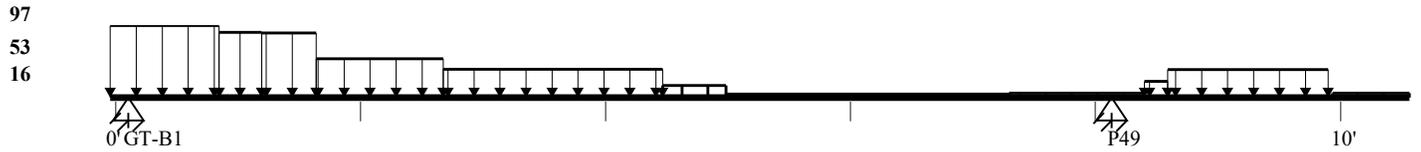
Beam ID : GT-B4 Length :10'-7" Floor: 2nd



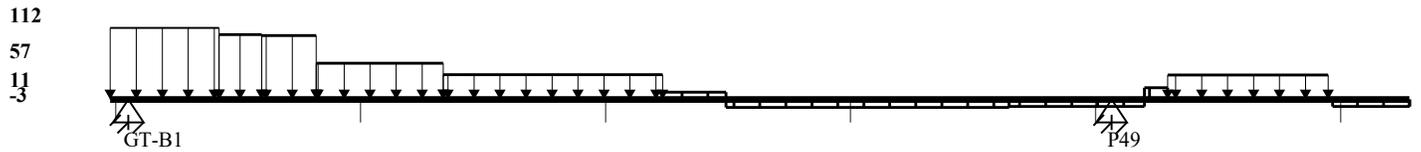
Company Name _____	DESIGNED _____	JOB NO 26 of 95
PROJECT _____	CHECKED _____	SHT _____ OF _____
SUBJECT _____	DATE _____	

BEAM LOAD REPORT

Beam ID : GT-B5 Length : 10'-7" Floor: 2nd

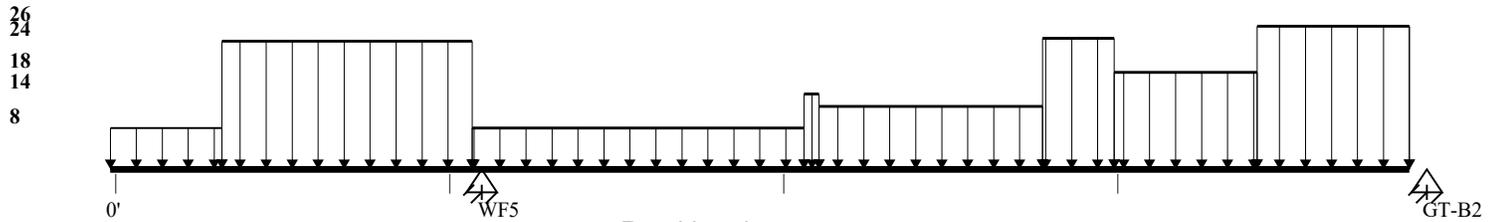


Dead Load

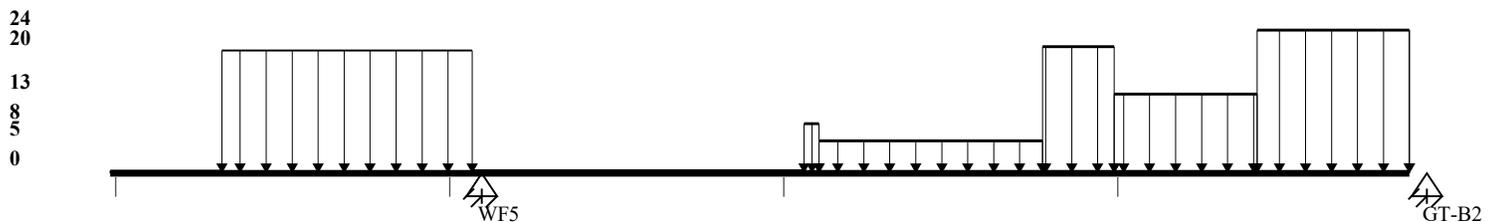


Roof Live Load

Beam ID : GT-B6 Length : 7'-9" Floor: 2nd



Dead Load

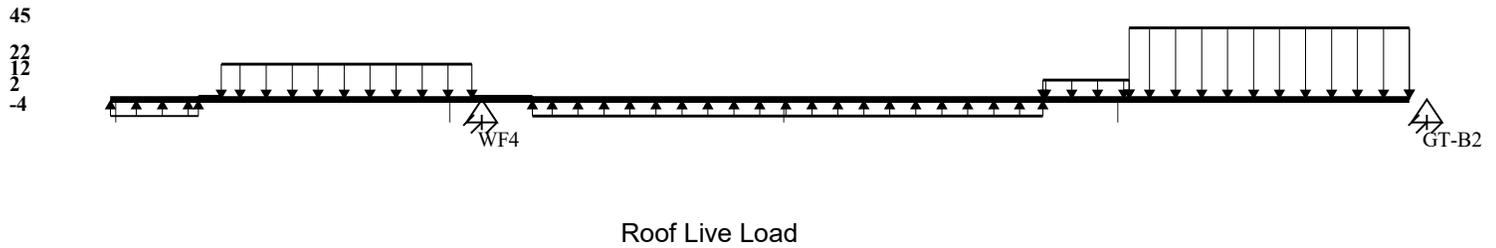
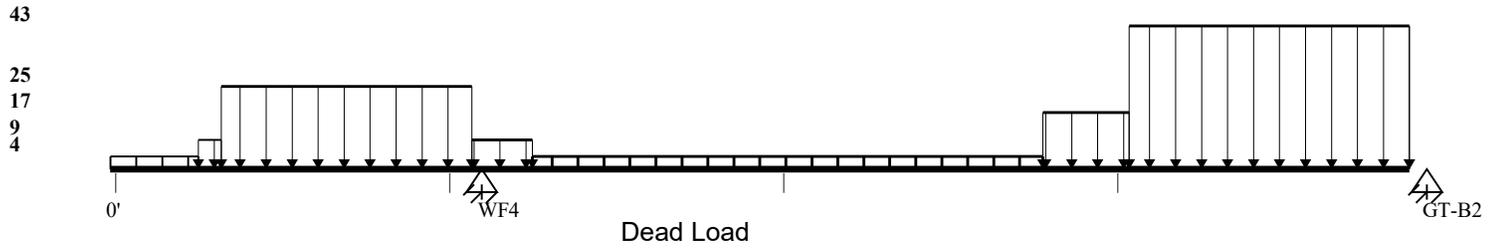


Roof Live Load

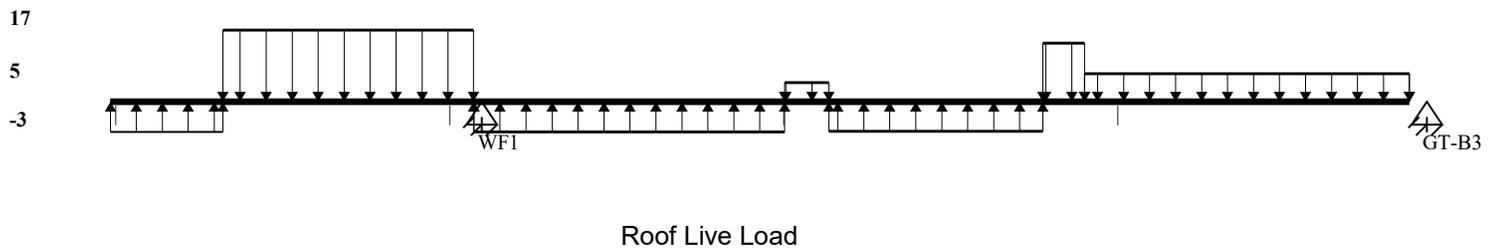
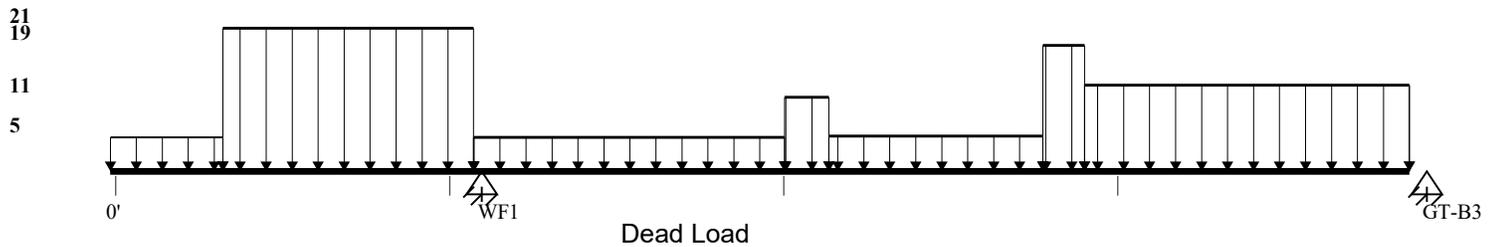
Company Name _____	DESIGNED _____	JOB NO 27 of 95
PROJECT _____	CHECKED _____	SHT _____ OF _____
SUBJECT _____	DATE _____	

BEAM LOAD REPORT

Beam ID : GT-B7 Length : 7'-9" Floor: 2nd



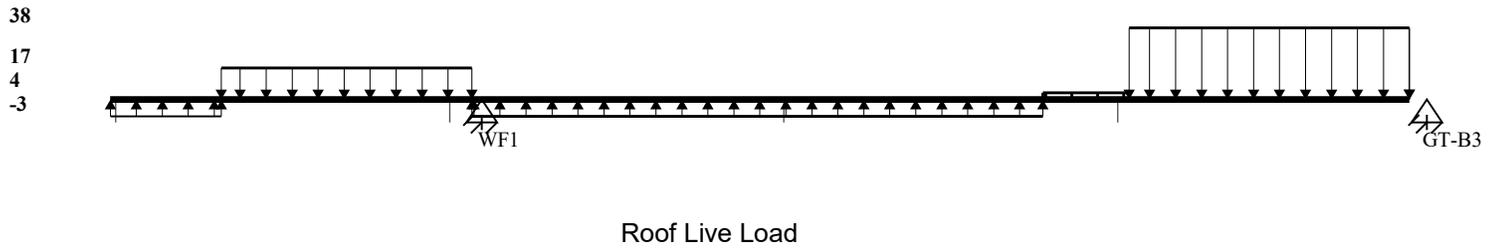
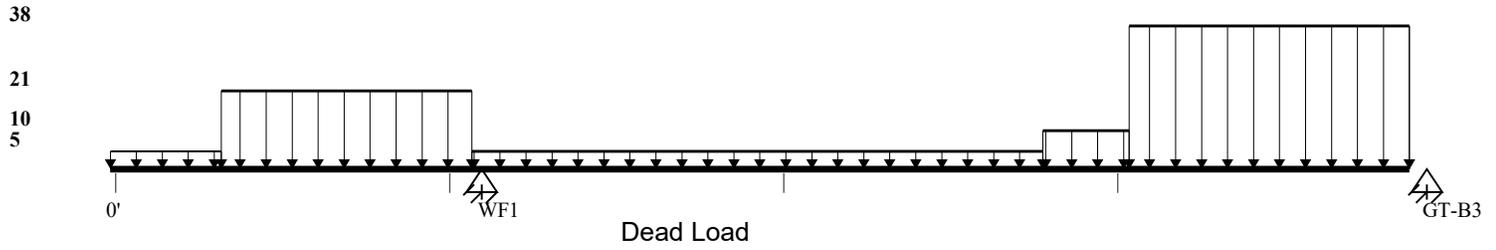
Beam ID : GT-B8 Length : 7'-9" Floor: 2nd



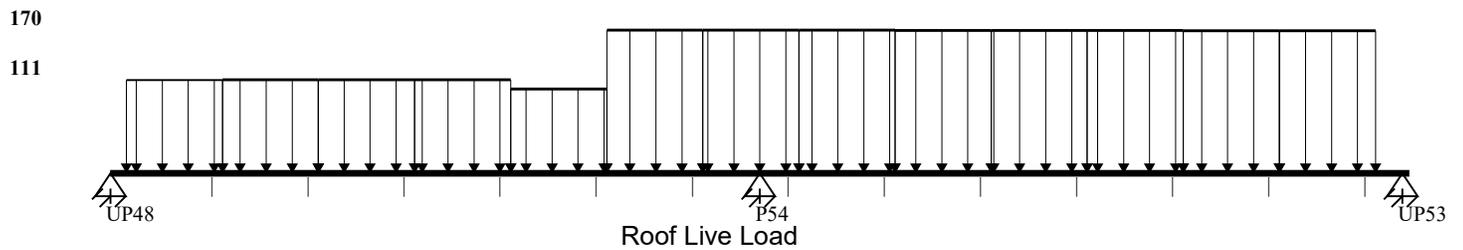
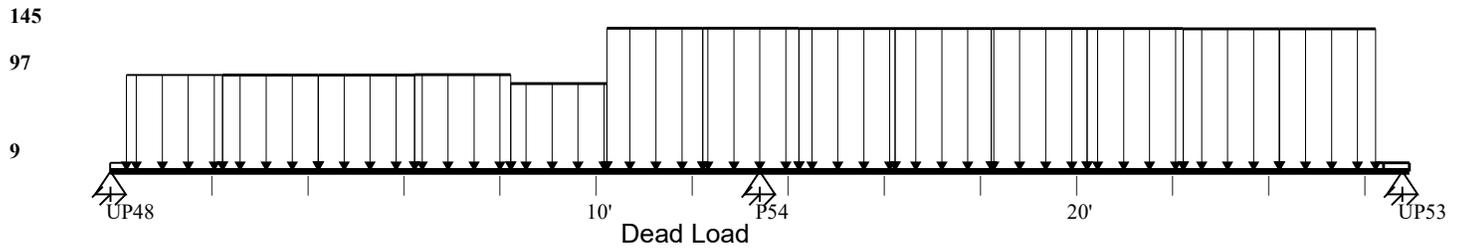
Company Name _____	DESIGNED _____	JOB NO 28 of 95
PROJECT _____	CHECKED _____	SHT _____ OF _____
SUBJECT _____	DATE _____	

BEAM LOAD REPORT

Beam ID : GT-B9 Length : 7'-9" Floor: 2nd



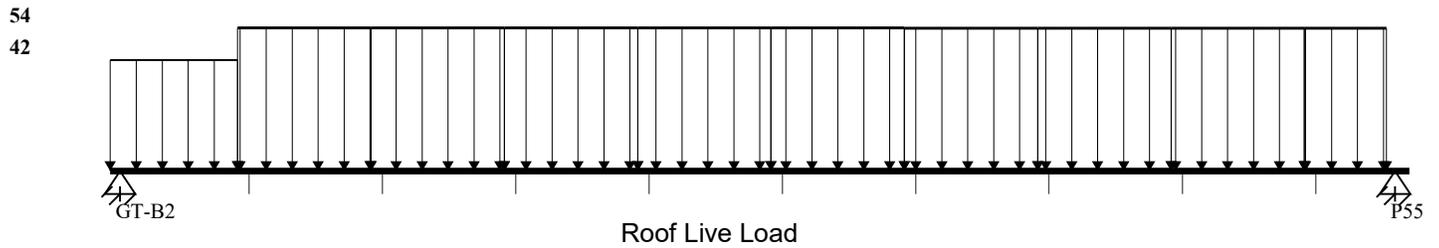
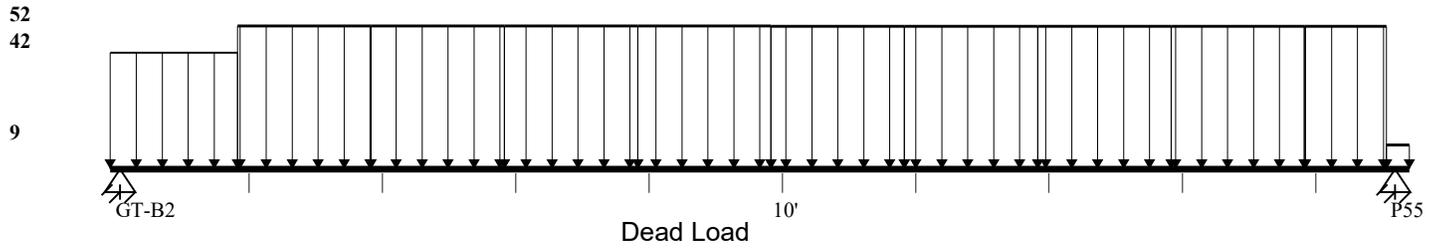
Beam ID : B10 Length : 27'-0" Floor: 2nd



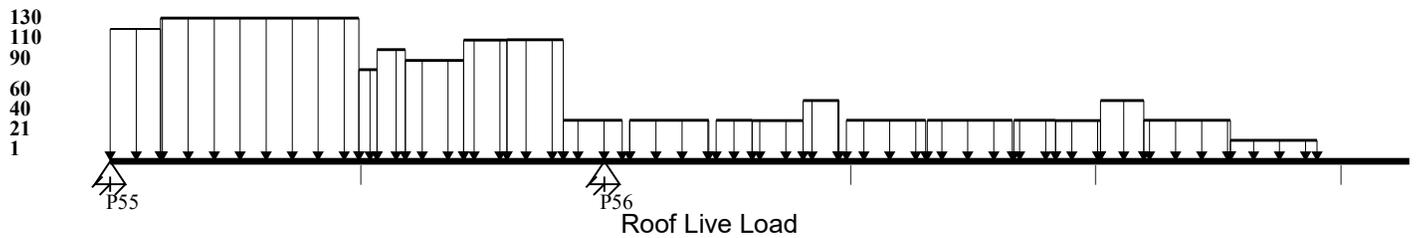
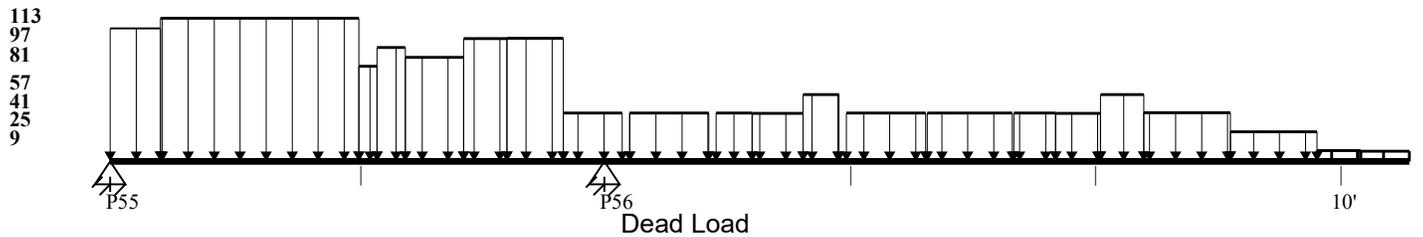
Company Name _____	DESIGNED _____	JOB NO 29 of 95
PROJECT _____	CHECKED _____	SHT _____ OF _____
SUBJECT _____	DATE _____	

BEAM LOAD REPORT

Beam ID : B11 Length : 19'-5" Floor: 2nd



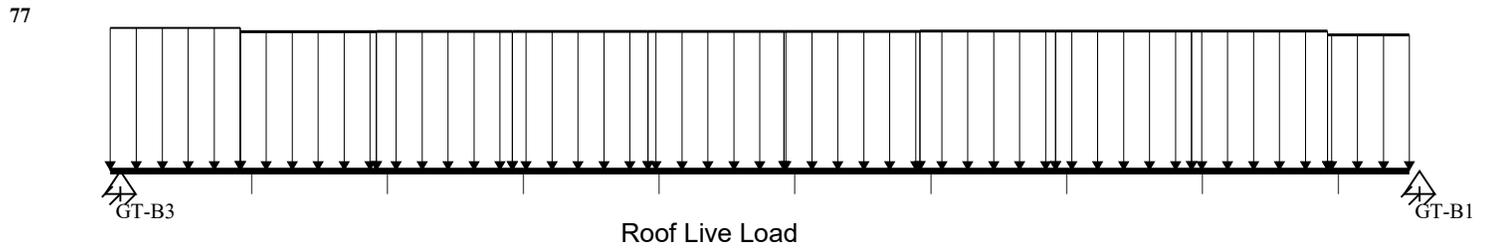
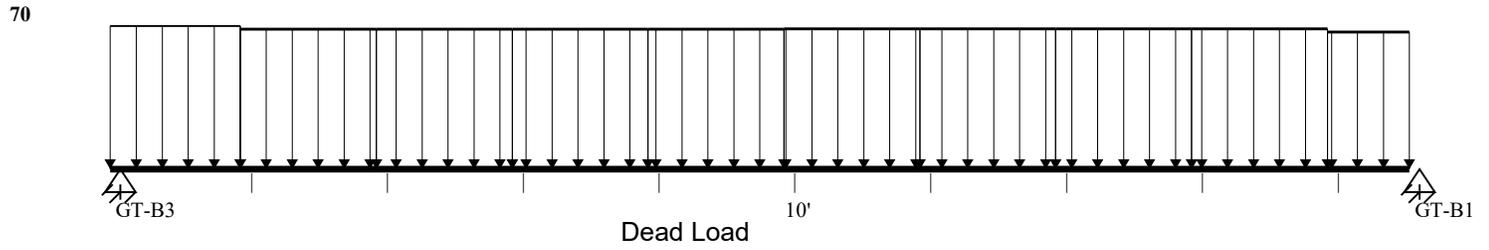
Beam ID : B12 Length : 10'-7" Floor: 2nd



Company Name _____	DESIGNED _____	JOB NO 30 of 95
PROJECT _____	CHECKED _____	SHT _____ OF _____
SUBJECT _____	DATE _____	

BEAM LOAD REPORT

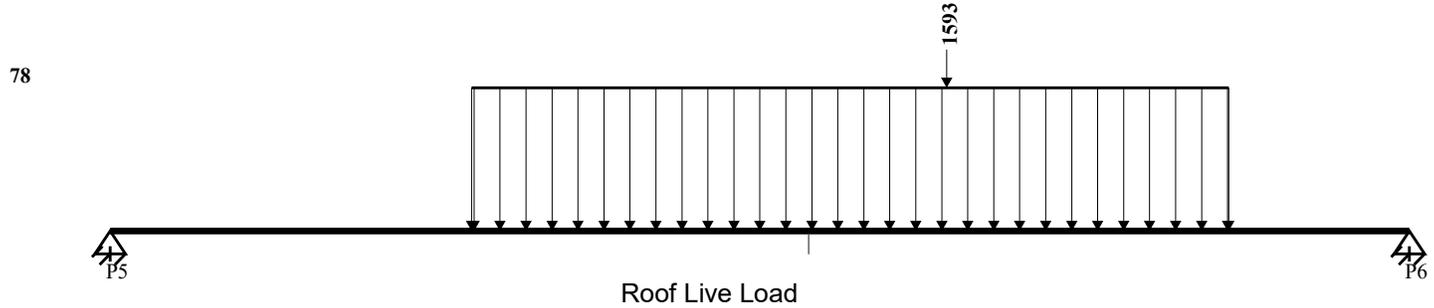
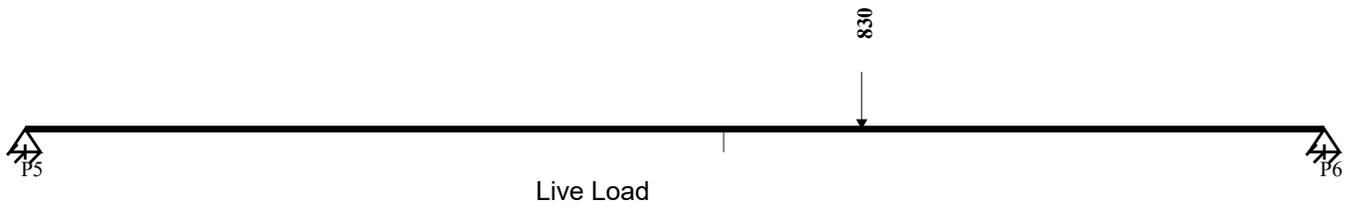
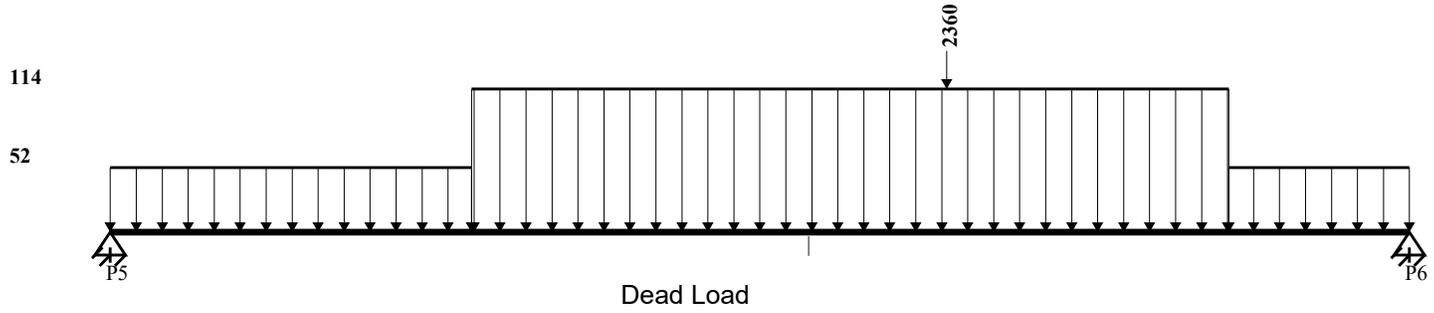
Beam ID : B13 Length :19'-1" Floor: 2nd



Company Name _____	DESIGNED _____	JOB NO 31 of 95
PROJECT _____	CHECKED _____	SHT _____ OF _____
SUBJECT _____	DATE _____	

Header Load Diagram

Header ID : O2 Length :3'-9" Floor :1st



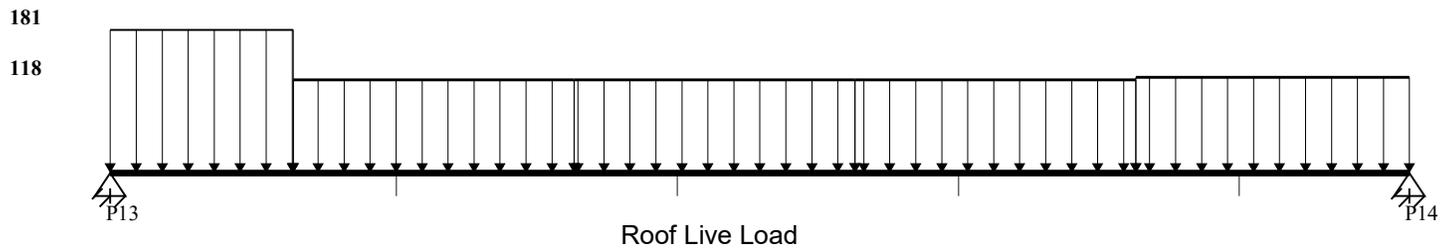
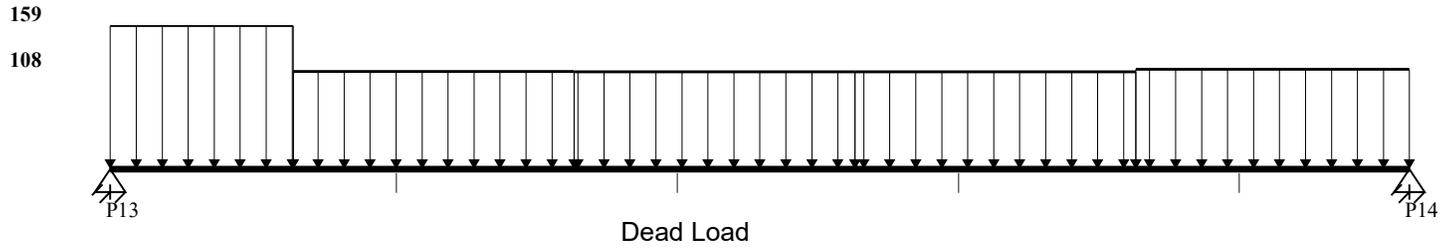
Company Name _____	DESIGNED _____	JOB NO 32 of 95
PROJECT _____	CHECKED _____	SHT _____ OF _____
SUBJECT _____	DATE _____	

Header Load Diagram

Header ID : O4

Length :9'-3"

Floor :1st



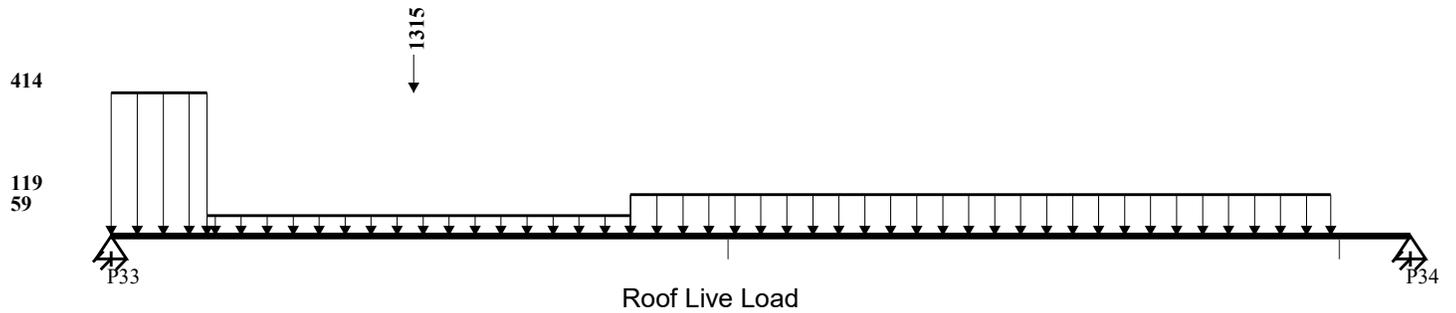
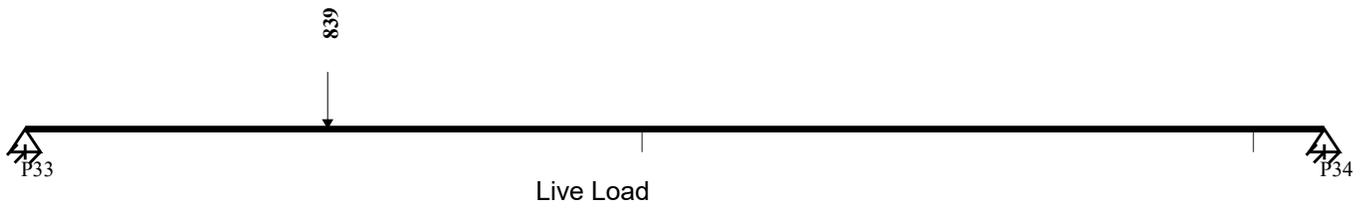
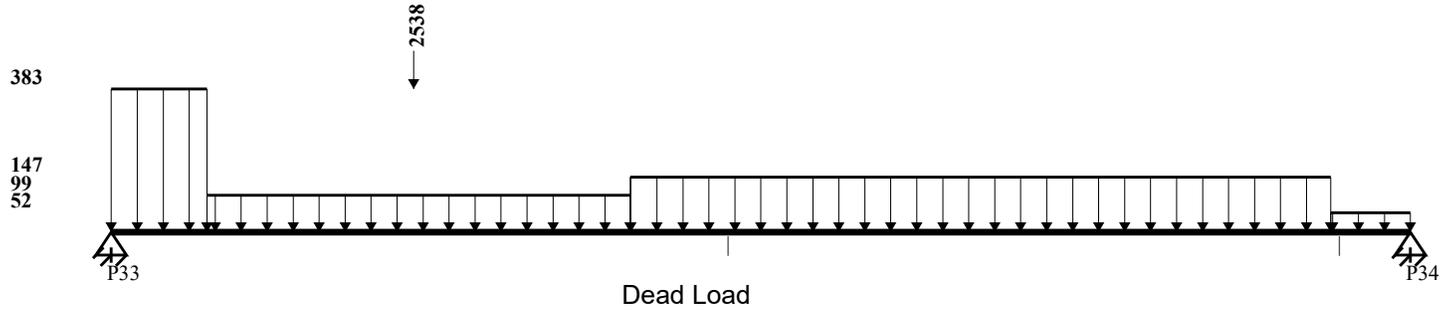
Company Name _____	DESIGNED _____	JOB NO 33 of 95
PROJECT _____	CHECKED _____	SHT _____ OF _____
SUBJECT _____	DATE _____	

Header Load Diagram

Header ID : O9

Length :4'-3"

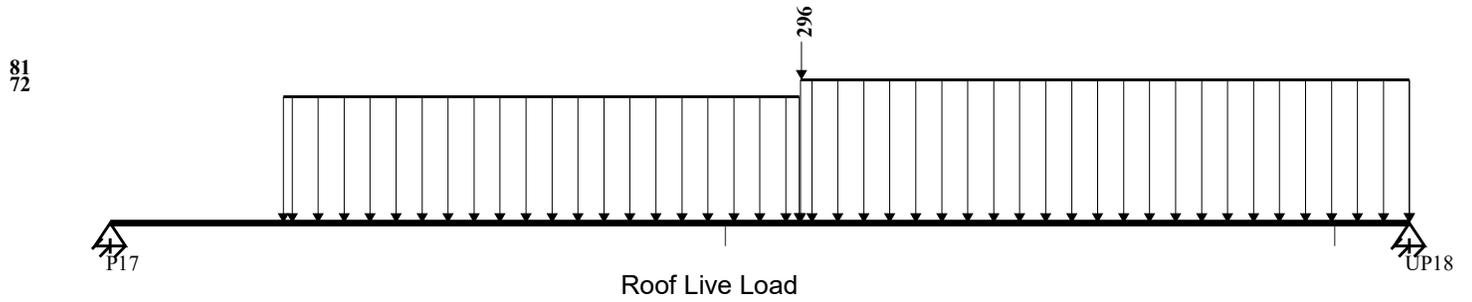
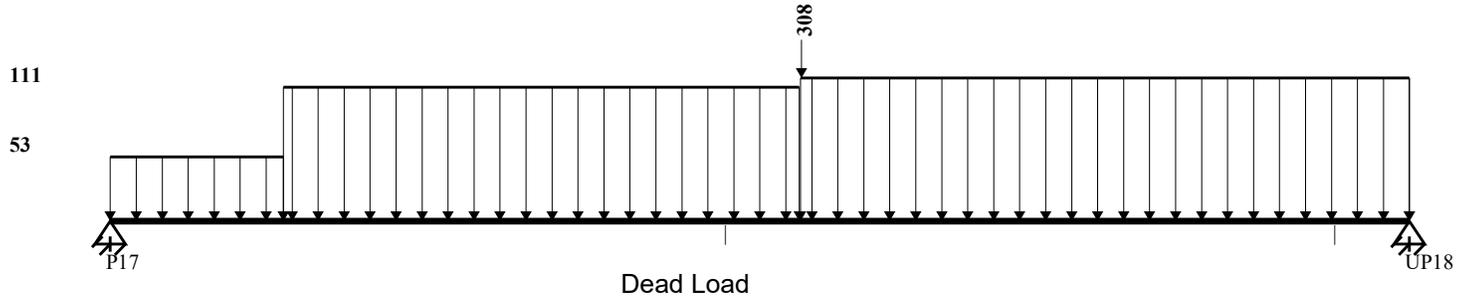
Floor :1st



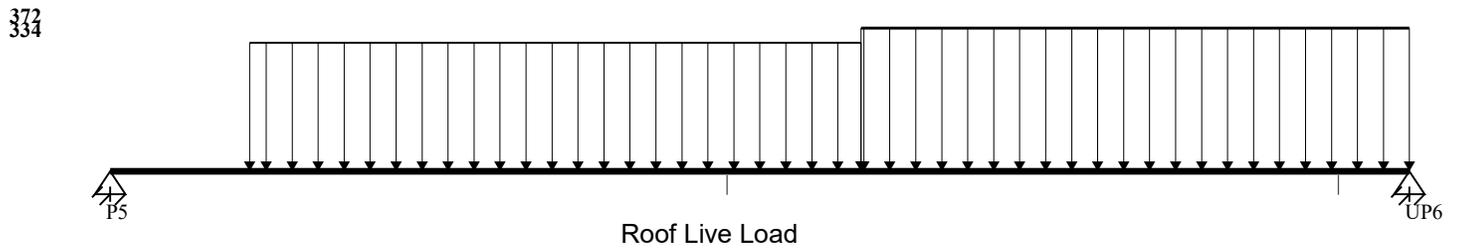
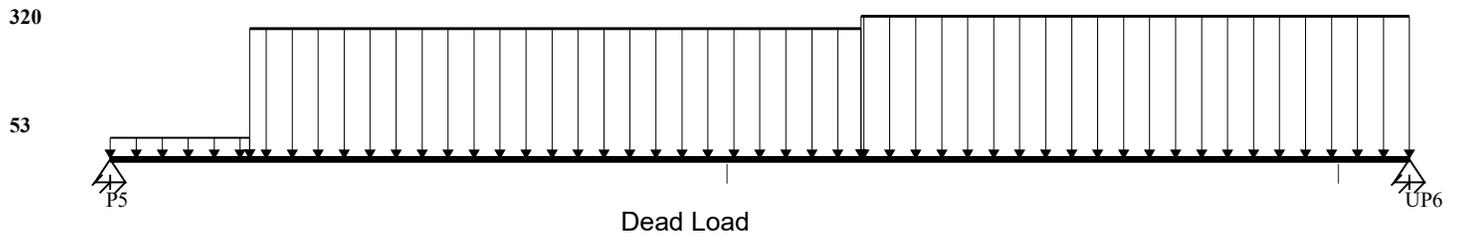
Company Name _____	DESIGNED _____	JOB NO 34 of 95
PROJECT _____	CHECKED _____	SHT _____ OF _____
SUBJECT _____	DATE _____	

Header Load Diagram

Header ID : O5 Length :4'-3" Floor :2nd



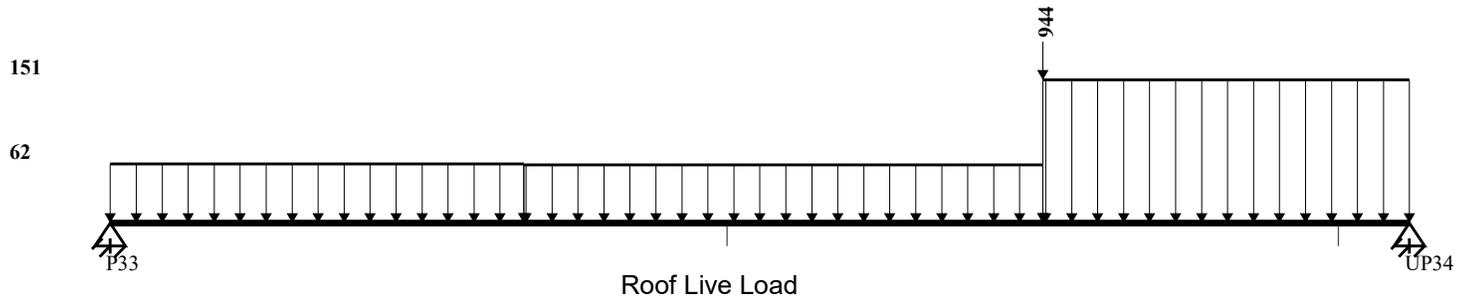
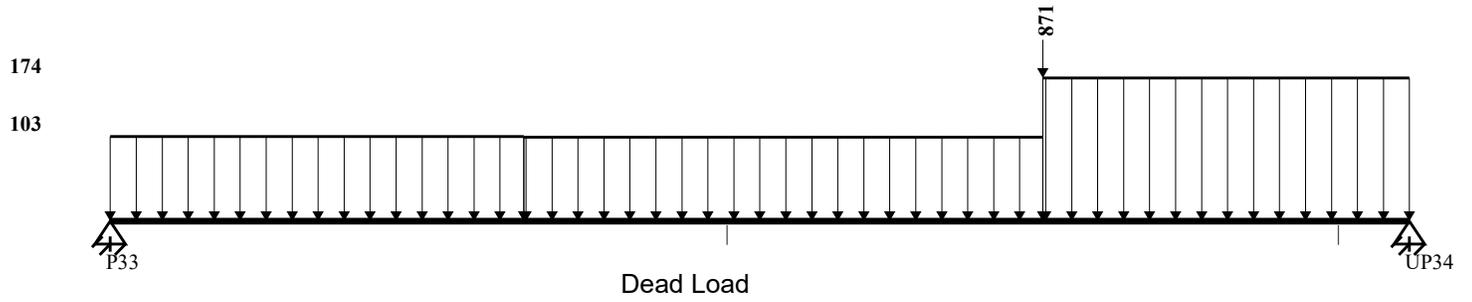
Header ID : O2 Length :4'-3" Floor :2nd



Company Name _____	DESIGNED _____	JOB NO 35 of 95
PROJECT _____	CHECKED _____	SHT _____ OF _____
SUBJECT _____	DATE _____	

Header Load Diagram

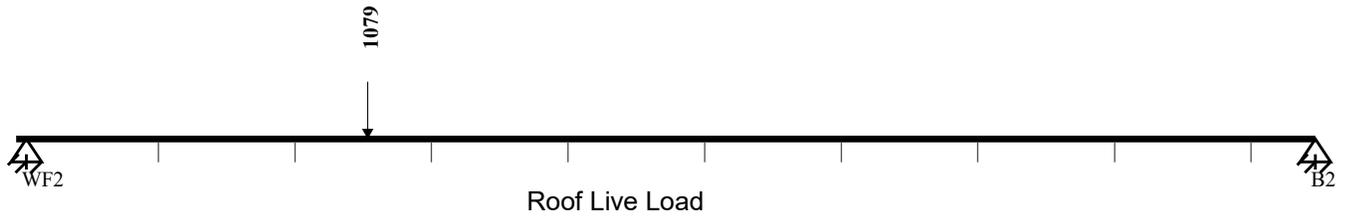
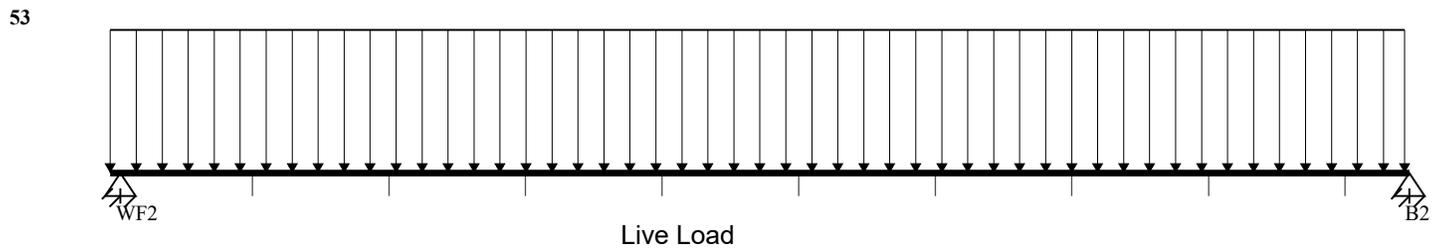
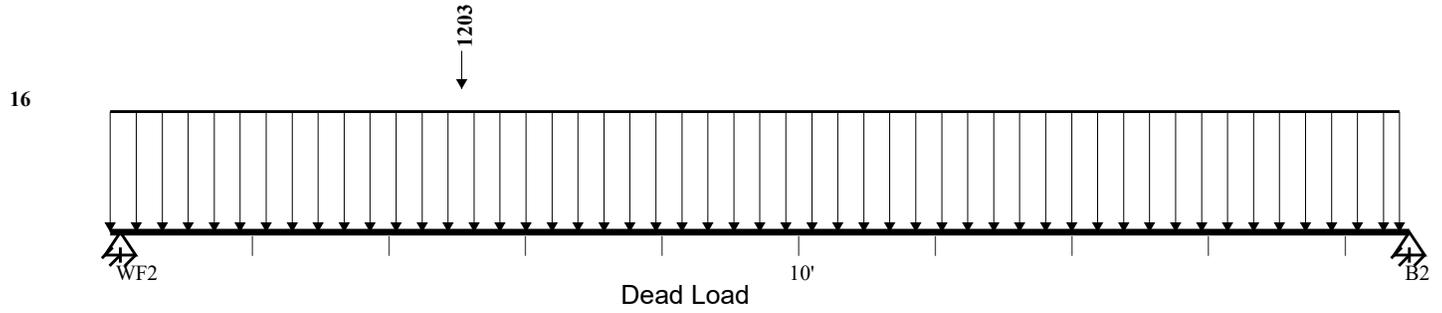
Header ID : O9 Length :4'-3" Floor :2nd



Company Name _____	DESIGNED _____	JOB NO 36 of 95
PROJECT _____	CHECKED _____	SHT _____ OF _____
SUBJECT _____	DATE _____	

Joist LOAD REPORT

Joist ID : J1.44 Length : 19'-0" Floor : 1st CriticalMomentJoist



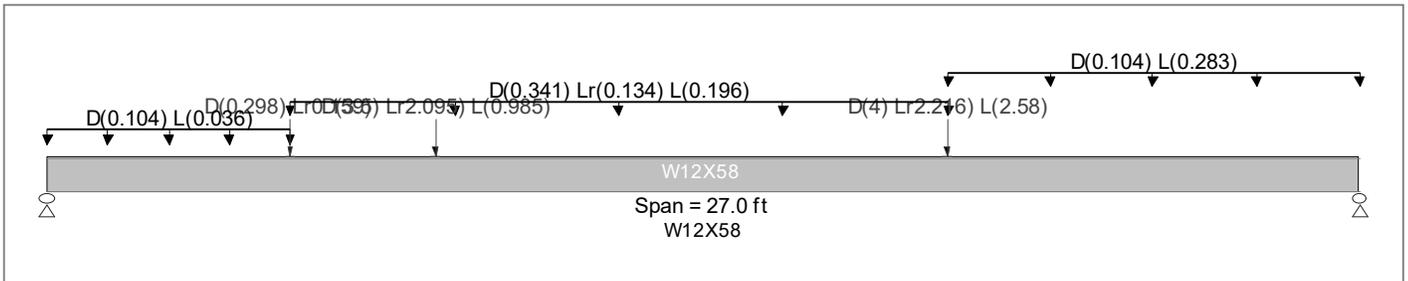
Steel Beam

Description : 27ft steel beam

Material Properties

Analysis Method : Allowable Stress Design
 Beam Bracing : Beam is Fully Braced against lateral-torsional buckling
 Bending Axis : Major Axis Bending
 Load Combination : IBC 2018

Fy : Steel Yield : 50.0 ksi
 E : Modulus : 29,000.0 ksi



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Load for Span Number 1

- Uniform Load : D = 0.1040, L = 0.0360 k/ft, Extent = 0.0 --> 5.0 ft, Tributary Width = 1.0 ft
- Uniform Load : D = 0.3410, Lr = 0.1340, L = 0.1960 k/ft, Extent = 5.0 --> 18.5 ft, Tributary Width = 1.0 ft
- Uniform Load : D = 0.1040, L = 0.2830 k/ft, Extent = 18.50 --> 27.0 ft, Tributary Width = 1.0 ft
- Point Load : D = 0.2980, Lr = 0.1590 k @ 5.0 ft
- Point Load : D = 3.50, Lr = 2.095, L = 0.9850 k @ 8.0 ft
- Point Load : D = 4.0, Lr = 2.216, L = 2.580 k @ 18.50 ft

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio =	0.476 : 1	Maximum Shear Stress Ratio =	0.146 : 1
Section used for this span	W12X58	Section used for this span	W12X58
Mu : Applied	102.584 k-ft	Vu : Applied	12.787 k
Mn / Omega : Allow able	215.569 k-ft	Vn/Omega : Allow able	87.840 k
Load Combination	+D+0.750Lr+0.750L+H	Load Combination	+D+0.750Lr+0.750L+H
Location of maximum on span	14.310ft	Location of maximum on span	27.000 ft
Span # where maximum occurs	Span # 1	Span # where maximum occurs	Span # 1
Maximum Deflection			
Max Downward L+Lr+S Deflection	0.592 in Ratio =	546	
Max Upward L+Lr+S Deflection	0.000 in Ratio =	0 <360	
Max Downward Total Deflection	0.883 in Ratio =	366	
Max Upward Total Deflection	0.000 in Ratio =	0 <180	

Maximum Forces & Stresses for Load Combinations

Load Combination	Segment Length	Span #	Max Stress Ratios		Summary of Moment Values						Summary of Shear Values			
			M	V	Mmax +	Mmax -	Ma - Max	Mnx	Mnx/Omega	Cb	Rm	Va Max	Vnx	Vnx/Omega
+D+L+H	Dsgn. L = 27.00 ft	1	0.421	0.135	90.81		90.81	360.00	215.57	1.00	1.00	11.88	131.76	87.84
+D+Lr+H	Dsgn. L = 27.00 ft	1	0.391	0.120	84.22		84.22	360.00	215.57	1.00	1.00	10.50	131.76	87.84
+D+0.750Lr+0.750L+H	Dsgn. L = 27.00 ft	1	0.476	0.146	102.58		102.58	360.00	215.57	1.00	1.00	12.79	131.76	87.84
+D+0.750Lr+0.750S+H	Dsgn. L = 27.00 ft	1	0.382	0.120	82.31		82.31	360.00	215.57	1.00	1.00	10.57	131.76	87.84
+D+0.750Lr+0.750L+0.450W+H	Dsgn. L = 27.00 ft	1	0.476	0.146	102.58		102.58	360.00	215.57	1.00	1.00	12.79	131.76	87.84
+D+0.750Lr+0.750S+0.450W+H	Dsgn. L = 27.00 ft	1	0.382	0.120	82.31		82.31	360.00	215.57	1.00	1.00	10.57	131.76	87.84
+D+0.750Lr+0.750S+0.5250E+H	Dsgn. L = 27.00 ft	1	0.382	0.120	82.31		82.31	360.00	215.57	1.00	1.00	10.57	131.76	87.84

Overall Maximum Deflections - Unfactored Loads

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
	1	0.0000	0.000		0.0000	0.000

Vertical Reactions - Unfactored

Support notation : Far left is #1

Values in KIPS

Load Combination	Support 1	Support 2
Overall MAXimum	14.041	14.840
D Only	7.176	6.629

Steel Beam

Vertical Reactions - Unfactored

Support notation : Far left is #1

Values in KIPS

Load Combination	Support 1	Support 2
L Only	3.542	5.255
Lr Only	3.323	2.956
L+Lr	6.865	8.210
D+Lr	10.499	9.585
D+L	10.718	11.884
D+L+Lr	14.041	14.840

Company Name	DESIGNED	JOB NO.
PROJECT	CHECKED	SHT OF
SUBJECT	DATE	

Design Code: IBC 2018 / NDS 2018

Beam_ID: B2 Location: 1st Passed

Beam length (ft):	10.74	Section Type:	iLevel Truss Joist Parallam PSL 2.0E
Number of spans:	1	Section Name:	3.5x14.0
Maximum span (ft):	10.74	Beam Thickness:	3.50 in.
Left cantilever Lc (ft):	0.00	Beam Depth:	14.00 in.
Right cantilever Lr (ft):	0.00	A:	49.00 in ²
Ignore shear within (d)?	False	Sxx:	114.33 in ³
Repetitive member?	False	Syy:	28.58 in ³
Include own weight?	True	Fb Base Allowable:	2900 psi
Lu top (ft):	0.00	Fb Adjust Allowable (CD = 1):	2851 psi
Lu bottom (ft):	0.00	Fv Allowable (CD = 1):	290 psi
Slenderness Ratio:	1	Fc Allowable (CD = 1):	2900 psi
Adjustment factors:	CF=0.983	E:	2000 ksi

Over-Strength Load Cases:

Location (ft)	Seismic Reaction (lbs) 0.7QE			
	N-S	S-N	E-W	W-E
5.44	0	0	501	-501

Analysis Summary:

Load Combination	Max. Bending			Max. Shear	
	Max Moment (k.lf.)	Shear (lbs)	Location (ft)	Max Shear (lbs)	Location (lbs)
D	13.70	-1652	5.29	-3464	10.74
D+L	22.25	-2340	5.29	6126	0.00
D+Lr	22.61	-3148	5.29	-5218	10.74
D+0.75L+0.75Lr	26.80	-3289	5.29	-6714	10.74

Code Check:

Load Combination	LDF	Max. Bending			Max. Shear		
		Critical fb (psi)	Fb (psi)	% Code Check	Max fv (psi)	Fv (psi)	% Code Check
D	0.90	1438	2566	56.0	106	261	40.6
D+L	1.00	2335	2851	81.9	188	290	64.7
D+Lr	1.25	2373	3563	66.6	160	362	44.1
D+0.75L+0.75Lr	1.25	2813	3563	78.9	206	362	56.7

Total Load Deflection:

Span ID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check	Load Combination
UP71-B1	0.360	0.54	5.29	Passed L/358	D+0.75L+0.75Lr

Total Live Load Deflection:

SpanID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check
UP71-B1	0.238	0.36	5.24	Passed L/542

Company Name	DESIGNED	JOB NO.
PROJECT	CHECKED	SHT OF
SUBJECT	DATE	

Design Code: IBC 2018 / NDS 2018

Beam_ID:	B3	Location:	1st	Passed
Beam length (ft):	18.88	Section Type:	iLevel Truss Joist Parallam PSL 2.0E	
Number of spans:	1	Section Name:	3.5x14.0	
Maximum span (ft):	18.88	Beam Thickness:	3.50	in.
Left cantilever Lc (ft):	0.00	Beam Depth:	14.00	in.
Right cantilever Lr (ft):	0.00	A:	49.00	in ²
Ignore shear within (d)?	False	Sxx:	114.33	in ³
Repetitive member?	False	Syy:	28.58	in ³
Include own weight?	True	Fb Base Allowable:	2900	psi
Lu top (ft):	0.00	Fb Adjust Allowable (CD = 1):	2851	psi
Lu bottom (ft):	0.00	Fv Allowable (CD = 1):	290	psi
Slenderness Ratio:	1	Fc Allowable (CD = 1):	2900	psi
Adjustment factors:	CF=0.983	E:	2000	ksi

Reactions:

Support ID	Distance from Start (ft)	Reactions (lbs)					Requird Bearing Area	
		Dead (lbs)	Live (lbs)	Roof Live (lbs)	Balanced Snow (lbs)	Unbalanced Snow (lbs)	Max Value (in ²)	Load combination ID
P52	0.15	1489	184	486	0	0	4.36	6
P53	19.02	2349	184	797	0	0	6.69	3

Analysis Summary:

Load Combination	Max. Bending			Max. Shear	
	Max Moment (k.lf.)	Shear (lbs)	Location (ft)	Max Shear (lbs)	Location (lbs)
D	9.74	-153	9.03	-2194	18.87
D+L	10.59	-153	9.03	-2375	18.87
D+Lr	13.02	-276	9.03	-2931	18.87
D+0.75L+0.75Lr	12.84	-245	9.03	-2883	18.87

Code Check:

Load Combination	LDF	Max. Bending			Max. Shear		
		Critical fb (psi)	Fb (psi)	% Code Check	Max fv (psi)	Fv (psi)	% Code Check
D	0.90	1022	2566	39.9	67	261	25.7
D+L	1.00	1112	2851	39.0	73	290	25.1
D+Lr	1.25	1367	3563	38.4	90	362	24.8
D+0.75L+0.75Lr	1.25	1348	3563	37.8	88	362	24.3

Total Load Deflection:

Span ID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check	Load Combination
P52-P53	0.539	0.94	9.44	Passed L/420	D+Lr

Total Live Load Deflection:

SpanID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check
P52-P53	0.171	0.63	9.44	Passed L/999+

Company Name		DESIGNED	JOB NO.
PROJECT		CHECKED	SHT OF
SUBJECT		DATE	

Design Code: IBC 2018 / NDS 2018

Beam_ID:	B4	Location:	1st	Passed
Beam length (ft):	23.81	Section Type:	iLevel Truss Joist Parallam PSL 2.0E	
Number of spans:	3	Section Name:	3.5x14.0	
Maximum span (ft):	8.87	Beam Thickness:	3.50	in.
Left cantilever Lc (ft):	0.00	Beam Depth:	14.00	in.
Right cantilever Lr (ft):	0.00	A:	49.00	in ²
Ignore shear within (d)?	False	Sxx:	114.33	in ³
Repetitive member?	False	Syy:	28.58	in ³
Include own weight?	True	Fb Base Allowable:	2900	psi
Lu top (ft):	0.00	Fb Adjust Allowable (CD = 1):	2851	psi
Lu bottom (ft):	0.00	Fv Allowable (CD = 1):	290	psi
Slenderness Ratio:	1	Fc Allowable (CD = 1):	2900	psi
Adjustment factors:	CF=0.983	E:	2000	ksi

Reactions:

Support ID	Distance from Start (ft)	Reactions (lbs)					Requird Bearing Area	
		Dead (lbs)	Live (lbs)	Roof Live (lbs)	Balanced Snow (lbs)	Unbalanced Snow (lbs)	Max Value (in ²)	Load combination ID
P54	0.15	4482	2262	2134	0	0	16.68	6
P56	9.01	4319	4365	1738	0	0	16.25	6
P61	16.62	2028	4420	209	0	0	11.78	2
B8	23.96	833	1843	92	0	0	4.88	2

Over-Strength Load Cases:

Location (ft)	Seismic Reaction (lbs) 0.7QE			
	N-S	S-N	E-W	W-E
4.49	0	0	-2443	2443
6.58	836	-836	0	0

Analysis Summary:

Load Combination	Max. Bending			Max. Shear	
	Max Moment (k.lf.)	Shear (lbs)	Location (ft)	Max Shear (lbs)	Location (lbs)
D	11.79	-20	4.34	4315	0.00
D+L	17.54	-2790	4.78	6576	0.00
D+Lr	18.15	-205	4.34	6241	0.00
D+0.75L+0.75Lr	20.84	-159	4.34	7456	0.00

Code Check:

Load Combination	LDF	Max. Bending			Max. Shear		
		Critical fb (psi)	Fb (psi)	% Code Check	Max fv (psi)	Fv (psi)	% Code Check
D	0.90	1237	2566	48.2	132	261	50.6
D+L	1.00	1841	2851	64.6	201	290	69.4
D+Lr	1.25	1905	3563	53.5	191	362	52.7
D+0.75L+0.75Lr	1.25	2188	3563	61.4	228	362	63.0

Total Load Deflection:

Span ID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check	Load Combination
P54-P56	0.211	0.44	4.42	Passed L/506	D+0.75L+0.75Lr
P56-P61	0.048	0.38	12.65	Passed L/999+	D+L
P61-B8	0.049	0.37	20.09	Passed L/999+	D+L

Total Live Load Deflection:

SpanID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check
P54-P56	0.124	0.30	4.42	Passed L/859
P56-P61	0.034	0.25	12.65	Passed L/999+
P61-B8	0.036	0.24	20.09	Passed L/999+

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Beam_ID:	B5	Location:	1st	Passed
Beam length (ft):	13.46	Section Type:	iLevel Truss Joist Parallam PSL 2.0E	
Number of spans:	1	Section Name:	3.5x14.0	
Maximum span (ft):	13.46	Beam Thickness:	3.50	in.
Left cantilever Lc (ft):	0.00	Beam Depth:	14.00	in.
Right cantilever Lr (ft):	0.00	A:	49.00	in ²
Ignore shear within (d)?	False	Sxx:	114.33	in ³
Repetitive member?	False	Syy:	28.58	in ³
Include own weight?	True	Fb Base Allowable:	2900	psi
Lu top (ft):	0.00	Fb Adjust Allowable (CD = 1):	2851	psi
Lu bottom (ft):	0.00	Fv Allowable (CD = 1):	290	psi
Slenderness Ratio:	1	Fc Allowable (CD = 1):	2900	psi
Adjustment factors:	CF=0.983	E:	2000	ksi

Reactions:

Support ID	Distance from Start (ft)	Reactions (lbs)					Requird Bearing Area	
		Dead (lbs)	Live (lbs)	Roof Live (lbs)	Balanced Snow (lbs)	Unbalanced Snow (lbs)	Max Value (in ²)	Load combination ID
P57	0.12	2477	905	1350	0	0	9.13	6
B4	13.58	2205	653	1195	0	0	6.56	6

Analysis Summary:

Load Combination	Max. Bending			Max. Shear	
	Max Moment (k.lf.)	Shear (lbs)	Location (ft)	Max Shear (lbs)	Location (lbs)
D	7.80	-301	5.25	2475	0.00
D+L	11.39	-18	4.98	3378	0.00
D+Lr	11.87	-630	5.25	3825	0.00
D+0.75L+0.75Lr	13.54	-51	5.12	4165	0.00

Code Check:

Load Combination	LDF	Max. Bending			Max. Shear		
		Critical fb (psi)	Fb (psi)	% Code Check	Max fv (psi)	Fv (psi)	% Code Check
D	0.90	818	2566	31.9	76	261	29.0
D+L	1.00	1195	2851	41.9	103	290	35.7
D+Lr	1.25	1246	3563	35.0	117	362	32.3
D+0.75L+0.75Lr	1.25	1421	3563	39.9	128	362	35.2

Total Load Deflection:

Span ID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check	Load Combination
P57-B4	0.290	0.67	6.48	Passed L/556	D+0.75L+0.75Lr

Total Live Load Deflection:

SpanID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check
P57-B4	0.160	0.45	6.48	Passed L/999+

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Beam_ID:	B6	Location:	1st	Passed
Beam length (ft):	13.46	Section Type:	iLevel Truss Joist Parallam PSL 2.0E	
Number of spans:	1	Section Name:	3.5x14.0	
Maximum span (ft):	13.46	Beam Thickness:	3.50	in.
Left cantilever Lc (ft):	0.00	Beam Depth:	14.00	in.
Right cantilever Lr (ft):	0.00	A:	49.00	in ²
Ignore shear within (d)?	False	Sxx:	114.33	in ³
Repetitive member?	False	Syy:	28.58	in ³
Include own weight?	True	Fb Base Allowable:	2900	psi
Lu top (ft):	0.00	Fb Adjust Allowable (CD = 1):	2851	psi
Lu bottom (ft):	0.00	Fv Allowable (CD = 1):	290	psi
Slenderness Ratio:	1	Fc Allowable (CD = 1):	2900	psi
Adjustment factors:	CF=0.983	E:	2000	ksi

Reactions:

Support ID	Distance from Start (ft)	Reactions (lbs)					Requird Bearing Area	
		Dead (lbs)	Live (lbs)	Roof Live (lbs)	Balanced Snow (lbs)	Unbalanced Snow (lbs)	Max Value (in ²)	Load combination ID
P58	0.10	432	1044	0	0	0	3.23	2
B4	13.56	304	698	0	0	0	1.83	2

Analysis Summary:

Load Combination	Max. Bending			Max. Shear	
	Max Moment (k.lf.)	Shear (lbs)	Location (ft)	Max Shear (lbs)	Location (lbs)
D	1.65	-59	4.36	430	0.00
D+L	5.79	-271	4.36	1471	0.00

Code Check:

Load Combination	LDF	Max. Bending			Max. Shear		
		Critical fb (psi)	Fb (psi)	% Code Check	Max fv (psi)	Fv (psi)	% Code Check
D	0.90	173	2566	6.7	13	261	5.0
D+L	1.00	608	2851	21.3	45	290	15.5

Total Load Deflection:

Span ID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check	Load Combination
P58-B4	0.114	0.67	6.23	Passed L/999+	D+L

Total Live Load Deflection:

SpanID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check
P58-B4	0.081	0.45	6.23	Passed L/999+

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Beam_ID: B7	Location: 1st	Passed
Beam length (ft): 11.78	Section Type: iLevel Truss Joist Parallam PSL 2.0E	
Number of spans: 1	Section Name: 3.5x14.0	
Maximum span (ft): 11.78	Beam Thickness: 3.50	in.
Left cantilever Lc (ft): 0.00	Beam Depth: 14.00	in.
Right cantilever Lr (ft): 0.00	A: 49.00	in ²
Ignore shear within (d)? False	Sxx: 114.33	in ³
Repetitive member? False	Syy: 28.58	in ³
Include own weight? True	Fb Base Allowable: 2900	psi
Lu top (ft): 0.00	Fb Adjust Allowable (CD = 1): 2851	psi
Lu bottom (ft): 0.00	Fv Allowable (CD = 1): 290	psi
Slenderness Ratio: 1	Fc Allowable (CD = 1): 2900	psi
Adjustment factors: CF=0.983	E: 2000	ksi

Reactions:

Support ID	Distance from Start (ft)	Reactions (lbs)					Requird Bearing Area	
		Dead (lbs)	Live (lbs)	Roof Live (lbs)	Balanced Snow (lbs)	Unbalanced Snow (lbs)	Max Value (in ²)	Load combination ID
B5	0.00	357	976	0	0	0	2.43	2
B6	11.78	385	1069	0	0	0	2.66	2

Analysis Summary:

Load Combination	Max. Bending			Max. Shear	
	Max Moment (k.lf.)	Shear (lbs)	Location (ft)	Max Shear (lbs)	Location (lbs)
D	1.18	-10	5.49	-385	11.78
D+L	4.50	-56	5.49	-1454	11.78

Code Check:

Load Combination	LDF	Max. Bending			Max. Shear		
		Critical fb (psi)	Fb (psi)	% Code Check	Max fv (psi)	Fv (psi)	% Code Check
D	0.90	124	2566	4.8	12	261	4.5
D+L	1.00	472	2851	16.6	45	290	15.3

Total Load Deflection:

Span ID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check	Load Combination
B5-B6	0.081	0.59	5.89	Passed L/999+	D+L

Total Live Load Deflection:

SpanID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check
B5-B6	0.059	0.39	5.89	Passed L/999+

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Beam_ID:	B8	Location:	1st	Passed
Beam length (ft):	3.49	Section Type:	iLevel Truss Joist Parallam PSL 2.0E	
Number of spans:	1	Section Name:	3.5x14.0	
Maximum span (ft):	3.49	Beam Thickness:	3.50	in.
Left cantilever Lc (ft):	0.00	Beam Depth:	14.00	in.
Right cantilever Lr (ft):	0.00	A:	49.00	in ²
Ignore shear within (d)?	False	Sxx:	114.33	in ³
Repetitive member?	False	Syy:	28.58	in ³
Include own weight?	True	Fb Base Allowable:	2900	psi
Lu top (ft):	0.00	Fb Adjust Allowable (CD = 1):	2851	psi
Lu bottom (ft):	0.00	Fv Allowable (CD = 1):	290	psi
Slenderness Ratio:	1	Fc Allowable (CD = 1):	2900	psi
Adjustment factors:	CF=0.983	E:	2000	ksi

Reactions:

Support ID	Distance from Start (ft)	Reactions (lbs)					Requird Bearing Area	
		Dead (lbs)	Live (lbs)	Roof Live (lbs)	Balanced Snow (lbs)	Unbalanced Snow (lbs)	Max Value (in ²)	Load combination ID
P59	0.17	1216	1883	308	0	0	5.63	2
P60	3.65	1040	432	702	0	0	3.36	6

Analysis Summary:

Load Combination	Max. Bending			Max. Shear	
	Max Moment (k.lf.)	Shear (lbs)	Location (ft)	Max Shear (lbs)	Location (lbs)
D	0.81	-625	2.44	1200	0.00
D+L	1.39	-150	1.50	3083	0.00
D+Lr	1.38	-1126	2.44	-1655	3.49
D+0.75L+0.75Lr	1.53	-154	2.24	2843	0.00

Code Check:

Load Combination	LDF	Max. Bending			Max. Shear		
		Critical fb (psi)	Fb (psi)	% Code Check	Max fv (psi)	Fv (psi)	% Code Check
D	0.90	85	2566	3.3	37	261	14.1
D+L	1.00	146	2851	5.1	94	290	32.5
D+Lr	1.25	145	3563	4.1	51	362	14.0
D+0.75L+0.75Lr	1.25	161	3563	4.5	87	362	24.0

Total Load Deflection:

Span ID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check	Load Combination
P59-P60	0.006	0.17	1.74	Passed L/999+	D+0.75L+0.75Lr

Total Live Load Deflection:

SpanID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check
P59-P60	0.004	0.12	1.74	Passed L/999+

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Beam_ID:	B9	Location:	1st	Passed
Beam length (ft):	15.94	Section Type:	iLevel Truss Joist Parallam PSL 2.0E	
Number of spans:	1	Section Name:	5.25x14.0	
Maximum span (ft):	15.94	Beam Thickness:	5.25	in.
Left cantilever Lc (ft):	0.00	Beam Depth:	14.00	in.
Right cantilever Lr (ft):	0.00	A:	73.50	in ²
Ignore shear within (d)?	False	Sxx:	171.50	in ³
Repetitive member?	False	Syy:	64.31	in ³
Include own weight?	True	Fb Base Allowable:	2900	psi
Lu top (ft):	0.00	Fb Adjust Allowable (CD = 1):	2851	psi
Lu bottom (ft):	0.00	Fv Allowable (CD = 1):	290	psi
Slenderness Ratio:	1	Fc Allowable (CD = 1):	2900	psi
Adjustment factors:	CF=0.983	E:	2000	ksi

Reactions:

Support ID	Distance from Start (ft)	Reactions (lbs)					Requird Bearing Area	
		Dead (lbs)	Live (lbs)	Roof Live (lbs)	Balanced Snow (lbs)	Unbalanced Snow (lbs)	Max Value (in ²)	Load combination ID
B22	0.00	3016	581	1724	0	0	8.67	6
P27	15.94	2074	456	1457	0	0	7.72	3

Over-Strength Load Cases:

Location (ft)	Seismic Reaction (lbs) 0.7QE			
	N-S	S-N	E-W	W-E
7.88	0	0	-2318	2318
7.81	0	0	1815	-1815

Analysis Summary:

Load Combination	Max. Bending			Max. Shear	
	Max Moment (k.lf.)	Shear (lbs)	Location (ft)	Max Shear (lbs)	Location (lbs)
D	15.10	-1291	7.81	3016	0.00
D+L	18.82	-1747	7.81	3597	0.00
D+Lr	25.46	-2074	7.81	4740	0.00
D+0.75L+0.75Lr	25.65	-2221	7.81	4745	0.00

Code Check:

Load Combination	LDF	Max. Bending			Max. Shear		
		Critical fb (psi)	Fb (psi)	% Code Check	Max fv (psi)	Fv (psi)	% Code Check
D	0.90	1057	2566	41.2	62	261	23.6
D+L	1.00	1317	2851	46.2	73	290	25.3
D+Lr	1.25	1781	3563	50.0	97	362	26.7
D+0.75L+0.75Lr	1.25	1795	3563	50.4	97	362	26.7

Total Load Deflection:

Span ID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check	Load Combination
B22-P27	0.453	0.80	7.88	Passed L/422	D+0.75L+0.75Lr

Total Live Load Deflection:

SpanID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check
B22-P27	0.244	0.53	7.88	Passed L/785

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Beam_ID:	B10	Location:	1st	Passed
Beam length (ft):	13.02	Section Type:	iLevel Truss Joist Parallam PSL 2.0E	
Number of spans:	2	Section Name:	3.5x14.0	
Maximum span (ft):	7.72	Beam Thickness:	3.50	in.
Left cantilever Lc (ft):	0.00	Beam Depth:	14.00	in.
Right cantilever Lr (ft):	0.00	A:	49.00	in ²
Ignore shear within (d)?	False	Sxx:	114.33	in ³
Repetitive member?	False	Syy:	28.58	in ³
Include own weight?	True	Fb Base Allowable:	2900	psi
Lu top (ft):	0.00	Fb Adjust Allowable (CD = 1):	2851	psi
Lu bottom (ft):	0.00	Fv Allowable (CD = 1):	290	psi
Slenderness Ratio:	1	Fc Allowable (CD = 1):	2900	psi
Adjustment factors:	CF=0.983	E:	2000	ksi

Reactions:

Support ID	Distance from Start (ft)	Reactions (lbs)					Requird Bearing Area	
		Dead (lbs)	Live (lbs)	Roof Live (lbs)	Balanced Snow (lbs)	Unbalanced Snow (lbs)	Max Value (in ²)	Load combination ID
B2	0.00	1746	553	1184	0	0	5.57	6
P63	7.71	3181	1013	2186	0	0	10.19	6
P59	13.02	1483	350	1116	0	0	4.75	3

Over-Strength Load Cases:

Location (ft)	Seismic Reaction (lbs) 0.7QE			
	N-S	S-N	E-W	W-E
5.88	0	0	2105	-2105

Analysis Summary:

Load Combination	Max. Bending			Max. Shear	
	Max Moment (k.lf.)	Shear (lbs)	Location (ft)	Max Shear (lbs)	Location (lbs)
D	2.76	-7	4.42	-1802	7.71
D+L	3.92	-29	3.85	-2341	7.71
D+Lr	4.50	-87	5.16	-3055	7.71
D+0.75L+0.75Lr	4.89	-51	4.18	-3146	7.71

Code Check:

Load Combination	LDF	Max. Bending			Max. Shear		
		Critical fb (psi)	Fb (psi)	% Code Check	Max fv (psi)	Fv (psi)	% Code Check
D	0.90	289	2566	11.3	55	261	21.1
D+L	1.00	412	2851	14.4	72	290	24.7
D+Lr	1.25	472	3563	13.3	94	362	25.8
D+0.75L+0.75Lr	1.25	513	3563	14.4	96	362	26.6

Total Load Deflection:

Span ID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check	Load Combination
B2-P63	0.047	0.39	3.93	Passed L/999+	D+0.75L+0.75Lr
P63-P59	0.018	0.27	10.32	Passed L/999+	D+0.75L+0.75Lr

Total Live Load Deflection:

SpanID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check
B2-P63	0.027	0.26	3.93	Passed L/999+
P63-P59	0.010	0.18	10.32	Passed L/999+

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Beam_ID: B11 **Location:** 1st **Passed**
 Beam length (ft): 12.93 Section Type: iLevel Truss Joist Parallam PSL 2.0E
 Number of spans: 1 Section Name: 3.5x14.0
 Maximum span (ft): 12.93 Beam Thickness: 3.50 in.
 Left cantilever Lc (ft): 0.00 Beam Depth: 14.00 in.
 Right cantilever Lr (ft): 0.00 A: 49.00 in²
 Ignore shear within (d)? False Sxx: 114.33 in³
 Repetitive member? False Syy: 28.58 in³
 Include own weight? True Fb Base Allowable: 2900 psi
 Lu top (ft): 0.00 Fb Adjust Allowable (CD = 1): 2851 psi
 Lu bottom (ft): 0.00 Fv Allowable (CD = 1): 290 psi
 Slenderness Ratio: 1 Fc Allowable (CD = 1): 2900 psi
 Adjustment factors: CF=0.983 E: 2000 ksi

Reactions:

Support ID	Distance from Start (ft)	Reactions (lbs)					Requird Bearing Area	
		Dead (lbs)	Live (lbs)	Roof Live (lbs)	Balanced Snow (lbs)	Unbalanced Snow (lbs)	Max Value (in ²)	Load combination ID
P60	0.00	2846	686	1510	0	0	8.21	6
P62	12.93	1287	338	489	0	0	4.17	6

Over-Strength Load Cases:

Location (ft)	Seismic Reaction (lbs) 0.7QE			
	N-S	S-N	E-W	W-E
7.93	-2649	2649	-2105	2105

Analysis Summary:

Load Combination	Max. Bending			Max. Shear	
	Max Moment (k.lf.)	Shear (lbs)	Location (ft)	Max Shear (lbs)	Location (lbs)
D	7.92	-261	4.93	2846	0.00
D+L	9.45	-313	4.93	3532	0.00
D+Lr	11.26	-513	4.93	4357	0.00
D+0.75L+0.75Lr	11.58	-489	4.93	4493	0.00

Code Check:

Load Combination	LDF	Max. Bending			Max. Shear		
		Critical fb (psi)	Fb (psi)	% Code Check	Max fv (psi)	Fv (psi)	% Code Check
D	0.90	831	2566	32.4	87	261	33.4
D+L	1.00	992	2851	34.8	108	290	37.3
D+Lr	1.25	1182	3563	33.2	133	362	36.8
D+0.75L+0.75Lr	1.25	1215	3563	34.1	138	362	37.9

Total Load Deflection:

Span ID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check	Load Combination
P60-P62	0.224	0.65	6.21	Passed L/692	D+0.75L+0.75Lr

Total Live Load Deflection:

SpanID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check
P60-P62	0.095	0.43	5.97	Passed L/999+

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Beam_ID:	B12	Location:	1st	Passed
Beam length (ft):	15.83	Section Type:	iLevel Truss Joist Parallam PSL 2.0E	
Number of spans:	1	Section Name:	1.75x14	
Maximum span (ft):	15.83	Beam Thickness:	1.75	in.
Left cantilever Lc (ft):	0.00	Beam Depth:	14.00	in.
Right cantilever Lr (ft):	0.00	A:	24.50	in ²
Ignore shear within (d)?	False	Sxx:	57.17	in ³
Repetitive member?	False	Syy:	7.15	in ³
Include own weight?	True	Fb Base Allowable:	2900	psi
Lu top (ft):	0.00	Fb Adjust Allowable (CD = 1):	2851	psi
Lu bottom (ft):	0.00	Fv Allowable (CD = 1):	290	psi
Slenderness Ratio:	1	Fc Allowable (CD = 1):	2900	psi
Adjustment factors:	CF=0.983	E:	2000	ksi

Reactions:

Support ID	Distance from Start (ft)	Reactions (lbs)					Requird Bearing Area	
		Dead (lbs)	Live (lbs)	Roof Live (lbs)	Balanced Snow (lbs)	Unbalanced Snow (lbs)	Max Value (in ²)	Load combination ID
B4	0.00	1041	140	347	0	0	2.57	6
P64	15.83	898	141	317	0	0	2.71	6

Analysis Summary:

Load Combination	Max. Bending			Max. Shear	
	Max Moment (k.lf.)	Shear (lbs)	Location (ft)	Max Shear (lbs)	Location (lbs)
D	5.11	-12	8.66	1041	0.00
D+L	5.65	13	8.41	1181	0.00
D+Lr	6.87	-63	9.15	1388	0.00
D+0.75L+0.75Lr	6.83	-50	8.91	1406	0.00

Code Check:

Load Combination	LDF	Max. Bending			Max. Shear		
		Critical fb (psi)	Fb (psi)	% Code Check	Max fv (psi)	Fv (psi)	% Code Check
D	0.90	1072	2566	41.8	64	261	24.4
D+L	1.00	1187	2851	41.6	72	290	24.9
D+Lr	1.25	1441	3563	40.4	85	362	23.4
D+0.75L+0.75Lr	1.25	1433	3563	40.2	86	362	23.8

Total Load Deflection:

Span ID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check	Load Combination
B4-P64	0.410	0.79	7.92	Passed L/464	D+Lr

Total Live Load Deflection:

SpanID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check
B4-P64	0.137	0.53	7.92	Passed L/999+

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Beam_ID:	B13	Location:	1st	Passed
Beam length (ft):	15.83	Section Type:	iLevel Truss Joist Parallam PSL 2.0E	
Number of spans:	1	Section Name:	1.75x14	
Maximum span (ft):	15.83	Beam Thickness:	1.75	in.
Left cantilever Lc (ft):	0.00	Beam Depth:	14.00	in.
Right cantilever Lr (ft):	0.00	A:	24.50	in ²
Ignore shear within (d)?	False	Sxx:	57.17	in ³
Repetitive member?	False	Syy:	7.15	in ³
Include own weight?	True	Fb Base Allowable:	2900	psi
Lu top (ft):	0.00	Fb Adjust Allowable (CD = 1):	2851	psi
Lu bottom (ft):	0.00	Fv Allowable (CD = 1):	290	psi
Slenderness Ratio:	1	Fc Allowable (CD = 1):	2900	psi
Adjustment factors:	CF=0.983	E:	2000	ksi

Reactions:

Support ID	Distance from Start (ft)	Reactions (lbs)					Requird Bearing Area	
		Dead (lbs)	Live (lbs)	Roof Live (lbs)	Balanced Snow (lbs)	Unbalanced Snow (lbs)	Max Value (in ²)	Load combination ID
B4	0.00	1643	118	1239	0	0	5.26	3
P65	15.83	352	119	205	0	0	1.30	6

Over-Strength Load Cases:

Location (ft)	Seismic Reaction (lbs) 0.7QE			
	N-S	S-N	E-W	W-E
2.88	0	0	-2986	2986

Analysis Summary:

Load Combination	Max. Bending			Max. Shear	
	Max Moment (k.lf.)	Shear (lbs)	Location (ft)	Max Shear (lbs)	Location (lbs)
D	3.25	-139	2.88	1643	0.00
D+L	3.52	-139	2.88	1762	0.00
D+Lr	5.90	-344	2.88	2882	0.00
D+0.75L+0.75Lr	5.44	-293	2.88	2661	0.00

Code Check:

Load Combination	LDF	Max. Bending			Max. Shear		
		Critical fb (psi)	Fb (psi)	% Code Check	Max fv (psi)	Fv (psi)	% Code Check
D	0.90	682	2566	26.6	101	261	38.5
D+L	1.00	740	2851	25.9	108	290	37.2
D+Lr	1.25	1238	3563	34.8	176	362	48.7
D+0.75L+0.75Lr	1.25	1143	3563	32.1	163	362	44.9

Total Load Deflection:

Span ID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check	Load Combination
B4-P65	0.277	0.79	6.93	Passed L/686	D+Lr

Total Live Load Deflection:

SpanID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check
B4-P65	0.144	0.53	7.17	Passed L/999+

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Beam_ID:	B14	Location:	1st	Passed
Beam length (ft):	18.88	Section Type:	iLevel Truss Joist Parallam PSL 2.0E	
Number of spans:	1	Section Name:	3.5x14.0	
Maximum span (ft):	18.88	Beam Thickness:	3.50	in.
Left cantilever Lc (ft):	0.00	Beam Depth:	14.00	in.
Right cantilever Lr (ft):	0.00	A:	49.00	in ²
Ignore shear within (d)?	False	Sxx:	114.33	in ³
Repetitive member?	False	Syy:	28.58	in ³
Include own weight?	True	Fb Base Allowable:	2900	psi
Lu top (ft):	0.00	Fb Adjust Allowable (CD = 1):	2851	psi
Lu bottom (ft):	0.00	Fv Allowable (CD = 1):	290	psi
Slenderness Ratio:	1	Fc Allowable (CD = 1):	2900	psi
Adjustment factors:	CF=0.983	E:	2000	ksi

Reactions:

Support ID	Distance from Start (ft)	Reactions (lbs)					Requird Bearing Area	
		Dead (lbs)	Live (lbs)	Roof Live (lbs)	Balanced Snow (lbs)	Unbalanced Snow (lbs)	Max Value (in ²)	Load combination ID
P74	0.19	920	145	679	0	0	3.50	3
P75	19.06	426	145	245	0	0	1.57	6

Over-Strength Load Cases:

Location (ft)	Seismic Reaction (lbs) 0.7QE			
	N-S	S-N	E-W	W-E
5.19	3061	-3061	0	0

Analysis Summary:

Load Combination	Max. Bending			Max. Shear	
	Max Moment (k.lf.)	Shear (lbs)	Location (ft)	Max Shear (lbs)	Location (lbs)
D	4.39	-209	5.00	918	0.00
D+L	4.92	-209	5.00	1060	0.00
D+Lr	7.79	-454	5.00	1596	0.00
D+0.75L+0.75Lr	7.33	-393	5.00	1534	0.00

Code Check:

Load Combination	LDF	Max. Bending			Max. Shear		
		Critical fb (psi)	Fb (psi)	% Code Check	Max fv (psi)	Fv (psi)	% Code Check
D	0.90	461	2566	18.0	28	261	10.8
D+L	1.00	516	2851	18.1	32	290	11.2
D+Lr	1.25	817	3563	22.9	49	362	13.5
D+0.75L+0.75Lr	1.25	770	3563	21.6	47	362	13.0

Total Load Deflection:

Span ID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check	Load Combination
P74-P75	0.260	0.94	8.44	Passed L/872	D+Lr

Total Live Load Deflection:

SpanID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check
P74-P75	0.136	0.63	8.69	Passed L/999+

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Beam_ID:	B15	Location:	1st	Passed
Beam length (ft):	18.88	Section Type:	iLevel Truss Joist Parallam PSL 2.0E	
Number of spans:	1	Section Name:	3.5x14.0	
Maximum span (ft):	18.88	Beam Thickness:	3.50	in.
Left cantilever Lc (ft):	0.00	Beam Depth:	14.00	in.
Right cantilever Lr (ft):	0.00	A:	49.00	in ²
Ignore shear within (d)?	False	Sxx:	114.33	in ³
Repetitive member?	False	Syy:	28.58	in ³
Include own weight?	True	Fb Base Allowable:	2900	psi
Lu top (ft):	0.00	Fb Adjust Allowable (CD = 1):	2851	psi
Lu bottom (ft):	0.00	Fv Allowable (CD = 1):	290	psi
Slenderness Ratio:	1	Fc Allowable (CD = 1):	2900	psi
Adjustment factors:	CF=0.983	E:	2000	ksi

Reactions:

Support ID	Distance from Start (ft)	Reactions (lbs)					Requird Bearing Area	
		Dead (lbs)	Live (lbs)	Roof Live (lbs)	Balanced Snow (lbs)	Unbalanced Snow (lbs)	Max Value (in ²)	Load combination ID
P76	0.21	632	511	202	0	0	2.55	6
P77	19.09	391	505	73	0	0	1.96	2

Over-Strength Load Cases:

Location (ft)	Seismic Reaction (lbs) 0.7QE			
	N-S	S-N	E-W	W-E
5.21	-3061	0	0	0

Analysis Summary:

Load Combination	Max. Bending			Max. Shear	
	Max Moment (k.lf.)	Shear (lbs)	Location (ft)	Max Shear (lbs)	Location (lbs)
D	2.80	-7	5.00	628	0.00
D+L	4.96	-88	7.70	1131	0.00
D+Lr	3.81	-80	5.00	830	0.00
D+0.75L+0.75Lr	5.03	-115	6.71	1157	0.00

Code Check:

Load Combination	LDF	Max. Bending			Max. Shear		
		Critical fb (psi)	Fb (psi)	% Code Check	Max fv (psi)	Fv (psi)	% Code Check
D	0.90	294	2566	11.5	19	261	7.4
D+L	1.00	520	2851	18.3	35	290	11.9
D+Lr	1.25	400	3563	11.2	25	362	7.0
D+0.75L+0.75Lr	1.25	528	3563	14.8	35	362	9.8

Total Load Deflection:

Span ID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check	Load Combination
P76-P77	0.210	0.94	9.19	Passed L/999+	D+L

Total Live Load Deflection:

SpanID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check
P76-P77	0.133	0.63	9.19	Passed L/999+

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Beam_ID:	B17	Location:	1st	Passed
Beam length (ft):	15.94	Section Type:	iLevel Truss Joist Parallam PSL 2.0E	
Number of spans:	1	Section Name:	5.25x14.0	
Maximum span (ft):	15.94	Beam Thickness:	5.25	in.
Left cantilever Lc (ft):	0.00	Beam Depth:	14.00	in.
Right cantilever Lr (ft):	0.00	A:	73.50	in ²
Ignore shear within (d)?	False	Sxx:	171.50	in ³
Repetitive member?	False	Syy:	64.31	in ³
Include own weight?	True	Fb Base Allowable:	2900	psi
Lu top (ft):	0.00	Fb Adjust Allowable (CD = 1):	2851	psi
Lu bottom (ft):	0.00	Fv Allowable (CD = 1):	290	psi
Slenderness Ratio:	1	Fc Allowable (CD = 1):	2900	psi
Adjustment factors:	CF=0.983	E:	2000	ksi

Reactions:

Support ID	Distance from Start (ft)	Reactions (lbs)					Requird Bearing Area	
		Dead (lbs)	Live (lbs)	Roof Live (lbs)	Balanced Snow (lbs)	Unbalanced Snow (lbs)	Max Value (in ²)	Load combination ID
B1	0.00	3499	980	2095	0	0	10.60	6
O2	15.94	2360	830	1593	0	0	9.15	6

Over-Strength Load Cases:

Location (ft)	Seismic Reaction (lbs) 0.7QE			
	N-S	S-N	E-W	W-E
7.88	0	0	2318	-2318
7.77	0	0	-2048	2048

Analysis Summary:

Load Combination	Max. Bending			Max. Shear	
	Max Moment (k.lf.)	Shear (lbs)	Location (ft)	Max Shear (lbs)	Location (lbs)
D	18.13	-1663	7.77	3499	0.00
D+L	24.91	-2493	7.77	4479	0.00
D+Lr	30.43	-2701	7.77	5594	0.00
D+0.75L+0.75Lr	32.44	-3064	7.77	5805	0.00

Code Check:

Load Combination	LDF	Max. Bending			Max. Shear		
		Critical fb (psi)	Fb (psi)	% Code Check	Max fv (psi)	Fv (psi)	% Code Check
D	0.90	1269	2566	49.5	71	261	27.4
D+L	1.00	1743	2851	61.2	91	290	31.5
D+Lr	1.25	2129	3563	59.8	114	362	31.5
D+0.75L+0.75Lr	1.25	2270	3563	63.7	118	362	32.7

Total Load Deflection:

Span ID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check	Load Combination
B1-O2	0.565	0.80	7.88	Passed L/339	D+0.75L+0.75Lr

Total Live Load Deflection:

SpanID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check
B1-O2	0.326	0.53	7.88	Passed L/587

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Beam_ID: B18	Location: 1st	Passed
Beam length (ft): 31.88	Section Type: iLevel Truss Joist Parallam PSL 2.0E	
Number of spans: 2	Section Name: 5.25x14.0	
Maximum span (ft): 20.74	Beam Thickness: 5.25	in.
Left cantilever Lc (ft): 0.00	Beam Depth: 14.00	in.
Right cantilever Lr (ft): 0.00	A: 73.50	in ²
Ignore shear within (d)? False	Sxx: 171.50	in ³
Repetitive member? False	Syy: 64.31	in ³
Include own weight? True	Fb Base Allowable: 2900	psi
Lu top (ft): 0.00	Fb Adjust Allowable (CD = 1): 2851	psi
Lu bottom (ft): 0.00	Fv Allowable (CD = 1): 290	psi
Slenderness Ratio: 1	Fc Allowable (CD = 1): 2900	psi
Adjustment factors: CF=0.983	E: 2000	ksi

Reactions:

Support ID	Distance from Start (ft)	Reactions (lbs)					Requird Bearing Area	
		Dead (lbs)	Live (lbs)	Roof Live (lbs)	Balanced Snow (lbs)	Unbalanced Snow (lbs)	Max Value (in ²)	Load combination ID
B17	0.00	2808	1597	2084	0	0	10.17	6
P55	20.74	3789	2559	3213	0	0	14.83	6
B9	31.88	2050	828	1594	0	0	7.06	6

Over-Strength Load Cases:

Location (ft)	Seismic Reaction (lbs) 0.7QE			
	N-S	S-N	E-W	W-E
2.42	0	0	-2318	2318
29.46	0	0	2318	-2318

Analysis Summary:

Load Combination	Max. Bending			Max. Shear	
	Max Moment (k.lf.)	Shear (lbs)	Location (ft)	Max Shear (lbs)	Location (lbs)
D	12.60	1	12.20	2808	0.00
D+L	21.07	-33	11.78	-4426	20.74
D+Lr	23.58	-216	13.78	-5276	20.74
D+0.75L+0.75Lr	26.98	-258	11.92	-5885	20.74

Code Check:

Load Combination	LDF	Max. Bending			Max. Shear		
		Critical fb (psi)	Fb (psi)	% Code Check	Max fv (psi)	Fv (psi)	% Code Check
D	0.90	881	2566	34.4	57	261	22.0
D+L	1.00	1475	2851	51.7	90	290	31.1
D+Lr	1.25	1650	3563	46.3	108	362	29.7
D+0.75L+0.75Lr	1.25	1888	3563	53.0	120	362	33.1

Total Load Deflection:

Span ID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check	Load Combination
B17-P55	0.936	1.04	10.71	Passed L/266	D+0.75L+0.75Lr
P55-B9	0.087	0.56	26.58	Passed L/999+	D+0.75L+0.75Lr

Total Live Load Deflection:

SpanID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check
B17-P55	0.663	0.69	10.71	Passed L/375
P55-B9	0.060	0.37	26.58	Passed L/999+

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Beam_ID: B19	Location: 1st	Passed
Beam length (ft): 13.52	Section Type: DOUGLAS FIR-LARCH No. 1	
Number of spans: 1	Section Name: 4x12	
Maximum span (ft): 11.09	Beam Thickness: 3.50	in.
Left cantilever Lc (ft): 0.00	Beam Depth: 11.25	in.
Right cantilever Lr (ft): 2.43	A: 39.38	in ²
Ignore shear within (d)? False	Sxx: 73.83	in ³
Repetitive member? False	Syy: 22.97	in ³
Include own weight? True	Fb Base Allowable: 1000	psi
Lu top (ft): 0.00	Fb Adjust Allowable (CD = 1): 1000	psi
Lu bottom (ft): 2.43	Fv Allowable (CD = 1): 180	psi
Slenderness Ratio: 7	Fc Allowable (CD = 1): 1500	psi
Adjustment factors:	E: 1700	ksi

Reactions:

Support ID	Distance from Start (ft)	Reactions (lbs)					Required Bearing Area	
		Dead (lbs)	Live (lbs)	Roof Live (lbs)	Balanced Snow (lbs)	Unbalanced Snow (lbs)	Max Value (in ²)	Load combination ID
B17	0.00	340	0	367	0	0	1.56	3
UP67	11.09	219	0	183	0	0	0.88	3

Analysis Summary:

Load Combination	Max. Bending			Max. Shear	
	Max Moment (k.lf.)	Shear (lbs)	Location (ft)	Max Shear (lbs)	Location (lbs)
D	0.65	-21	3.98	340	0.00
D+Lr	1.34	-61	3.98	712	0.00

Code Check:

Load Combination	LDF	Max. Bending			Max. Shear		
		Critical fb (psi)	Fb (psi)	% Code Check	Max fv (psi)	Fv (psi)	% Code Check
D	0.90	106	900	11.8	13	162	8.0
D+Lr	1.25	218	1250	17.5	27	225	12.1

Total Load Deflection:

Span ID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check	Load Combination
B17-UP67	0.039	0.55	5.16	Passed L/999+	D+Lr

Total Live Load Deflection:

SpanID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check
B17-UP67	0.020	0.37	5.16	Passed L/999+
Right Cant.	0.002	0.16	13.52	Passed L/999+

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Beam_ID:	B20	Location:	1st	Passed
Beam length (ft):	13.53	Section Type:	DOUGLAS FIR-LARCH No. 1	
Number of spans:	1	Section Name:	4x12	
Maximum span (ft):	10.97	Beam Thickness:	3.50	in.
Left cantilever Lc (ft):	0.00	Beam Depth:	11.25	in.
Right cantilever Lr (ft):	2.56	A:	39.38	in ²
Ignore shear within (d)?	False	Sxx:	73.83	in ³
Repetitive member?	False	Syy:	22.97	in ³
Include own weight?	True	Fb Base Allowable:	1000	psi
Lu top (ft):	0.00	Fb Adjust Allowable (CD = 1):	1000	psi
Lu bottom (ft):	0.00	Fv Allowable (CD = 1):	180	psi
Slenderness Ratio:	1	Fc Allowable (CD = 1):	1500	psi
Adjustment factors:		E:	1700	ksi

Reactions:

Support ID	Distance from Start (ft)	Reactions (lbs)					Required Bearing Area	
		Dead (lbs)	Live (lbs)	Roof Live (lbs)	Balanced Snow (lbs)	Unbalanced Snow (lbs)	Max Value (in ²)	Load combination ID
B9	0.00	246	0	250	0	0	1.10	3
P68	10.97	232	0	198	0	0	0.94	3

Analysis Summary:

Load Combination	Max. Bending			Max. Shear	
	Max Moment (k.lf.)	Shear (lbs)	Location (ft)	Max Shear (lbs)	Location (lbs)
D	0.66	-42	5.27	246	0.00
D+Lr	1.37	-94	5.27	502	0.00

Code Check:

Load Combination	LDF	Max. Bending			Max. Shear		
		Critical fb (psi)	Fb (psi)	% Code Check	Max fv (psi)	Fv (psi)	% Code Check
D	0.90	107	900	11.9	9	162	5.8
D+Lr	1.25	222	1250	17.8	19	225	8.5

Total Load Deflection:

Span ID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check	Load Combination
B9-P68	0.039	0.55	5.17	Passed L/999+	D+Lr

Total Live Load Deflection:

SpanID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check
B9-P68	0.020	0.37	5.17	Passed L/999+
Right Cant.	0.002	0.17	13.53	Passed L/999+

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Beam_ID: B22 **Location:** 1st **Passed**

Beam length (ft): 21.70 Section Type: iLevel Truss Joist Parallam PSL 2.0E

Number of spans: 2 Section Name: 7x11.875

Maximum span (ft): 16.44 Beam Thickness: 7.00 in.

Left cantilever Lc (ft): 0.00 Beam Depth: 11.88 in.

Right cantilever Lr (ft): 0.00 A: 83.12 in²

Ignore shear within (d)? False Sxx: 164.52 in³

Repetitive member? False Syy: 96.98 in³

Include own weight? True Fb Base Allowable: 2900 psi

Lu top (ft): 0.00 Fb Adjust Allowable (CD = 1): 2903 psi

Lu bottom (ft): 0.00 Fv Allowable (CD = 1): 290 psi

Slenderness Ratio: 1 Fc Allowable (CD = 1): 2900 psi

Adjustment factors: CF=1.001 E: 2000 ksi

Reactions:

Support ID	Distance from Start (ft)	Reactions (lbs)					Requird Bearing Area	
		Dead (lbs)	Live (lbs)	Roof Live (lbs)	Balanced Snow (lbs)	Unbalanced Snow (lbs)	Max Value (in ²)	Load combination ID
P50	0.00	314	884	0	0	0	2.19	2
P70	5.25	2989	2693	1182	0	0	10.77	6
O9	21.70	2538	839	1315	0	0	9.09	6

Over-Strength Load Cases:

Location (ft)	Seismic Reaction (lbs) 0.7QE			
	N-S	S-N	E-W	W-E
13.62	0	0	-246	246

Analysis Summary:

Load Combination	Max. Bending			Max. Shear	
	Max Moment (k.lf.)	Shear (lbs)	Location (ft)	Max Shear (lbs)	Location (lbs)
D	19.24	-1117	13.62	2762	5.25
D+L	26.00	-1955	13.62	4860	5.25
D+Lr	29.13	-1659	13.62	3944	5.25
D+0.75L+0.75Lr	31.73	-2152	13.62	5222	5.25

Code Check:

Load Combination	LDF	Max. Bending			Max. Shear		
		Critical fb (psi)	Fb (psi)	% Code Check	Max fv (psi)	Fv (psi)	% Code Check
D	0.90	1403	2613	53.7	50	261	19.1
D+L	1.00	1897	2903	65.3	88	290	30.2
D+Lr	1.25	2125	3629	58.6	71	362	19.6
D+0.75L+0.75Lr	1.25	2315	3629	63.8	94	362	26.0

Total Load Deflection:

Span ID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check	Load Combination
P50-P70	0.005	0.26	2.74	Passed L/999+	D+L
P70-O9	0.702	0.82	13.47	Passed L/281	D+0.75L+0.75Lr

Total Live Load Deflection:

SpanID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check
P50-P70	0.004	0.18	2.74	Passed L/999+
P70-O9	0.379	0.55	13.47	Passed L/521

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Beam_ID: B10	Location: 2nd	Passed
Beam length (ft): 26.90	Section Type: DOUGLAS FIR-LARCH No. 1	
Number of spans: 2	Section Name: 4x12	
Maximum span (ft): 13.52	Beam Thickness: 3.50	in.
Left cantilever Lc (ft): 0.00	Beam Depth: 11.25	in.
Right cantilever Lr (ft): 0.00	A: 39.38	in ²
Ignore shear within (d)? False	Sxx: 73.83	in ³
Repetitive member? False	Syy: 22.97	in ³
Include own weight? True	Fb Base Allowable: 1000	psi
Lu top (ft): 0.00	Fb Adjust Allowable (CD = 1): 1000	psi
Lu bottom (ft): 0.00	Fv Allowable (CD = 1): 180	psi
Slenderness Ratio: 1	Fc Allowable (CD = 1): 1500	psi
Adjustment factors:	E: 1700	ksi

Reactions:

Support ID	Distance from Start (ft)	Reactions (lbs)					Requird Bearing Area	
		Dead (lbs)	Live (lbs)	Roof Live (lbs)	Balanced Snow (lbs)	Unbalanced Snow (lbs)	Max Value (in ²)	Load combination ID
UP48	0.00	638	0	723	0	0	2.98	3
P54	13.52	1749	0	2038	0	0	8.30	3
UP53	26.90	887	0	1034	0	0	4.21	3

Analysis Summary:

Load Combination	Max. Bending			Max. Shear	
	Max Moment (k.lf.)	Shear (lbs)	Location (ft)	Max Shear (lbs)	Location (lbs)
D	3.20	-4	19.33	-892	13.52
D+Lr	6.97	-14	19.33	-1933	13.52

Code Check:

Load Combination	LDF	Max. Bending			Max. Shear		
		Critical fb (psi)	Fb (psi)	% Code Check	Max fv (psi)	Fv (psi)	% Code Check
D	0.90	521	900	57.9	34	162	21.0
D+Lr	1.25	1132	1250	90.6	74	225	32.7

Total Load Deflection:

Span ID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check	Load Combination
UP48-P54	0.231	0.68	6.72	Passed L/702	D+Lr
P54-UP53	0.318	0.67	20.17	Passed L/504	D+Lr

Total Live Load Deflection:

SpanID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check
UP48-P54	0.123	0.45	6.72	Passed L/999+
P54-UP53	0.172	0.45	20.17	Passed L/934

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Beam_ID:	B11	Location:	2nd	Passed
Beam length (ft):	19.27	Section Type:	DOUGLAS FIR-LARCH No. 1	
Number of spans:	1	Section Name:	4x12	
Maximum span (ft):	19.27	Beam Thickness:	3.50	in.
Left cantilever Lc (ft):	0.00	Beam Depth:	11.25	in.
Right cantilever Lr (ft):	0.00	A:	39.38	in ²
Ignore shear within (d)?	False	Sxx:	73.83	in ³
Repetitive member?	False	Syy:	22.97	in ³
Include own weight?	True	Fb Base Allowable:	1000	psi
Lu top (ft):	0.00	Fb Adjust Allowable (CD = 1):	1000	psi
Lu bottom (ft):	0.00	Fv Allowable (CD = 1):	180	psi
Slenderness Ratio:	1	Fc Allowable (CD = 1):	1500	psi
Adjustment factors:		E:	1700	ksi

Reactions:

Support ID	Distance from Start (ft)	Reactions (lbs)					Required Bearing Area	
		Dead (lbs)	Live (lbs)	Roof Live (lbs)	Balanced Snow (lbs)	Unbalanced Snow (lbs)	Max Value (in ²)	Load combination ID
GT-B2	0.00	483	0	498	0	0	2.15	3
P55	19.27	497	0	513	0	0	2.21	3

Analysis Summary:

Load Combination	Max. Bending			Max. Shear	
	Max Moment (k.lf.)	Shear (lbs)	Location (ft)	Max Shear (lbs)	Location (lbs)
D	2.40	-3	8.91	-495	19.27
D+Lr	4.90	-18	8.91	-1008	19.27

Code Check:

Load Combination	LDF	Max. Bending			Max. Shear		
		Critical fb (psi)	Fb (psi)	% Code Check	Max fv (psi)	Fv (psi)	% Code Check
D	0.90	390	900	43.4	19	162	11.6
D+Lr	1.25	796	1250	63.7	38	225	17.1

Total Load Deflection:

Span ID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check	Load Combination
GT-B2-P55	0.463	0.96	9.64	Passed L/500	D+Lr

Total Live Load Deflection:

SpanID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check
GT-B2-P55	0.236	0.64	9.64	Passed L/982

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Design Code: IBC 2018 / NDS 2018

Beam_ID: B12	Location: 2nd	Passed
Beam length (ft): 10.60	Section Type: DOUGLAS FIR-LARCH No. 1	
Number of spans: 1	Section Name: 4x12	
Maximum span (ft): 4.03	Beam Thickness: 3.50	in.
Left cantilever Lc (ft): 0.00	Beam Depth: 11.25	in.
Right cantilever Lr (ft): 6.57	A: 39.38	in ²
Ignore shear within (d)? False	Sxx: 73.83	in ³
Repetitive member? False	Syy: 22.97	in ³
Include own weight? True	Fb Base Allowable: 1000	psi
Lu top (ft): 0.00	Fb Adjust Allowable (CD = 1): 989	psi
Lu bottom (ft): 6.57	Fv Allowable (CD = 1): 180	psi
Slenderness Ratio: 12	Fc Allowable (CD = 1): 1500	psi
Adjustment factors:	E: 1700	ksi

Reactions:

Support ID	Distance from Start (ft)	Reactions (lbs)					Requird Bearing Area	
		Dead (lbs)	Live (lbs)	Roof Live (lbs)	Balanced Snow (lbs)	Unbalanced Snow (lbs)	Max Value (in ²)	Load combination ID
P55	0.00	58	0	109	0	0	0.72	3
P56	4.03	603	0	600	0	0	2.64	3

Analysis Summary:

Load Combination	Max. Bending			Max. Shear	
	Max Moment (k.lf.)	Shear (lbs)	Location (ft)	Max Shear (lbs)	Location (lbs)
D	-0.71	-360	4.03	-360	4.03
D+Lr	-1.35	-730	4.03	-730	4.03

Code Check:

Load Combination	LDF	Max. Bending			Max. Shear		
		Critical fb (psi)	Fb (psi)	% Code Check	Max fv (psi)	Fv (psi)	% Code Check
D	0.90	-115	890	12.9	14	162	8.5
D+Lr	1.25	-220	1230	17.9	28	225	12.4

Total Load Deflection:

Span ID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check	Load Combination
P55-P56	-0.003	0.20	2.47	Passed L/999+	D+Lr
Right Cant.	0.058	0.66	10.60	Passed L/999+	D+Lr

Total Live Load Deflection:

SpanID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check
P55-P56	-0.002	0.13	2.22	Passed L/999+
Right Cant.	0.029	0.44	10.60	Passed L/999+

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Design Code: IBC 2018 / NDS 2018

Beam_ID:	B13	Location:	2nd	Passed
Beam length (ft):	19.12	Section Type:	DOUGLAS FIR-LARCH No. 1	
Number of spans:	1	Section Name:	4x12	
Maximum span (ft):	19.12	Beam Thickness:	3.50	in.
Left cantilever Lc (ft):	0.00	Beam Depth:	11.25	in.
Right cantilever Lr (ft):	0.00	A:	39.38	in ²
Ignore shear within (d)?	False	Sxx:	73.83	in ³
Repetitive member?	False	Syy:	22.97	in ³
Include own weight?	True	Fb Base Allowable:	1000	psi
Lu top (ft):	0.00	Fb Adjust Allowable (CD = 1):	1000	psi
Lu bottom (ft):	0.00	Fv Allowable (CD = 1):	180	psi
Slenderness Ratio:	1	Fc Allowable (CD = 1):	1500	psi
Adjustment factors:		E:	1700	ksi

Reactions:

Support ID	Distance from Start (ft)	Reactions (lbs)					Required Bearing Area	
		Dead (lbs)	Live (lbs)	Roof Live (lbs)	Balanced Snow (lbs)	Unbalanced Snow (lbs)	Max Value (in ²)	Load combination ID
GT-B3	0.00	660	0	719	0	0	3.02	3
GT-B1	19.12	658	0	717	0	0	3.01	3

Analysis Summary:

Load Combination	Max. Bending			Max. Shear	
	Max Moment (k.lf.)	Shear (lbs)	Location (ft)	Max Shear (lbs)	Location (lbs)
D	3.14	0	8.92	660	0.00
D+Lr	6.57	-4	8.92	1379	0.00

Code Check:

Load Combination	LDF	Max. Bending			Max. Shear		
		Critical fb (psi)	Fb (psi)	% Code Check	Max fv (psi)	Fv (psi)	% Code Check
D	0.90	511	900	56.8	25	162	15.5
D+Lr	1.25	1069	1250	85.5	53	225	23.4

Total Load Deflection:

Span ID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check	Load Combination
GT-B3-GT-B1	0.612	0.96	9.44	Passed L/375	D+Lr

Total Live Load Deflection:

SpanID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check
GT-B3-GT-B1	0.319	0.64	9.44	Passed L/719

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Design Code: IBC 2018 / NDS 2018

Opening_ID: O2 Location: 1st Passed

Center span Ls (ft):	3.50	Section Type:	DOUGLAS FIR-LARCH No. 1
Left Cantilever Lc (ft):	0	Section Name:	4x10
Right Cantilever Lr (ft):	0	Opening Thickness:	3.50 in.
Ignore shear within (d)?	False	Opening Depth:	9.25 in.
Include own weight?	True	A:	32.38 in ²
Lu top (ft):	3.75	Sxx:	49.91 in ³
Lu bottom (ft):	3.75	Syy:	18.89 in ³
Slenderness Ratio:	8	Fb Base Allowable:	1000 psi
Adjustment factors:		Fb Adjust Allowable (CD = 1):	995 psi
		Fv Allowable (CD = 1):	180 psi
		Fc Allowable (CD = 1):	1500 psi
		E:	1700 ksi

Analysis Summary:

Load Combination	Max. Bending			Max. Shear		Reaction (lbs)	
	Max Moment (k.lf.)	Shear (lbs)	Location (ft)	Max Shear (lbs)	Location (ft)	Left	Right
D	2.02	-1676	2.35	-1742	3.63	942	1742
D+L	2.67	-2229	2.35	-2294	3.63	1219	2294
D+Lr	3.38	-2833	2.35	-2899	3.63	1548	2899
D+0.75L+0.75Lr	3.53	-2958	2.35	-3024	3.63	1605	3024

Code Check:

Load Combination	LDF	Max. Bending			Max. Shear			Required bearing area (in ²)	
		Critical fb (psi)	Fb (psi)	% Code Check	Max fv (psi)	Fv (psi)	% Code Check	Left	Right
D	0.90	486	896	54.2	81	162	49.8	2.06	3.82
D+L	1.00	643	995	64.6	106	180	59.1	2.67	5.03
D+Lr	1.25	814	1242	65.5	134	225	59.7	3.39	6.35
D+0.75L+0.75Lr	1.25	849	1242	68.4	140	225	62.3	3.52	6.63

Total Load Deflection:

Span ID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check	Load Combination
P5-P6	0.017	0.18	1.93	Passed L/999+	D+0.75L+0.75Lr

Total Live Load Deflection:

SpanID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check
P5-P6	0.010	0.12	1.93	Passed L/999+

Company Name	DESIGNED	JOB NO.
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Design Code: IBC 2018 / NDS 2018

Opening_ID: O4 Location: 1st Passed

Center span Ls (ft):	9.00	Section Type:	DOUGLAS FIR-LARCH No. 1
Left Cantilever Lc (ft):	0	Section Name:	4x10
Right Cantilever Lr (ft):	0	Opening Thickness:	3.50 in.
Ignore shear within (d)?	False	Opening Depth:	9.25 in.
Include own weight?	True	A:	32.38 in ²
Lu top (ft):	9.25	Sxx:	49.91 in ³
Lu bottom (ft):	9.25	Syy:	18.89 in ³
Slenderness Ratio:	13	Fb Base Allowable:	1000 psi
Adjustment factors:		Fb Adjust Allowable (CD = 1):	989 psi
		Fv Allowable (CD = 1):	180 psi
		Fc Allowable (CD = 1):	1500 psi
		E:	1700 ksi

Analysis Summary:

Load Combination	Max. Bending			Max. Shear		Reaction (lbs)	
	Max Moment (k.lf.)	Shear (lbs)	Location (ft)	Max Shear (lbs)	Location (ft)	Left	Right
D	1.12	-63	4.24	561	0.00	561	507
D+Lr	2.35	-147	4.24	1184	0.00	1184	1062

Code Check:

Load Combination	LDF	Max. Bending			Max. Shear			Required bearing area (in ²)	
		Critical fb (psi)	Fb (psi)	% Code Check	Max fv (psi)	Fv (psi)	% Code Check	Left	Right
D	0.90	270	890	30.3	26	162	16.0	1.23	1.11
D+Lr	1.25	565	1228	46.0	55	225	24.4	2.59	2.33

Total Load Deflection:

Span ID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check	Load Combination
P13-P14	0.090	0.45	4.44	Passed L/999+	D+Lr

Total Live Load Deflection:

SpanID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check
P13-P14	0.047	0.30	4.44	Passed L/999+

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Design Code: IBC 2018 / NDS 2018

Opening_ID: O9 Location: 1st Passed

Center span Ls (ft):	4.00	Section Type:	DOUGLAS FIR-LARCH No. 1
Left Cantilever Lc (ft):	0	Section Name:	4x10
Right Cantilever Lr (ft):	0	Opening Thickness:	3.50 in.
Ignore shear within (d)?	False	Opening Depth:	9.25 in.
Include own weight?	True	A:	32.38 in ²
Lu top (ft):	4.25	Sxx:	49.91 in ³
Lu bottom (ft):	4.25	Syy:	18.89 in ³
Slenderness Ratio:	9	Fb Base Allowable:	1000 psi
Adjustment factors:		Fb Adjust Allowable (CD = 1):	995 psi
		Fv Allowable (CD = 1):	180 psi
		Fc Allowable (CD = 1):	1500 psi
		E:	1700 ksi

Analysis Summary:

Load Combination	Max. Bending			Max. Shear		Reaction (lbs)	
	Max Moment (k.lf.)	Shear (lbs)	Location (ft)	Max Shear (lbs)	Location (ft)	Left	Right
D	1.95	-502	0.93	2253	0.00	2253	885
D+L	2.54	-703	0.93	2890	0.00	2890	1086
D+Lr	2.98	-757	0.93	3523	0.00	3523	1412
D+0.75L+0.75Lr	3.16	-844	0.93	3684	0.00	3684	1431

Code Check:

Load Combination	LDF	Max. Bending			Max. Shear			Required bearing area (in ²)	
		Critical fb (psi)	Fb (psi)	% Code Check	Max fv (psi)	Fv (psi)	% Code Check	Left	Right
D	0.90	468	895	52.3	104	162	64.4	4.94	1.94
D+L	1.00	610	994	61.4	134	180	74.4	6.33	2.38
D+Lr	1.25	716	1241	57.7	163	225	72.6	7.72	3.10
D+0.75L+0.75Lr	1.25	760	1241	61.3	171	225	75.9	8.07	3.14

Total Load Deflection:

Span ID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check	Load Combination
P33-P34	0.021	0.20	1.94	Passed L/999+	D+0.75L+0.75Lr

Total Live Load Deflection:

SpanID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check
P33-P34	0.011	0.13	1.94	Passed L/999+

Company Name	DESIGNED	JOB NO.
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Design Code: IBC 2018 / NDS 2018

Opening_ID: O2 Location: 2nd Passed

Center span Ls (ft):	4.00	Section Type:	DOUGLAS FIR-LARCH No. 1
Left Cantilever Lc (ft):	0	Section Name:	4x12
Right Cantilever Lr (ft):	0	Opening Thickness:	3.50 in.
Ignore shear within (d)?	False	Opening Depth:	11.25 in.
Include own weight?	True	A:	39.38 in ²
Lu top (ft):	4.25	Sxx:	73.83 in ³
Lu bottom (ft):	4.25	Syy:	22.97 in ³
Slenderness Ratio:	10	Fb Base Allowable:	1000 psi
Adjustment factors:		Fb Adjust Allowable (CD = 1):	993 psi
		Fv Allowable (CD = 1):	180 psi
		Fc Allowable (CD = 1):	1500 psi
		E:	1700 ksi

Analysis Summary:

Load Combination	Max. Bending			Max. Shear		Reaction (lbs)	
	Max Moment (k.lf.)	Shear (lbs)	Location (ft)	Max Shear (lbs)	Location (ft)	Left	Right
D	0.70	-66	1.39	-745	4.12	542	745
D+Lr	1.46	-194	1.39	-1539	4.12	1082	1539

Code Check:

Load Combination	LDF	Max. Bending			Max. Shear			Required bearing area (in ²)	
		Critical fb (psi)	Fb (psi)	% Code Check	Max fv (psi)	Fv (psi)	% Code Check	Left	Right
D	0.90	114	894	12.8	28	162	17.5	1.19	1.63
D+Lr	1.25	237	1238	19.1	59	225	26.1	2.37	3.37

Total Load Deflection:

Span ID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check	Load Combination
P5-UP6	0.006	0.20	1.94	Passed L/999+	D+Lr

Total Live Load Deflection:

SpanID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check
P5-UP6	0.003	0.13	1.94	Passed L/999+

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Design Code: IBC 2018 / NDS 2018

Opening_ID: O5 Location: 2nd Passed

Center span Ls (ft):	4.01	Section Type:	DOUGLAS FIR-LARCH No. 1
Left Cantilever Lc (ft):	0	Section Name:	4x12
Right Cantilever Lr (ft):	0	Opening Thickness:	3.50 in.
Ignore shear within (d)?	False	Opening Depth:	11.25 in.
Include own weight?	True	A:	39.38 in ²
Lu top (ft):	4.26	Sxx:	73.83 in ³
Lu bottom (ft):	4.26	Syy:	22.97 in ³
Slenderness Ratio:	10	Fb Base Allowable:	1000 psi
Adjustment factors:		Fb Adjust Allowable (CD = 1):	993 psi
		Fv Allowable (CD = 1):	180 psi
		Fc Allowable (CD = 1):	1500 psi
		E:	1700 ksi

Analysis Summary:

Load Combination	Max. Bending			Max. Shear		Reaction (lbs)	
	Max Moment (k.lf.)	Shear (lbs)	Location (ft)	Max Shear (lbs)	Location (ft)	Left	Right
D	0.52	-179	2.20	-412	4.14	344	412
D+Lr	0.95	-344	2.20	-740	4.14	596	740

Code Check:

Load Combination	LDF	Max. Bending			Max. Shear			Required bearing area (in ²)	
		Critical fb (psi)	Fb (psi)	% Code Check	Max fv (psi)	Fv (psi)	% Code Check	Left	Right
D	0.90	85	894	9.5	16	162	9.7	0.75	0.90
D+Lr	1.25	155	1238	12.5	28	225	12.5	1.31	1.62

Total Load Deflection:

Span ID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check	Load Combination
P17-UP18	0.004	0.20	2.19	Passed L/999+	D+Lr

Total Live Load Deflection:

SpanID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check
P17-UP18	0.002	0.13	2.19	Passed L/999+

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Design Code: IBC 2018 / NDS 2018

Opening_ID: O9 Location: 2nd Passed

Center span Ls (ft):	4.00	Section Type:	DOUGLAS FIR-LARCH No. 1
Left Cantilever Lc (ft):	0	Section Name:	4x12
Right Cantilever Lr (ft):	0	Opening Thickness:	3.50 in.
Ignore shear within (d)?	False	Opening Depth:	11.25 in.
Include own weight?	True	A:	39.38 in ²
Lu top (ft):	4.25	Sxx:	73.83 in ³
Lu bottom (ft):	4.25	Syy:	22.97 in ³
Slenderness Ratio:	10	Fb Base Allowable:	1000 psi
Adjustment factors:		Fb Adjust Allowable (CD = 1):	993 psi
		Fv Allowable (CD = 1):	180 psi
		Fc Allowable (CD = 1):	1500 psi
		E:	1700 ksi

Analysis Summary:

Load Combination	Max. Bending			Max. Shear		Reaction (lbs)	
	Max Moment (k.lf.)	Shear (lbs)	Location (ft)	Max Shear (lbs)	Location (ft)	Left	Right
D	0.82	-745	2.99	-950	4.12	436	950
D+Lr	1.62	-1507	2.99	-1893	4.12	805	1893

Code Check:

Load Combination	LDF	Max. Bending			Max. Shear			Required bearing area (in ²)	
		Critical fb (psi)	Fb (psi)	% Code Check	Max fv (psi)	Fv (psi)	% Code Check	Left	Right
D	0.90	133	894	14.9	36	162	22.3	0.95	2.08
D+Lr	1.25	263	1238	21.2	72	225	32.1	1.77	4.15

Total Load Deflection:

Span ID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check	Load Combination
P33-UP34	0.006	0.20	2.18	Passed L/999+	D+Lr

Total Live Load Deflection:

SpanID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check
P33-UP34	0.003	0.13	2.18	Passed L/999+

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Design Code: IBC 2018 / NDS 2018

Post_ID: P50 Location: 1st Passed

Total column Height (ft):	9.00	Section Type:	DOUGLAS FIR-LARCH No. 1
Unbraced Length for "x-x" (ft):	9.00	Section Name:	4x10
Unbraced Length for "y-y" (ft):	9.00	Column width (along x-x axis):	4 in.
Ke x:	1.00	Column width (along y-y axis):	9 in.
Ke y:	1.00	Fb Base Allowable:	1000 psi
c:	0.8	Fv Allowable:	180 psi
Cp x (CD=1):	0.899	Fc Allowable:	1500 psi
Cp y (CD=1):	0.325	E:	1700 ksi
CL x (CD=1):	0.987	E min:	620 ksi
CL y (CD=1):	0.999	Adjustment Factors (Fc):	
Slenderness Ratio:	31		

Loads:

Axial load (lbs)					Eccentricity X (in.)	Eccentricity Y (in.)
DL	LL	Lr	Snow			
			Balanced	Unbalanced		
7,236	5,757	2,865	0	0	0.00	0.00

Code Check:

Load Combination	Load duration factor	Check Vertical Loads (psi)				Check Bending Stress (psi)				Interaction value (%)
		fc	Fc'	ft	Ft'	fb x	Fb' x	fb y	Fb' y	
D	0.90	224	482	0	608	0	890	0	900	46.4
D+L	1.00	401	488	0	675	0	987	0	999	82.2
D+Lr	1.25	312	499	0	844	0	1,229	0	1249	62.5
D+0.75L+0.75Lr	1.25	423	499	0	844	0	1,229	0	1249	84.8

Company Name		DESIGNED	JOB NO.	
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SUBJECT		DATE		

Design Code: IBC 2018 / NDS 2018

Post_ID: P56 Location: 1st Passed

Total column Height (ft):	9.00	Section Type:	DOUGLAS FIR-LARCH No. 1	
Unbraced Length for "x-x" (ft):	9.00	Section Name:	4x8	
Unbraced Length for "y-y" (ft):	9.00	Column width (along x-x axis):	4	in.
Ke x:	1.00	Column width (along y-y axis):	7	in.
Ke y:	1.00	Fb Base Allowable:	1000	psi
c:	0.8	Fv Allowable:	180	psi
Cp x (CD=1):	0.815	Fc Allowable:	1500	psi
Cp y (CD=1):	0.325	E:	1700	ksi
CL x (CD=1):	0.991	E min:	620	ksi
CL y (CD=1):	0.999	Adjustment Factors (Fc):		
Slenderness Ratio:	31			

Loads:

Axial load (lbs)					Eccentricity X (in.)	Eccentricity Y (in.)
DL	LL	Lr	Snow			
			Balanced	Unbalanced		
4,319	4,365	1,738	0	0	0.00	0.00

Code Check:

Load Combination	Load duration factor	Check Vertical Loads (psi)				Check Bending Stress (psi)				Interaction value (%)
		fc	Fc'	ft	Ft'	fb x	Fb' x	fb y	Fb' y	
D	0.90	170	482	0	608	0	893	0	899	35.3
D+L	1.00	342	488	0	675	0	991	0	999	70.1
D+Lr	1.25	239	499	0	844	0	1,235	0	1249	47.8
D+0.75L+0.75Lr	1.25	351	499	0	844	0	1,235	0	1249	70.3

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Design Code: IBC 2018 / NDS 2018

Post_ID: P61 Location: 1st Passed

Total column Height (ft):	9.00	Section Type:	DOUGLAS FIR-LARCH No. 1
Unbraced Length for "x-x" (ft):	9.00	Section Name:	4x6
Unbraced Length for "y-y" (ft):	9.00	Column width (along x-x axis):	4 in.
Ke x:	1.00	Column width (along y-y axis):	6 in.
Ke y:	1.00	Fb Base Allowable:	1000 psi
c:	0.8	Fv Allowable:	180 psi
Cp x (CD=1):	0.646	Fc Allowable:	1500 psi
Cp y (CD=1):	0.325	E:	1700 ksi
CL x (CD=1):	0.993	E min:	620 ksi
CL y (CD=1):	0.998	Adjustment Factors (Fc):	
Slenderness Ratio:	31		

Loads:

Axial load (lbs)					Eccentricity X (in.)	Eccentricity Y (in.)
DL	LL	Lr	Snow			
			Balanced	Unbalanced		
2,028	4,420	209	0	0	0.00	0.00

Code Check:

Load Combination	Load duration factor	Check Vertical Loads (psi)				Check Bending Stress (psi)				Interaction value (%)
		fc	Fc'	ft	Ft'	fb x	Fb' x	fb y	Fb' y	
D	0.90	105	482	0	608	0	895	0	899	21.9
D+L	1.00	335	488	0	675	0	993	0	998	68.6
D+Lr	1.25	116	499	0	844	0	1,239	0	1247	23.3
D+0.75L+0.75Lr	1.25	286	499	0	844	0	1,239	0	1247	57.3

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Floor: 1st Passed
 Joist: J1.44 Design Code: IBC 2018 / NDS 2018
 Manufacturer: iLevel TJI Total length: 19.02 ft
 Code reports: ESR-1153 Max. span length: 19.02 ft
 Section: 14" TJI 560 Left cant. length: 0.00 ft
 No. of plies: 1 Right cant. length: 0.00 ft

Code Check:

	Applied	Allowable	Location (ft)	Capacity (%)	Load Combination	LDF	Web Stiffener
Pos. Moment (lbs.ft)	9340	14094	5.00	66.27	D+0.75L+0.75Lr	1.25	
Neg. Moment (lbs.ft)	0	10148	18.88	0.00	D	0.90	
Shear (lbs)	2008	2988	0.00	67.22	D+0.75L+0.75Lr	1.25	
End Reaction (lbs)	2014	2156	0.15	93.40	D+0.75L+0.75Lr	1.25	Not Req'd

Total Load Deflection:

Span ID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check	Load Combination
WF2-B2	0.564	0.95	8.69	Passed L/404	D+0.75L+0.75Lr

Total Live Load Deflection:

SpanID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check
WF2-B2	0.375	0.48	8.94	Passed L/609

Floor: 1st Passed
 Joist: J1.5 Design Code: IBC 2018 / NDS 2018
 Manufacturer: iLevel TJI Total length: 32.62 ft
 Code reports: ESR-1153 Max. span length: 19.02 ft
 Section: 14" TJI 560 Left cant. length: 0.00 ft
 No. of plies: 1 Right cant. length: 0.00 ft

Code Check:

	Applied	Allowable	Location (ft)	Capacity (%)	Load Combination	LDF	Web Stiffener
Pos. Moment (lbs.ft)	2334	11275	7.00	20.70	D+L	1.00	
Neg. Moment (lbs.ft)	-2975	11275	18.88	26.39	D+L	1.00	
Shear (lbs)	861	2390	18.88	36.03	D+L	1.00	
End Reaction (lbs)	617	1725	0.15	35.76	D+L	1.00	Not Req'd
Int. Reaction (lbs)	1704	3000	19.02	56.79	D+L	1.00	Not Req'd

Total Load Deflection:

Span ID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check	Load Combination
WF2-WF4	0.138	0.95	8.49	Passed L/999+	D+L
WF4-B4	0.067	0.68	26.23	Passed L/999+	D+0.75L+0.75Lr

Total Live Load Deflection:

SpanID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check
WF2-WF4	0.109	0.48	8.74	Passed L/999+
WF4-B4	0.058	0.34	25.98	Passed L/999+

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Floor: 1st Passed
Joist: J1.43 **Design Code:** IBC 2018 / NDS 2018
Manufacturer: iLevel TJI **Total length:** 16.12 ft
Code reports: ESR-1153 **Max. span length:** 16.12 ft
Section: 14" TJI 560 **Left cant. length:** 0.00 ft
No. of plies: 1 **Right cant. length:** 0.00 ft

Code Check:

	Applied	Allowable	Location (ft)	Capacity (%)	Load Combination	LDF	Web Stiffener
Pos. Moment (lbs.ft)	3202	11275	9.24	28.40	D+L	1.00	
Neg. Moment (lbs.ft)	0	10148	0.00	0.00	D	0.90	
Shear (lbs)	-794	2390	15.98	33.21	D+L	1.00	
End Reaction (lbs)	802	1725	15.98	46.47	D+L	1.00	Not Req'd

Total Load Deflection:

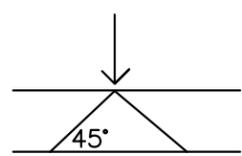
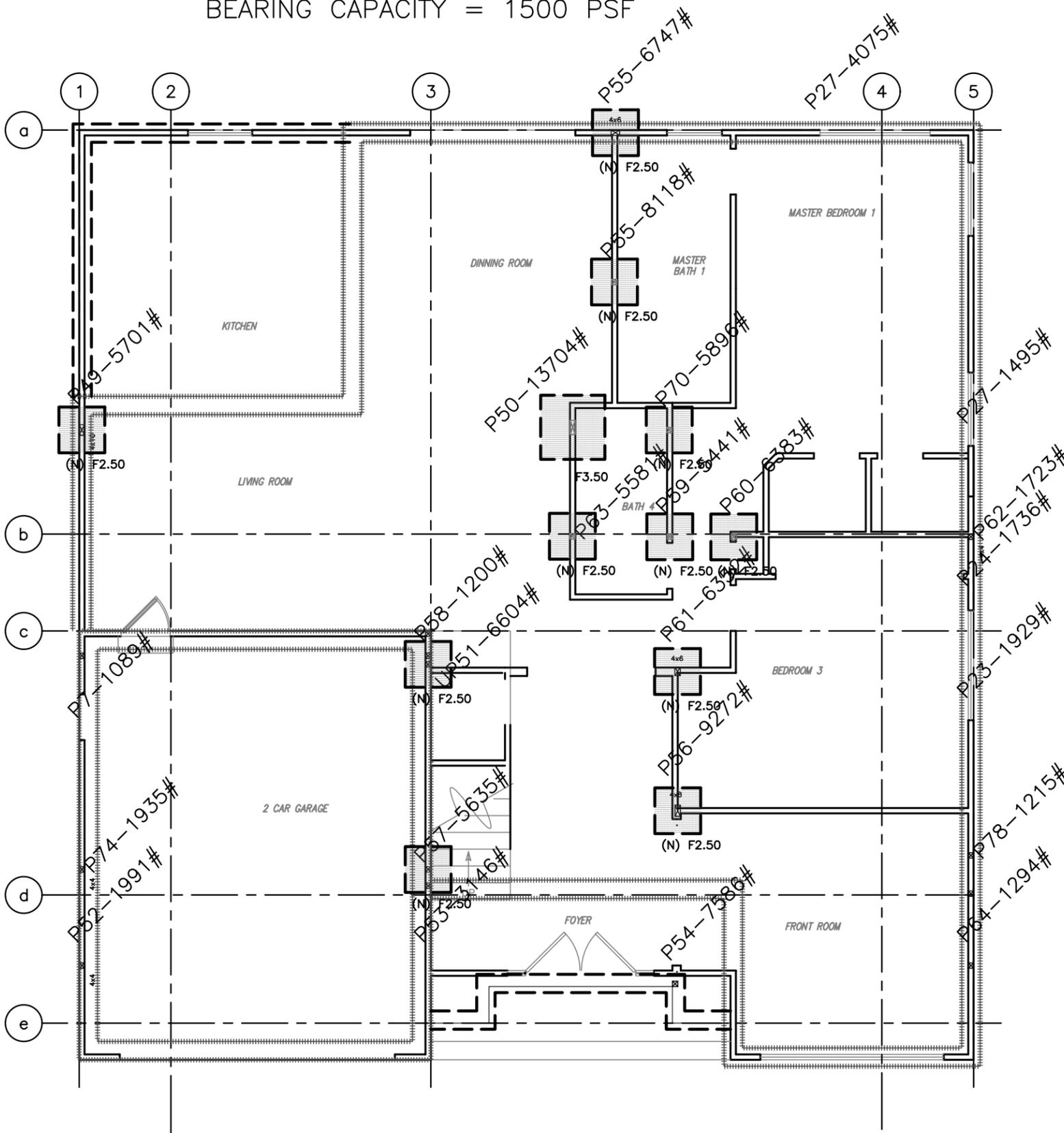
Span ID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check	Load Combination
B4-WF12	0.162	0.81	8.24	Passed L/999+	D+L

Total Live Load Deflection:

SpanID	Applied (in)	Allowable (in)	Location (ft)	Deflection Check
B4-WF12	0.108	0.40	7.99	Passed L/999+

Foundation Design

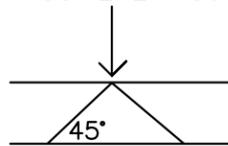
BEARING CAPACITY = 1500 PSF



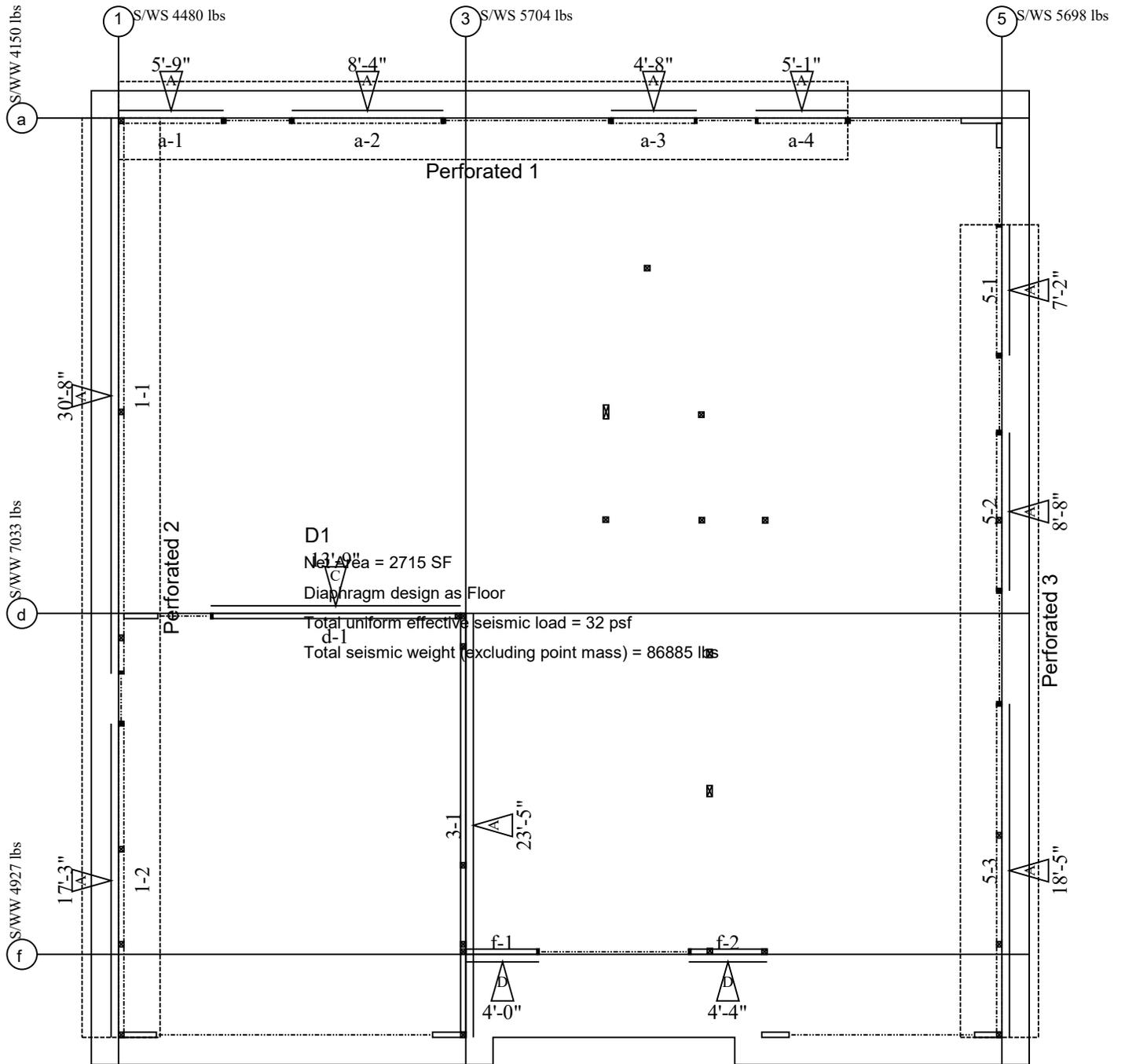
FOOTING SCHEDULE

FOOTING	DIMENSIONS		CAPACITY
	LENGHT	WIDTH	
F1.50	1'-6"	1'-6"	3375#
F2.00	2'-0"	2'-0"	6000#
F2.50	2'-6"	2'-6"	9,375#
F3.00	3'-0"	3'-0"	13,500#
F3.50	3'-6"	3'-6"	18,375#
F4.00	4'-0"	4'-0"	24,000#

(N) FTG MAX. WALL POST LOAD (16" WIDE X 2' DEEP -> 45 DEGREE LINES) = $1.33' \times 2' \times 2' \times 1500' = 7,980\#$

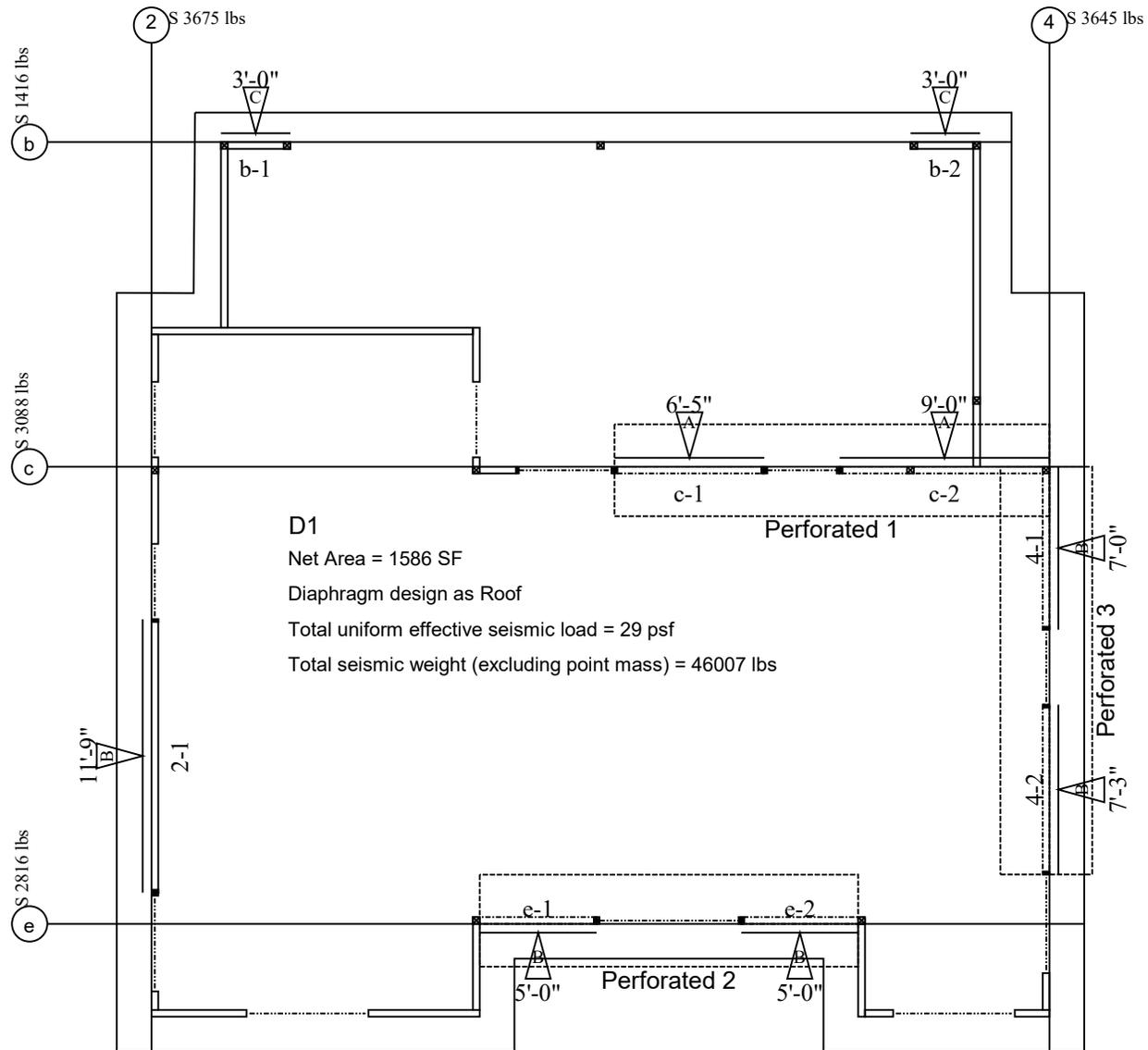


(E) FTG MAX. WALL POST LOAD (12" WIDE X 1.5' DEEP -> 45 DEGREE LINES) = $1.00' \times 2' \times 1.5' \times 1500' = 4,500\#$



PROJECT NAME:

SHEAR WALL LAYOUT OF (2ND)



PROJECT NAME:

SEISMIC LOADS

Desgin Code		2018 IBC (ASCE 7-16)	
Lateral force calculation method		Equivalnt Lateral Force	
Seismic Data			
Building Risk Category		II	
Importance Factor		1	
Site - Soil Ckass		D	
Mapped Spectral Response Acc (0.2 Sec) (Ss)		1.5	
Mapped Spectral Response Acc (1.0 Sec) (SI)		0.6	
Fa		1	Per 11.4.4
Fv		1.7	
Maximum considered earthquake acce (SMS=Fa Ss)		1.5	
Maximum considered earthquake acce (SMI=FvS1)		1.02	
Design Spectral acc SDs		1.005	
Design Spectral acc SDI		0.6834	
Is S1 > 0.75		FALSE	
Seismic Design Category		D	
Seismic force resistnce system		13	Light framed sheathed walls
Response modification factor R		6.5	
System overstrength - Ω		3	
Approximate fundemental period	Ct=	0.02	X= 0.75
Building Height		18.82	
Building Period T (Sec)		0.18	
Is building regular and 5 stories or less		TRUE	
Use Maximum Ss=1.50		FALSE	
Minimum Cs		0.04422	
	Or	0.046154	
Design Cs		0.155	
Seismic Load E = Cs W		0.155	W
Allowable stress design 0.70 E =0.7Cs		0.1082	W

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Total effective weight (lbs) = 132892

Total seismic force (ASD) (lbs) = 14311

Vertical seismic load distribution:

$$F_x = C_{vx} V$$

$$C_{vx} = \frac{w_x h_x^k}{\sum_{i=1}^n w_i h_i^k} \quad (12.8-11)$$

$$T = 0.19$$

$$K = 1.00$$

Sec 12.8.3

Floor	Wx (lbs)	hx (ft)	Wx * hx lb.ft	$\frac{Wx * hx}{\sum(W_i * H_i)}$	Fx (lbs)
1st	86885	10.05	873373	0.4885	6992
2nd	46007	19.88	914395	0.5115	7320

Sum(W)= 132892

Sum(W*h)= 1787769

Diaphragm design force:

$$F_{px} = \frac{\sum_{i=x}^n F_i}{\sum_{i=x}^n w_i} w_{px} \quad 12.10.1$$

Minimum value = $0.2 S_{SD} W_{px}$

Sec 12.10.1

Needn't to exceed = $0.4 S_{SD} W_{px}$

Diaphragm seismic forces:

Floor	Sum(Fi) (lbs)	Sum(Wi) (lbs)	Wpx (lbs)	$\frac{\text{Sum}(F_i)}{\text{Sum}(W_i)} W_{px}$	Min. Value	Max. Value	Fpx (lbs)
1st	14311	132892	86885	9357	17377	34754	17377
2nd	7320	46007	46007	7320	9201	18403	9201

Seismic force verification:

Direction	Base Seismic Forces (lbs)							Sum Wall Forces (lbs)	% Difference
	Masses			Forces		Point Seismic	Total Base Shear		
	Sum of diaphragm masses	Sum point mass	Total mass	Seismic factor	Seismic force from mass				
N-S	132892	0	132892	0.1077	14311	0	14311	14312	0.005
E-W	132892	0	132892	0.1077	14311	0	14311	14312	0.004

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Wind Loads

Design Code: International Building Code 2018
Wind Standard: ASCE7-10 (Method 2 - All Heights)

Wind Data

Exposure B

Enclosure Enclosed Building

Category II

Wind Speed 110 MPH

Mean Roof Height 23.88 ft

Importance Factor I_w 1

Hill Shape: No Topographic Obstructions

Velocity Coefficient q_z $0.00256 K_z K_{zt} K_d V^2 I_w$	27.3-1
Velocity Coefficient q_h $0.00256 K_h K_{zt} K_d V^2 I_w$	27.3-1
Directionality Factor K_d 0.85	Table 26.6-1
Gust Effect Factor G 0.85	26.9.1
Pressures for MWFRS p qGC_p	27.4-1
K_h 0.66	

North/South C_p :

Windward Wall C_p 0.80
Leeward Wall C_p -0.49
(L/B) 1.04

East/West C_p :

Windward Wall C_p 0.80
Leeward Wall C_p -0.50
(L/B) 0.96

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Wind Load Distribution (North/South)

Elev. Z (ft)	K_z	K_{zt}	q_z (psf)	p (Wall-Windward) (psf)
0-15	0.57	1.00	15.13	10.29
20.00	0.62	1.00	16.43	11.17
23.88	0.66	1.00	17.28	11.75

p (Wall-Leeward) (psf) -7.23

p (Roof Windward) (psf) 1.54

p (Roof Leeward) (psf) -8.81

Wind Load Distribution (East/West)

Elev. Z (ft)	K_z	K_{zt}	q_z (psf)	p (Wall-Windward) (psf)
0-15	0.57	1.00	15.13	10.29
20.00	0.62	1.00	16.43	11.17
23.88	0.66	1.00	17.28	11.75

p (Wall-Leeward) (psf) -7.34

p (Roof Windward) (psf) 1.54

p (Roof Leeward) (psf) -8.81

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Shear line reactions and shear wall forces

Floor ID: 1st

Shear line ID	Reaction (lbs)		Shear wall ID	Shear wall forces (lbs)		R*	Wall type
	Seismic	Wind		Seismic	Wind		
1	4259	4480	1-1	2722	2863	6.50	Perforated
			1-2	1537	1617	6.50	Perforated
3	4786	5704	3-1	4786	5704	6.50	Segmented
5	5267	5698	5-1	1107	1197	6.50	Perforated
			5-2	1338	1448	6.50	Perforated
			5-3	2822	3053	6.50	Perforated
a	3624	4150	a-1	876	1003	6.50	Perforated
			a-2	1262	1445	6.50	Perforated
			a-3	716	820	6.50	Perforated
			a-4	770	882	6.50	Perforated
d	6453	7033	d-1	6453	7033	6.50	Segmented
f	4235	4927	f-1	2044	2378	6.50	Segmented
			f-2	2191	2549	6.50	Segmented

Floor ID: 2nd

Shear line ID	Reaction (lbs)		Shear wall ID	Shear wall forces (lbs)		R*	Wall type
	Seismic	Wind		Seismic	Wind		
2	3675	3436	2-1	3675	3436	6.50	Segmented
4	3645	3436	4-1	1785	1683	6.50	Perforated
			4-2	1860	1754	6.50	Perforated
b	1416	1377	b-1	708	688	6.50	Segmented
			b-2	708	688	6.50	Segmented
c	3088	2647	c-1	1285	1102	6.50	Perforated
			c-2	1803	1546	6.50	Perforated
e	2816	2663	e-1	1408	1331	6.50	Perforated
			e-2	1408	1331	6.50	Perforated

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Shear Wall Schedule

Mark	Sheathing	No. of sides	Edge Nail	Field Nail	Plate Nail	Shear Clip	Mudsill Anchors		Allowable Shear (plf)	Material	Remarks
							2X Mudsill	3X Mudsill			
A	3/8" Sheathing, plywood siding except Group 5 Species	Single	8d @ 6"	8d @ 12"	1/4" Screws @ 0'-8"	A35 @ 2'-0"	5/8" x 10" @ 4'-0"	5/8" x 12" @ 4'-0"	260	DF	1
B	3/8" Sheathing, plywood siding except Group 5 Species	Single	8d @ 4"	8d @ 12"	SDS1/4x6" @ 1'-4"	A35 @ 1'-4"	5/8" x 10" @ 4'-0"	5/8" x 12" @ 4'-0"	350	DF	1
C	3/8" Sheathing, plywood siding except Group 5 Species	Single	8d @ 3"	8d @ 12"	1/4" Screws @ 0'-4"	A35 @ 1'-4"	5/8" x 10" @ 2'-8"	5/8" x 12" @ 2'-8"	490	DF	1,2
D	3/8" Sheathing, plywood siding except Group 5 Species	Single	8d @ 2"	8d @ 12"	1/4" Screws @ 0'-4"	A35 @ 1'-0"	5/8" x 10" @ 1'-4"	5/8" x 12" @ 2'-8"	640	DF	1,2
2C	3/8" Sheathing, plywood siding except Group 5 Species	Double	8d @ 3"	8d @ 12"	3/8" Screws @ 0'-3"	A35 @ 0'-8"	5/8" x 10" @ 1'-4"	5/8" x 12" @ 1'-4"	980	DF	1,2
2D	15/32" Sheathing, plywood siding except Group 5 Species	Double	8d @ 2"	8d @ 12"	SDS1/4x6" @ 0'-4"	A35 @ 0'-5"	5/8" x 10" @ 1'-0"	5/8" x 12" @ 1'-0"	1,280	DF	1,2
2E	15/32" Structural I Sheathing	Double	10d @ 2"	10d @ 12"	SDS1/4x6" @ 0'-3"	A35 @ 0'-4"	5/8" x 10" @ 0'-10"	5/8" x 12" @ 1'-0"	1,740	DF	1,2

- 1 WALL SHALL BE FRAMED WITH STUDS AT 16" O.C. OR PANELS ARE APPLIED WITH LONG DIMENSION ACROSS STUDS.
- 2 ALL FRAMING MEMBERS RECEIVING EDGE NAILING FROM ABUTTING PANELS SHALL NOT BE LESS THAN A SINGLE 3-INCH NOMINAL MEMBER OR TWO 2-INCH NOMINAL MEMBERS FASTEND IN ACCORDANCE WITH SECTION 2306.1 TO TRANSFER THE DESIGN SHEAR VALUE BETWEEN FRAMING MEMBERS. WOOD STRUCTURAL PANEL JOINT AND SILL PLATE NAILING SHALL BE STAGGERED IN ALL CASES.
- 3 ALL HARDWARE SHALL BE USP STRUCTURAL CONNECTORS U.O.N.

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Shear Wall Design

1st walls

Wall ID	Length (ft)	Net Height (ft)	H / W	Shear (plf)		Wall type	Allowable shear (plf)	Adjusted allowable shear (plf)		Wall Drift (in)	Hold-Down		Remarks
				Wind	Seismic			Wind	Seismic		End I	End J	
1-1										0.80			1
1-2										0.80			1
3-1	23'-5"	9'-0"	0.38	146	204	A	260	364	260	0.83	HDU2	HDU2	
5-1										1.68			1
5-2										1.68			1
5-3										1.68			1
a-1										2.39			1
a-2										2.39			1
a-3										2.39			1
a-4										2.39			1
d-1	13'-9"	9'-0"	0.65	306	468	C	490	686	490	1.26	HDU4	HDU2	
f-1	4'-0"	9'-0"	2.23	353	506	D	640	896	575	2.05	HDU5	HDU5	
f-2	4'-4"	9'-0"	2.08	353	506	D	640	896	616	1.95	HDU5	HDU5	

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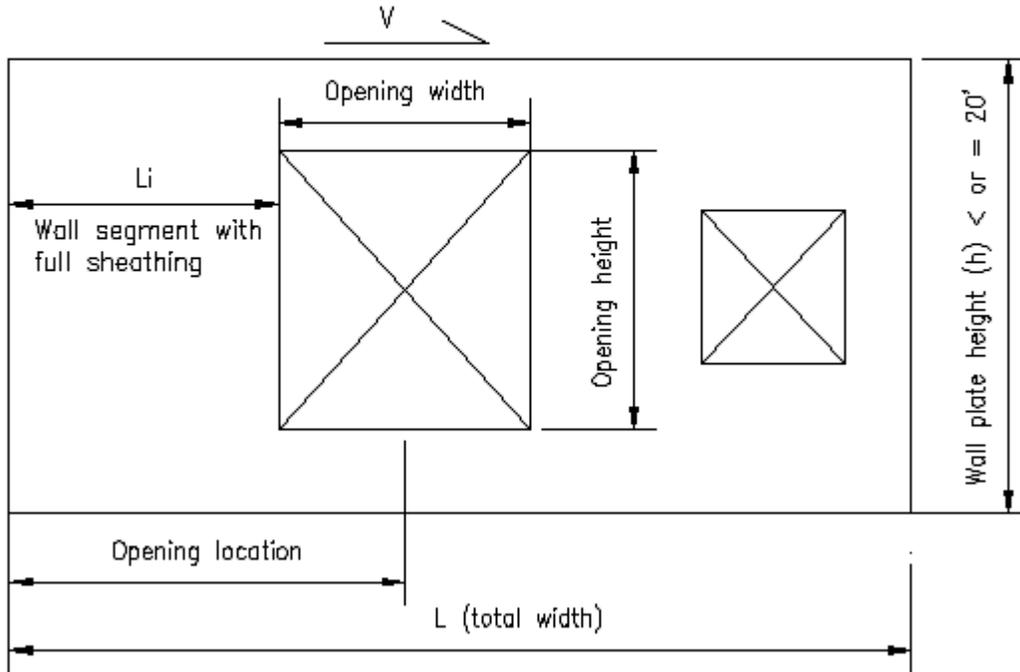
2nd walls

Wall ID	Length (ft)	Net Height (ft)	H / W	Shear (plf)		Wall type	Allowable shear (plf)	Adjusted allowable shear (plf)		Wall Drift (in)	Hold-Down		Remarks
				Wind	Seismic			Wind	Seismic		End I	End J	
2-1	11'-9"	9'-0"	0.76	175	312	B	350	490	350	1.01	MST48	MST48	
4-1										2.14			1
4-2										2.14			1
b-1	3'-0"	9'-0"	3.00	138	236	C	490	686	327	1.53	MST48	MST48	
b-2	3'-0"	9'-0"	3.00	138	236	C	490	686	327	1.53	MST48	MST48	
c-1										2.39			1
c-2										2.39			1
e-1										2.68			1
e-2										2.68			1

1 See perforated wall report

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Typical perforated shear wall elevation



Notes:

- A perforated shear wall segment shall be located at each end of perforated shear wall.
- Maximum shear wall height, h, shall not exceed 20 feet.

Company Name	DESIGNED _____	85 of 95 JOB NO. _____
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Floor_ID: 1st

Wall_ID: Perforated 1

PASSED

Wall seismic force = 3624 lbs
 Wall wind force = 2490 lbs
 Wall length (L) = 40.25 ft
 Wall height (20' max) (h) = 9.00 ft

Wall segments

Segment ID	Length Li (ft)	h / w
a-1	5.80	1.55
a-2	8.36	1.08
a-3	4.74	1.90
a-4	5.10	1.76

Opening data

Location (ft)	Opening Width (ft)	Opening Height (ft)
7.68	3.75	4.00
22.54	9.25	6.67
33.53	3.24	4.00

Total length of walls with full sheathing = 24.01 ft
 Max. opening height / wall height ratio = 0.74
 % fully sheathed walls: = 59.65 %
 Co = 0.67
 Wall Drift = 2.395 in

Wall Design:

Wall type = A
 Un-adjusted allowable stresses (h/w < or =2) = 260 plf

Check for seismic shear:

Maximum h/w for all segments: = 1.90
 Unadjusted seismic allowable (adjusted for h/w) = 260 plf
 Adjusted seismic allowable shear (multiply by Co) = 175 plf
 Allowable seismic shear = 4197 lbs > 3624 lbs
 Note: Passed

Check for wind shear:

Unadjusted wind allowable (multiply by 1.4) = 364 plf
 Adjusted wind allowable shear (multiply by Co) = 245 plf
 Allowable wind shear = 5876 lbs > 2490 lbs
 Note: Passed

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Anchorage for in-plane shear

$v=V / (Co * \text{Sum} (Li))$

In-plan anchorage Wind = 154 plf

In-plan anchorage Seismic = 224 plf

Uplift anchorage at ends:

See uplift report

Company Name	DESIGNED	JOB NO. 87 of 95
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Floor_ID: 1st

Wall_ID: Perforated 2

PASSED

Wall seismic force = 4234 lbs
 Wall wind force = 2671 lbs
 Wall length (L) = 50.48 ft
 Wall height (20' max) (h) = 9.00 ft

Wall segments

Segment ID	Length Li (ft)	h / w
1-2	17.33	0.52
1-1	30.40	0.30

Opening data

Location (ft)	Opening Width (ft)	Opening Height (ft)
18.71	2.75	6.67

Total length of walls with full sheathing = 47.73 ft
 Max. opening height / wall height ratio = 0.74
 % fully sheathed walls: = 94.55 %
 Co = 0.94
 Wall Drift = 0.795 in

Wall Design:

Wall type = A
 Un-adjusted allowable stresses (h/w < or =2) = 260 plf

Check for seismic shear:

Maximum h/w for all segments: = 0.52
 Unadjusted seismic allowable (adjusted for h/w) = 260 plf
 Adjusted seismic allowable shear (multiply by Co) = 245 plf
 Allowable seismic shear = 11680 lbs > 4234 lbs
 Note: Passed

Check for wind shear:

Unadjusted wind allowable (multiply by 1.4) = 364 plf
 Adjusted wind allowable shear (multiply by Co) = 343 plf
 Allowable wind shear = 16352 lbs > 2671 lbs
 Note: Passed

Anchorage for in-plane shear

$v = V / (Co * \sum (Li))$
 In-plan anchorage Wind = 59 plf
 In-plan anchorage Seismic = 94 plf

Uplift anchorage at ends:

See uplift report

Company Name	DESIGNED	JOB NO. 88 of 95
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Floor_ID: 1st

Wall_ID: Perforated 3

PASSED

Wall seismic force = 5223 lbs
 Wall wind force = 3390 lbs
 Wall length (L) = 44.58 ft
 Wall height (20' max) (h) = 9.00 ft

Wall segments

Segment ID	Length Li (ft)	h / w
5-3	18.12	0.50
5-2	8.73	1.03
5-1	7.22	1.25

Opening data

Location (ft)	Opening Width (ft)	Opening Height (ft)
21.54	6.25	4.00
35.53	4.25	4.00

Total length of walls with full sheathing = 34.08 ft
 Max. opening height / wall height ratio = 0.44
 % fully sheathed walls: = 76.45 %
 Co = 0.93
 Wall Drift = 1.682 in

Wall Design:

Wall type = A
 Un-adjusted allowable stresses (h/w < or =2) = 260 plf

Check for seismic shear:

Maximum h/w for all segments: = 1.25
 Unadjusted seismic allowable (adjusted for h/w) = 260 plf
 Adjusted seismic allowable shear (multiply by Co) = 242 plf
 Allowable seismic shear = 8245 lbs > 5223 lbs
 Note: Passed

Check for wind shear:

Unadjusted wind allowable (multiply by 1.4) = 364 plf
 Adjusted wind allowable shear (multiply by Co) = 339 plf
 Allowable wind shear = 11543 lbs > 3390 lbs
 Note: Passed

Anchorage for in-plane shear

$v=V / (Co * \text{Sum } (Li))$
 In-plan anchorage Wind = 107 plf
 In-plan anchorage Seismic = 165 plf

Uplift anchorage at ends:

See uplift report

Company Name	DESIGNED	JOB NO.
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Floor_ID: 2nd

Wall_ID: Perforated 1

PASSED

Wall seismic force = 3030 lbs
 Wall wind force = 1559 lbs
 Wall length (L) = 18.48 ft
 Wall height (20' max) (h) = 9.00 ft

Wall segments

Segment ID	Length Li (ft)	h / w
c-1	6.46	1.39
c-2	8.77	1.03

Opening data

Location (ft)	Opening Width (ft)	Opening Height (ft)
8.08	3.25	4.00

Total length of walls with full sheathing = 15.23 ft
 Max. opening height / wall height ratio = 0.44
 % fully sheathed walls: = 82.41 %
 Co = 0.95
 Wall Drift = 2.395 in

Wall Design:

Wall type = A
 Un-adjusted allowable stresses (h/w < or =2) = 260 plf

Check for seismic shear:

Maximum h/w for all segments: = 1.39
 Unadjusted seismic allowable (adjusted for h/w) = 260 plf
 Adjusted seismic allowable shear (multiply by Co) = 246 plf
 Allowable seismic shear = 3747 lbs > 3030 lbs
 Note: Passed

Check for wind shear:

Unadjusted wind allowable (multiply by 1.4) = 364 plf
 Adjusted wind allowable shear (multiply by Co) = 344 plf
 Allowable wind shear = 5245 lbs > 1559 lbs
 Note: Passed

Anchorage for in-plane shear

$v = V / (Co * \sum(Li))$
 In-plan anchorage Wind = 108 plf
 In-plan anchorage Seismic = 210 plf

Uplift anchorage at ends:

See uplift report

Company Name	DESIGNED	JOB NO. 90 of 95
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Floor_ID: 2nd

Wall_ID: Perforated 2

PASSED

Wall seismic force = 2898 lbs
 Wall wind force = 1644 lbs
 Wall length (L) = 16.62 ft
 Wall height (20' max) (h) = 9.00 ft

Wall segments

Segment ID	Length Li (ft)	h / w
e-1	5.04	1.79
e-2	5.33	1.69

Opening data

Location (ft)	Opening Width (ft)	Opening Height (ft)
8.17	6.25	4.00

Total length of walls with full sheathing = 10.38 ft
 Max. opening height / wall height ratio = 0.44
 % fully sheathed walls: = 62.41 %
 Co = 0.89
 Wall Drift = 2.677 in

Wall Design:

Wall type = B
 Un-adjusted allowable stresses (h/w < or =2) = 350 plf

Check for seismic shear:

Maximum h/w for all segments: = 1.79
 Unadjusted seismic allowable (adjusted for h/w) = 350 plf
 Adjusted seismic allowable shear (multiply by Co) = 313 plf
 Allowable seismic shear = 3243 lbs > 2898 lbs
 Note: Passed

Check for wind shear:

Unadjusted wind allowable (multiply by 1.4) = 490 plf
 Adjusted wind allowable shear (multiply by Co) = 438 plf
 Allowable wind shear = 4540 lbs > 1644 lbs
 Note: Passed

Anchorage for in-plane shear

$v = V / (Co * \sum (Li))$
 In-plan anchorage Wind = 177 plf
 In-plan anchorage Seismic = 313 plf

Uplift anchorage at ends:

See uplift report

Company Name	DESIGNED	JOB NO.
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Floor_ID: 2nd

Wall_ID: Perforated 3

PASSED

Wall seismic force = 3645 lbs
 Wall wind force = 2062 lbs
 Wall length (L) = 17.57 ft
 Wall height (20' max) (h) = 9.00 ft

Wall segments

Segment ID	Length Li (ft)	h / w
4-2	7.31	1.23
4-1	7.01	1.28

Opening data

Location (ft)	Opening Width (ft)	Opening Height (ft)
8.93	3.25	4.00

Total length of walls with full sheathing = 14.32 ft
 Max. opening height / wall height ratio = 0.44
 % fully sheathed walls: = 81.50 %
 Co = 0.94
 Wall Drift = 2.142 in

Wall Design:

Wall type = B
 Un-adjusted allowable stresses (h/w < or =2) = 350 plf

Check for seismic shear:

Maximum h/w for all segments: = 1.28
 Unadjusted seismic allowable (adjusted for h/w) = 350 plf
 Adjusted seismic allowable shear (multiply by Co) = 330 plf
 Allowable seismic shear = 4731 lbs > 3645 lbs
 Note: Passed

Check for wind shear:

Unadjusted wind allowable (multiply by 1.4) = 490 plf
 Adjusted wind allowable shear (multiply by Co) = 463 plf
 Allowable wind shear = 6623 lbs > 2062 lbs
 Note: Passed

Anchorage for in-plane shear

$v = V / (Co * \sum (Li))$
 In-plan anchorage Wind = 153 plf
 In-plan anchorage Seismic = 270 plf

Uplift anchorage at ends:

See uplift report

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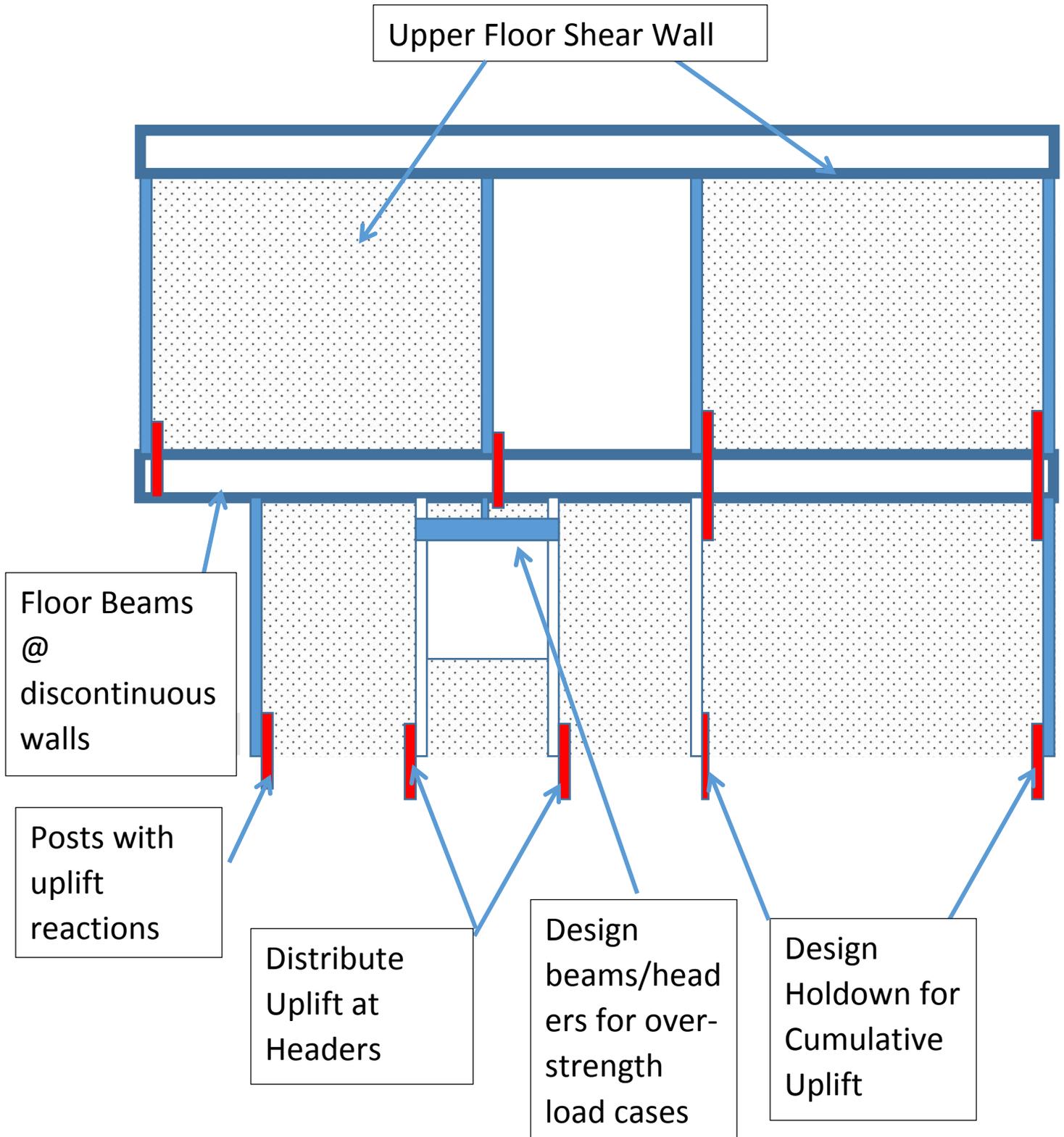
HOLD-DOWN SCHEDULE

Mark	Fastener	Minimum Wood Member	Anchor Bolt	Capacity (lbs)	Remarks
HDU2	(6)- SDS1/4x2 1/2"	(2) 2 x 6	5/8"	3075	
HDU4	(10)- SDS1/4x2 1/2"	(2) 2 x 6	5/8"	4565	
HDU5	(14)- SDS1/4x2 1/2"	(2) 2 x 4	5/8"	5645	

HOLD-DOWN STRAP SCHEDULE

Mark	Fastener	Minimum Wood Member Thickness	Clear Span	Capacity (lbs)	Remarks
MST48	32-16d	(2) 2 x 4	16"	3695	

Uplift Load Path in Model



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Uplift Calculations

Load Cases:

$$0.6D + 0.6W$$

$$(0.6 - 0.14S_{DS})D + 0.7pQ_E$$

1st Walls

Post ID	Shear Wall	Reactions (lbs)			Wall Height (ft)	Net Uplift (lbs)	Hold Down
		DL	W	0.7E			
UP2	d-1	1506	-5126	-4703	10.05	-4010	HDU4
P49		6851	-145	-158	0	2993	NR
UP51	3-1	4299	-2449	-2054	10.05	-77	HDU2
P62		1287	-1107	-1291	0	-699	
	5-2	1287	-1531	-1624	10.05	-1032	
P63		3181	-1375	-1604	0	-141	
P65		352	-513	-542	0	-380	
UP66	5-3	8390	-1806	-1670	10.05	2190	
UP69	3-1	5576	-2449	-2054	10.05	511	HDU2
P74	1-2	920	-2104	-2250	10.05	-1827	
P75	3-1	426	-758	-811	10.05	-615	
P78	5-3	598	-1709	-1812	10.05	-1537	
P5	a-1	988	-51	-52	10.05	402	NR
P6	a-2	1702	-93	-96	10.05	687	NR
UP25	a-4	5699	-2555	-2226	10.05	395	NR
UP29	5-1	9053	-1806	-1670	10.05	2495	
P33		2300	-94	-97	0	961	NR
P34		844	-27	-28	0	360	NR
UP41	f-1	453	-5913	-5083	10.05	-4875	HDU5
UP42	f-2	482	-5913	-5083	10.05	-4862	HDU5
UP67	a-1	6850	-2698	-2374	10.05	777	NR
	1-1	8630	-1002	-953	10.05	3017	
UP71	d-1	4444	-4908	-4449	10.05	-2405	HDU2

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1st Walls

UP73	1-2	9343	-1002	-953	10.05	3345	
UP79	f-2	598	-5913	-5083	10.05	-4808	HDU5
UP80	f-1	362	-5913	-5083	10.05	-4917	

2nd Walls

Post ID	Shear Wall	Reactions (lbs)			Wall Height (ft)	Net Uplift (lbs)	Hold Down
		DL	W	0.7E			
UP6	c-1	4421	-1805	-2105	9.82	-71	MST48
UP18	4-2	2525	-2497	-2649	9.82	-1487	MST48
UP34	2-1	2334	-2862	-3061	9.82	-1987	MST48
UP37	2-1	1691	-2862	-3061	9.82	-2283	MST48
UP47	e-1	4157	-2823	-2986	9.82	-1073	
UP50	c-2	2777	-1805	-2105	9.82	-828	MST48
	4-1	2149	-2497	-2649	9.82	-1660	
UP51	e-2	3549	-2823	-2986	9.82	-1353	MST48
UP53	b-2	1346	-2254	-2318	9.82	-1699	MST48
UP58	b-2	403	-2254	-2318	9.82	-2133	
UP48	b-1	988	-2254	-2318	9.82	-1864	MST48
UP52	b-1	291	-2254	-2318	9.82	-2185	

- NR indicates that no hold-down is required because there is no net uplift.
- No Selection indicates that uplift value is larger than available hold-down capacities defined in database.
- PP indicates hold-down attached to a pre-manufactured shear wall panel.