Supplemental Structural Calculations For:

Jaffe Residence

Remodel and Addition

8455 SE 83rd St.

Mercer Island, WA 98040

04-05-2023

Prepared for: Suyama Peterson Deguchi

Job #: 00043-2022-03

Date: April 5, 2023

Seismic Weight

$W_S(\text{Roof}) = \text{Roof} + \text{Walls}$
$= 15(4210\ S.f) + 10(3075\ S.f)$
$= 93.900\ k$

REVISED SEISMIC WEIGHT
Ws(Roof) = 15(4160 SF) + 10(2980 PSF)
= 92.2 kips
--> USE ORIGINAL VALUE OF 93.9 kips

NOTE: DAYLIT BUILDING W/ MAIN FLOOR AT GRADE.
THEREFORE BASE SHEAR TAKEN AT MAIN FLOOR

Seismic Story Shear ($\rho = 1.3$, ASD, $C_S = 0.181$)

$V_S(\text{Roof}) = 15.43\ k_{ips}$

Wind Loading (By Height)

$W_W(\text{Roof}) = (4.5\ ft + 0.75(10\ ft))(12.42\ psf)$
$= 149.04\ PLF$

Wind Loading ($K_{zt} = 1.0$, ASD, V = 98 Mph, Exp. C)

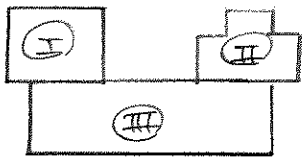
North/South ($L_T = 95.75\ ft$) East/West ($L_T = 47.75\ ft$)

$V_W = 14.27\ k$ $V_W = 7.12\ k$

WIND LOADING IS UNCHANGED

By observation, Seismic Gov's for both Directions

Division of Seismic Weight By Area



$A(I) =$	715 S.f	790 SF	$V(I)_\rho =$	0.233	27%	$V(I) =$	3.60 k	4.16 k
$A(II) =$	940 S.f	730 SF	$V(II)_\rho =$	0.806	24%	$V(II) =$	4.72 k	3.70 k
$A(III) =$	1420 S.f	1460 SF	$V(III)_\rho =$	0.461	49%	$V(III) =$	7.11 k	7.57 k
$\Sigma A =$	3075 S.f	2980 SF	$V_\rho =$	1.00	1.00	$\Sigma V =$	15.43 k	15.43

:. ok :. ok

SSF STRUCTURAL ENGINEERING

PROJECT: JAFFE RESIDENCE Revised
LATERAL LOADING (WIND + SEISMIC)

DATE: 7/4/22 04-05-2023
PROJ. #: VMA ETC
DESIGN:
SHEET: 2 01

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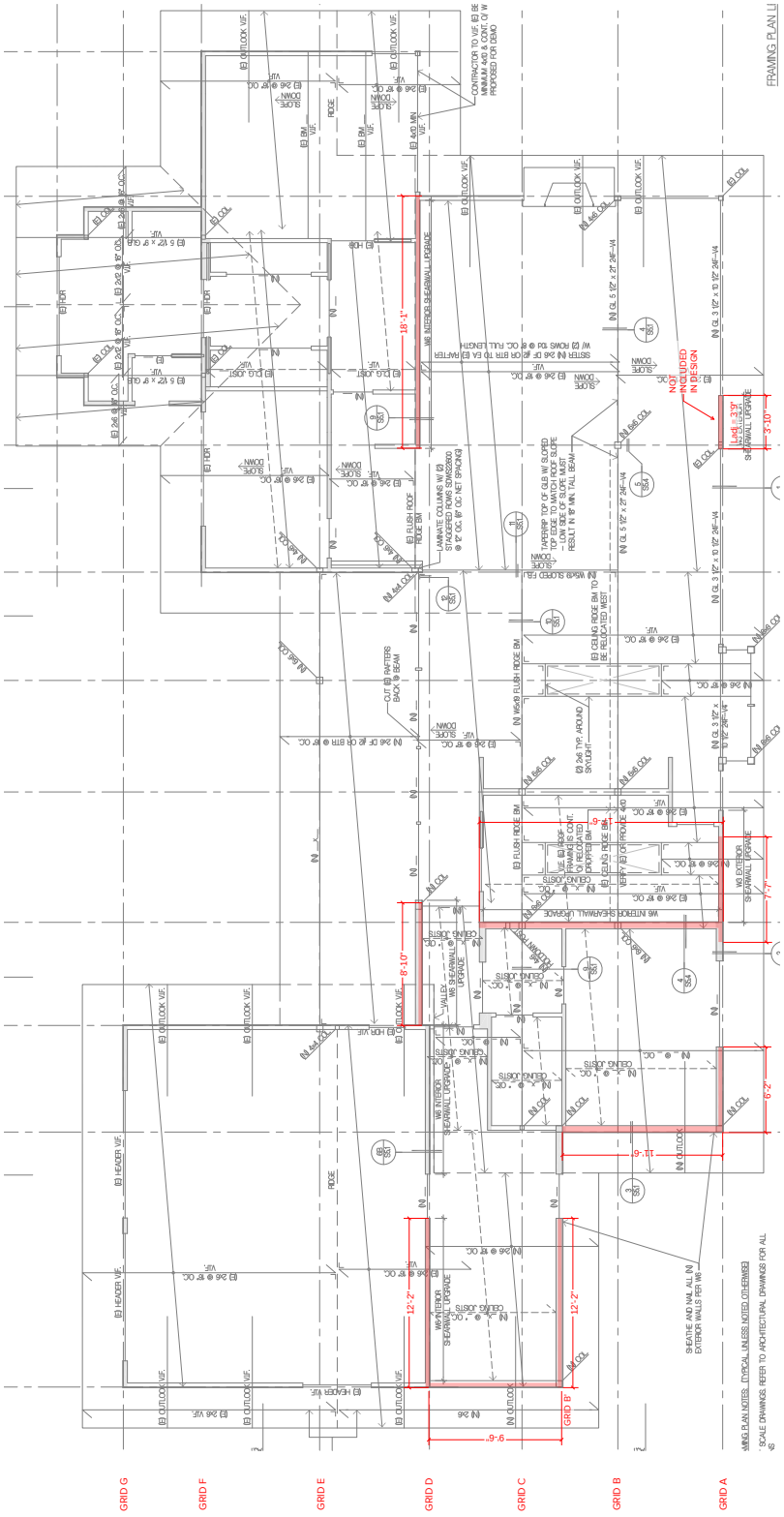

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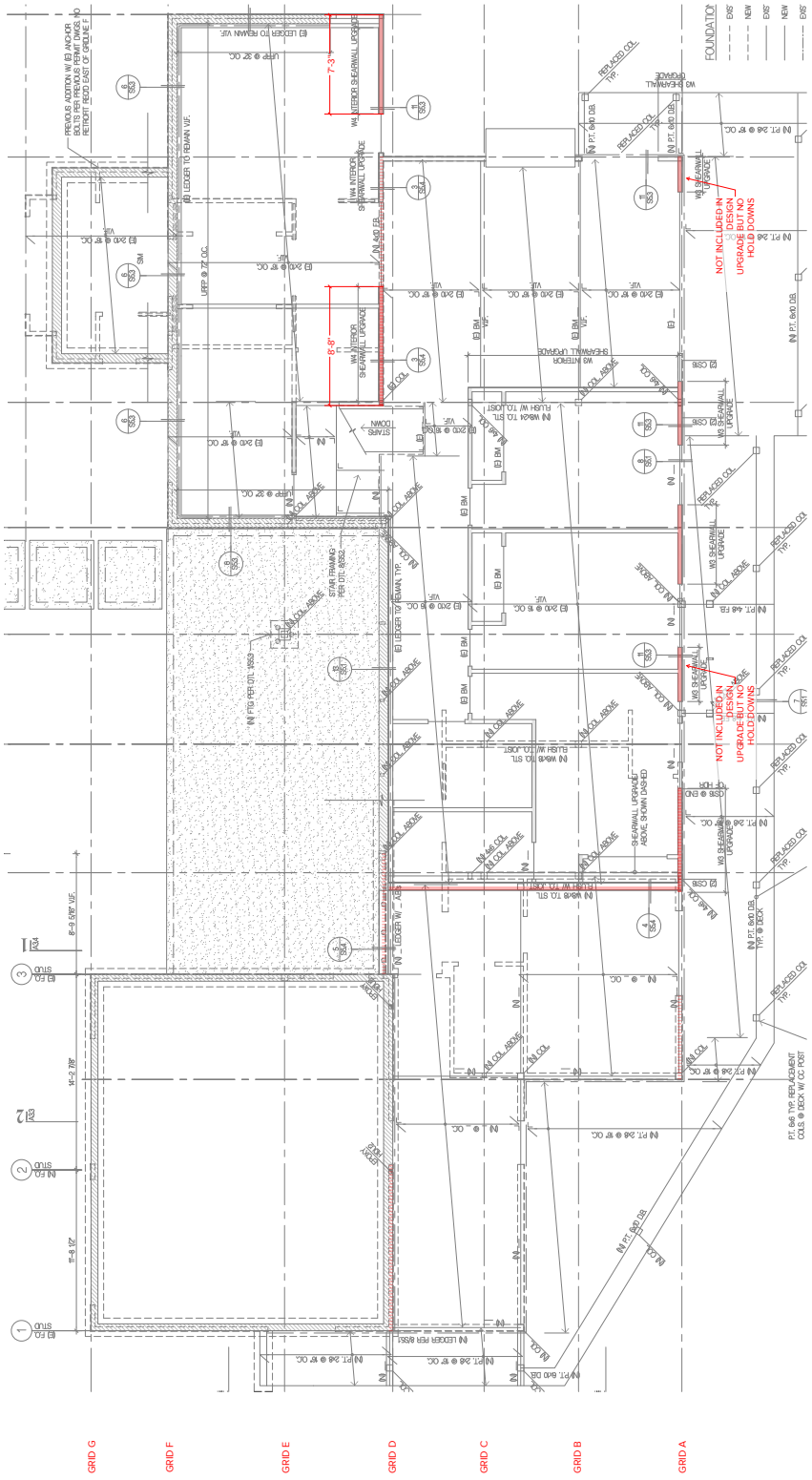
STRUCTURAL ENGINEERING

PROJECT	Jaffe Residence - Permit Correction #1
	Revised Lateral Key Plan - Roof
DATE	04-05-2023
PROJ. #	00043-2022-03
DESIGN	ETC
SHEET	02



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STRUCTURAL ENGINEERING

PROJECT	Jaffe Residence - Permit Correction #1
	Revised Lateral Key Plan - Floor
DATE	04-05-2023
PROJ. #	00043-2022-03
DESIGN	ETC
SHEET	03

LATERAL DESIGN (SHEAR WALLS, N/S)

V(1) = 0.67 k (E)
0.89 k (W)
L_w = 16.25 ft
v = 55 #/f
S.W = W6
OT = 0.49 k
OTR = 0.56 k
OT' = 0
Hb = NO OT
USE Hou2

V(2) = 2.99 k (E)
2.60 k (W)
L_w = 17.5 ft
v = 171 #/f
S.W = W6
OT = 1.54 k
OTR = 0.79 k
OT' = 0.75 k
Hb = Hou2

V(4) = 3.70 k (E)
3.43 k (W)
L_w = 30.5 ft
v = 121 #/f
S.W = W5
OT = 1.09 k
OTR = 0.63 k
OT' = 0.46 k
Hb = Hou2
@16

V(7) = 4.32 k (E)
3.55 k (W)
L_w = 15 ft
v = 288 #/f
S.W = W4
OT = 2.59 k
OTR = 0.68 k
OT' = 1.91 k
Hb = Hou2

REVISED ON FOLLOWING PAGE REVISED ON FOLLOWING PAGE REVISED ON FOLLOWING PAGE

V(9) = 3.36 k (E)
2.78 k (W)
L_w = 15.75 ft
v = 213 #/f
S.W = W6
OT = 1.92 k
OTR = 0.34 k
OT' = 1.58 k
Hb = Hou2

V(10) = 0.41 k (E)
0.78 k (W)
L_w = 11.75 ft
v = 66 #/f
S.W = W6
OT = 0.60 k
OTR = 0.53 k
OT' = 0.03 k
Hb = Hou2

DEMAND-CAPACITY RATIO FOR THE REMAINING LINES OF RESISTANCE IS EITHER UNCHANGED OR REDUCED AS A RESULT OF THE PROPOSED WORK

No S.W Below @ Track, C-D

L_w' = 8.25 ft
v = 407 #/f
S.W = W3
OT = 3.67 k
OTR = 0.37 k
OT' = 3.30 k
Hb = Hou4

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STRUCTURAL ENGINEERING

PROJECT: Jaffa Restaurant Revised
DATE: 7/11/22 04-05-2023
PROJ. #: VMA ETC
DESIGN:
SHEET: LATERAL DESIGN - North/South
3
04

GRID 1 REVISED:
(E) = (451 SF / 17'3") = 26.1 SF / FT
(N) = (542 SF / 26'9") = 20.3 SF / FT
DECREASED DEMAND ON (E) WALLS

TRIB AREA: 11% ZONE I

V = 0.46 k
L = 9'6"
v = 48 PLF
OT = 405 LBF

SHEARWALL: W6
HOLD DOWN: CS16

GRID 2 REVISED:

TRIB AREA:
11% ZONE I
10% ZONE III

V = 1.21 k
L = 11'6"
v = 106 PLF
OT = 880 LBF

SHEARWALL: W6
HOLD DOWNS: CS16

GRID 4 UPPER REVISED:

TRIB AREA:
34% ZONE III

V = 2.57 k
L = 17'6"
v = 147 PLF
OT = 1.22 k

SHEARWALL: W6
HOLD DOWNS: CS16 / HDU2

GRID 4 LOWER REVISED:

UPPER PLUS GRID 2
(CANTILEVER)

V = 3.78 k
L = 21'1"
v = 179 PLF
OT = 1.43 k
WHERE ALIGNED OTtot = 2.65k

SHEARWALL: W6
HOLD DOWNS: HDU2 (HDU4
WHERE ALIGNED)

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LATERAL DESIGN (SHEAR WALL E/W)

V(G) = 1.80 k (E) WEST
1.64 k (W)
L_w = 4.5 ft
v = 400 #/f
S.W = W3
OT = 3.60 k
OTR = /
OT' = 3.60 k
HD = HDU4

V(F) = 2.20 k (E) EAST
2.76 k (W)
L_w = 22.5 ft
v = 123 #/f
S.W = W6
OT = 1.10 k
OTR = 0.83 k
OT' = 0.27 k
HD = HDU2

V(D) = 7.87 k (E)
3.56 k (W)
L_w = 39.5 ft
v = 200 #/f
S.W = W6
OT = 1.79 k
OTR = 0.60 k
OT' = 1.19 k
HD = HDU2

V(A) = 3.56 k (E)
1.56 k (W)
L_w = 12.25 RDX
v = 290 #/f
S.W = W4
OT = 2.62 k
OTR = /
OT' = 2.62 k
HD = HDU4 / (2)CS16

GRID G REVISED:

L(N) = L(E) --> NO WORK

GRID F REVISED:

(E) OPENING INFILLED, L(N) > L(E) --> NO WORK. (N) AREA OF WALL TO BE W6

GRID D REVISED:

TRIB AREA:
40% ZONE I
34% ZONE II
50% ZONE III

V = 6.71 k
L = 39'1"
v = 172 PLF
OT = 1.94 k

SHEARWALL: W6
HOLD DOWN: HDU2 / (2) CS16

GRID A UPPER REVISED:

TRIB AREA:
50% ZONE III

V = 3.79 k
L = 13'9"
v = 276 PLF
OT = 2.21k

SHEARWALL: W4
HOLD DOWNS: (2) CS16

GRID B'

TRIB AREA:
16% ZONE I

V = 0.67k
L = 12'2"
v = 55 PLF
OT = 440 LBF
OTR = 56 PLF
OTnet = 270 LBF

SHEARWALL: W6
HOLD DOWNS: CS16

GRID D LOWER REVISED:

ADD FLOOR DIAPHRAGM WEIGHT
Atrib = 565 SF

Ws = (565 SF)(12 PSF) = 6780 LBF

Vs = (6780 LBF)(0.181)(0.7)(1.3) = 1.12k

Vtot = (1.12k + (18'0"*172 PLF)) = 4.12k
L = 15'11"
v = 259 PLF
OT = 2.07 k
OTnet = 1.85 k
WHERE ALIGNED OTtot = 3.79 k

SHEARWALL: W4
HOLD DOWNS: HDU2 (HDU4 WHERE ALIGNED)

GRID A LOWER REVISED:

ADD FLOOR DIAPHRAGM WEIGHT
Atrib = (67'2")(10'6") =705 SF

Ws = (705 SF)(12 PSF) = 8460 LBF

Vs = (8460 LBF)(0.181)(0.7)(1.3) = 1.39k

Vtot = (1.39 + 3.79) k = 5.18 k
L = 18'1"
v = 286 PLF
OT = 2.29 k
WHERE ALIGNED OTtot = 4.5k

SHEARWALL: W4
HOLD DOWNS: HDU2 (HDU4 WHERE ALIGNED)

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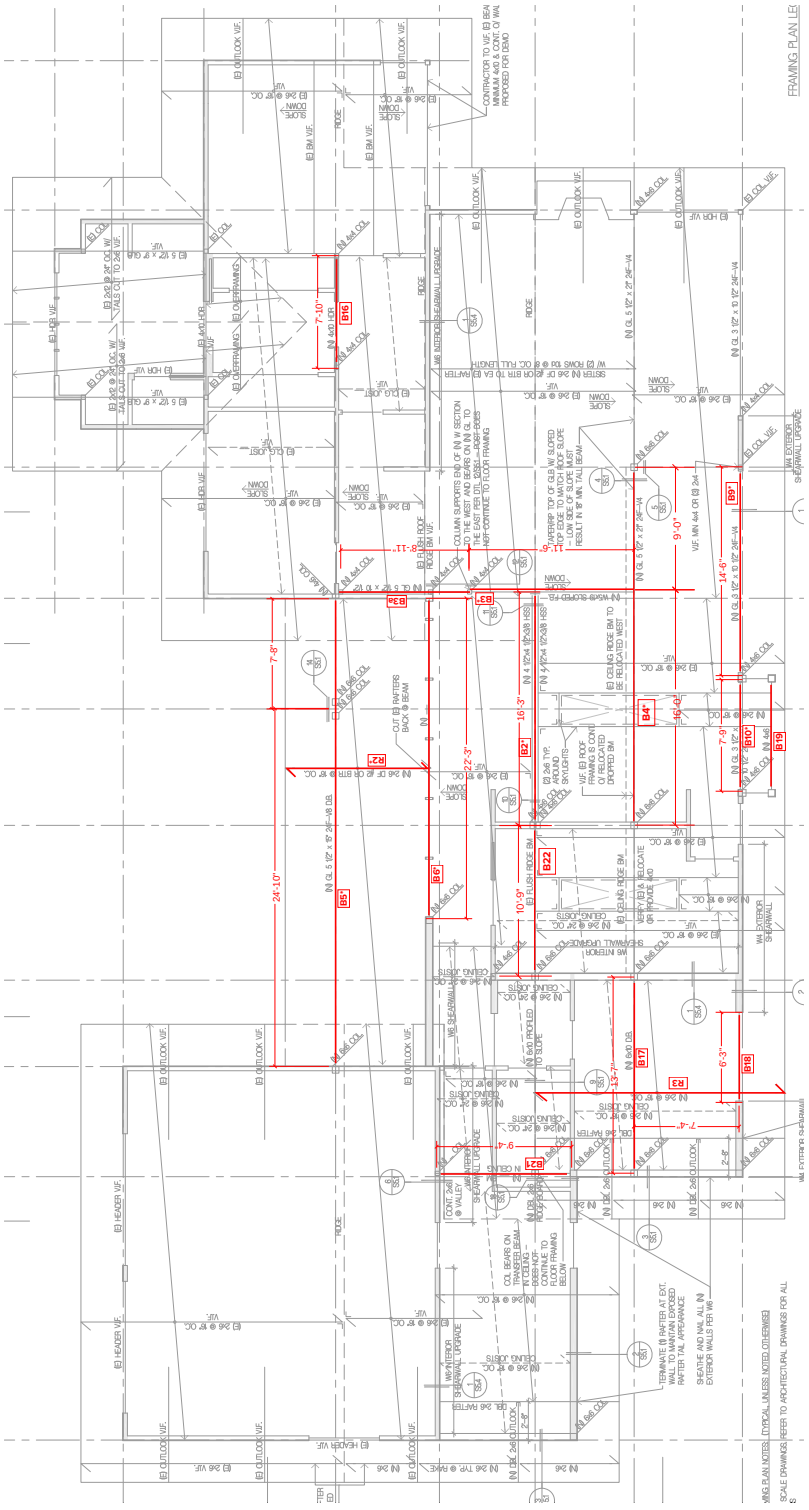

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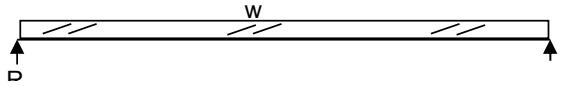
STRUCTURAL ENGINEERING

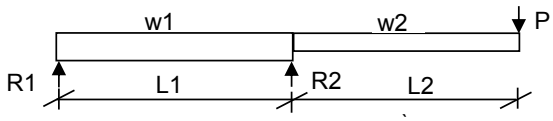
PROJECT	Jaffe Residence - Permit Correction #1
	Gravity Key Plan - Roof
DATE	04-05-2023
PROJ. #	00043-2022-03
DESIGN	ETC
SHEET	07

HSS Ridge (One Side)	B2*		HF	4	x 12
w=	150	plf	R=	1,200	lbs
L=	16	ft	M=	4,800	ft-lbs
b=	3.50	in	Fb=	780	psi
d=	11.25	in	Fv=	40	psi
E=	1300	ksi	Δ=	0.41	in
Cv=	1.00	≤1.0	l /	469	

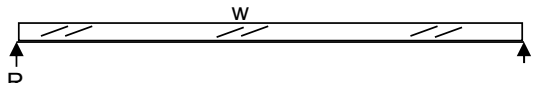


Steel Size				HSS4-1/2X4-1/2X3/8	
I =	15.3	in⁴	Fy=	50	ksi
Δ =	0.50	in	Mn/Ω =	20.9	k-ft
l /	385		Vn/Ω =	0.0	kips

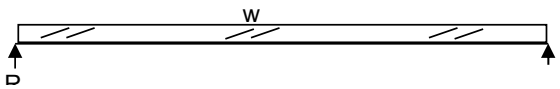
Low Ridge Transfer Bm	B3a		GL	3 1/2 x 10 1/2	
w1=	10	plf	R1=	-905	lbs
w2=	10	plf	R2=	3,491	lbs
L1=	6	ft	M+=	-	lb-ft
L2=	2	ft	M-=	5,852	lb-ft
X=	3.00	ft	Fb=	1,092	psi
P=	2,500	lbs	Fv=	103	psi
b=	3.50	in	Δspan=	(0.039)	in
d=	10.50	in	l span/	(1,901)	
E=	1,800	ksi	Δcant=	0.11	in
Cv=	1.00		l cant/	508	



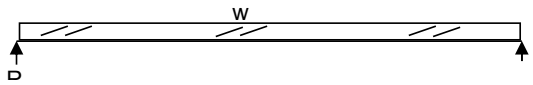
Entry Hdr	B6*		GL	5 1/2 x 16 1/2	
w=	277	plf	R=	3,077	lbs
L=	22.25	ft	M=	17,117	ft-lbs
b=	5.50	in	Fb=	823	psi
d=	16.50	in	Fv=	45	psi
E=	1800	ksi	Δ=	0.41	in
Cv=	0.96	≤1.0	l /	649	



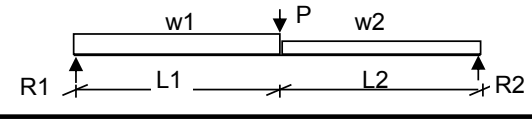
Dining Header	B9*		GL	3 1/2 x 10 1/2	
w=	310	plf	R=	2,248	lbs
L=	14.5	ft	M=	8,147	ft-lbs
b=	3.50	in	Fb=	1,520	psi
d=	10.50	in	Fv=	81	psi
E=	1800	ksi	Δ=	0.51	in
Cv=	1.00	≤1.0	l /	343	



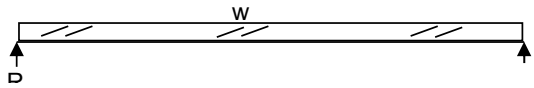
Coffee Bar Header	B10*		GL	3 1/2 x 10 1/2	
w=	310	plf	R=	1,201	lbs
L=	7.75	ft	M=	2,327	ft-lbs
b=	3.50	in	Fb=	434	psi
d=	10.50	in	Fv=	38	psi
E=	1800	ksi	Δ=	0.04	in
Cv=	1.00	≤1.0	l /	2246	



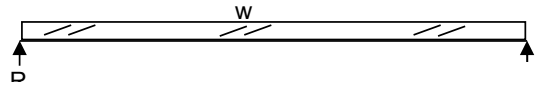
Dressing Pocket Hdr	B16		HF	4	x 10
w1=	310	plf	R1 =	1,214	lbs
w2=	310	plf	R2 =	1,214	lbs
L1=	4	ft	M =	2,376	lb-ft
L2=	4	ft	Fb =	571	psi
X=	3.9	ft	Fv =	45	psi
P=	-	lbs	Δ=	0.09	in
b=	3.50	in	l /	1,075	
d=	9.25	in	Cv=	1.00	
E=	1,300	ksi			



Guest Bed Purlin Bea	B17		DF-L	6	x 10
w=	290	plf	R=	1,970	lbs
L=	13.583	ft	M=	6,688	ft-lbs
b=	5.50	in	Fb=	1,023	psi
d=	9.25	in	Fv=	51	psi
E=	1700	ksi	Δ=	0.36	in
Cv=	1.00	≤1.0	l /	453	



West Header	B18		HF	3	x 8
w=	277	plf	R=	865	lbs
L=	6.25	ft	M=	1,351	ft-lbs
b=	3.00	in	Fb=	617	psi
d=	7.25	in	Fv=	48	psi
E=	1300	ksi	Δ=	0.08	in
Cv=	1.00	≤1.0	l /	978	



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STRUCTURAL ENGINEERING

Jaffe Residence - Permit Correction #1

PROJECT
Gravity Design - Roof

04-05-2023

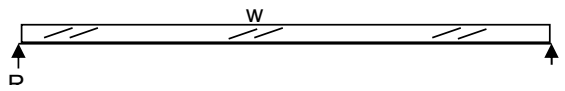
DATE
00043-2022-03

PROJ. #
ETC

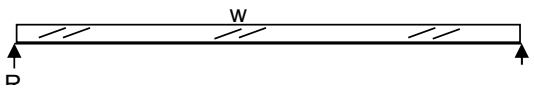
DESIGN
08

SHEET

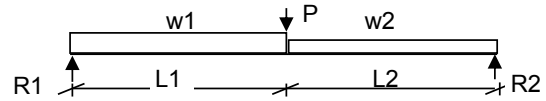
Coffee Bar Header	B19		HF	4	x 6	
w=	83	plf	R=	320	lbs	
L=	7.75	ft	M=	620	ft-lbs	
b=	3.50	in	Fb=	421	psi	
d=	5.50	in	Fv=	22	psi	
E=	1300	ksi	Δ=	0.11	in	
Cv=	1.00	≤1.0	I /	876		



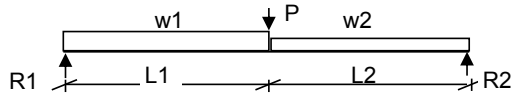
Guest Bed Rafters	R3*		HF	2	x 6	
w=	53	plf	R=	195	lbs	
L=	7.33	ft	M=	358	ft-lbs	
b=	1.50	in	Fb=	568	psi	
d=	5.50	in	Fv=	31	psi	
E=	1300	ksi	Δ=	0.13	in	
Cv=	1.00	≤1.0	I /	686		



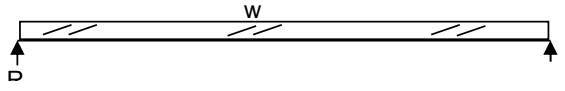
Ridge Transfer	B21		DF-L	3 1/2	x 9 1/4	
w1=	15	plf	R1 =	1,476	lbs	
w2=	15	plf	R2 =	633	lbs	
L1=	3	ft	M =	3,887	lb-ft	
L2=	7	ft	Fb =	935	psi	
X=	2.7	ft	Fv =	68	psi	
P=	1,969	lbs	Δ=	0.10	in	
b=	3.50	in	I /	1,085		
d=	9.25	in	Cv=	1.00		
E=	1,700	ksi				



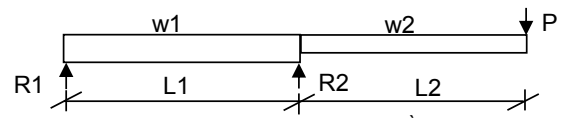
Kitchen Beam	B4*		GL	5 1/2	x 21	
w1=	290	plf	R1 =	4,732	lbs	
w2=	440	plf	R2 =	6,268	lbs	
L1=	16	ft	M =	38,592	lb-ft	
L2=	9	ft	Fb =	1,146	psi	
X=	16.0	ft	Fv =	71	psi	
P=	2,400	lbs	Δ=	0.50	in	
b=	5.50	in	I /	599		
d=	21.00	in	Cv=	0.92		
E=	1,800	ksi				



(E) Min Ridge	B22		HF	6	x 10	
w=	300	plf	R=	1,613	lbs	
L=	10.75	ft	M=	4,334	ft-lbs	
b=	5.50	in	Fb=	663	psi	
d=	9.25	in	Fv=	41	psi	
E=	1300	ksi	Δ=	0.19	in	
Cv=	1.00	≤1.0	I /	675		



Awning Rafter	R2*		DF-L	2	x 6	
w1=	53	plf	R1=	96	lbs	
w2=	53	plf	R2=	487	lbs	
L1=	6.50	ft	M+=	87	lb-ft	
L2=	3.50	ft	M-=	502	lb-ft	
X=	3.25	ft	Fb=	796	psi	
P=	50	lbs	Fv=	41	psi	
b=	1.50	in	Δspan=	(0.004)	in	
d=	5.50	in	I span/	(18,756)		
E=	1,700	ksi	Δcant=	0.17	in	
Cv=	1.00		I cant/	508		



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Beam:	B3*					
Load	Dead	Live	Roof Live	Seismic	Factored	Location
Distributed (k/ft) w_1	**0.160**				0.160	
w_2					0.000	
w_3					0.000	
w_4					0.000	
w_5					0.000	
w_6					0.000	
w_7					0.000	
w_8					0.000	
w_9					0.000	
w_{10}					0.000	SW
Trapezoidal (k/ft/ft) t_1					0.000	
t_2					0.000	
t_3					0.000	
t_4					0.000	
t_5					0.000	
t_6					0.000	
Point (k) P_1	**0.9**		**1.5**		2.025	**6.92** HSS RI
P_2					0.000	
P_3					0.000	
P_4					0.000	
P_5					0.000	
P_6					0.000	
P_7					0.000	
P_8					0.000	
P_9					0.000	
P_{10}					0.000	

Support Locations and Reactions		
# of Supports		2
Total Beam Length		**14.50**
Left End Condition		**Pinned**
Right End Condition		**Pinned**
R_1	1.811	**0.00**
R_2	2.534	**12.17**
R_3	0.000	**12.17**
R_4	0.000	**12.17**
R_5	0.000	**12.17**
R_6	0.000	**12.17**
R_7	0.000	**12.17**
R_8	0.000	**12.17**
R_9	0.000	**12.17**
R_{10}	0.000	**12.17**

Demand Output		
Location, ft		**14.50**
Shear, k	V	0.00
Moment, k-ft	M =	0.00
Deflection, in	D =	0.15
Δ/Span		L/363

Load Factors	
Dead	**1.00**
Live	**0.75**
Roof Live	**0.75**
Seismic	**1.00**

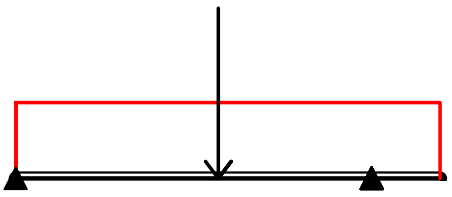
Stresses @ Input Location	
f_v (psi)	0
f_b (psi)	0

Max/Min Stresses	
f_{v_MAX} (psi)	1302
f_{v_MIN} (psi)	-1554
f_{b_MAX} (psi)	10224
f_{b_MIN} (psi)	-512

Beam Properties	
E (ksi)	**29000**
b (in)	**5.5**
d (in)	**9**
I (in^4)	26.3
S (in^3)	10.2
A (in^2)	1.39
I (Override)	
S (Override)	
A (Override)	

Steel Beam Section	W5x19		
F_y, ksi	50		
Beam Weight (plf)	19		
Axis of Bending	Strong		
Unbr. Length (L_b), ft	0		
C_b	1		
A_w	1.39 in^2	V_n/Ω_v	27.8 k
S	10.2 in^3	$\phi_v V_n$	41.7 k
Z	11.6 in^3	M_n/Ω_b	28.9 k-ft
I	26.3 in^4	$\phi_b M_n$	43.5 k-ft

Beam Loading Diagram



Span	V_L (kips)	V_R (kips)	M(-) (k-ft)	M(+) (k-ft)	Δ_{TL} (in)	@ x =	L/	Δ_{LL} (in)	@ x =	L/
Span 1	1.81	-2.16	-0.435	8.69	-0.293 (↓)	6.2	L/498	0	0	L/∞
Right Cantilever	0.373	-	-0.435	-	0.173 (↑)	14.5	L/322	0	12.2	L/∞

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Beam:		B5*						
Load		Dead	Live	Roof Live	Seismic	Factored	Location	
Distributed (k/ft)	w_1	**0.154**		**0.256**		0.410		ROOF
	w_2					0.000		
	w_3					0.000		
	w_4					0.000		
	w_5					0.000		
	w_6					0.000		
	w_7					0.000		
	w_8					0.000		
	w_9					0.000		
	w_{10}	**0.02005**				0.020		SW
Trapezoidal (k/ft/ft)	t_1					0.000		
	t_2					0.000		
	t_3					0.000		
	t_4					0.000		
	t_5					0.000		
	t_6					0.000		
Point (k)	P_1					0.000		
	P_2					0.000		
	P_3					0.000		
	P_4					0.000		
	P_5					0.000		
	P_6					0.000		
	P_7					0.000		
	P_8					0.000		
	P_9					0.000		
	P_{10}					0.000		

Support Locations and Reactions		
# of Supports		3
Total Beam Length		**32.75**
Left End Condition		**Pinned**
Right End Condition		**Pinned**
R_1	4.297	**0.00**
R_2	11.369	**24.83**
R_3	-1.574	**32.75**
R_4	0.000	**32.75**
R_5	0.000	**32.75**
R_6	0.000	**32.75**
R_7	0.000	**32.75**
R_8	0.000	**32.75**
R_9	0.000	**32.75**
R_{10}	0.000	**32.75**

Demand Output		
Location, ft		**11.14**
Shear, k	V	-0.49
Moment, k-ft	M =	21.17
Deflection, in	D =	-0.71
Δ/Span		L/419

L	6.500
A	3.500
FACTOR	7.692308

Load Factors	
Dead	**1.00**
Live	**1.00**
Roof Live	**1.00**
Seismic	**1.00**

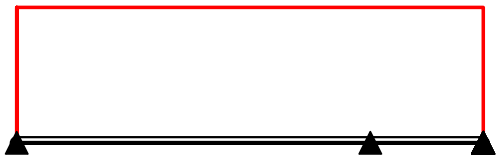
Stresses @ Input Location	
f_v (psi)	-9
f_b (psi)	1232

Max/Min Stresses	
f_{v_MAX} (psi)	90
f_{v_MIN} (psi)	-116
f_{b_MAX} (psi)	1245
f_{b_MIN} (psi)	-1507

Beam Properties	
E (ksi)	**1800**
b (in)	**5.5**
d (in)	**15**
I (in^4)	1546.9
S (in^3)	206.25
A (in^2)	82.5
I (Override)	
S (Override)	
A (Override)	

Steel Beam Section	NONE

Beam Loading Diagram



Span	V_L (kips)	V_R (kips)	M(-) (k-ft)	M(+) (k-ft)	Δ_{TL} (in)	@ x =	L/	Δ_{LL} (in)	@ x =	L/
Span 1	4.29	-6.38	-25.9	21.4	-0.787 (↓)	11.1	L/379	0	0	L/∞
Span 2	4.97	1.57	-25.9	0	0.057 (↑)	28	L/1655	0	24.9	L/∞

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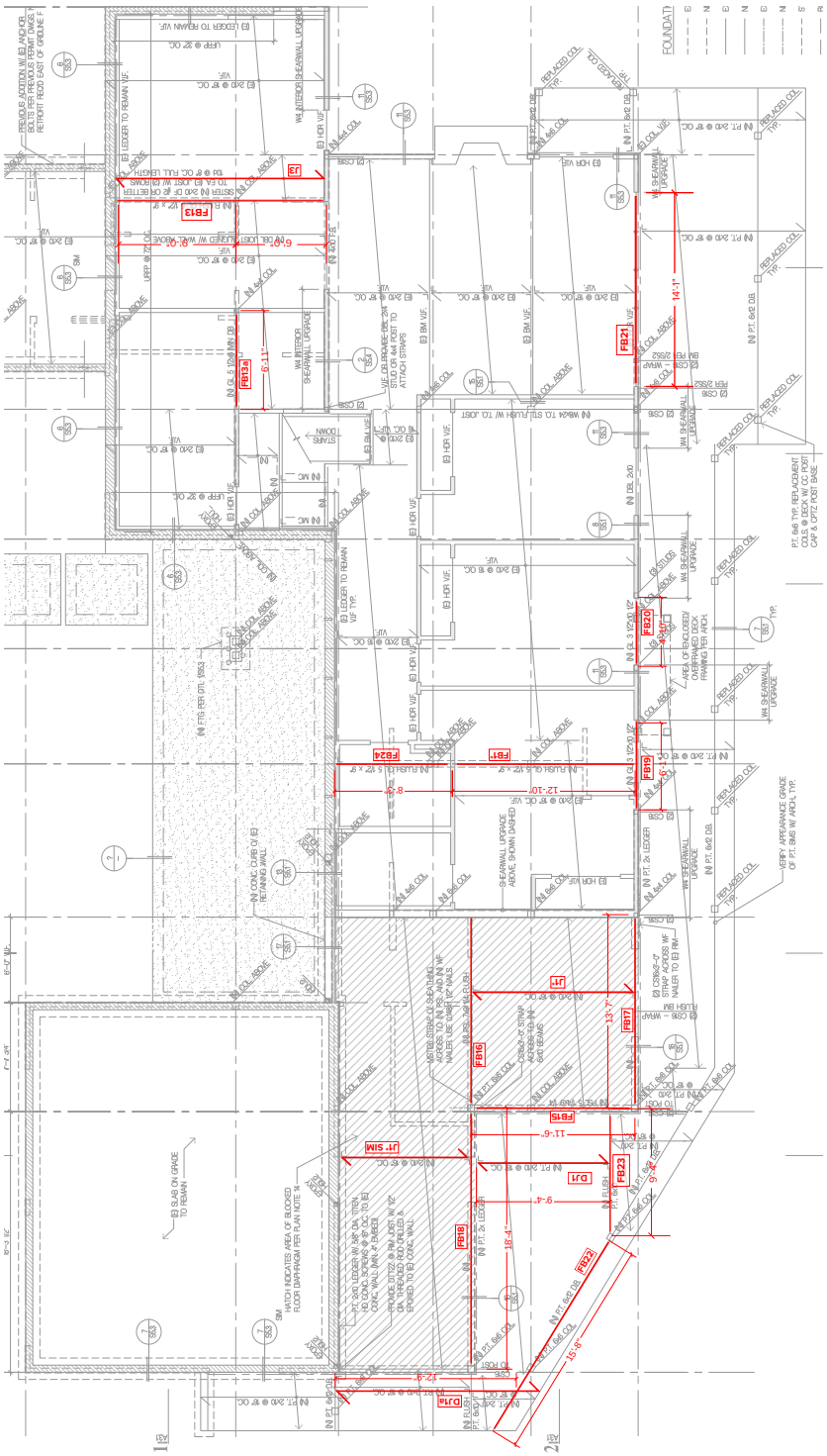
Jaffe Residence - Permit Correction #1
PROJECT
Gravity Design - Roof

04-05-2023
DATE
00043-2022-03
PROJ. #
ETC
DESIGN
11
SHEET



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STRUCTURAL ENGINEERING

Jaffe Residence - Permit Correction #1

PROJECT
Gravity Key Plan - Floor

04-05-2023

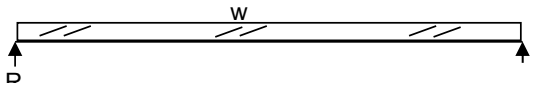
DATE
00043-2022-03

PROJ. #
ETC

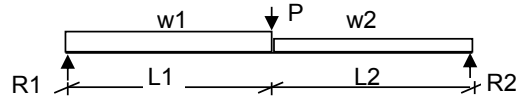
DESIGN
12

SHEET

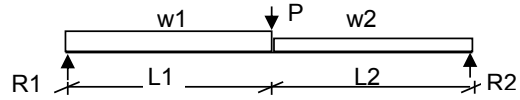
Mudroom Joists	J1*		HF	2 x 10	
w=	69	plf	R=	399	lbs
L=	11.5	ft	M=	1,146	ft-lbs
b=	1.50	in	Fb=	643	psi
d=	9.25	in	Fv=	37	psi
E=	1300	ksi	Δ=	0.21	in
Cv=	1.00	≤1.0	l /	650	



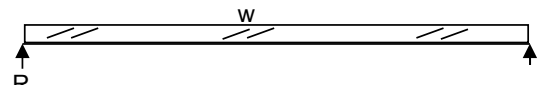
Joist D-F Bearing	J3		HF	3 x 10	
w1=	69	plf	R1 =	761	lbs
w2=	69	plf	R2 =	691	lbs
L1=	6	ft	M =	3,401	lb-ft
L2=	9	ft	Fb =	954	psi
X=	7.3	ft	Fv =	38	psi
P=	407	lbs	Δ=	0.50	in
b=	3.00	in	l /	361	
d=	9.25	in	Cv=	1.00	
E=	1,300	ksi			



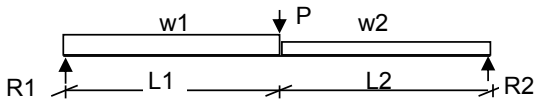
Transfer Beam	FB13		GL	5 1/2 x 9	
w1=	69	plf	R1 =	1,380	lbs
w2=	69	plf	R2 =	1,159	lbs
L1=	6	ft	M =	7,347	lb-ft
L2=	9	ft	Fb =	1,187	psi
X=	6.3	ft	Fv =	40	psi
P=	1,511	lbs	Δ=	0.40	in
b=	5.50	in	l /	440	
d=	9.00	in	Cv=	1.00	
E=	1,800	ksi			



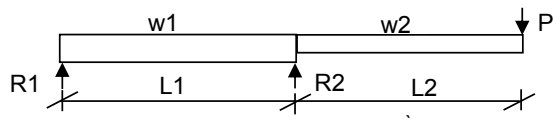
Mid Span Flush Bm	FB16		PSL	7 x 9 1/4	
w=	559	plf	R=	3,843	lbs
L=	13.75	ft	M=	13,211	ft-lbs
b=	7.00	in	Fb=	1,588	psi
d=	9.25	in	Fv=	79	psi
E=	2200	ksi	Δ=	0.44	in
Cv=	1.00	≤1.0	l /	373	



West Header	FB20		GL	3 1/2 x 10 1/2	
w1=	798	plf	R1 =	3,088	lbs
w2=	798	plf	R2 =	4,333	lbs
L1=	3	ft	M =	5,859	lb-ft
L2=	2	ft	Fb =	1,093	psi
X=	3.3	ft	Fv =	148	psi
P=	3,500	lbs	Δ=	0.03	in
b=	3.50	in	l /	1,764	
d=	10.50	in	Cv=	1.00	
E=	1,800	ksi			



DECK GIRT	FB22		HF	6 x 12	
w1=	276	plf	R1=	889	lbs
w2=	495	plf	R2=	4,594	lbs
L1=	11	ft	M+=	1,431	lb-ft
L2=	5	ft	M-=	6,395	lb-ft
X=	6.00	ft	Fb=	661	psi
P=	-	lbs	Fv=	50	psi
b=	5.50	in	Δspan=	(0.000)	in
d=	11.25	in	l span/	(569,470)	
E=	1,300	ksi	Δcant=	0.17	in
Cv=	1.00		l cant/	703	



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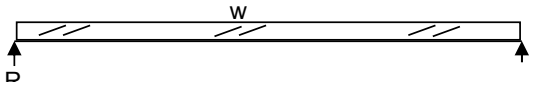
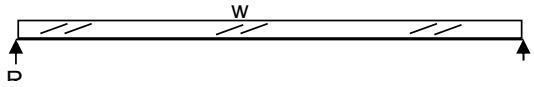
2x10 DECK JOIST		DJ1		HF	2	x 10
w=	96	plf		R=	528	lbs
L=	11	ft		M=	1,452	ft-lbs
b=	1.50	in		Fb=	815	psi
d=	9.25	in		Fv=	49	psi
E=	1300	ksi		Δ=	0.25	in
Cv=	1.00	≤1.0		l /	537	



2x10 DECK JOIST		DJ1a		HF	2	x 10
w=	96	plf		R=	612	lbs
L=	12.75	ft		M=	1,951	ft-lbs
b=	1.50	in		Fb=	1,094	psi
d=	9.25	in		Fv=	58	psi
E=	1300	ksi		Δ=	0.44	in
Cv=	1.00	≤1.0		l /	345	



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Beam:		FB1*						
	Load	Dead	Live	Roof Live	Seismic	Factored	Location	
Distributed (k/ft)	w_1	**0.016**	**0.053**			0.056		FLOOR
	w_2					0.000		
	w_3					0.000		
	w_4					0.000		
	w_5					0.000		
	w_6					0.000		
	w_7					0.000		
	w_8					0.000		
	w_9					0.000		
	w_{10}	**0.0118**				0.012		SW
Trapezoidal (k/ft/ft)	t_1					0.000		
	t_2					0.000		
	t_3					0.000		
	t_4					0.000		
	t_5					0.000		
	t_6					0.000		
Point (k)	P_1	**1.875**		**3.125**		4.219	**7.42**	RF
	P_2					0.000		
	P_3					0.000		
	P_4					0.000		
	P_5					0.000		
	P_6					0.000		
	P_7					0.000		
	P_8					0.000		
	P_9					0.000		
	P_{10}					0.000		

Support Locations and Reactions		
# of Supports		2
Total Beam Length		**12.83**
Left End Condition		**Pinned**
Right End Condition		**Pinned**
R_1	2.215	**0.00**
R_2	2.874	**12.83**
R_3	0.000	**12.83**
R_4	0.000	**12.83**
R_5	0.000	**12.83**
R_6	0.000	**12.83**
R_7	0.000	**12.83**
R_8	0.000	**12.83**
R_9	0.000	**12.83**
R_{10}	0.000	**12.83**

Demand Output		
Location, ft		**5.80**
Shear, k	V	1.82
Moment, k-ft	M =	11.71
Deflection, in	D =	-0.45
Δ/Span		L/342

Load Factors	
Dead	**1.00**
Live	**0.75**
Roof Live	**0.75**
Seismic	**1.00**

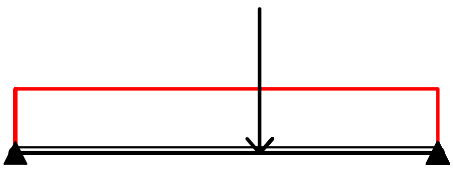
Stresses @ Input Location	
f_v (psi)	56
f_b (psi)	1877

Max/Min Stresses	
f_{v_MAX} (psi)	61
f_{v_MIN} (psi)	-121
f_{b_MAX} (psi)	1971
f_{b_MIN} (psi)	0

Beam Properties	
E (ksi)	**2200**
b (in)	**5.25**
d (in)	**9.25**
I (in^4)	346.26
S (in^3)	74.867
A (in^2)	48.563
I (Override)	
S (Override)	
A (Override)	

Steel Beam Section	NONE

Beam Loading Diagram



Span	V_L (kips)	V_R (kips)	M(-) (k-ft)	M(+) (k-ft)	Δ_{TL} (in)	@ x =	L/	Δ_{LL} (in)	@ x =	L/
Span 1	1.96	-3.91	-	12.3	-0.333 (↓)	5.8	L/384	-0.026 (↓)	5.3	L/4923

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Beam:		FB13a						
Load		Dead	Live	Roof Live	Seismic	Factored	Location	
Distributed (k/ft)	w_1	**0.113**		**0.188**		0.253		ROOF
	w_2	**0.090**	**0.300**			0.315		FLOOR
	w_3	**-0.113**		**-0.188**		-0.253	**5**	ROOF
	w_4					0.000		
	w_5					0.000		
	w_6					0.000		
	w_7					0.000		
	w_8					0.000		
	w_9					0.000		
	w_{10}	**0.00787**				0.008		SW
Trapezoidal (k/ft/ft)	t_1					0.000		
	t_2					0.000		
	t_3					0.000		
	t_4					0.000		
	t_5					0.000		
	t_6					0.000		
Point (k)	P_1	**0**		**0**		0.000	**5.00**	RF
	P_2					0.000		
	P_3					0.000		
	P_4					0.000		
	P_5					0.000		
	P_6					0.000		
	P_7					0.000		
	P_8					0.000		
	P_9					0.000		
	P_{10}					0.000		

Support Locations and Reactions		
# of Supports		2
Total Beam Length		**7.17**
Left End Condition		**Pinned**
Right End Condition		**Pinned**
R_1	1.981	**0.00**
R_2	1.598	**7.17**
R_3	0.000	**7.17**
R_4	0.000	**7.17**
R_5	0.000	**7.17**
R_6	0.000	**7.17**
R_7	0.000	**7.17**
R_8	0.000	**7.17**
R_9	0.000	**7.17**
R_{10}	0.000	**7.17**

Demand Output		
Location, ft		**3.66**
Shear, k	V	-0.13
Moment, k-ft	M =	3.39
Deflection, in	D =	-0.08
Δ/Span		L/1087

Load Factors	
Dead	**1.00**
Live	**0.75**
Roof Live	**0.75**
Seismic	**1.00**

Stresses @ Input Location	
f_v (psi)	-6
f_b (psi)	816

Max/Min Stresses	
f_{v_MAX} (psi)	92
f_{v_MIN} (psi)	-74
f_{b_MAX} (psi)	820
f_{b_MIN} (psi)	0

Beam Properties	
E (ksi)	**1700**
b (in)	**3.5**
d (in)	**9.25**
I (in^4)	230.84
S (in^3)	49.911
A (in^2)	32.375
I (Override)	
S (Override)	
A (Override)	

Steel Beam Section	NONE

Beam Loading Diagram

Span	V_L (kips)	V_R (kips)	M(-) (k-ft)	M(+) (k-ft)	Δ_{TL} (in)	@ x =	L/	Δ_{LL} (in)	@ x =	L/
Span 1	1.98	-1.6	0	3.41	-0.096 (↓)	3.5	L/896	-0.045 (↓)	3.6	L/1911

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Beam:	FB15						
	Load	Dead	Live	Roof Live	Seismic	Factored	Location
Distributed (k/ft)	w_1	**0.016**	**0.053**			0.056	
	w_2					0.000	
	w_3					0.000	
	w_4					0.000	
	w_5					0.000	
	w_6					0.000	
	w_7					0.000	
	w_8					0.000	
	w_9					0.000	
	w_{10}	**0.01404**				0.014	
Trapezoidal (k/ft/ft)	t_1					0.000	
	t_2					0.000	
	t_3					0.000	
	t_4					0.000	
	t_5					0.000	
	t_6					0.000	
Point (k)	P_1	**0.78**		**1.3**		1.755	**7.25**
	P_2	**0.78**	**3.6**			3.480	**1.92**
	P_3					0.000	
	P_4					0.000	
	P_5					0.000	
	P_6					0.000	
	P_7					0.000	
	P_8					0.000	
	P_9					0.000	
	P_{10}					0.000	

FLOOR
SW
RF
DECK

Support Locations and Reactions		
# of Supports		2
Total Beam Length		**12.00**
Left End Condition		**Pinned**
Right End Condition		**Pinned**
R_1	4.039	**0.00**
R_2	2.036	**12.00**
R_3	0.000	**12.00**
R_4	0.000	**12.00**
R_5	0.000	**12.00**
R_6	0.000	**12.00**
R_7	0.000	**12.00**
R_8	0.000	**12.00**
R_9	0.000	**12.00**
R_{10}	0.000	**12.00**

Demand Output		
Location, ft		**5.83**
Shear, k	V	0.15
Moment, k-ft	M =	8.74
Deflection, in	D =	-0.25
Δ/Span		L/584

Load Factors	
Dead	**1.00**
Live	**0.75**
Roof Live	**0.75**
Seismic	**1.00**

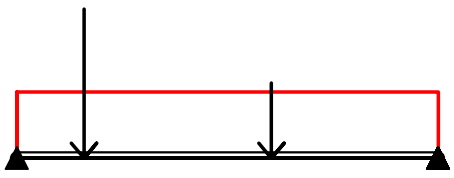
Stresses @ Input Location	
f_v (psi)	4
f_b (psi)	1038

Max/Min Stresses	
f_{v_MAX} (psi)	105
f_{v_MIN} (psi)	-52
f_{b_MAX} (psi)	1050
f_{b_MIN} (psi)	0

Beam Properties	
E (ksi)	**1800**
b (in)	**5.5**
d (in)	**10.5**
I (in^4)	530.58
S (in^3)	101.06
A (in^2)	57.75
I (Override)	
S (Override)	
A (Override)	

Steel Beam Section	NONE

Beam Loading Diagram



Span	V_L (kips)	V_R (kips)	M(-) (k-ft)	M(+) (k-ft)	Δ_{TL} (in)	@ x =	L/	Δ_{LL} (in)	@ x =	L/
Span 1	4.03	-2.02	-	8.84	-0.375 (↓)	5.8	L/384	-0.171 (↓)	5.3	L/842

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Beam:		FB17						
	Load	Dead	Live	Roof Live	Seismic	Factored	Location	
Distributed (k/ft)	w_1	0.072	0.240			0.252		FLOOR
	w_2	0.104		0.173		0.233		ROOF
	w_3	0.034	0.170	0.071		0.215		DECK
	w_4					0.000		
	w_5					0.000		
	w_6					0.000		
	w_7					0.000		
	w_8					0.000		
	w_9					0.000		
	w_{10}	0				0.000		SW
Trapezoidal (k/ft/ft)	t_1					0.000		
	t_2					0.000		
	t_3					0.000		
	t_4					0.000		
	t_5					0.000		
	t_6					0.000		
Point (k)	P_1				2.21	0.000	7.42	OT
	P_2					0.000		
	P_3					0.000		
	P_4					0.000		
	P_5					0.000		
	P_6					0.000		
	P_7					0.000		
	P_8					0.000		
	P_9					0.000		
	P_{10}					0.000		

Support Locations and Reactions		
# of Supports		2
Total Beam Length		13.75
Left End Condition		Pinned
Right End Condition		Pinned
R_1	4.814	0.00
R_2	4.814	13.75
R_3	0.000	13.75
R_4	0.000	13.75
R_5	0.000	13.75
R_6	0.000	13.75
R_7	0.000	13.75
R_8	0.000	13.75
R_9	0.000	13.75
R_{10}	0.000	13.75

Demand Output		
Location, ft		7.41
Shear, k	V	-0.38
Moment, k-ft	M =	16.45
Deflection, in	D =	-0.39
Δ/Span		L/421

Load Factors	
Dead	1.00
Live	0.75
Roof Live	0.75
Seismic	0.00

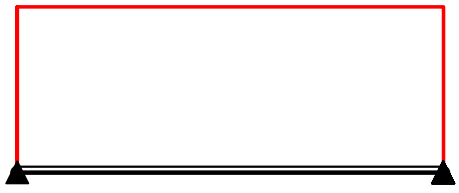
Stresses @ Input Location	
f_v (psi)	-9
f_b (psi)	1495

Max/Min Stresses	
f_{v_MAX} (psi)	112
f_{v_MIN} (psi)	-112
f_{b_MAX} (psi)	1536
f_{b_MIN} (psi)	0

Beam Properties	
E (ksi)	1800
b (in)	5.5
d (in)	12
I (in^4)	792
S (in^3)	132
A (in^2)	66
I (Override)	
S (Override)	
A (Override)	

Steel Beam Section	NONE

Beam Loading Diagram



Span	V_L (kips)	V_R (kips)	M(-) (k-ft)	M(+) (k-ft)	Δ_{TL} (in)	@ x =	L/	Δ_{LL} (in)	@ x =	L/
Span 1	4.92	-4.92	-	16.9	-0.655 (↓)	6.9	L/252	-0.237 (↓)	6.9	L/696

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Beam:	FB18					
Load	Dead	Live	Roof Live	Seismic	Factored	Location
Distributed (k/ft) w_1	0.058	0.193			0.203	FLOOR
w_2	0.087		0.18125		0.223	ROOF
w_3	0.075	0.375	0.156		0.473	DECK (1
w_4					0.000	
w_5					0.000	
w_6					0.000	
w_7					0.000	
w_8					0.000	
w_9					0.000	
w_{10}	0.02206				0.022	SW
Trapezoidal (k/ft/ft) t_1					0.000	
t_2					0.000	
t_3					0.000	
t_4					0.000	
t_5					0.000	
t_6					0.000	
Point (k) P_1					0.000	RF
P_2					0.000	
P_3					0.000	
P_4					0.000	
P_5					0.000	
P_6					0.000	
P_7					0.000	
P_8					0.000	
P_9					0.000	
P_{10}					0.000	

Support Locations and Reactions		
# of Supports		2
Total Beam Length		18.50
Left End Condition		Pinned
Right End Condition		Pinned
R_1	8.524	0.00
R_2	8.524	18.50
R_3	0.000	18.50
R_4	0.000	18.50
R_5	0.000	18.50
R_6	0.000	18.50
R_7	0.000	18.50
R_8	0.000	18.50
R_9	0.000	18.50
R_{10}	0.000	18.50

Demand Output		
Location, ft		4.63
Shear, k	V	4.26
Moment, k-ft	M =	29.57
Deflection, in	D =	-0.47
Δ/Span		L/475

Load Factors	
Dead	1.00
Live	0.75
Roof Live	0.75
Seismic	1.00

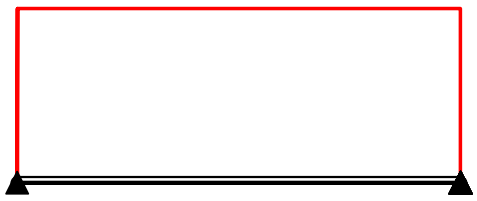
Stresses @ Input Location	
f_v (psi)	70
f_b (psi)	1422

Max/Min Stresses	
f_{v_MAX} (psi)	104
f_{v_MIN} (psi)	-104
f_{b_MAX} (psi)	1399
f_{b_MIN} (psi)	0

Beam Properties	
E (ksi)	1800
b (in)	5.5
d (in)	16.5
I (in^4)	2058.9
S (in^3)	249.56
A (in^2)	90.75
I (Override)	
S (Override)	
A (Override)	

Steel Beam Section	NONE

Beam Loading Diagram



Span	V_L (kips)	V_R (kips)	M(-) (k-ft)	M(+) (k-ft)	Δ_{TL} (in)	@ x =	L/	Δ_{LL} (in)	@ x =	L/
Span 1	6.28	-6.28	-	29.1	-0.86 (↓)	9.3	L/258	-0.425 (↓)	9.3	L/522

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Beam:		FB19						
	Load	Dead	Live	Roof Live	Seismic	Factored	Location	
Distributed (k/ft)	w_1	0.090	0.300			0.315		FLOOR
	w_2	0.079		0.13125		0.177		ROOF
	w_3	0.033	0.165	0.069		0.208		DECK
	w_4					0.000		
	w_5					0.000		
	w_6					0.000		
	w_7					0.000		
	w_8					0.000		
	w_9					0.000		
	w_{10}					0.000		SW
Trapezoidal (k/ft/ft)	t_1					0.000		
	t_2					0.000		
	t_3					0.000		
	t_4					0.000		
	t_5					0.000		
	t_6					0.000		
Point (k)	P_1	1.648				1.648	3.33	FB1*
	P_2	1				1.000	5.50	Coffee
	P_3					0.000		
	P_4					0.000		
	P_5					0.000		
	P_6					0.000		
	P_7					0.000		
	P_8					0.000		
	P_9					0.000		
	P_{10}					0.000		

Support Locations and Reactions		
# of Supports		2
Total Beam Length		6.50
Left End Condition		Pinned
Right End Condition		Pinned
R_1	3.232	0.00
R_2	3.967	6.50
R_3	0.000	6.50
R_4	0.000	6.50
R_5	0.000	6.50
R_6	0.000	6.50
R_7	0.000	6.50
R_8	0.000	6.50
R_9	0.000	6.50
R_{10}	0.000	6.50

Demand Output		
Location, ft		3.29
Shear, k	V	0.92
Moment, k-ft	M =	6.85
Deflection, in	D =	-0.08
Δ/Span		L/972

Load Factors	
Dead	1.00
Live	0.75
Roof Live	0.75
Seismic	1.00

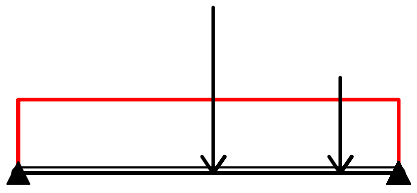
Stresses @ Input Location	
f_v (psi)	38
f_b (psi)	1278

Max/Min Stresses	
f_{v_MAX} (psi)	132
f_{v_MIN} (psi)	-162
f_{b_MAX} (psi)	1284
f_{b_MIN} (psi)	0

Beam Properties	
E (ksi)	1800
b (in)	3.5
d (in)	10.5
I (in^4)	337.64
S (in^3)	64.313
A (in^2)	36.75
I (Override)	
S (Override)	
A (Override)	

Steel Beam Section	NONE

Beam Loading Diagram



Span	V_L (kips)	V_R (kips)	M(-) (k-ft)	M(+) (k-ft)	Δ_{TL} (in)	@ x =	L/	Δ_{LL} (in)	@ x =	L/
Span 1	3.23	-3.97	-	6.88	-0.078 (↓)	3.3	L/1000	-0.026 (↓)	3.2	L/2999

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Beam:		FB21 - OVERSTRENGTH						
Load		Dead	Live	Roof Live	Seismic	Factored	Location	
Distributed (k/ft)	w_1	**0.044**	**0.145**			0.044		FLOOR
	w_2	**0.050**	**0.248**			0.050		DECK
	w_3					0.000		
	w_4					0.000		
	w_5					0.000		
	w_6					0.000		
	w_7					0.000		
	w_8					0.000		
	w_9					0.000		
	w_{10}					0.000		SW
Trapezoidal (k/ft/ft)	t_1					0.000		
	t_2					0.000		
	t_3					0.000		
	t_4					0.000		
	t_5					0.000		
	t_6					0.000		
Point (k)	P_1	**0.863**		**1.44**		0.863	**2.00**	RF
	P_2				**2.21**	5.525	**2.00**	OTOS
	P_3					0.000		
	P_4					0.000		
	P_5					0.000		
	P_6					0.000		
	P_7					0.000		
	P_8					0.000		
	P_9					0.000		
	P_{10}					0.000		

Support Locations and Reactions		
# of Supports		2
Total Beam Length		**14.08**
Left End Condition		**Pinned**
Right End Condition		**Pinned**
R_1	6.136	**0.00**
R_2	1.562	**14.08**
R_3	0.000	**14.08**
R_4	0.000	**14.08**
R_5	0.000	**14.08**
R_6	0.000	**14.08**
R_7	0.000	**14.08**
R_8	0.000	**14.08**
R_9	0.000	**14.08**
R_{10}	0.000	**14.08**

Demand Output		
Location, ft		**6.86**
Shear, k	V	-0.89
Moment, k-ft	M =	8.86
Deflection, in	D =	-0.33
Δ/Span		L/518

Load Factors	
Dead	**1.00**
Live	**0.00**
Roof Live	**0.00**
Seismic	**2.50**

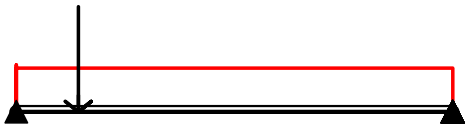
Stresses @ Input Location	
f_v (psi)	-32
f_b (psi)	1292

Max/Min Stresses	
f_{v_MAX} (psi)	222
f_{v_MIN} (psi)	-56
f_{b_MAX} (psi)	1765
f_{b_MIN} (psi)	0

Beam Properties	
E (ksi)	**2200**
b (in)	**3.5**
d (in)	**11.875**
I (in^4)	488.41
S (in^3)	82.259
A (in^2)	41.563
I (Override)	
S (Override)	
A (Override)	

Steel Beam Section	NONE

Beam Loading Diagram



Span	V_L (kips)	V_R (kips)	M(-) (k-ft)	M(+) (k-ft)	Δ_{TL} (in)	@ x =	L/	Δ_{LL} (in)	@ x =	L/
Span 1	6.14	-1.56	-	12.1	-0.576 (↓)	6.8	L/293	-0.323 (↓)	7	L/523

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Beam:	FB23					
Load	Dead	Live	Roof Live	Seismic	Factored	Location
Distributed (k/ft) w_1	0.120	0.600			0.720	
w_2					0.000	
w_3					0.000	
w_4					0.000	
w_5					0.000	
w_6					0.000	
w_7					0.000	
w_8					0.000	
w_9					0.000	
w_{10}					0.000	
Trapezoidal (k/ft/ft) t_1					0.000	
t_2					0.000	
t_3					0.000	
t_4					0.000	
t_5					0.000	
t_6					0.000	
Point (k) P_1					0.000	
P_2					0.000	
P_3					0.000	
P_4					0.000	
P_5					0.000	
P_6					0.000	
P_7					0.000	
P_8					0.000	
P_9					0.000	
P_{10}					0.000	

DECK

Support Locations and Reactions		
# of Supports		2
Total Beam Length		**9.33**
Left End Condition		**Pinned**
Right End Condition		**Pinned**
R_1	3.359	**0.00**
R_2	3.359	**9.33**
R_3	0.000	**9.33**
R_4	0.000	**9.33**
R_5	0.000	**9.33**
R_6	0.000	**9.33**
R_7	0.000	**9.33**
R_8	0.000	**9.33**
R_9	0.000	**9.33**
R_{10}	0.000	**9.33**

Demand Output		
Location, ft		**4.66**
Shear, k	V	0.00
Moment, k-ft	M =	7.83
Deflection, in	D =	-0.26
Δ/Span		L/430

Load Factors	
Dead	**1.00**
Live	**1.00**
Roof Live	**0.75**
Seismic	**1.00**

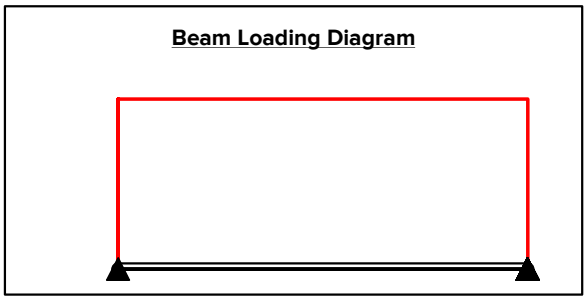
Stresses @ Input Location	
f_v (psi)	0
f_b (psi)	1199

Max/Min Stresses	
f_{v_MAX} (psi)	99
f_{v_MIN} (psi)	-99
f_{b_MAX} (psi)	1198
f_{b_MIN} (psi)	0

Beam Properties	
E (ksi)	**1300**
b (in)	**5.5**
d (in)	**9.25**
I (in^4)	362.75
S (in^3)	78.432
A (in^2)	50.875
I (Override)	
S (Override)	
A (Override)	

Steel Beam Section	NONE

Beam Loading Diagram



Span	V_L (kips)	V_R (kips)	M(-) (k-ft)	M(+) (k-ft)	Δ_{TL} (in)	@ x =	L/	Δ_{LL} (in)	@ x =	L/
Span 1	3.36	-3.36	-	7.83	-0.26 (↓)	4.7	L/431	-0.217 (↓)	4.7	L/516

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Jaffe Residence - Permit Correction #1

PROJECT
Gravity Design - Floor

04-05-2023

DATE
00043-2022-03

PROJ. #
ETC

DESIGN
22

SHEET

Beam:		FB24						
	Load	Dead	Live	Roof Live	Seismic	Factored	Location	
Distributed (k/ft)	w_1	**0.016**	**0.053**			0.056		FLOOR
	w_2					0.000		
	w_3					0.000		
	w_4					0.000		
	w_5					0.000		
	w_6					0.000		
	w_7					0.000		
	w_8					0.000		
	w_9					0.000		
	w_{10}	**0.01237**				0.012		SW
Trapezoidal (k/ft/ft)	t_1					0.000		
	t_2					0.000		
	t_3					0.000		
	t_4					0.000		
	t_5					0.000		
	t_6					0.000		
Point (k)	P_1	**0.9**		**1.5**		2.025	**1.33**	RF
	P_2					0.000		
	P_3					0.000		
	P_4					0.000		
	P_5					0.000		
	P_6					0.000		
	P_7					0.000		
	P_8					0.000		
	P_9					0.000		
	P_{10}					0.000		

Support Locations and Reactions		
# of Supports		2
Total Beam Length		**8.25**
Left End Condition		**Pinned**
Right End Condition		**Pinned**
R_1	1.981	**0.00**
R_2	0.608	**8.25**
R_3	0.000	**8.25**
R_4	0.000	**8.25**
R_5	0.000	**8.25**
R_6	0.000	**8.25**
R_7	0.000	**8.25**
R_8	0.000	**8.25**
R_9	0.000	**8.25**
R_{10}	0.000	**8.25**

Demand Output		
Location, ft		**1.34**
Shear, k	V	-0.14
Moment, k-ft	M =	2.57
Deflection, in	D =	-0.03
Δ/Span		L/3929

Load Factors	
Dead	**1.00**
Live	**0.75**
Roof Live	**0.75**
Seismic	**1.00**

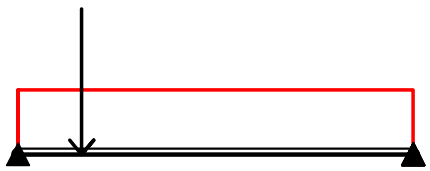
Stresses @ Input Location	
f_v (psi)	-4
f_b (psi)	394

Max/Min Stresses	
f_{v_MAX} (psi)	58
f_{v_MIN} (psi)	-18
f_{b_MAX} (psi)	393
f_{b_MIN} (psi)	0

Beam Properties	
E (ksi)	**1700**
b (in)	**5.5**
d (in)	**9.25**
I (in^4)	362.75
S (in^3)	78.432
A (in^2)	50.875
I (Override)	
S (Override)	
A (Override)	

Steel Beam Section	NONE

Beam Loading Diagram



Span	V_L (kips)	V_R (kips)	M(-) (k-ft)	M(+) (k-ft)	Δ_{TL} (in)	@ x =	L/	Δ_{LL} (in)	@ x =	L/
Span 1	1.98	-0.608	-	2.57	-0.051 (↓)	3.7	L/1941	-0.009 (↓)	4.1	L/11000

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