

STRUCTURAL ENGINEERING CALCULATIONS

FOR

**LEE'S SUMMIT R7 DISTRICT ATHLETIC FACILITIES
LEE'S SUMMIT, MISSOURI
PERMIT SUBMITTAL**

PREPARED BY

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OF

**BOB D. CAMPBELL AND COMPANY, INC.
STRUCTURAL ENGINEERS
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KANSAS CITY, MISSOURI 64111
(816) 531-4144**

FOR

**GOULD EVANS
706 Massachusetts Street
Lawrence, Kansas, 66044
Ph.# (785) 330-7055**



OCTOBER 2, 2020

Structural Design Criteria

Building Code:

International Building Code (IBC 2018)

1605.2.1 Basic load combinations (Strength Design) **(Strength Design)**

1.4D
1.2D + 1.6L
1.2D + 1.6L + 0.5(Lr or S or R)
1.2D + 1.0(W or E) + L + 0.5(Lr or S or R)
0.9D + W
0.9D + E

1605.3.1 Basic load combinations (Allowable Stress Design) **(Allowable Stress Design)**

D
D + L
D + 0.75L + 0.75(Lr or S or R)
D + 0.75(0.6W or 0.7E) + 0.75L + 0.75(Lr or S or R)
0.6D + 0.6W
0.6D + 0.7E

Structural Design Loads

Roof:

Roof Live Load	20 psf	Lr
Snow Load	20 psf	S

Floor:

Floor & Stair Live Load	100 psf	L
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Geotechnical Information

The following are assumed allowable bearing values. Values will be verified in forthcoming geotechnical reports.

Lee's Summit High	2500 psf
Lee's Summit North	3000 psf
Lee's Summit West	3000 psf

Materials

Steel:	Beams & Columns:	ASTM A992, Grade 50
	Miscellaneous steel:	ASTM A36
	Tubes & Pipes:	ASTM A500, Grade B
Concrete:	3500 psi (footings & grade beams)	
	4000 psi (Structural Slabs)	
	4500 psi w/ 6% +/- 1% air entrainment (exterior flatwork)	
Reinf. Steel:	ASTM A615 or A706 Grade 60 steel	



Hazards by Location

Search Information

Address: LEE'S SUMMIT HIGH SCHOOL
Coordinates: 38.9039849, -94.36637379999999
Elevation: 1048 ft
Timestamp: 2020-08-05T14:27:55.383Z
Hazard Type: Snow



ASCE 7-16

Ground Snow Load 20 lb/sqft

ASCE 7-10

Ground Snow Load 20 lb/sqft

ASCE 7-05

Ground Snow Load 20 lb/sqft

The results indicated here DO NOT reflect any state or local amendments to the values or any delineation lines made during the building code adoption process. Users should confirm any output obtained from this tool with the local Authority Having Jurisdiction before proceeding with design.

Disclaimer

Hazard loads are interpolated from data provided in ASCE 7 and rounded up to the nearest whole integer.

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Hazards by Location

Search Information

Address: LEE'S SUMMIT HIGH SCHOOL

Coordinates: 38.9039849, -94.36637379999999

Elevation: 1048 ft

Timestamp: 2020-08-05T14:29:29.935Z

Hazard Type: Seismic

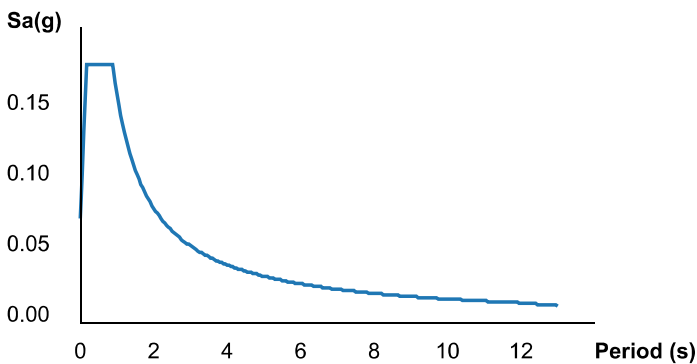
Reference Document: ASCE7-16

Risk Category: II

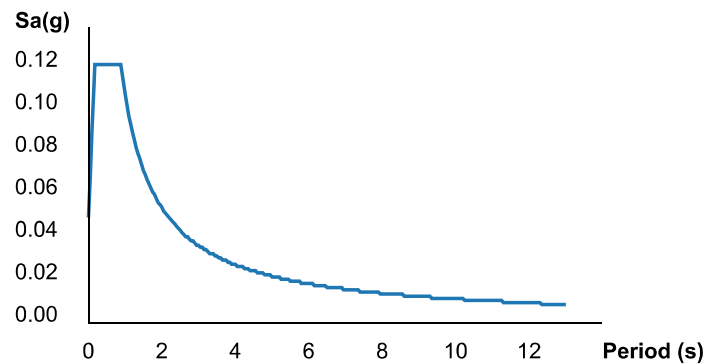
Site Class: D



MCER Horizontal Response Spectrum



Design Horizontal Response Spectrum



Basic Parameters

Name	Value	Description
S_S	0.114	MCE _R ground motion (period=0.2s)
S_1	0.067	MCE _R ground motion (period=1.0s)
S_{MS}	0.182	Site-modified spectral acceleration value
S_{M1}	0.161	Site-modified spectral acceleration value
S_{DS}	0.121	Numeric seismic design value at 0.2s SA
S_{D1}	0.107	Numeric seismic design value at 1.0s SA

Additional Information

Name	Value	Description
SDC	B	Seismic design category
F_a	1.6	Site amplification factor at 0.2s
F_v	2.4	Site amplification factor at 1.0s
CR_S	0.899	Coefficient of risk (0.2s)

CR ₁	0.846	Coefficient of risk (1.0s)
PGA	0.054	MCE _G peak ground acceleration
F _{PGA}	1.6	Site amplification factor at PGA
PGA _M	0.087	Site modified peak ground acceleration
T _L	12	Long-period transition period (s)
SsRT	0.114	Probabilistic risk-targeted ground motion (0.2s)
SsUH	0.127	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
SsD	1.5	Factored deterministic acceleration value (0.2s)
S1RT	0.067	Probabilistic risk-targeted ground motion (1.0s)
S1UH	0.079	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
S1D	0.6	Factored deterministic acceleration value (1.0s)
PGAd	0.5	Factored deterministic acceleration value (PGA)

The results indicated here DO NOT reflect any state or local amendments to the values or any delineation lines made during the building code adoption process. Users should confirm any output obtained from this tool with the local Authority Having Jurisdiction before proceeding with design.

Disclaimer

Hazard loads are provided by the U.S. Geological Survey [Seismic Design Web Services](#).

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Hazards by Location

Search Information

Address: LEE'S SUMMIT HIGH SCHOOL
Coordinates: 38.9039849, -94.36637379999999
Elevation: 1048 ft
Timestamp: 2020-08-05T14:28:57.645Z
Hazard Type: Wind



ASCE 7-16

MRI 10-Year 75 mph
 MRI 25-Year 83 mph
 MRI 50-Year 88 mph
 MRI 100-Year 94 mph
 Risk Category I 103 mph
 Risk Category II 109 mph
 Risk Category III 117 mph
 Risk Category IV 122 mph

ASCE 7-10

MRI 10-Year 76 mph
 MRI 25-Year 84 mph
 MRI 50-Year 90 mph
 MRI 100-Year 96 mph
 Risk Category I 105 mph
 Risk Category II 115 mph
 Risk Category III-IV 120 mph

ASCE 7-05

ASCE 7-05 Wind Speed 90 mph

The results indicated here DO NOT reflect any state or local amendments to the values or any delineation lines made during the building code adoption process. Users should confirm any output obtained from this tool with the local Authority Having Jurisdiction before proceeding with design.

Disclaimer

Hazard loads are interpolated from data provided in ASCE 7 and rounded up to the nearest whole integer. Per ASCE 7, islands and coastal areas outside the last contour should use the last wind speed contour of the coastal area – in some cases, this website will extrapolate past the last wind speed contour and therefore, provide a wind speed that is slightly higher. NOTE: For queries near wind-borne debris region boundaries, the resulting determination is sensitive to rounding which may affect whether or not it is considered to be within a wind-borne debris region.

Mountainous terrain, gorges, ocean promontories, and special wind regions shall be examined for unusual wind conditions.

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ROOF WIND PRESSURES

LSHS											
Building Type	Height	Slope	L	B	a	P, table			Ultimate Uplift Pressure		
	[ft]					Zone 1	Zone 2	Zone 3	Zone 1	Zone 2	Zone 3
Press Box Roof	60	Monosloped	25	95	3.8	[psf]	[psf]	[psf]	[psf]	[psf]	[psf]
Other Structures	20	Flat	25	50	3	41	64.4	87.7	37.0	57.0	78.0

LSW											
Building Type	Height	Slope	L	B	a	P, table			Ultimate Uplift Pressure		
	[ft]					Zone 1	Zone 2	Zone 3	Zone 1	Zone 2	Zone 3
Press Box Roof	50	Monosloped	35	70	3.5	[psf]	[psf]	[psf]	[psf]	[psf]	[psf]
Other Structures	15	Flat	35	70	3.5	43.4	56	96.9	44.0	54.0	86.0

LSN											
Building Type	Height	Slope	L	B	a	P, table			Ultimate Uplift Pressure		
	[ft]					Zone 1	Zone 2	Zone 3	Zone 1	Zone 2	Zone 3
Press Box Roof	50	Monosloped	20	90	3.6	[psf]	[psf]	[psf]	[psf]	[psf]	[psf]
Other Structures	15	Flat	30	30	3	43.4	56	96.9	44.0	54.0	86.0

**** Ultimate (LRFD) wind pressures are calculated based on an effective wind area of 50 square feet ****

LSHS					
Building Type	Building / Roof Type	a	Ultimate Uplift Pressure		
			Zone 1	Zone 2	Zone 3
Press Box Roof	Open Building, Monosloped Roof	4	[psf]	[psf]	[psf]
Other Structures	Enclosed Building, Flat Roof	3	37.0	57.0	78.0

LSW					
Building Type	Building / Roof Type	a	Ultimate Uplift Pressure		
			Zone 1	Zone 2	Zone 3
Press Box Roof	Open Building, Monosloped Roof	3.5	[psf]	[psf]	[psf]
Other Structures	Enclosed Building, Flat Roof	3.5	51.0	78.0	102.0

LSN					
Building Type	Building / Roof Type	a	Ultimate Uplift Pressure		
			Zone 1	Zone 2	Zone 3
Press Box Roof	Open Building, Monosloped Roof	4	[psf]	[psf]	[psf]
Other Structures	Enclosed Building, Flat Roof	3	34.0	54.0	73.0

**** Wind pressures are ultimate values (LRFD) and calculated based on an effective wind area of 50 square feet ****

Typical 8" CMU Wall

M	8.01	k-in	Applied Moment
F_s	32	ksi	Allowable Stress in Steel
F_b	0.5	ksi	Allowable Stress in CMU
E_s	29000	ksi	Steel Modulus of Elasticity
E_m	1350	ksi	CMU Modulus of Elasticity
n	21.48		Modular Ratio
A_s	0.31	in ²	Area of Steel
b	32	in	Width
d	3.813	in	Effective Depth
ρ	0.0025		Reinforcement Ratio
pn	0.0546		
k	0.2803		
j	0.9066		
M_m	29.55	k-in	CMU Flexural Capacity
M_s	34.29	k-in	Steel Flexural Capacity
M_r	29.55	k-in	Governing Flexural Capacity
	0.27	OK	Unity Check

Typical 12" CMU Wall

M	28.83	k-in	Applied Moment
F_s	32	ksi	Allowable Stress in Steel
F_b	0.5	ksi	Allowable Stress in CMU
E_s	29000	ksi	Steel Modulus of Elasticity
E_m	1350	ksi	CMU Modulus of Elasticity
n	21.48		Modular Ratio
A_s	0.31	in ²	Area of Steel
b	48	in	Width
d	9	in	Effective Depth
ρ	0.0007		Reinforcement Ratio
pn	0.0154		
k	0.1608		
j	0.9464		
M_m	147.96	k-in	CMU Flexural Capacity
M_s	84.49	k-in	Steel Flexural Capacity
M_r	84.49	k-in	Governing Flexural Capacity
	0.34	OK	Unity Check

www.hilti.com

Company: Bob D. Campbell & Co.
Address:
Phone | Fax:
Design: LSR7 Typ. CMU Anchor
Fastening point:

Page: 1
Specifier:
E-Mail:
Date: 10/2/2020

Specifier's comments:

1 Input data

Anchor type and diameter:**Kwik Bolt TZ - CS 5/8 (3 1/8)**

Item number:

not available

Effective embedment depth:

 $h_{ef} = 3.125$ in.

Material:

Carbon Steel

Evaluation Service Report:

ESR-3785

Issued | Valid:

7/1/2020 | 7/1/2021

Proof:

Design Method ASD Masonry

Stand-off installation:

Profile:

Base material:

Grout-filled CMU, L x W x H: 16.000 in. x 8.000 in. x 8.000 in.;

Joints: vertical: 0.375 in.; horizontal: 0.375 in.

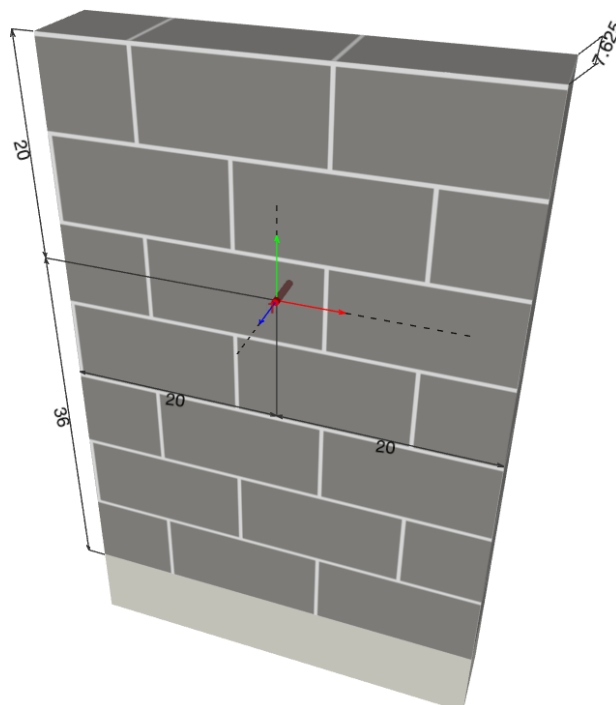
Base material temperature: 68 °F

Installation:

Face installation

Seismic loads

no

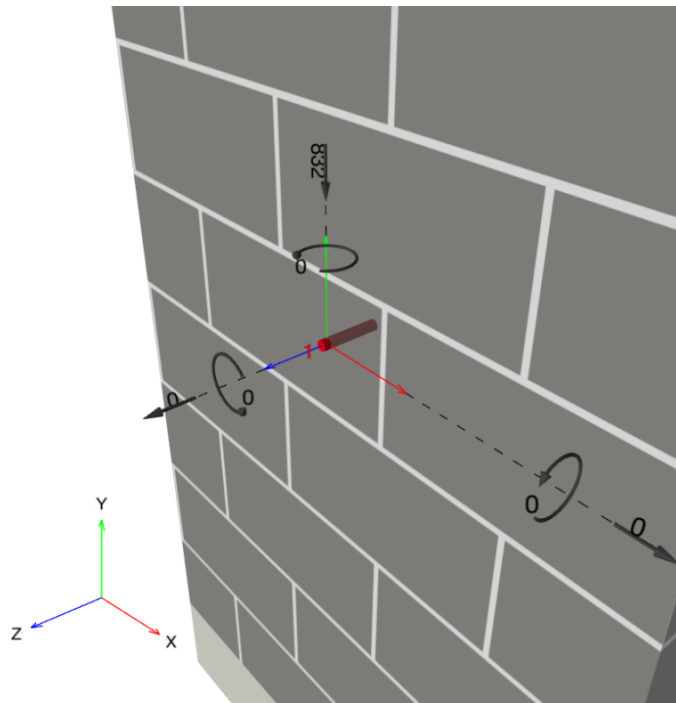
Geometry [in.]

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 Phone | Fax: |
 Design: LSR7 Typ. CMU Anchor
 Fastening point:

Page: 2
 Specifier:
 E-Mail:
 Date: 10/2/2020

Geometry [in.] & Loading [lb, in.lb]



1.1 Design results

Case	Description	Forces [lb] / Moments [in.lb]	Seismic	Max. Util. Anchor [%]
1	Combination 1	N = 0; V _x = 0; V _y = -832; M _x = 0; M _y = 0; M _z = 0;	no	52

2 Load case/Resulting anchor forces

Load case: Service loads

Anchor reactions [lb]

Tension force: (+Tension, -Compression)

Anchor	Tension force	Shear force	Shear force x	Shear force y
1	0	832	0	-832

max. compressive strain: - [%]
 max. compressive stress: - [psi]
 resulting tension force in (x/y)=(0.000/0.000): 0 [lb]
 resulting compression force in (x/y)=(0.000/0.000): 0 [lb]



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Address:		Specifier:	
Phone Fax:		E-Mail:	
Design:	LSR7 Typ. CMU Anchor	Date:	10/2/2020
Fastening point:			

3 Tension load (Most utilized anchor 1)

	Load P_s [lb]	Capacity P_t [lb]	Utilization $\beta_p = P_s/P_t$ [%]	Status
Overall strength	N/A	N/A	N/A	N/A

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Address:
Phone | Fax: |
Design: LSR7 Typ. CMU Anchor
Fastening point:

Page: 4
Specifier:
E-Mail:
Date: 10/2/2020

4 Shear load (Most utilized anchor 1)

	Load V_s [lb]	Capacity V_t [lb]	Utilization $\beta_V = V_s/V_t$ [%]	Status
Overall strength para and perp, (Dir. x-) ¹	-	-	52	OK

¹Shear utilization may result from parallel and perpendicular shear (see details)

4.1 Overall strength parallel

$V_{t,Base,\parallel}$ = ESR Value refer to ICC-ES ESR-3785
 $V_{t,\parallel} = V_{t,Base,\parallel} \cdot f_{red,E,\parallel} \cdot f_{red,s,\parallel} \cdot f_{red,Temp}$
 $V_{t,\parallel} \geq V_{s,\parallel}$

Variables

c_{min} [in.]	c_{cr} [in.]	s_{min} [in.]	s_{cr} [in.]	Temperature [°F]
4.000	12.000	5.000	14.250	68

Results

$V_{t,\parallel}$ [lb]	$V_{t,Base,\parallel}$ [lb]	$V_{s,\parallel}$ [lb]	$f_{red,E,\parallel}$	$f_{red,s,\parallel}$	$f_{red,Temp}$	Utilization $\beta_{V,\parallel}$ [%]
1,615	1,615	-832	1.000	1.000	1.000	52

4.2 Overall strength perpendicular

$V_{t,Base,\perp}$ = ESR Value refer to ICC-ES ESR-3785
 $V_{t,\perp} = V_{t,Base,\perp} \cdot f_{red,E,\perp} \cdot f_{red,s,\perp} \cdot f_{red,Temp}$
 $V_{t,\perp} \geq V_{s,\perp}$

Variables

c_{min} [in.]	c_{cr} [in.]	s_{min} [in.]	s_{cr} [in.]	Temperature [°F]
4.000	12.000	5.000	14.250	68

Results

$V_{t,\perp}$ [lb]	$V_{t,Base,\perp}$ [lb]	$V_{s,\perp}$ [lb]	$f_{red,E,\perp}$	$f_{red,s,\perp}$	$f_{red,Temp}$	Utilization $\beta_{V,\perp}$ [%]
0	1,615	0	0.000	0.000	1.000	0

4.3 Shear interaction

$\beta_{V,\parallel} = \frac{V_{s,\parallel}}{V_{t,\parallel}}$	$\beta_{V,\perp} = \frac{V_{s,\perp}}{V_{t,\perp}}$	δ	Utilization β_V [%]	Status
0.515	0.000	1.667	52	OK

$$\beta_V = \beta_{V,\parallel}^\delta + \beta_{V,\perp}^\delta \leq 1.0$$

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Company:	Bob D. Campbell & Co.	Page:	5
Address:		Specifier:	
Phone Fax:		E-Mail:	
Design:	LSR7 Typ. CMU Anchor	Date:	10/2/2020
Fastening point:			

5 Warnings

- The anchor design methods in PROFIS Engineering require rigid anchor plates per current regulations (AS 5216:2018, ETAG 001/Annex C, EOTA TR029 etc.). This means load re-distribution on the anchors due to elastic deformations of the anchor plate are not considered - the anchor plate is assumed to be sufficiently stiff, in order not to be deformed when subjected to the design loading. PROFIS Engineering calculates the minimum required anchor plate thickness with CBFEM to limit the stress of the anchor plate based on the assumptions explained above. The proof if the rigid anchor plate assumption is valid is not carried out by PROFIS Engineering. Input data and results must be checked for agreement with the existing conditions and for plausibility!
- Refer to the manufacturer's product literature for cleaning and installation instructions.
- For additional information about ACI 318 strength design provisions, please go to <https://submittals.us.hilti.com/PROFISAnchorDesignGuide/>
- The min. sizes of the bricks, the masonry compressive strength, the type / strength of the mortar and the grout (in case of fully grouted CMU walls) has to fulfill the requirements given in the relevant ESR-approval or in the PTG.
- Only the local load transfer from the anchor(s) to the wall is considered, a further load transfer in the wall is not covered by PROFIS!
- Wall is assumed as being perfectly aligned vertically – checking required(!): Noncompliance can lead to significantly different distribution of forces and higher tension loads than those calculated by PROFIS. Masonry wall must not have any damages (neither visible nor not visible)! While installation, the positioning of the anchors needs to be maintained as in the design phase i.e. either relative to the brick or relative to the mortar joints.
- The effect of the joints on the compressive stress distribution on the plate / bricks was not taken into consideration.
- If no significant resistance is felt over the entire depth of the hole when drilling (e.g. in unfilled butt joints), the anchor should not be set at this position or the area should be assessed and reinforced. Hilti recommends the anchoring in masonry always with sieve sleeve. Anchors can only be installed without sieve sleeves in solid bricks when it is guaranteed that it has not any hole or void.
- The accessories and installation remarks listed on this report are for the information of the user only. In any case, the instructions for use provided with the product have to be followed to ensure a proper installation.
- The compliance with current standards (e.g. 2015, 2012, 2009 and 2006 IBC) is the responsibility of the user.
- Drilling method (hammer, rotary) to be in accordance with the approval!
- Masonry needs to be built in a regular way in accordance with state-of the art guidelines!
- Warnings/Notes - OST in Masonry HNA!

Fastening meets the design criteria!



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Address:		Specifier:	
Phone Fax:		E-Mail:	
Design:	LSR7 Typ. CMU Anchor	Date:	10/2/2020
Fastening point:			

6 Installation data

Profile: -

Hole diameter in the fixture: -

Plate thickness (input): -

Drilling method: Drilled in hammer mode

Anchor type and diameter: Kwik Bolt TZ - CS 5/8 (3 1/8)

Item number: not available

Installation torque: 420 in.lb

Hole diameter in the base material: 0.625 in.

Hole depth in the base material: 3.875 in.

Minimum thickness of the base material: 3.125 in.

Hilti KB-TZ stud anchor with 3.125 in embedment, 5/8 (3 1/8), Steel galvanized, installation per ESR-3785

Coordinates Anchor in.

Anchor	x	y	C _{-x}	C _{+x}	C _{-y}	C _{+y}
1	0.000	0.000	20.000	20.000	36.000	20.000



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Address:		Specifier:	
Phone Fax:		E-Mail:	
Design:	LSR7 Typ. CMU Anchor	Date:	10/2/2020
Fastening point:			

7 Remarks; Your Cooperation Duties

- Any and all information and data contained in the Software concern solely the use of Hilti products and are based on the principles, formulas and security regulations in accordance with Hilti's technical directions and operating, mounting and assembly instructions, etc., that must be strictly complied with by the user. All figures contained therein are average figures, and therefore use-specific tests are to be conducted prior to using the relevant Hilti product. The results of the calculations carried out by means of the Software are based essentially on the data you put in. Therefore, you bear the sole responsibility for the absence of errors, the completeness and the relevance of the data to be put in by you. Moreover, you bear sole responsibility for having the results of the calculation checked and cleared by an expert, particularly with regard to compliance with applicable norms and permits, prior to using them for your specific facility. The Software serves only as an aid to interpret norms and permits without any guarantee as to the absence of errors, the correctness and the relevance of the results or suitability for a specific application.
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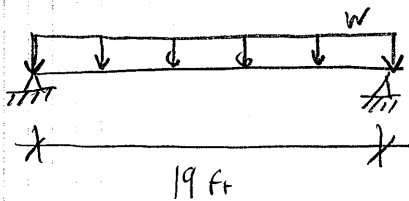
4338 Belleview Ave. 816.531.4144

Kansas City, MO 64111 www.bdc-engrs.com

Project LSR7 Athletic Facilities

Date _____ Page _____ of _____

Typical Bar Joist



- 12K3 Joists @ 5 ft oc

$$- w = (50 \text{ psl}) (5 \text{ ft}) = 250 \text{ plf}$$

- Per Vulcraft Design Catalog

$$\rightarrow W_{\max} = 335 \text{ plf} > 250 \text{ plf} \quad \checkmark \underline{\underline{\text{OK}}}$$

Typical Grade Beam

18" Wide x 32" Dp Grade Beam

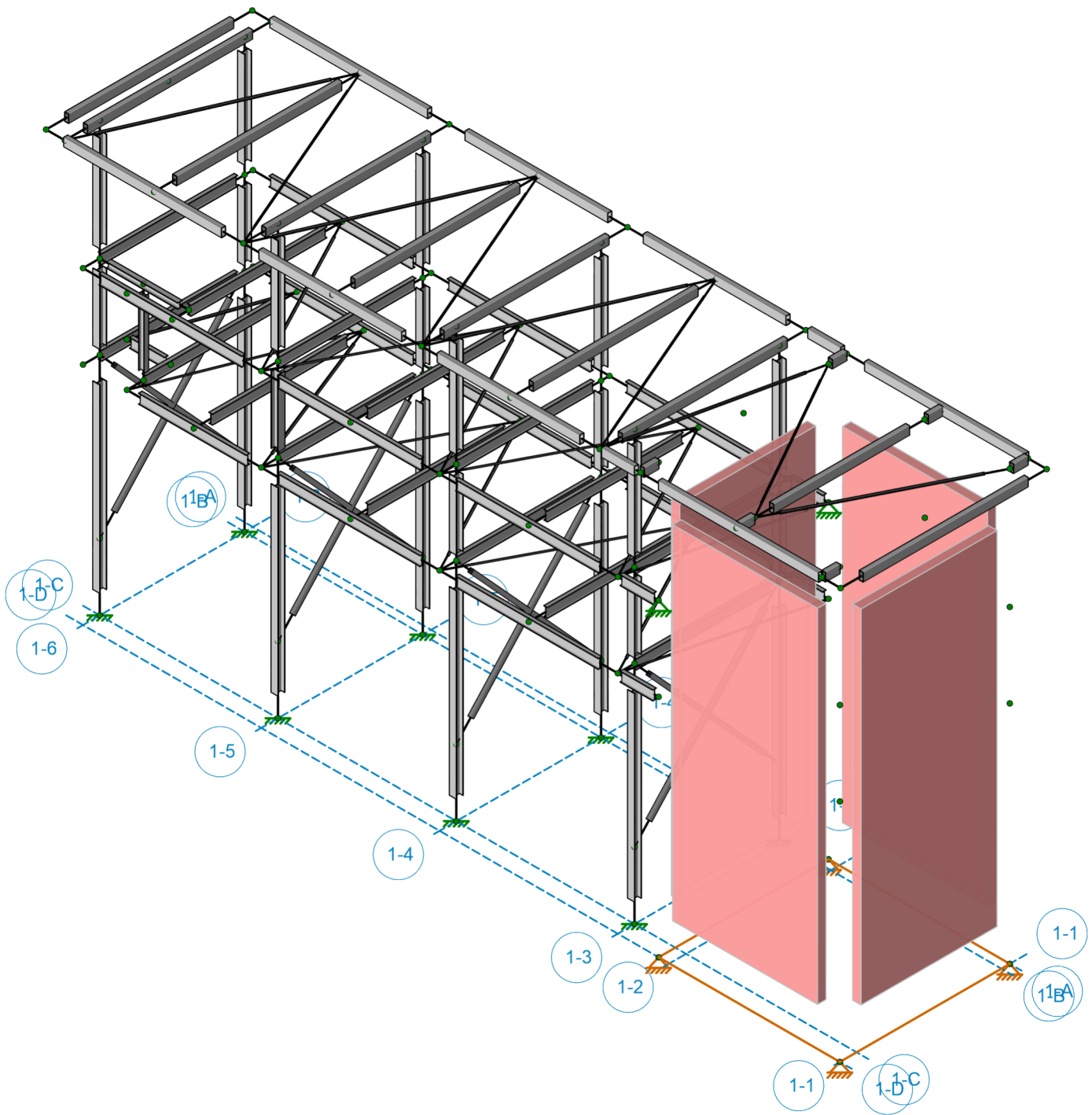
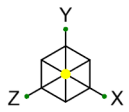
$$\text{Load to soil} \Rightarrow \text{Wall Weight} = (58 \text{ psl}) (12.67') = 735 \text{ plf}$$

$$\text{Ftg Weight} = (150 \text{ psl}) (1.5') (2.67') = 601 \text{ plf}$$

$$\text{Roof Load} = (50 \text{ psl}) (11.5 \text{ ft}) = 575 \text{ plf}$$

$$w = 1911 \text{ plf}$$

$$\text{Bearing Pressure} \Rightarrow q = w/B = 1911 \text{ plf} / 1.5' = 1274 \text{ psl} < 2500 \text{ psl} \quad \checkmark \underline{\underline{\text{OK}}}$$



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SJB

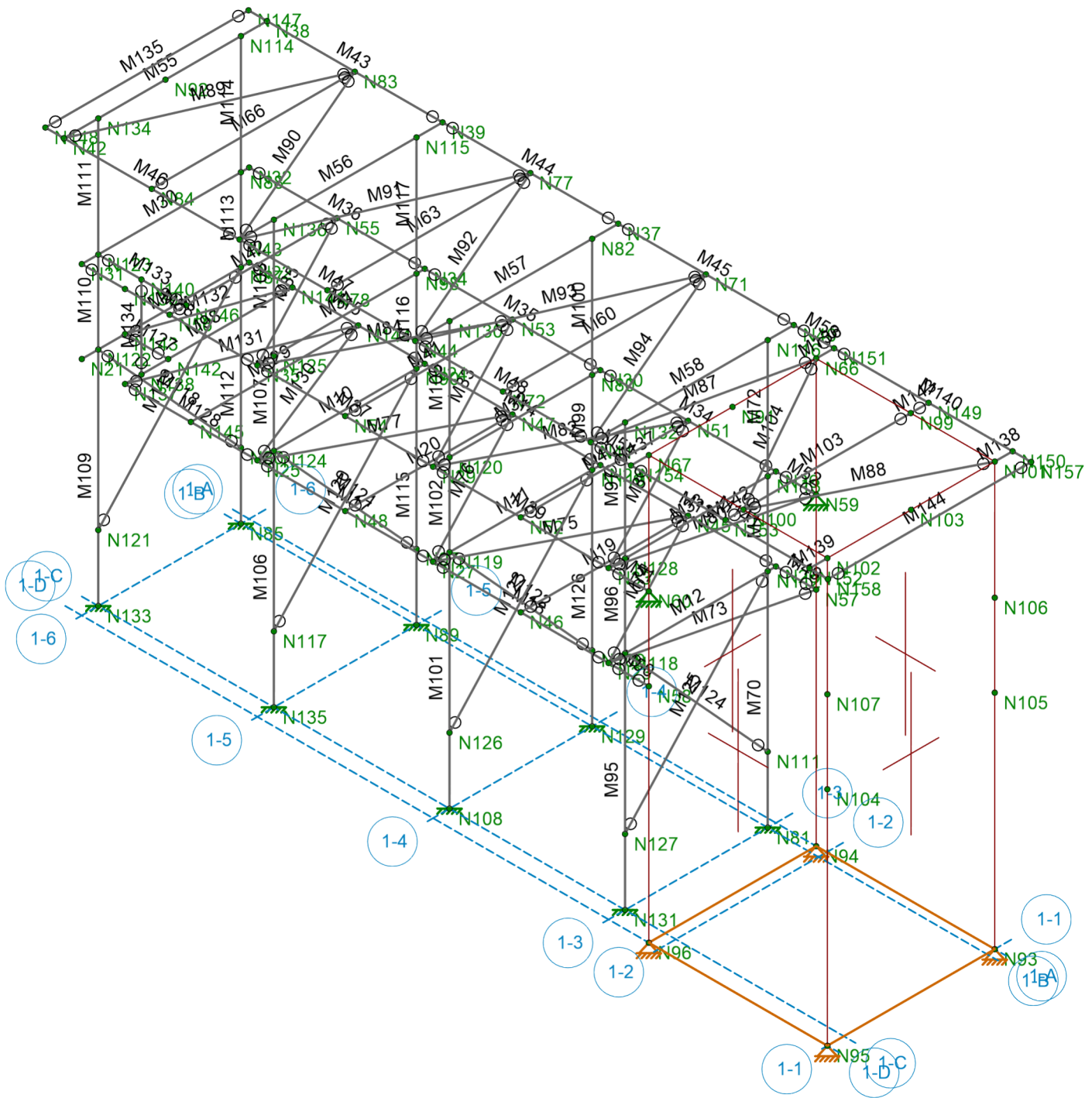
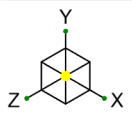
GEA2012

LSH Home Press Box

SK-1

Oct 02, 2020

LSH Home Press Box.r3d



Bob D. Campbell & Co.

SJB

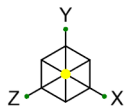
GEA2012

LSH Home Press Box

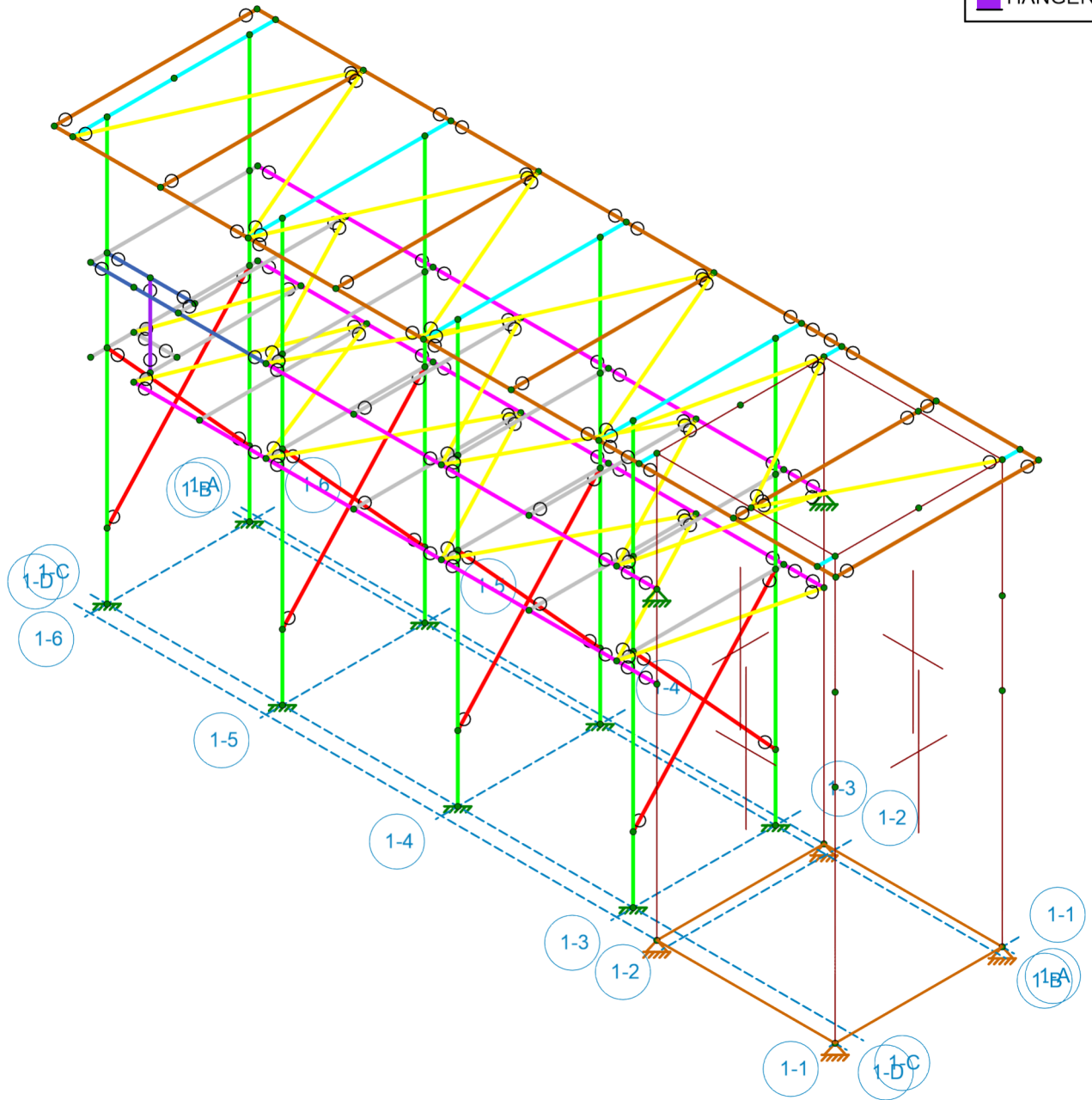
SK-2

Oct 02, 2020

LSH Home Press Box.r3d



Section Sets	
na	
COL	
BRACE	
FLR BM	
FLR GIRDER	
ROOF GIRDER	
ROOF BM	
DIAPHRAGM	
HANGER	



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SJB

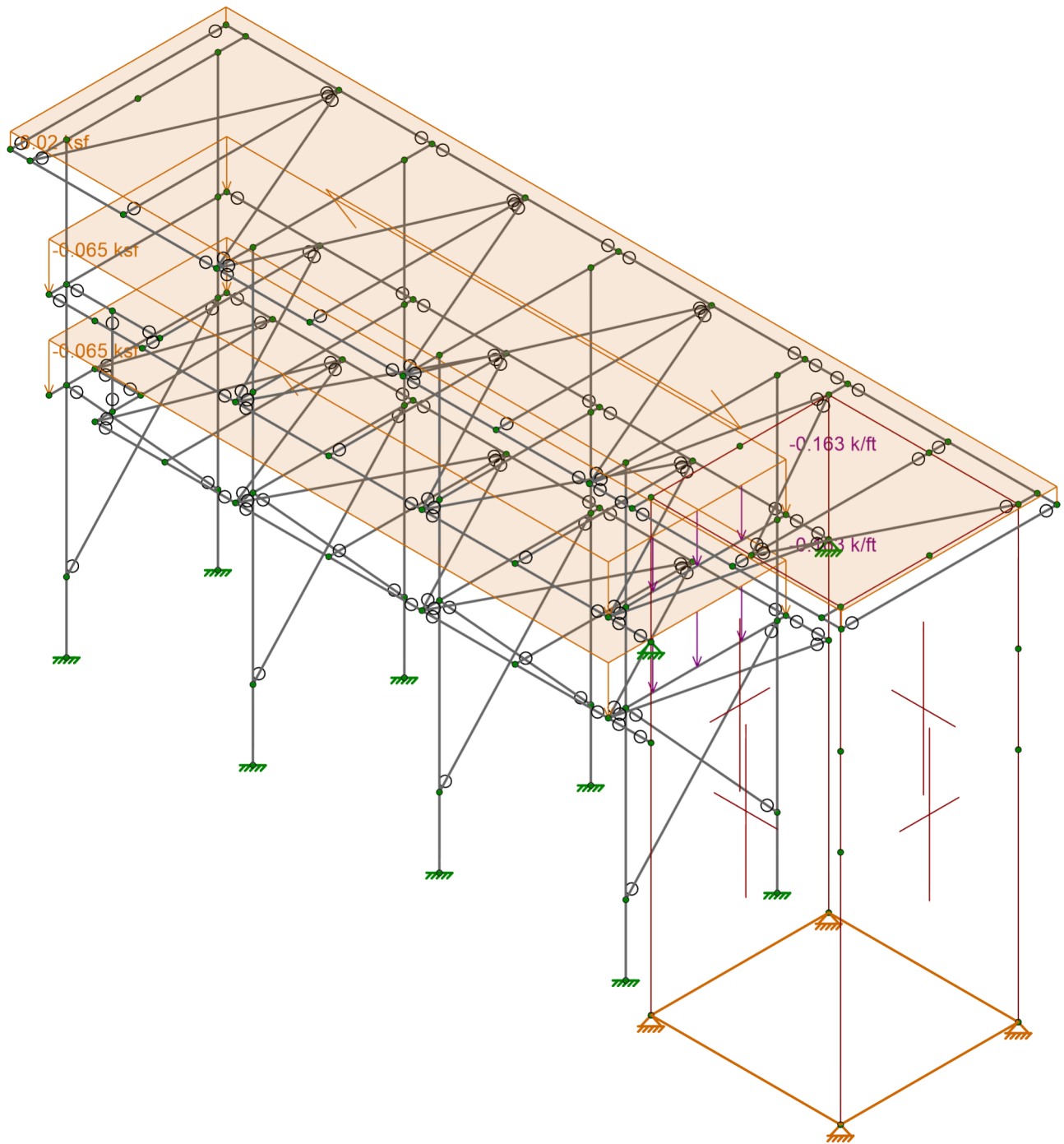
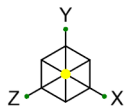
GEA2012

LSH Home Press Box

SK-3

Oct 02, 2020

LSH Home Press Box.r3d



Loads: BLC 1, D

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SJB

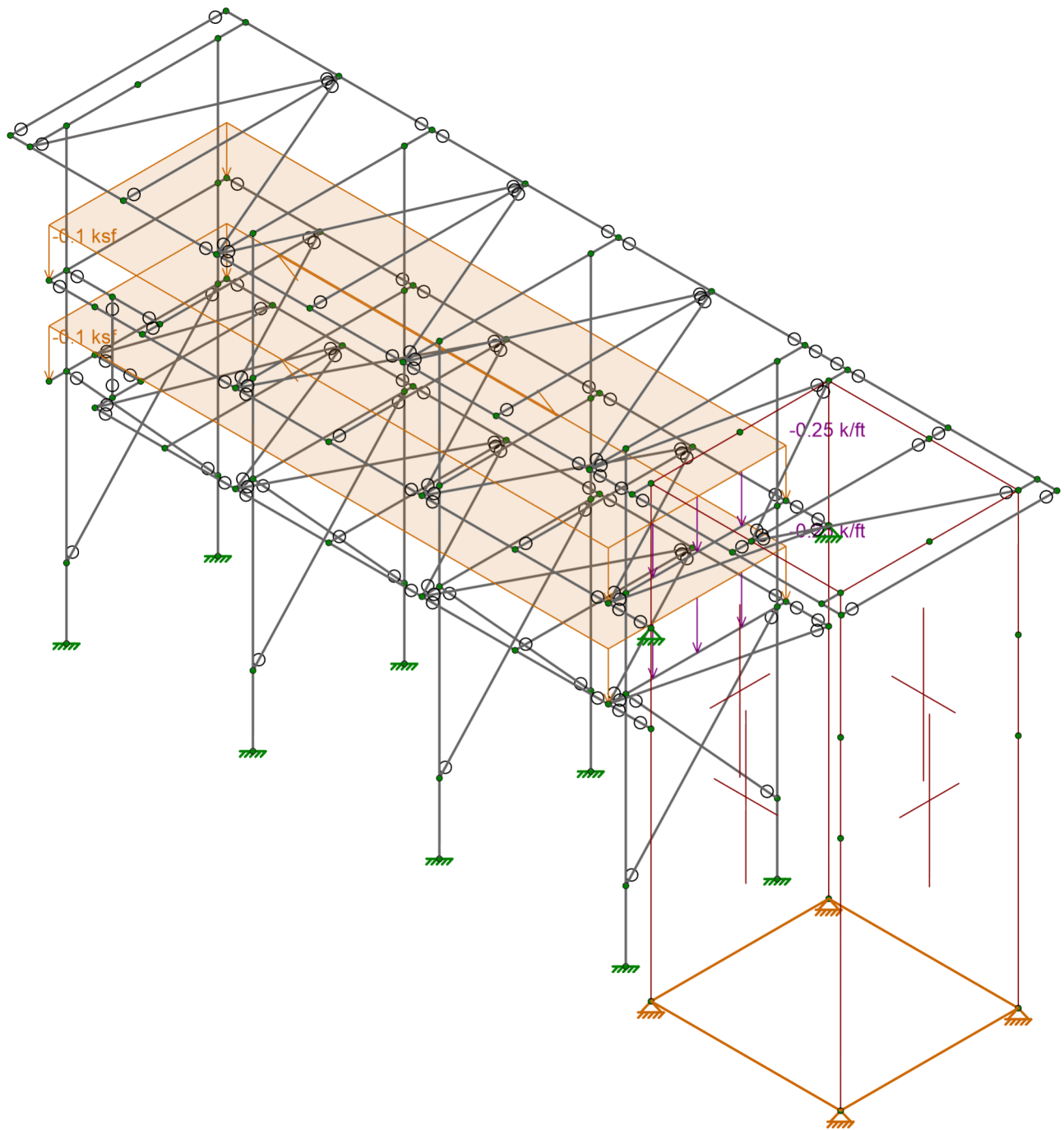
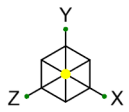
GEA2012

LSH Home Press Box

SK-4

Oct 02, 2020

LSH Home Press Box.r3d



Loads: BLC 2, L

Bob D. Campbell & Co.

SJB

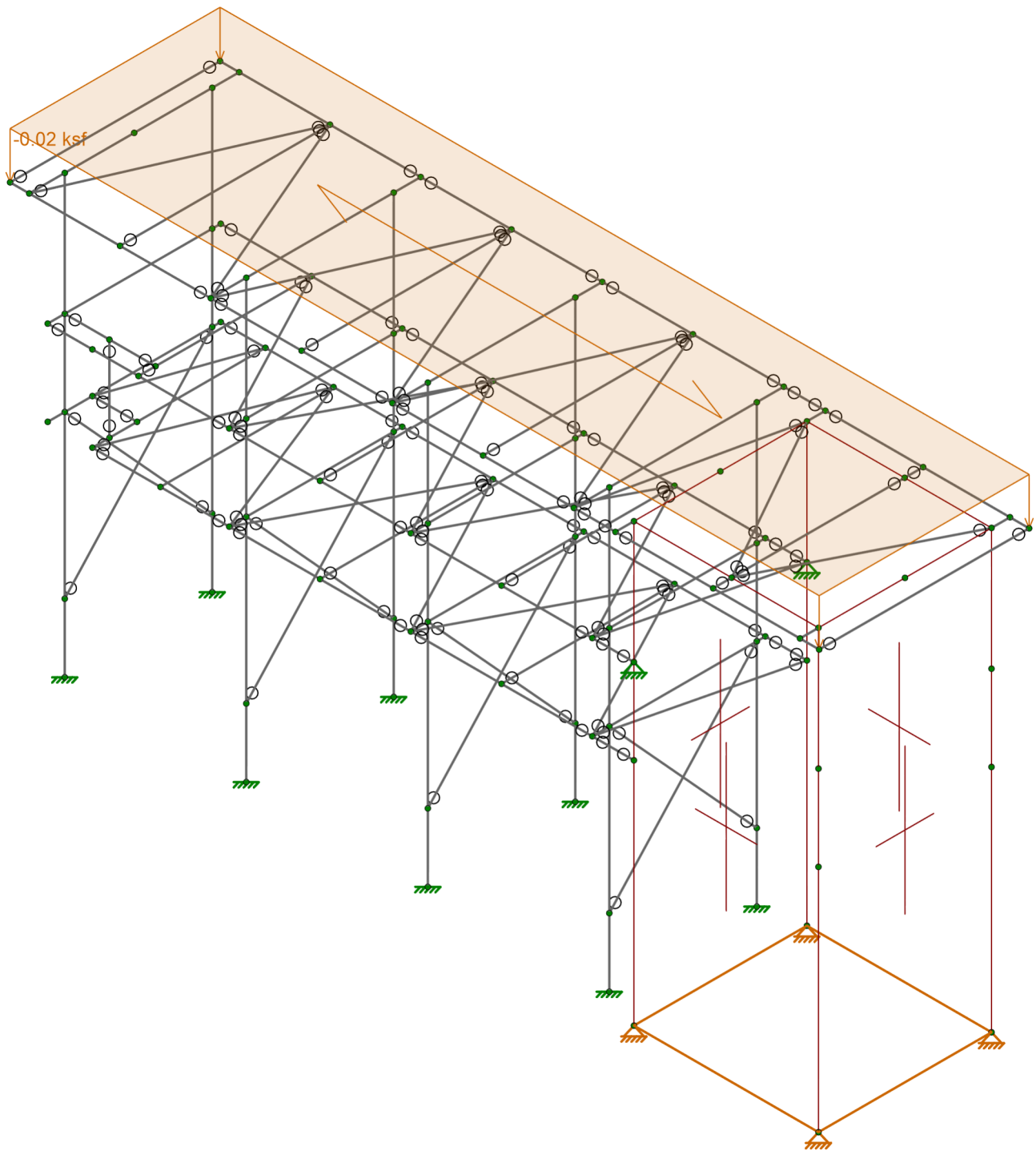
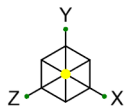
GEA2012

LSH Home Press Box

SK-5

Oct 02, 2020

LSH Home Press Box.r3d



Loads: BLC 3, S

Bob D. Campbell & Co.

SJB

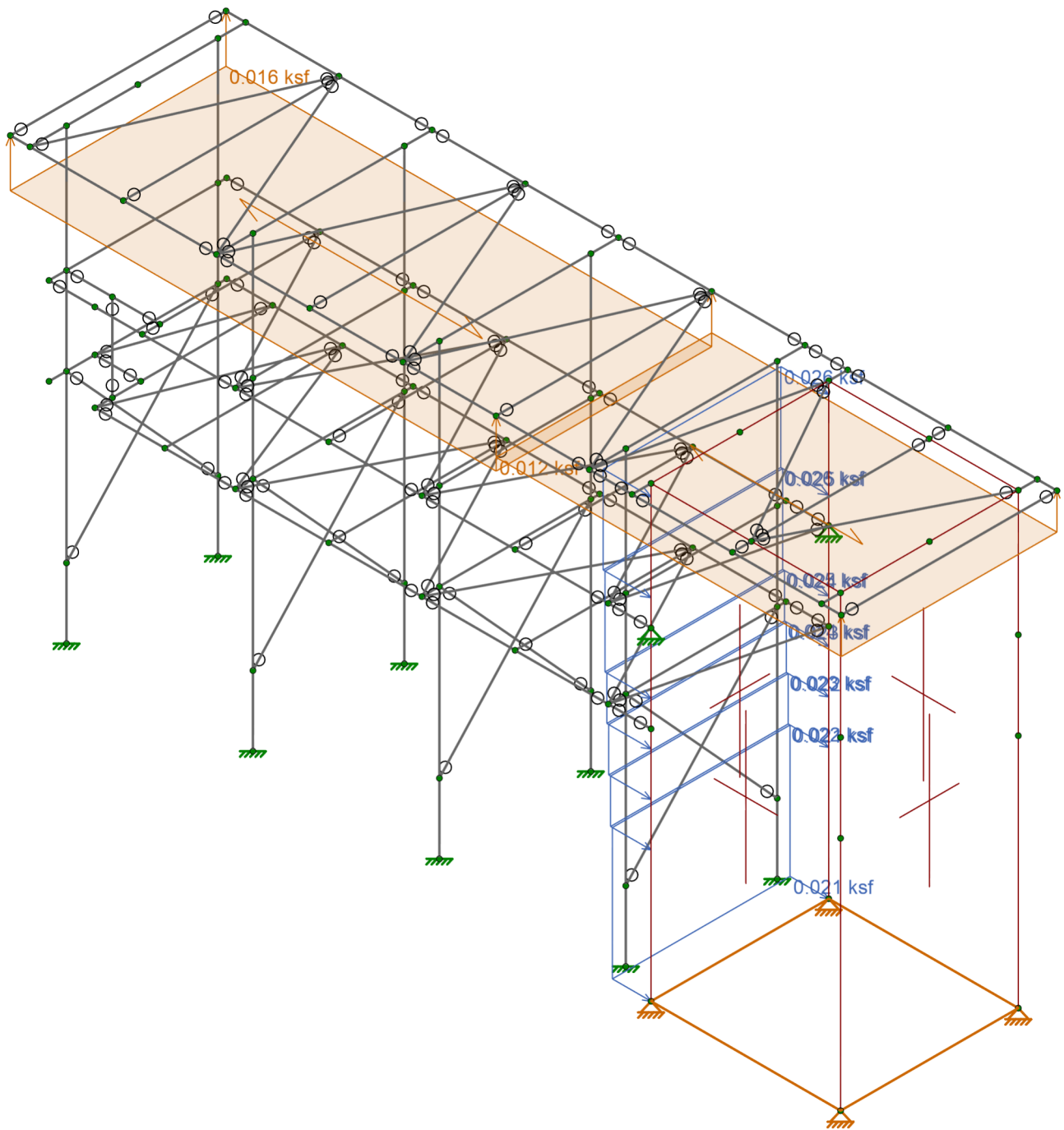
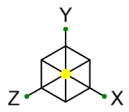
GEA2012

LSH Home Press Box

SK-6

Oct 02, 2020

LSH Home Press Box.r3d



Loads: BLC 4, Wx1

Bob D. Campbell & Co.

SJB

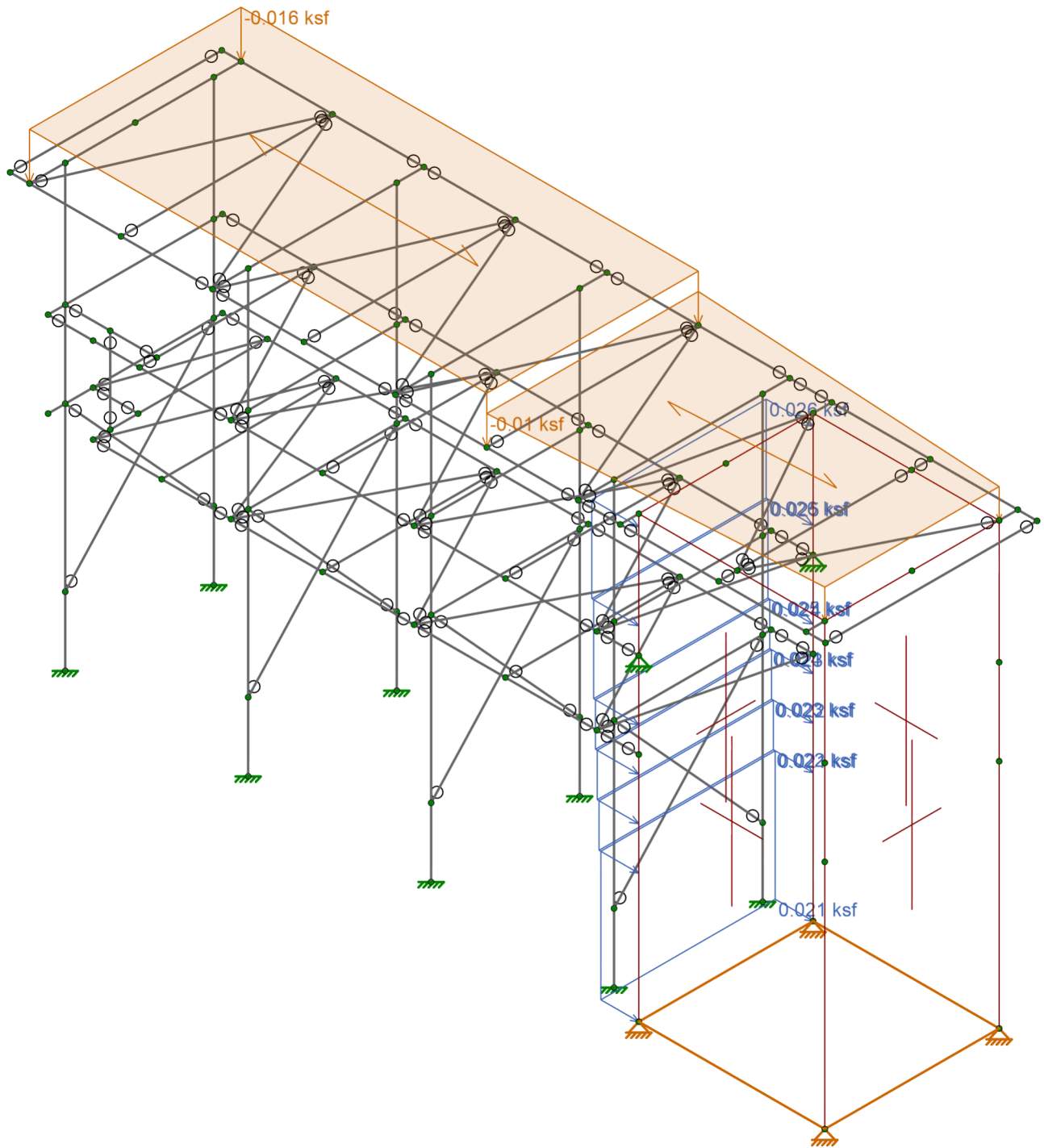
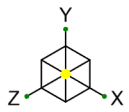
GEA2012

LSH Home Press Box

SK-7

Oct 02, 2020

LSH Home Press Box.r3d



Loads: BLC 5, Wx2

Bob D. Campbell & Co.

SJB

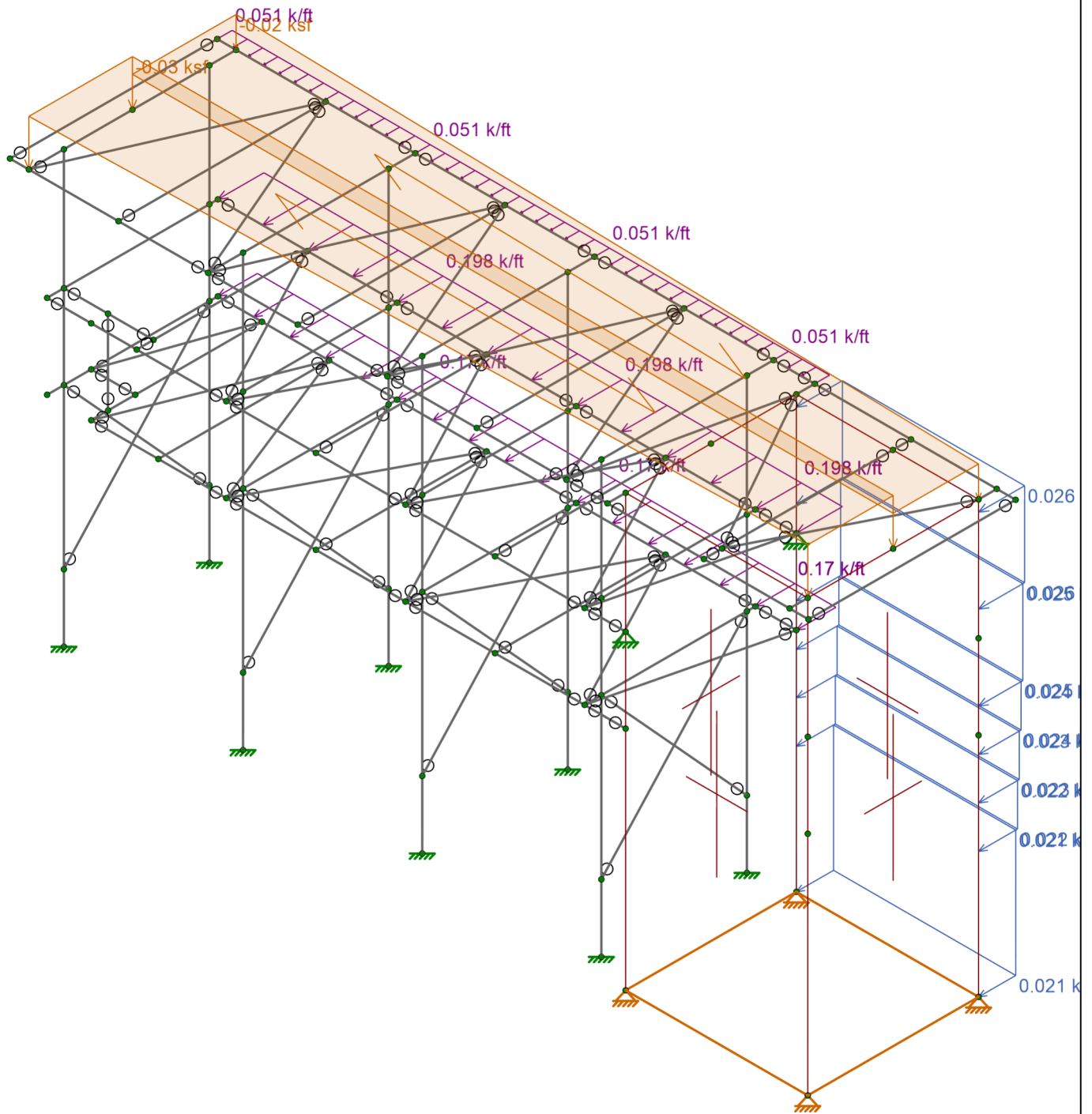
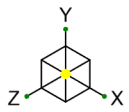
GEA2012

LSH Home Press Box

SK-8

Oct 02, 2020

LSH Home Press Box.r3d



Loads: BLC 6, Wz1

Bob D. Campbell & Co.

SJB

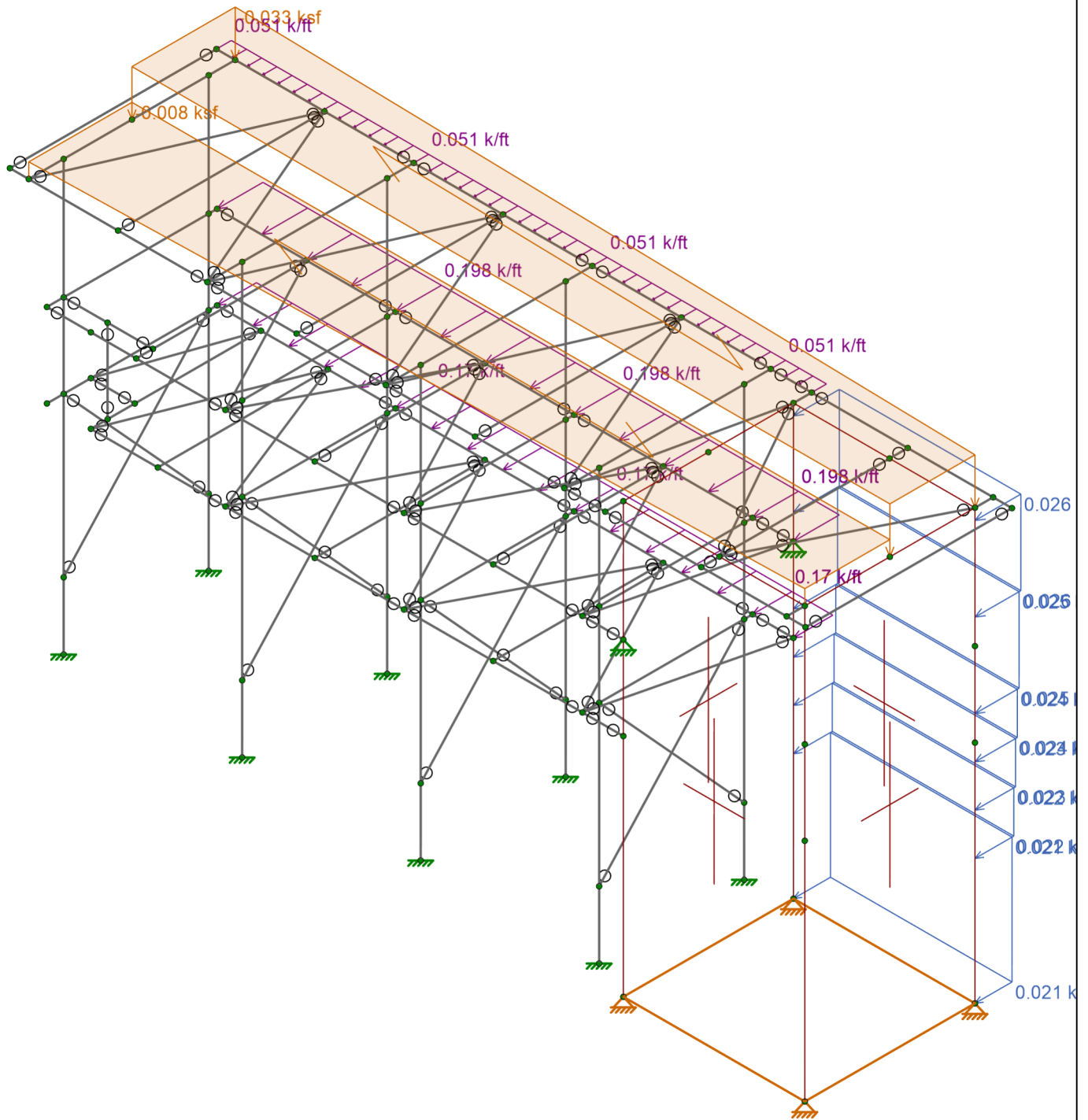
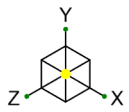
GEA2012

LSH Home Press Box

SK-9

Oct 02, 2020

LSH Home Press Box.r3d



Loads: BLC 7, Wz2

Bob D. Campbell & Co.

SJB

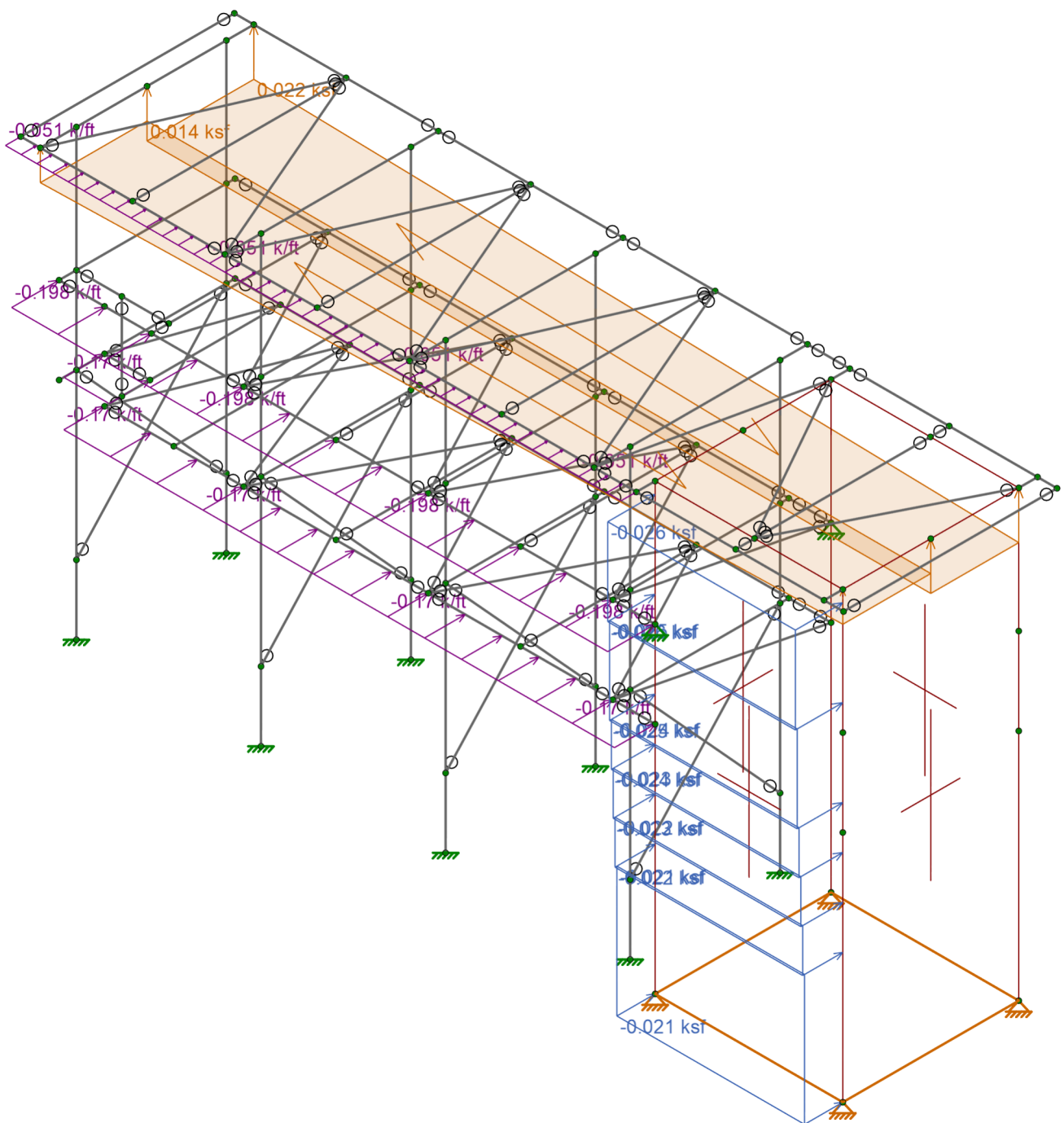
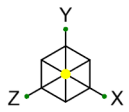
GEA2012

LSH Home Press Box

SK-10

Oct 02, 2020

LSH Home Press Box.r3d



Loads: BLC 8, Wz3

Bob D. Campbell & Co.

SJB

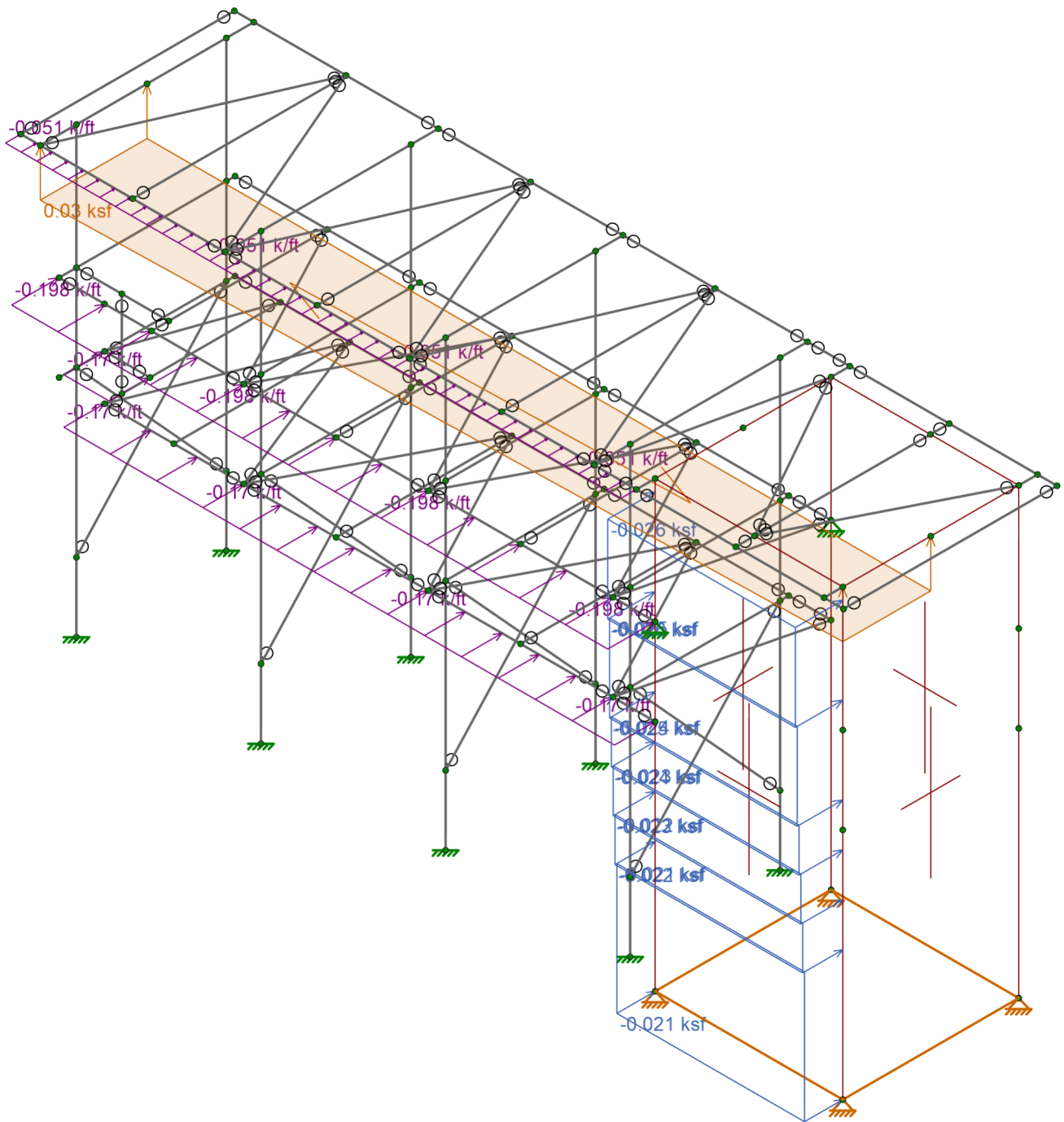
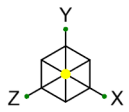
GEA2012

LSH Home Press Box

SK-11

Oct 02, 2020

LSH Home Press Box.r3d



Loads: BLC 9, Wz4

Bob D. Campbell & Co.

SJB

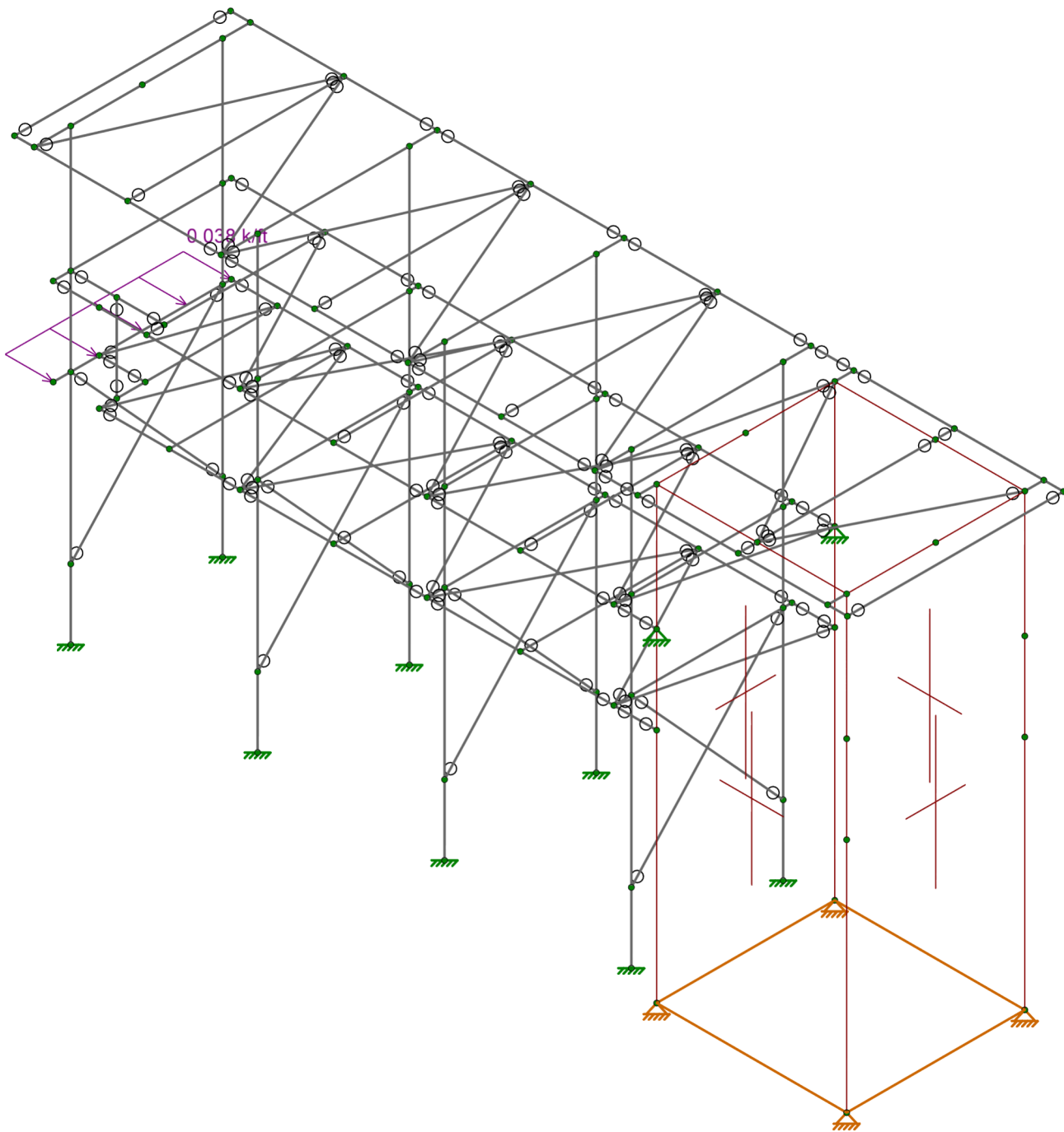
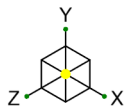
GEA2012

LSH Home Press Box

SK-12

Oct 02, 2020

LSH Home Press Box.r3d



Loads: BLC 10, Wx3

Bob D. Campbell & Co.

SJB

GEA2012

LSH Home Press Box

SK-13

Oct 02, 2020

LSH Home Press Box.r3d

Line Project Grid

	Label	Start [ft]	End [ft]	Start [ft]	End [ft]	Start Bubble	End Bubble
1	1-A	0	0	-2	92	Yes	Yes
2	1-B	1	1	-2	92	Yes	Yes
3	1-C	18.33	18.33	-2	92	Yes	Yes
4	1-D	20.33	20.33	-2	92	Yes	Yes
5	1-6	-2	21	0	0	Yes	Yes
6	1-5	-2	21	21.33	21.33	Yes	Yes
7	1-4	-2	21	42.67	42.67	Yes	Yes
8	1-3	-2	21	64	64	Yes	Yes
9	1-2	-2	21	70.17	70.17	Yes	Yes
10	1-1	-2	21	90.58	90.58	Yes	Yes

Nodes

	Label	X [ft]	Y [ft]	Z [ft]	Temp [deg F]	Detach From Diaphragm
1	N21	0	27	20.33		
2	N22	0	27	0		
3	N23	64	27	20.33		
4	N24	21.33	27	0		
5	N25	21.33	27	20.33		
6	N26	64	27	0		
7	N27	42.67	27	20.33		
8	N28	42.67	27	0		
9	N29	42.67	37	20.33		
10	N30	42.67	37	0		
11	N31	0	37	20.33		
12	N32	0	37	0		
13	N33	64	37	20.33		
14	N34	21.33	37	0		
15	N35	21.33	37	20.33		
16	N36	64	37	0		
17	N37	42.67	51.33	-2.17		
18	N38	0	51.33	-2.17		
19	N39	21.33	51.33	-2.17		
20	N40	64	51.33	-2.17		
21	N41	64	51.33	22.5		
22	N42	0	51.33	22.5		
23	N43	21.33	51.33	22.5		
24	N44	42.67	51.33	22.5		
25	N45	53.33	27	0		
26	N46	53.33	27	20.33		
27	N47	32	27	0		
28	N48	32	27	20.33		
29	N51	53.33	37	0		
30	N52	53.33	37	20.33		
31	N53	32	37	0		
32	N54	32	37	20.33		
33	N55	10.67	37	0		
34	N56	10.67	37	20.33		
35	N57	68.89	27	0		
36	N58	68.89	27	20.33		
37	N59	68.89	37	0		
38	N60	68.89	37	20.33		
39	N66	68.89	51.33	0		
40	N67	68.89	51.33	20.33		
41	N71	53.33	51.33	-2.17		
42	N72	53.33	51.33	22.5		
43	N77	32	51.33	-2.17		
44	N78	32	51.33	22.5		
45	N83	10.67	51.33	-2.17		

Nodes (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [deg F]	Detach From Diaphragm
46	N84	10.67	51.33	22.5		
47	N91	68.89	51.33	10.17		
48	N92	0	51.33	10.17		
49	N93	90.58	0	0		
50	N94	68.89	0	0		
51	N95	90.58	0	20.33		
52	N96	68.89	0	20.33		
53	N101	90.58	51.33	0		
54	N102	90.58	51.33	20.33		
55	N99	80.375	51.33	0		
56	N100	80.375	51.33	20.33		
57	N103	90.58	51.33	10.17		
58	N104	90.58	27	20.33		
59	N105	90.58	27	0		
60	N106	90.58	37	0		
61	N107	90.58	37	20.33		
62	N80	42.67	37	1		
63	N81	64	0	1		
64	N82	42.67	51.33	1		
65	N85	0	0	1		
66	N86	0	8	1		
67	N87	0	27	1		
68	N88	0	37	1		
69	N89	21.33	0	1		
70	N90	21.33	27	1		
71	N97	21.33	8	1		
72	N98	21.33	37	1		
73	N109	42.67	8	1		
74	N110	42.67	27	1		
75	N111	64	8	1		
76	N112	64	27	1		
77	N113	64	37	1		
78	N114	0	51.33	1		
79	N115	21.33	51.33	1		
80	N116	64	51.33	1		
81	N117	21.33	8	18.33		
82	N118	64	27	18.33		
83	N119	42.67	27	18.33		
84	N120	42.67	37	18.33		
85	N121	0	8	18.33		
86	N122	0	27	18.33		
87	N123	0	37	18.33		
88	N124	21.33	27	18.33		
89	N125	21.33	37	18.33		
90	N126	42.67	8	18.33		
91	N127	64	8	18.33		
92	N128	64	37	18.33		
93	N130	42.67	51.33	18.33		
94	N131	64	0	18.33		
95	N132	64	51.33	18.33		
96	N133	0	0	18.33		
97	N134	0	51.33	18.33		
98	N135	21.33	0	18.33		
99	N136	21.33	51.33	18.33		
100	N108	42.669998	0	18.33		
101	N129	42.669998	0	1		
102	N137	5.25	27	20.33		
103	N138	5.25	27	18.33		

Nodes (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [deg F]	Detach From Diaphragm
104	N139	5.25	37	20.33		
105	N140	5.25	37	18.33		
106	N141	5.25	27	0		
107	N142	5.25	27	15.08		
108	N143	0	27	15.08		
109	N144	13.25	27	0		
110	N145	13.25	27	20.33		
111	N146	10.67	37	18.33		
112	N147	-2.25	51.33	-2.17		
113	N148	-2.25	51.33	22.5		
114	N149	80.375	51.33	-2.17		
115	N150	90.58	51.33	-2.17		
116	N151	68.89	51.33	-2.17		
117	N152	90.58	51.33	22.5		
118	N153	80.375	51.33	22.5		
119	N154	68.89	51.33	22.5		
120	N157	92.83	51.33	-2.17		
121	N158	92.83	51.33	22.5		

Boundary Conditions

	Node Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot [k-ft/rad]	Y Rot [k-ft/rad]	Z Rot [k-ft/rad]
1	N129	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	N108	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	N93	Reaction	Reaction	Reaction			
4	N95	Reaction	Reaction	Reaction			
5	N96	Reaction	Reaction	Reaction			
6	N94	Reaction	Reaction	Reaction			
7	N81	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
8	N85	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
9	N89	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
10	N131	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
11	N133	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
12	N135	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
13	N60	Reaction	Reaction	Reaction			
14	N59	Reaction	Reaction	Reaction			

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [10^{-6}F^{-1}]	Density [k/ft ³]	Yield [ksi]	Ry	Fu [ksi]	Rt
1	A992	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	0.3	0.65	0.49	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	0.3	0.65	0.527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	0.3	0.65	0.527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	0.3	0.65	0.49	35	1.6	60	1.2
7	A1085	29000	11154	0.3	0.65	0.49	50	1.25	65	1.15
8	A913 Gr.65	29000	11154	0.3	0.65	0.49	65	1.1	80	1.1

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design...	Area [in ²]	Iyy [in ⁴]	Izz [in ⁴]	J [in ⁴]
1	COL	W10X49	Column	Wide Fla...	A992	Column	14.4	93.4	272	1.39
2	BRACE	HSS5X5X4	HBrace	None	A500 Gr...	Typical	4.3	16	16	25.8
3	FLR BM	W14X22	Beam	None	A992	Floor Be...	6.49	7	199	0.208
4	FLR GIRDER	W14X22	Beam	None	A992	Floor Be...	6.49	7	199	0.208
5	ROOF GIR...	HSS12X6X4	Beam	Tube	A500 Gr...	Roof Beam	8.03	51.9	151	124
6	ROOF BM	HSS12X6X4	Beam	Tube	A500 Gr...	Roof Beam	8.03	51.9	151	124
7	DIAPHRAGM	L2x2x2	HBrace	None	A36 Gr.36	Typical	0.491	0.189	0.189	0.003
8	HANGER	W8X24	Column	Wide Fla...	A992	Column	7.08	18.3	82.7	0.346

Basic Load Cases

	BLC Description	Category	X Gra...	Y Gra...	Z Gra...	Nodal	Point	Distributed	Area(Mem...	Surface(Plate/...
1	D	None		-1				2	3	
2	L	None						2	2	
3	S	None							1	
4	Wx1	None							2	6
5	Wx2	None							2	6
6	Wz1	None						12	2	6
7	Wz2	None						12	2	6
8	Wz3	None						13	2	6
9	Wz4	None						13	1	6
10	Wx3	None						1		
11	BLC 1 Transient A...	None						100		
12	BLC 2 Transient A...	None						51		
13	BLC 3 Transient A...	None						49		
14	BLC 4 Transient A...	None						50		
15	BLC 5 Transient A...	None						100		
16	BLC 6 Transient A...	None						158		
17	BLC 7 Transient A...	None						158		
18	BLC 8 Transient A...	None						158		
19	BLC 9 Transient A...	None						86		

Load Combinations

	Description	Solve	PDelta	SRSS	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	D	Yes	Y		1	1						
2	D+L	Yes	Y		1	1	2	1				
3	D+S	Yes	Y		1	1	3	1				
4	D+0.75L+0.75S	Yes	Y		1	1	2	0.75	3	0.75		
5	D+0.6Wx1	Yes	Y		1	1	4	0.6				
6	D+0.75L+0.75S+0.45...	Yes	Y		1	1	2	0.75	3	0.75	4	0.45
7	0.6D+0.6Wx1	Yes	Y		1	0.6	4	0.6				
8	D+0.6Wx2	Yes	Y		1	1	5	0.6				
9	D+0.75L+0.75S+0.45...	Yes	Y		1	1	2	0.75	3	0.75	5	0.45
10	0.6D+0.6Wx2	Yes	Y		1	0.6	5	0.6				
11	D+0.6Wz1	Yes	Y		1	1	6	0.6				
12	D+0.75L+0.75S+0.45...	Yes	Y		1	1	2	0.75	3	0.75	6	0.45
13	0.6D+0.6Wz1	Yes	Y		1	0.6	6	0.6				
14	D+0.6Wz2	Yes	Y		1	1	7	0.6				
15	D+0.75L+0.75S+0.45...	Yes	Y		1	1	2	0.75	3	0.75	7	0.45
16	0.6D+0.6Wz2	Yes	Y		1	0.6	7	0.6				
17	D+0.6Wz3	Yes	Y		1	1	8	0.6				
18	D+0.75L+0.75S+0.45...	Yes	Y		1	1	2	0.75	3	0.75	8	0.45
19	0.6D+0.6Wz3	Yes	Y		1	0.6	8	0.6				
20	D+0.6Wz4	Yes	Y		1	1	9	0.6				
21	D+0.75L+0.75S+0.45...	Yes	Y		1	1	2	0.75	3	0.75	9	0.45
22	0.6D+0.6Wz4	Yes	Y		1	0.6	9	0.6				
23	D+Wx3	Yes	Y		1	1	10	0.6				

Node Reactions

	Node Label		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N129	max	0.0024	17	79.8005	2	3.0267	18	18.066	18	0.0004	20	0.01	7
2		min	-0.0008	7	20.5078	13	-1.2177	16	-6.7292	16	-0.0003	9	-0.0367	11
3	N108	max	0.0073	12	86.3755	12	1.4591	19	8.4418	19	0.0005	8	-0.0094	7
4		min	0.001	7	15.7463	22	-2.5745	15	-13.9814	15	-0.0002	13	-0.0918	12
5	N93	max	0.0179	13	2.766	20	0.5557	20	0	23	0	23	0	23
6		min	-0.3411	8	0.8779	13	0.219	7	0	1	0	1	0	1
7	N95	max	0.0212	22	2.2907	11	-0.1631	7	0	23	0	23	0	23
8		min	-0.3063	8	0.6198	22	-0.4419	11	0	1	0	1	0	1
9	N96	max	1.653	12	9.2907	11	-0.3263	7	0	23	0	23	0	23

Node Reactions (Continued)

	Node Label		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
10		min	0.6486	22	4.1549	22	-1.0311	11	0	1	0	1	0	1
11	N94	max	0.6837	8	3.2951	21	0.4954	11	0	23	0	23	0	23
12		min	0.1402	13	1.5387	13	0.0281	7	0	1	0	1	0	1
13	N81	max	0.0039	11	50.7685	2	1.5599	18	9.5217	18	0.0006	20	0.01	7
14		min	-0.0008	7	13.8056	7	-0.3855	16	-2.0534	16	-0.0002	13	-0.0497	12
15	N85	max	-0.0016	16	42.6272	21	1.735	21	9.4371	21	0.0143	20	0.5244	23
16		min	-0.0425	23	10.0082	13	-0.9581	16	-5.3876	16	-0.013	13	-0.0637	16
17	N89	max	0.0037	17	79.9391	2	3.3639	18	19.7168	18	0.0006	23	0.0092	7
18		min	-0.0009	10	19.2115	13	-1.6338	16	-8.8991	16	-0.0002	10	-0.0377	18
19	N131	max	0.0065	12	54.4222	2	0.5402	19	3.0906	19	0.0007	22	-0.009	7
20		min	0.001	7	11.8297	22	-1.2665	15	-7.161	15	-0.0007	11	-0.0778	12
21	N133	max	0.0421	16	50.1343	12	1.0156	22	5.5868	22	0.0098	11	0.62	17
22		min	-0.0498	17	7.9445	22	-1.8175	12	-10.2533	12	-0.0196	23	-0.6546	14
23	N135	max	0.0118	12	87.1764	12	1.8375	19	10.638	19	0.0005	8	-0.0147	7
24		min	0.0011	22	14.301	22	-2.8492	14	-16.0159	14	-0.0001	2	-0.1338	12
25	N60	max	1.2671	22	44.7808	12	4.9862	22	0	23	0	23	0	23
26		min	-15.7026	11	22.1805	22	-4.5188	11	0	1	0	1	0	1
27	N59	max	2.4493	13	37.7278	3	5.8004	20	0	23	0	23	0	23
28		min	-12.5875	20	20.2617	7	-5.8446	13	0	1	0	1	0	1
29	WP1	max	7.9819	21	77.4054	20	0.4272	8	0	23	1.7411	7	59.1456	20
30		min	1.2269	7	36.9311	13	-1.1597	13	0	1	-0.8754	14	5.6681	13
31	WP2	max	0.0053	7	81.3661	9	6.4664	19	46.7184	22	1.6529	17	0	23
32		min	-0.467	11	45.5375	19	-6.5557	14	-46.185	11	-1.6969	16	0	1
33	WP3	max	7.9963	11	74.558	11	1.2061	22	0	23	1.3657	17	89.9102	11
34		min	1.399	7	32.6054	22	-0.3815	8	0	1	-1.3299	7	16.9385	22
35	WP4	max	0.4073	11	55.3228	12	2.4783	19	31.5676	20	2.0243	14	0	23
36		min	-1.1101	7	30.0711	7	-3.2647	14	1.7283	13	-1.6483	19	0	1
37	Totals:	max	0	3	888.9336	2	32.6142	22						
38		min	-14.2717	5	349.1136	19	-32.6142	11						

Node Displacements

Node L...			X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [r...	LC	Y Rotation [r...	LC	Z Rotation [r...	LC
1	N21	max	0.0014	19	-0.0004	22	0.0555	11	1.7734e-04	13	1.4467e-03	16	2.8563e-04	18
2		min	-0.0457	12	-0.0452	12	-0.0508	22	-4.3409e-04	21	-1.7821e-03	20	-1.5874e-05	16
3	N22	max	0.0009	7	-0.0082	13	0.0538	11	2.3825e-04	13	2.4144e-03	23	2.1536e-04	12
4		min	-0.0046	11	-0.0447	21	-0.0511	22	-2.5377e-04	20	-1.2268e-03	13	1.2078e-05	19
5	N23	max	0.0007	7	-0.0124	22	0.0287	13	3.0666e-04	12	9.0009e-05	12	-3.3899e-06	22
6		min	-0.004	20	-0.0611	2	-0.0326	20	9.6757e-06	22	-4.2782e-05	22	-4.0393e-05	12
7	N24	max	0.0012	22	-0.0143	13	0.0852	13	9.2393e-04	12	-1.0906e-05	13	2.3907e-05	16
8		min	-0.0047	11	-0.0735	21	-0.095	20	-2.541e-04	22	-7.5617e-05	9	-2.8995e-05	17
9	N25	max	0.0009	10	-0.0171	22	0.0867	13	8.6867e-04	12	8.3909e-05	12	7.069e-06	22
10		min	-0.0039	20	-0.1061	2	-0.094	20	4.1681e-05	22	-1.9499e-05	22	-8.158e-05	12
11	N26	max	0.0012	7	-0.0114	7	0.0276	13	7.2696e-04	2	4.0667e-05	13	1.9138e-06	7
12		min	-0.0035	11	-0.0419	2	-0.0339	20	9.7901e-05	22	-8.6725e-05	20	-1.5565e-05	12
13	N27	max	0.001	13	-0.0191	22	0.0707	13	1.2386e-03	12	1.0815e-04	12	3.8624e-06	22
14		min	-0.0043	20	-0.1159	2	-0.0781	20	7.7626e-05	22	-3.0318e-05	22	-5.0327e-05	12
15	N28	max	0.0013	22	-0.0169	13	0.0687	13	8.7826e-04	12	6.0538e-06	13	1.0779e-05	16
16		min	-0.0045	11	-0.0709	2	-0.0792	20	-4.107e-05	22	-7.7891e-05	21	-1.8403e-05	17
17	N29	max	0.0042	14	-0.0207	22	0.1526	11	1.3526e-03	2	-3.7958e-05	22	-4.1971e-07	22
18		min	-0.0038	22	-0.1355	2	-0.1218	22	-1.0067e-05	22	-2.9046e-04	12	-1.7679e-04	12
19	N30	max	0.0046	19	-0.0201	13	0.155	11	1.0766e-03	12	2.2821e-04	15	9.2488e-07	13
20		min	-0.0064	11	-0.0864	2	-0.1192	22	-1.4912e-04	22	5.7884e-05	19	-1.0124e-04	20
21	N31	max	0.0046	16	-0.008	22	0.1409	11	1.638e-03	12	3.4242e-03	12	4.2548e-04	18
22		min	-0.0047	20	-0.1032	12	-0.1079	22	-1.8154e-04	22	-5.6992e-04	22	-1.4898e-04	16
23	N32	max	0.0072	19	-0.0041	13	0.1429	11	1.1415e-03	12	3.5857e-04	19	5.5341e-04	15
24		min	-0.0109	11	-0.0471	21	-0.1069	22	-3.742e-04	22	-4.0531e-03	12	8.2036e-06	19
25	N33	max	0.0013	14	-0.0144	22	0.0545	11	3.7788e-04	2	1.6933e-05	22	-9.5658e-07	22
26		min	-0.0012	22	-0.0735	2	-0.0451	22	-8.1503e-06	19	-3.3743e-04	12	-1.7026e-04	12

Node Displacements (Continued)

	Node L...		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [r...	LC	Y Rotation [r...	LC	Z Rotation [r...	LC
27	N34	max	0.0065	19	-0.0163	13	0.2195	11	1.3532e-03	12	3.076e-04	15	4.0756e-06	13
28		min	-0.0094	11	-0.086	21	-0.1669	22	-3.2268e-04	22	2.2367e-05	19	-1.0496e-04	20
29	N35	max	0.0049	14	-0.0239	22	0.2184	11	1.9675e-03	2	-7.1055e-05	22	1.8045e-06	22
30		min	-0.0048	22	-0.1529	2	-0.1702	22	1.4331e-04	22	-3.3414e-04	12	-1.459e-04	12
31	N36	max	0.001	19	-0.0142	7	0.0569	11	6.4699e-04	12	1.8905e-04	21	-4.0105e-06	13
32		min	-0.0014	11	-0.0527	2	-0.0435	22	6.2009e-05	22	6.5722e-05	13	-9.5897e-05	20
33	N37	max	0.039	20	-0.0372	7	0.2357	12	-3.9853e-04	7	1.8847e-04	12	-3.9256e-05	13
34		min	-0.0083	13	-0.1666	15	-0.1477	22	-2.3185e-03	15	-1.6215e-04	22	-1.7766e-04	20
35	N38	max	0.0389	20	-0.0212	7	0.34	12	-2.513e-04	7	2.5413e-04	12	-3.0163e-04	19
36		min	-0.0065	13	-0.1008	21	-0.2064	22	-1.5237e-03	21	-1.4312e-05	19	-5.5001e-03	15
37	N39	max	0.0389	20	-0.0343	7	0.3269	12	-3.241e-04	7	1.6756e-04	12	-3.9761e-05	7
38		min	-0.0074	13	-0.1607	15	-0.2017	22	-2.1758e-03	15	-1.5515e-04	22	-1.6695e-04	21
39	N40	max	0.0385	20	-0.0258	7	0.0744	12	-3.0842e-04	7	1.8952e-04	12	-1.1898e-05	13
40		min	-0.0081	13	-0.1027	15	-0.0486	22	-1.4063e-03	15	-1.6743e-04	22	-1.9306e-04	20
41	N41	max	0.0633	12	-0.029	22	0.0739	12	2.1849e-03	12	2.6617e-04	12	-1.6881e-05	22
42		min	-0.0076	22	-0.1557	12	-0.0485	22	3.5628e-04	22	-1.2566e-04	22	-2.5291e-04	12
43	N42	max	0.0651	12	-0.0094	22	0.342	12	3.8687e-03	12	9.9053e-06	22	-2.041e-04	22
44		min	-0.0071	22	-0.2322	12	-0.2068	22	2.726e-05	22	-8.9169e-05	3	-5.84e-03	12
45	N43	max	0.0649	12	-0.0246	22	0.3269	12	4.462e-03	12	2.7891e-04	12	-2.8157e-05	22
46		min	-0.0074	22	-0.2951	12	-0.2014	22	1.5744e-04	22	-1.2314e-04	22	-2.5506e-04	12
47	N44	max	0.0647	12	-0.0355	22	0.2359	12	4.3776e-03	12	2.6504e-04	12	-2.4134e-05	22
48		min	-0.0079	22	-0.2903	12	-0.1475	22	3.7037e-04	22	-1.2704e-04	22	-2.5376e-04	12
49	N45	max	0.0012	22	-0.3682	13	0.0702	13	7.8204e-04	2	1.5594e-04	13	1.0633e-04	21
50		min	-0.0042	11	-1.4866	2	-0.0759	20	2.8395e-05	22	-1.7685e-04	20	1.6988e-05	13
51	N46	max	0.0008	10	-0.3677	22	0.0702	13	7.7286e-04	12	1.6413e-04	13	2.0537e-04	12
52		min	-0.0041	20	-1.5164	2	-0.0781	20	4.3667e-05	22	-1.7346e-04	20	2.3881e-05	22
53	N47	max	0.0013	22	-0.3703	13	0.0994	13	9.0135e-04	12	6.5386e-05	11	1.5035e-05	21
54		min	-0.0047	11	-1.5047	2	-0.1068	20	-1.473e-04	22	-6.2121e-05	22	-1.0258e-05	13
55	N48	max	0.0009	13	-0.3709	22	0.0994	13	1.0537e-03	12	6.282e-05	11	-7.2744e-06	19
56		min	-0.0041	20	-1.5417	2	-0.109	20	5.9653e-05	22	-6.2021e-05	20	-3.807e-05	2
57	N51	max	0.0033	19	-0.3699	13	0.1269	11	8.619e-04	12	3.7818e-04	11	1.2607e-04	21
58		min	-0.0046	11	-1.4978	2	-0.1068	22	-4.3558e-05	22	-2.9538e-04	22	1.6251e-05	13
59	N52	max	0.0028	14	-0.3686	22	0.1269	11	8.6549e-04	2	3.8288e-04	11	2.3348e-04	12
60		min	-0.0025	22	-1.5335	2	-0.1094	22	-8.99e-06	22	-2.9454e-04	22	2.2045e-05	22
61	N53	max	0.0058	19	-0.3718	13	0.2094	11	1.2154e-03	12	2.5186e-04	11	1.1591e-05	22
62		min	-0.0083	11	-1.5177	2	-0.1698	22	-2.3548e-04	22	-1.8642e-04	22	-1.6057e-05	11
63	N54	max	0.0046	14	-0.3746	22	0.2094	11	1.6601e-03	2	2.5698e-04	11	6.7861e-05	2
64		min	-0.0043	22	-1.5745	2	-0.1723	22	6.6622e-05	22	-1.8892e-04	22	1.243e-05	22
65	N55	max	0.0072	19	-0.3833	13	0.272	11	1.2479e-03	12	2.4404e-04	19	-3.7578e-05	7
66		min	-0.0105	11	-1.572	2	-0.2223	22	-3.4802e-04	22	-3.0387e-04	14	-1.5763e-04	2
67	N56	max	0.0047	14	-0.4545	22	0.2719	11	1.7404e-03	12	2.5021e-04	19	-4.1636e-05	16
68		min	-0.0047	20	-1.8751	2	-0.2248	22	-1.904e-05	22	-3.13e-04	14	-1.9975e-04	2
69	N57	max	0.0013	7	-0.0069	7	0.003	13	-3.9276e-06	13	2.4895e-03	5	-1.081e-05	13
70		min	-0.0031	11	-0.0125	3	-0.0031	20	-1.2873e-05	20	-2.7069e-03	13	-2.4642e-05	20
71	N58	max	0.0007	7	-0.006	22	0.0034	11	6.5817e-06	12	2.7994e-03	20	-1.1099e-05	22
72		min	-0.0035	20	-0.0116	12	-0.0018	22	-7.3581e-06	22	-2.4848e-03	7	-4.0472e-05	12
73	N59	max	0	20	0	7	0	13	2.0917e-04	21	2.619e-03	8	-1.402e-04	7
74		min	0	13	0	3	0	20	1.0847e-04	13	-2.6057e-03	13	-2.6384e-04	21
75	N60	max	0	11	0	22	0	11	-6.204e-05	19	2.6075e-03	22	-8.8005e-05	22
76		min	0	22	0	12	0	22	-1.1195e-04	12	-2.5253e-03	5	-1.9379e-04	12
77	N66	max	0.0219	8	-0.0077	7	0.0063	13	-4.3401e-04	7	4.8765e-04	11	4.9068e-05	10
78		min	0.0075	13	-0.0166	21	-0.009	20	-1.6073e-03	3	-6.4737e-04	22	-1.1712e-04	11
79	N67	max	0.0252	12	-0.0063	7	0.003	13	1.3796e-03	12	1.3188e-03	12	2.2842e-05	10
80		min	0.0071	22	-0.0139	12	-0.0044	20	3.3624e-04	7	-4.1348e-04	22	-8.7796e-05	20
81	N71	max	0.039	20	-0.1038	19	0.1593	12	-3.535e-04	7	6.2996e-04	12	2.5112e-04	9
82		min	-0.0086	13	-0.817	15	-0.1041	22	-1.8626e-03	15	-3.8729e-04	22	4.4669e-05	7
83	N72	max	0.064	12	-0.0851	22	0.1592	12	3.2818e-03	12	6.3251e-04	12	5.13e-04	12
84		min	-0.0078	22	-0.9097	12	-0.1047	22	3.6333e-04	22	-3.8672e-04	22	2.6364e-05	22

Node Displacements (Continued)

Node L...			X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [r...	LC	Y Rotation [r...	LC	Z Rotation [r...	LC
85	N77	max	0.0391	20	-0.1007	19	0.286	12	-3.6131e-04	7	3.5619e-04	12	-1.9769e-06	16
86		min	-0.008	13	-0.8574	15	-0.1807	22	-2.2471e-03	15	-2.106e-04	22	-3.2051e-05	18
87	N78	max	0.0648	12	-0.073	22	0.2859	12	4.4198e-03	12	3.5562e-04	12	3.2802e-05	13
88		min	-0.0077	22	-0.9871	12	-0.1813	22	2.6391e-04	22	-2.1025e-04	22	-4.4784e-05	20
89	N83	max	0.0388	20	-0.077	19	0.3376	12	-2.8772e-04	7	1.2227e-05	19	-3.7341e-05	19
90		min	-0.0068	13	-0.6829	15	-0.2093	22	-1.7451e-03	9	-5.3565e-05	14	-6.4381e-04	15
91	N84	max	0.065	12	-0.0372	22	0.3377	12	4.1655e-03	12	8.2501e-05	12	-8.1105e-05	7
92		min	-0.0072	22	-0.8427	12	-0.2098	22	9.2381e-05	22	1.1829e-05	7	-5.5779e-04	12
93	N91	max	0.2083	5	-0.0073	19	0.0025	13	0	23	1.2591e-04	16	1.233e-04	10
94		min	-0.0434	13	-0.0151	12	-0.0054	20	0	1	-1.5263e-04	18	-2.8557e-04	20
95	N92	max	0.0714	12	-0.0093	7	0.3409	12	1.1654e-04	22	2.8343e-04	11	-2.1158e-04	19
96		min	0.0121	19	-0.0448	15	-0.2065	22	-3.2104e-04	12	-2.0518e-04	22	-2.8991e-03	12
97	N93	max	0	8	0	13	0	7	1.3813e-05	13	3.206e-05	13	-3.9707e-05	7
98		min	0	13	0	20	0	20	-1.0797e-04	20	-6.3205e-06	5	-8.3277e-05	14
99	N94	max	0	13	0	13	0	7	1.0571e-05	16	2.3773e-05	10	1.0613e-04	14
100		min	0	8	0	21	0	11	-7.3273e-05	8	-2.6328e-05	11	7.0357e-06	7
101	N95	max	0	8	0	22	0	11	1.1081e-04	11	5.9721e-06	7	-3.6868e-05	7
102		min	0	22	0	11	0	7	-1.7648e-05	22	-3.2474e-05	20	-8.1436e-05	17
103	N96	max	0	22	0	22	0	11	5.6417e-05	14	1.0477e-05	22	8.3196e-05	12
104		min	0	12	0	11	0	7	2.6199e-06	19	-1.0092e-05	8	2.0271e-05	7
105	N101	max	0.0227	20	-0.0186	13	0.0161	13	-6.92e-04	7	5.9973e-04	11	1.7284e-04	15
106		min	0.0074	13	-0.0391	21	-0.0234	20	-2.3183e-03	3	-5.4128e-04	20	5.8551e-05	7
107	N102	max	0.0279	12	-0.0164	22	0.022	11	2.1341e-03	3	1.205e-03	12	1.1729e-04	18
108		min	0.0073	22	-0.0409	12	-0.0177	22	6.376e-04	7	-5.8163e-04	22	2.968e-05	7
109	N99	max	0.0216	20	-0.0149	7	0.0294	13	8.8031e-04	7	1.7188e-04	22	-7.4625e-06	16
110		min	0.0078	13	-0.0292	21	-0.0304	20	-2.8402e-03	14	-3.8959e-04	5	-3.7025e-05	17
111	N100	max	0.0252	12	-0.0116	22	0.028	13	2.8061e-03	17	3.1692e-04	7	-1.3379e-05	10
112		min	0.008	22	-0.0305	12	-0.0305	20	-8.6092e-04	7	-3.5228e-04	12	-4.6882e-05	14
113	N103	max	0.0627	20	-0.0184	19	0.0188	11	0	23	2.5177e-04	22	2.186e-04	13
114		min	0.004	10	-0.0348	12	-0.0195	20	0	1	-3.0846e-04	11	-1.9874e-04	5
115	N104	max	0.0024	8	-0.0106	22	0.0111	11	2.9088e-05	13	7.0785e-04	7	-1.2271e-05	22
116		min	-0.0008	22	-0.0271	12	-0.0098	22	-4.4168e-05	20	-2.7545e-03	17	-3.7147e-05	12
117	N105	max	0.0032	8	-0.0118	13	0.0091	13	4.0477e-05	11	2.7624e-03	14	-1.188e-05	13
118		min	-0.0003	13	-0.0263	21	-0.0118	20	-3.0883e-05	22	-7.0783e-04	7	-3.2652e-05	20
119	N106	max	0.0088	8	-0.0153	13	0.0134	13	2.6435e-05	11	2.5552e-03	11	-2.0408e-05	13
120		min	0.0021	13	-0.0326	21	-0.0152	20	-3.3743e-05	22	-6.0832e-04	10	-6.6038e-05	9
121	N107	max	0.009	12	-0.0138	22	0.0144	11	3.3573e-05	13	6.1236e-04	10	-1.9806e-05	22
122		min	0.0017	22	-0.0342	12	-0.0142	22	-2.5924e-05	20	-2.5561e-03	20	-7.8524e-05	9
123	N80	max	0.0056	20	-0.023	7	0.1549	11	1.3328e-03	12	2.2452e-04	15	9.2488e-07	13
124		min	-0.0042	13	-0.0905	2	-0.1192	22	-7.4091e-05	22	4.772e-05	19	-1.0124e-04	20
125	N81	max	0	7	0	7	0	16	0	16	0	13	0	12
126		min	0	11	0	2	0	18	0	18	0	20	0	7
127	N82	max	0.0332	20	-0.0239	7	0.2356	12	-1.8891e-04	7	1.8906e-04	12	-3.9256e-05	13
128		min	-0.0018	13	-0.0939	2	-0.1477	22	-8.4538e-04	9	-1.5486e-04	22	-1.7766e-04	20
129	N85	max	0	23	0	13	0	16	0	16	0	13	0	16
130		min	0	16	0	21	0	21	0	21	0	20	0	23
131	N86	max	0.0103	23	-0.0028	13	0.0275	13	2.8155e-04	13	7.693e-04	13	3.6687e-05	16
132		min	-0.0017	16	-0.0122	21	-0.0466	21	-4.403e-04	20	-8.4633e-04	20	-1.8069e-04	23
133	N87	max	0.0289	23	-0.0101	13	0.0538	11	3.3199e-04	12	2.387e-03	23	2.1536e-04	12
134		min	-0.0192	11	-0.0392	2	-0.0511	22	-2.011e-04	22	-1.2288e-03	13	1.2078e-05	19
135	N88	max	0.0115	19	-0.0127	7	0.1428	11	1.2762e-03	12	3.4754e-04	19	5.5341e-04	15
136		min	-0.0583	12	-0.0474	2	-0.1069	22	-3.3472e-04	22	-3.7736e-03	12	8.2036e-06	19
137	N89	max	0	10	0	13	0	16	0	16	0	10	0	18
138		min	0	17	0	2	0	18	0	18	0	23	0	7
139	N90	max	0.0008	19	-0.0191	7	0.0851	13	1.2024e-03	12	-7.6684e-06	13	2.3907e-05	16
140		min	-0.0051	12	-0.0753	2	-0.095	20	-1.7254e-04	22	-6.8901e-05	9	-2.8995e-05	17
141	N97	max	0.0002	7	-0.0055	13	0.0443	16	4.2078e-04	16	9.0685e-06	10	1.2712e-05	12
142		min	-0.0007	18	-0.0229	2	-0.1014	18	-1.0494e-03	18	-3.4227e-05	23	-3.1394e-06	7

Node Displacements (Continued)

Node L...			X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [r...	LC	Y Rotation [r...	LC	Z Rotation [r...	LC
143	N98	max	0.007	17	-0.0229	7	0.2194	11	1.6162e-03	12	2.9909e-04	15	4.0756e-06	13
144		min	-0.0061	13	-0.0905	2	-0.1669	22	-2.4572e-04	22	1.6394e-05	19	-1.0496e-04	20
145	N109	max	0.0002	7	-0.0059	13	0.0338	16	3.305e-04	16	1.5497e-05	9	1.5067e-05	12
146		min	-0.0008	11	-0.0229	2	-0.0941	18	-1.002e-03	18	-2.4741e-05	20	-3.4122e-06	7
147	N110	max	0.0007	19	-0.0191	7	0.0686	13	1.1369e-03	2	5.7103e-06	13	1.0779e-05	16
148		min	-0.0046	11	-0.0753	2	-0.0792	20	3.3968e-05	22	-7.1224e-05	21	-1.8403e-05	17
149	N111	max	0.0002	7	-0.0039	7	0.0101	16	9.1552e-05	16	1.2864e-05	13	1.7172e-05	12
150		min	-0.001	12	-0.0145	2	-0.0507	18	-5.703e-04	18	-3.4437e-05	20	-3.5485e-06	7
151	N112	max	0.0008	7	-0.0127	7	0.0276	13	8.7984e-04	2	3.4723e-05	13	1.9138e-06	7
152		min	-0.0032	11	-0.0477	2	-0.0339	20	1.3642e-04	22	-7.6344e-05	20	-1.5565e-05	12
153	N113	max	0.0031	20	-0.0153	7	0.0568	11	7.8494e-04	2	1.7392e-04	21	-4.0105e-06	13
154		min	-0.0005	13	-0.0573	2	-0.0435	22	1.005e-04	22	7.4194e-05	13	-9.5897e-05	20
155	N114	max	0.0416	21	-0.0134	7	0.34	12	1.8102e-04	13	5.638e-04	12	-2.0754e-04	19
156		min	0.0053	13	-0.051	21	-0.2063	22	-7.3102e-04	20	-7.6294e-05	19	-2.8673e-03	15
157	N115	max	0.0332	20	-0.0237	7	0.3269	12	-1.349e-04	7	1.7073e-04	12	-3.9761e-05	7
158		min	-0.0015	13	-0.0938	2	-0.2017	22	-7.258e-04	15	-1.495e-04	22	-1.6695e-04	21
159	N116	max	0.0325	20	-0.016	7	0.0744	12	-1.3371e-04	7	1.8726e-04	12	-1.1898e-05	13
160		min	-0.0014	13	-0.0596	2	-0.0486	22	-5.0785e-04	9	-1.5754e-04	22	-1.9306e-04	20
161	N117	max	-0.0003	7	-0.0041	22	0.0807	14	7.9442e-04	14	6.4073e-06	2	3.8793e-05	12
162		min	-0.0024	12	-0.025	12	-0.0554	19	-5.8984e-04	19	-2.8553e-05	8	4.0918e-06	7
163	N118	max	0	7	-0.0115	22	0.0286	13	-9.2648e-06	13	6.9199e-05	12	-3.4128e-06	22
164		min	-0.0036	18	-0.0514	2	-0.0325	20	-3.4709e-04	21	-3.0727e-05	22	-4.0636e-05	12
165	N119	max	0	7	-0.0161	22	0.0706	13	2.5892e-04	11	8.9363e-05	12	3.8831e-06	22
166		min	-0.0042	18	-0.0817	2	-0.0778	20	-2.3171e-04	22	-2.4625e-05	22	-5.0448e-05	12
167	N120	max	0.0101	12	-0.0197	22	0.1524	11	3.0715e-04	11	-4.7335e-05	22	-4.0291e-07	22
168		min	-0.0028	22	-0.0984	2	-0.1215	22	-3.2006e-04	20	-2.3212e-04	12	-1.771e-04	12
169	N121	max	0.0122	17	-0.0022	22	0.0518	12	5.1311e-04	12	1.1642e-03	23	2.5344e-04	14
170		min	-0.0137	14	-0.0144	12	-0.0281	22	-2.7558e-04	22	-5.8393e-04	11	-2.1564e-04	17
171	N122	max	0.0416	19	-0.0082	22	0.0555	11	1.7354e-04	13	1.4467e-03	16	2.8563e-04	18
172		min	-0.0694	11	-0.0462	12	-0.0508	22	-4.4666e-04	21	-1.7821e-03	20	-1.5874e-05	16
173	N123	max	0.0083	22	-0.0115	22	0.1409	11	8.6194e-04	12	3.0666e-03	12	4.2548e-04	18
174		min	-0.0759	12	-0.0611	12	-0.1078	22	-4.1115e-04	22	-4.973e-04	19	-1.4898e-04	16
175	N124	max	0.0002	7	-0.015	22	0.0865	13	1.3487e-04	13	7.2171e-05	12	5.3581e-06	22
176		min	-0.0037	18	-0.0817	2	-0.0937	20	-3.3621e-04	21	-1.8112e-05	19	-8.7364e-05	12
177	N125	max	0.0115	12	-0.019	22	0.2182	11	5.3778e-04	12	-7.3281e-05	22	1.8503e-06	22
178		min	-0.0031	22	-0.1	12	-0.1698	22	-2.417e-04	22	-2.6979e-04	12	-1.4597e-04	12
179	N126	max	-0.0002	7	-0.0045	22	0.0679	15	6.357e-04	14	1.1598e-05	13	2.8171e-05	12
180		min	-0.0017	12	-0.0248	12	-0.0439	19	-4.6672e-04	19	-3.0401e-05	8	2.6987e-06	7
181	N127	max	-0.0002	7	-0.0034	22	0.0362	15	3.5938e-04	15	4.1908e-05	11	2.4698e-05	12
182		min	-0.0015	12	-0.0156	2	-0.016	19	-1.6733e-04	19	-4.1098e-05	22	2.6445e-06	7
183	N128	max	0.0088	12	-0.0139	22	0.0546	11	1.3872e-05	16	-2.6885e-06	22	-8.4886e-07	22
184		min	-0.0014	22	-0.0618	2	-0.045	22	-3.1876e-04	18	-2.6991e-04	12	-1.7049e-04	12
185	N130	max	0.0517	12	-0.0201	22	0.2361	12	1.7631e-03	12	2.4996e-04	12	-2.4134e-05	22
186		min	-0.0016	22	-0.1054	12	-0.1475	22	1.2938e-04	22	-1.2496e-04	22	-2.5376e-04	12
187	N131	max	0	7	0	22	0	15	0	15	0	11	0	12
188		min	0	12	0	2	0	19	0	19	0	22	0	7
189	N132	max	0.0503	12	-0.0143	22	0.0741	12	7.5325e-04	12	2.4757e-04	12	-1.6881e-05	22
190		min	-0.0014	22	-0.0654	12	-0.0485	22	1.6058e-04	7	-1.2164e-04	22	-2.5291e-04	12
191	N133	max	0	17	0	22	0	12	0	12	0	23	0	14
192		min	0	16	0	12	0	22	0	22	0	11	0	17
193	N134	max	0.0769	12	-0.0119	22	0.3417	12	1.8955e-03	12	-1.4414e-05	7	-1.1997e-04	22
194		min	-0.0041	22	-0.0663	12	-0.2066	22	-2.3411e-04	22	-2.845e-04	3	-2.9578e-03	12
195	N135	max	0	22	0	22	0	14	0	14	0	2	0	12
196		min	0	12	0	12	0	19	0	19	0	8	0	7
197	N136	max	0.0512	12	-0.0192	22	0.3272	12	1.8185e-03	12	2.6005e-04	12	-2.8156e-05	22
198		min	-0.0013	22	-0.1075	12	-0.2014	22	-1.1183e-05	22	-1.225e-04	22	-2.5506e-04	12
199	N108	max	0	7	0	22	0	15	0	15	0	13	0	12
200		min	0	12	0	12	0	19	0	19	0	8	0	7

Node Displacements (Continued)

Node L...	X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [r...	LC	Y Rotation [r...	LC	Z Rotation [r...	LC
201	N129	max	0	7	0	13	0	16	0	16	0	9
202		min	0	17	0	2	0	18	0	18	0	20
203	N137	max	0.0009	10	-0.4129	22	0.1089	11	-4.8609e-04	13	2.1849e-03	11
204		min	-0.0036	20	-1.6808	2	-0.1041	22	-2.5044e-03	2	-1.9831e-03	17
205	N138	max	0.0437	19	-0.4278	22	0.1088	11	-6.0781e-04	13	2.0201e-03	11
206		min	-0.0513	11	-1.739	2	-0.104	22	-2.9884e-03	2	-1.8381e-03	17
207	N139	max	0.0046	16	-0.3078	22	0.2225	11	1.6884e-03	12	5.5716e-04	19
208		min	-0.0047	20	-1.2912	2	-0.2496	22	-1.0159e-04	22	-1.1438e-03	14
209	N140	max	0.0083	22	-0.424	22	0.2042	11	-2.0457e-03	13	9.3074e-04	19
210		min	-0.0758	12	-1.724	2	-0.1648	22	-9.7531e-03	2	-1.0414e-03	14
211	N141	max	0.0009	7	-0.2704	13	0.1086	11	1.0418e-02	2	7.0846e-04	17
212		min	-0.0046	11	-1.097	2	-0.1026	22	2.4844e-03	22	-8.0598e-04	13
213	N142	max	0.1012	19	-0.4628	22	0.1088	11	-6.1574e-04	13	1.0795e-03	11
214		min	-0.1147	11	-1.8763	2	-0.1038	22	-2.984e-03	2	-9.8311e-04	17
215	N143	max	0.1012	19	-0.0192	7	0.0554	11	-1.2222e-04	13	9.5101e-04	16
216		min	-0.1147	11	-0.0722	2	-0.0511	22	-7.31e-04	2	-1.7522e-03	23
217	N144	max	0.0011	22	-0.3595	13	0.1103	13	1.4573e-02	2	6.8492e-05	9
218		min	-0.0048	11	-1.4572	2	-0.1129	20	3.4545e-03	22	-1.6773e-04	19
219	N145	max	0.0009	10	-0.3342	22	0.1103	13	-3.6221e-03	13	9.7605e-05	11
220		min	-0.0038	20	-1.3745	2	-0.1145	20	-1.5298e-02	2	-2.783e-05	23
221	N146	max	0.0083	22	-0.5869	22	0.2719	11	-4.8242e-03	13	2.9438e-03	12
222		min	-0.0757	12	-2.4097	2	-0.2245	22	-2.042e-02	2	-4.8679e-04	22
223	N147	max	0.0389	20	0.0628	11	0.344	12	-2.513e-04	7	1.2637e-04	15
224		min	-0.0065	13	-0.0328	19	-0.2065	22	-1.5237e-03	21	-1.4546e-05	19
225	N148	max	0.0651	12	-0.0045	22	0.3433	12	3.8687e-03	12	7.7389e-05	15
226		min	-0.0071	22	-0.0794	2	-0.2066	22	2.726e-05	22	8.303e-07	19
227	N149	max	0.0379	20	-0.051	7	0.0295	13	-6.0322e-04	7	1.5504e-04	20
228		min	-0.0077	13	-0.1402	3	-0.0304	20	-2.0855e-03	3	-1.1821e-04	13
229	N150	max	0.0375	20	-0.039	7	0.016	13	-7.414e-04	7	5.2754e-04	11
230		min	-0.0075	13	-0.1018	3	-0.0234	20	-2.4709e-03	3	-5.0692e-04	22
231	N151	max	0.0383	20	-0.0194	7	0.0064	13	-4.477e-04	7	6.2708e-04	11
232		min	-0.0079	13	-0.0591	3	-0.009	20	-1.6517e-03	3	-6.919e-04	22
233	N152	max	0.0602	12	-0.0376	7	0.022	11	2.2895e-03	3	9.566e-04	12
234		min	-0.0068	22	-0.0985	12	-0.0177	22	6.8663e-04	7	-4.2894e-04	22
235	N153	max	0.0613	12	-0.0481	7	0.0281	13	1.9335e-03	3	1.1019e-04	22
236		min	-0.007	22	-0.133	3	-0.0305	20	5.4249e-04	7	-3.0808e-04	12
237	N154	max	0.0626	12	-0.0159	7	0.003	13	1.5799e-03	12	1.4613e-03	12
238		min	-0.0073	22	-0.0532	12	-0.0045	20	3.8026e-04	7	-5.8138e-04	22
239	N157	max	0.0375	20	-0.0374	7	0.0013	16	-7.414e-04	7	5.7689e-04	11
240		min	-0.0075	13	-0.0978	3	-0.0115	21	-2.4709e-03	3	-5.4787e-04	22
241	N158	max	0.0602	12	-0.0365	7	0.001	16	2.2895e-03	3	9.0067e-04	12
242		min	-0.0068	22	-0.0956	12	-0.0115	21	6.8663e-04	7	-3.8799e-04	22

Asd360

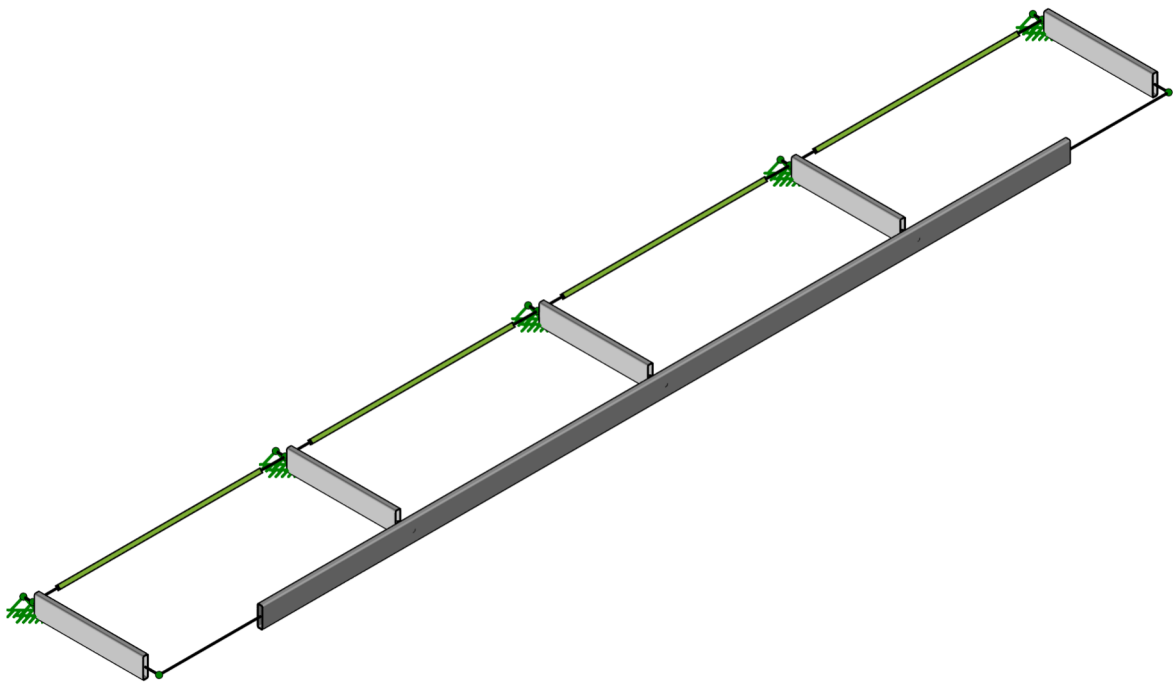
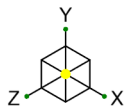
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1	M9	W14X...	0.2763	1.0589	2	0.2036	0.8471	y	2	63.0469	194.3...	10.9531	43.4316	2.4217	H1-1b
2	M10	W14X...	0.9997	18.2123	2	0.3451	0.8471	y	2	63.0469	194.3...	10.9531	39.5692	2.2064	H1-1b
3	M11	W14X...	1.1638	18.2123	2	0.3495	18.4241	y	2	63.0469	194.3...	10.9531	40.1648	2.2396	H1-1b
4	M12	W14X...	0.8252	18.2123	2	0.1886	18.4241	y	2	63.0469	194.3...	10.9531	39.1605	2.1836	H1-1b
5	M13	W14X...	1.9569	10.665	2	0.1478	21.33	y	2	61.0801	194.3...	10.9531	50.1011	1	H1-1b
6	M14	W14X...	1.9596	10.67	2	0.1478	21.34	y	2	61.0588	194.3...	10.9531	50.1011	1	H1-1b
7	M15	W14X...	1.7681	8.2209	2	0.2288	21.33	y	2	61.0801	194.3...	10.9531	50.1011	1	H1-1b
8	M17	W14X...	1.9564	10.67	2	0.1478	0	y	2	61.0588	194.3...	10.9531	50.1011	1	H1-1b
9	M18	W14X...	1.9531	10.665	2	0.1482	0	y	2	61.0801	194.3...	10.9531	50.1011	1	H1-1b
10	M19	W14X...	1.1113	10.165	2	0.2875	20.33	y	2	63.0469	194.3...	10.9531	82.8343	1	H1-1b
11	M20	W14X...	1.1118	10.165	2	0.2876	20.33	y	2	63.0469	194.3...	10.9531	82.8343	1	H1-1b
12	M30	W14X...	0.7503	18.2123	12	0.2486	18.4241	y	2	63.0469	194.3...	10.9531	39.9231	2.2261	H1-1b
13	M31	W14X...	1.2423	18.2123	2	0.4236	18.4241	v	2	63.0469	194.3...	10.9531	40.6939	2.2691	H1-1b

Asd360 (Continued)

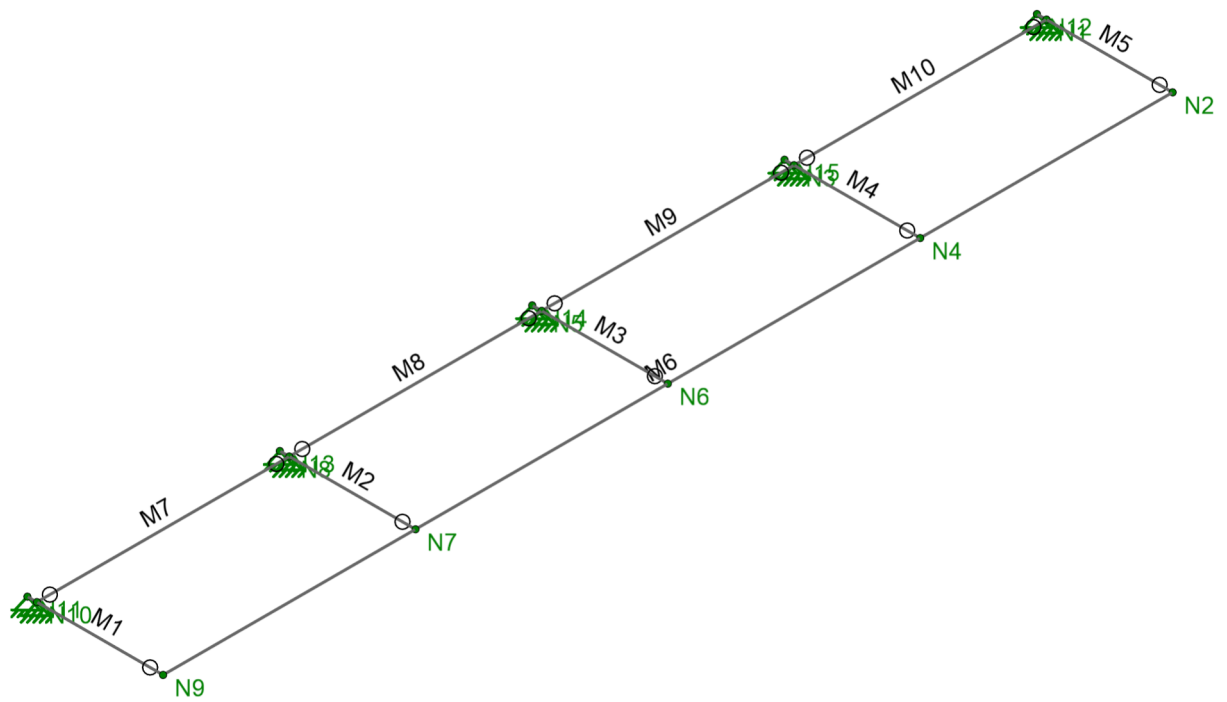
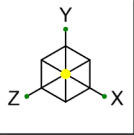
	Member	Shape	Code...	Loc [ft]	LC	Shear...	Loc [ft]	Dir	LC	Pnc/o...	Pnt/o...	Mnyy/...	Mnzz/...	Cb	Eqn
14	M32	W14X...	1.1884	18.2123	2	0.3495	18.4241	y	2	63.0469	194.3...	10.9531	40.4351	2.2546	H1-1b
15	M33	W14X...	0.8341	18.2123	2	0.1885	18.4241	y	2	63.0469	194.3...	10.9531	39.6764	2.2123	H1-1b
16	M34	W14X...	1.9565	10.665	2	0.1477	21.33	y	2	61.0801	194.3...	10.9531	50.1011	1	H1-1b
17	M35	W14X...	1.9593	10.67	2	0.1478	0	y	2	61.0588	194.3...	10.9531	50.1011	1	H1-1b
18	M36	W14X...	2.0661	10.665	2	0.156	0	y	2	61.0801	194.3...	10.9531	50.1011	1	H1-1b
19	M37	W14X...	1.9548	10.67	2	0.148	21.34	y	2	61.0588	194.3...	10.9531	50.1011	1	H1-1b
20	M38	W14X...	2.2792	10.665	2	0.1974	21.33	y	2	84.3563	230.2...	13.8224	64.6983	1	H1-1b
21	M39	W14X...	1.9575	10.665	2	0.1483	0	y	2	61.0801	194.3...	10.9531	50.1011	1	H1-1b
22	M40	W14X...	1.1113	10.165	2	0.2875	20.33	y	2	63.0469	194.3...	10.9531	82.8343	1	H1-1b
23	M41	W14X...	1.1118	10.165	2	0.2876	20.33	y	2	63.0469	194.3...	10.9531	82.8343	1	H1-1b
24	M42	W14X...	1.2512	10.8003	2	0.4341	20.33	y	2	63.0469	194.3...	10.9531	82.8343	1	H1-1b
25	M43	HSS1...	0.4431	13.0181	15	0.056	2.4563	y	15	153.9...	221.1...	34.0176	71.3872	1	H1-1b
26	M44	HSS1...	0.5182	10.67	15	0.0423	0	y	15	160.3...	221.1...	34.0176	71.3872	1	H1-1b
27	M45	HSS1...	0.5076	10.665	15	0.0497	0	y	15	160.3...	221.1...	34.0176	71.3872	1	H1-1b
28	M46	HSS1...	0.4498	13.0181	12	0.0521	2.4563	y	12	153.9...	221.1...	34.0176	71.3872	1	H1-1b
29	M47	HSS1...	0.5111	10.67	12	0.0417	21.34	y	12	160.3...	221.1...	34.0176	71.3872	1	H1-1b
30	M48	HSS1...	0.5089	10.665	12	0.0632	21.33	y	12	160.3...	221.1...	34.0176	71.3872	1	H1-1b
31	M49	W14X...	0.0314	2.445	11	0.0055	4.89	z	12	66.2732	194.3...	10.9531	50.1011	1	H1-1b
32	M50	W14X...	0.0322	2.445	20	0.0044	4.89	z	17	66.2732	194.3...	10.9531	50.1011	1	H1-1b
33	M51	W14X...	0.0517	4.89	14	0.0054	4.89	z	20	66.2732	194.3...	10.9531	50.1011	1	H1-1b*
34	M52	W14X...	0.0433	2.445	11	0.0055	4.89	z	11	66.2732	194.3...	10.9531	50.1011	1	H1-1b
35	M53	HSS1...	0.0056	2.445	11	0.0185	4.89	y	17	186.2...	221.1...	34.0176	71.3872	1	H1-1b
36	M54	HSS1...	0.0121	4.89	12	0.0281	4.89	y	12	186.2...	221.1...	34.0176	71.3872	1	H1-1b*
37	M55	HSS1...	0.3478	20.5583	12	0.2522	3.0838	y	15	150.7...	221.1...	34.0176	71.3872	3	H1-1b
38	M56	HSS1...	0.4558	20.5583	12	0.1035	20.5583	y	12	150.7...	221.1...	34.0176	71.3872	2.9842	H1-1b
39	M57	HSS1...	0.4577	20.5583	12	0.1054	20.5583	y	12	150.7...	221.1...	34.0176	71.3872	2.9907	H1-1b
40	M58	HSS1...	0.2515	20.5583	12	0.0588	20.5583	y	12	150.7...	221.1...	34.0176	71.3872	2.6613	H1-1b
41	M60	HSS1...	0.5555	12.592	12	0.076	24.67	y	12	150.7...	221.1...	34.0176	71.3872	1	H1-1b
42	M63	HSS1...	0.5597	12.592	12	0.0749	24.67	y	12	150.7...	221.1...	34.0176	71.3872	1	H1-1b
43	M66	HSS1...	0.556	12.592	12	0.0761	24.67	y	12	150.7...	221.1...	34.0176	71.3872	1	H1-1b
44	M73	L2x2x2	7.6881	10.4549	20	0.0054	20.9098	y	12	0.1792	10.5844	0.2635	0.1621	1.1364	H2-1
45	M74	L2x2x2	9.99+	11.48	11	0.006	22.9599	y	2	0.1486	10.5844	0.2635	0.1477	1.1364	H2-1
46	M75	L2x2x2	1.5113	11.4776	15	0.006	22.9553	y	12	0.1487	10.5844	0.2635	0.1477	1.1364	H2-1
47	M76	L2x2x2	7.2794	11.48	11	0.006	22.9599	y	18	0.1486	10.5844	0.2635	0.1477	1.1364	H2-1
48	M77	L2x2x2	4.5683	11.48	14	0.006	22.9599	y	17	0.1486	10.5844	0.2635	0.1477	1.1364	H2-1
49	M80	L2x2x2	9.99+	10.4549	22	0.0055	20.9098	y	20	0.1792	10.5844	0.2635	0.1621	1.1364	H2-1
50	M81	L2x2x2	9.99+	11.48	11	0.0061	22.9599	y	12	0.1486	10.5844	0.2635	0.1477	1.1364	H2-1
51	M82	L2x2x2	3.2681	11.4776	22	0.0061	22.9553	y	2	0.1487	10.5844	0.2635	0.1477	1.1364	H2-1
52	M83	L2x2x2	9.99+	11.48	11	0.006	22.9599	y	11	0.1486	10.5844	0.2635	0.1477	1.1364	H2-1
53	M84	L2x2x2	0.86	11.48	18	0.0061	22.9599	y	2	0.1486	10.5844	0.2635	0.1477	1.1364	H2-1
54	M85	L2x2x2	9.99+	11.4776	11	0.0061	22.9553	y	2	0.1487	10.5844	0.2635	0.1477	1.1364	H2-1
55	M103	HSS1...	0.386	10.3768	12	0.0635	20.33	y	12	163.0...	221.1...	34.0176	71.3872	1	H1-1b
56	M104	L2x2x2	6.7986	11.6749	20	0.0067	23.3498	y	20	0.1437	10.5844	0.2635	0.1453	1.1364	H2-1
57	M87	L2x2x2	9.99+	11.5126	22	0.0063	23.0252	y	9	0.1478	10.5844	0.2635	0.1473	1.1364	H2-1
58	M88	L2x2x2	1.8314	11.3738	17	0.0066	22.7475	y	20	0.1514	10.5844	0.2635	0.1491	1.1364	H2-1
59	M89	L2x2x2	8.4878	13.4393	11	0.0089	26.8786	y	12	0.1085	10.5844	0.2635	0.1262	1.1364	H2-1
60	M90	L2x2x2	3.4756	13.4373	20	0.0077	26.8746	y	12	0.1085	10.5844	0.2635	0.1263	1.1364	H2-1
61	M91	L2x2x2	1.8422	13.4393	22	0.0077	26.8786	y	12	0.1085	10.5844	0.2635	0.1262	1.1364	H2-1
62	M92	L2x2x2	8.0628	13.4393	11	0.0076	26.8786	y	12	0.1085	10.5844	0.2635	0.1262	1.1364	H2-1
63	M93	L2x2x2	8.5684	13.4373	22	0.0078	26.8746	y	12	0.1085	10.5844	0.2635	0.1263	1.1364	H2-1
64	M94	L2x2x2	9.99+	13.4393	12	0.0073	26.8786	y	9	0.1085	10.5844	0.2635	0.1262	1.1364	H2-1
65	M70	W10X...	0.4219	0	2	0.0236	7.875	y	18	133.7...	431.1...	70.6088	150.6...	2.1985	H1-1a
66	M71	W10X...	0.1291	0	2	0.0398	0	y	2	366.5...	431.1...	70.6088	150.6...	2.2603	H1-1b
67	M72	W10X...	0.0445	0	2	0.0037	0	y	2	308.9...	431.1...	70.6088	150.6...	1.3435	H1-1b
68	M95	W10X...	0.4427	0	12	0.0192	7.875	y	15	133.7...	431.1...	70.6088	150.6...	2.6415	H1-1a
69	M96	W10X...	0.1156	0	12	0.0326	0	y	15	366.5...	431.1...	70.6088	150.6...	2.2629	H1-1b
70	M97	W10X...	0.0518	14.33	12	0.0067	0	y	3	308.9...	431.1...	70.6088	150.6...	1.589	H1-1b
71	M99	W10X...	0.1558	0	21	0.0446	0	y	18	366.5...	431.1...	70.6088	150.6...	2.2676	H1-1b

Asd360 (Continued)

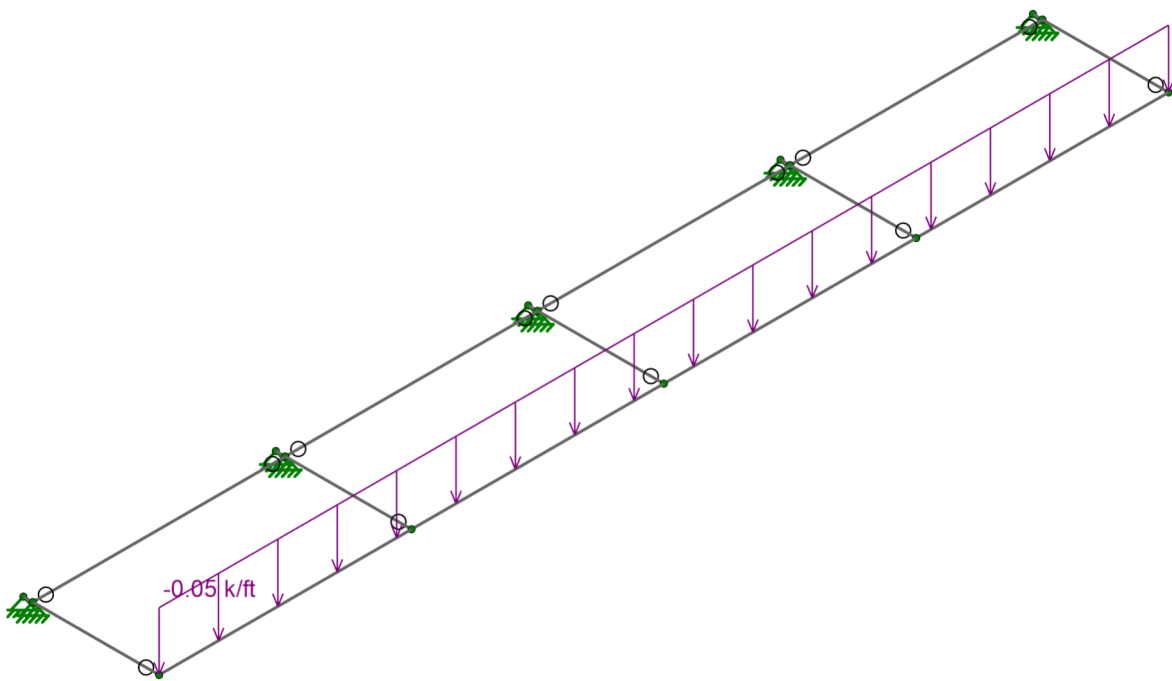
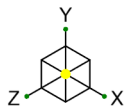
	Member	Shape	Code...	Loc [ft]	LC	Shear...	Loc [ft]	Dir	LC	Pnc/o...	Pnt/o...	Mnyy/...	Mnzz/...	Cb	Eqn
72	M100	W10X...	0.0915	14.33	12	0.0117	0	y	3	308.9...	431.1...	70.6088	150.6...	1.4539	H1-1b
73	M102	W10X...	0.1552	0	12	0.0385	0	y	12	366.5...	431.1...	70.6088	150.6...	2.2608	H1-1b
74	M105	W10X...	0.1085	14.33	12	0.0174	0	y	12	308.9...	431.1...	70.6088	150.6...	2.0377	H1-1b
75	M106	W10X...	0.7466	0	12	0.0431	7.875	y	15	133.7...	431.1...	70.6088	150.6...	2.862	H1-1a
76	M107	W10X...	0.2095	0	12	0.0099	0	z	12	366.5...	431.1...	70.6088	150.6...	1.1358	H1-1b
77	M108	W10X...	0.104	14.33	12	0.0176	0	y	12	308.9...	431.1...	70.6088	150.6...	2.1447	H1-1b
78	M109	W10X...	0.4421	0	12	0.0289	7.875	y	12	133.7...	431.1...	70.6088	150.6...	2.8793	H1-1a
79	M110	W10X...	0.1371	0	12	0.0296	0	y	12	366.5...	431.1...	70.6088	150.6...	2.0803	H1-1b
80	M111	W10X...	0.1589	14.33	9	0.0165	0	y	3	308.9...	431.1...	70.6088	150.6...	1.9951	H1-1b
81	M112	W10X...	0.3798	0	21	0.0282	7.875	y	21	133.7...	431.1...	70.6088	150.6...	2.8289	H1-1a
82	M113	W10X...	0.0867	10	21	0.026	0	y	21	366.5...	431.1...	70.6088	150.6...	2.179	H1-1b
83	M114	W10X...	0.221	14.33	15	0.029	0	y	12	308.9...	431.1...	70.6088	150.6...	2.1521	H1-1b
84	M115	W10X...	0.6969	0	21	0.0514	7.875	y	18	133.7...	431.1...	70.6088	150.6...	2.7217	H1-1a
85	M116	W10X...	0.1519	10	21	0.0411	0	y	18	366.5...	431.1...	70.6088	150.6...	2.255	H1-1b
86	M117	W10X...	0.0902	14.33	12	0.0112	0	y	3	308.9...	431.1...	70.6088	150.6...	1.372	H1-1b
87	M118	HSS5...	0.1312	0	21	0.0069	25.7163	y	23	25.2535	118.4...	17.4681	17.4681	1.1364	H1-1b*
88	M119	HSS5...	0.1331	0	12	0.0077	25.7163	y	23	25.2535	118.4...	17.4681	17.4681	1.1364	H1-1b*
89	M120	HSS5...	0.2475	12.0545	14	0.0042	25.7163	y	9	25.2535	118.4...	17.4681	17.4681	1.1364	H1-1a
90	M121	HSS5...	0.2695	12.0545	18	0.0042	25.7163	y	23	25.2535	118.4...	17.4681	17.4681	1.1364	H1-1a
91	M122	HSS5...	0.2153	2.4109	18	0.0042	25.7163	y	9	25.2535	118.4...	17.4681	17.4681	1.1364	H1-1a
92	M123	HSS5...	0.196	0	15	0.0042	25.7163	y	9	25.2535	118.4...	17.4681	17.4681	1.1364	H1-1b*
93	M124	HSS5...	0.0994	0	18	0.0042	25.7163	y	8	25.2535	118.4...	17.4681	17.4681	1.1364	H1-1b*
94	M125	HSS5...	0.0929	12.5903	15	0.0042	25.7163	y	8	25.2535	118.4...	17.4681	17.4681	1.1364	H1-1b
95	M101	W10X...	0.7291	0	12	0.0393	7.875	y	15	133.7...	431.1...	70.6088	150.6...	2.7152	H1-1a
96	M126	W10X...	0.6798	0	21	0.0463	7.875	y	18	133.7...	431.1...	70.6088	150.6...	2.6299	H1-1a
97	M98	W14X...	1.7482	8.2591	2	0.1763	18.2123	y	2	17.6783	194.3...	10.9531	22.8883	1.2762	H1-1b
98	M127	W14X...	0.0335	2.625	17	0.0096	5.25	z	21	137.2...	194.3...	10.9531	82.8343	1.1364	H1-1b
99	M128	W14X...	1.7032	8.04	2	0.1435	16.08	y	2	28.2582	194.3...	10.9531	33.0448	1.3111	H1-1b
100	M129	W14X...	3.4711	10.165	2	0.2202	20.33	y	2	17.6783	194.3...	10.9531	20.4009	1.1375	H1-1b
101	M130	L2x2x2	6.3384	10.9384	11	0.0095	21.8768	y	2	0.1637	10.5844	0.2635	0.155	1.1364	H2-1
102	M131	L2x2x2	1.5492	10.9237	14	0.0096	21.8474	y	2	0.1642	10.5844	0.2635	0.1552	1.1364	H2-1
103	M132	L2x2x2	3.077	7.9839	14	0.0116	15.9677	y	2	0.3073	10.5844	0.2635	0.2121	1.1364	H2-1
104	M133	W8X24	0.9579	5.2239	2	0.3096	0	y	2	133.3...	211.976	21.3822	57.6347	1.3182	H1-1b
105	M134	W8X24	0.0487	10	2	0.0063	10	z	14	141.0...	211.976	21.3822	50.7588	1	H1-1b
106	M135	HSS1...	0.0806	12.335	3	0.0136	24.67	y	12	150.7...	221.1...	34.0176	71.3872	1	H1-1b
107	M136	HSS1...	0.0495	0	11	0.0147	0	y	3	191.264	221.1...	34.0176	71.3872	2.0449	H1-1b
108	M137	HSS1...	0.092	0	9	0.0185	2.17	z	8	191.264	221.1...	34.0176	71.3872	1.3766	H1-1b
109	M138	HSS1...	0.067	0	9	0.0335	0	y	3	191.264	221.1...	34.0176	71.3872	1.8439	H1-1b
110	M139	HSS1...	0.0879	2.17	12	0.0519	2.17	z	12	191.264	221.1...	34.0176	71.3872	1.8395	H1-1b
111	M140	HSS1...	0.057	21.4463	12	0.0163	21.4463	y	3	93.6959	221.1...	34.0176	71.3872	1.4964	H1-1b
112	M141	HSS1...	0.1097	21.4463	12	0.0157	21.4463	y	3	93.6959	221.1...	34.0176	71.3872	1.4881	H1-1b
113	M142	HSS1...	0.0042	1.085	3	0.0058	2.17	y	3	191.264	221.1...	34.0176	71.3872	1.1364	H1-1b
114	M143	HSS1...	0.0039	1.085	3	0.0058	2.17	y	3	191.264	221.1...	34.0176	71.3872	1.1364	H1-1b
115	M144	HSS1...	0.0796	12.335	3	0.0109	24.67	y	3	88.8431	221.1...	34.0176	71.3872	1.1364	H1-1b



Bob D Campbell & Co.	LSH Concessions Canopy	SK-1
RMH		Oct 02, 2020
GEA2012		Concessions Canopy.r3d



Bob D Campbell & Co.	LSH Concessions Canopy	SK-2
RMH		Oct 02, 2020
GEA2012		Concessions Canopy.r3d



Loads: BLC 1, Dead

Bob D Campbell & Co.

RMH

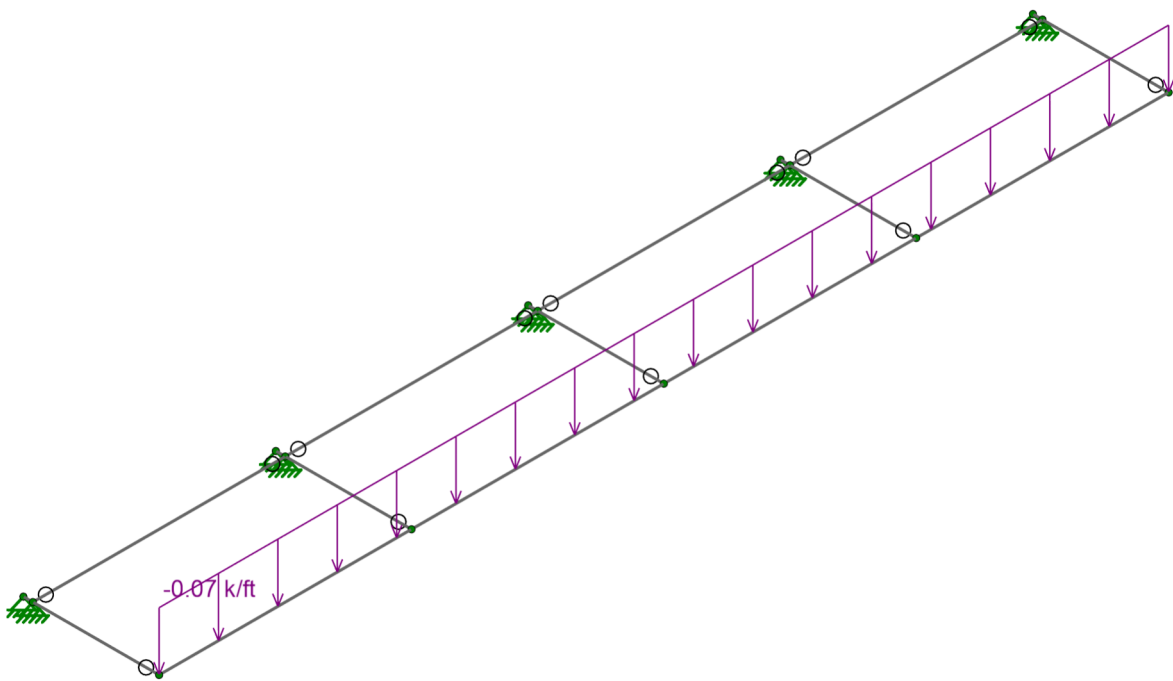
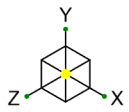
GEA2012

LSH Concessions Canopy

SK-3

Oct 02, 2020

Concessions Canopy.r3d



Loads: BLC 2, Live

Bob D Campbell & Co.

RMH

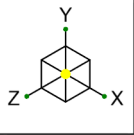
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LSH Concessions Canopy

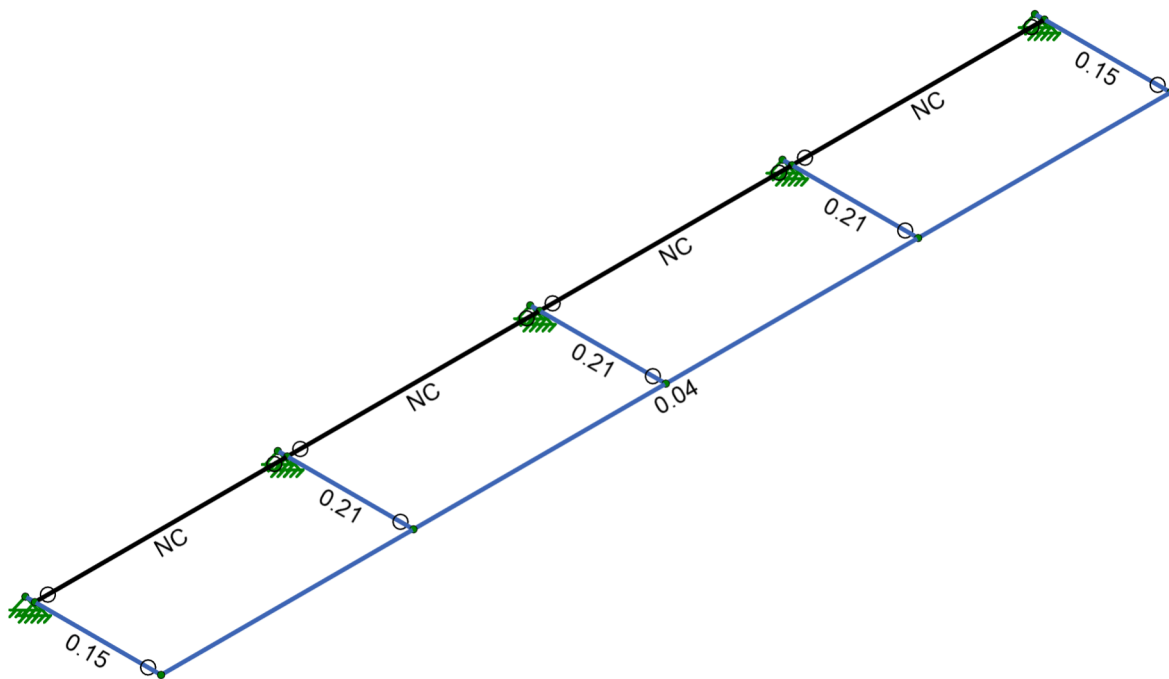
SK-4

Oct 02, 2020

Concessions Canopy.r3d



Code Check (LC 1)	
	No Calc
	> 1.0
	.90-1.0
	.75-.90
	.50-.75
	.0-.50



Member Code Checks Displayed
Results for LC 1, DL + LL

Bob D Campbell & Co.

RMH

GEA2012

LSH Concessions Canopy

SK-5

Oct 02, 2020

Concessions Canopy.r3d

Nodes

	Label	X [in]	Y [in]	Z [in]	Temp [deg F]	Detach From Diaphragm
1	N1	0	0	0		
2	N2	48	0	0		
3	N3	0	0	96		
4	N4	48	0	96		
5	N5	0	0	192		
6	N6	48	0	192		
7	N7	48	0	288		
8	N8	0	0	288		
9	N9	48	0	384		
10	N10	0	0	384		
11	N11	-3.6	0	384		
12	N12	-3.6	0	0		
13	N13	-3.6	0	288		
14	N14	-3.6	0	192		
15	N15	-3.6	0	96		

Boundary Conditions

	Node Label	X [k/in]	Y [k/in]	Z [k/in]
1	N10	Reaction	Reaction	Reaction
2	N8	Reaction	Reaction	Reaction
3	N5	Reaction	Reaction	Reaction
4	N3	Reaction	Reaction	Reaction
5	N1	Reaction	Reaction	Reaction
6	N11	Reaction	Reaction	Reaction
7	N12	Reaction	Reaction	Reaction
8	N13	Reaction	Reaction	Reaction
9	N14	Reaction	Reaction	Reaction
10	N15	Reaction	Reaction	Reaction

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [$10^{-6}/^{\circ}\text{F}$]	Density [k/ft ³]	Yield [ksi]	Ry	Fu [ksi]	Rt
1	A992	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	0.3	0.65	0.49	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	0.3	0.65	0.527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	0.3	0.65	0.527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	0.3	0.65	0.49	35	1.6	60	1.2
7	A1085	29000	11154	0.3	0.65	0.49	50	1.25	65	1.15
8	A913 Gr.65	29000	11154	0.3	0.65	0.49	65	1.1	80	1.1

Primary Member Properties

	Label	I Node	J Node	K Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
1	M1	N11	N9			HSS8X2X4	Beam	Tube	A500 Gr...	Typical
2	M2	N13	N7			HSS8X2X4	Beam	Tube	A500 Gr...	Typical
3	M3	N14	N6			HSS8X2X4	Beam	Tube	A500 Gr...	Typical
4	M4	N15	N4			HSS8X2X4	Beam	Tube	A500 Gr...	Typical
5	M5	N12	N2			HSS8X2X4	Beam	Tube	A500 Gr...	Typical
6	M6	N9	N2			HSS8X2X4	Beam	Tube	A500 Gr...	Typical
7	M7	N10	N8			RIGID	None	None	RIGID	Typical
8	M8	N8	N5			RIGID	None	None	RIGID	Typical
9	M9	N5	N3			RIGID	None	None	RIGID	Typical
10	M10	N3	N1			RIGID	None	None	RIGID	Typical

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Nodal	Point	Distributed
1	Dead	DL		-1				1
2	Live	LL						1

Load Combinations

	Description	Solve	PDelta	SRSS	BLC	Factor	BLC	Factor
1	DL + LL	Yes	Y		DL	1	LL	1

Node Reactions

	LC	Node Label	X [k]	Y [k]	Z [k]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
1	1	N10	0	12.5406	0	0	0	0
2	1	N8	0	13.1954	0	0	0	0
3	1	N5	0	13.2108	0	0	0	0
4	1	N3	0	13.1954	0	0	0	0
5	1	N1	0	12.5406	0	0	0	0
6	1	N11	0	-12.0001	0	0	0	0
7	1	N12	0	-12.0001	0	0	0	0
8	1	N13	0	-12.0002	0	0	0	0
9	1	N14	0	-12.0003	0	0	0	0
10	1	N15	0	-12.0002	0	0	0	0
11	1	N6	NC	NC	NC	NC	NC	LOCKED
12	1	Totals:	0	4.6819	0			
13	1	COG (in):	X: 46.1355	Y: 0	Z: 192			

Node Deflections

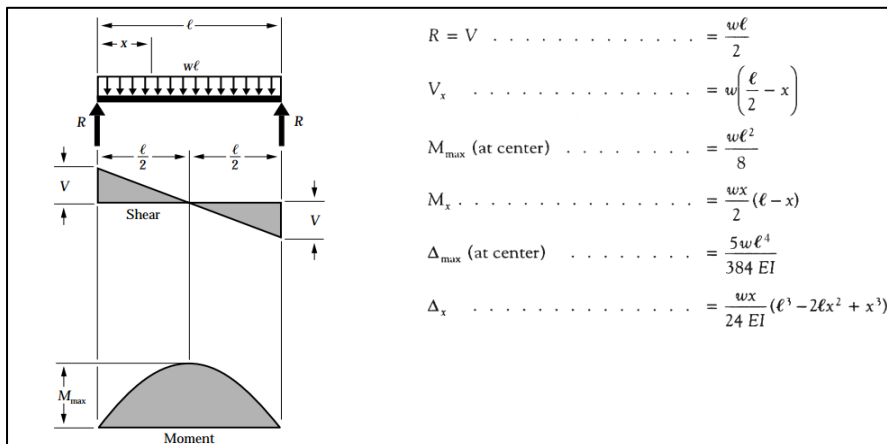
	LC	Node Label	X [in]	Y [in]	Z [in]	X Rotation [rad]	Y Rotation [rad]	Z Rotation [rad]
1	1	N1	0	0	0	8.5855e-04	0	-3.9652e-04
2	1	N2	0	-0.0473	0	8.5855e-04	0	0
3	1	N3	0	0	0	8.5808e-05	0	-3.9652e-04
4	1	N4	0	-0.0847	0	8.5808e-05	0	0
5	1	N5	0	0	0	0	0	-3.9652e-04
6	1	N6	0	-0.0855	0	0	0	0
7	1	N7	0	-0.0847	0	-8.5808e-05	0	0
8	1	N8	0	0	0	-8.5808e-05	0	-3.9652e-04
9	1	N9	0	-0.0473	0	-8.5855e-04	0	0
10	1	N10	0	0	0	-8.5855e-04	0	-3.9652e-04
11	1	N11	0	0	0	-8.5855e-04	0	-2.789e-04
12	1	N12	0	0	0	8.5855e-04	0	-2.789e-04
13	1	N13	0	0	0	-8.5808e-05	0	-2.789e-04
14	1	N14	0	0	0	0	0	-2.789e-04
15	1	N15	0	0	0	8.5808e-05	0	-2.789e-04

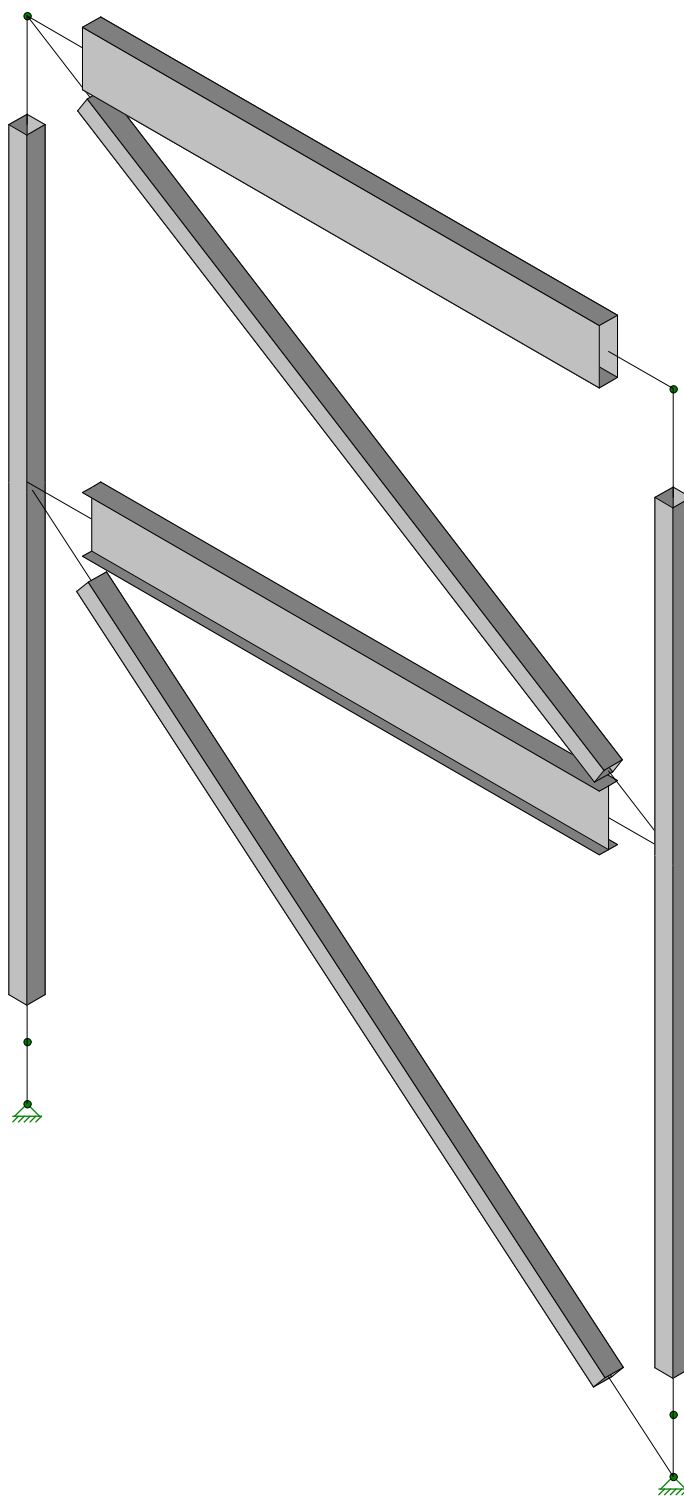
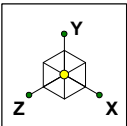
Asd360

	LC	Member	Shape	UC Max	Loc [in]	Shear...	Loc [in]	Dir	Pnc/o...	Pnt/o...	Mnyy/...	Mnzz/...	Cb	Eqn
1	1	M1	HSS8...	0.1452	3.225	0.2135	3.225	y	91.1473	118.44...	7.3612	22.2196	2.1621	H1-1b
2	1	M2	HSS8...	0.2079	3.7625	0.2135	3.225	y	91.1473	118.44...	7.3612	22.2196	1.5948	H1-1b
3	1	M3	HSS8...	0.2107	3.7625	0.2135	3.225	y	91.1473	118.44...	7.3612	22.2196	1.5947	H1-1b
4	1	M4	HSS8...	0.2079	3.7625	0.2135	3.225	y	91.1473	118.44...	7.3612	22.2196	1.5948	H1-1b
5	1	M5	HSS8...	0.1452	3.225	0.2135	3.225	y	91.1473	118.44...	7.3612	22.2196	2.1621	H1-1b
6	1	M6	HSS8...	0.037	344	0.0109	288	y	2.9969	118.44...	7.3612	22.2196	1.1984	H1-1b

Typ. Video Deck Floor Beam			
w (klf)	1.1	R=V (kips)	6.6
L (ft)	12	M _{max} (k-ft)	19.8
σ _{max} (ksi)	30	M _{max} (k-in)	237.6
L/Δ	240	S _r (in ³)	7.9
Beam	W8x15	I _r (in ⁴)	29.5
		Δ _{max} (in)	0.369
		Unity Check (Bending)	0.67
		Unity Check (Defl.)	0.61

Typ. Press Box Roof Beam			
w (klf)	0.313	R=V (kips)	2.8
L (ft)	17.75	M _{max} (k-ft)	12.3
σ _{max} (ksi)	30	M _{max} (k-in)	147.9
L/Δ	240	S _r (in ³)	4.9
Beam	hss12x4x1/4	I _r (in ⁴)	27.2
		Δ _{max} (in)	0.203
		Unity Check (Bending)	0.25
		Unity Check (Defl.)	0.23





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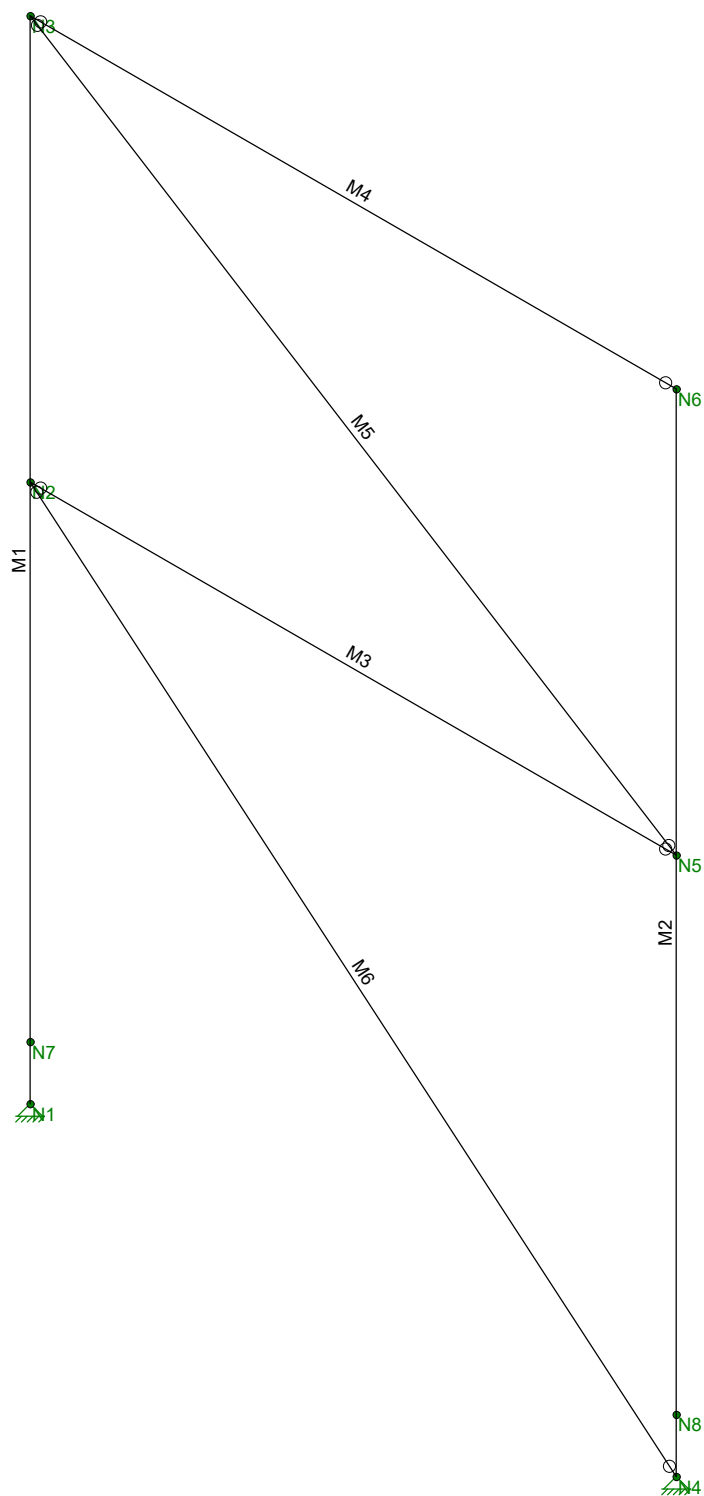
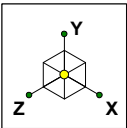
GEA2012

LSN Press Box Braced Frame

SK - 1

Oct 2, 2020 at 11:44 AM

Braced Frame.r2d



Bob D. Campbell & Co.

RMH

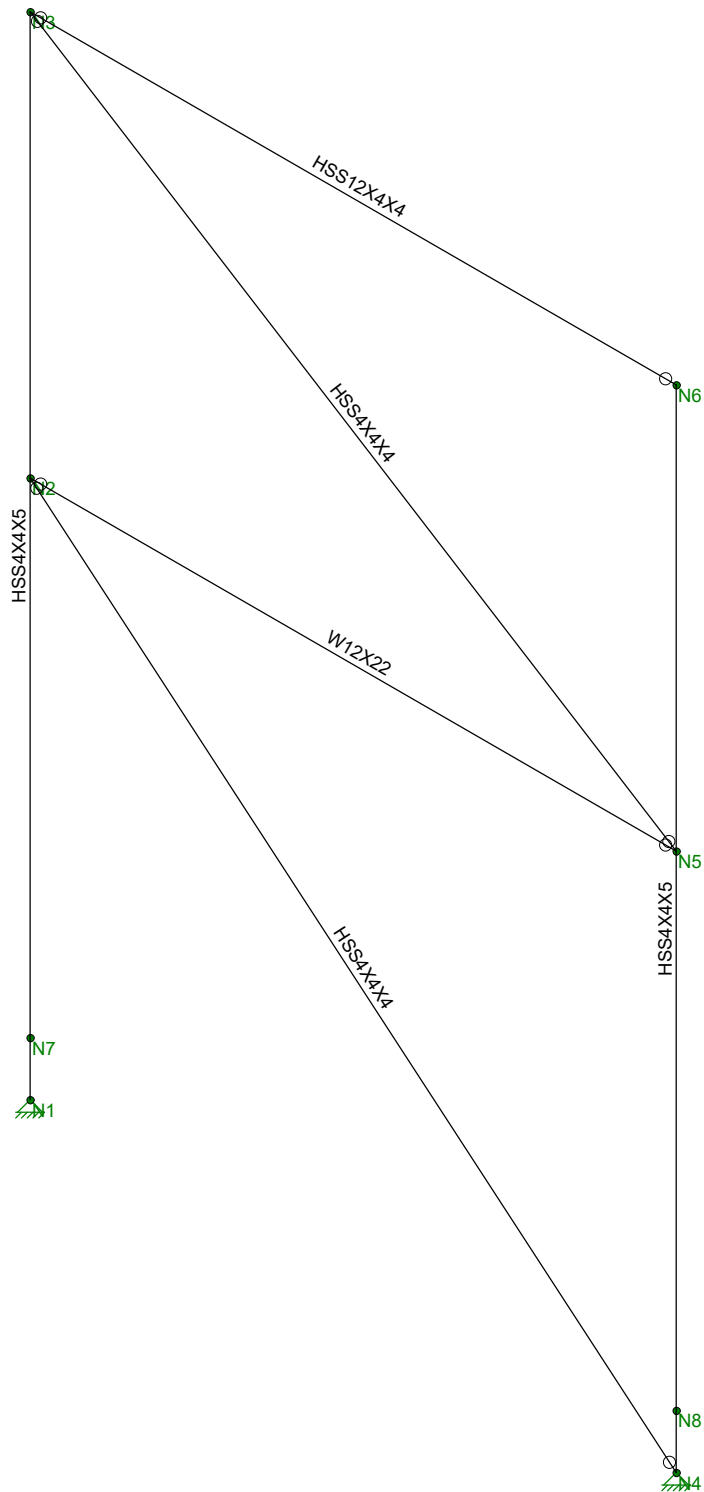
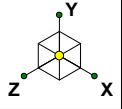
GEA2012

LSN Press Box Braced Frame

SK - 2

Oct 2, 2020 at 11:45 AM

Braced Frame.r2d



Bob D. Campbell & Co.

RMH

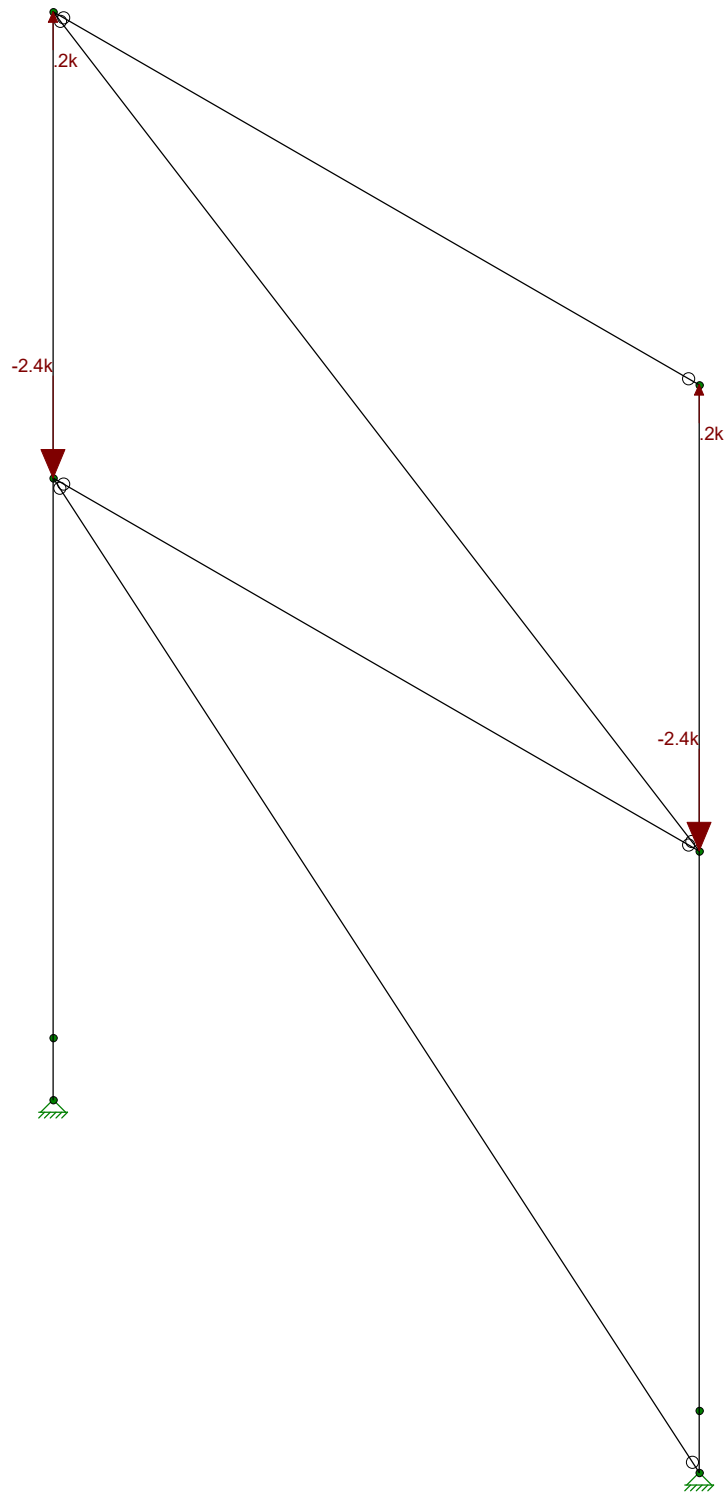
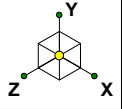
GEA2012

LSN Press Box Braced Frame

SK - 3

Oct 2, 2020 at 11:45 AM

Braced Frame.r2d



Loads: BLC 1, DEAD

Bob D. Campbell & Co.

RMH

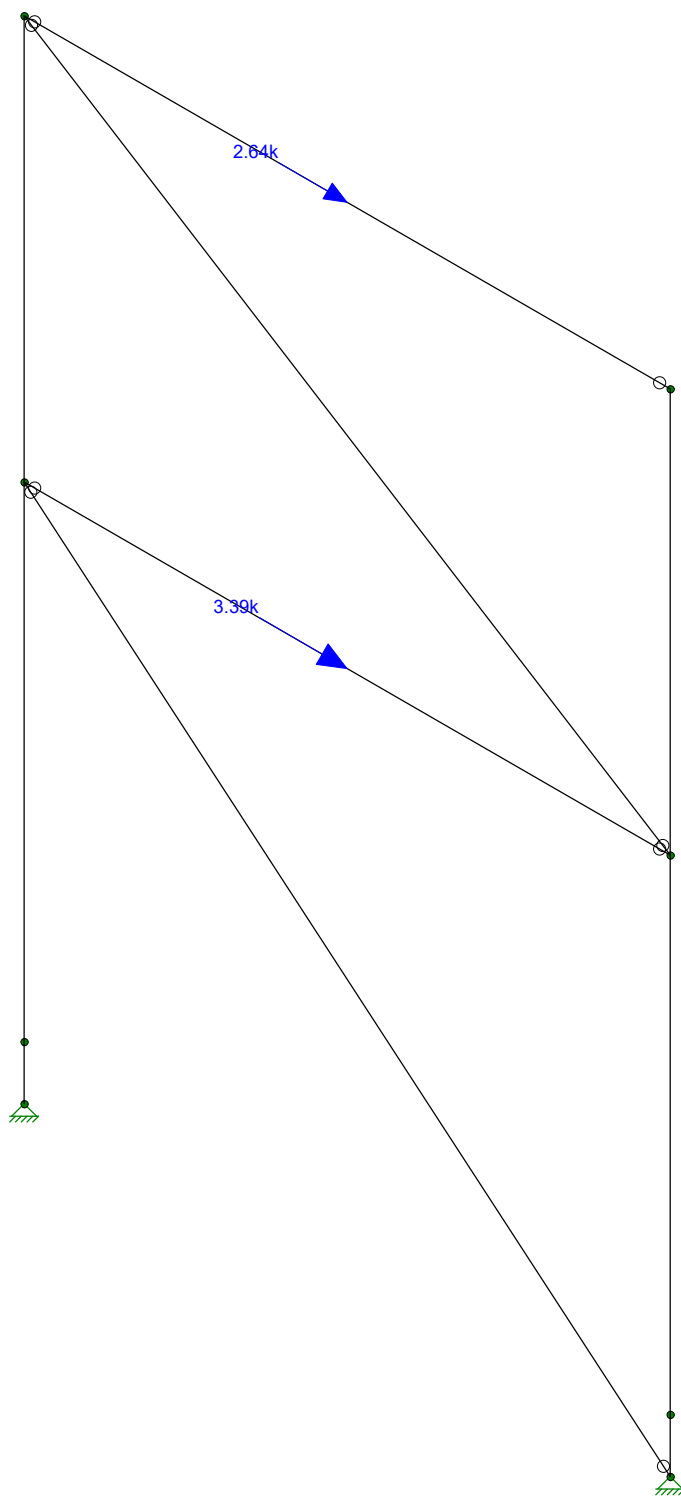
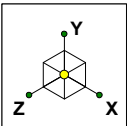
GEA2012

LSN Press Box Braced Frame

SK - 4

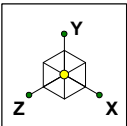
Oct 2, 2020 at 11:47 AM

Braced Frame.r2d

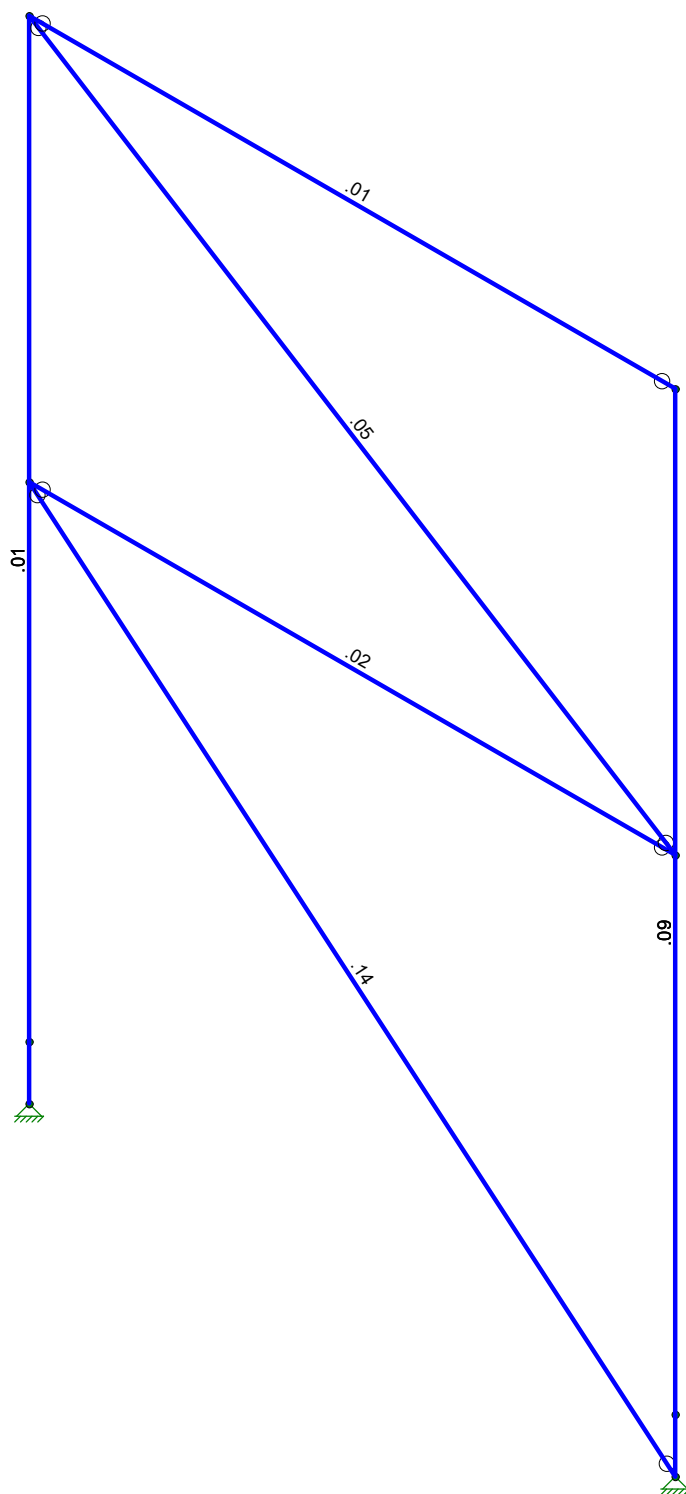


Loads: BLC 2, WIND

Bob D. Campbell & Co.	LSN Press Box Braced Frame	SK - 5
RMH		Oct 2, 2020 at 11:48 AM
GEA2012		Braced Frame.r2d



Code Check (LC 1)	
■	No Calc
■	> 1.0
■	.90-1.0
■	.75-.90
■	.50-.75
■	0-.50



Member Code Checks Displayed
Results for LC 1, 0.6DL + 0.6WL

Bob D. Campbell & Co.	LSN Press Box Braced Frame	SK - 6
RMH		Oct 2, 2020 at 1:27 PM
GEA2012		Braced Frame.r2d

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (1E5 F)	Density[k/ft^...	Yield[ksi]
1	A36 Gr.36	29000	11154	.3	.65	.49	36
2	A572 Gr.50	29000	11154	.3	.65	.49	50
3	A992	29000	11154	.3	.65	.49	50
4	A500 Gr.42	29000	11154	.3	.65	.49	42
5	A500 Gr.46	29000	11154	.3	.65	.49	46

Joint Coordinates and Temperatures

	Label	X [ft]	Y [ft]	Temp [F]
1	N1	0	0	0
2	N2	0	10	0
3	N3	0	17.5	0
4	N4	12	0	0
5	N5	12	10	0
6	N6	12	17.5	0
7	N7	0	1	0
8	N8	12	1	0

Joint Boundary Conditions

	Joint Label	X [k/in]	Y [k/in]	Rotation[k-ft/rad]
1	N1	Reaction	Reaction	
2	N4	Reaction	Reaction	

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Joint	Point	Distributed
1	DEAD	DL		-1	10		
2	WIND	WL				2	

Load Combinations

	Description	So...	P	Delta	SR	SS	BLC Fac...	BLC Fac...	BLC Fac...	BLC Fac...	BLC Fac...	BLC Fac...	BLC Fac...	BLC Fac...	BLC Fac...	BLC Fac...	BLC Fac...	BLC Fac...
1	0.6DL + 0.6...	Yes	Y				DL	.6	WL	.6								
2	0.6DL - 0.6WL	Yes	Y				DL	.6	WL	-.6								

Envelope Joint Reactions

	Joint		X [k]	LC	Y [k]	LC	Moment [k-ft]	LC
1	N1	max	0	2	5.741	2	0	2
2		min	0	1	-2.27	1	0	1
3	N4	max	3.619	2	5.741	1	0	2
4		min	-3.617	1	-2.27	2	0	1
5	Totals:	max	3.618	2	3.471	2		
6		min	-3.618	1	3.471	1		

Envelope Joint Displacements

	Joint		X [in]	LC	Y [in]	LC	Rotation [rad]	LC
1	N1	max	0	2	0	2	1.84e-04	2
2		min	0	1	0	1	-1.462e-04	1
3	N2	max	.017	1	.003	1	1.493e-04	2
4		min	-.021	2	-.007	2	-1.357e-04	1
5	N3	max	.029	1	.004	1	1.236e-04	2
6		min	-.033	2	-.008	2	-1.278e-04	1
7	N4	max	0	2	0	2	2.162e-04	2
8		min	0	1	0	1	-1.786e-04	1
9	N5	max	.02	1	0	2	1.468e-04	2
10		min	-.023	2	-.003	1	-1.331e-04	1
11	N6	max	.03	1	0	2	9.493e-05	2
12		min	-.033	2	-.003	1	-9.922e-05	1
13	N7	max	.002	1	0	1	1.836e-04	2
14		min	-.002	2	0	2	-1.461e-04	1
15	N8	max	.002	1	0	2	2.155e-04	2
16		min	-.003	2	0	1	-1.782e-04	1

Project:	LSN - Press Box
Location:	Lee's Summit, MO
By:	RMH
Date:	10/2/2020

8" Masonry Wall - CANTILEVERED

Working stress design of 8" CMU wall with uniform vertical load and uniform lateral load

Spreadsheet password = bdc

b	length of wall considered	12.00 in.
t	thickness of wall	7.625 in.
d		3.8125 in.
f'm	compressive strength of masonry	1500 psi
h'	effective height of wall	10 ft
	Uniform lateral wind load on wall	20 psf
P	Uniform vertical load on wall	200 plf

Allowable stresses

Fb	Allowable bending stress = $0.33f'm$	495 psi
Fs	Allowable tensile stress of steel = $0.5f_y$	24000 psi
Em	Modulus of elasticity of masonry = $750f'm$	1125000 psi
Es	Modulus of elasticity of steel	29000000 psi

Flexural Effects

M	max. moment in wall due to lateral ($wl^2/2$)	1000.00 lb*ft
	size of reinforcing steel	#5
	area of one bar	0.31 sq. in.
	spacing of bars	16 in.
As	Area of steel per foot of wall	0.23 sq. in.
n	Es/Em	25.8
p	As/bd	0.00508
k	$(n^2p^2 + 2np)^{0.5} - np$	0.397
j	$1.0 - k/3$	0.868
fb	$24M/jkbsd^2$	399 psi
fs	$12M/jdAs$	15605 psi

Axial Effects

	Spacing of grout cells	16
	Equivalent solid thickness of wall	4.44 sq. in.
Ae		53.28
fa	P/Ae	4 psi
r	Table 21-H-1 (UBC)	2.43
h'/r		49.4
Fa		328 psi

fa/Fa + fb/Fb 0.82 < 1.33 (1/3 allowable stress increase for wind)

*Equivalent solid thickness of wall			
Equivalent solid thickness, in.			
		8" CMU	12" CMU
solid grouted	8	6.38	9.13
16" o.c.	16	4.44	6.07
24" o.c.	24	3.79	5.04
32" o.c.	32	3.47	4.53
40" o.c.	40	3.28	4.23
48" o.c.	48	3.15	4.02
no grout	no grout	2.5	3

* for calculating Ae

* face shells + grouted cells only (web area excluded)

Radius of Gyration = r			
		8" CMU	12" CMU
solid grouted	8	2.19	3.34
16" o.c.	16	2.43	3.67
24" o.c.	24	2.53	3.82
32" o.c.	32	2.59	3.91
40" o.c.	40	2.63	3.97
48" o.c.	48	2.66	4.02
no grout	no grout	2.8	4.29

BOB D. CAMPBELL & CO.

Structural Engineers

Since 1957

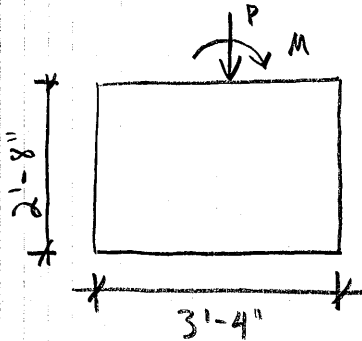
4338 Belleview Ave.

816.531.4144

Kansas City, MO 64111 www.bdc-engrs.com

Project LSR7 Athletic Facilities

Date _____ Page ____ of ____

LSN Visitor Restroom Wall Footing

$$P = (66 \text{ psf})(10')(1') = 660 \text{ lbs}$$

$$M = (20 \text{ psf})(1')(10')^2/2 = 1000 \text{ ft-lbs}$$

$$W_f = (150 \text{ pcf})(3.33')(2.67')(1') = 1334 \text{ lbs}$$

$$e = \frac{M}{P + W_f} = \frac{1000 \text{ ft-lbs}}{660 \text{ lbs} + 1334 \text{ lbs}} = 0.5 \text{ ft}$$

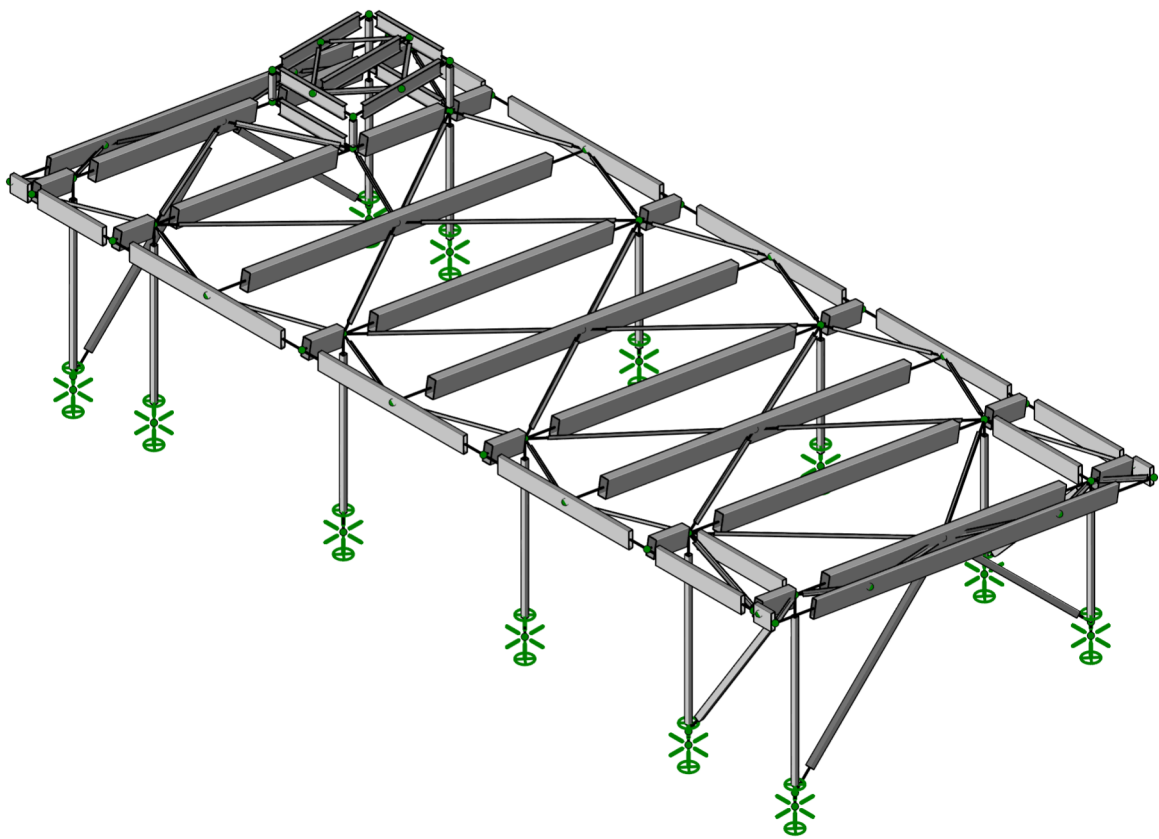
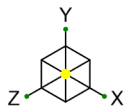
$$B/6 = 3.33'/6 = 0.56 \text{ ft}$$

 $e < B/6 \therefore \text{OK for eccentric loading}$

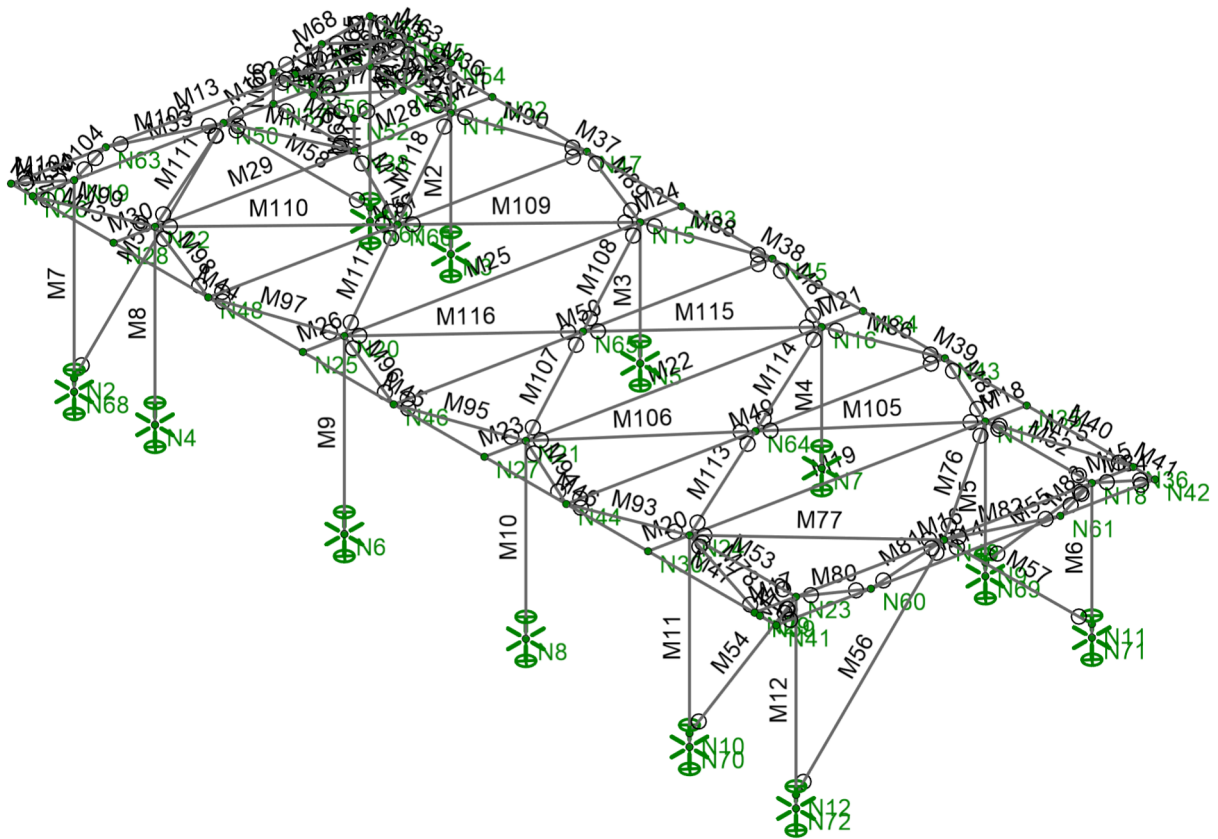
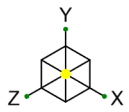
$$B' = B - 2e = 3.33' - 2(0.5') = 2.33'$$

$$q_{eq} = \frac{P + W_f}{A} = \frac{660 \text{ lbs} + 1334 \text{ lbs}}{(2.33')(1')} = 856 \text{ psf} < 3000 \text{ psf}$$

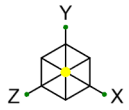
✓ OK



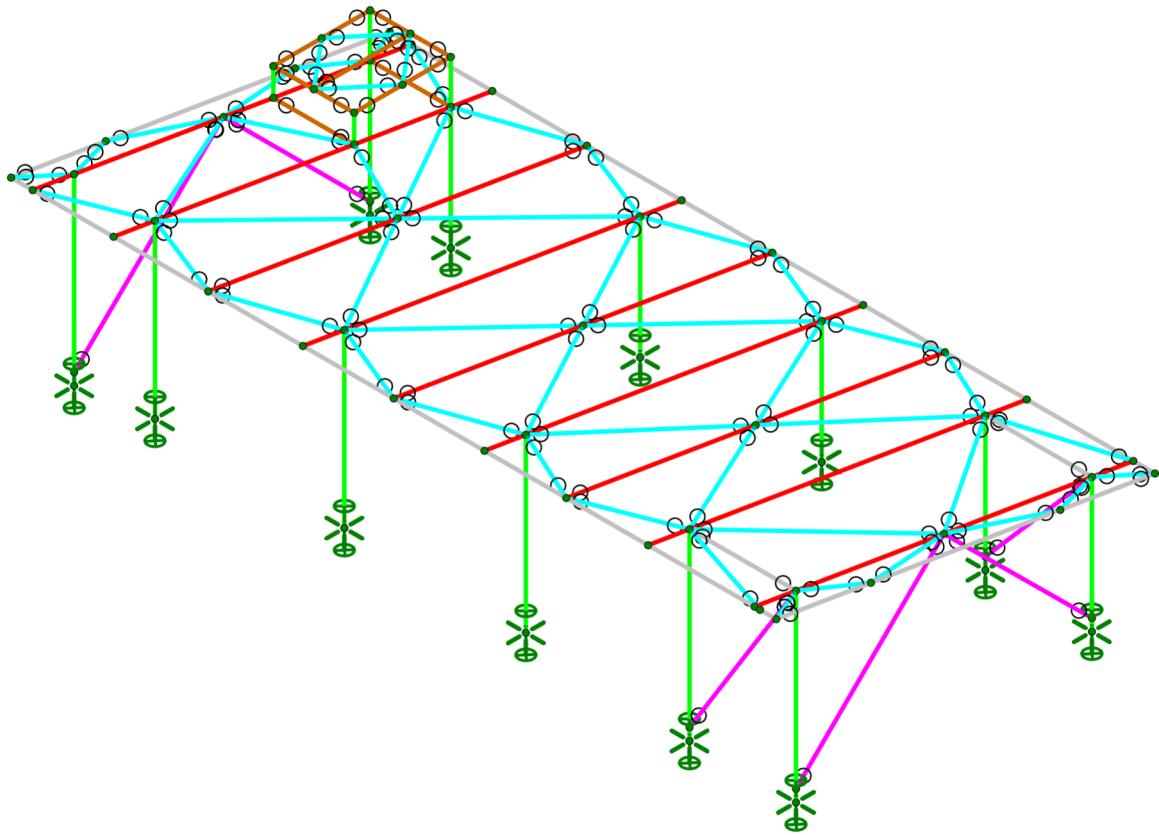
Bob D. Campbell & Co.	LSW Press Box Addition	SK-1
SJB		Oct 02, 2020
GEA2012		Press Box Video Deck.r3d



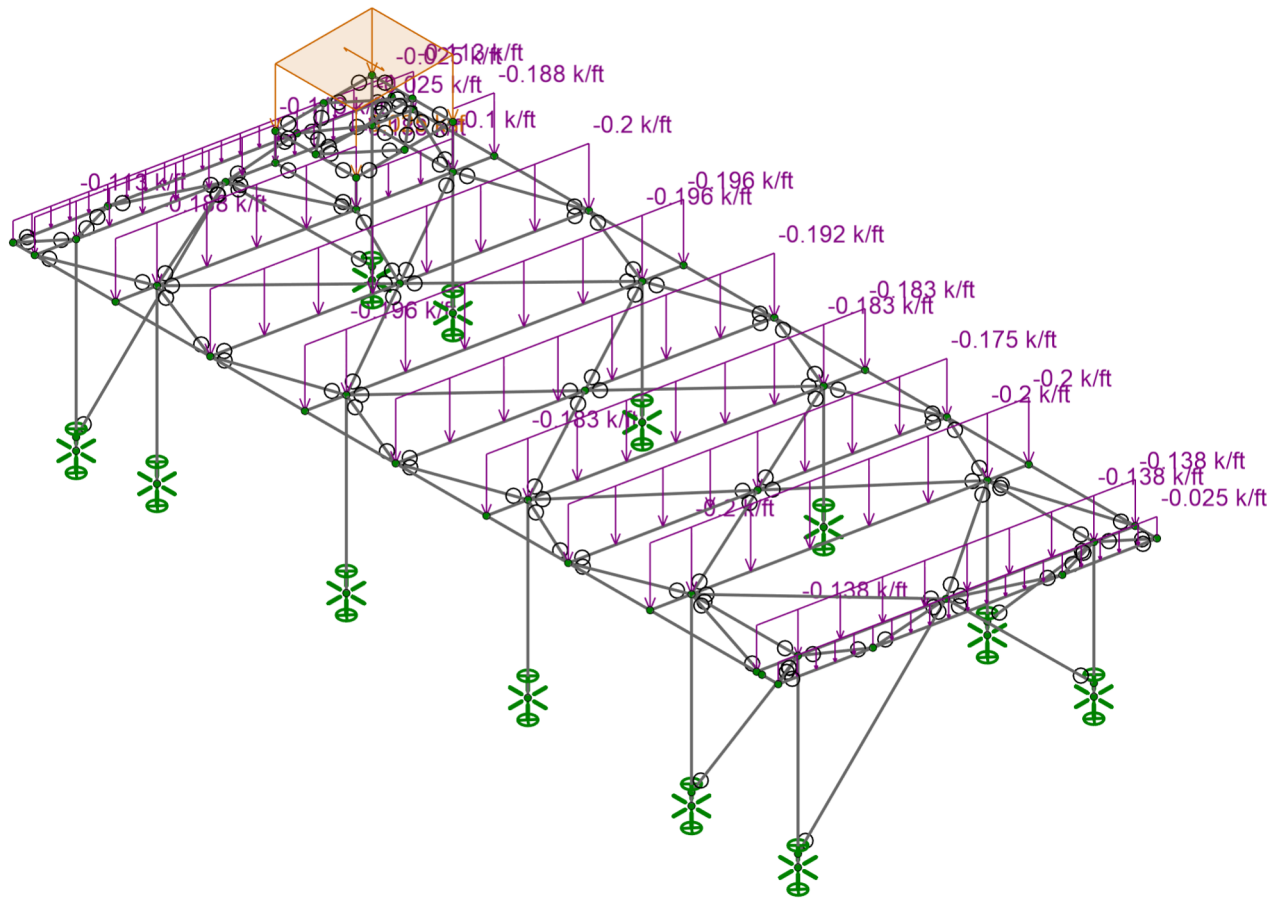
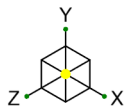
Bob D. Campbell & Co.	LSW Press Box Addition	SK-2
SJB		Oct 02, 2020
GEA2012		Press Box Video Deck.r3d



Section Sets	
na	
COLUMN	
BEAM 1	
BEAM 2	
BRACE	
DIAPHRAGM	
BEAM 3	



Bob D. Campbell & Co.	LSW Press Box Addition	SK-3
SJB		Oct 02, 2020
GEA2012		Press Box Video Deck.r3d



Loads: BLC 1, D

Bob D. Campbell & Co.

SJB

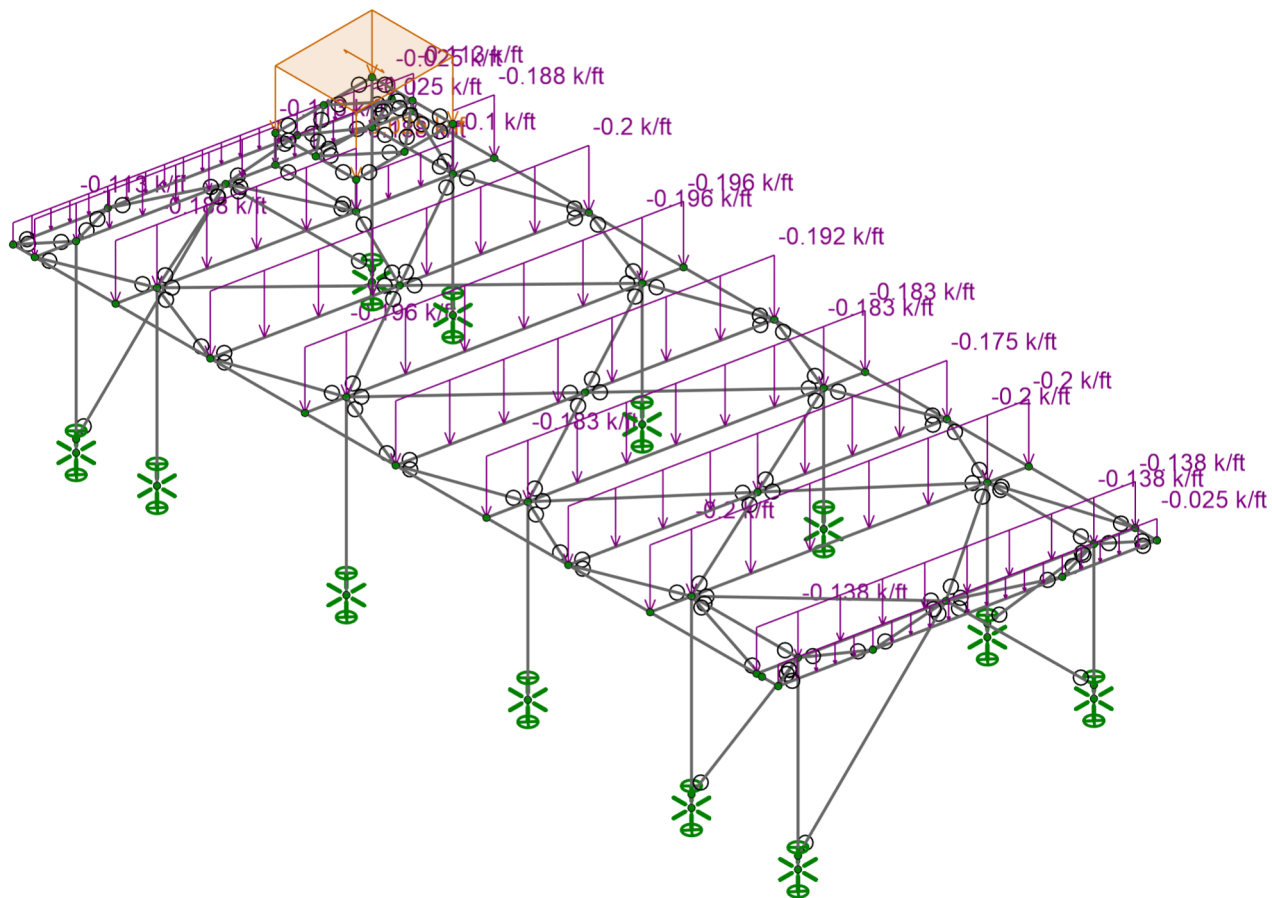
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LSW Press Box Addition

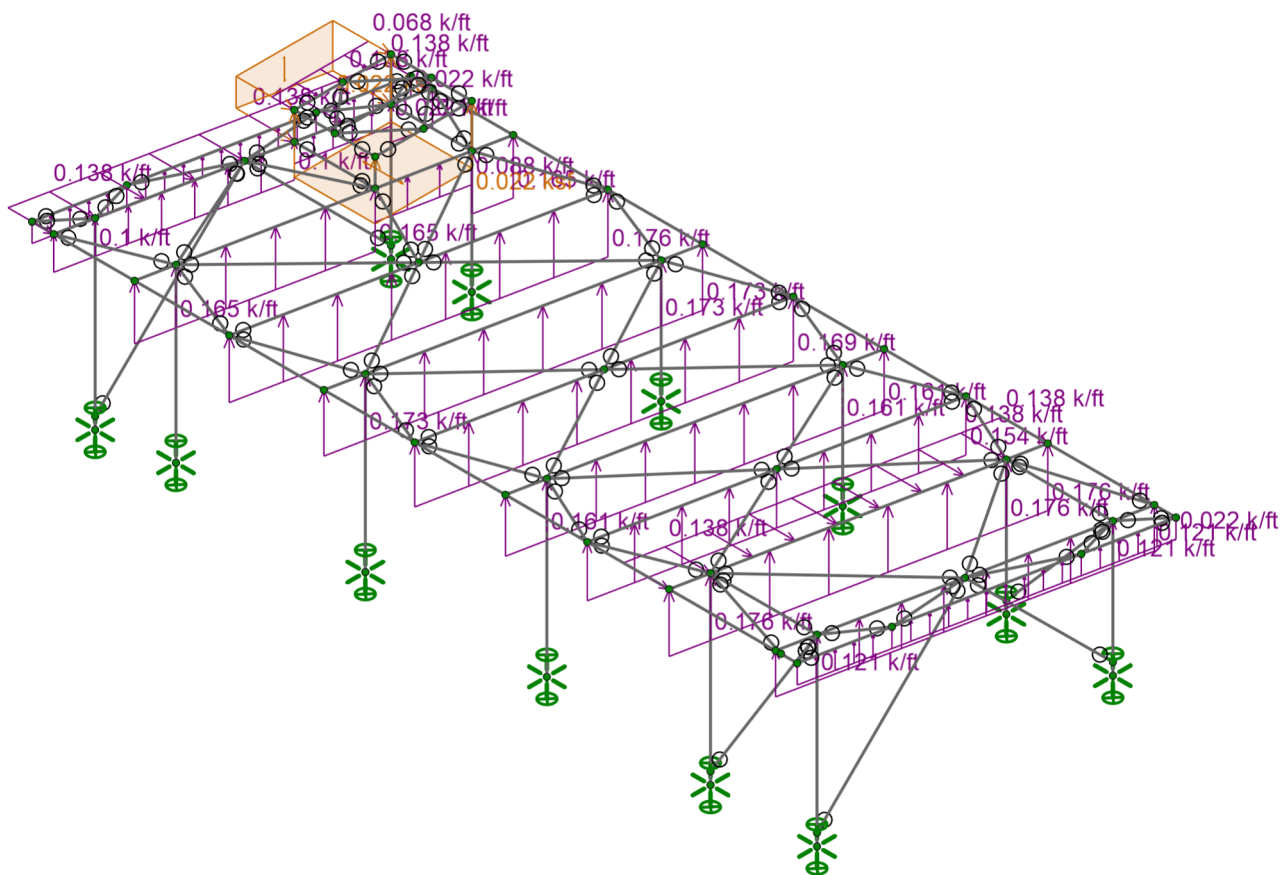
SK-4

Oct 02, 2020

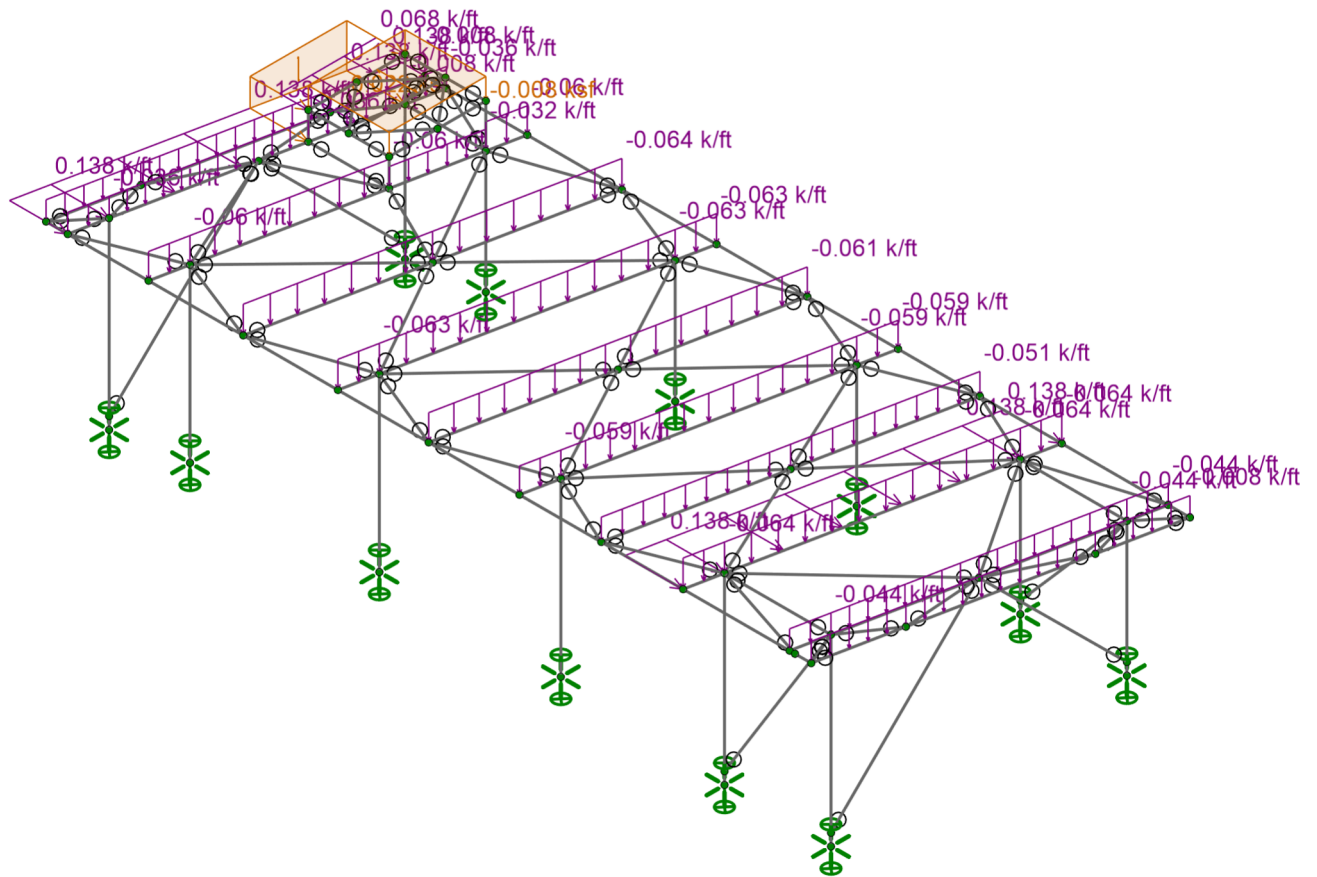
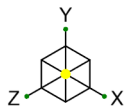
Press Box Video Deck.r3d



Press Box Video Deck.r3d



Press Box Video Deck.r3d



Loads: BLC 4, Wx2

Bob D. Campbell & Co.

SJB

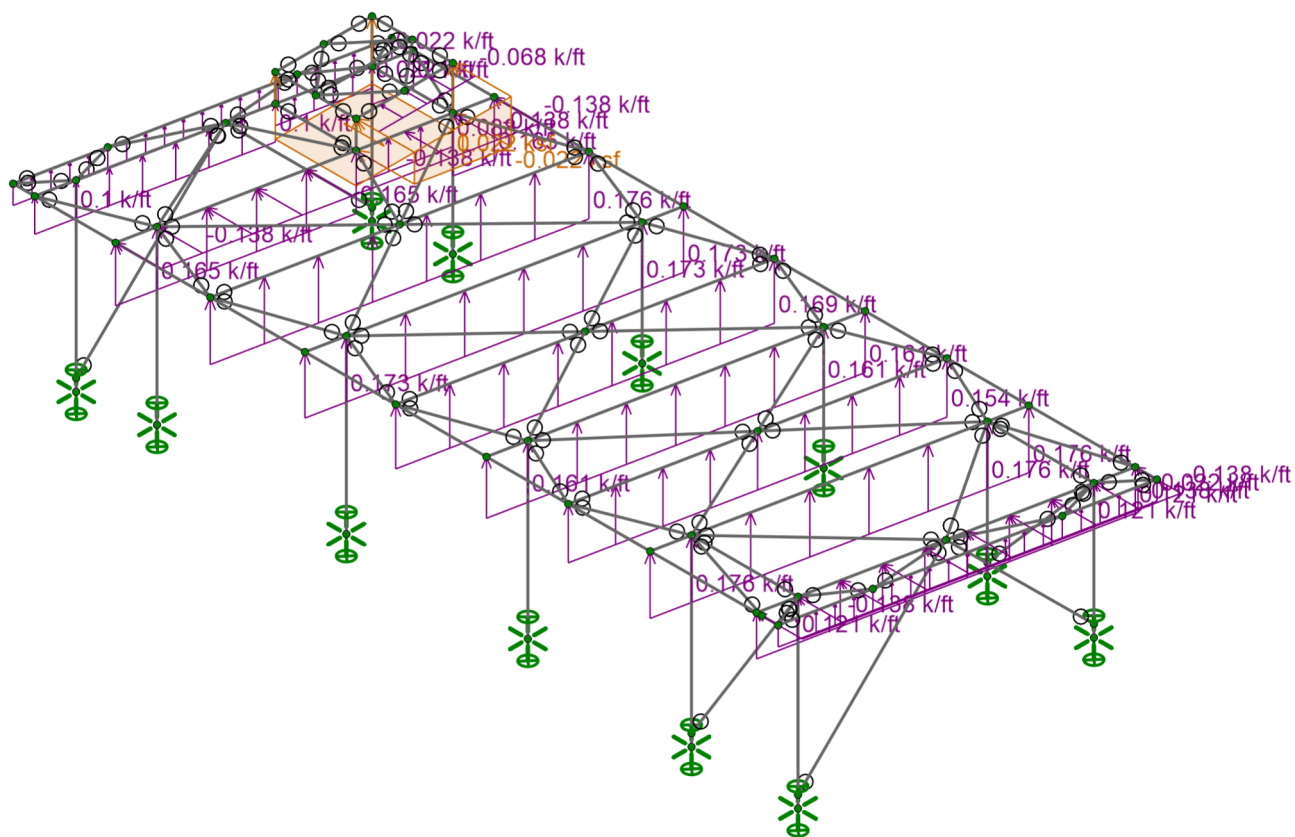
GEA2012

LSW Press Box Addition

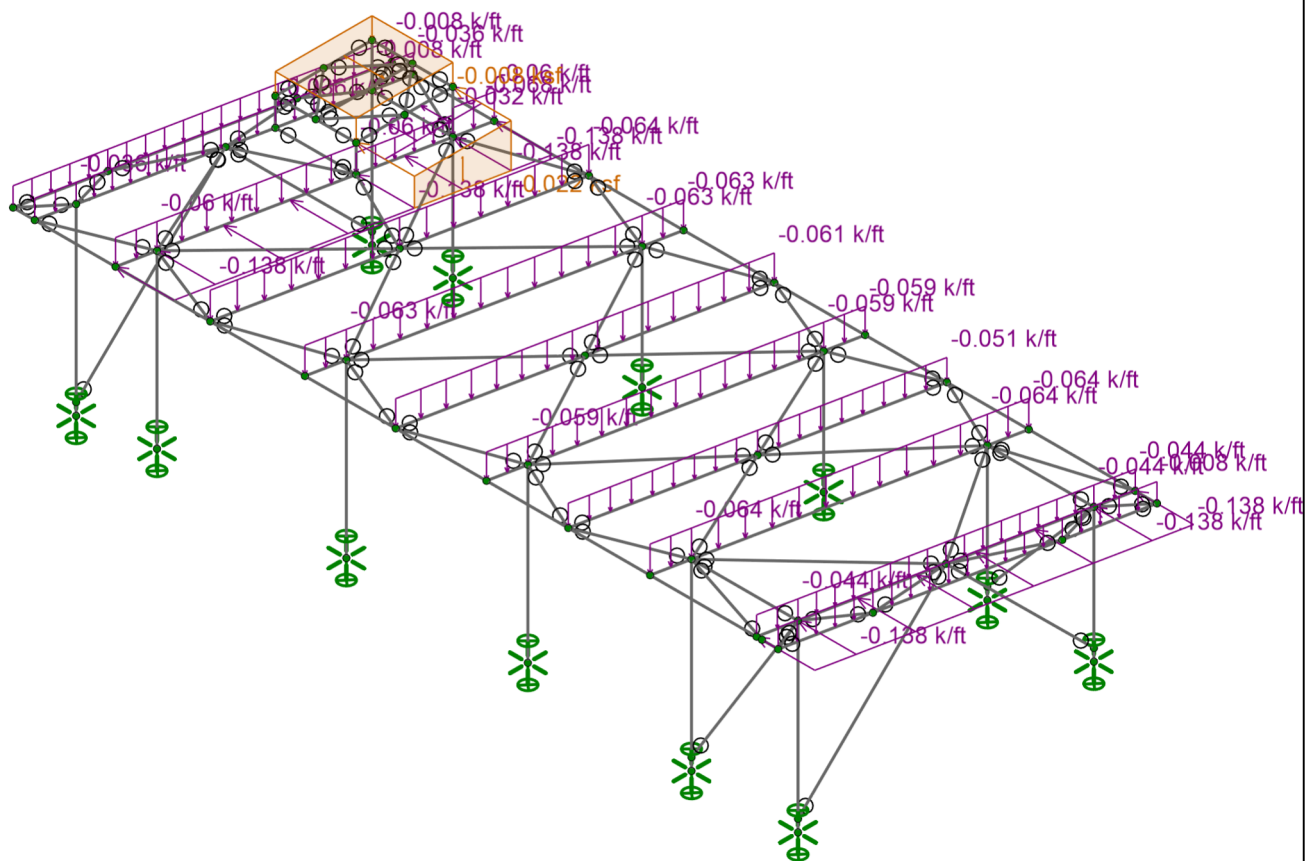
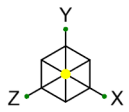
SK-7

Oct 02, 2020

Press Box Video Deck.r3d



Press Box Video Deck.r3d



Loads: BLC 6, Wx4

Bob D. Campbell & Co.

SJB

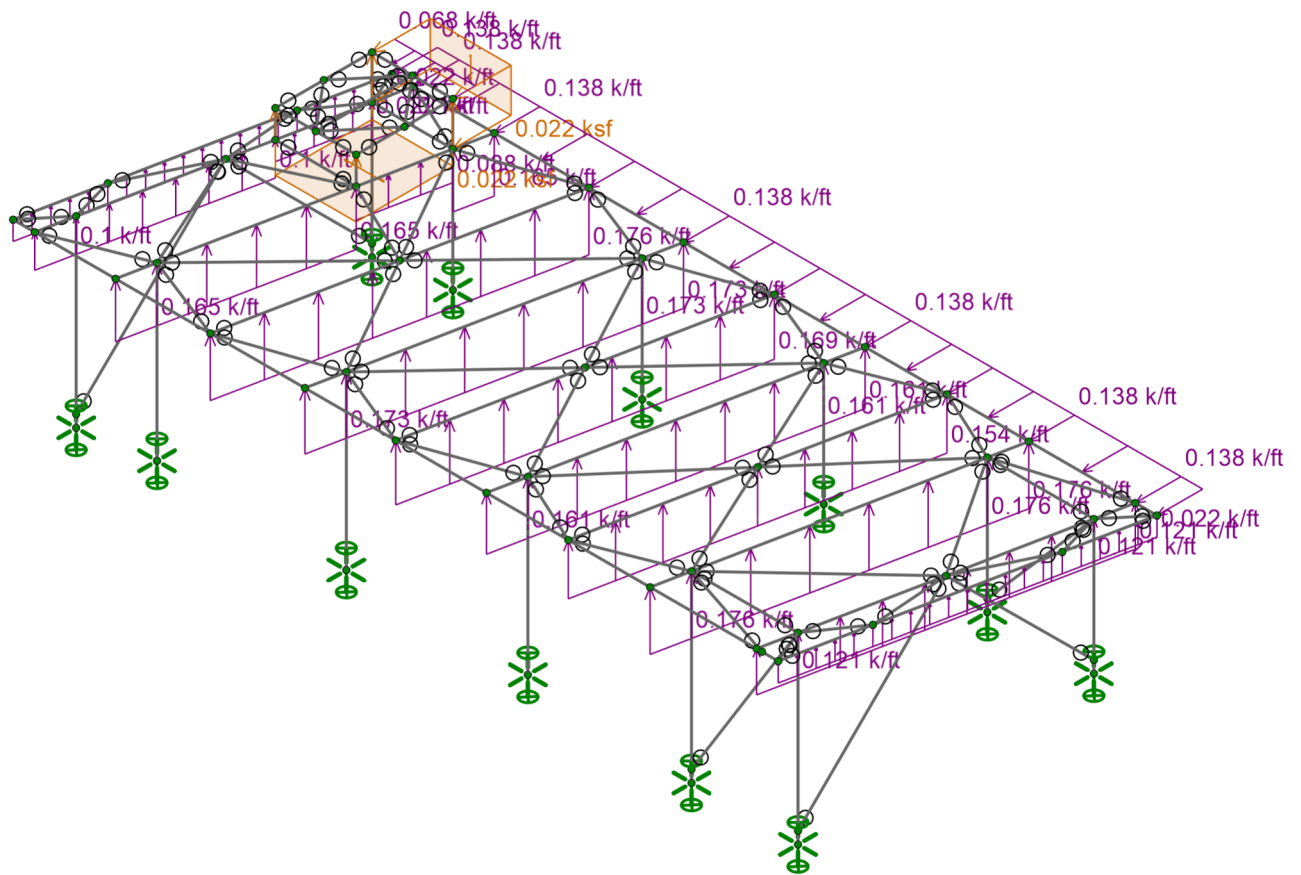
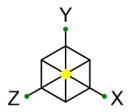
GEA2012

LSW Press Box Addition

SK-9

Oct 02, 2020

Press Box Video Deck.r3d



Loads: BLC 7, Wz1

Bob D. Campbell & Co.

SJB

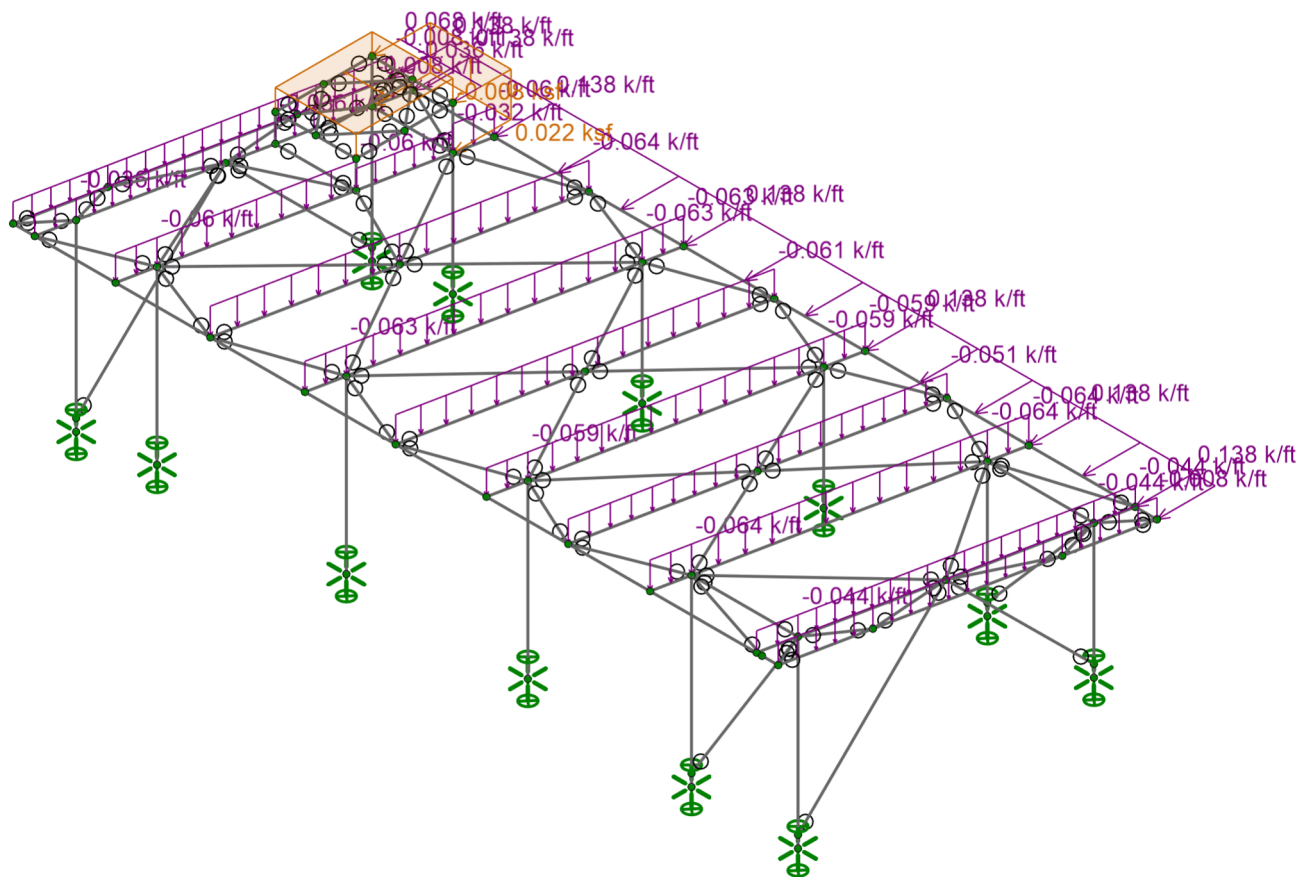
GEA2012

LSW Press Box Addition

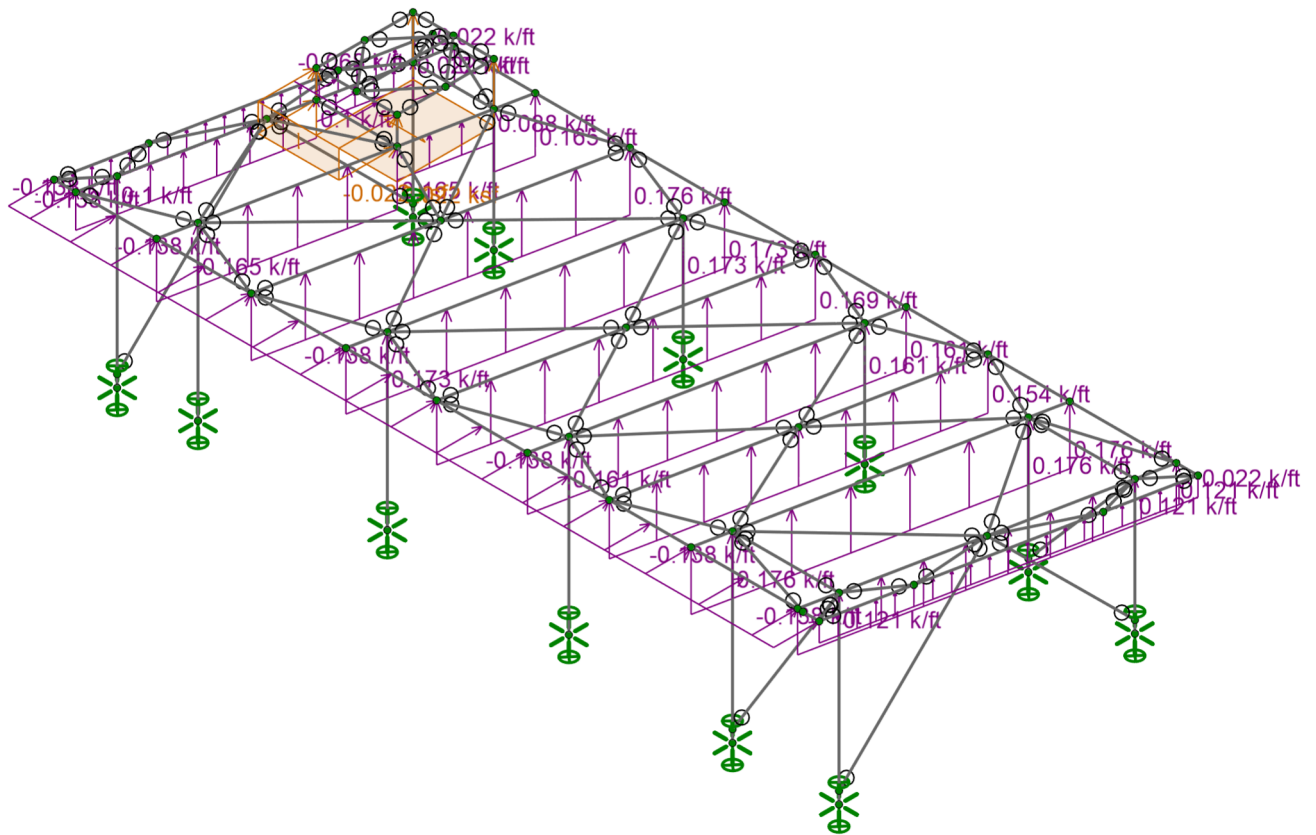
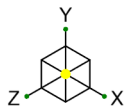
SK-10

Oct 02, 2020

Press Box Video Deck.r3d



Press Box Video Deck.r3d



Loads: BLC 9, Wz3

Bob D. Campbell & Co.

SJB

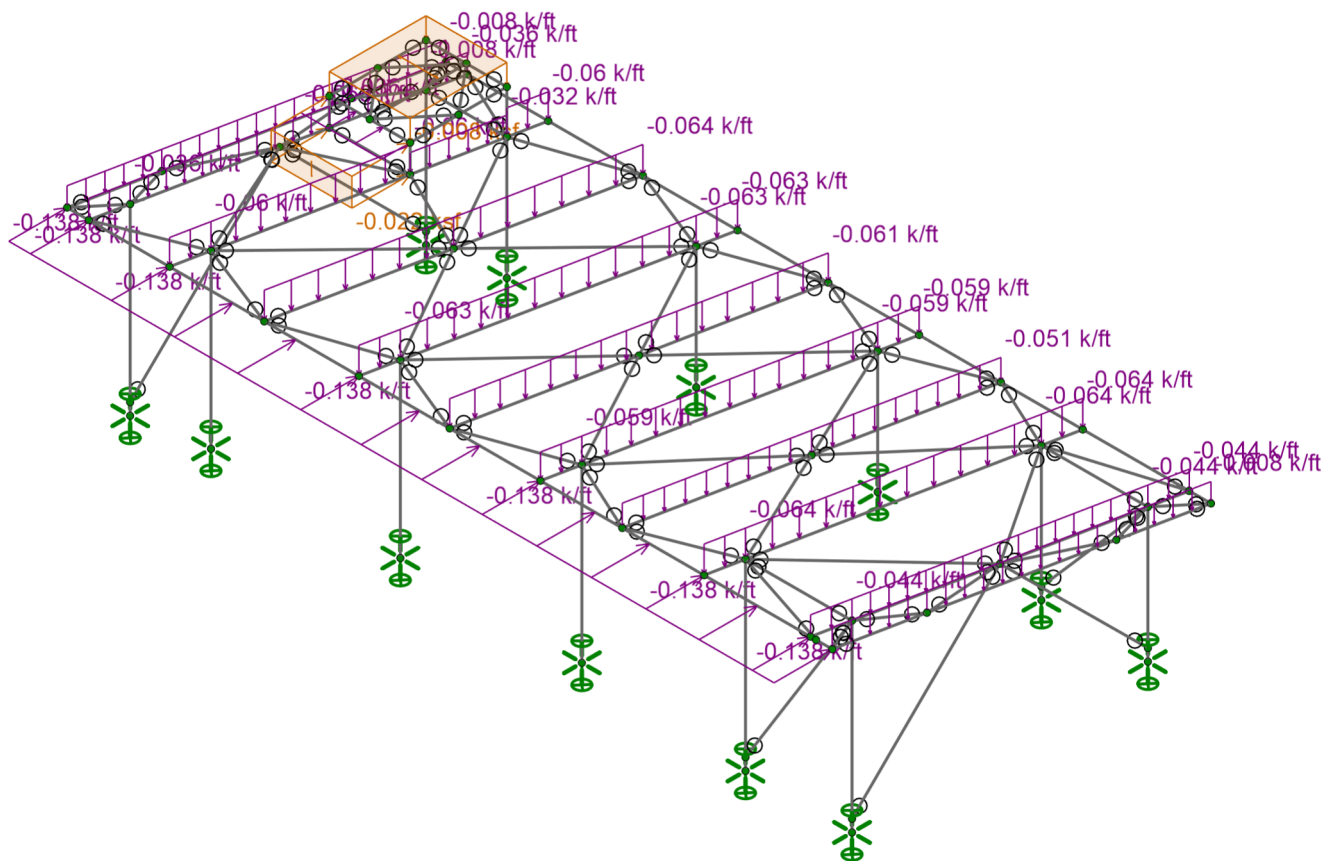
GEA2012

LSW Press Box Addition

SK-12

Oct 02, 2020

Press Box Video Deck.r3d



Press Box Video Deck.r3d

Nodes

	Label	X [ft]	Y [ft]	Z [ft]	Temp [deg F]	Detach From Diaphragm
1	N1	0	0	0		
2	N2	0	0	25		
3	N3	6.83	0	0		
4	N4	6.83	0	25		
5	N5	22.83	0	0		
6	N6	22.83	0	25		
7	N7	38.17	0	0		
8	N8	38.17	0	25		
9	N9	52	0	0		
10	N10	52	0	25		
11	N11	61	0	0		
12	N12	61	0	25		
13	N13	0	10.33	0		
14	N14	6.83	10.33	0		
15	N15	22.83	10.33	0		
16	N16	38.17	10.33	0		
17	N17	52	10.33	0		
18	N18	61	10.33	0		
19	N19	0	14.5	25		
20	N20	22.83	14.5	25		
21	N21	38.17	14.5	25		
22	N22	6.83	14.5	25		
23	N23	61	14.5	25		
24	N24	52	14.5	25		
25	N25	22.83	15.08	28.5		
26	N26	0	15.08	28.5		
27	N27	38.17	15.08	28.5		
28	N28	6.83	15.08	28.5		
29	N29	61	15.08	28.5		
30	N30	52	15.08	28.5		
31	N31	0	9.75	-3.5		
32	N32	6.83	9.75	-3.5		
33	N33	22.83	9.75	-3.5		
34	N34	38.17	9.75	-3.5		
35	N35	52	9.75	-3.5		
36	N36	61	9.75	-3.5		
37	N37	0	11.67	8.17		
38	N38	6.83	11.67	8.17		
39	N39	-1.83	9.75	-3.5		
40	N40	-1.83	15.08	28.5		
41	N41	62.83	15.08	28.5		
42	N42	62.83	9.75	-3.5		
43	N43	45.085	9.75	-3.5		
44	N44	45.085	15.08	28.5		
45	N45	30.5	9.75	-3.5		
46	N46	30.5	15.08	28.5		
47	N47	14.83	9.75	-3.5		
48	N48	14.83	15.08	28.5		
49	N49	61	12.415	12.5		
50	N50	0	12.3775	12.3775		
51	N51	0	14	8.17		
52	N52	6.83	14	8.17		
53	N53	0	14	0		
54	N54	6.83	14	0		
55	N55	3.415	14	0		
56	N56	3.415	14	8.17		
57	N57	0	14	4.085		
58	N58	6.83	14	4.085		

Nodes (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [deg F]	Detach From Diaphragm
59	N59	61.4575	15.08	28.5		
60	N60	62.83	13.7475	20.5		
61	N61	62.83	11.0825	4.5		
62	N62	-1.83	11.0825	4.5		
63	N63	-1.83	13.7475	20.5		
64	N64	45.085	12.415	12.5		
65	N65	30.5	12.415	12.5		
66	N66	14.83	12.415	12.5		
67	N67	0	-1	0		
68	N68	0	-1	25		
69	N69	52	-1	0		
70	N70	52	-1	25		
71	N71	61	-1	0		
72	N72	61	-1	25		

Boundary Conditions

	Node Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot [k-ft/rad]	Y Rot [k-ft/rad]
1	N7	Reaction	Reaction	Reaction		Reaction
2	N6	Reaction	Reaction	Reaction		Reaction
3	N3	Reaction	Reaction	Reaction		Reaction
4	N4	Reaction	Reaction	Reaction		Reaction
5	N5	Reaction	Reaction	Reaction		Reaction
6	N8	Reaction	Reaction	Reaction		Reaction
7	N67	Reaction	Reaction	Reaction		Reaction
8	N68	Reaction	Reaction	Reaction		Reaction
9	N69	Reaction	Reaction	Reaction		Reaction
10	N70	Reaction	Reaction	Reaction		Reaction
11	N71	Reaction	Reaction	Reaction		Reaction
12	N72	Reaction	Reaction	Reaction		Reaction

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [1e ⁻⁵ F ⁻¹]	Density [k/ft ³]	Yield [ksi]	Ry	Fu [ksi]	Rt
1	A992	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	0.3	0.65	0.49	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	0.3	0.65	0.527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	0.3	0.65	0.527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	0.3	0.65	0.49	35	1.6	60	1.2
7	A1085	29000	11154	0.3	0.65	0.49	50	1.25	65	1.15
8	A913 Gr.65	29000	11154	0.3	0.65	0.49	65	1.1	80	1.1

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design...	Area [in ²]	Iyy [in ⁴]	Izz [in ⁴]	J [in ⁴]
1	COLUMN	HSS4X4X4	Column	SquareT...	A500 Gr....	Typical	3.37	7.8	7.8	12.8
2	BEAM 1	HSS16X8X4	Beam	Tube	A500 Gr....	Typical	10.8	127	368	300
3	BEAM 2	HSS16X4X4	Beam	Tube	A500 Gr....	Typical	8.96	27.7	253	85.2
4	BRACE	HSS5X5X4	HBrace	Tube	A500 Gr....	Typical	4.3	16	16	25.8
5	DIAPHRAGM	L3X3X3	HBrace	Single A...	A36 Gr.36	Typical	1.09	0.948	0.948	0.014
6	BEAM 3	W12X14	Beam	Wide Fla...	A992	Typical	4.16	2.36	88.6	0.07

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Nodal	Point	Distributed	Area(Member)
1	D	None		-1				25	1
2	L	None						25	1
3	Wx1	None						33	2
4	Wx2	None						33	2

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Nodal	Point	Distributed	Area(Member)
5	Wx3	None						33	2
6	Wx4	None						33	2
7	Wz1	None						33	2
8	Wz2	None						33	2
9	Wz3	None						33	2
10	Wz4	None						33	2
11	BLC 1 Transient Area...	None						3	
12	BLC 2 Transient Area...	None						3	
13	BLC 3 Transient Area...	None						13	
14	BLC 4 Transient Area...	None						13	
15	BLC 5 Transient Area...	None						13	
16	BLC 6 Transient Area...	None						13	
17	BLC 7 Transient Area...	None						5	
18	BLC 8 Transient Area...	None						5	
19	BLC 9 Transient Area...	None						5	
20	BLC 10 Transient Are...	None						5	

Load Combinations

	Description	Solve	PDelta	SRSS	BLC	Factor	BLC	Factor	BLC	Factor
1	D+L	Yes	Y		1	1	2	1		
2	D+0.6WX1	Yes	Y		1	1	3	0.6		
3	D+0.6WX2	Yes	Y		1	1	4	0.6		
4	D+0.6WX3	Yes	Y		1	1	5	0.6		
5	D+0.6WX4	Yes	Y		1	1	6	0.6		
6	D+0.6WZ1	Yes	Y		1	1	7	0.6		
7	D+0.6WZ2	Yes	Y		1	1	8	0.6		
8	D+0.6WZ3	Yes	Y		1	1	9	0.6		
9	D+0.6WZ4	Yes	Y		1	1	10	0.6		
10	0.6D+0.6WX1	Yes	Y		1	0.6	3	0.6		
11	0.6D+0.6WX2	Yes	Y		1	0.6	4	0.6		
12	0.6D+0.6WX3	Yes	Y		1	0.6	5	0.6		
13	0.6D+0.6WX4	Yes	Y		1	0.6	6	0.6		
14	0.6D+0.6WZ1	Yes	Y		1	0.6	7	0.6		
15	0.6D+0.6WZ2	Yes	Y		1	0.6	8	0.6		
16	0.6D+0.6WZ3	Yes	Y		1	0.6	9	0.6		
17	0.6D+0.6WZ4	Yes	Y		1	0.6	10	0.6		
18	D+0.75L+0.75(0.6WX1)	Yes	Y		1	1	2	0.75	3	0.45
19	D+0.75L+0.75(0.6WX2)	Yes	Y		1	1	2	0.75	4	0.45
20	D+0.75L+0.75(0.6WX3)	Yes	Y		1	1	2	0.75	5	0.45
21	D+0.75L+0.75(0.6WX4)	Yes	Y		1	1	2	0.75	6	0.45
22	D+0.75L+0.75(0.6WZ1)	Yes	Y		1	1	2	0.75	7	0.45
23	D+0.75L+0.75(0.6WZ2)	Yes	Y		1	1	2	0.75	8	0.45
24	D+0.75L+0.75(0.6WZ3)	Yes	Y		1	1	2	0.75	9	0.45
25	D+0.75L+0.75(0.6WZ4)	Yes	Y		1	1	2	0.75	10	0.45

Node Reactions

	Node Label		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N7	max	0.0301	12	13.9058	1	0.01	16	0	25	0.0014	16	0	25
2		min	-0.0339	10	1.6261	12	-0.0428	23	0	1	-0.008	23	0	1
3	N6	max	0.0118	12	15.2505	1	0.0267	23	0	25	0.0007	9	0	25
4		min	-0.0114	10	1.4984	16	-0.0002	14	0	1	-0.0003	14	0	1
5	N3	max	0.0376	21	12.3548	1	0.0201	17	0	25	0.0208	21	0	25
6		min	-0.0256	10	1.5176	12	-0.0212	14	0	1	-0.0059	10	0	1
7	N4	max	0.0192	19	11.9962	1	0.0063	16	0	25	0.0139	19	0	25
8		min	-0.0093	10	1.2864	16	-0.0074	25	0	1	-0.0139	12	0	1
9	N5	max	0.0338	12	15.1508	1	0.0098	16	0	25	0.0031	5	0	25
10		min	-0.0332	10	1.6901	12	-0.053	23	0	1	-0.0021	11	0	1

Node Reactions (Continued)

Node Label			X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
11	N8	max	0.0103	12	14.0013	1	0.0203	23	0	25	0.001	16	0	25
12		min	-0.0121	10	1.4515	16	-0.0005	14	0	1	-0.0059	23	0	1
13	N67	max	0.0261	13	6.7251	25	2.7202	25	0	25	0.0595	5	0	25
14		min	-0.0296	10	-0.5214	14	-1.6014	14	0	1	-0.0643	2	0	1
15	N68	max	0.0125	12	6.2977	23	1.1653	16	0	25	0.0522	2	0	25
16		min	-0.0138	10	-0.2842	16	-2.4889	23	0	1	-0.0481	5	0	1
17	N69	max	3.3748	13	14.5295	21	0.0405	25	0	25	0.0435	14	0	25
18		min	-3.5473	3	-2.9361	10	-0.0223	14	0	1	-0.0893	25	0	1
19	N70	max	2.4889	5	14.6224	21	0.0059	16	0	25	0.0497	23	0	25
20		min	-2.4013	11	-2.6207	10	-0.0169	1	0	1	-0.0192	16	0	1
21	N71	max	0.0376	5	10.0373	19	2.7501	25	0	25	0.0697	5	0	25
22		min	-0.0191	10	-2.9611	12	-1.4095	14	0	1	-0.042	10	0	1
23	N72	max	0.0169	13	9.5893	19	0.9973	16	0	25	0.0332	10	0	25
24		min	-0.0049	10	-2.6842	12	-2.3933	23	0	1	-0.0485	5	0	1
25	Totals:	max	6.0291	4	130.5658	1	5.8426	9						
26		min	-6.0291	11	18.5762	10	-5.9634	14						

Node Displacements

Node L...			X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [r...	LC	Y Rotation [r...	LC	Z Rotation [r...	LC
1	N1	max	0.0173	3	0	14	0.0482	14	3.5048e-03	14	6.4863e-05	2	1.2838e-03	13
2		min	-0.0155	13	-0.001	25	-0.0788	9	-5.6749e-03	9	-6.0014e-05	5	-1.4294e-03	3
3	N2	max	0.014	3	0	16	0.0973	23	7.2803e-03	23	4.8467e-05	5	9.6011e-04	13
4		min	-0.0116	13	-0.001	23	-0.0465	16	-3.503e-03	16	-5.2622e-05	2	-1.1589e-03	3
5	N3	max	0	10	0	12	0	14	9.0748e-04	14	0	10	1.773e-03	5
6		min	0	21	0	1	0	17	-9.4484e-04	9	0	21	-1.5235e-03	10
7	N4	max	0	10	0	16	0	25	7.2996e-04	7	0	12	1.5018e-03	5
8		min	0	19	0	1	0	16	-5.9432e-04	16	0	19	-1.1387e-03	10
9	N5	max	0	10	0	12	0	23	1.512e-03	7	0	11	1.583e-03	12
10		min	0	12	0	1	0	16	-7.8377e-04	16	0	5	-1.7614e-03	3
11	N6	max	0	10	0	16	0	14	4.9647e-04	14	0	14	1.1834e-03	12
12		min	0	12	0	1	0	23	-1.1198e-03	9	0	9	-1.3069e-03	3
13	N7	max	0	10	0	12	0	23	1.3597e-03	7	0	23	1.5125e-03	12
14		min	0	12	0	1	0	16	-7.6259e-04	16	0	16	-1.8656e-03	3
15	N8	max	0	10	0	16	0	14	4.7895e-04	14	0	23	1.127e-03	12
16		min	0	12	0	1	0	23	-9.9639e-04	9	0	16	-1.4318e-03	3
17	N9	max	0.1122	3	0.0005	10	0.0084	14	6.9196e-04	14	9.0025e-05	25	7.4984e-03	12
18		min	-0.1033	12	-0.0022	21	-0.0106	25	-8.7027e-04	9	-4.3876e-05	14	-8.1905e-03	3
19	N10	max	0.104	3	0.0004	10	0.0092	23	7.5759e-04	23	1.9333e-05	16	7.7509e-03	5
20		min	-0.1033	5	-0.0022	21	-0.0058	16	-4.7807e-04	16	-5.013e-05	23	-7.877e-03	3
21	N11	max	0.0156	3	0.0005	12	0.0426	14	3.0985e-03	14	4.2311e-05	10	1.2505e-03	5
22		min	-0.0152	5	-0.0015	19	-0.0792	25	-5.6859e-03	25	-7.0328e-05	5	-1.287e-03	3
23	N12	max	0.0114	3	0.0004	12	0.0934	23	6.9819e-03	23	4.8925e-05	5	9.5473e-04	5
24		min	-0.0115	5	-0.0015	19	-0.0401	16	-3.0167e-03	16	-3.3525e-05	10	-9.4981e-04	3
25	N13	max	0.1531	3	-0.0015	10	0.0643	7	4.7267e-04	19	1.0406e-04	10	2.5328e-04	12
26		min	-0.1351	12	-0.0065	21	-0.0613	9	-4.9293e-05	14	-9.7118e-05	5	-3.2427e-04	19
27	N14	max	0.1524	3	-0.0023	12	0.0749	7	4.0564e-04	21	6.111e-05	10	1.0217e-04	12
28		min	-0.1348	12	-0.0195	1	-0.0697	9	-6.5956e-05	14	-2.1654e-04	21	-1.0333e-03	19
29	N15	max	0.1496	3	-0.0026	12	0.082	7	-2.9365e-04	16	2.1984e-05	11	2.9621e-05	12
30		min	-0.1323	12	-0.0239	1	-0.0774	9	-1.3297e-03	23	-3.2049e-05	5	-9.078e-05	3
31	N16	max	0.1475	3	-0.0025	12	0.078	7	-2.6582e-04	12	8.3655e-05	23	4.2628e-04	21
32		min	-0.1302	12	-0.0219	1	-0.075	9	-1.0226e-03	23	-1.4845e-05	16	-3.7506e-05	10
33	N17	max	0.145	3	-0.0018	10	0.0663	7	9.4414e-04	1	3.6187e-04	3	9.1536e-04	19
34		min	-0.1263	12	-0.0202	1	-0.0644	9	-1.2111e-04	14	-8.6276e-06	16	-1.6935e-04	12
35	N18	max	0.1431	3	0.0054	12	0.0534	7	5.5117e-04	25	3.0487e-05	14	1.2491e-04	12
36		min	-0.1252	12	-0.0141	19	-0.0547	9	-1.2608e-04	14	-1.0634e-04	19	-5.0532e-04	19
37	N19	max	0.1646	3	-0.0018	16	0.0642	7	4.3787e-05	12	5.9975e-05	4	1.3715e-04	12
38		min	-0.1403	12	-0.0086	1	-0.0613	9	-5.2047e-04	23	-2.2959e-04	11	-1.7684e-04	19
39	N20	max	0.1558	3	-0.0032	16	0.0828	7	1.397e-03	1	4.959e-06	14	1.1501e-05	12

Node Displacements (Continued)

Node L...			X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [r...	LC	Y Rotation [r...	LC	Z Rotation [r...	LC
40		min	-0.1381	12	-0.0337	1	-0.0774	16	2.1993e-04	16	-1.0565e-05	9	-7.0372e-05	19
41	N21	max	0.1541	3	-0.0031	16	0.0787	7	1.0837e-03	1	8.6615e-05	23	4.2062e-04	21
42		min	-0.1364	12	-0.031	1	-0.0746	8	1.9927e-04	16	-1.5051e-05	16	-7.1871e-06	10
43	N22	max	0.158	3	-0.0027	16	0.0742	7	7.7283e-05	10	2.0342e-04	12	-5.9604e-05	12
44		min	-0.143	12	-0.0265	1	-0.0692	8	-4.1096e-04	25	-2.0294e-04	19	-1.0579e-03	19
45	N23	max	0.1521	3	0.007	12	0.0535	7	9.6212e-05	10	3.4371e-05	12	1.0128e-04	12
46		min	-0.1334	12	-0.0185	19	-0.0545	9	-5.1555e-04	1	-8.0355e-05	25	-4.7384e-04	19
47	N24	max	0.1534	3	-0.0029	10	0.0667	7	1.1818e-04	10	1.5385e-04	23	9.4909e-04	19
48		min	-0.134	12	-0.0276	1	-0.0641	9	-9.165e-04	25	-2.0049e-04	10	-8.6987e-05	12
49	N25	max	0.156	3	-0.0152	16	0.0932	7	2.2252e-03	1	2.6906e-07	10	-1.7075e-05	10
50		min	-0.1382	12	-0.1209	1	-0.0755	16	2.9898e-04	16	-9.4509e-06	5	-5.0012e-05	21
51	N26	max	0.1573	3	0.0099	23	0.0631	6	9.503e-05	12	6.9384e-05	8	8.3513e-05	12
52		min	-0.1391	12	-0.006	12	-0.0628	9	-4.0887e-04	23	-1.4916e-04	11	-1.1625e-04	19
53	N27	max	0.155	3	-0.0141	16	0.0873	7	1.8304e-03	1	9.2955e-05	23	4.1535e-04	21
54		min	-0.1372	12	-0.1022	1	-0.0728	16	2.75e-04	16	-2.7326e-05	16	2.8592e-05	10
55	N28	max	0.1569	3	-0.0048	16	0.075	7	2.3845e-04	2	4.8584e-05	12	-8.9565e-05	16
56		min	-0.1389	12	-0.0296	19	-0.0692	17	5.2853e-05	17	-2.095e-04	23	-1.1207e-03	1
57	N29	max	0.154	3	0.0131	21	0.0535	6	1.4103e-04	10	3.6702e-05	14	7.9147e-05	12
58		min	-0.136	12	-0.0195	2	-0.0559	9	-3.8264e-04	1	-1.2219e-04	9	-4.5719e-04	19
59	N30	max	0.154	3	-0.0012	17	0.0659	6	1.9625e-04	10	1.9435e-04	19	8.5341e-04	1
60		min	-0.1364	12	-0.0147	2	-0.0663	9	-4.0365e-04	25	-4.1241e-05	12	8.1075e-05	16
61	N31	max	0.1497	3	0.0112	19	0.064	6	3.8372e-04	19	4.162e-05	8	1.305e-04	4
62		min	-0.1324	12	-0.0059	12	-0.0631	9	-9.8353e-05	14	-6.0908e-05	7	-1.1353e-04	19
63	N32	max	0.1494	3	-0.0041	12	0.076	7	-5.9085e-05	12	2.8891e-05	16	-6.7158e-05	12
64		min	-0.1321	12	-0.0243	23	-0.0692	17	-2.5331e-04	7	-2.0008e-04	23	-1.0374e-03	1
65	N33	max	0.1482	3	-0.0183	12	0.0925	7	-3.9005e-04	12	2.1391e-05	11	-1.5274e-05	10
66		min	-0.131	12	-0.1078	1	-0.0744	16	-2.1465e-03	1	-3.1814e-05	5	-4.898e-05	21
67	N34	max	0.1467	3	-0.0169	12	0.0868	7	-3.5791e-04	12	9.3696e-05	23	4.1098e-04	21
68		min	-0.1295	12	-0.0901	1	-0.0718	16	-1.757e-03	1	-2.231e-05	16	1.6248e-05	10
69	N35	max	0.1454	3	0.0026	21	0.0663	6	4.1174e-04	21	1.6071e-04	23	8.1883e-04	1
70		min	-0.1284	12	-0.0129	6	-0.0663	9	-2.1015e-04	14	-3.159e-05	16	6.35e-05	12
71	N36	max	0.1451	3	0.0146	21	0.0542	14	4.2229e-04	25	7.3135e-05	14	6.085e-05	12
72		min	-0.1278	12	-0.0144	2	-0.0564	9	-1.8655e-04	14	-1.0904e-04	19	-4.8696e-04	19
73	N37	max	0.1647	3	-0.005	12	0.0684	7	2.665e-04	23	1.3267e-05	14	2.8001e-04	12
74		min	-0.1497	12	-0.0516	1	-0.059	16	1.3345e-05	16	-4.4335e-05	25	-4.2467e-04	19
75	N38	max	0.1642	3	-0.0069	10	0.0843	7	9.1844e-04	1	5.1523e-05	14	1.7466e-04	12
76		min	-0.15	12	-0.1228	1	-0.068	16	5.5476e-05	10	-2.9769e-04	5	-9.8061e-04	19
77	N39	max	0.1497	3	0.0125	19	0.0636	6	3.8372e-04	19	3.4023e-05	2	1.619e-04	4
78		min	-0.1324	12	-0.009	12	-0.0626	9	-9.8354e-05	14	-2.1595e-05	15	-7.6044e-05	11
79	N40	max	0.1573	3	0.0112	19	0.0632	6	9.5028e-05	12	4.9194e-05	8	1.1225e-04	4
80		min	-0.1391	12	-0.0082	4	-0.0619	9	-4.0887e-04	23	-7.0453e-05	11	-6.1788e-05	19
81	N41	max	0.154	3	0.0097	13	0.0534	6	1.4103e-04	10	2.4804e-05	14	6.2732e-05	12
82		min	-0.136	12	-0.0266	2	-0.0538	9	-3.8264e-04	1	-1.0676e-04	25	-5.1285e-04	19
83	N42	max	0.1451	3	0.0078	13	0.0538	6	4.2229e-04	25	3.9816e-05	14	4.655e-05	12
84		min	-0.1277	12	-0.0213	2	-0.0544	9	-1.8655e-04	14	-1.0275e-04	25	-5.4237e-04	19
85	N43	max	0.146	3	-0.0145	12	0.0812	7	-2.1663e-04	12	1.4646e-04	23	5.2637e-04	1
86		min	-0.1289	12	-0.0833	1	-0.0674	16	-7.1915e-04	23	-6.6719e-05	16	5.6698e-05	10
87	N44	max	0.1545	3	-0.0133	16	0.0815	7	7.3577e-04	19	1.4839e-04	23	5.4414e-04	1
88		min	-0.1367	12	-0.0942	1	-0.0684	16	1.6284e-04	16	-6.8379e-05	16	5.6749e-05	16
89	N45	max	0.1475	3	-0.0243	16	0.097	7	-3.7396e-04	12	2.4587e-05	7	6.227e-05	19
90		min	-0.1303	12	-0.1532	1	-0.0731	16	-1.9517e-03	1	-1.3599e-05	16	5.0553e-07	12
91	N46	max	0.1555	3	-0.0203	16	0.0975	7	2.0277e-03	1	2.8508e-05	7	6.6932e-05	19
92		min	-0.1377	12	-0.1663	1	-0.0743	16	2.8698e-04	16	-1.8154e-05	12	2.7122e-06	12
93	N47	max	0.149	3	-0.0179	12	0.0941	7	-2.2456e-04	12	3.8278e-05	16	-4.7672e-05	10
94		min	-0.1317	12	-0.1407	1	-0.0716	16	-1.1921e-03	23	-9.5306e-05	23	-3.9667e-04	1
95	N48	max	0.1565	3	-0.0167	16	0.0943	7	1.2058e-03	1	4.1309e-05	16	-5.4588e-05	16
96		min	-0.1387	12	-0.1524	1	-0.0727	16	1.8079e-04	16	-1.0614e-04	23	-4.2699e-04	1
97	N49	max	0.1482	3	-0.0016	12	0.058	7	3.1379e-05	7	3.121e-06	14	1.4475e-04	12

Node Displacements (Continued)

Node L...			X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [r...	LC	Y Rotation [r...	LC	Z Rotation [r...	LC
98		min	-0.1386	12	-0.0625	1	-0.0514	16	-1.405e-05	16	-5.9708e-05	25	-5.0499e-04	19
99	N50	max	0.1675	3	-0.0056	12	0.0689	7	3.7436e-05	23	9.5568e-05	12	2.4277e-04	12
100		min	-0.1485	12	-0.0568	1	-0.0588	16	-2.3327e-05	16	-4.7436e-05	7	-3.8865e-04	19
101	N51	max	0.1859	3	-0.0051	12	0.0864	7	8.7734e-04	23	1.3267e-05	14	4.8318e-04	12
102		min	-0.1615	12	-0.052	1	-0.0683	16	-4.8647e-04	16	-4.4335e-05	25	-9.534e-04	19
103	N52	max	0.186	3	-0.0069	10	0.0988	7	6.14e-04	23	5.1523e-05	14	5.1627e-04	12
104		min	-0.1615	12	-0.1231	1	-0.0699	16	-1.2909e-04	16	-2.9769e-04	5	-7.7547e-04	3
105	N53	max	0.1997	3	-0.0016	10	0.0866	7	6.7922e-04	23	1.0406e-04	10	8.018e-04	12
106		min	-0.1626	12	-0.007	21	-0.0683	16	-2.9332e-04	16	-9.7118e-05	5	-1.5049e-03	19
107	N54	max	0.1997	3	-0.0024	12	0.0987	7	9.9772e-04	23	6.111e-05	10	8.8522e-04	12
108		min	-0.1626	12	-0.02	1	-0.0699	16	-9.6663e-06	16	-2.1654e-04	21	-1.2012e-03	3
109	N55	max	0.1997	3	-0.0029	10	0.093	7	8.4033e-04	23	1.9401e-05	16	-8.632e-07	12
110		min	-0.1627	12	-0.0188	1	-0.0693	16	-1.3974e-04	16	-2.1026e-04	23	-1.5963e-04	1
111	N56	max	0.186	3	-0.0072	14	0.0929	7	7.3574e-04	23	1.9861e-05	16	5.8543e-06	10
112		min	-0.1615	12	-0.0929	1	-0.0694	16	-2.9125e-04	16	-2.1321e-04	23	-8.6817e-04	1
113	N57	max	0.1939	3	-0.0043	14	0.0866	7	4.596e-04	1	1.3264e-05	16	5.8635e-04	12
114		min	-0.162	12	-0.035	1	-0.0684	16	2.796e-05	12	-2.1533e-04	19	-1.1748e-03	19
115	N58	max	0.1927	3	-0.0056	10	0.0987	7	1.052e-03	1	3.0599e-05	12	6.4319e-04	12
116		min	-0.1631	12	-0.0771	1	-0.0699	16	4.1931e-05	10	-2.0104e-04	23	-9.2747e-04	3
117	N59	max	0.154	3	0.0116	21	0.0535	6	1.4103e-04	10	2.9207e-05	14	7.1925e-05	12
118		min	-0.136	12	-0.0212	2	-0.0554	9	-3.8264e-04	1	-1.0932e-04	9	-4.8162e-04	19
119	N60	max	0.1502	3	-0.0613	12	0.0843	7	-5.2113e-04	10	9.0176e-06	14	6.0703e-05	12
120		min	-0.1338	12	-0.2559	19	-0.04	16	-1.9904e-03	1	-8.4706e-05	25	-5.2334e-04	19
121	N61	max	0.1442	3	-0.0624	12	0.0845	7	2.0063e-03	1	1.7593e-05	14	5.1214e-05	12
122		min	-0.1277	12	-0.2532	19	-0.0402	16	5.2382e-04	14	-8.5858e-05	25	-5.3572e-04	19
123	N62	max	0.1563	3	-0.0673	10	0.0946	7	1.9971e-03	1	7.6024e-05	2	1.5434e-04	4
124		min	-0.1386	12	-0.2399	1	-0.0486	16	5.2506e-04	14	-3.4632e-05	13	-8.0031e-05	11
125	N63	max	0.1666	3	-0.069	10	0.0943	7	-5.228e-04	16	4.0003e-05	4	1.2123e-04	4
126		min	-0.1418	12	-0.2397	1	-0.0482	16	-1.9986e-03	1	-5.3967e-05	11	-5.9983e-05	19
127	N64	max	0.15	3	-0.1281	16	0.245	23	2.8566e-05	21	1.0583e-04	23	5.3477e-04	1
128		min	-0.1315	12	-1.2198	1	-0.0489	16	-8.9819e-06	16	-9.3924e-06	16	5.0466e-05	16
129	N65	max	0.1516	3	-0.1392	16	0.279	23	3.4094e-05	1	2.8165e-05	3	6.3694e-05	19
130		min	-0.1341	12	-1.3887	1	-0.0541	16	-1.0554e-05	16	-1.8941e-05	12	2.3788e-06	12
131	N66	max	0.1605	3	-0.1387	16	0.2839	23	3.1621e-05	21	8.2169e-06	10	-4.9637e-05	16
132		min	-0.1434	12	-1.4242	1	-0.052	16	-1.032e-05	16	-7.9002e-05	21	-4.1223e-04	1
133	N67	max	0	10	0	14	0	14	4.1406e-03	14	0	2	1.2965e-03	13
134		min	0	13	0	25	0	25	-6.7784e-03	9	0	5	-1.4428e-03	3
135	N68	max	0	10	0	16	0	23	8.303e-03	23	0	5	9.6638e-04	13
136		min	0	12	0	23	0	16	-3.9659e-03	16	0	2	-1.1657e-03	3
137	N69	max	0	3	0	10	0	14	7.0158e-04	14	0	25	8.8744e-03	13
138		min	0	13	0	21	0	25	-8.913e-04	25	0	14	-9.6209e-03	3
139	N70	max	0	11	0	10	0	1	7.6953e-04	23	0	16	8.8078e-03	5
140		min	0	5	0	21	0	16	-4.8085e-04	16	0	23	-8.8497e-03	3
141	N71	max	0	10	0	12	0	14	3.6589e-03	14	0	10	1.2658e-03	5
142		min	0	5	0	19	0	25	-6.8133e-03	25	0	5	-1.298e-03	3
143	N72	max	0	10	0	12	0	23	7.9709e-03	23	0	5	9.6167e-04	5
144		min	0	13	0	19	0	16	-3.4136e-03	16	0	10	-9.5415e-04	3

Asd360

Member	Shape	Code...	Loc [ft]	LC	Shear...	Loc [ft]	Dir	LC	Pnc/o...	Pnt/o...	Mnyy/...	Mnzz/...	Cb	Eqn
1	M1	HSS4...	0.3066	0.9442	25	0.1103	0.9442	z	25	54.2441	92.8263	10.7655	1.0911	H1-1b
2	M2	HSS4...	0.2404	10.33	1	0.0043	10.33	y	21	59.391	92.8263	10.7655	1.6667	H1-1a
3	M3	HSS4...	0.3088	10.33	19	0.0026	10.33	z	23	59.391	92.8263	10.7655	1.6667	H1-1a
4	M4	HSS4...	0.2902	10.33	19	0.003	10.33	z	23	59.391	92.8263	10.7655	1.6667	H1-1a
5	M5	HSS4...	0.5014	0.9442	5	0.147	0.9442	y	3	54.2441	92.8263	10.7655	1.9867	H1-1a
6	M6	HSS4...	0.3223	0.9442	25	0.1143	0.9442	z	25	54.2441	92.8263	10.7655	1.9429	H1-1b
7	M7	HSS4...	0.3241	0.9688	23	0.1013	0.9688	z	23	33.8883	92.8263	10.7655	2.2011	H1-1b
8	M8	HSS4...	0.3358	14.5	1	0.0021	14.5	y	12	38.506	92.8263	10.7655	1.6667	H1-1a

Asd360 (Continued)

	Member	Shape	Code...	Loc [ft]	LC	Shear...	Loc [ft]	Dir	LC	Pnc/o...	Pnt/o...	Mnyy/...	Mnzz/...	Cb	Eqn
9	M9	HSS4...	0.4222	14.5	1	0.0012	14.5	z	25	38.506	92.8263	10.7655	10.7655	1.6667	H1-1a
10	M10	HSS4...	0.3926	14.5	1	0.0013	14.5	y	19	38.506	92.8263	10.7655	10.7655	1.6667	H1-1a
11	M11	HSS4...	0.5973	0.9688	21	0.1072	0.9688	y	5	33.8883	92.8263	10.7655	10.7655	2.0338	H1-1a
12	M12	HSS4...	0.4181	0.9688	23	0.099	0.9688	z	23	33.8883	92.8263	10.7655	10.7655	1.9511	H1-1a
13	M13	HSS1...	0.1255	16.2204	19	0.0124	0	y	1	27.4735	246.8...	22.6623	94.3378	1.1332	H1-1b
14	M14	HSS1...	0.1161	16.2204	1	0.0124	0	y	1	27.4735	246.8...	22.6623	94.3378	1.1336	H1-1b
15	M15	HSS1...	0.0691	3.5477	5	0.0228	3.5477	y	21	223.0...	297.485	54.0255	118.5...	1.8188	H1-1b
16	M16	HSS1...	0.0633	0	5	0.0217	0	y	1	149.5...	297.485	54.0255	118.5...	1.5703	H1-1b
17	M17	HSS1...	0.0651	0	5	0.0213	0	y	21	223.0...	297.485	54.0255	118.5...	1.8131	H1-1b
18	M18	HSS1...	0.2051	3.5477	19	0.0668	3.5477	y	21	223.0...	297.485	54.0255	118.5...	1.677	H1-1b
19	M19	HSS1...	0.2149	0	19	0.05	0	y	1	149.5...	297.485	54.0255	118.5...	1.5627	H1-1b
20	M20	HSS1...	0.206	0	19	0.0641	0	y	21	223.0...	297.485	54.0255	118.5...	1.676	H1-1b
21	M21	HSS1...	0.2269	3.5477	1	0.0787	3.5477	y	19	223.0...	297.485	54.0255	118.5...	1.7513	H1-1b
22	M22	HSS1...	0.2241	25.3454	1	0.046	25.3454	y	1	149.5...	297.485	54.0255	118.5...	3	H1-1b
23	M23	HSS1...	0.228	0	1	0.0784	0	y	1	223.0...	297.485	54.0255	118.5...	1.7519	H1-1b
24	M24	HSS1...	0.2515	3.5477	1	0.0851	3.5477	y	19	223.0...	297.485	54.0255	118.5...	1.7499	H1-1b
25	M25	HSS1...	0.2481	25.3454	1	0.0488	25.3454	y	1	149.5...	297.485	54.0255	118.5...	3	H1-1b
26	M26	HSS1...	0.2527	0	1	0.0848	0	y	1	223.0...	297.485	54.0255	118.5...	1.7515	H1-1b
27	M27	HSS1...	0.1773	3.5477	21	0.0741	3.5477	y	21	223.0...	297.485	54.0255	118.5...	1.7091	H1-1b
28	M28	HSS1...	0.1757	0	23	0.0452	0	y	1	215.2...	297.485	54.0255	118.5...	2.3289	H1-1b
29	M29	HSS1...	0.1906	17.0663	21	0.0512	17.0663	y	1	186.8...	297.485	54.0255	118.5...	1.8855	H1-1b
30	M30	HSS1...	0.1892	0	21	0.065	0	y	21	223.0...	297.485	54.0255	118.5...	1.7103	H1-1b
31	M31	HSS1...	0.0459	3.5477	5	0.0278	3.5477	y	19	223.0...	297.485	54.0255	118.5...	1.7336	H1-1b
32	M32	HSS1...	0.0552	8.2792	25	0.015	0	y	19	215.2...	297.485	54.0255	118.5...	1.9522	H1-1b
33	M33	HSS1...	0.0564	0	21	0.0212	17.0663	y	19	186.8...	297.485	54.0255	118.5...	1.5019	H1-1b
34	M34	HSS1...	0.0343	0	19	0.0175	0	y	19	223.0...	297.485	54.0255	118.5...	1.6911	H1-1b
35	M35	HSS1...	0.0357	1.83	23	0.0129	1.83	y	1	172.906	246.8...	22.6623	94.3378	1.6813	H1-1b
36	M36	HSS1...	0.1202	6.83	23	0.0298	6.83	y	19	157.0...	246.8...	22.6623	94.3378	1.529	H1-1b
37	M37	HSS1...	0.198	8	1	0.0589	16	y	1	98.3892	246.8...	22.6623	94.3378	1.6874	H1-1b
38	M38	HSS1...	0.1726	0	23	0.0397	0	y	1	103.1...	246.8...	22.6623	94.3378	1.7808	H1-1b
39	M39	HSS1...	0.1444	6.915	19	0.0607	0	y	1	113.8...	246.8...	22.6623	94.3378	1.7399	H1-1b
40	M40	HSS1...	0.1145	0	23	0.0163	9	z	6	145.5...	246.8...	22.6623	94.3378	1.4748	H1-1b
41	M41	HSS1...	0.0391	0	21	0.0129	0	y	1	172.906	246.8...	22.6623	94.3378	1.682	H1-1b
42	M42	HSS1...	0.0409	1.83	19	0.0129	1.83	y	1	172.906	246.8...	22.6623	94.3378	1.676	H1-1b
43	M43	HSS1...	0.1207	6.83	19	0.0279	6.83	y	19	157.0...	246.8...	22.6623	94.3378	1.4909	H1-1b
44	M44	HSS1...	0.2067	8	25	0.0601	16	y	1	98.3892	246.8...	22.6623	94.3378	1.6768	H1-1b
45	M45	HSS1...	0.1773	7.67	25	0.0398	0	y	1	103.1...	246.8...	22.6623	94.3378	1.7759	H1-1b
46	M46	HSS1...	0.1482	6.915	25	0.0614	0	y	1	113.8...	246.8...	22.6623	94.3378	1.7545	H1-1b
47	M47	HSS1...	0.1113	0	19	0.0172	9	z	17	145.5...	246.8...	22.6623	94.3378	1.4533	H1-1b
48	M48	HSS1...	0.0331	0	25	0.0131	0	y	1	172.906	246.8...	22.6623	94.3378	1.6841	H1-1b
49	M49	HSS1...	0.4337	16.2204	1	0.0569	32.4409	y	1	115.1...	297.485	54.0255	118.5...	1.139	H1-1b
50	M50	HSS1...	0.4711	16.2204	1	0.0617	0	y	1	115.1...	297.485	54.0255	118.5...	1.1388	H1-1b
51	M51	HSS1...	0.4907	16.2204	1	0.0643	32.4409	y	1	115.1...	297.485	54.0255	118.5...	1.1392	H1-1b
52	M52	HSS1...	0.0248	9	3	0.0098	9	y	21	145.5...	246.8...	22.6623	94.3378	1.1364	H1-1b*
53	M53	HSS1...	0.017	9	11	0.0101	9	y	25	145.5...	246.8...	22.6623	94.3378	1.1364	H1-1b*
54	M54	HSS5...	0.0967	0	5	0.0073	17.066	y	23	55.4916	118.4...	17.4681	17.4681	1.1364	H1-1b*
55	M55	HSS5...	0.0826	0	5	0.0101	13.7007	y	25	72.6589	118.4...	17.4681	17.4681	1.1364	H1-1b*
56	M56	HSS5...	0.0724	0	23	0.008	17.6177	y	5	52.7954	118.4...	17.4681	17.4681	1.1364	H1-1b*
57	M57	HSS5...	0.0859	17.6177	25	0.01	17.6177	y	5	52.7954	118.4...	17.4681	17.4681	1.1364	H1-1b*
58	M58	HSS5...	0.0844	0	25	0.0089	17.5044	y	2	53.3449	118.4...	17.4681	17.4681	1.1364	H1-1b*
59	M59	HSS5...	0.0751	17.6785	23	0.0077	17.6785	y	5	52.5011	118.4...	17.4681	17.4681	1.1364	H1-1b*
60	M60	W12X...	0.036	3.415	7	0.0027	6.83	z	7	52.4017	124.5...	4.7405	33.085	1.1364	H1-1b
61	M61	W12X...	0.0269	3.415	9	0.0024	6.83	z	9	52.4017	124.5...	4.7405	33.085	1.1364	H1-1b
62	M62	W12X...	0.0478	3.415	25	0.0103	0	y	25	73.9963	124.5...	4.7405	38.8195	1	H1-1b
63	M63	W12X...	0.0498	3.415	23	0.0111	0	y	1	73.9963	124.5...	4.7405	38.8195	1	H1-1b
64	M64	HSS4...	0.0919	0	21	0.007	3.67	y	5	87.7386	92.8263	10.7655	10.7655	1.6668	H1-1b
65	M65	HSS4...	0.0865	0	19	0.0087	3.67	y	19	87.7386	92.8263	10.7655	10.7655	1.6673	H1-1b
66	M66	HSS4...	0.0932	0	23	0.0118	2.33	z	7	90.7411	92.8263	10.7655	10.7655	1.6653	H1-1b

Asd360 (Continued)

	Member	Shape	Code...	Loc [ft]	LC	Shear...	Loc [ft]	Dir	LC	Pnc/o...	Pnt/o...	Mnyy/...	Mnzz/...	Cb	Eqn
67	M67	HSS4...	0.1161	0	21	0.0128	2.33	y	21	90.7411	92.8263	10.7655	10.7655	1.6667	H1-1b
68	M68	W12X...	0.0389	4.085	3	0.0103	0	y	1	65.6536	124.5...	4.7405	43.4132	1	H1-1b
69	M69	W12X...	0.0392	4.085	5	0.0101	0	y	1	65.6536	124.5...	4.7405	43.4132	1	H1-1b
70	M70	W12X...	0.0355	4.085	1	0.0187	8.17	y	1	65.6536	124.5...	4.7405	43.4132	1	H1-1b
71	M71	L3X3X3	0.0366	2.6622	3	0.0028	5.3244	y	3	12.5665	23.497	0.8783	1.5563	1.1364	H2-1
72	M72	L3X3X3	0.036	2.6622	2	0.0026	5.3244	y	5	12.5665	23.497	0.8783	1.5563	1.1364	H2-1
73	M73	L3X3X3	0.0387	2.6622	5	0.0025	5.3244	y	3	12.5665	23.497	0.8783	1.5563	1.1364	H2-1
74	M74	L3X3X3	0.034	2.6622	4	0.0025	5.3244	y	5	12.5665	23.497	0.8783	1.5563	1.1364	H2-1
75	M75	L3X3X3	0.184	4.837	8	0.0027	9.674	y	5	4.1747	23.497	0.8783	1.237	1.1364	H2-1
76	M76	L3X3X3	0.8372	7.7717	7	0.0051	15.5434	y	19	1.6171	23.497	0.8783	0.9995	1.1364	H2-1
77	M77	L3X3X3	0.8548	7.7717	9	0.0051	15.5434	y	19	1.6171	23.497	0.8783	0.9995	1.1364	H2-1
78	M78	L3X3X3	0.1981	5.0505	6	0.0028	10.101	y	21	3.8292	23.497	0.8783	1.2099	1.1364	H2-1
79	M79	L3X3X3	0.0331	1.996	5	0.0011	3.9919	y	2	15.8992	23.497	0.8783	1.6794	1.1364	H2-1
80	M80	L3X3X3	0.0276	2.4579	4	0.0024	4.9158	y	19	13.7826	23.497	0.8783	1.5922	1.1364	H2-1
81	M81	L3X3X3	0.0568	4.1571	4	0.0028	8.3141	y	21	5.6521	23.497	0.8783	1.3272	1.1364	H2-1
82	M82	L3X3X3	0.0687	4.1571	3	0.0029	8.3141	y	21	5.6521	23.497	0.8783	1.3272	1.1364	H2-1
83	M83	L3X3X3	0.037	2.4579	5	0.0024	4.9158	y	19	13.7826	23.497	0.8783	1.5922	1.1364	H2-1
84	M84	L3X3X3	0.0474	1.996	5	0.0011	3.9919	y	2	15.8992	23.497	0.8783	1.6794	1.1364	H2-1
85	M85	L3X3X3	0.105	3.886	7	0.0043	7.772	y	19	6.4681	23.497	0.8783	1.3652	1.1364	H2-1
86	M86	L3X3X3	0.0695	3.886	9	0.0023	7.772	y	21	6.4681	23.497	0.8783	1.3652	1.1364	H2-1
87	M87	L3X3X3	0.0695	4.2254	7	0.0035	8.4508	y	1	5.4708	23.497	0.8783	1.3178	1.1364	H2-1
88	M88	L3X3X3	0.1063	4.2254	3	0.003	8.4508	y	1	5.4708	23.497	0.8783	1.3178	1.1364	H2-1
89	M89	L3X3X3	0.0873	4.3757	9	0.0023	8.7514	y	2	5.1014	23.497	0.8783	1.2974	1.1364	H2-1
90	M90	L3X3X3	0.2025	4.3757	2	0.0043	8.7514	y	1	5.1014	23.497	0.8783	1.2974	1.1364	H2-1
91	M91	L3X3X3	0.1788	3.8482	5	0.0026	7.6964	y	19	6.5957	23.497	0.8783	1.3706	1.1364	H2-1
92	M92	L3X3X3	0.0255	1.996	3	0.0015	3.9919	y	19	15.8992	23.497	0.8783	1.6794	1.1364	H2-1
93	M93	L3X3X3	0.1068	3.886	9	0.0043	7.772	y	1	6.4681	23.497	0.8783	1.3652	1.1364	H2-1
94	M94	L3X3X3	0.0664	3.886	6	0.0023	7.772	y	21	6.4681	23.497	0.8783	1.3652	1.1364	H2-1
95	M95	L3X3X3	0.0721	4.2254	3	0.0035	8.4508	y	1	5.4708	23.497	0.8783	1.3178	1.1364	H2-1
96	M96	L3X3X3	0.0851	4.2254	3	0.003	8.4508	y	1	5.4708	23.497	0.8783	1.3178	1.1364	H2-1
97	M97	L3X3X3	0.0784	4.3757	7	0.0023	8.7514	y	6	5.1014	23.497	0.8783	1.2974	1.1364	H2-1
98	M98	L3X3X3	0.103	4.3757	2	0.0044	8.7514	y	1	5.1014	23.497	0.8783	1.2974	1.1364	H2-1
99	M99	L3X3X3	0.1387	3.8482	6	0.0027	7.6964	y	19	6.5957	23.497	0.8783	1.3706	1.1364	H2-1
100	M100	L3X3X3	0.056	1.996	2	0.0012	3.9919	y	3	15.8992	23.497	0.8783	1.6794	1.1364	H2-1
101	M101	L3X3X3	0.0349	2.4579	2	0.0024	4.9158	y	21	13.7826	23.497	0.8783	1.5922	1.1364	H2-1
102	M102	L3X3X3	0.1214	4.0951	5	0.0031	8.1903	y	19	5.8243	23.497	0.8783	1.3358	1.1364	H2-1
103	M103	L3X3X3	0.1292	4.219	5	0.0031	8.4381	y	19	5.4873	23.497	0.8783	1.3187	1.1364	H2-1
104	M104	L3X3X3	0.0252	2.4579	5	0.0024	4.9158	y	21	13.7826	23.497	0.8783	1.5922	1.1364	H2-1
105	M105	L3X3X3	0.5237	7.2183	9	0.004	14.4366	y	21	1.8746	23.497	0.8783	1.0681	1.1364	H2-1
106	M106	L3X3X3	0.3836	7.2183	8	0.0041	14.4366	y	19	1.8746	23.497	0.8783	1.0681	1.1364	H2-1
107	M107	L3X3X3	0.2246	7.4065	6	0.0044	14.813	y	1	1.7805	23.497	0.8783	1.0438	1.1364	H2-1
108	M108	L3X3X3	0.2355	7.4065	9	0.0043	14.813	y	19	1.7805	23.497	0.8783	1.0438	1.1364	H2-1
109	M109	L3X3X3	0.5518	7.4933	3	0.0045	14.9866	y	1	1.7395	23.497	0.8783	1.0329	1.1364	H2-1
110	M110	L3X3X3	0.5931	7.4933	6	0.0041	14.9866	y	19	1.7395	23.497	0.8783	1.0329	1.1364	H2-1
111	M111	L3X3X3	0.7731	7.254	8	0.0045	14.508	y	21	1.8562	23.497	0.8783	1.0634	1.1364	H2-1
112	M112	L3X3X3	0.1891	4.0266	7	0.0036	8.0531	y	1	6.0244	23.497	0.8783	1.3453	1.1364	H2-1
113	M113	L3X3X3	0.4603	7.2183	6	0.0039	14.4366	y	21	1.8746	23.497	0.8783	1.0681	1.1364	H2-1
114	M114	L3X3X3	0.4112	7.2183	7	0.0042	14.4366	y	19	1.8746	23.497	0.8783	1.0681	1.1364	H2-1
115	M115	L3X3X3	0.2799	7.4065	9	0.0044	14.813	y	21	1.7805	23.497	0.8783	1.0438	1.1364	H2-1
116	M116	L3X3X3	0.1989	7.4065	2	0.0043	14.813	y	19	1.7805	23.497	0.8783	1.0438	1.1364	H2-1
117	M117	L3X3X3	0.4025	7.4933	2	0.0046	14.9866	y	1	1.7395	23.497	0.8783	1.0329	1.1364	H2-1
118	M118	L3X3X3	0.682	7.4933	9	0.0041	14.9866	y	19	1.7395	23.497	0.8783	1.0329	1.1364	H2-1
119	M119	L3X3X3	0.3013	4.5635	3	0.0031	9.1271	y	21	4.69	23.497	0.8783	1.2724	1.1364	H2-1

**BOB D. CAMPBELL & COMPANY
STRUCTURAL ENGINEERS**

4338 Belleview • Kansas City, MO 64111 816/531-4144

Project LSR7 Athletic Facilities

Date _____ Page _____ of _____

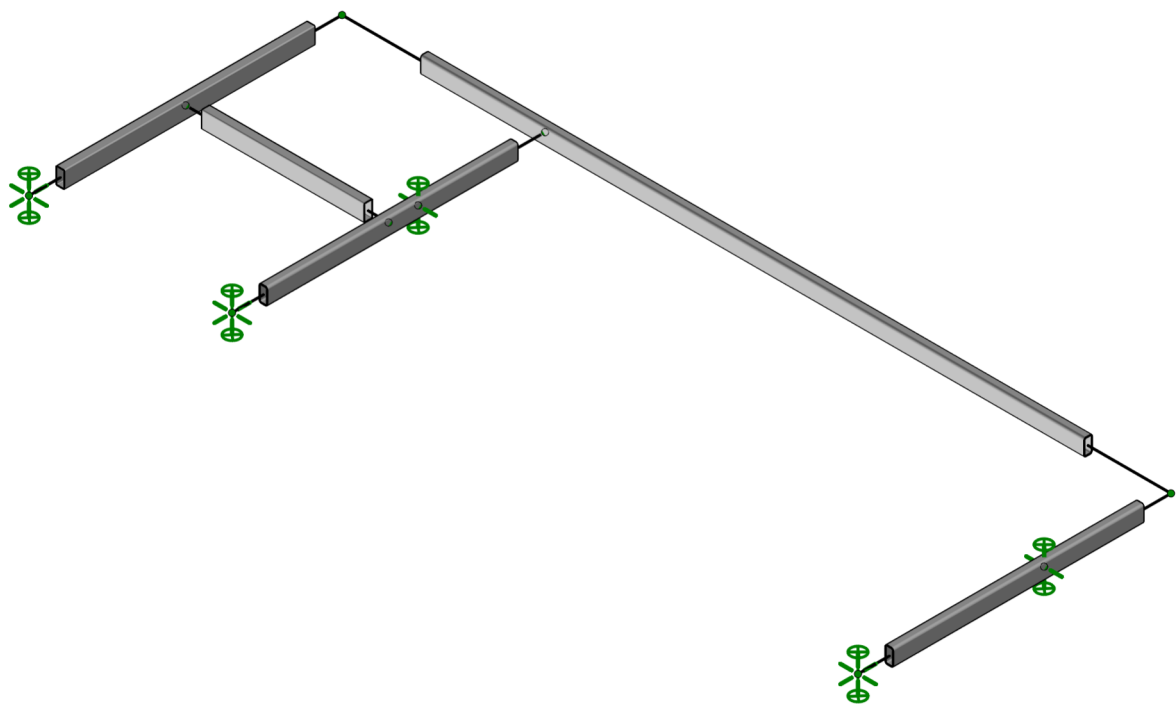
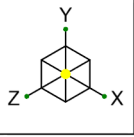
Overland Park, KS

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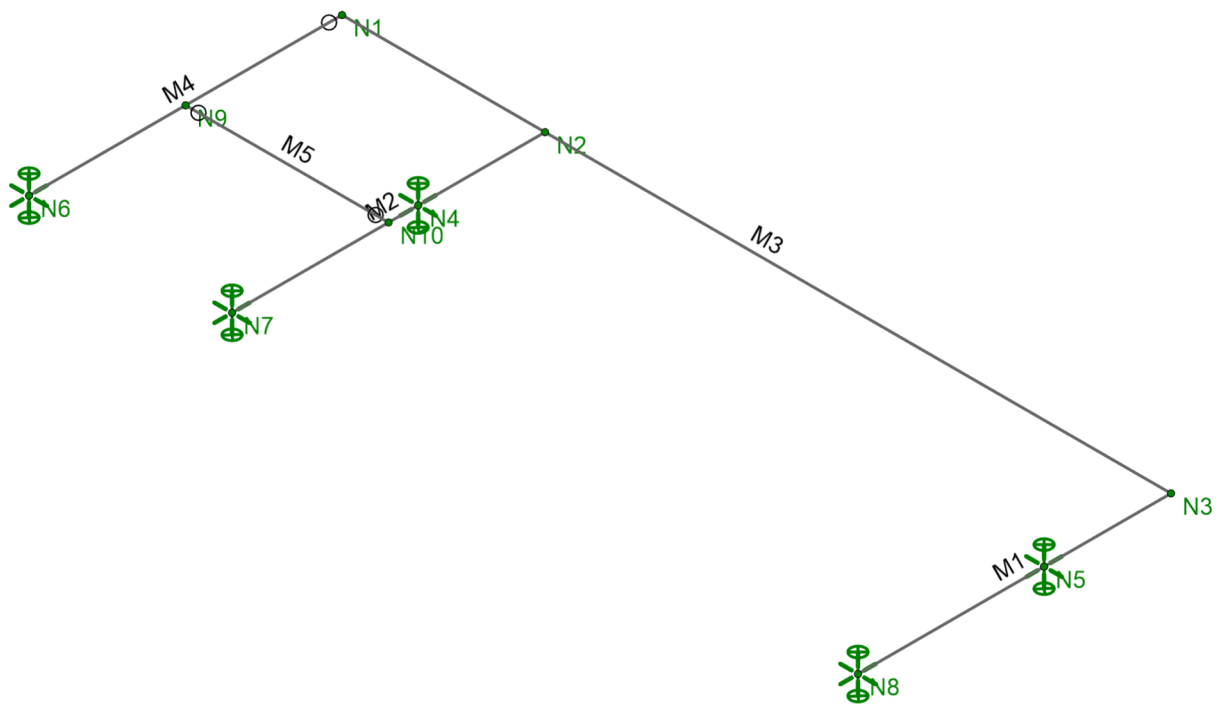
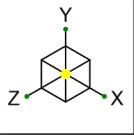
LSW Press Box - CMU Column Reinforcing Anchors

- Excess Load from New Video deck $\Rightarrow P = (150 \text{ psf})(12')(12.75') = 22950 \text{ lbs}$
- (18) $\frac{1}{2}" \phi$ Epoxy Anchors w/ $4\frac{1}{2}"$ Embedment
 - $\hookrightarrow$ Load per anchor $\Rightarrow P_a = 22950 \text{ lbs} / 18 \text{ anchors} = 1275 \text{ lbs/anchor}$
- Per Hilti HIT-HY 270 Allowable Load Table 2
 - $\hookrightarrow V_a = 1495 \text{ lbs/anchor}$
 - $\hookrightarrow$ Spacing = $8"$ $\Rightarrow$ Spacing Reduction Factor, $\phi_s = 1.0$
 - $\hookrightarrow$ Edge Distance = $4"$ $\Rightarrow$ Edge Dist. Reducing Factor, $\phi_e = 1.0$
 - $\hookrightarrow V_a = (1495 \text{ lbs/anchor})(1.0)(1.0) = 1495 \text{ lbs/anchor} < 1275 \text{ lbs/anchor}$

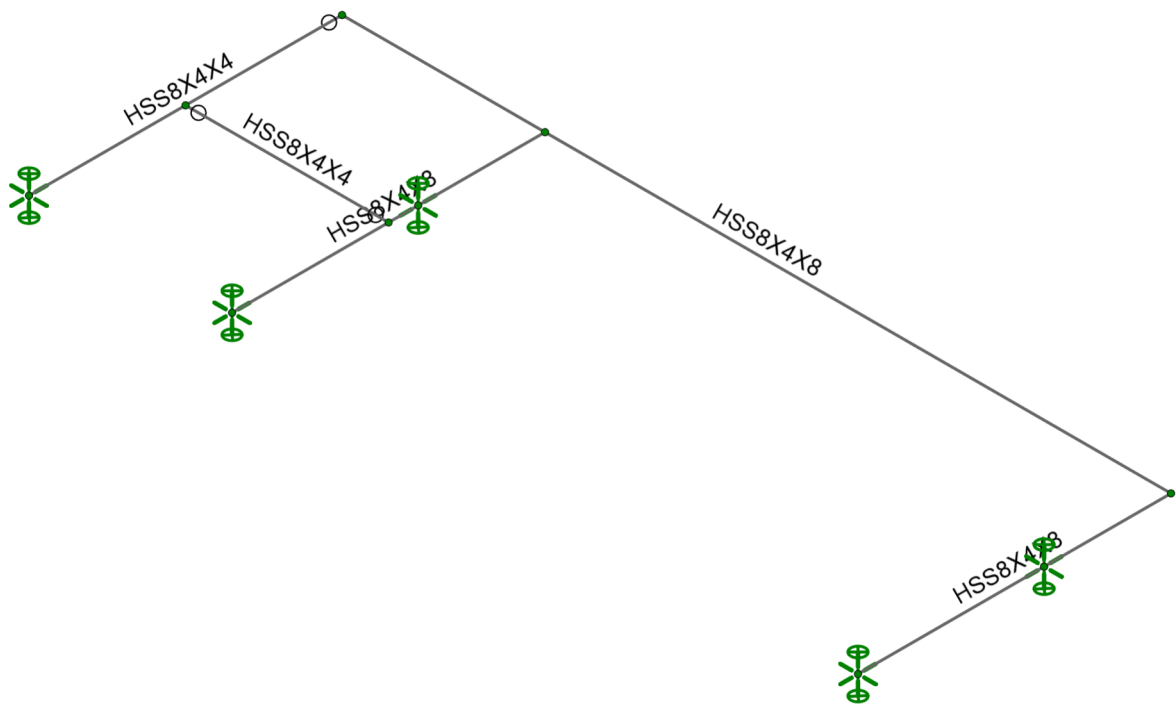
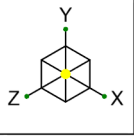
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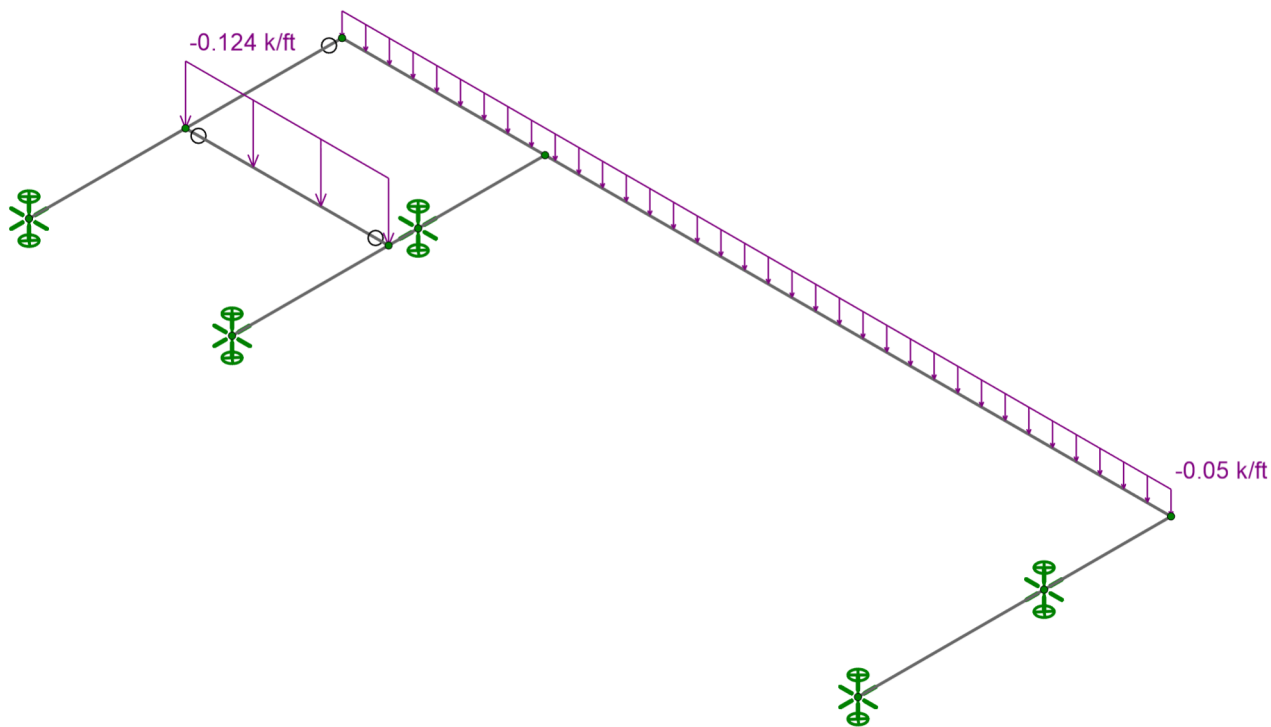
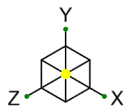
Bob D. Campbell & Co.	LSW Concessions Canopy	SK-1
SJB		Oct 02, 2020
GEA2012		Concessions Canopy.r3d



Bob D. Campbell & Co.	LSW Concessions Canopy	SK-2
SJB		Oct 02, 2020
GEA2012		Concessions Canopy.r3d



Bob D. Campbell & Co.	LSW Concessions Canopy	SK-3
SJB		Oct 02, 2020
GEA2012		Concessions Canopy.r3d



Loads: BLC 1, D

Bob D. Campbell & Co.

SJB

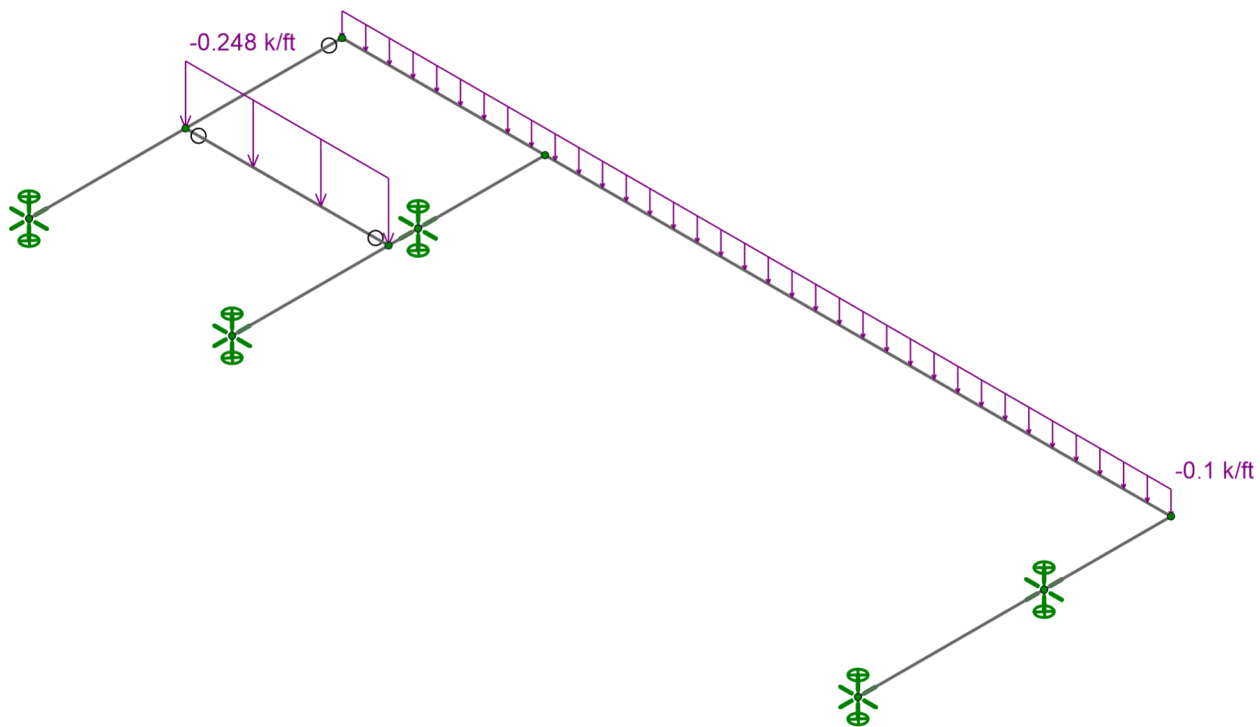
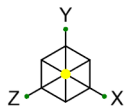
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LSW Concessions Canopy

SK-4

Oct 02, 2020

Concessions Canopy.r3d



Loads: BLC 2, S

Bob D. Campbell & Co.

SJB

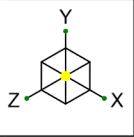
GEA2012

LSW Concessions Canopy

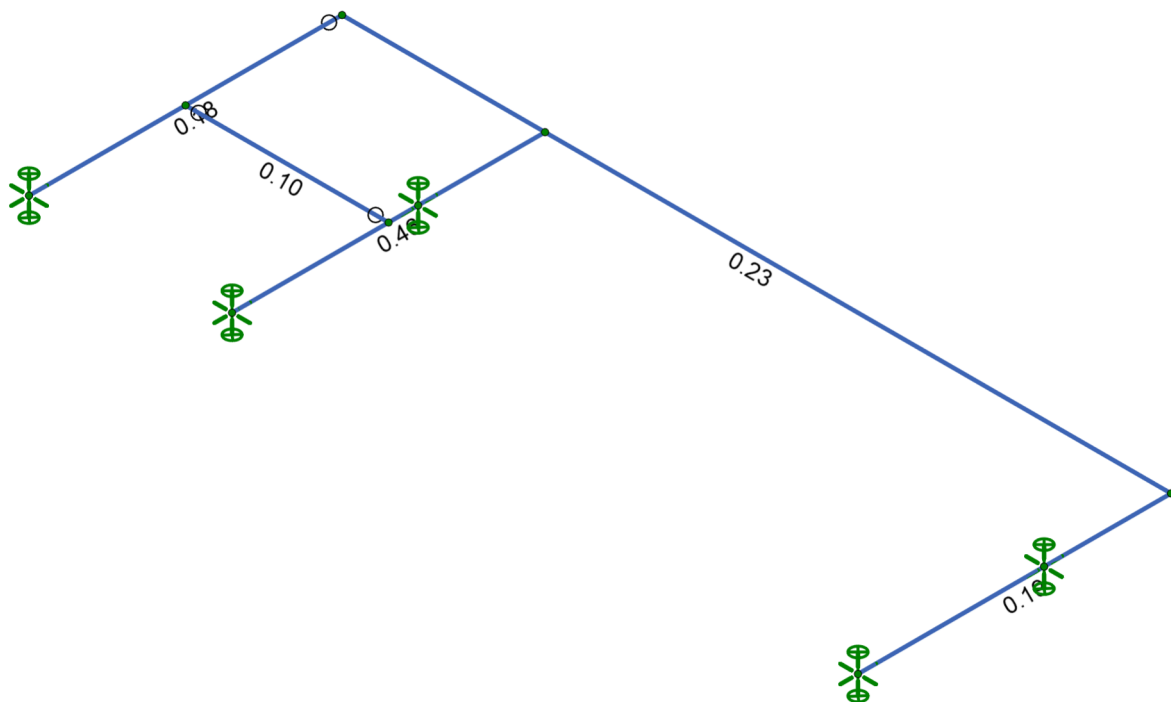
SK-5

Oct 02, 2020

Concessions Canopy.r3d



Code Check (LC 1)	
	No Calc
	> 1.0
	.90-1.0
	.75-.90
	.50-.75
	.0-.50



Member Code Checks Displayed
Results for LC 1, D+S

Bob D. Campbell & Co.	LSW Concessions Canopy	SK-6
SJB		Oct 02, 2020
GEA2012		Concessions Canopy.r3d

Nodes

	Label	X [ft]	Y [ft]	Z [ft]	Temp [deg F]	Detach From Diaphragm
1	N1	0	0	0		
2	N2	8	0	0		
3	N3	32.6667	0	0		
4	N4	8	0	5		
5	N5	32.6667	0	5		
6	N6	0	0	12.3333		
7	N7	8	0	12.3333		
8	N8	32.6667	0	12.3333		
9	N9	0	0	6.1667		
10	N10	8	0	6.1667		

Boundary Conditions

	Node Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot [k-ft/rad]	Y Rot [k-ft/rad]
1	N5	Reaction	Reaction	Reaction		Reaction
2	N4	Reaction	Reaction	Reaction		Reaction
3	N7	Reaction	Reaction	Reaction		Reaction
4	N6	Reaction	Reaction	Reaction		Reaction
5	N8	Reaction	Reaction	Reaction		Reaction

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [1e ⁵ °F ⁻¹]	Density [k/ft ³]	Yield [ksi]	Ry	Fu [ksi]	Rt
1	A992	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	0.3	0.65	0.49	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	0.3	0.65	0.527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	0.3	0.65	0.527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	0.3	0.65	0.49	35	1.6	60	1.2
7	A1085	29000	11154	0.3	0.65	0.49	50	1.25	65	1.15
8	A913 Gr.65	29000	11154	0.3	0.65	0.49	65	1.1	80	1.1

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Nodal	Point	Distributed
1	D	None		-1				2
2	S	None						2

Load Combinations

	Description	Solve	PDelta	SRSS	BLC	Factor	BLC	Factor
1	D+S	Yes	Y		1	1	2	1
2	S	Yes	Y		2	1		

Node Reactions

	LC	Node Label	X [k]	Y [k]	Z [k]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
1	1	N5	0	3.504	0	0	0	0
2	1	N4	0	10.2651	0	0	0	0
3	1	N7	0	-3.1335	0	0	0	0
4	1	N6	0	0.9619	0	0	0	0
5	1	N8	0	-1.2878	0	0	0	0
6	1	Totals:	0	10.3096	0			
7	1	COG (ft):	X: 12.5561	Y: 0	Z: 2.5393			

Node Deflections

	LC	Node Label	X [in]	Y [in]	Z [in]	X Rotation [rad]	Y Rotation [rad]	Z Rotation [rad]
1	1	N1	0	-0.7645	0	-1.0212e-02	0	3.651e-03
2	1	N2	0	-0.5191	0	-1.0212e-02	0	-4.0388e-05
3	1	N3	0	-0.2251	0	-4.6147e-03	0	6.5383e-03

Node Deflections (Continued)

	LC	Node Label	X [in]	Y [in]	Z [in]	X Rotation [rad]	Y Rotation [rad]	Z Rotation [rad]
4	1	N4	0	0	0	-5.0719e-03	0	-4.0388e-05
5	1	N5	0	0	0	-2.1666e-03	0	6.5383e-03
6	1	N6	0	0	0	-7.612e-03	0	3.651e-03
7	1	N7	0	0	0	2.4302e-03	0	-4.0388e-05
8	1	N8	0	0	0	1.0294e-03	0	6.5383e-03
9	1	N9	0	-0.5012	0	-5.0505e-03	0	3.651e-03
10	1	N10	0	0.0538	0	-2.8407e-03	0	-4.0388e-05

Asd360

	LC	Member	Shape	UC Max	Loc [ft]	Shear...	Loc [ft]	Dir	Pnc/o...	Pnt/o...	Mnyy/...	Mnzz/...	Cb	Eqn
1	1	M1	HSS8...	0.1925	7.3229	0.0192	7.4514	y	219.68...	268.28...	32.8244	53.9421	1	H1-1b
2	1	M2	HSS8...	0.4626	7.3229	0.0522	7.4514	y	219.68...	268.28...	32.8244	53.9421	1	H1-1b
3	1	M3	HSS8...	0.2317	24.8403	0.0588	24.5	y	70.2316	268.28...	32.8244	52.8805	1	H1-1b
4	1	M4	HSS8...	0.1788	6.0382	0.0171	0	y	120.35...	144.33...	17.7773	30.5289	1	H1-1b
5	1	M5	HSS8...	0.1025	4	0.0681	8	y	133.71...	144.33...	17.7773	30.5289	1	H1-1b

Title Block Line 1
 You can change this area
 using the "Settings" menu item
 and then using the "Printing &
 Title Block" selection.
 Title Block Line 6

Project Title: LSW Site Retaining Wall
 Engineer:
 Project ID:
 Project Descr:

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Cantilevered Retaining Wall

File: LSW Site Walls.ec6
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Lic. #: KW-06011403

DESCRIPTION: Site Wall

Calculations per ACI 318-14, TMS 402-16, IBC 2018,
 CBC 2019, ASCE 7-16

Criteria

Retained Height = 6.00 ft
 Wall height above soil = 0.00 ft
 Slope Behind Wall = 0.00 : 1
 Height of Soil over Toe = 24.00 in
 Water height over heel = 0.0 ft
 Vertical component of active
 Lateral soil pressure options:
 NOT USED for Soil Pressure.
 NOT USED for Sliding Resistance.
 NOT USED for Overturning Resistance.

Soil Data

Allow Soil Bearing = 3,000.0 psf
 Equivalent Fluid Pressure Method
 Heel Active Pressure = 45.0 psf/ft
 Toe Active Pressure = 30.0 psf/ft
 Passive Pressure = 389.0 psf/ft
 Soil Density, Heel = 110.00 pcf
 Soil Density, Toe = 110.00 pcf
 Friction Coeff btwn Ftg & Soil = 0.400
 Soil height to ignore
 for passive pressure = 12.00 in

Design Summary

Wall Stability Ratios
 Overturning = 1.47 Ratio < 1.5!
 Sliding = 2.47 OK
 Total Bearing Load = 2,077 lbs
 ...resultant ecc. = 11.37 in
 Soil Pressure @ Toe = 2,504 psf OK
 Soil Pressure @ Heel = 0 psf OK
 Allowable = 3,000 psf
 Soil Pressure Less Than Allowable
 ACI Factored @ Toe = 3,005 psf
 ACI Factored @ Heel = 0 psf
 Footing Shear @ Toe = 9.3 psi OK
 Footing Shear @ Heel = 9.9 psi OK
 Allowable = 88.7 psi
 Sliding Calcs (Vertical Component NOT Used)
 Lateral Sliding Force = 967.5 lbs
 less 100% Passive Force = - 1,556.0 lbs
 less 100% Friction Force = - 830.6 lbs
 Added Force Req'd = 0.0 lbs OK
for 1.5 : 1 Stability = 0.0 lbs OK

Stem Construction

Design Height Above Ftg ft = 0.00
 Wall Material Above "Ht" = Concrete
 Thickness in = 8.00
 Rebar Size = # 4
 Rebar Spacing in = 12.00
 Rebar Placed at = User Spec
 Design Data
 fb/FB + fa/Fa = 0.553
 Total Force @ Section lbs = 1,200.0
 Moment....Actual ft-l = 2,528.0
 Moment....Allowable ft-l = 4,573.3
 Shear.....Actual psi = 19.0
 Shear.....Allowable psi = 88.7
 Wall Weight psf = 100.0
 Rebar Depth 'd' in = 5.25
 Lap splice if above in = 15.82
 Lap splice if below in = 7.10
 Hook embed into footing in = 7.10
 Concrete Data
 f'c psi = 3,500.0
 Fy psi =

Load Factors

Dead Load 1.200
 Live Load 1.600
 Earth, H 1.600
 Wind, W 1.600
 Seismic, E 1.000

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DESCRIPTION: Site Wall

Footing Dimensions & Strengths

Toe Width	=	1.17 ft
Heel Width	=	1.83
Total Footing Width	=	3.00
Footing Thickness	=	12.00 in
Key Width	=	12.00 in
Key Depth	=	0.00 in
Key Distance from Toe	=	2.00 ft
f _c =	3,500 psi	F _y = 60,000 psi
Footing Concrete Density	=	150.00 pcf
Min. As %	=	0.0018
Cover @ Top	2.00	@ Btm.= 3.00 in

Footing Design Results

		<u>Toe</u>	<u>Heel</u>
Factored Pressure	=	3,005	0 psf
Mu' : Upward	=	1,566	0 ft-lb
Mu' : Downward	=	302	661 ft-lb
Mu: Design	=	1,264	661 ft-lb
Actual 1-Way Shear	=	9.25	9.94 psi
Allow 1-Way Shear	=	88.74	88.74 psi
Toe Reinforcing	=	# 5 @ 12.00 in	
Heel Reinforcing	=	# 5 @ 12.00 in	
Key Reinforcing	=	None Spec'd	

Other Acceptable Sizes & Spacings

Toe: Not req'd, Mu < S * Fr
 Heel: Not req'd, Mu < S * Fr
 Key: Not req'd, Mu < S * Fr

Summary of Overturning & Resisting Forces & Moments

Item	OVERTURNING.....				RESISTING.....		
	Force lbs	Distance ft	Moment ft-lb		Force lbs	Distance ft	Moment ft-lb
Heel Active Pressure	= 1,102.5	2.33	2,572.5	Soil Over Heel	= 769.8	2.42	1,860.4
Surcharge over Heel	=			Sloped Soil Over Heel	=		
Toe Active Pressure	= -135.0	1.00	-135.0	Surcharge Over Heel	=		
Surcharge Over Toe	=			Adjacent Footing Load	=		
Adjacent Footing Load	=			Axial Dead Load on Stem	=		
Added Lateral Load	=			* Axial Live Load on Stem	=		
Load @ Stem Above Soil	=			Soil Over Toe	= 256.7	0.58	149.8
				Surcharge Over Toe	=		
				Stem Weight(s)	= 600.0	1.50	900.2
				Earth @ Stem Transitions	=		
				Footing Weight	= 450.0	1.50	675.0
				Key Weight	=	2.50	
				Vert. Component	=		
Total	= 967.5	O.T.M. =	2,437.5	Total	= 2,076.5 lbs	R.M. =	3,585.4
Resisting/Overturning Ratio		=	1.47				
Vertical Loads used for Soil Pressure	=	2,076.5 lbs					

* Axial live load NOT included in total displayed, or used for overturning resistance, but is included for soil pressure calculation.