

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--		

PROJECT SUMMARY

Project Name: 25-016 Keatts

Governing Codes:

Building Code: 2018 International Building Code

ASCE: ASCE 7-16

Steel: AISC 360-16

Concrete: ACI 318-14

Masonry: TMS 402/602-16

Module Location: Outlookers

Module Level: Roof

Module Type: Roof Rafter

Material Type: Solid Sawn Douglas Fir-Larch No. 2

Member Dimensions: (1) 1.5 in. X 5.5 in. X 4.5 ft @ 16 in. Spacing

Section Adequacy: 24.65%

Controlling Factor: Bending-Tension

Module Location: Trusses #1

Module Level: Roof

Module Type: Roof Rafter

Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL

Member Dimensions: (1) 1.75 in. X 11.25 in. X 17 ft @ 24 in. Spacing

Section Adequacy: 15.78%

Controlling Factor: Deflection Y

Module Location: Trusses #2

Module Level: Roof

Module Type: Roof Rafter

Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL

Member Dimensions: (2) 1.75 in. X 20 in. X 22.5 ft @ 24 in. Spacing

Section Adequacy: 57.38%

Controlling Factor: Bearing Stress

Module Location: Trusses #3

Module Level: Roof

Module Type: Roof Rafter

Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL

Member Dimensions: (3) 1.75 in. X 16 in. X 36 ft @ 24 in. Spacing

Section Adequacy: 61.42%

Controlling Factor: Bearing Stress

Module Location: Trusses #4

Module Level: Roof

Module Type: Roof Rafter

Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL

Member Dimensions: (2) 1.75 in. X 20 in. X 16 ft @ 24 in. Spacing

Section Adequacy: 57.97%

Controlling Factor: Bearing Stress

Module Location: Trusses #5

Module Level: Roof

Module Type: Roof Rafter

Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL

Member Dimensions: (2) 1.75 in. X 20 in. X 17 ft @ 24 in. Spacing

Section Adequacy:

66.11%

Controlling Factor: Bearing Stress

Module Location: Trusses #6

Module Level: Roof

Module Type: Roof Rafter

Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL

Member Dimensions: (2) 1.75 in. X 20 in. X 9 ft @ 24 in. Spacing

Section Adequacy: 77.84%

Controlling Factor: Bearing Stress

Module Location: Trusses #7

Module Level: Roof

Module Type: Roof Rafter

Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL

Member Dimensions: (2) 1.75 in. X 20 in. X 11 ft @ 24 in. Spacing

Section Adequacy: 75.17%

Controlling Factor: Bearing Stress

Module Location: Trusses #8

Module Level: Roof

Module Type: Roof Rafter

Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL

Member Dimensions: (2) 1.75 in. X 20 in. X 18 ft @ 24 in. Spacing

Section Adequacy: 64.54%

Controlling Factor: Bearing Stress

Module Location: Trusses #9

Module Level: Roof

Module Type: Roof Rafter

Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL

Member Dimensions: (2) 1.75 in. X 20 in. X 13 ft @ 24 in. Spacing

Section Adequacy: 72.25%

Controlling Factor: Bearing Stress

Module Location: Trusses #10

Module Level: Roof

Module Type: Roof Rafter

Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL

Member Dimensions: (2) 1.75 in. X 20 in. X 24 ft @ 24 in. Spacing

Section Adequacy: 54.97%

Controlling Factor: Bearing Stress

Module Location: Trusses #11

Module Level: Roof

Module Type: Roof Rafter

Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL

Member Dimensions: (2) 1.75 in. X 20 in. X 10.5 ft @ 24 in. Spacing

Section Adequacy: 75.87%

Controlling Factor: Bearing Stress

Module Location: Trusses #12

Module Level: Roof

Module Type: Roof Rafter
 Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL
 Member Dimensions: (2) 1.75 in. X 20 in. X 26 ft @ 24 in. Spacing
 Section Adequacy: **57.31%**
 Controlling Factor: Bearing Stress

Module Location: Trusses #13
 Module Level: Roof
 Module Type: Roof Rafter
 Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL
 Member Dimensions: (2) 1.75 in. X 20 in. X 16 ft @ 24 in. Spacing
 Section Adequacy: **67.67%**
 Controlling Factor: Bearing Stress

Module Location: Trusses #14
 Module Level: Roof
 Module Type: Roof Rafter
 Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL
 Member Dimensions: (2) 1.75 in. X 20 in. X 24 ft @ 24 in. Spacing
 Section Adequacy: **60.6%**
 Controlling Factor: Bearing Stress

Module Location: Trusses #15
 Module Level: Roof
 Module Type: Roof Rafter
 Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL
 Member Dimensions: (2) 1.75 in. X 20 in. X 24 ft @ 24 in. Spacing
 Section Adequacy: **60.6%**
 Controlling Factor: Bearing Stress

Module Location: Trusses #16
 Module Level: Roof
 Module Type: Roof Rafter
 Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL
 Member Dimensions: (5) 1.75 in. X 20 in. X 41 ft @ 12 in. Spacing
 Section Adequacy: **79.92%**
 Controlling Factor: Deflection Y

Module Location: Trusses #17
 Module Level: Roof
 Module Type: Roof Rafter
 Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL
 Member Dimensions: (2) 1.75 in. X 20 in. X 24 ft @ 24 in. Spacing
 Section Adequacy: **60.6%**
 Controlling Factor: Bearing Stress

Module Location: Trusses #18
 Module Level: Roof
 Module Type: Roof Rafter
 Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL
 Member Dimensions: (2) 1.75 in. X 20 in. X 16 ft @ 24 in. Spacing
 Section Adequacy: **67.67%**
 Controlling Factor: Bearing Stress

Module Location: Trusses #19
 Module Level: Roof
 Module Type: Roof Rafter
 Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL
 Member Dimensions: (2) 1.75 in. X 20 in. X 28 ft @ 24 in. Spacing
 Section Adequacy: **54.03%**
 Controlling Factor: Bearing Stress

Module Location: Trusses #20
 Module Level: Roof
 Module Type: Roof Rafter
 Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL
 Member Dimensions: (2) 1.75 in. X 20 in. X 40 ft @ 24 in. Spacing
 Section Adequacy: **20.26%**
 Controlling Factor: Bearing Stress

Module Location: Trusses #21
 Module Level: Roof
 Module Type: Roof Rafter
 Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL
 Member Dimensions: (2) 1.75 in. X 20 in. X 34 ft @ 24 in. Spacing
 Section Adequacy: **29.32%**
 Controlling Factor: Deflection Y

Module Location: Beam #1
 Module Level: Roof
 Module Type: Roof Beam
 Material Type: Steel W Shapes W14x38
 Member Dimensions: 6.77 in. X 14.1 in. X 42.5 ft
 Section Adequacy: **47.44%**
 Controlling Factor: Moment Y

Module Location: Beam #4
 Module Level: Roof
 Module Type: Roof Beam
 Material Type: Steel W Shapes W14x22
 Member Dimensions: 5 in. X 13.7 in. X 43.5 ft
 Section Adequacy: **31.95%**
 Controlling Factor: Moment Y

Module Location: Beam #5
 Module Level: Roof
 Module Type: Roof Beam
 Material Type: Glulams Stress Class Rated 24F-1.8E 24F-V4 DF/DF
 Member Dimensions: (1) 5.5 in. X 36 in. X 22 ft
 Section Adequacy: **10.88%**
 Controlling Factor: Shear Stress Y

Module Location: Outlookers - 5
 Module Level: Roof
 Module Type: Roof Rafter
 Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL
 Member Dimensions: (1) 1.75 in. X 7.25 in. X 11 ft @ 16 in. Spacing
 Section Adequacy: **26.22%**
 Controlling Factor: Deflection Y

Module Location: Beam #6
 Module Level: Roof
 Module Type: Roof Beam
 Material Type: Glulams Stress Class Rated 24F-1.8E 24F-V4 DF/DF
 Member Dimensions: (1) 6.75 in. X 37.5 in. X 32 ft
 Section Adequacy: **12.27%**
 Controlling Factor: Bending Stress Y

Module Location: Girder #2
 Module Level: Roof
 Module Type: Roof Beam
 Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL
 Member Dimensions: (2) 1.75 in. X 18 in. X 24 ft
 Section Adequacy: **61.94%**
 Controlling Factor: Bearing Stress

Module Location: Girder #3
 Module Level: Roof
 Module Type: Roof Beam
 Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL

Member Dimensions: (2) 1.75 in. X 18 in. X 18 ft
Section Adequacy: 68.4%
Controlling Factor: Bearing Stress

Module Location: Beam #7

Module Level: Roof
Module Type: Roof Beam
Material Type: Steel W Shapes W14x38
Member Dimensions: 6.77 in. X 14.1 in. X 35 ft
Section Adequacy: 33.46%
Controlling Factor: Moment Y

Module Location: Beam #8

Module Level: Roof
Module Type: Roof Beam
Material Type: Steel W Shapes W14x38
Member Dimensions: 6.77 in. X 14.1 in. X 9 ft
Section Adequacy: 84.64%
Controlling Factor: Moment Y

Module Location: Beam #14

Module Level: Roof
Module Type: Roof Beam
Material Type: Glulams Stress Class Rated 24F-1.8E 24F-V4 DF/DF
Member Dimensions: (1) 8.75 in. X 30 in. X 19 ft
Section Adequacy: 16.01%
Controlling Factor: Bearing Stress

Module Location: Rafters #1

Module Level: Roof
Module Type: Roof Rafter
Material Type: Solid Sawn Douglas Fir-Larch No. 2
Member Dimensions: (1) 1.5 in. X 7.25 in. X 17.5 ft @ 24 in. Spacing
Section Adequacy: 33.81%
Controlling Factor: Bending Stress Y

Module Location: Steel Girder Trusses

Module Level: Roof
Module Type: Roof Beam
Material Type: Steel W Shapes W8x28
Member Dimensions: 6.54 in. X 8.06 in. X 20 ft
Section Adequacy: 20.23%
Controlling Factor: Moment Y

Module Location: Rafters #2

Module Level: Roof
Module Type: Roof Rafter
Material Type: Solid Sawn Douglas Fir-Larch No. 2
Member Dimensions: (1) 1.5 in. X 11.25 in. X 13.5 ft @ 12 in. Spacing
Section Adequacy: 25.7%
Controlling Factor: Bending-Compression

Module Location: Beam #15

Module Level: Roof
Module Type: Roof Beam
Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL
Member Dimensions: (5) 1.75 in. X 9.25 in. X 11.5 ft
Section Adequacy: 43.88%
Controlling Factor: Bearing Stress

Module Location: Beam #16

Module Level: Roof
Module Type: Roof Beam
Material Type: Steel W Shapes W14x22
Member Dimensions: 5 in. X 13.7 in. X 10 ft
Section Adequacy: 76.14%
Controlling Factor: Moment Y

Module Location: Beam #17

Module Level: Roof

Module Type: Roof Beam
Material Type: Steel W Shapes W14x22
Member Dimensions: 5 in. X 13.7 in. X 10 ft
Section Adequacy: 76.14%
Controlling Factor: Moment Y

Module Location: Beam #18

Module Level: Roof
Module Type: Roof Beam
Material Type: Steel W Shapes W14x22
Member Dimensions: 5 in. X 13.7 in. X 20 ft
Section Adequacy: 45.94%
Controlling Factor: Moment Y

Module Location: Beam #19

Module Level: Roof
Module Type: Roof Beam
Material Type: Steel W Shapes W14x22
Member Dimensions: 5 in. X 13.7 in. X 10.5 ft
Section Adequacy: 91.83%
Controlling Factor: Moment Y

Module Location: Header #6

Module Level: Headers - 2nd Level
Module Type: Roof Beam
Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL
Member Dimensions: (3) 1.75 in. X 9.25 in. X 15 ft
Section Adequacy: 45.02%
Controlling Factor: Bearing Stress

Module Location: Header #8

Module Level: Headers - 2nd Level
Module Type: Roof Beam
Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL
Member Dimensions: (3) 1.75 in. X 16 in. X 17 ft
Section Adequacy: 35.2%
Controlling Factor: Bearing Stress

Module Location: Header #9

Module Level: Headers - 2nd Level
Module Type: Roof Beam
Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL
Member Dimensions: (3) 1.75 in. X 14 in. X 16.5 ft
Section Adequacy: 27.01%
Controlling Factor: Bending Stress Y

Module Location: Header #11

Module Level: Headers - 2nd Level
Module Type: Roof Beam
Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL
Member Dimensions: (3) 1.75 in. X 14 in. X 9.5 ft
Section Adequacy: 21.75%
Controlling Factor: Shear Stress Y

Module Location: Header #12

Module Level: Headers - 2nd Level
Module Type: Roof Beam
Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL
Member Dimensions: (3) 1.75 in. X 14 in. X 9.5 ft
Section Adequacy: 15.56%
Controlling Factor: Shear Stress Y

Module Location: Header #13

Module Level: Headers - 2nd Level
Module Type: Roof Beam
Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL
Member Dimensions: (3) 1.75 in. X 14 in. X 9.5 ft
Section Adequacy:

Controlling Factor: Shear Stress Y

Module Location: Header #14

Module Level: Headers - 2nd Level

Module Type: Roof Beam

Material Type: Solid Sawn Douglas Fir-Larch No. 2

Member Dimensions: (1) 5.5 in. X 9.5 in. X 3 ft

Section Adequacy: 17.06%

Controlling Factor: Bearing Stress

Module Location: Header #15

Module Level: Headers - 2nd Level

Module Type: Roof Beam

Material Type: Solid Sawn Douglas Fir-Larch No. 2

Member Dimensions: (1) 3.5 in. X 9.25 in. X 6.5 ft

Section Adequacy: 9.69%

Controlling Factor: Bending Stress Y

Module Location: Joist #1

Module Level: Floor - 2nd Level

Module Type: Floor Joist

Material Type: I-Joists Weyerhaeuser TJI 360

Member Dimensions: (1) 2.313 in. X 18 in. X 8.5 ft

Section Adequacy: 69.59%

Controlling Factor: Bearing Load

Module Location: Joist #2

Module Level: Floor - 2nd Level

Module Type: Floor Joist

Material Type: I-Joists Weyerhaeuser TJI 560

Member Dimensions: (1) 1.75 in. X 18 in. X 16 ft

Section Adequacy: 65.62%

Controlling Factor: Bearing Load

Module Location: Joist #3

Module Level: Floor - 2nd Level

Module Type: Floor Joist

Material Type: I-Joists Weyerhaeuser TJI 560D

Member Dimensions: (1) 1.75 in. X 18 in. X 28 ft

Section Adequacy: 44.79%

Controlling Factor: Bearing Load

Module Location: Joist #4

Module Level: Floor - 2nd Level

Module Type: Floor Joist

Material Type: I-Joists Weyerhaeuser TJI 560D

Member Dimensions: (1) 1.75 in. X 18 in. X 28 ft

Section Adequacy: 55.59%

Controlling Factor: Bearing Load

Module Location: Joist #5

Module Level: Floor - 2nd Level

Module Type: Floor Joist

Material Type: I-Joists Weyerhaeuser TJI 560D

Member Dimensions: (1) 1.75 in. X 18 in. X 28 ft

Section Adequacy: 44.79%

Controlling Factor: Bearing Load

Module Location: Beam #2

Module Level: Floor - 2nd Level

Module Type: Roof Beam

Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL

Member Dimensions: (2) 1.75 in. X 18 in. X 8.5 ft

Section Adequacy: 27.25%

Controlling Factor: Shear Stress Y

Module Location: Beam #3

Module Level: Floor - 2nd Level

Module Type: Roof Beam

Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL

Member Dimensions: (3) 1.75 in. X 18 in. X 26.5 ft

Section Adequacy: 13.63%

Controlling Factor: Bending Stress Y

Module Location: Girder #1

Module Level: Floor - 2nd Level

Module Type: Roof Beam

Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL

Member Dimensions: (3) 1.75 in. X 18 in. X 36 ft

Section Adequacy: 32.93%

Controlling Factor: Bending Stress Y

Module Location: Beam #9

Module Level: Floor - 2nd Level

Module Type: Roof Beam

Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL

Member Dimensions: (2) 1.75 in. X 18 in. X 18.5 ft

Section Adequacy: 64.83%

Controlling Factor: Shear Stress Y

Module Location: Beam #10

Module Level: Floor - 2nd Level

Module Type: Roof Beam

Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL

Member Dimensions: (3) 1.75 in. X 18 in. X 28 ft

Section Adequacy: 54.89%

Controlling Factor: Bending Stress Y

Module Location: Beam #11

Module Level: Floor - 2nd Level

Module Type: Roof Beam

Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL

Member Dimensions: (2) 1.75 in. X 18 in. X 14.5 ft

Section Adequacy: 45.82%

Controlling Factor: Bending Stress Y

Module Location: Beam #13

Module Level: Floor - 2nd Level

Module Type: Roof Beam

Material Type: Glulams Stress Class Rated 24F-1.8E 24F-V4 DF/DF

Member Dimensions: (1) 8.75 in. X 18 in. X 14 ft

Section Adequacy: 23.14%

Controlling Factor: Bearing Stress

Module Location: Header #1

Module Level: Headers - 1st Level

Module Type: Roof Beam

Material Type: Solid Sawn Douglas Fir-Larch No. 2

Member Dimensions: (1) 3.5 in. X 7.25 in. X 2 ft

Section Adequacy: 73.13%

Controlling Factor: Bearing Stress

Module Location: Header #2

Module Level: Headers - 1st Level

Module Type: Roof Beam

Material Type: Solid Sawn Douglas Fir-Larch No. 2

Member Dimensions: (1) 3.5 in. X 7.25 in. X 2 ft

Section Adequacy: 47.29%

Controlling Factor: Bearing Stress

Module Location: Header #3

Module Level: Headers - 1st Level

Module Type: Roof Beam

Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL

Member Dimensions: (3) 1.75 in. X 11.25 in. X 9.5 ft

Section Adequacy: 28.16%

Controlling Factor: Bearing Stress

Module Location: Header #4

Module Level: Headers - 1st Level

Module Type: Roof Beam

Material Type: Solid Sawn Douglas Fir-Larch No. 2

Member Dimensions: (1) 3.5 in. X 7.25 in. X 3 ft

Section Adequacy: 8.7%

Controlling Factor: Bearing Stress

Module Location: Header #5

Module Level: Headers - 1st Level

Module Type: Roof Beam

Material Type: Solid Sawn Douglas Fir-Larch No. 2

Member Dimensions: (1) 5.5 in. X 9.5 in. X 3 ft

Section Adequacy: 34.91%

Controlling Factor: Shear Stress Y

Module Location: Header #7

Module Level: Headers - 1st Level

Module Type: Roof Beam

Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL

Member Dimensions: (3) 1.75 in. X 11.875 in. X 15 ft

Section Adequacy: 32.31%

Controlling Factor: Bearing Stress

Module Location: Header #10

Module Level: Headers - 1st Level

Module Type: Roof Beam

Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL

Member Dimensions: (3) 1.75 in. X 11.25 in. X 17 ft

Section Adequacy: 21.2%

Controlling Factor: Bearing Stress

Module Location: Header #16

Module Level: Headers - 1st Level

Module Type: Roof Beam

Material Type: Glulams Stress Class Rated 24F-1.8E 24F-V4 DF/DF

Member Dimensions: (1) 6.75 in. X 19.5 in. X 12 ft

Section Adequacy: 7.82%

Controlling Factor: Shear Stress Y

Module Location: Header #17

Module Level: Headers - 1st Level

Module Type: Roof Beam

Material Type: Glulams Stress Class Rated 24F-1.8E 24F-V4 DF/DF

Member Dimensions: (1) 6.75 in. X 19.5 in. X 9.5 ft

Section Adequacy: 17.4%

Controlling Factor: Shear Stress Y

Module Location: Header #18

Module Level: Headers - 1st Level

Module Type: Roof Beam

Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL

Member Dimensions: (3) 1.75 in. X 9.25 in. X 6.5 ft

Section Adequacy: 12.67%

Controlling Factor: Bearing Stress

Module Location: Header #19

Module Level: Headers - 1st Level

Module Type: Roof Beam

Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL

Member Dimensions: (3) 1.75 in. X 14 in. X 7.5 ft

Section Adequacy: 10.17%

Controlling Factor: Shear Stress Y

Module Location: Header #20

Module Level: Headers - 1st Level

Module Type: Roof Beam

Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL

Member Dimensions: (3) 1.75 in. X 11.25 in. X 6 ft

Section Adequacy: 23.69%

Controlling Factor: Bearing Stress

Module Location: Header #21

Module Level: Headers - 1st Level

Module Type: Roof Beam

Material Type: Solid Sawn Douglas Fir-Larch No. 2

Member Dimensions: (1) 3.5 in. X 7.25 in. X 4 ft

Section Adequacy: 46.25%

Controlling Factor: Bearing Stress

Module Location: Header #22

Module Level: Headers - 1st Level

Module Type: Roof Beam

Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL

Member Dimensions: (2) 1.75 in. X 9.25 in. X 4.5 ft

Section Adequacy: 28.33%

Controlling Factor: Shear Stress Y

Module Location: Header #23

Module Level: Headers - 1st Level

Module Type: Roof Beam

Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL

Member Dimensions: (3) 1.75 in. X 9.25 in. X 7 ft

Section Adequacy: 25.52%

Controlling Factor: Shear Stress Y

Module Location: Header #24

Module Level: Headers - 1st Level

Module Type: Roof Beam

Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL

Member Dimensions: (2) 1.75 in. X 9.25 in. X 7.5 ft

Section Adequacy: 32.5%

Controlling Factor: Bending Stress Y

Module Location: Header #25

Module Level: Headers - 1st Level

Module Type: Roof Beam

Material Type: Solid Sawn Douglas Fir-Larch No. 2

Member Dimensions: (1) 3.5 in. X 7.25 in. X 4.5 ft

Section Adequacy: 9.2%

Controlling Factor: Bending Stress Y

Module Location: Header #26

Module Level: Headers - 1st Level

Module Type: Roof Beam

Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL

Member Dimensions: (2) 1.75 in. X 9.25 in. X 5 ft

Section Adequacy: 22.94%

Controlling Factor: Shear Stress Y

Module Location: Header #27

Module Level: Headers - 1st Level

Module Type: Roof Beam

Material Type: Solid Sawn Douglas Fir-Larch No. 2

Member Dimensions: (1) 3.5 in. X 7.25 in. X 2.5 ft

Section Adequacy: 17.07%

Controlling Factor: Bearing Stress

Module Location: Header #28

Module Level: Headers - 1st Level

Module Type: Roof Beam

Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL

Member Dimensions: (3) 1.75 in. X 11.875 in. X 12.5 ft

Section Adequacy:

Controlling Factor: Bending Stress Y

Module Location: Header #29

Module Level: Headers - 1st Level

Module Type: Roof Beam

Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL

Member Dimensions: (3) 1.75 in. X 9.25 in. X 6 ft

Section Adequacy: 15.76%

Controlling Factor: Bearing Stress

Module Location: Header #30

Module Level: Headers - 1st Level

Module Type: Roof Beam

Material Type: Solid Sawn Douglas Fir-Larch Select Structural

Member Dimensions: (1) 3.5 in. X 7.25 in. X 5.5 ft

Section Adequacy: 72.1%

Controlling Factor: Bearing Stress

Module Location: Header #31

Module Level: Headers - 1st Level

Module Type: Roof Beam

Material Type: Solid Sawn Douglas Fir-Larch No. 2

Member Dimensions: (1) 3.5 in. X 7.25 in. X 3 ft

Section Adequacy: 8.12%

Controlling Factor: Bearing Stress

Module Location: Header #32

Module Level: Headers - 1st Level

Module Type: Roof Beam

Material Type: Solid Sawn Douglas Fir-Larch Select Structural

Member Dimensions: (1) 3.5 in. X 7.25 in. X 3 ft

Section Adequacy: 8.12%

Controlling Factor: Bearing Stress

Module Location: Header #33

Module Level: Headers - 1st Level

Module Type: Roof Beam

Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL

Member Dimensions: (3) 1.75 in. X 9.25 in. X 10 ft

Section Adequacy: 24.64%

Controlling Factor: Bearing Stress

Module Location: Header #34

Module Level: Headers - 1st Level

Module Type: Roof Beam

Material Type: Glulams Stress Class Rated 24F-1.8E 24F-V4 DF/DF

Member Dimensions: (1) 5.5 in. X 18 in. X 10 ft

Section Adequacy: 3.87%

Controlling Factor: Bearing Stress

Module Location: Header #35

Module Level: Headers - 1st Level

Module Type: Roof Beam

Material Type: Solid Sawn Douglas Fir-Larch No. 2

Member Dimensions: (1) 5.5 in. X 9.5 in. X 3 ft

Section Adequacy: 3.17%

Controlling Factor: Bearing Stress

Module Location: Header #36

Module Level: Headers - 1st Level

Module Type: Roof Beam

Material Type: Glulams Stress Class Rated 24F-1.8E 24F-V4 DF/DF

Member Dimensions: (1) 5.5 in. X 18 in. X 14 ft

Section Adequacy: 12.4%

Controlling Factor: Bearing Stress

Module Location: Header #37

Module Level: Headers - 1st Level

Module Type: Roof Beam

Material Type: Solid Sawn Douglas Fir-Larch No. 2

Member Dimensions: (1) 3.5 in. X 7.25 in. X 2.5 ft

Section Adequacy: 34.56%

Controlling Factor: Bearing Stress

Module Location: Header #38

Module Level: Headers - 1st Level

Module Type: Roof Beam

Material Type: Solid Sawn Douglas Fir-Larch No. 2

Member Dimensions: (1) 3.5 in. X 7.25 in. X 3 ft

Section Adequacy: 8.12%

Controlling Factor: Bearing Stress

Module Location: Header #39

Module Level: Headers - 1st Level

Module Type: Roof Beam

Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL

Member Dimensions: (3) 1.75 in. X 16 in. X 10 ft

Section Adequacy: 13.76%

Controlling Factor: Bearing Stress

Module Location: Header #40

Module Level: Headers - 1st Level

Module Type: Roof Beam

Material Type: Structural Composite Lumber Weyerhaeuser 2.0E Microlam LVL

Member Dimensions: (2) 1.75 in. X 9.25 in. X 8 ft

Section Adequacy: 10.05%

Controlling Factor: Bearing Stress

Module Location: Header #41

Module Level: Headers - 1st Level

Module Type: Roof Beam

Material Type: Solid Sawn Douglas Fir-Larch No. 2

Member Dimensions: (1) 3.5 in. X 7.25 in. X 4 ft

Section Adequacy: 4.01%

Controlling Factor: Bending Stress Y

Module Location: Header #42

Module Level: Headers - 1st Level

Module Type: Roof Beam

Material Type: Solid Sawn Douglas Fir-Larch No. 2

Member Dimensions: (1) 3.5 in. X 7.25 in. X 5.5 ft

Section Adequacy: 63.39%

Controlling Factor: Bending Stress Y

Module Location: Header #43

Module Level: Headers - 1st Level

Module Type: Roof Beam

Material Type: Solid Sawn Douglas Fir-Larch No. 2

Member Dimensions: (1) 3.5 in. X 7.25 in. X 3 ft

Section Adequacy: 84.78%

Controlling Factor: Bearing Stress

Module Location: Header #44

Module Level: Headers - 1st Level

Module Type: Roof Beam

Material Type: Solid Sawn Douglas Fir-Larch No. 2

Member Dimensions: (1) 3.5 in. X 7.25 in. X 2 ft

Section Adequacy: 6.41%

Controlling Factor: Bearing Stress

Module Location: Beam #12

Module Level: Floor - 1st Level

Module Type: Roof Beam

Material Type: Solid Sawn Douglas Fir-Larch No. 2

Member Dimensions: (1) 5.5 in. X 9.5 in. X 3 ft

Section Adequacy:

Controlling Factor: Shear Stress Y

Module Location: Joists #6

Module Level: Floor - 1st Level

Module Type: Floor Joist

Material Type: I-Joists Weyerhaeuser TJI 110

Member Dimensions: (1) 1.75 in. X 9.5 in. X 27.5 ft

Section Adequacy: 41.49%

Controlling Factor: Bearing Load

Module Location: Joists #7

Module Level: Floor - 1st Level

Module Type: Floor Joist

Material Type: I-Joists Weyerhaeuser TJI 110

Member Dimensions: (1) 1.75 in. X 9.5 in. X 30 ft

Section Adequacy: 39.46%

Controlling Factor: Bearing Load

Module Location: Joists #8

Module Level: Floor - 1st Level

Module Type: Floor Joist

Material Type: I-Joists Weyerhaeuser TJI 110

Member Dimensions: (1) 1.75 in. X 9.5 in. X 41 ft

Section Adequacy: 37.82%

Controlling Factor: Bearing Load

Module Location: Joists #9

Module Level: Floor - 1st Level

Module Type: Floor Joist

Material Type: I-Joists Weyerhaeuser TJI 110

Member Dimensions: (1) 1.75 in. X 9.5 in. X 41.5 ft

Section Adequacy: 26.7%

Controlling Factor: Bearing Load

Module Location: Joists #10

Module Level: Floor - 1st Level

Module Type: Floor Joist

Material Type: I-Joists Weyerhaeuser TJI 110

Member Dimensions: (1) 1.75 in. X 9.5 in. X 31 ft

Section Adequacy: 31.8%

Controlling Factor: Bearing Load

Module Location: Joists #11

Module Level: Floor - 1st Level

Module Type: Floor Joist

Material Type: I-Joists Weyerhaeuser TJI 110

Member Dimensions: (1) 1.75 in. X 9.5 in. X 30 ft

Section Adequacy: 39.57%

Controlling Factor: Bearing Load

Module Location: Joists #12

Module Level: Floor - 1st Level

Module Type: Floor Joist

Material Type: I-Joists Weyerhaeuser TJI 110

Member Dimensions: (1) 1.75 in. X 9.5 in. X 26 ft

Section Adequacy: 36.33%

Controlling Factor: Bearing Load

Module Location: Joists #13

Module Level: Floor - 1st Level

Module Type: Floor Joist

Material Type: I-Joists Weyerhaeuser TJI 110

Member Dimensions: (1) 1.75 in. X 9.5 in. X 40 ft

Section Adequacy: 52.84%

Controlling Factor: Bearing Load

Module Location: Joists #14

Module Level: Floor - 1st Level

Module Type: Floor Joist

Material Type: I-Joists Weyerhaeuser TJI 110

Member Dimensions: (1) 1.75 in. X 9.5 in. X 6 ft

Section Adequacy: 73.86%

Controlling Factor: Shear Force

Module Location: Joists #15

Module Level: Floor - 1st Level

Module Type: Floor Joist

Material Type: I-Joists Weyerhaeuser TJI 110

Member Dimensions: (1) 1.75 in. X 9.5 in. X 26 ft

Section Adequacy: 47%

Controlling Factor: Bearing Load

Module Location: Joists #16

Module Level: Floor - 1st Level

Module Type: Floor Joist

Material Type: I-Joists Weyerhaeuser TJI 110

Member Dimensions: (1) 1.75 in. X 9.5 in. X 17 ft

Section Adequacy: 34.99%

Controlling Factor: Bearing Load

Module Location: Footing #1

Module Level: Basement

Module Type: Continuous Footing

Material Type: Concrete

Member Dimensions: 2 ft. wide X 10 in. tall

Section Adequacy: 28.04%

Controlling Factor: Soil Bearing Pressure

Reinforcement: # 4 - Longitudinal: 0 Bars. Transversal: 6" O.C. Spacing

Module Location: Footing - WD-#2

Module Level: Basement

Module Type: Continuous Footing

Material Type: Concrete

Member Dimensions: 2 ft. wide X 10 in. tall

Section Adequacy: 22.75%

Controlling Factor: Soil Bearing Pressure

Reinforcement: # 4 - Longitudinal: 0 Bars. Transversal: 6" O.C. Spacing

Module Location: Footing #3

Module Level: Basement

Module Type: Continuous Footing

Material Type: Concrete

Member Dimensions: 2 ft. wide X 10 in. tall

Section Adequacy: 2.57%

Controlling Factor: Soil Bearing Pressure

Reinforcement: # 4 - Longitudinal: 0 Bars. Transversal: 6" O.C. Spacing

Module Location: Footing - WD-#4

Module Level: Basement

Module Type: Continuous Footing

Material Type: Concrete

Member Dimensions: 2.5 ft. wide X 10 in. tall

Section Adequacy: 7.34%

Controlling Factor: Soil Bearing Pressure

Reinforcement: # 4 - Longitudinal: 0 Bars. Transversal: 6" O.C. Spacing

Module Location: Footing - WD-#5

Module Level: Basement

Module Type: Continuous Footing

Material Type: Concrete

Member Dimensions: 1.3334 ft. wide X 10 in. tall

Section Adequacy: 50.19%

Controlling Factor: Soil Bearing Pressure

Reinforcement: # 4 - Longitudinal: 0 Bars. Transversal: 6" O.C. Spacing

Module Location: Footing - WD-#6

Module Level: Basement

Module Type: Continuous Footing

Material Type: Concrete
 Member Dimensions: 3.5 ft. wide X 10 in. tall
 Section Adequacy: 13.45%
 Controlling Factor: Soil Bearing Pressure
 Reinforcement: # 4 - Longitudinal: 0 Bars. Transversal: 6" O.C. Spacing

Module Location: Footing - WD-#7

Module Level: Basement
 Module Type: Continuous Footing
 Material Type: Concrete
 Member Dimensions: 2 ft. wide X 10 in. tall
 Section Adequacy: 11.19%
 Controlling Factor: Soil Bearing Pressure
 Reinforcement: # 4 - Longitudinal: 0 Bars. Transversal: 6" O.C. Spacing

Module Location: Footing - WD-#8

Module Level: Basement
 Module Type: Continuous Footing
 Material Type: Concrete
 Member Dimensions: 1.333 ft. wide X 10 in. tall
 Section Adequacy: 47.71%
 Controlling Factor: Soil Bearing Pressure
 Reinforcement: # 4 - Longitudinal: 0 Bars. Transversal: 6" O.C. Spacing

Module Location: Footing #9

Module Level: Basement
 Module Type: Continuous Footing
 Material Type: Concrete
 Member Dimensions: 1.333 ft. wide X 10 in. tall
 Section Adequacy: 69.22%
 Controlling Factor: Soil Bearing Pressure
 Reinforcement: # 4 - Longitudinal: 0 Bars. Transversal: 6" O.C. Spacing

Module Location: Footing #10

Module Level: Basement
 Module Type: Continuous Footing
 Material Type: Concrete
 Member Dimensions: 2 ft. wide X 10 in. tall
 Section Adequacy: 35.45%
 Controlling Factor: Soil Bearing Pressure
 Reinforcement: # 4 - Longitudinal: 0 Bars. Transversal: 6" O.C. Spacing

Module Location: Footing #11

Module Level: Basement
 Module Type: Continuous Footing
 Material Type: Concrete
 Member Dimensions: 2 ft. wide X 10 in. tall
 Section Adequacy: 7.57%
 Controlling Factor: Soil Bearing Pressure
 Reinforcement: # 4 - Longitudinal: 0 Bars. Transversal: 6" O.C. Spacing

Module Location: Footing #12

Module Level: Basement
 Module Type: Continuous Footing
 Material Type: Concrete
 Member Dimensions: 2 ft. wide X 10 in. tall
 Section Adequacy: 14.86%
 Controlling Factor: Soil Bearing Pressure
 Reinforcement: # 4 - Longitudinal: 0 Bars. Transversal: 6" O.C. Spacing

Module Location: Footing #13

Module Level: Basement
 Module Type: Continuous Footing
 Material Type: Concrete
 Member Dimensions: 3.5 ft. wide X 10 in. tall
 Section Adequacy: 10.17%
 Controlling Factor: Soil Bearing Pressure
 Reinforcement: # 4 - Longitudinal: 0 Bars. Transversal: 6" O.C. Spacing

Module Location: Footing - WD-#14

Module Level: Basement

Module Type: Continuous Footing

Material Type: Concrete

Member Dimensions: 3.5 ft. wide X 10 in. tall

Section Adequacy: 17.13%

Controlling Factor: Soil Bearing Pressure

Reinforcement: # 4 - Longitudinal: 0 Bars. Transversal: 6" O.C. Spacing

Module Location: Footing - WD-#15

Module Level: Basement
 Module Type: Continuous Footing
 Material Type: Concrete
 Member Dimensions: 2.5 ft. wide X 10 in. tall
 Section Adequacy: 6.31%
 Controlling Factor: Soil Bearing Pressure
 Reinforcement: # 4 - Longitudinal: 0 Bars. Transversal: 6" O.C. Spacing

Module Location: Footing #16

Module Level: Basement
 Module Type: Continuous Footing
 Material Type: Concrete
 Member Dimensions: 2 ft. wide X 10 in. tall
 Section Adequacy: 13.13%
 Controlling Factor: Soil Bearing Pressure
 Reinforcement: # 4 - Longitudinal: 0 Bars. Transversal: 6" O.C. Spacing

Module Location: Footing #17

Module Level: Basement
 Module Type: Continuous Footing
 Material Type: Concrete
 Member Dimensions: 2 ft. wide X 10 in. tall
 Section Adequacy: 13.13%
 Controlling Factor: Soil Bearing Pressure
 Reinforcement: # 4 - Longitudinal: 0 Bars. Transversal: 6" O.C. Spacing

Module Location: Footing - WD-#18

Module Level: Basement
 Module Type: Continuous Footing
 Material Type: Concrete
 Member Dimensions: 2.5 ft. wide X 10 in. tall
 Section Adequacy: 4.39%
 Controlling Factor: Soil Bearing Pressure
 Reinforcement: # 4 - Longitudinal: 0 Bars. Transversal: 6" O.C. Spacing

Module Location: Footing #19

Module Level: Basement
 Module Type: Continuous Footing
 Material Type: Concrete
 Member Dimensions: 2 ft. wide X 10 in. tall
 Section Adequacy: 18.7%
 Controlling Factor: Soil Bearing Pressure
 Reinforcement: # 4 - Longitudinal: 0 Bars. Transversal: 6" O.C. Spacing

Module Location: Footing #20

Module Level: Basement
 Module Type: Continuous Footing
 Material Type: Concrete
 Member Dimensions: 3 ft. wide X 10 in. tall
 Section Adequacy: 13.95%
 Controlling Factor: Soil Bearing Pressure
 Reinforcement: # 4 - Longitudinal: 0 Bars. Transversal: 6" O.C. Spacing

Module Location: Footing #21

Module Level: Basement
 Module Type: Continuous Footing
 Material Type: Concrete
 Member Dimensions: 2 ft. wide X 10 in. tall
 Section Adequacy: 18.7%
 Controlling Factor: Soil Bearing Pressure

Reinforcement: # 4 - Longitudinal: 0 Bars. Transversal: 6" O.C. Spacing

Module Location: Footing - WD-#22

Module Level: Basement

Module Type: Continuous Footing

Material Type: Concrete

Member Dimensions: 2.5 ft. wide X 10 in. tall

Section Adequacy: 8.84%

Controlling Factor: Soil Bearing Pressure

Reinforcement: # 4 - Longitudinal: 0 Bars. Transversal: 6" O.C. Spacing

Module Location: Footing #23

Module Level: Basement

Module Type: Continuous Footing

Material Type: Concrete

Member Dimensions: 2 ft. wide X 10 in. tall

Section Adequacy: 28.44%

Controlling Factor: Soil Bearing Pressure

Reinforcement: # 4 - Longitudinal: 0 Bars. Transversal: 6" O.C. Spacing

Module Location: Footing #24

Module Level: Basement

Module Type: Continuous Footing

Material Type: Concrete

Member Dimensions: 2 ft. wide X 10 in. tall

Section Adequacy: 30.69%

Controlling Factor: Soil Bearing Pressure

Reinforcement: # 4 - Longitudinal: 0 Bars. Transversal: 6" O.C. Spacing

Module Location: SpotFtg Bm #1-1

Module Level: Basement

Module Type: Isolated Footing

Material Type: Concrete

Member Dimensions: 4 ft. wide X 10 in. tall X 4 ft long

Section Adequacy: 6.64%

Controlling Factor: Soil Bearing Pressure

Reinforcement: # 4 - Longitudinal: 5 Bars. Transversal: 5 Bars

Module Location: SpotFtg Bm #1-2

Module Level: Basement

Module Type: Isolated Footing

Material Type: Concrete

Member Dimensions: 5 ft. wide X 10 in. tall X 5 ft long

Section Adequacy: 3.55%

Controlling Factor: Soil Bearing Pressure

Reinforcement: # 4 - Longitudinal: 6 Bars. Transversal: 6 Bars

Module Location: SpotFtg Bm #1-3

Module Level: Basement

Module Type: Isolated Footing

Material Type: Concrete

Member Dimensions: 4 ft. wide X 10 in. tall X 4 ft long

Section Adequacy: 8.96%

Controlling Factor: Soil Bearing Pressure

Reinforcement: # 4 - Longitudinal: 5 Bars. Transversal: 5 Bars

Module Location: SpotFtg Bm #3-3

Module Level: Basement

Module Type: Isolated Footing

Material Type: Concrete

Member Dimensions: 7.5 ft. wide X 12 in. tall X 10.5 ft long

Section Adequacy: 5.02%

Controlling Factor: Moment Y

Reinforcement: # 4 - Longitudinal: 16 Bars. Transversal: 10 Bars

Module Location: SpotFtg Bm #2-2

Module Level: Basement

Module Type: Isolated Footing

Material Type: Concrete

Member Dimensions: 4.5 ft. wide X 10 in. tall X 4.5 ft long

Section Adequacy: 13.39%

Controlling Factor: Soil Bearing Pressure

Reinforcement: # 4 - Longitudinal: 5 Bars. Transversal: 5 Bars

Module Location: SpotFtg Bm #4-1

Module Level: Basement

Module Type: Isolated Footing

Material Type: Concrete

Member Dimensions: 3.5 ft. wide X 10 in. tall X 3.5 ft long

Section Adequacy: 16.46%

Controlling Factor: Soil Bearing Pressure

Reinforcement: # 4 - Longitudinal: 4 Bars. Transversal: 4 Bars

Module Location: SpotFtg Bm #4-2

Module Level: Basement

Module Type: Isolated Footing

Material Type: Concrete

Member Dimensions: 4.5 ft. wide X 10 in. tall X 4.5 ft long

Section Adequacy: 13.62%

Controlling Factor: Soil Bearing Pressure

Reinforcement: # 4 - Longitudinal: 5 Bars. Transversal: 5 Bars

Module Location: SpotFtg Bm #4-3

Module Level: Basement

Module Type: Isolated Footing

Material Type: Concrete

Member Dimensions: 4 ft. wide X 10 in. tall X 4 ft long

Section Adequacy: 11.51%

Controlling Factor: Soil Bearing Pressure

Reinforcement: # 4 - Longitudinal: 5 Bars. Transversal: 5 Bars

Module Location: SpotFtg Bm #4-4

Module Level: Basement

Module Type: Isolated Footing

Material Type: Concrete

Member Dimensions: 2 ft. wide X 10 in. tall X 2 ft long

Section Adequacy: 21.67%

Controlling Factor: Soil Bearing Pressure

Reinforcement: # 4 - Longitudinal: 3 Bars. Transversal: 3 Bars

Module Location: SpotFtg Hdr #6-1

Module Level: Basement

Module Type: Isolated Footing

Material Type: Concrete

Member Dimensions: 2 ft. wide X 10 in. tall X 2 ft long

Section Adequacy: 40.4%

Controlling Factor: Soil Bearing Pressure

Reinforcement: # 4 - Longitudinal: 3 Bars. Transversal: 3 Bars

Module Location: SpotFtg Hdr #19-2

Module Level: Basement

Module Type: Isolated Footing

Material Type: Concrete

Member Dimensions: 3.5 ft. wide X 10 in. tall X 3.5 ft long

Section Adequacy: 13.43%

Controlling Factor: Soil Bearing Pressure

Reinforcement: # 4 - Longitudinal: 4 Bars. Transversal: 4 Bars

Module Location: SpotFtg Hdr #16-1

Module Level: Basement

Module Type: Isolated Footing

Material Type: Concrete

Member Dimensions: 7 ft. wide X 12 in. tall X 7 ft long

Section Adequacy: 7.81%

Controlling Factor: Moment X

Reinforcement: # 4 - Longitudinal: 10 Bars. Transversal: 10 Bars

Module Location: SpotFtg Hdr #16-2

Module Level: Basement
Module Type: Isolated Footing
Material Type: Concrete
Member Dimensions: 7 ft. wide X 12 in. tall X 7 ft long
Section Adequacy: 25.57%
Controlling Factor: Moment X
Reinforcement: # 4 - Longitudinal: 10 Bars. Transversal: 10 Bars

Module Location: SpotFtg Hdr #17-2
Module Level: Basement
Module Type: Isolated Footing
Material Type: Concrete
Member Dimensions: 3.5 ft. wide X 10 in. tall X 3.5 ft long
Section Adequacy: 36.15%
Controlling Factor: Soil Bearing Pressure
Reinforcement: # 4 - Longitudinal: 4 Bars. Transversal: 4 Bars

Module Location: SpotFtg Hdr #12-2
Module Level: Basement
Module Type: Isolated Footing
Material Type: Concrete
Member Dimensions: 3.5 ft. wide X 10 in. tall X 3.5 ft long
Section Adequacy: 18.14%
Controlling Factor: Soil Bearing Pressure
Reinforcement: # 4 - Longitudinal: 4 Bars. Transversal: 4 Bars

Module Location: SpotFtg Hdr #13
Module Level: Basement
Module Type: Isolated Footing
Material Type: Concrete
Member Dimensions: 3.5 ft. wide X 10 in. tall X 3.5 ft long
Section Adequacy: 18%
Controlling Factor: Soil Bearing Pressure
Reinforcement: # 4 - Longitudinal: 4 Bars. Transversal: 4 Bars

Module Location: SpotFtg Hdr #18
Module Level: Basement
Module Type: Isolated Footing
Material Type: Concrete
Member Dimensions: 3.5 ft. wide X 10 in. tall X 3.5 ft long
Section Adequacy: 63.87%
Controlling Factor: Soil Bearing Pressure
Reinforcement: # 4 - Longitudinal: 4 Bars. Transversal: 4 Bars

Module Location: SpotFtg Bm #7-2
Module Level: Basement
Module Type: Isolated Footing
Material Type: Concrete
Member Dimensions: 6 ft. wide X 10 in. tall X 6 ft long
Section Adequacy: 5.39%
Controlling Factor: Moment X
Reinforcement: # 4 - Longitudinal: 7 Bars. Transversal: 7 Bars

Module Location: SpotFtg Bm #7-3
Module Level: Basement
Module Type: Isolated Footing
Material Type: Concrete
Member Dimensions: 4.5 ft. wide X 10 in. tall X 4.5 ft long
Section Adequacy: 5.05%
Controlling Factor: Soil Bearing Pressure
Reinforcement: # 4 - Longitudinal: 5 Bars. Transversal: 5 Bars

Module Location: SpotFtg Bm #8-2
Module Level: Basement
Module Type: Isolated Footing
Material Type: Concrete
Member Dimensions: 4 ft. wide X 10 in. tall X 4 ft long
Section Adequacy: 91.94%
Controlling Factor: Soil Bearing Pressure

Reinforcement: # 4 - Longitudinal: 5 Bars. Transversal: 5 Bars

Module Location: SpotFtg Hdr #34-1
Module Level: Basement
Module Type: Isolated Footing
Material Type: Concrete
Member Dimensions: 2.5 ft. wide X 10 in. tall X 5.5 ft long
Section Adequacy: 5.81%
Controlling Factor: Soil Bearing Pressure
Reinforcement: # 4 - Longitudinal: 7 Bars. Transversal: 3 Bars

Module Location: SpotFtg Hdr #34-2
Module Level: Basement
Module Type: Isolated Footing
Material Type: Concrete
Member Dimensions: 5.5 ft. wide X 10 in. tall X 5.5 ft long
Section Adequacy: 13.64%
Controlling Factor: Soil Bearing Pressure
Reinforcement: # 4 - Longitudinal: 7 Bars. Transversal: 7 Bars

Module Location: SpotFtg Hdr #36-1
Module Level: Basement
Module Type: Isolated Footing
Material Type: Concrete
Member Dimensions: 3 ft. wide X 10 in. tall X 3 ft long
Section Adequacy: 2.01%
Controlling Factor: Soil Bearing Pressure
Reinforcement: # 4 - Longitudinal: 4 Bars. Transversal: 4 Bars

Module Location: SpotFtg Bm #6-1
Module Level: Basement
Module Type: Isolated Footing
Material Type: Concrete
Member Dimensions: 5.5 ft. wide X 10 in. tall X 5.5 ft long
Section Adequacy: 17.58%
Controlling Factor: Soil Bearing Pressure
Reinforcement: # 4 - Longitudinal: 7 Bars. Transversal: 7 Bars

Module Location: SpotFtg Bm #6-2
Module Level: Basement
Module Type: Isolated Footing
Material Type: Concrete
Member Dimensions: 5.5 ft. wide X 10 in. tall X 5.5 ft long
Section Adequacy: 12.36%
Controlling Factor: Soil Bearing Pressure
Reinforcement: # 4 - Longitudinal: 7 Bars. Transversal: 7 Bars

Module Location: SpotFtg Hdr #39
Module Level: Basement
Module Type: Isolated Footing
Material Type: Concrete
Member Dimensions: 3.5 ft. wide X 10 in. tall X 3.5 ft long
Section Adequacy: 8.78%
Controlling Factor: Soil Bearing Pressure
Reinforcement: # 4 - Longitudinal: 4 Bars. Transversal: 4 Bars

Module Location: SpotFtg Bm #9-1
Module Level: Basement
Module Type: Isolated Footing
Material Type: Concrete
Member Dimensions: 2.5 ft. wide X 10 in. tall X 2.5 ft long
Section Adequacy: 64.33%
Controlling Factor: Soil Bearing Pressure
Reinforcement: # 4 - Longitudinal: 3 Bars. Transversal: 3 Bars

Module Location: SpotFtg Bm #13-1
Module Level: Basement
Module Type: Isolated Footing
Material Type: Concrete

Member Dimensions: 4 ft. wide X 10 in. tall X 4 ft long
 Section Adequacy: **5.64%**
 Controlling Factor: Soil Bearing Pressure
 Reinforcement: # 4 - Longitudinal: 5 Bars. Transversal: 5 Bars

Module Location: SpotFtg Bm #13-2

Module Level: Basement
 Module Type: Isolated Footing
 Material Type: Concrete
 Member Dimensions: 4 ft. wide X 10 in. tall X 4 ft long
 Section Adequacy: **17.51%**
 Controlling Factor: Soil Bearing Pressure
 Reinforcement: # 4 - Longitudinal: 5 Bars. Transversal: 5 Bars

Module Location: SpotFtg Bm #14-2

Module Level: Basement
 Module Type: Isolated Footing
 Material Type: Concrete
 Member Dimensions: 7 ft. wide X 12 in. tall X 7 ft long
 Section Adequacy: **15.17%**
 Controlling Factor: Soil Bearing Pressure
 Reinforcement: # 4 - Longitudinal: 10 Bars. Transversal: 10 Bars

Module Location: Footing #16

Module Level: Basement
 Module Type: Continuous Footing
 Material Type: Concrete
 Member Dimensions: 2 ft. wide X 10 in. tall
 Section Adequacy: **13.13%**
 Controlling Factor: Soil Bearing Pressure
 Reinforcement: # 4 - Longitudinal: 0 Bars. Transversal: 6" O.C. Spacing

Module Location: Footing #25

Module Level: Basement
 Module Type: Continuous Footing
 Material Type: Concrete
 Member Dimensions: 2 ft. wide X 10 in. tall
 Section Adequacy: **9.39%**
 Controlling Factor: Soil Bearing Pressure
 Reinforcement: # 4 - Longitudinal: 0 Bars. Transversal: 6" O.C. Spacing

Module Location: Footing #26

Module Level: Basement
 Module Type: Continuous Footing
 Material Type: Concrete
 Member Dimensions: 1.333 ft. wide X 10 in. tall
 Section Adequacy: **18.91%**
 Controlling Factor: Soil Bearing Pressure
 Reinforcement: # 4 - Longitudinal: 0 Bars. Transversal: 6" O.C. Spacing

Module Location: SpotFtg Hdr #22-1

Module Level: Basement
 Module Type: Isolated Footing
 Material Type: Concrete
 Member Dimensions: 2 ft. wide X 10 in. tall X 2 ft long
 Section Adequacy: **7.45%**
 Controlling Factor: Soil Bearing Pressure
 Reinforcement: # 4 - Longitudinal: 3 Bars. Transversal: 3 Bars

Module Location: SpotFtg Hdr #22-2

Module Level: Basement
 Module Type: Isolated Footing
 Material Type: Concrete
 Member Dimensions: 3.5 ft. wide X 10 in. tall X 3.5 ft long
 Section Adequacy: **21.35%**
 Controlling Factor: Soil Bearing Pressure
 Reinforcement: # 4 - Longitudinal: 4 Bars. Transversal: 4 Bars

Module Location: SpotFtg Hdr #23-2

Module Level: Basement

Module Type: Isolated Footing

Material Type: Concrete

Member Dimensions: 2 ft. wide X 10 in. tall X 4 ft long

Section Adequacy: **26.09%**

Controlling Factor: Soil Bearing Pressure

Reinforcement: # 4 - Longitudinal: 5 Bars. Transversal: 3 Bars

Module Location: SpotFtg Bm #8-2

Module Level: Basement
 Module Type: Isolated Footing
 Material Type: Concrete
 Member Dimensions: 3 ft. wide X 10 in. tall X 3 ft long
 Section Adequacy: **14.33%**
 Controlling Factor: Soil Bearing Pressure
 Reinforcement: # 4 - Longitudinal: 4 Bars. Transversal: 4 Bars

Module Location: SpotFtg Hdr #25-1

Module Level: Basement
 Module Type: Isolated Footing
 Material Type: Concrete
 Member Dimensions: 1.3334 ft. wide X 10 in. tall X 2 ft long
 Section Adequacy: **22.58%**
 Controlling Factor: Soil Bearing Pressure
 Reinforcement: # 4 - Longitudinal: 3 Bars. Transversal: 2 Bars

Module Location: SpotFtg Hdr #25-2

Module Level: Basement
 Module Type: Isolated Footing
 Material Type: Concrete
 Member Dimensions: 1.3334 ft. wide X 10 in. tall X 2 ft long
 Section Adequacy: **22.58%**
 Controlling Factor: Soil Bearing Pressure
 Reinforcement: # 4 - Longitudinal: 3 Bars. Transversal: 2 Bars

Module Location: SpotFtg Hdr #24-1

Module Level: Basement
 Module Type: Isolated Footing
 Material Type: Concrete
 Member Dimensions: 3.5 ft. wide X 10 in. tall X 3.5 ft long
 Section Adequacy: **14.38%**
 Controlling Factor: Soil Bearing Pressure
 Reinforcement: # 4 - Longitudinal: 4 Bars. Transversal: 4 Bars

Module Location: SpotFtg Hdr #24-2

Module Level: Basement
 Module Type: Isolated Footing
 Material Type: Concrete
 Member Dimensions: 1.3334 ft. wide X 10 in. tall X 4 ft long
 Section Adequacy: **33.97%**
 Controlling Factor: Soil Bearing Pressure
 Reinforcement: # 4 - Longitudinal: 5 Bars. Transversal: 2 Bars

Module Location: SpotFtg Hdr #26-1

Module Level: Basement
 Module Type: Isolated Footing
 Material Type: Concrete
 Member Dimensions: 2 ft. wide X 10 in. tall X 3 ft long
 Section Adequacy: **31.38%**
 Controlling Factor: Soil Bearing Pressure
 Reinforcement: # 4 - Longitudinal: 4 Bars. Transversal: 3 Bars

Module Location: SpotFtg Hdr #26-2

Module Level: Basement
 Module Type: Isolated Footing
 Material Type: Concrete
 Member Dimensions: 2 ft. wide X 10 in. tall X 2 ft long
 Section Adequacy: **1.09%**
 Controlling Factor: Soil Bearing Pressure

Reinforcement: # 4 - Longitudinal: 3 Bars. Transversal: 3 Bars

Module Location: SpotFtg Bm #15-1

Module Level: Basement

Module Type: Isolated Footing

Material Type: Concrete

Member Dimensions: 2.5 ft. wide X 10 in. tall X 2.5 ft long

Section Adequacy: 34.7%

Controlling Factor: Soil Bearing Pressure

Reinforcement: # 4 - Longitudinal: 3 Bars. Transversal: 3 Bars

Module Location: SpotFtg Bm #15-2

Module Level: Basement

Module Type: Isolated Footing

Material Type: Concrete

Member Dimensions: 3.5 ft. wide X 10 in. tall X 3.5 ft long

Section Adequacy: 6.31%

Controlling Factor: Soil Bearing Pressure

Reinforcement: # 4 - Longitudinal: 4 Bars. Transversal: 4 Bars

Module Location: SpotFtg Bm #15-4

Module Level: Basement

Module Type: Isolated Footing

Material Type: Concrete

Member Dimensions: 2.5 ft. wide X 10 in. tall X 2.5 ft long

Section Adequacy: 54.33%

Controlling Factor: Soil Bearing Pressure

Reinforcement: # 4 - Longitudinal: 3 Bars. Transversal: 3 Bars

Module Location: SpotFtg Hdr #29

Module Level: Basement

Module Type: Isolated Footing

Material Type: Concrete

Member Dimensions: 1.3334 ft. wide X 10 in. tall X 4 ft long

Section Adequacy: 29.75%

Controlling Factor: Soil Bearing Pressure

Reinforcement: # 4 - Longitudinal: 5 Bars. Transversal: 2 Bars

Module Location: SpotFtg Bm #16-1

Module Level: Basement

Module Type: Isolated Footing

Material Type: Concrete

Member Dimensions: 2.5 ft. wide X 10 in. tall X 2.5 ft long

Section Adequacy: 11.63%

Controlling Factor: Soil Bearing Pressure

Reinforcement: # 4 - Longitudinal: 3 Bars. Transversal: 3 Bars

Module Location: SpotFtg Bm #16-2

Module Level: Basement

Module Type: Isolated Footing

Material Type: Concrete

Member Dimensions: 3.5 ft. wide X 10 in. tall X 3.5 ft long

Section Adequacy: 21.29%

Controlling Factor: Soil Bearing Pressure

Reinforcement: # 4 - Longitudinal: 4 Bars. Transversal: 4 Bars

Module Location: SpotFtg Bm #17-1

Module Level: Basement

Module Type: Isolated Footing

Material Type: Concrete

Member Dimensions: 2.5 ft. wide X 10 in. tall X 2.5 ft long

Section Adequacy: 49.2%

Controlling Factor: Soil Bearing Pressure

Reinforcement: # 4 - Longitudinal: 3 Bars. Transversal: 3 Bars

Module Location: SpotFtg Bm #17-2

Module Level: Basement

Module Type: Isolated Footing

Material Type: Concrete

Member Dimensions: 3.5 ft. wide X 10 in. tall X 3.5 ft long

Section Adequacy: 27.71%

Controlling Factor: Soil Bearing Pressure

Reinforcement: # 4 - Longitudinal: 4 Bars. Transversal: 4 Bars

Module Location: SpotFtg Bm #18-2

Module Level: Basement

Module Type: Isolated Footing

Material Type: Concrete

Member Dimensions: 2 ft. wide X 10 in. tall X 2 ft long

Section Adequacy: 91.93%

Controlling Factor: Soil Bearing Pressure

Top Reinforcement: #4 - Longitudinal: 2 Bars. Transversal: 2 Bars

Bottom Reinforcement: #4 - Longitudinal: 2 Bars. Transversal: 2 Bars

Module Location: SpotFtg Bm #18-2

Module Level: Basement

Module Type: Isolated Footing

Material Type: Concrete

Member Dimensions: 4 ft. wide X 10 in. tall X 4 ft long

Section Adequacy: 11.82%

Controlling Factor: Soil Bearing Pressure

Reinforcement: # 4 - Longitudinal: 5 Bars. Transversal: 5 Bars

Module Location: SpotFtg Bm #3-2

Module Level: Basement

Module Type: Isolated Footing

Material Type: Concrete

Member Dimensions: 4.5 ft. wide X 10 in. tall X 4.5 ft long

Section Adequacy: 10.23%

Controlling Factor: Soil Bearing Pressure

Reinforcement: # 4 - Longitudinal: 5 Bars. Transversal: 5 Bars

Module Location: SpotFtg Bm #15-3

Module Level: Basement

Module Type: Isolated Footing

Material Type: Concrete

Member Dimensions: 3.5 ft. wide X 10 in. tall X 3.5 ft long

Section Adequacy: 24.3%

Controlling Factor: Soil Bearing Pressure

Reinforcement: # 4 - Longitudinal: 4 Bars. Transversal: 4 Bars

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design		
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis		
CUSTOMER:		REVIEWED BY:	Stephen Curtis		
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts		
	--				
LEVEL:	Roof	LOADING:	ASD		
MEMBER NAME:	Outlookers	CODE:	2018 International Building Code		
MEMBER TYPE:	ROOF RAFTER	NDS:	2018 NDS		
MATERIAL:	Solid Sawn				
Douglas Fir-Larch	No. 2	(1) 1.5 X 5.5	16 (in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 4.5 Member Slope (in): 4/12 Actual Length (ft): 4.74 Roof Pitch (in): 4/12 O.C. Spacing (in): 16

Area	I _x	I _y	BSW	Lams	G	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
8.25	20.8	1.55	1.88	1	0.5	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1346	748	180	1485	625	1600	580
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1
C _i	1	1	1	1	1	1	1
C _F	1.3	1.3	1	1.1	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1.15**BEAM DATA**

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	2	0	2	0.6666667				
2	2.5	0	2.5	0.8333333				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (51.1%)	101.2	207.0	1.98	D+S	1.15
Bending Stress Y (psi)	PASS (25.8%)	1121.3	1510.5	2.025	D+S	1.15
Deflection Y (in)	PASS (69.5%)	0.107	0.351 (=L/180)	4.5	S	
Compressive Stress (psi)	PASS (98.7%)	21.9	1668.9	2.025	D+S	1.15
Tensile Stress (psi)	PASS (97.4%)	22.5	859.6	1.98	D+S	1.15
Bearing Stress (psi)	PASS (80.9%)	127.4	667.6	2	D+S	1.15
Bending-Compression (Unit)	PASS (25.6%)	0.74	1.00	2.025	D+S	1.15
Bending-Tension (Unit)	PASS (24.7%)	0.75	1.00	1.98	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	-11	-119	-130
B	101	1067	1168
C	0	0	0

Reaction Location

A

B

C

CONNECTORS

(All connectors are Simpson Strong-Tie connectors)*

Support A	Model	Type	Adequacy (%)	Header Fastening (in)	Joist Nails (in)	Nailer Thickness (in)
Primary	LUS26	Hanger	75.78	(4) 0.148 x 3	(4) 0.148 x 3	N/A

Hanger at support A has seat sloped 0 degrees, skewed 0 degrees.

WSR = web stiffeners required

*Capacity values are adjusted based on specific gravity when members use grades other than those specified in Simpson Strong-Tie's capacity tables.

**LOAD LIST**

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft ²)	Uniform	150	150	0	4.5	Snow	Y
Uniform (lb/ft)	Uniform	17	17	0	4.5	Dead	Y
Self Weight (lb/ft)	-	1.88	1.88	0	4.5	Dead	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design		
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis		
CUSTOMER:		REVIEWED BY:	Stephen Curtis		
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts		
	--				
LEVEL:	Roof	LOADING:	ASD		
MEMBER NAME:	Trusses #1	CODE:	2018 International Building Code		
MEMBER TYPE:	ROOF RAFTER	NDS:	2018 NDS		
MATERIAL:	Structural Composite Lumber				
Weyerhaeuser	2.0E Microlam LVL	(1) 1.75 X 11.25	24 (in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 17 Member Slope (in): 0/12 Actual Length (ft): 17 Roof Pitch (in): 0/12 O.C. Spacing (in): 24

Area	I _x	I _y	BSW	Lams	C _{fn}	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
19.69	207.64	5.02	5.74	1	7.35	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2704	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 1.01 C_r = 1.04 Volume factor is applied on a load combination basis And is Not reflected in the adjusted values**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	3	0	3	0				
2	14	0	14	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (43.6%)	184.8	327.8	3.06	D+S	1.15
Bending Stress Y (psi)	PASS (22.8%)	2421.3	3137.0	10.37	D+S	1.15
Deflection Y (in)	PASS (15.8%)	0.337	0.400 (=L/180)	0	S	
Bearing Stress (psi)	PASS (32.2%)	562.8	830.4	3	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	0	0	0
B	351	3096	3447
C	227	2004	2231

Reaction Location

A B C

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft ²)	Uniform	150	150	0	17	Snow	Y
Uniform (lbf/ft ²)	Uniform	17	17	0	17	Dead	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design		
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis		
CUSTOMER:		REVIEWED BY:	Stephen Curtis		
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts		
	--				
LEVEL:	Roof	LOADING:	ASD		
MEMBER NAME:	Trusses #2	CODE:	2018 International Building Code		
MEMBER TYPE:	ROOF RAFTER	NDS:	2018 NDS		
MATERIAL:	Structural Composite Lumber				
Weyerhaeuser	2.0E Microlam LVL	(2) 1.75 X 20	24 (in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 22.5 Member Slope (in): 0/12 Actual Length (ft): 22.5 Roof Pitch (in): 0/12 O.C. Spacing (in): 24

Area	I _x	I _y	BSW	Lams	C _{fn}	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
70	2333.33	17.86	20.42	2	7.35	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2704	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 0.93C_r = 1.04 Volume factor is applied on a load combination basis And is Not reflected in the adjusted values**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	3	0	3	0				
2	19.5	0	19.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (78.5%)	70.4	327.8	3.15	D+S	1.15
Bending Stress Y (psi)	PASS (73.2%)	778.2	2900.8	13.05	D+S	1.15
Deflection Y (in)	PASS (77.0%)	0.092	0.400 (=L/180)	0	S	
Bearing Stress (psi)	PASS (57.4%)	353.9	830.4	3	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	0	0	0
B	441	3894	4335
C	324	2856	3180

Reaction Location

A B C

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft ²)	Uniform	150	150	0	22.5	Snow	Y
Uniform (lbf/ft ²)	Uniform	17	17	0	22.5	Dead	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design		
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis		
CUSTOMER:		REVIEWED BY:	Stephen Curtis		
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts		
	--				
LEVEL:	Roof	LOADING:	ASD		
MEMBER NAME:	Trusses #3	CODE:	2018 International Building Code		
MEMBER TYPE:	ROOF RAFTER	NDS:	2018 NDS		
MATERIAL:	Structural Composite Lumber				
Weyerhaeuser	2.0E Microlam LVL	(3) 1.75 X 16	24 (in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 36 Member Slope (in): 0/12 Actual Length (ft): 36 Roof Pitch (in): 0/12 O.C. Spacing (in): 24

Area	Ix	Iy	BSW	Lams	Cfn	Kcr
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
84	1792	21.44	24.5	3	7.35	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc _⊥ (psi)	E (psi) x10 ³	Emin (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2704	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 0.96C_r = 1.04 Volume factor Is applied on a load combination basis And Is Not reflected in the adjusted values**BEAM DATA**

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	6	0	6	0				
2	18	0	18	0				
3	12	0	12	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (83.2%)	54.9	327.8	23.76	D+S	1.15
Bending Stress Y (psi)	PASS (85.0%)	449.5	2990.2	24.12	D+S	1.15
Deflection Y (in)	PASS (94.3%)	0.069	1.200 (=L/180)	14.76	S	
Bearing Stress (psi)	PASS (61.4%)	320.4	830.4	24	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	0	0	0
B	495	4365	4860
C	599	5287	5886
D	130	1148	1278

Reaction Location

A B C D

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft ²)	Uniform	150	150	0	36	Snow	Y
Uniform (lbf/ft ²)	Uniform	17	17	0	36	Dead	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design		
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis		
CUSTOMER:		REVIEWED BY:	Stephen Curtis		
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts		
	--				
LEVEL:	Roof	LOADING:	ASD		
MEMBER NAME:	Trusses #4	CODE:	2018 International Building Code		
MEMBER TYPE:	ROOF RAFTER	NDS:	2018 NDS		
MATERIAL:	Structural Composite Lumber				
Weyerhaeuser	2.0E Microlam LVL	(2) 1.75 X 20	24 (in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 16 Member Slope (in): 0/12 Actual Length (ft): 16 Roof Pitch (in): 0/12 O.C. Spacing (in): 24

Area	I _x	I _y	BSW	Lams	C _{fn}	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
70	2333.33	17.86	20.42	2	7.35	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2704	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 0.93C_r = 1.04 Volume factor is applied on a load combination basis And is Not reflected in the adjusted values**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	6	0	6	0				
2	10	0	10	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (85.3%)	48.1	327.8	6.08	D+S	1.15
Bending Stress Y (psi)	PASS (88.0%)	299.9	2504.4	6.08	D+S	1.15
Deflection Y (in)	PASS (96.2%)	0.030	0.800 (=L/180)	0	S	
Bearing Stress (psi)	PASS (58.0%)	349.0	830.4	6	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	0	0	0
B	435	3840	4275
C	109	960	1069

Reaction Location

A

B

C

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft ²)	Uniform	150	150	0	16	Snow	Y
Uniform (lbf/ft ²)	Uniform	17	17	0	16	Dead	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design		
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis		
CUSTOMER:		REVIEWED BY:	Stephen Curtis		
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts		
	--				
LEVEL:	Roof	LOADING:	ASD		
MEMBER NAME:	Trusses #5	CODE:	2018 International Building Code		
MEMBER TYPE:	ROOF RAFTER	NDS:	2018 NDS		
MATERIAL:	Structural Composite Lumber				
Weyerhaeuser	2.0E Microlam LVL	(2) 1.75 X 20	24 (in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 17 Member Slope (in): 0/12 Actual Length (ft): 17 Roof Pitch (in): 0/12 O.C. Spacing (in): 24

Area	I _x	I _y	BSW	Lams	C _{fn}	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lb/ft)			Creep Factor
70	2333.33	17.86	20.42	2	7.35	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2704	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 0.93C_r = 1.04 Volume factor is applied on a load combination basis And is Not reflected in the adjusted values**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	3	0	3	0				
2	14	0	14	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (84.1%)	52.0	327.8	3.06	D+S	1.15
Bending Stress Y (psi)	PASS (86.8%)	383.1	2900.8	10.37	D+S	1.15
Deflection Y (in)	PASS (92.5%)	0.030	0.400 (=L/180)	0	S	
Bearing Stress (psi)	PASS (66.1%)	281.4	830.4	3	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	0	0	0
B	351	3096	3447
C	227	2004	2231

Reaction Location

A B C

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft ²)	Uniform	150	150	0	17	Snow	Y
Uniform (lbf/ft ²)	Uniform	17	17	0	17	Dead	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design		
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis		
CUSTOMER:		REVIEWED BY:	Stephen Curtis		
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts		
	--				
LEVEL:	Roof	LOADING:	ASD		
MEMBER NAME:	Trusses #6	CODE:	2018 International Building Code		
MEMBER TYPE:	ROOF RAFTER	NDS:	2018 NDS		
MATERIAL:	Structural Composite Lumber				
Weyerhaeuser	2.0E Microlam LVL	(2) 1.75 X 20	24 (in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 9 Member Slope (in): 0/12 Actual Length (ft): 9 Roof Pitch (in): 0/12 O.C. Spacing (in): 24

Area	I _x	I _y	BSW	Lams	C _{fn}	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
70	2333.33	17.86	20.42	2	7.35	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2704	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 0.93C_r = 1.04 Volume factor is applied on a load combination basis And is Not reflected in the adjusted values**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	3	0	3	0				
2	6	0	6	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (91.9%)	26.4	327.8	3.06	D+S	1.15
Bending Stress Y (psi)	PASS (97.4%)	75.8	2900.8	2.97	D+S	1.15
Deflection Y (in)	PASS (99.7%)	0.001	0.400 (=L/180)	0	S	
Bearing Stress (psi)	PASS (77.8%)	184.0	830.4	3	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	0	0	0
B	230	2025	2255
C	76	675	751

Reaction Location

A

B

C

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft ²)	Uniform	150	150	0	9	Snow	Y
Uniform (lbf/ft ²)	Uniform	17	17	0	9	Dead	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design		
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis		
CUSTOMER:		REVIEWED BY:	Stephen Curtis		
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts		
	--				
LEVEL:	Roof	LOADING:	ASD		
MEMBER NAME:	Trusses #7	CODE:	2018 International Building Code		
MEMBER TYPE:	ROOF RAFTER	NDS:	2018 NDS		
MATERIAL:	Structural Composite Lumber				
Weyerhaeuser	2.0E Microlam LVL	(2) 1.75 X 20	24 (in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 11 Member Slope (in): 0/12 Actual Length (ft): 11 Roof Pitch (in): 0/12 O.C. Spacing (in): 24

Area	I _x	I _y	BSW	Lams	C _{fn}	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
70	2333.33	17.86	20.42	2	7.35	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2704	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 0.93C_r = 1.04 Volume factor is applied on a load combination basis And is Not reflected in the adjusted values**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	8	0	8	0				
2	3	0	3	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (90.2%)	32.1	327.8	7.92	D+S	1.15
Bending Stress Y (psi)	PASS (96.5%)	101.5	2900.8	3.41	D+S	1.15
Deflection Y (in)	PASS (99.3%)	0.004	0.533 (=L/180)	3.74	S	
Bearing Stress (psi)	PASS (75.2%)	206.2	830.4	8	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	117	1031	1148
B	257	2269	2526
C	0	0	0

Reaction Location

A

B

C

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft ²)	Uniform	150	150	0	11	Snow	Y
Uniform (lbf/ft ²)	Uniform	17	17	0	11	Dead	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design		
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis		
CUSTOMER:		REVIEWED BY:	Stephen Curtis		
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts		
	--				
LEVEL:	Roof	LOADING:	ASD		
MEMBER NAME:	Trusses #8	CODE:	2018 International Building Code		
MEMBER TYPE:	ROOF RAFTER	NDS:	2018 NDS		
MATERIAL:	Structural Composite Lumber				
Weyerhaeuser	2.0E Microlam LVL	(2) 1.75 X 20	24 (in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 18 Member Slope (in): 0/12 Actual Length (ft): 18 Roof Pitch (in): 0/12 O.C. Spacing (in): 24

Area	I _x	I _y	BSW	Lams	C _{fn}	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
70	2333.33	17.86	20.42	2	7.35	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2704	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 0.93C_r = 1.04 Volume factor is applied on a load combination basis And is Not reflected in the adjusted values**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	15	0	15	0				
2	3	0	3	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (83.1%)	55.4	327.8	14.94	D+S	1.15
Bending Stress Y (psi)	PASS (84.7%)	445.2	2900.8	7.2	D+S	1.15
Deflection Y (in)	PASS (90.4%)	0.038	0.400 (=L/180)	18	S	
Bearing Stress (psi)	PASS (64.5%)	294.5	830.4	15	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	245	2160	2405
B	367	3240	3607
C	0	0	0

Reaction Location

A	B	C
---	---	---

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft ²)	Uniform	150	150	0	18	Snow	Y
Uniform (lbf/ft ²)	Uniform	17	17	0	18	Dead	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design		
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis		
CUSTOMER:		REVIEWED BY:	Stephen Curtis		
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts		
	--				
LEVEL:	Roof	LOADING:	ASD		
MEMBER NAME:	Trusses #9	CODE:	2018 International Building Code		
MEMBER TYPE:	ROOF RAFTER	NDS:	2018 NDS		
MATERIAL:	Structural Composite Lumber				
Weyerhaeuser	2.0E Microlam LVL	(2) 1.75 X 20	24 (in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 13 Member Slope (in): 0/12 Actual Length (ft): 13 Roof Pitch (in): 0/12 O.C. Spacing (in): 24

Area	I _x	I _y	BSW	Lams	C _{fn}	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
70	2333.33	17.86	20.42	2	7.35	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2704	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 0.93C_r = 1.04 Volume factor is applied on a load combination basis And is Not reflected in the adjusted values**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	3	0	3	0				
2	10	0	10	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (88.4%)	38.1	327.8	3.12	D+S	1.15
Bending Stress Y (psi)	PASS (93.9%)	177.8	2900.8	8.45	D+S	1.15
Deflection Y (in)	PASS (98.1%)	0.008	0.400 (=L/180)	0	S	
Bearing Stress (psi)	PASS (72.3%)	230.4	830.4	3	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	0	0	0
B	287	2535	2822
C	155	1365	1520

Reaction Location

A

B

C

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft ²)	Uniform	150	150	0	13	Snow	Y
Uniform (lbf/ft ²)	Uniform	17	17	0	13	Dead	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design		
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis		
CUSTOMER:		REVIEWED BY:	Stephen Curtis		
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts		
	--				
LEVEL:	Roof	LOADING:	ASD		
MEMBER NAME:	Trusses #10	CODE:	2018 International Building Code		
MEMBER TYPE:	ROOF RAFTER	NDS:	2018 NDS		
MATERIAL:	Structural Composite Lumber				
Weyerhaeuser	2.0E Microlam LVL	(2) 1.75 X 20	24 (in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 24 Member Slope (in): 0/12 Actual Length (ft): 24 Roof Pitch (in): 0/12 O.C. Spacing (in): 24

Area	I _x	I _y	BSW	Lams	C _{fn}	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
70	2333.33	17.86	20.42	2	7.35	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2704	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 0.93C_r = 1.04 Volume factor is applied on a load combination basis And is Not reflected in the adjusted values**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	21	0	21	0				
2	3	0	3	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (76.9%)	75.8	327.8	20.88	D+S	1.15
Bending Stress Y (psi)	PASS (68.7%)	908.6	2900.8	10.32	D+S	1.15
Deflection Y (in)	PASS (70.8%)	0.117	0.400 (=L/180)	24	S	
Bearing Stress (psi)	PASS (55.0%)	373.9	830.4	21	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	350	3086	3436
B	466	4114	4580
C	0	0	0

Reaction Location

A

B

C

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft ²)	Uniform	150	150	0	24	Snow	Y
Uniform (lbf/ft ²)	Uniform	17	17	0	24	Dead	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design		
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis		
CUSTOMER:		REVIEWED BY:	Stephen Curtis		
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts		
	--				
LEVEL:	Roof	LOADING:	ASD		
MEMBER NAME:	Trusses #11	CODE:	2018 International Building Code		
MEMBER TYPE:	ROOF RAFTER	NDS:	2018 NDS		
MATERIAL:	Structural Composite Lumber				
Weyerhaeuser	2.0E Microlam LVL	(2) 1.75 X 20	24 (in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 10.5 Member Slope (in): 0/12 Actual Length (ft): 10.5 Roof Pitch (in): 0/12 O.C. Spacing (in): 24

Area	I _x	I _y	BSW	Lams	C _{fn}	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
70	2333.33	17.86	20.42	2	7.35	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2704	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 0.93C_r = 1.04 Volume factor is applied on a load combination basis And is Not reflected in the adjusted values**BEAM DATA**

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	3	0	3	0				
2	7.5	0	7.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (90.6%)	30.8	327.8	3.045	D+S	1.15
Bending Stress Y (psi)	PASS (97.1%)	85.2	2900.8	7.35	D+S	1.15
Deflection Y (in)	PASS (99.4%)	0.003	0.500 (=L/180)	7.035	S	
Bearing Stress (psi)	PASS (75.9%)	200.4	830.4	3	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	0	0	0
B	250	2205	2455
C	107	945	1052

Reaction Location

A

B

C

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft ²)	Uniform	150	150	0	10.5	Snow	Y
Uniform (lbf/ft ²)	Uniform	17	17	0	10.5	Dead	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design		
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis		
CUSTOMER:		REVIEWED BY:	Stephen Curtis		
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts		
	--				
LEVEL:	Roof	LOADING:	ASD		
MEMBER NAME:	Trusses #12	CODE:	2018 International Building Code		
MEMBER TYPE:	ROOF RAFTER	NDS:	2018 NDS		
MATERIAL:	Structural Composite Lumber				
Weyerhaeuser	2.0E Microlam LVL	(2) 1.75 X 20	24 (in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 26 Member Slope (in): 0/12 Actual Length (ft): 26 Roof Pitch (in): 0/12 O.C. Spacing (in): 24

Area	I _x	I _y	BSW	Lams	C _{fn}	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
70	2333.33	17.86	20.42	2	7.35	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2704	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 0.93C_r = 1.04 Volume factor is applied on a load combination basis And is Not reflected in the adjusted values**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	3	0	3	0				
2	20	0	20	0				
3	3	0	3	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (78.4%)	70.7	327.8	3.12	D+S	1.15
Bending Stress Y (psi)	PASS (73.1%)	781.6	2900.8	13	D+S	1.15
Deflection Y (in)	PASS (76.3%)	0.095	0.400 (=L/180)	0	S	
Bearing Stress (psi)	PASS (57.3%)	354.4	830.4	23	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	0	0	0
B	442	3900	4342
C	442	3900	4342
D	0	0	0

Reaction Location

A B C D

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft ²)	Uniform	150	150	0	26	Snow	Y
Uniform (lbf/ft ²)	Uniform	17	17	0	26	Dead	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design		
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis		
CUSTOMER:		REVIEWED BY:	Stephen Curtis		
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts		
	--				
LEVEL:	Roof	LOADING:	ASD		
MEMBER NAME:	Trusses #13	CODE:	2018 International Building Code		
MEMBER TYPE:	ROOF RAFTER	NDS:	2018 NDS		
MATERIAL:	Structural Composite Lumber				
Weyerhaeuser	2.0E Microlam LVL	(2) 1.75 X 20	24 (in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 16 Member Slope (in): 0/12 Actual Length (ft): 16 Roof Pitch (in): 0/12 O.C. Spacing (in): 24

Area	I _x	I _y	BSW	Lams	C _{fn}	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
70	2333.33	17.86	20.42	2	7.35	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2704	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 0.93C_r = 1.04 Volume factor is applied on a load combination basis And is Not reflected in the adjusted values**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	13	0	13	0				
2	3	0	3	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (85.1%)	48.7	327.8	12.96	D+S	1.15
Bending Stress Y (psi)	PASS (88.8%)	325.2	2900.8	6.08	D+S	1.15
Deflection Y (in)	PASS (94.3%)	0.023	0.400 (=L/180)	16	S	
Bearing Stress (psi)	PASS (67.7%)	268.5	830.4	13	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	209	1846	2055
B	335	2954	3289
C	0	0	0

Reaction Location

A

B

C

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft ²)	Uniform	150	150	0	16	Snow	Y
Uniform (lbf/ft ²)	Uniform	17	17	0	16	Dead	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design		
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis		
CUSTOMER:		REVIEWED BY:	Stephen Curtis		
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts		
	--				
LEVEL:	Roof	LOADING:	ASD		
MEMBER NAME:	Trusses #14	CODE:	2018 International Building Code		
MEMBER TYPE:	ROOF RAFTER	NDS:	2018 NDS		
MATERIAL:	Structural Composite Lumber				
Weyerhaeuser	2.0E Microlam LVL	(2) 1.75 X 20	24 (in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 24 Member Slope (in): 0/12 Actual Length (ft): 24 Roof Pitch (in): 0/12 O.C. Spacing (in): 24

Area	I _x	I _y	BSW	Lams	C _{fn}	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
70	2333.33	17.86	20.42	2	7.35	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2704	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 0.93C_r = 1.04 Volume factor is applied on a load combination basis And is Not reflected in the adjusted values**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	3	0	3	0				
2	18	0	18	0				
3	3	0	3	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (80.6%)	63.6	327.8	20.88	D+S	1.15
Bending Stress Y (psi)	PASS (78.7%)	618.4	2900.8	12	D+S	1.15
Deflection Y (in)	PASS (83.4%)	0.066	0.400 (=L/180)	24	S	
Bearing Stress (psi)	PASS (60.6%)	327.2	830.4	3	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	0	0	0
B	408	3600	4008
C	408	3600	4008
D	0	0	0

Reaction Location

A B C D

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft ²)	Uniform	150	150	0	24	Snow	Y
Uniform (lbf/ft ²)	Uniform	17	17	0	24	Dead	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design		
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis		
CUSTOMER:		REVIEWED BY:	Stephen Curtis		
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts		
	--				
LEVEL:	Roof	LOADING:	ASD		
MEMBER NAME:	Trusses #15	CODE:	2018 International Building Code		
MEMBER TYPE:	ROOF RAFTER	NDS:	2018 NDS		
MATERIAL:	Structural Composite Lumber				
Weyerhaeuser	2.0E Microlam LVL	(2) 1.75 X 20	24 (in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 24 Member Slope (in): 0/12 Actual Length (ft): 24 Roof Pitch (in): 0/12 O.C. Spacing (in): 24

Area	I _x	I _y	BSW	Lams	C _{fn}	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
70	2333.33	17.86	20.42	2	7.35	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2704	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 0.93C_r = 1.04 Volume factor is applied on a load combination basis And is Not reflected in the adjusted values**BEAM DATA**

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	3	0	3	0				
2	18	0	18	0				
3	3	0	3	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (80.6%)	63.6	327.8	20.88	D+S	1.15
Bending Stress Y (psi)	PASS (78.7%)	618.4	2900.8	12	D+S	1.15
Deflection Y (in)	PASS (83.4%)	0.066	0.400 (=L/180)	24	S	
Bearing Stress (psi)	PASS (60.6%)	327.2	830.4	3	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	0	0	0
B	408	3600	4008
C	408	3600	4008
D	0	0	0

Reaction Location

A B C D

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft ²)	Uniform	150	150	0	24	Snow	Y
Uniform (lbf/ft ²)	Uniform	17	17	0	24	Dead	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design		
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis		
CUSTOMER:		REVIEWED BY:	Stephen Curtis		
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts		
	--				
LEVEL:	Roof	LOADING:	ASD		
MEMBER NAME:	Trusses #16	CODE:	2018 International Building Code		
MEMBER TYPE:	ROOF RAFTER	NDS:	2018 NDS		
MATERIAL:	Structural Composite Lumber				
Weyerhaeuser	2.0E Microlam LVL	(5) 1.75 X 20	12 (in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 41 Member Slope (in): 0/12 Actual Length (ft): 41 Roof Pitch (in): 0/12 O.C. Spacing (in): 12

Area	I _x	I _y	BSW	Lams	C _{fn}	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
175	5833.33	44.66	51.04	5	7.35	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2704	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 0.93C_r = 1.04 Volume factor is applied on a load combination basis And is Not reflected in the adjusted values**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	5	0	5	0				
2	32	0	32	0				
3	4	0	4	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (93.1%)	22.6	327.8	5.33	D+S	1.15
Bending Stress Y (psi)	PASS (86.1%)	404.5	2900.8	21.32	D+S	1.15
Deflection Y (in)	PASS (79.9%)	0.107	0.533 (=L/180)	41	S	
Bearing Stress (psi)	PASS (86.1%)	115.3	830.4	5	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	0	0	0
B	359	3171	3530
C	338	2979	3317
D	0	0	0

Reaction Location

A B C D

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft ²)	Uniform	150	150	0	41	Snow	Y
Uniform (lbf/ft ²)	Uniform	17	17	0	41	Dead	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design		
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis		
CUSTOMER:		REVIEWED BY:	Stephen Curtis		
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts		
	--				
LEVEL:	Roof	LOADING:	ASD		
MEMBER NAME:	Trusses #17	CODE:	2018 International Building Code		
MEMBER TYPE:	ROOF RAFTER	NDS:	2018 NDS		
MATERIAL:	Structural Composite Lumber				
Weyerhaeuser	2.0E Microlam LVL	(2) 1.75 X 20	24 (in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 24 Member Slope (in): 0/12 Actual Length (ft): 24 Roof Pitch (in): 0/12 O.C. Spacing (in): 24

Area	Ix	Iy	BSW	Lams	Cfn	Kcr
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
70	2333.33	17.86	20.42	2	7.35	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc _⊥ (psi)	E (psi) x10 ³	Emin (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2704	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 0.93C_r = 1.04 Volume factor is applied on a load combination basis And is Not reflected in the adjusted values**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	3	0	3	0				
2	18	0	18	0				
3	3	0	3	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (80.6%)	63.6	327.8	20.88	D+S	1.15
Bending Stress Y (psi)	PASS (78.7%)	618.4	2900.8	12	D+S	1.15
Deflection Y (in)	PASS (83.4%)	0.066	0.400 (=L/180)	24	S	
Bearing Stress (psi)	PASS (60.6%)	327.2	830.4	3	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	0	0	0
B	408	3600	4008
C	408	3600	4008
D	0	0	0

Reaction Location

A B C D

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft ²)	Uniform	150	150	0	24	Snow	Y
Uniform (lbf/ft ²)	Uniform	17	17	0	24	Dead	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design		
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis		
CUSTOMER:		REVIEWED BY:	Stephen Curtis		
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts		
	--				
LEVEL:	Roof	LOADING:	ASD		
MEMBER NAME:	Trusses #18	CODE:	2018 International Building Code		
MEMBER TYPE:	ROOF RAFTER	NDS:	2018 NDS		
MATERIAL:	Structural Composite Lumber				
Weyerhaeuser	2.0E Microlam LVL	(2) 1.75 X 20	24 (in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 16 Member Slope (in): 0/12 Actual Length (ft): 16 Roof Pitch (in): 0/12 O.C. Spacing (in): 24

Area	I _x	I _y	BSW	Lams	C _{fn}	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lb/ft)			Creep Factor
70	2333.33	17.86	20.42	2	7.35	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2704	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 0.93C_r = 1.04 Volume factor is applied on a load combination basis And is Not reflected in the adjusted values**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	3	0	3	0				
2	13	0	13	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (85.1%)	48.7	327.8	3.04	D+S	1.15
Bending Stress Y (psi)	PASS (88.8%)	325.2	2900.8	9.92	D+S	1.15
Deflection Y (in)	PASS (94.3%)	0.023	0.400 (=L/180)	0	S	
Bearing Stress (psi)	PASS (67.7%)	268.5	830.4	3	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	0	0	0
B	335	2954	3289
C	209	1846	2055

Reaction Location

A B C

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft ²)	Uniform	150	150	0	16	Snow	Y
Uniform (lbf/ft ²)	Uniform	17	17	0	16	Dead	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design		
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis		
CUSTOMER:		REVIEWED BY:	Stephen Curtis		
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts		
	--				
LEVEL:	Roof	LOADING:	ASD		
MEMBER NAME:	Trusses #19	CODE:	2018 International Building Code		
MEMBER TYPE:	ROOF RAFTER	NDS:	2018 NDS		
MATERIAL:	Structural Composite Lumber				
Weyerhaeuser	2.0E Microlam LVL	(2) 1.75 X 20	24 (in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 28 Member Slope (in): 0/12 Actual Length (ft): 28 Roof Pitch (in): 0/12 O.C. Spacing (in): 24

Area	I _x	I _y	BSW	Lams	C _{fn}	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
70	2333.33	17.86	20.42	2	7.35	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2704	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 0.93C_r = 1.04 Volume factor is applied on a load combination basis And is Not reflected in the adjusted values**BEAM DATA**

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	3	0	3	0				
2	22	0	22	0				
3	3	0	3	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (76.2%)	78.2	327.8	3.08	D+S	1.15
Bending Stress Y (psi)	PASS (66.8%)	961.9	2900.8	14	D+S	1.15
Deflection Y (in)	PASS (67.4%)	0.130	0.400 (=L/180)	0	S	
Bearing Stress (psi)	PASS (54.0%)	381.7	830.4	25	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	0	0	0
B	476	4200	4676
C	476	4200	4676
D	0	0	0

Reaction Location

A B C D

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft ²)	Uniform	150	150	0	28	Snow	Y
Uniform (lbf/ft ²)	Uniform	17	17	0	28	Dead	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design		
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis		
CUSTOMER:		REVIEWED BY:	Stephen Curtis		
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts		
	--				
LEVEL:	Roof	LOADING:	ASD		
MEMBER NAME:	Trusses #20	CODE:	2018 International Building Code		
MEMBER TYPE:	ROOF RAFTER	NDS:	2018 NDS		
MATERIAL:	Structural Composite Lumber				
Weyerhaeuser	2.0E Microlam LVL	(2) 1.75 X 20	24 (in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 40 Member Slope (in): 0/12 Actual Length (ft): 40 Roof Pitch (in): 0/12 O.C. Spacing (in): 24

Area	Ix	Iy	BSW	Lams	Cfn	Kcr
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
70	2333.33	17.86	20.42	2	7.35	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc _⊥ (psi)	E (psi) x10 ³	Emin (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2704	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 0.93 C_r = 1.04 Volume factor is applied on a load combination basis And is Not reflected in the adjusted values**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	9	0	9	0				
2	28	0	28	0				
3	3	0	3	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (67.1%)	108.0	327.8	9.2	D+S	1.15
Bending Stress Y (psi)	PASS (45.1%)	643.5	1173.0	9.2	D+S	1.15
Deflection Y (in)	PASS (43.3%)	0.227	0.400 (=L/180)	40	S	
Bearing Stress (psi)	PASS (20.3%)	662.2	830.4	9	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	0	0	0
B	826	7286	8112
C	534	4714	5248
D	0	0	0

Reaction Location

A B C D

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft ²)	Uniform	150	150	0	40	Snow	Y
Uniform (lbf/ft ²)	Uniform	17	17	0	40	Dead	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design		
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis		
CUSTOMER:		REVIEWED BY:	Stephen Curtis		
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts		
	--				
LEVEL:	Roof	LOADING:	ASD		
MEMBER NAME:	Trusses #21	CODE:	2018 International Building Code		
MEMBER TYPE:	ROOF RAFTER	NDS:	2018 NDS		
MATERIAL:	Structural Composite Lumber				
Weyerhaeuser	2.0E Microlam LVL	(2) 1.75 X 20	24 (in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 34 Member Slope (in): 0/12 Actual Length (ft): 34 Roof Pitch (in): 0/12 O.C. Spacing (in): 24

Area	I _x	I _y	BSW	Lams	C _{fn}	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
70	2333.33	17.86	20.42	2	7.35	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2704	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 0.93C_r = 1.04 Volume factor is applied on a load combination basis And is Not reflected in the adjusted values**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	3	0	3	0				
2	28	0	28	0				
3	3	0	3	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (69.6%)	99.8	327.8	3.06	D+S	1.15
Bending Stress Y (psi)	PASS (44.6%)	1606.1	2900.8	17	D+S	1.15
Deflection Y (in)	PASS (29.3%)	0.283	0.400 (=L/180)	0	S	
Bearing Stress (psi)	PASS (44.2%)	463.5	830.4	31	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	0	0	0
B	578	5100	5678
C	578	5100	5678
D	0	0	0

Reaction Location

A B C D

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft ²)	Uniform	150	150	0	34	Snow	Y
Uniform (lbf/ft ²)	Uniform	17	17	0	34	Dead	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Roof	LOADING:	ASD
MEMBER NAME:	Beam #1	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	AISC:	AISC 360-16
MATERIAL:	Steel		
W Shapes	W14x38	A992-50	

BEAM PROPERTIES

Start (ft): 0 End (ft): 42.5 Member Slope (in): 0/12 Actual Length (ft): 42.5

Es x 10 ³	Fy x 10 ³	Fu x 10 ³	Area	Depth	tw	tf	bf	Ix	Iy	Zx	Zy	J	Cw
(psi)	(psi)	(psi)	(in ²)	(in)	(in)	(in)	(in)	(in ⁴)	(in ⁴)	(in ³)	(in ³)	(in ⁴)	(in ⁶)
29000	50	65	11.2	14.1	0.31	0.515	6.77	385	26.7	61.5	12.1	0.798	1230

DESIGN PROPERTIES

Lp	Lr	Flange	Web	Flange	Web		
(in)	(in)	Flexure	Flexure	Compression	Compression	Cv	Cv_WA
66	195	Compact	Compact	Non-Slender	Slender	1	1

BEAM DATA

		Unbraced Length		Beam End								
Span	Length (ft)	Top	Bottom	Elev. Diff	Pnt/ι	Pnc/ι	Mn/ι	Mn-OOP/ι	Vn/ι	Vn-OOP/ι	Cb	Cb-OOP
1	6	0	6	0	0	0	0	0	0	0	0	0
1	22	0	22	0	0	0	0	0	0	0	0	0
1	14.5	0	14.5	0	0	0	0	0	0	0	0	0

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	AISC CODE	LOAD COMBO
Shear Force Y (lbf)	PASS (80.4%)	17129.6	87420.0	28.05	G2-1	D+S
Moment Y (lbf-ft)	PASS (47.4%)	53687.0	102144.6	27.625	F2-3	D+S
Deflection Y (in)	PASS (84.7%)	0.123	0.800 (=L/180)	0		S

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	0	0	0
B	2628	17844	20472
C	4131	29017	33148
D	1090	8148	9238

Reaction Location

A B C D

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Self Weight (lbf/ft)	-	38	38	0	42.5	Dead	Y

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Trusses #7	B	128.5625	128.5625	0	28.5	Dead	Y
Uniform (lbf/ft)	Trusses #7	B	1134.375	1134.375	0	28.5	Snow	Y
Uniform (lbf/ft)	Trusses #8	B	183.6002	183.6002	28.5	42.5	Dead	Y

Linked Load List CONT.

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Trusses #8	B	1619.999	1619.999	28.5	42.5	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Roof	LOADING:	ASD
MEMBER NAME:	Beam #4	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	AISC:	AISC 360-16
MATERIAL:	Steel		
W Shapes	W14x22	A992-50	

BEAM PROPERTIES

Start (ft): 0 End (ft): 43.5 Member Slope (in): 0/12 Actual Length (ft): 43.5

Es x 10 ³	Fy x 10 ³	Fu x 10 ³	Area	Depth	tw	tf	bf	Ix	Iy	Zx	Zy	J	Cw
(psi)	(psi)	(psi)	(in ²)	(in)	(in)	(in)	(in)	(in ⁴)	(in ⁴)	(in ³)	(in ³)	(in ⁴)	(in ⁶)
29000	50	65	6.49	13.7	0.23	0.335	5	199	7	33.2	4.39	0.208	314

DESIGN PROPERTIES

Lp	Lr	Flange	Web	Flange	Web		
(in)	(in)	Flexure	Flexure	Compression	Compression	Cv	Cv_WA
44	125	Compact	Compact	Non-Slender	Slender	1	1

BEAM DATA

		Unbraced Length		Beam End								
Span	Length (ft)	Top	Bottom	Elev. Diff	Pnt/ι	Pnc/ι	Mn/ι	Mn-OOP/ι	Vn/ι	Vn-OOP/ι	Cb	Cb-OOP
1	2.5	0	2.5	0	0	0	0	0	0	0	0	0
1	13.5	0	13.5	0	0	0	0	0	0	0	0	0
1	18	0	18	0	0	0	0	0	0	0	0	0
1	9.5	0	9.5	0	0	0	0	0	0	0	0	0

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	AISC CODE	LOAD COMBO
Shear Force Y (lbf)	PASS (80.2%)	-12477.3	63020.0	15.66	G2-1	D+S
Moment Y (lbf-ft)	PASS (31.9%)	33977.0	49928.5	16.095	F2-3	D+S
Deflection Y (in)	PASS (86.1%)	0.046	0.333 (=L/180)	0		S

REACTIONS

		Units for V: lbf	Units for M: lbf-ft
Y axis	DEAD	SNOW	TOTAL
A	0	0	0
B	1561	12309	13870
C	2771	21020	23791
D	2278	17026	19304
E	478	3739	4217

Reaction Location

A	B	C	D	E
---	---	---	---	---

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Self Weight (lbf/ft)	-	22	22	0	43.5	Dead	Y

Linked Load List								
Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Trusses #5	B	175.4644	175.4644	0	14	Dead	Y
Uniform (lbf/ft)	Trusses #5	B	1548.214	1548.214	0	14	Snow	Y
Uniform (lbf/ft)	Trusses #6	B	114.75	114.75	14	33.5	Dead	Y
Uniform (lbf/ft)	Trusses #6	B	1012.5	1012.5	14	33.5	Snow	Y
Uniform (lbf/ft)	Trusses #9	B	143.65	143.65	33.5	43.5	Dead	Y
Uniform (lbf/ft)	Trusses #9	B	1267.5	1267.5	33.5	43.5	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Roof	LOADING:	ASD
MEMBER NAME:	Beam #5	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Glulams		
Stress Class Rated 24F-1.8E	24F-V4 DF/DF	(1) 5.5 X 36	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 22 Member Slope (in): 0/12 Actual Length (ft): 22

Area	Ix	Iy	BSW	Lams	G	Kcr
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
198	21384	499.12	45.16	1	0.5	1

STRENGTH PROPERTIES

	Fbx+	Fbx-	Fby	Ft	Fvx	Fvy	Fc	Fc _⊥	Ex	Exmin	Ey	Eymin
	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)
Base Values	2400	1850	1450	1100	265	230	1650	650	1800000	950000	1600000	850000
Adjusted Values	2400	1850	1450	1100	265	230	1650	650	1800000	950000	1600000	850000
C _M	1	1	1	1	1	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1	1	1	1	1	1

Bending Adjustment Factors C_{vr} = 1**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End		CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
		Top	Bottom	Elev. Diff (ft)					
1	22	0	22	0					

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (10.9%)	271.6	304.8	0	D+S	1.15
Bending Stress Y (psi)	PASS (18.5%)	1991.7	2444.0	11	D+S	1.15
Deflection Y (in)	PASS (72.9%)	0.397	1.467 (=L/180)	11	S	
Bearing Stress (psi)	PASS (13.8%)	482.8	560.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	3946	31905	35851
B	3946	31905	35851

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Self Weight (lbf/ft)	-	45.16	45.16	0	22	Dead	Y

Linked Load List								
Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Outlookers	B	75.56889	75.56889	0	22	Dead	Y
Uniform (lbf/ft)	Outlookers	B	800.4514	800.4514	0	22	Snow	Y
Uniform (lbf/ft)	Trusses #19	C	238	238	0	22	Dead	Y
Uniform (lbf/ft)	Trusses #19	C	2099.992	2099.992	0	22	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design		
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis		
CUSTOMER:		REVIEWED BY:	Stephen Curtis		
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts		
	--				
LEVEL:	Roof	LOADING:	ASD		
MEMBER NAME:	Outlookers - 5	CODE:	2018 International Building Code		
MEMBER TYPE:	ROOF RAFTER	NDS:	2018 NDS		
MATERIAL:	Structural Composite Lumber				
Weyerhaeuser	2.0E Microlam LVL	(1) 1.75 X 7.25	16 (in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 11 Member Slope (in): 0/12 Actual Length (ft): 11 Roof Pitch (in): 0/12 O.C. Spacing (in): 16

Area	I _x	I _y	BSW	Lams	C _{fn}	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lb/ft)			Creep Factor
12.69	55.57	3.24	3.7	1	7.35	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2704	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 1.07 C_r = 1.04 Volume factor is applied on a load combination basis And is Not reflected in the adjusted values**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	5	0	5	0				
2	6	0	6	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (59.0%)	134.4	327.8	5.06	D+S	1.15
Bending Stress Y (psi)	PASS (29.1%)	2161.1	3049.1	5.06	D+S	1.15
Deflection Y (in)	PASS (26.2%)	0.492	0.667 (=L/180)	0	S	
Bearing Stress (psi)	PASS (55.1%)	372.7	830.4	5	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	0	0	0
B	266	2017	2283
C	24	183	207

Reaction Location

A

B

C

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft ²)	Uniform	150	150	0	11	Snow	Y
Uniform (lbf/ft ²)	Uniform	17	17	0	11	Dead	Y
Self Weight (lbf/ft)	-	3.7	3.7	0	11	Dead	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Roof	LOADING:	ASD
MEMBER NAME:	Beam #6	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Glulams		
Stress Class Rated 24F-1.8E	24F-V4 DF/DF	(1) 6.75 X 37.5	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 32 Member Slope (in): 0/12 Actual Length (ft): 32

Area	I _x	I _y	BSW	Lams	G	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
253.12	29663.09	961.08	57.73	1	0.5	1

STRENGTH PROPERTIES

	F _{bx} +	F _{bx} -	F _{by}	F _t	F _{vx}	F _{vy}	F _c	F _c ⊥	E _x	E _{xmin}	E _y	E _{ymin}
	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)
Base Values	2400	1850	1450	1100	265	230	1650	650	1800000	950000	1600000	850000
Adjusted Values	2400	1850	1450	1100	265	230	1650	650	1800000	950000	1600000	850000
C _M	1	1	1	1	1	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1	1	1	1	1	1
Bending Adjustment Factors	C _{vr} = 1											

BEAM DATA

Span	Length (ft)	Unbraced Length (ft)		Beam End		CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
		Top	Bottom	Elev. Diff (ft)					
1	32	0	32	0					

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (34.4%)	200.0	304.8	0	D+S	1.15
Bending Stress Y (psi)	PASS (12.3%)	2015.2	2297.0	16	D+S	1.15
Deflection Y (in)	PASS (62.4%)	0.802	2.133 (=L/180)	16	S	
Bearing Stress (psi)	PASS (22.4%)	434.7	560.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	SNOW	TOTAL
A	4291	16	29451	33758
B	4200	16	28898	33114

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	32	Live	Y
Self Weight (lbf/ft)	-	57.73	57.73	0	32	Dead	Y

Linked Load List								
Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Trusses #17	C	203.9998	203.9998	1.5	32	Dead	Y
Uniform (lbf/ft)	Trusses #17	C	1800.004	1800.004	1.5	32	Snow	Y
Point (lbf)	Girder #2	B	421.5286	-	1.5	-	Dead	Y
Point (lbf)	Girder #2	B	3449.997	-	1.5	-	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Roof	LOADING:	ASD
MEMBER NAME:	Girder #2	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Structural Composite Lumber		
Weyerhaeuser	2.0E Microlam LVL	(2) 1.75 X 18	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 24 Member Slope (in): 0/12 Actual Length (ft): 24

Area	I _x	I _y	BSW	Lams	C _{fn}	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
63	1701	16.08	18.38	2	7.35	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2600	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 0.95C_r = 1 Volume factor is applied on a load combination basis And is Not reflected in the adjusted values**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End			
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left) CL(Right)
1	3	0	3	0			
2	18	0	18	0			
3	3	0	3	0			

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (79.2%)	68.2	327.8	20.88	D+S	1.15
Bending Stress Y (psi)	PASS (73.9%)	737.4	2829.5	12	D+S	1.15
Deflection Y (in)	PASS (78.2%)	0.087	0.400 (=L/180)	24	S	
Bearing Stress (psi)	PASS (61.9%)	316.0	830.4	21	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	0	0	0
B	422	3450	3872
C	422	3450	3872
D	0	0	0

Reaction Location

A B C D

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	150	150	0	24	Snow	Y
Uniform (lbf/ft)	Uniform	17	17	0	24	Dead	Y

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Outlookers - 5	C	18.12746	18.12746	0	24	Dead	Y
Uniform (lbf/ft)	Outlookers - 5	C	137.5002	137.5002	0	24	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Roof	LOADING:	ASD
MEMBER NAME:	Girder #3	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Structural Composite Lumber		
Weyerhaeuser	2.0E Microlam LVL	(2) 1.75 X 18	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 18 Member Slope (in): 0/12 Actual Length (ft): 18

Area	I _x	I _y	BSW	Lams	C _{fn}	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lb/ft)			Creep Factor
63	1701	16.08	18.38	2	7.35	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2600	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 0.95C_r = 1 Volume factor is applied on a load combination basis And is Not reflected in the adjusted values**BEAM DATA**

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	18	0	18	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (78.9%)	69.1	327.8	18	D+S	1.15
Bending Stress Y (psi)	PASS (70.7%)	829.6	2829.5	9	D+S	1.15
Deflection Y (in)	PASS (83.4%)	0.200	1.200 (=L/180)	9	S	
Bearing Stress (psi)	PASS (68.4%)	237.0	750.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	316	2588	2904
B	316	2588	2904

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	150	150	0	18	Snow	Y
Uniform (lbf/ft)	Uniform	17	17	0	18	Dead	Y

Linked Load List								
Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Outlookers - 5	C	18.12746	18.12746	0	18	Dead	Y
Uniform (lb/ft)	Outlookers - 5	C	137.5002	137.5002	0	18	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Roof	LOADING:	ASD
MEMBER NAME:	Beam #7	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	AISC:	AISC 360-16
MATERIAL:	Steel		
W Shapes	W14x38	A36-36	

BEAM PROPERTIES

Start (ft): 0 End (ft): 35 Member Slope (in): 0/12 Actual Length (ft): 35

Es x 10 ³	Fy x 10 ³	Fu x 10 ³	Area	Depth	tw	tf	bf	Ix	Iy	Zx	Zy	J	Cw
(psi)	(psi)	(psi)	(in ²)	(in)	(in)	(in)	(in)	(in ⁴)	(in ⁴)	(in ³)	(in ³)	(in ⁴)	(in ⁶)
29000	36	58	11.2	14.1	0.31	0.515	6.77	385	26.7	61.5	12.1	0.798	1230

DESIGN PROPERTIES

Lp	Lr	Flange	Web	Flange	Web		
(in)	(in)	Flexure	Flexure	Compression	Compression	Cv	Cv_WA
77	244	Compact	Compact	Non-Slender	Non-Slender	1	1

BEAM DATA

		Unbraced Length		Beam End								
Span	Length (ft)	Top	Bottom	Elev. Diff	Pnt/ι	Pnc/ι	Mn/ι	Mn-OOP/ι	Vn/ι	Vn-OOP/ι	Cb	Cb-OOP
1	16.5	0	16.5	0	0	0	0	0	0	0	0	0
1	18.5	0	18.5	0	0	0	0	0	0	0	0	0

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	AISC CODE	LOAD COMBO
Shear Force Y (lbf)	PASS (66.2%)	21249.3	62942.4	16.8	G2-1	D+S
Moment Y (lbf-ft)	PASS (33.5%)	73517.3	110479.0	16.45	F2-1	D+S
Deflection Y (in)	PASS (83.2%)	0.207	1.233 (=L/180)	26.95		S

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	1289	9389	10678
B	4974	36536	41510
C	3085	23310	26395

Reaction Location

A

B

C

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Self Weight (lbf/ft)	-	38	38	0	35	Dead	Y

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Trusses #8	B	183.6002	183.6002	0	27.5	Dead	Y
Uniform (lbf/ft)	Trusses #8	B	1619.999	1619.999	0	27.5	Snow	Y
Uniform (lbf/ft)	Trusses #10	B	233.1433	233.1433	27.5	35	Dead	Y
Uniform (lbf/ft)	Trusses #10	B	2057.145	2057.145	27.5	35	Snow	Y
Point (lbf)	Beam #8	A	1220.145	-	35	-	Dead	Y

Linked Load List CONT.

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #8	A	9257.153	-	35	-	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Roof	LOADING:	ASD
MEMBER NAME:	Beam #8	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	AISC:	AISC 360-16
MATERIAL:	Steel		
W Shapes	W14x38	A992-50	

BEAM PROPERTIES

Start (ft): 0 End (ft): 9 Member Slope (in): 0/12 Actual Length (ft): 9

Es x 10 ³	Fy x 10 ³	Fu x 10 ³	Area	Depth	tw	tf	bf	Ix	Iy	Zx	Zy	J	Cw
(psi)	(psi)	(psi)	(in ²)	(in)	(in)	(in)	(in)	(in ⁴)	(in ⁴)	(in ³)	(in ³)	(in ⁴)	(in ⁶)
29000	50	65	11.2	14.1	0.31	0.515	6.77	385	26.7	61.5	12.1	0.798	1230

DESIGN PROPERTIES

Lp	Lr	Flange	Web	Flange	Web		
(in)	(in)	Flexure	Flexure	Compression	Compression	Cv	Cv_WA
66	195	Compact	Compact	Non-Slender	Slender	1	1

BEAM DATA

		Unbraced Length		Beam End								
Span	Length (ft)	Top	Bottom	Elev. Diff	Pnt/ι	Pnc/ι	Mn/ι	Mn-OOP/ι	Vn/ι	Vn-OOP/ι	Cb	Cb-OOP
1	9	0	9	0	0	0	0	0	0	0	0	0

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	AISC CODE	LOAD COMBO
Shear Force Y (lbf)	PASS (88.0%)	-10477.3	87420.0	9	G2-1	D+S
Moment Y (lbf-ft)	PASS (84.6%)	23573.9	153443.1	4.5	F2-1	D+S
Deflection Y (in)	PASS (95.5%)	0.027	0.600 (=L/180)	4.5		S

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	1220	9257	10477
B	1220	9257	10477

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Self Weight (lbf/ft)	-	38	38	0	9	Dead	Y

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Trusses #10	B	233.1433	233.1433	0	9	Dead	Y
Uniform (lbf/ft)	Trusses #10	B	2057.145	2057.145	0	9	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Roof	LOADING:	ASD
MEMBER NAME:	Beam #14	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Glulams		
Stress Class Rated 24F-1.8E	24F-V4 DF/DF	(1) 8.75 X 30	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 19 Member Slope (in): 0/12 Actual Length (ft): 19

Area	Ix	Iy	BSW	Lams	G	Kcr
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
262.5	19687.5	1674.81	59.87	1	0.5	1

STRENGTH PROPERTIES

	Fbx+	Fbx-	Fby	Ft	Fvx	Fvy	Fc	Fc _⊥	Ex	Exmin	Ey	Eymin
	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)
Base Values	2400	1850	1450	1100	265	230	1650	650	1800000	950000	1600000	850000
Adjusted Values	2400	1850	1450	1100	265	230	1650	650	1800000	950000	1600000	850000
C _M	1	1	1	1	1	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1	1	1	1	1	1
Bending Adjustment Factors	C _{vr} = 1											

BEAM DATA

Span	Length (ft)	Unbraced Length (ft)		Beam End		CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
		Top	Bottom	Elev. Diff (ft)					
1	19	0	19	0					

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (26.7%)	223.4	304.8	0	D+S	1.15
Bending Stress Y (psi)	PASS (29.6%)	1698.0	2411.2	9.5	D+S	1.15
Deflection Y (in)	PASS (76.2%)	0.301	1.267 (=L/180)	9.5	S	
Bearing Stress (psi)	PASS (16.0%)	470.4	560.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	SNOW	TOTAL
A	4491	10	34607	39108
B	4491	10	34607	39108

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	19	Live	Y
Self Weight (lbf/ft)	-	59.87	59.87	0	19	Dead	Y

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Trusses #20	B	412.8571	412.8571	0	19	Dead	Y
Uniform (lb/ft)	Trusses #20	B	3642.856	3642.856	0	19	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design		
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis		
CUSTOMER:		REVIEWED BY:	Stephen Curtis		
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts		
	--				
LEVEL:	Roof	LOADING:	ASD		
MEMBER NAME:	Rafters #1	CODE:	2018 International Building Code		
MEMBER TYPE:	ROOF RAFTER	NDS:	2018 NDS		
MATERIAL:	Solid Sawn				
Douglas Fir-Larch	No. 2	(1) 1.5 X 7.25	24 (in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 17.5 Member Slope (in): 0/12 Actual Length (ft): 17.5 Roof Pitch (in): 0/12 O.C. Spacing (in): 24

Area	I _x	I _y	BSW	Lams	G	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
10.88	47.63	2.04	2.48	1	0.5	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1242	690	180	1418	625	1600	580
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1
C _i	1	1	1	1	1	1	1
C _F	1.2	1.2	1	1.05	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1.15**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	5	0	5	0				
2	5	0	5	0				
3	5	0	5	0				
4	2.5	0	2.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (34.5%)	135.5	207.0	4.9	D+S	1.15
Bending Stress Y (psi)	PASS (33.8%)	915.4	1383.0	15.05	D+S	1.15
Deflection Y (in)	PASS (82.9%)	0.057	0.333 (=L/180)	17.5	S	
Bearing Stress (psi)	PASS (44.1%)	392.8	703.1	15	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	67	588	655
B	195	1725	1920
C	153	1350	1503
D	180	1587	1767
E	0	0	0

Reaction Location

A	B	C	D	E
---	---	---	---	---

LOAD LIST							
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft²)	Uniform	150	150	0	17.5	Snow	Y
Uniform (lbf/ft²)	Uniform	17	17	0	17.5	Dead	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Roof	LOADING:	ASD
MEMBER NAME:	Steel Girder Trusses	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	AISC:	AISC 360-16
MATERIAL:	Steel		
W Shapes	W8x28	A36-36	

BEAM PROPERTIES

Start (ft): 0 End (ft): 20 Member Slope (in): 0/12 Actual Length (ft): 20

Es x 10 ³	Fy x 10 ³	Fu x 10 ³	Area	Depth	tw	tf	bf	Ix	Iy	Zx	Zy	J	Cw
(psi)	(psi)	(psi)	(in ²)	(in)	(in)	(in)	(in)	(in ⁴)	(in ⁴)	(in ³)	(in ³)	(in ⁴)	(in ⁶)
29000	36	58	8.25	8.06	0.285	0.465	6.54	98	21.7	27.2	10.1	0.537	312

DESIGN PROPERTIES

Lp	Lr	Flange	Web	Flange	Web		
(in)	(in)	Flexure	Flexure	Compression	Compression	Cv	Cv_WA
81	335	Compact	Compact	Non-Slender	Non-Slender	1	1

BEAM DATA

		Unbraced Length		Beam End								
Span	Length (ft)	Top	Bottom	Elev. Diff	Pnt/ι	Pnc/ι	Mn/ι	Mn-OOP/ι	Vn/ι	Vn-OOP/ι	Cb	Cb-OOP
1	20	0	20	0	0	0	0	0	0	0	0	0

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	AISC CODE	LOAD COMBO
Shear Force Y (lbf)	PASS (76.4%)	7795.5	33078.2	0	G2-1	D+S
Moment Y (lbf-ft)	PASS (20.2%)	38977.5	48862.3	10	F2-1	D+S
Deflection Y (in)	PASS (35.9%)	0.855	1.333 (=L/180)	10		S

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	1045	6750	7795
B	1045	6750	7795

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Self Weight (lbf/ft)	-	28	28	0	20	Dead	Y

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Rafters #1	C	76.5051	76.5051	0	20	Dead	Y
Uniform (lbf/ft)	Rafters #1	C	675.0449	675.0449	0	20	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design		
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis		
CUSTOMER:		REVIEWED BY:	Stephen Curtis		
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts		
	--				
LEVEL:	Roof	LOADING:	ASD		
MEMBER NAME:	Rafters #2	CODE:	2018 International Building Code		
MEMBER TYPE:	ROOF RAFTER	NDS:	2018 NDS		
MATERIAL:	Solid Sawn				
Douglas Fir-Larch	No. 2	(1) 1.5 X 11.25	12 (in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 13.5 Member Slope (in): 1/12 Actual Length (ft): 13.55 Roof Pitch (in): 1/12 O.C. Spacing (in): 12

Area	I _x	I _y	BSW	Lams	G	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
16.88	177.98	3.16	3.85	1	0.5	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1035	575	180	1350	625	1600	580
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1
C _i	1	1	1	1	1	1	1
C _F	1	1	1	1	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1.15**BEAM DATA**

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	2.5	0	2.5	0.2083333				
2	11	0	11	0.9166667				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (58.0%)	86.9	207.0	2.565	D+S	1.15
Bending Stress Y (psi)	PASS (25.7%)	884.4	1190.3	8.235	D+S	1.15
Deflection Y (in)	PASS (71.2%)	0.096	0.335 (=L/180)	0	S	
Compressive Stress (psi)	PASS (99.6%)	4.8	1372.3	2.565	D+S	1.15
Tensile Stress (psi)	PASS (99.3%)	4.4	661.3	13.5	D+S	1.15
Bearing Stress (psi)	PASS (61.2%)	268.7	692.0	2.5	D+S	1.15
Bending-Compression (Unit)	PASS (25.7%)	0.74	1.00	8.235	D+S	1.15
Bending-Tension (Unit)	PASS (25.7%)	0.74	1.00	8.37	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	0	0	0
B	173	1247	1420
C	109	785	894

Reaction Location

A

B

C

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft ²)	Uniform	150	150	0	13.5	Snow	Y
Uniform (lbf/ft ²)	Uniform	17	17	0	13.5	Dead	Y
Self Weight (lbf/ft)	-	3.85	3.85	0	13.5	Dead	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Roof	LOADING:	ASD
MEMBER NAME:	Beam #15	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Structural Composite Lumber		
Weyerhaeuser	2.0E Microlam LVL	(5) 1.75 X 9.25	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 11.5 Member Slope (in): 0/12 Actual Length (ft): 11.5

Area	I _x	I _y	BSW	Lams	C _{fn}	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
80.94	577.1	20.66	23.61	5	7.35	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2600	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 1.04 C_r = 1 Volume factor is applied on a load combination basis And is Not reflected in the adjusted values**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	4.25	0	4.25	0				
2	4.25	0	4.25	0				
3	3	0	3	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (54.9%)	147.8	327.8	4.14	D+S	1.15
Bending Stress Y (psi)	PASS (80.5%)	601.8	3092.8	4.255	D+S	1.15
Deflection Y (in)	PASS (96.8%)	0.009	0.283 (=L/180)	1.84	S	
Bearing Stress (psi)	PASS (43.9%)	473.5	843.8	8.5	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	582	4785	5367
B	1705	14029	15734
C	1347	11082	12429
D	382	3145	3527

Reaction Location

A B C D

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Self Weight (lbf/ft)	-	23.61	23.61	0	11.5	Dead	Y

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Trusses #12	C	220.9995	220.9995	0	11.5	Dead	Y
Uniform (lbf/ft)	Trusses #12	C	1949.998	1949.998	0	11.5	Snow	Y
Uniform (lbf/ft)	Trusses #13	A	104.6154	104.6154	0	11.5	Dead	Y
Uniform (lbf/ft)	Trusses #13	A	923.077	923.077	0	11.5	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Roof	LOADING:	ASD
MEMBER NAME:	Beam #16	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	AISC:	AISC 360-16
MATERIAL:	Steel		
W Shapes	W14x22	A992-50	

BEAM PROPERTIES

Start (ft): 0 End (ft): 10 Member Slope (in): 0/12 Actual Length (ft): 10

Es x 10 ³	Fy x 10 ³	Fu x 10 ³	Area	Depth	tw	tf	bf	Ix	Iy	Zx	Zy	J	Cw
(psi)	(psi)	(psi)	(in ²)	(in)	(in)	(in)	(in)	(in ⁴)	(in ⁴)	(in ³)	(in ³)	(in ⁴)	(in ⁶)
29000	50	65	6.49	13.7	0.23	0.335	5	199	7	33.2	4.39	0.208	314

DESIGN PROPERTIES

Lp	Lr	Flange	Web	Flange	Web		
(in)	(in)	Flexure	Flexure	Compression	Compression	Cv	Cv_WA
44	125	Compact	Compact	Non-Slender	Slender	1	1

BEAM DATA

		Unbraced Length		Beam End								
Span	Length (ft)	Top	Bottom	Elev. Diff	Pnt/ι	Pnc/ι	Mn/ι	Mn-OOP/ι	Vn/ι	Vn-OOP/ι	Cb	Cb-OOP
1	10	0	10	0	0	0	0	0	0	0	0	0

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	AISC CODE	LOAD COMBO
Shear Force Y (lbf)	PASS (93.6%)	4007.8	63020.0	0	G2-1	D+S
Moment Y (lbf-ft)	PASS (76.1%)	19763.8	82834.3	5	F2-1	D+S
Deflection Y (in)	PASS (93.7%)	0.042	0.667 (=L/180)	5		S

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	633	3375	4008
B	1678	10126	11804

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Self Weight (lbf/ft)	-	22	22	0	10	Dead	Y

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Steel Girder Trusses	A	1045.051	-	5	-	Dead	Y
Point (lbf)	Steel Girder Trusses	A	1045.051	-	10	-	Dead	Y
Point (lbf)	Steel Girder Trusses	A	6750.449	-	5	-	Snow	Y
Point (lbf)	Steel Girder Trusses	A	6750.449	-	10	-	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Roof	LOADING:	ASD
MEMBER NAME:	Beam #17	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	AISC:	AISC 360-16
MATERIAL:	Steel		
W Shapes	W14x22	A992-50	

BEAM PROPERTIES

Start (ft): 0 End (ft): 10 Member Slope (in): 0/12 Actual Length (ft): 10

Es x 10 ³	Fy x 10 ³	Fu x 10 ³	Area	Depth	tw	tf	bf	Ix	Iy	Zx	Zy	J	Cw
(psi)	(psi)	(psi)	(in ²)	(in)	(in)	(in)	(in)	(in ⁴)	(in ⁴)	(in ³)	(in ³)	(in ⁴)	(in ⁶)
29000	50	65	6.49	13.7	0.23	0.335	5	199	7	33.2	4.39	0.208	314

DESIGN PROPERTIES

Lp	Lr	Flange	Web	Flange	Web		
(in)	(in)	Flexure	Flexure	Compression	Compression	Cv	Cv_WA
44	125	Compact	Compact	Non-Slender	Slender	1	1

BEAM DATA

		Unbraced Length		Beam End								
Span	Length (ft)	Top	Bottom	Elev. Diff	Pnt/ι	Pnc/ι	Mn/ι	Mn-OOP/ι	Vn/ι	Vn-OOP/ι	Cb	Cb-OOP
1	10	0	10	0	0	0	0	0	0	0	0	0

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	AISC CODE	LOAD COMBO
Shear Force Y (lbf)	PASS (93.6%)	4007.8	63020.0	0	G2-1	D+S
Moment Y (lbf-ft)	PASS (76.1%)	19763.8	82834.3	5	F2-1	D+S
Deflection Y (in)	PASS (93.7%)	0.042	0.667 (=L/180)	5		S

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	633	3375	4008
B	1678	10126	11804

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Self Weight (lbf/ft)	-	22	22	0	10	Dead	Y

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Steel Girder Trusses	B	1045.051	-	5	-	Dead	Y
Point (lbf)	Steel Girder Trusses	B	1045.051	-	10	-	Dead	Y
Point (lbf)	Steel Girder Trusses	B	6750.449	-	5	-	Snow	Y
Point (lbf)	Steel Girder Trusses	B	6750.449	-	10	-	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Roof	LOADING:	ASD
MEMBER NAME:	Beam #18	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	AISC:	AISC 360-16
MATERIAL:	Steel		
W Shapes	W14x22	A992-50	

BEAM PROPERTIES

Start (ft): 0 End (ft): 20 Member Slope (in): 0/12 Actual Length (ft): 20

Es x 10 ³	Fy x 10 ³	Fu x 10 ³	Area	Depth	tw	tf	bf	Ix	Iy	Zx	Zy	J	Cw
(psi)	(psi)	(psi)	(in ²)	(in)	(in)	(in)	(in)	(in ⁴)	(in ⁴)	(in ³)	(in ³)	(in ⁴)	(in ⁶)
29000	50	65	6.49	13.7	0.23	0.335	5	199	7	33.2	4.39	0.208	314

DESIGN PROPERTIES

Lp	Lr	Flange	Web	Flange	Web		
(in)	(in)	Flexure	Flexure	Compression	Compression	Cv	Cv_WA
44	125	Compact	Compact	Non-Slender	Slender	1	1

BEAM DATA

		Unbraced Length		Beam End								
Span	Length (ft)	Top	Bottom	Elev. Diff	Pnt/ι	Pnc/ι	Mn/ι	Mn-OOP/ι	Vn/ι	Vn-OOP/ι	Cb	Cb-OOP
1	15	0	15	0	0	0	0	0	0	0	0	0
1	5	0	5	0	0	0	0	0	0	0	0	0

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	AISC CODE	LOAD COMBO
Shear Force Y (lbf)	PASS (80.9%)	-12018.6	63020.0	15	G2-1	D+S
Moment Y (lbf-ft)	PASS (45.9%)	18027.8	33345.8	15	F2-3	D+S
Deflection Y (in)	PASS (81.9%)	0.181	1.000 (=L/180)	7.2		S

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	1302	8313	9615
B	2604	16626	19230
C	0	0	0

Reaction Location

A

B

C

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Self Weight (lbf/ft)	-	22	22	0	20	Dead	Y

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Rafters #2	B	173.3112	173.3112	0	20	Dead	Y
Uniform (lbf/ft)	Rafters #2	B	1246.921	1246.921	0	20	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Roof	LOADING:	ASD
MEMBER NAME:	Beam #19	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	AISC:	AISC 360-16
MATERIAL:	Steel		
W Shapes	W14x22	A992-50	

BEAM PROPERTIES

Start (ft): 0 End (ft): 10.5 Member Slope (in): 0/12 Actual Length (ft): 10.5

Es x 10 ³	Fy x 10 ³	Fu x 10 ³	Area	Depth	tw	tf	bf	Ix	Iy	Zx	Zy	J	Cw
(psi)	(psi)	(psi)	(in ²)	(in)	(in)	(in)	(in)	(in ⁴)	(in ⁴)	(in ³)	(in ³)	(in ⁴)	(in ⁶)
29000	50	65	6.49	13.7	0.23	0.335	5	199	7	33.2	4.39	0.208	314

DESIGN PROPERTIES

Lp	Lr	Flange	Web	Flange	Web		
(in)	(in)	Flexure	Flexure	Compression	Compression	Cv	Cv_WA
44	125	Compact	Compact	Non-Slender	Slender	1	1

BEAM DATA

		Unbraced Length		Beam End								
Span	Length (ft)	Top	Bottom	Elev. Diff	Pnt/ι	Pnc/ι	Mn/ι	Mn-OOP/ι	Vn/ι	Vn-OOP/ι	Cb	Cb-OOP
1	10.5	0	10.5	0	0	0	0	0	0	0	0	0

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	AISC CODE	LOAD COMBO
Shear Force Y (lbf)	PASS (94.4%)	3522.1	63020.0	0	G2-1	D+S
Moment Y (lbf-ft)	PASS (91.8%)	6768.8	82834.3	3.885	F2-1	D+S
Deflection Y (in)	PASS (97.5%)	0.017	0.700 (=L/180)	4.83		S

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	531	2991	3522
B	245	935	1180

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Self Weight (lbf/ft)	-	22	22	0	10.5	Dead	Y

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Rafters #2	C	109.1217	109.1217	0	5	Dead	Y
Uniform (lbf/ft)	Rafters #2	C	785.098	785.098	0	5	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Headers - 2nd Level	LOADING:	ASD
MEMBER NAME:	Header #6	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Structural Composite Lumber		
Weyerhaeuser	2.0E Microlam LVL	(3) 1.75 X 9.25	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 15 Member Slope (in): 0/12 Actual Length (ft): 15

Area	I _x	I _y	BSW	Lams	C _{fn}	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
48.56	346.26	12.39	14.16	3	7.35	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2600	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 1.04 C_r = 1 Volume factor is applied on a load combination basis And is Not reflected in the adjusted values**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	3.75	0	3.75	0				
2	3.75	0	3.75	0				
3	3.75	0	3.75	0				
4	3.75	0	3.75	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (63.4%)	119.9	327.8	3.75	D+S	1.15
Bending Stress Y (psi)	PASS (86.7%)	411.7	3085.1	11.25	D+S	1.15
Deflection Y (in)	PASS (98.1%)	0.005	0.250 (=L/180)	1.65	S	
Bearing Stress (psi)	PASS (45.0%)	463.9	843.8	3.75	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE ROOF	SNOW	TOTAL
A	274	1	2238	2513
B	798	4	6509	7311
C	649	3	5289	5941
D	798	4	6509	7311
E	274	1	2238	2513

Reaction Location

A	B	C	D	E
---	---	---	---	---

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Uniform	1	1	0	15	RoofLive	Y
Self Weight (lb/ft)	-	14.16	14.16	0	15	Dead	Y

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Trusses #20-2	B	172.125	172.125	0	15	Dead	Y
Uniform (lb/ft)	Trusses #20-2	B	1518.75	1518.75	0	15	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Headers - 2nd Level	LOADING:	ASD
MEMBER NAME:	Header #8	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Structural Composite Lumber		
Weyerhaeuser	2.0E Microlam LVL	(3) 1.75 X 16	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 17 Member Slope (in): 0/12 Actual Length (ft): 17

Area	I _x	I _y	BSW	Lams	C _{fn}	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
84	1792	21.44	24.5	3	7.35	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2600	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 0.96C_r = 1 Volume factor is applied on a load combination basis And is Not reflected in the adjusted values**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	17	0	17	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (58.3%)	136.7	327.8	0	D+S	1.15
Bending Stress Y (psi)	PASS (39.4%)	1742.7	2875.2	8.5	D+S	1.15
Deflection Y (in)	PASS (63.0%)	0.420	1.133 (=L/180)	8.5	S	
Bearing Stress (psi)	PASS (35.2%)	486.0	750.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	851	6804	7655
B	851	6804	7655

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Self Weight (lbf/ft)	-	24.5	24.5	0	17	Dead	Y

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Outlookers	B	75.56889	75.56889	0	17	Dead	Y
Uniform (lb/ft)	Outlookers	B	800.4514	800.4514	0	17	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Headers - 2nd Level	LOADING:	ASD
MEMBER NAME:	Header #9	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Structural Composite Lumber		
Weyerhaeuser	2.0E Microlam LVL	(3) 1.75 X 14	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 16.5 Member Slope (in): 0/12 Actual Length (ft): 16.5

Area	I _x	I _y	BSW	Lams	C _{fn}	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lb/ft)			Creep Factor
73.5	1200.5	18.76	21.44	3	7.35	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2600	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 0.98C_r = 1 Volume factor is applied on a load combination basis And is Not reflected in the adjusted values**BEAM DATA**

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	16.5	0	16.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (53.9%)	151.1	327.8	0	D+S	1.15
Bending Stress Y (psi)	PASS (27.0%)	2137.0	2927.9	8.25	D+S	1.15
Deflection Y (in)	PASS (49.5%)	0.556	1.100 (=L/180)	8.25	S	
Bearing Stress (psi)	PASS (37.3%)	470.1	750.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	800	6604	7404
B	800	6604	7404

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Self Weight (lb/ft)	-	21.44	21.44	0	16.5	Dead	Y

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Outlookers	B	75.56889	75.56889	0	16.5	Dead	Y
Uniform (lbf/ft)	Outlookers	B	800.4514	800.4514	0	16.5	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Headers - 2nd Level	LOADING:	ASD
MEMBER NAME:	Header #11	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Structural Composite Lumber		
Weyerhaeuser	2.0E Microlam LVL	(3) 1.75 X 14	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 9.5 Member Slope (in): 0/12 Actual Length (ft): 9.5

Area	I _x	I _y	BSW	Lams	C _{fn}	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
73.5	1200.5	18.76	21.44	3	7.35	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2600	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 0.98C_r = 1 Volume factor is applied on a load combination basis And is Not reflected in the adjusted values**BEAM DATA**

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	9.5	0	9.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (21.7%)	256.5	327.8	0	D+S	1.15
Bending Stress Y (psi)	PASS (28.7%)	2088.4	2927.9	4.75	D+S	1.15
Deflection Y (in)	PASS (71.6%)	0.180	0.633 (=L/180)	4.75	S	
Bearing Stress (psi)	PASS (29.1%)	531.9	750.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE ROOF	SNOW	TOTAL
A	1371	5	11196	12572
B	1371	5	11196	12572

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	9.5	RoofLive	Y
Self Weight (lbf/ft)	-	21.44	21.44	0	9.5	Dead	Y

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Trusses #20	C	267.1416	267.1416	0	9.5	Dead	Y
Uniform (lb/ft)	Trusses #20	C	2357.133	2357.133	0	9.5	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Headers - 2nd Level	LOADING:	ASD
MEMBER NAME:	Header #12	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Structural Composite Lumber		
Weyerhaeuser	2.0E Microlam LVL	(3) 1.75 X 14	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 9.5 Member Slope (in): 0/12 Actual Length (ft): 9.5

Area	I _x	I _y	BSW	Lams	C _{fn}	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lb/ft)			Creep Factor
73.5	1200.5	18.76	21.44	3	7.35	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2600	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 0.98C_r = 1 Volume factor is applied on a load combination basis And is Not reflected in the adjusted values**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	9.5	0	9.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (15.6%)	276.8	327.8	9.5	D+S	1.15
Bending Stress Y (psi)	PASS (23.2%)	2249.4	2927.9	4.75	D+S	1.15
Deflection Y (in)	PASS (69.4%)	0.194	0.633 (=L/180)	4.75	S	
Bearing Stress (psi)	PASS (25.0%)	562.6	750.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE ROOF	SNOW	TOTAL
A	1444	5	11846	13295
B	1472	5	12090	13567

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Uniform	1	1	0	9.5	RoofLive	Y
Self Weight (lb/ft)	-	21.44	21.44	0	9.5	Dead	Y

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Trusses #20	C	267.1416	267.1416	0	1.5	Dead	Y
Uniform (lbf/ft)	Trusses #20	C	2357.133	2357.133	0	1.5	Snow	Y
Uniform (lbf/ft)	Trusses #21	C	288.998	288.998	1.5	9.5	Dead	Y
Uniform (lbf/ft)	Trusses #21	C	2549.977	2549.977	1.5	9.5	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Headers - 2nd Level	LOADING:	ASD
MEMBER NAME:	Header #13	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Structural Composite Lumber		
Weyerhaeuser	2.0E Microlam LVL	(3) 1.75 X 14	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 9.5 Member Slope (in): 0/12 Actual Length (ft): 9.5

Area	I _x	I _y	BSW	Lams	C _{fn}	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lb/ft)			Creep Factor
73.5	1200.5	18.76	21.44	3	7.35	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2600	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 0.98C_r = 1 Volume factor is applied on a load combination basis And is Not reflected in the adjusted values**BEAM DATA**

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	9.5	0	9.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (15.4%)	277.3	327.8	0	D+S	1.15
Bending Stress Y (psi)	PASS (22.9%)	2257.9	2927.9	4.75	D+S	1.15
Deflection Y (in)	PASS (69.3%)	0.195	0.633 (=L/180)	4.75	S	
Bearing Stress (psi)	PASS (23.3%)	575.1	750.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE ROOF	SNOW	TOTAL
A	1475	5	12112	13592
B	1475	5	12112	13592

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	9.5	RoofLive	Y
Self Weight (lbf/ft)	-	21.44	21.44	0	9.5	Dead	Y

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Trusses #21	C	288.998	288.998	0	9.5	Dead	Y
Uniform (lb/ft)	Trusses #21	C	2549.977	2549.977	0	9.5	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Headers - 2nd Level	LOADING:	ASD
MEMBER NAME:	Header #14	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(1) 5.5 X 9.5	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 3 Member Slope (in): 0/12 Actual Length (ft): 3

Area	I _x	I _y	BSW	Lams	G	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
52.25	392.96	131.71	11.92	1	0.5	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	875	425	170	600	625	1300	470
Adjusted Values	875	425	170	600	625	1300	470
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1
C _i	1	1	1	1	1	1	1
C _F	1	1	1	1	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1**BEAM DATA**

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	3	0	3	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (37.2%)	122.8	195.5	3	D+S	1.15
Bending Stress Y (psi)	PASS (53.8%)	465.2	1006.3	1.5	D+S	1.15
Deflection Y (in)	PASS (95.5%)	0.009	0.200 (=L/180)	1.5	S	
Bearing Stress (psi)	PASS (17.1%)	518.3	625.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE ROOF	SNOW	TOTAL
A	451	2	3825	4278
B	451	2	3825	4278

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	3	RoofLive	Y
Self Weight (lbf/ft)	-	11.92	11.92	0	3	Dead	Y

Linked Load List								
Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Trusses #21	B	289.0001	289.0001	0	3	Dead	Y
Uniform (lb/ft)	Trusses #21	B	2550.003	2550.003	0	3	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Headers - 2nd Level	LOADING:	ASD
MEMBER NAME:	Header #15	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(1) 3.5 X 9.25	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 6.5 Member Slope (in): 0/12 Actual Length (ft): 6.5

Area	I _x	I _y	BSW	Lams	G	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
32.38	230.84	33.05	7.38	1	0.5	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1080	632	180	1350	625	1600	580
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1
C _i	1	1	1	1	1	1	1
C _F	1.2	1.1	1	1	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1**BEAM DATA**

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	6.5	0	6.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (35.7%)	133.0	207.0	0	D+S	1.15
Bending Stress Y (psi)	PASS (9.7%)	1121.7	1242.0	3.25	D+S	1.15
Deflection Y (in)	PASS (79.9%)	0.087	0.433 (=L/180)	3.25	S	
Bearing Stress (psi)	PASS (12.5%)	546.9	625.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE ROOF	SNOW	TOTAL
A	270	3	2601	2874
B	270	3	2601	2874

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	6.5	RoofLive	Y
Self Weight (lbf/ft)	-	7.38	7.38	0	6.5	Dead	Y

Linked Load List								
Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Outlookers	B	75.56889	75.56889	0	6.5	Dead	Y
Uniform (lbf/ft)	Outlookers	B	800.4514	800.4514	0	6.5	Snow	Y

**PASS**

DATE:	10/27/2025			COMPANY:	SMC Design	
STRUCALC BUILD:	StruCalc Pro			DESIGNED BY:	Stephen Curtis	
CUSTOMER:				REVIEWED BY:	Stephen Curtis	
PROJ. ADDRESS:	--			PROJECT NAME:	25-016 Keatts	
	--					
LEVEL:	Floor - 2nd Level			LOADING:	ASD	
MEMBER NAME:	Joist #1			CODE:	2018 International Building Code	
MEMBER TYPE:	FLOOR JOIST			NDS:	2018 NDS	
MATERIAL:	I-Joists					
Weyerhaeuser	TJI 360	(1) 18	0 (in) O.C.	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 8.5 Member Slope (in): 0/12 Actual Length (ft): 8.5 O.C. Spacing (in): 24

						End Rcap	End Rcap	End Rcap	End Rcap	Int Rcap	Int Rcap	Int Rcap	Int Rcap
El x 10 ⁶	BSW	Lams	K x 10 ⁶	Mcap	Vcap	1.75 NS	3.5 NS	1.75 WS	3.5 WS	3.5 NS	5.25 NS	3.5 WS	5.25 WS
(lb-ft-in ²)	(lb-ft)		(lb-ft)	(lb-ft)	(lb-ft)	(lb-ft)	(lb-ft)	(lb-ft)	(lb-ft)	(lb-ft)	(lb-ft)	(lb-ft)	(lb-ft)
1085	3.7	1	4.5	9465	2425	1080	1505	1440	1865	2460	3000	2815	3360

BEAM DATA

		Unbraced Length (ft)		Beam End
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)
1	8.5	0	8.5	0

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Force (lb-ft)	PASS (81.1%)	457.7	2425.0	0	D+L	1
Bending Moment (lb-ft)	PASS (89.7%)	972.7	9465.0	4.25	D+L	1
Deflection Y (in)	PASS (96.9%)	0.009	0.283 (=L/360)	4.25	L	
Bearing Load (lb-ft)	PASS (69.6%)	457.7	1505.0	0	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	TOTAL
A	118	340	458
B	118	340	458

Reaction Location WS-Web Stiffener Required NSR-No Stiffener Required

A	B
NSR	NSR

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb-ft/ft ²)	Uniform	40	40	0	8.5	Live	Y
Uniform (lb-ft/ft ²)	Uniform	12	12	0	8.5	Dead	Y
Self Weight (lb-ft/ft)	-	3.7	3.7	0	8.5	Dead	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design		
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis		
CUSTOMER:		REVIEWED BY:	Stephen Curtis		
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts		
	--				
LEVEL:	Floor - 2nd Level	LOADING:	ASD		
MEMBER NAME:	Joist #2	CODE:	2018 International Building Code		
MEMBER TYPE:	FLOOR JOIST	NDS:	2018 NDS		
MATERIAL:	I-Joists				
Weyerhaeuser	TJI 560	(1) 18	0 (in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 16 Member Slope (in): 0/12 Actual Length (ft): 16 O.C. Spacing (in): 16

						End Rcap	End Rcap	End Rcap	End Rcap	Int Rcap	Int Rcap	Int Rcap	Int Rcap
El x 10 ⁶	BSW	Lams	K x 10 ⁶	Mcap	Vcap	1.75 NS	3.5 NS	1.75 WS	3.5 WS	3.5 NS	5.25 NS	3.5 WS	5.25 WS
(lbf-in ²)	(lbf/ft)		(lbf)	(lbf-ft)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)
1631	4.8	1	5.3	14550	3030	1265	1725	1740	2200	3000	3455	3475	3930

BEAM DATA

		Unbraced Length (ft)		Beam End
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)
1	16	0	16	0

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Force (lbf)	PASS (80.4%)	593.1	3030.0	0	D+L	1
Bending Moment (lbf-ft)	PASS (83.7%)	2372.3	14550.0	8	D+L	1
Deflection Y (in)	PASS (91.0%)	0.048	0.533 (=L/360)	8	L	
Bearing Load (lbf)	PASS (65.6%)	593.1	1725.0	0	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	TOTAL
A	166	427	593
B	166	427	593

Reaction Location WS-Web Stiffener Required NSR-No Stiffener Required

A	B
NSR	NSR

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft ²)	Uniform	40	40	0	16	Live	Y
Uniform (lbf/ft ²)	Uniform	12	12	0	16	Dead	Y
Self Weight (lbf/ft)	-	4.8	4.8	0	16	Dead	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design		
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis		
CUSTOMER:		REVIEWED BY:	Stephen Curtis		
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts		
	--				
LEVEL:	Floor - 2nd Level	LOADING:	ASD		
MEMBER NAME:	Joist #3	CODE:	2018 International Building Code		
MEMBER TYPE:	FLOOR JOIST	NDS:	2018 NDS		
MATERIAL:	I-Joists				
Weyerhaeuser	TJI 560D	(1) 18	0 (in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 28 Member Slope (in): 0/12 Actual Length (ft): 28 O.C. Spacing (in): 16

						End Rcap	End Rcap	End Rcap	End Rcap	Int Rcap	Int Rcap	Int Rcap	Int Rcap
El x 10 ⁶	BSW	Lams	K x 10 ⁶	Mcap	Vcap	1.75 NS	3.5 NS	1.75 WS	3.5 WS	3.5 NS	5.25 NS	3.5 WS	5.25 WS
(lb-ft-in ²)	(lb-ft)		(lb-ft)	(lb-ft)	(lb-ft)	(lb-ft)	(lb-ft)	(lb-ft)	(lb-ft)	(lb-ft)	(lb-ft)	(lb-ft)	(lb-ft)
1661	5	1	5.3	14785	3080	1400	1885	2030	2515	3350	3965	3980	4600

BEAM DATA

		Unbraced Length (ft)		Beam End
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)
1	28	0	28	0

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Force (lb-ft)	PASS (66.2%)	1040.7	3080.0	0	D+L	1
Bending Moment (lb-ft)	PASS (50.7%)	7284.7	14785.0	14	D+L	1
Deflection Y (in)	PASS (52.4%)	0.444	0.933 (=L/360)	14	L	
Bearing Load (lb-ft)	PASS (44.8%)	1040.7	1885.0	0	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	TOTAL
A	294	747	1041
B	294	747	1041

Reaction Location WS-Web Stiffener Required NSR-No Stiffener Required

A		B
NSR		NSR

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb-ft/ft ²)	Uniform	40	40	0	28	Live	Y
Uniform (lb-ft/ft ²)	Uniform	12	12	0	28	Dead	Y
Self Weight (lb-ft/ft)	-	5	5	0	28	Dead	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design		
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis		
CUSTOMER:		REVIEWED BY:	Stephen Curtis		
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts		
	--				
LEVEL:	Floor - 2nd Level	LOADING:	ASD		
MEMBER NAME:	Joist #4	CODE:	2018 International Building Code		
MEMBER TYPE:	FLOOR JOIST	NDS:	2018 NDS		
MATERIAL:	I-Joists				
Weyerhaeuser	TJI 560D	(1) 18	0 (in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 28 Member Slope (in): 0/12 Actual Length (ft): 28 O.C. Spacing (in): 24

						End Rcap	End Rcap	End Rcap	End Rcap	Int Rcap	Int Rcap	Int Rcap	Int Rcap
El x 10 ⁶	BSW	Lams	K x 10 ⁶	Mcap	Vcap	1.75 NS	3.5 NS	1.75 WS	3.5 WS	3.5 NS	5.25 NS	3.5 WS	5.25 WS
(lbf-in ²)	(lbf/ft)		(lbf)	(lbf-ft)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)
1661	5	1	5.3	14785	3080	1400	1885	2030	2515	3350	3965	3980	4600

BEAM DATA

		Unbraced Length (ft)		Beam End
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)
1	4.5	0	4.5	0
2	15	0	15	0
3	8.5	0	8.5	0

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Force (lbf)	PASS (74.1%)	798.5	3080.0	19.32	D+L	1
Bending Moment (lbf-ft)	PASS (88.3%)	1734.0	14785.0	4.48	D+L	1
Deflection Y (in)	PASS (96.5%)	0.017	0.500 (=L/360)	12.04	L	
Bearing Load (lbf)	PASS (55.6%)	1487.8	3350.0	19.5	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	TOTAL
A	-38	-105	-143
B	386	1064	1450
C	396	1092	1488
D	68	188	256

Reaction Location WS-Web Stiffener Required NSR-No Stiffener Required

A	B	C	D
NSR	NSR	NSR	NSR

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft ²)	Uniform	40	40	0	28	Live	Y
Uniform (lbf/ft ²)	Uniform	12	12	0	28	Dead	Y
Self Weight (lbf/ft)	-	5	5	0	28	Dead	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design		
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis		
CUSTOMER:		REVIEWED BY:	Stephen Curtis		
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts		
	--				
LEVEL:	Floor - 2nd Level	LOADING:	ASD		
MEMBER NAME:	Joist #5	CODE:	2018 International Building Code		
MEMBER TYPE:	FLOOR JOIST	NDS:	2018 NDS		
MATERIAL:	I-Joists				
Weyerhaeuser	TJI 560D	(1) 18	0 (in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 28 Member Slope (in): 0/12 Actual Length (ft): 28 O.C. Spacing (in): 16

						End Rcap	End Rcap	End Rcap	End Rcap	Int Rcap	Int Rcap	Int Rcap	Int Rcap
El x 10 ⁶	BSW	Lams	K x 10 ⁶	Mcap	Vcap	1.75 NS	3.5 NS	1.75 WS	3.5 WS	3.5 NS	5.25 NS	3.5 WS	5.25 WS
(lb-ft-in ²)	(lb-ft)		(lb-ft)	(lb-ft)	(lb-ft)	(lb-ft)	(lb-ft)	(lb-ft)	(lb-ft)	(lb-ft)	(lb-ft)	(lb-ft)	(lb-ft)
1661	5	1	5.3	14785	3080	1400	1885	2030	2515	3350	3965	3980	4600

BEAM DATA

		Unbraced Length (ft)		Beam End
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)
1	28	0	28	0

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Force (lb-ft)	PASS (66.2%)	1040.7	3080.0	0	D+L	1
Bending Moment (lb-ft)	PASS (50.7%)	7284.7	14785.0	14	D+L	1
Deflection Y (in)	PASS (52.4%)	0.444	0.933 (=L/360)	14	L	
Bearing Load (lb-ft)	PASS (44.8%)	1040.7	1885.0	0	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	TOTAL
A	294	747	1041
B	294	747	1041

Reaction Location WS-Web Stiffener Required NSR-No Stiffener Required

A	B
NSR	NSR

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb-ft/ft ²)	Uniform	40	40	0	28	Live	Y
Uniform (lb-ft/ft ²)	Uniform	12	12	0	28	Dead	Y
Self Weight (lb-ft/ft)	-	5	5	0	28	Dead	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Floor - 2nd Level	LOADING:	ASD
MEMBER NAME:	Beam #2	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Structural Composite Lumber		
Weyerhaeuser	2.0E Microlam LVL	(2) 1.75 X 18	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 8.5 Member Slope (in): 0/12 Actual Length (ft): 8.5

Area	I _x	I _y	BSW	Lams	C _{fn}	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
63	1701	16.08	18.38	2	7.35	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2600	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 0.95C_r = 1 Volume factor is applied on a load combination basis And is Not reflected in the adjusted values**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	8.5	0	8.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (27.2%)	238.4	327.8	0	D+S	1.15
Bending Stress Y (psi)	PASS (52.2%)	1351.2	2829.5	4.25	D+S	1.15
Deflection Y (in)	PASS (87.2%)	0.073	0.567 (=L/180)	4.25	S	
Bearing Stress (psi)	PASS (30.6%)	520.2	750.0	0	D+S	1.15

REACTIONS

Y axis	Units for V: lbf		Units for M: lbf-ft	
	DEAD	LIVE	SNOW	TOTAL
A	1090	4	8925	10019
B	1090	4	8925	10019

Reaction Location

A

B

CONNECTORS

(All connectors are Simpson Strong-Tie connectors)*

Support A	Model	Type	Adequacy (%)	Header Fastening (in)	Joist Nails (in)	Nailer Thickness (in)
Primary	HGU3.63-SDS	Hanger	23.9	(36) 1/4 x 2.5 SDS	(24) 1/4 x 2.5 SDS	N/A

Hanger at support A has seat sloped 0 degrees, skewed 0 degrees.

WSR = web stiffeners required

*Capacity values are adjusted based on specific gravity when members use grades other than those specified in Simpson Strong-Tie's capacity tables.

**LOAD LIST**

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Uniform	1	1	0	8.5	Live	Y
Self Weight (lb/ft)	-	18.38	18.38	0	8.5	Dead	Y

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Trusses #19	B	237.9999	237.9999	0	8.5	Dead	Y
Uniform (lb/ft)	Trusses #19	B	2100	2100	0	8.5	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Floor - 2nd Level	LOADING:	ASD
MEMBER NAME:	Beam #3	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Structural Composite Lumber		
Weyerhaeuser	2.0E Microlam LVL	(3) 1.75 X 18	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 26.5 Member Slope (in): 0/12 Actual Length (ft): 26.5

Area	I _x	I _y	BSW	Lams	C _{fn}	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
94.5	2551.5	24.12	27.56	3	7.35	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2600	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 0.95C_r = 1 Volume factor is applied on a load combination basis And is Not reflected in the adjusted values**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	8.5	0	8.5	0				
2	13.5	0	13.5	0				
3	4.5	0	4.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (29.8%)	230.1	327.8	8.745	D+S	1.15
Bending Stress Y (psi)	PASS (13.6%)	2125.0	2460.5	21.995	D+L	1
Deflection Y (in)	PASS (39.9%)	0.361	0.600 (=L/180)	26.5	D+L	
Bearing Stress (psi)	PASS (16.0%)	630.3	750.0	8.5	D+S	1.15

REACTIONS

Y axis	Units for V: lbf		Units for M: lbf-ft	
	DEAD	LIVE	SNOW	TOTAL
A	2047	1606	10878	14531
B	1527	1785 / -100	23292	26504
C	6840	12570	9968	29378
D	0	0	0	0

Reaction Location

A
B
C
D

CONNECTORS

(All connectors are Simpson Strong-Tie connectors)*

Support A	Model	Type	Adequacy (%)	Header Fastening (in)	Joist Nails (in)	Nailer Thickness (in)
Primary	EGQ5.62-SDS3	Hanger	24.35	(28) 1/4 x 3 SDS	(12) 1/4 x 3 SDS	N/A

Hanger at support A has seat sloped 0 degrees, skewed 0 degrees.

WSR = web stiffeners required

*Capacity values are adjusted based on specific gravity when members use grades other than those specified in Simpson Strong-Tie's capacity tables.

**LOAD LIST**

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Uniform	160	160	22	26.5	Live	Y
Point (lb)	Point	2000	-	8.5	-	Live	Y
Self Weight (lb/ft)	-	27.56	27.56	0	26.5	Dead	Y

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Outlookers	B	75.56889	75.56889	0	22	Dead	Y
Uniform (lb/ft)	Outlookers	B	800.4514	800.4514	0	22	Snow	Y
Uniform (lb/ft)	Trusses #4	C	54.39999	54.39999	0	8.5	Dead	Y
Uniform (lb/ft)	Trusses #4	C	479.9999	479.9999	0	8.5	Snow	Y
Uniform (lb/ft)	Trusses #5	C	113.5357	113.5357	8.5	22	Dead	Y
Uniform (lb/ft)	Trusses #5	C	1001.786	1001.786	8.5	22	Snow	Y
Uniform (lb/ft)	Joist #1	A	58.8625	58.8625	0	26.5	Dead	Y
Uniform (lb/ft)	Joist #1	A	170	170	0	26.5	Live	Y
Point (lb)	Beam #2	A	1089.593	-	0	-	Dead	Y
Point (lb)	Beam #2	A	8925	-	0	-	Snow	Y
Point (lb)	Beam #10	B	3377.111	-	26.5	-	Dead	Y
Point (lb)	Beam #10	B	6850.236	-	26.5	-	Live	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Floor - 2nd Level	LOADING:	ASD
MEMBER NAME:	Girder #1	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Structural Composite Lumber		
Weyerhaeuser	2.0E Microlam LVL	(3) 1.75 X 18	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 36 Member Slope (in): 0/12 Actual Length (ft): 36

Area	I _x	I _y	BSW	Lams	C _{fn}	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lb/ft)			Creep Factor
94.5	2551.5	24.12	27.56	3	7.35	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2600	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 0.95C_r = 1 Volume factor is applied on a load combination basis And is Not reflected in the adjusted values**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	6	0	6	0				
2	18	0	18	0				
3	12	0	12	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (50.6%)	162.0	327.8	23.76	D+S	1.15
Bending Stress Y (psi)	PASS (32.9%)	1897.7	2829.5	15.84	D+S	1.15
Deflection Y (in)	PASS (62.8%)	0.297	0.800 (=L/180)	0	S	
Bearing Stress (psi)	PASS (40.1%)	479.5	801.1	24	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	SNOW	TOTAL
A	0	0	0	0
B	921	529	5764	7214
C	2027	1354	11820	15201
D	-289	-277	-1306	-1872

Reaction Location

A B C D

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Uniform	150	150	0	36	Snow	Y
Uniform (lb/ft)	Uniform	17	17	0	36	Dead	Y

Linked Load List								
Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #3	A	2047.13	-	16	-	Dead	Y
Point (lbf)	Beam #3	A	1605.599	-	16	-	Live	Y
Point (lbf)	Beam #3	A	10878.13	-	16	-	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Floor - 2nd Level	LOADING:	ASD
MEMBER NAME:	Beam #9	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Structural Composite Lumber		
Weyerhaeuser	2.0E Microlam LVL	(2) 1.75 X 18	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 18.5 Member Slope (in): 0/12 Actual Length (ft): 18.5

Area	I _x	I _y	BSW	Lams	C _{fn}	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
63	1701	16.08	18.38	2	7.35	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _{c⊥} (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2600	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 0.95C_r = 1 Volume factor is applied on a load combination basis And is Not reflected in the adjusted values**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	18.5	0	18.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (64.8%)	100.2	285.0	18.5	D+L	1
Bending Stress Y (psi)	PASS (65.1%)	859.6	2460.5	10.545	D+L	1
Deflection Y (in)	PASS (79.8%)	0.249	1.233 (=L/180)	9.435	D+L	
Bearing Stress (psi)	PASS (70.8%)	218.7	750.0	18.5	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	TOTAL
A	799	1789	2588
B	1254	2956	4210

Reaction Location

A

B

CONNECTORS		(All connectors are Simpson Strong-Tie connectors)*			Header		Nailer
Support B	Model	Type	Adequacy (%)	Header	Fastening (in)	Joist Nails (in)	Thickness (in)
Primary	BA3.56/18 (Max)	Hanger	10.8	(16)	0.162 x 3.5	(8) 0.148 x 1.5	N/A
Hanger at support B has seat sloped 0 degrees, skewed 0 degrees.							
WSR = web stiffeners required							
*Capacity values are adjusted based on specific gravity when members use grades other than those specified in Simpson Strong-Tie's capacity tables.							
							

LOAD LIST								
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction	
Self Weight (lbf/ft)	-	18.38	18.38	0	18.5	Dead	Y	
Linked Load List								
Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Joist #1	B	58.8625	58.8625	0	18.5	Dead	Y
Uniform (lbf/ft)	Joist #1	B	170	170	0	18.5	Live	Y
Uniform (lbf/ft)	Joist #2	A	124.8	124.8	13.5	18.5	Dead	Y
Uniform (lbf/ft)	Joist #2	A	320	320	13.5	18.5	Live	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Floor - 2nd Level	LOADING:	ASD
MEMBER NAME:	Beam #10	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Structural Composite Lumber		
Weyerhaeuser	2.0E Microlam LVL	(3) 1.75 X 18	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 28 Member Slope (in): 0/12 Actual Length (ft): 28

Area	I _x	I _y	BSW	Lams	C _{fn}	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
94.5	2551.5	24.12	27.56	3	7.35	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2600	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 0.95C_r = 1 Volume factor is applied on a load combination basis And is Not reflected in the adjusted values**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	4.5	0	4.5	0				
2	23.5	0	23.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (67.1%)	93.9	285.0	4.48	D+L	1
Bending Stress Y (psi)	PASS (54.9%)	1110.0	2460.5	4.48	D+L	1
Deflection Y (in)	PASS (75.9%)	0.108	0.450 (=L/240)	0	L	
Bearing Stress (psi)	PASS (55.8%)	354.2	801.1	4.5	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	TOTAL
A	0	0	0
B	3377	6850	10227
C	381	166	547

Reaction Location

A B C

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Self Weight (lbf/ft)	-	27.56	27.56	0	28	Dead	Y

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #9	B	1254.124	-	12	-	Dead	Y
Point (lbf)	Beam #9	B	2956.285	-	12	-	Live	Y
Point (lbf)	Beam #11	A	1731.844	-	0	-	Dead	Y
Point (lbf)	Beam #11	A	4060	-	0	-	Live	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Floor - 2nd Level	LOADING:	ASD
MEMBER NAME:	Beam #11	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Structural Composite Lumber		
Weyerhaeuser	2.0E Microlam LVL	(2) 1.75 X 18	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 14.5 Member Slope (in): 0/12 Actual Length (ft): 14.5

Area	I _x	I _y	BSW	Lams	C _{fn}	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
63	1701	16.08	18.38	2	7.35	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2600	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 0.95C_r = 1 Volume factor is applied on a load combination basis And is Not reflected in the adjusted values**BEAM DATA**

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	14.5	0	14.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (51.6%)	137.9	285.0	14.5	D+L	1
Bending Stress Y (psi)	PASS (45.8%)	1333.0	2460.5	7.25	D+L	1
Deflection Y (in)	PASS (75.8%)	0.234	0.967 (=L/180)	7.25	D+L	
Bearing Stress (psi)	PASS (59.9%)	300.9	750.0	14.5	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	TOTAL
A	1732	4060	5792
B	1732	4060	5792

Reaction Location

A

B

CONNECTORS

(All connectors are Simpson Strong-Tie connectors)*

Support A	Model	Type	Adequacy (%)	Header Fastening (in)	Joist Nails (in)	Nailer Thickness (in)
Primary	LGU3.63-SDS	Hanger	13.81	(16) 1/4 x 2.5 SDS	(12) 1/4 x 2.5 SDS	N/A
Support B						
Primary	LGU3.63-SDS	Hanger	13.81	(16) 1/4 x 2.5 SDS	(12) 1/4 x 2.5 SDS	N/A

Hanger at support A has seat sloped 0 degrees, skewed 0 degrees.

Hanger at support B has seat sloped 0 degrees, skewed 0 degrees.

WSR = web stiffeners required

*Capacity values are adjusted based on specific gravity when members use grades other than those specified in Simpson Strong-Tie's capacity tables.

**LOAD LIST**

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Self Weight (lb/ft)	-	18.38	18.38	0	14.5	Dead	Y

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Joist #3	A	220.5	220.5	0	14.5	Dead	Y
Uniform (lb/ft)	Joist #3	A	560	560	0	14.5	Live	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Floor - 2nd Level	LOADING:	ASD
MEMBER NAME:	Beam #13	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Glulams		
Stress Class Rated 24F-1.8E	24F-V4 DF/DF	(1) 8.75 X 18	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 14 Member Slope (in): 0/12 Actual Length (ft): 14

Area	Ix	Iy	BSW	Lams	G	Kcr
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
157.5	4252.5	1004.88	35.92	1	0.5	1

STRENGTH PROPERTIES

	Fbx+	Fbx-	Fby	Ft	Fvx	Fvy	Fc	Fc _⊥	Ex	Exmin	Ey	Eymin
	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)
Base Values	2400	1850	1450	1100	265	230	1650	650	1800000	950000	1600000	850000
Adjusted Values	2400	1850	1450	1100	265	230	1650	650	1800000	950000	1600000	850000
C _M	1	1	1	1	1	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1	1	1	1	1	1
Bending Adjustment Factors	C _{vr} = 1											

BEAM DATA

Span	Length (ft)	Unbraced Length (ft)		Beam End		CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
		Top	Bottom	Elev. Diff (ft)					
1	14	0	14	0					

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (35.3%)	197.3	304.8	0	D+S	1.15
Bending Stress Y (psi)	PASS (28.7%)	1864.2	2616.2	5.74	D+S	1.15
Deflection Y (in)	PASS (68.8%)	0.292	0.933 (=L/180)	6.86	S	
Bearing Stress (psi)	PASS (23.1%)	430.4	560.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	SNOW	TOTAL
A	2489	340	18224	21053
B	2130	189	15733	18052

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Self Weight (lbf/ft)	-	35.92	35.92	0	14	Dead	Y

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Trusses #3	B	247.3536	247.3536	0	5	Dead	Y
Uniform (lbf/ft)	Trusses #3	B	2182.532	2182.532	0	5	Snow	Y
Uniform (lbf/ft)	Trusses #4	B	217.6	217.6	5	14	Dead	Y
Uniform (lbf/ft)	Trusses #4	B	1920	1920	5	14	Snow	Y
Point (lbf)	Girder #1	B	921.3282	-	5	-	Dead	Y
Point (lbf)	Girder #1	B	528.6115	-	5	-	Live	Y
Point (lbf)	Girder #1	B	5763.925	-	5	-	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Headers - 1st Level	LOADING:	ASD
MEMBER NAME:	Header #1	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(1) 3.5 X 7.25	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 2 Member Slope (in): 0/12 Actual Length (ft): 2

Area	I _x	I _y	BSW	Lams	G	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
25.38	111.15	25.9	5.79	1	0.5	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1170	690	180	1418	625	1600	580
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1
C _i	1	1	1	1	1	1	1
C _F	1.3	1.2	1	1.05	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1**BEAM DATA**

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	2	0	2	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (74.8%)	52.1	207.0	0	D+S	1.15
Bending Stress Y (psi)	PASS (87.2%)	172.6	1345.5	1	D+S	1.15
Deflection Y (in)	PASS (98.8%)	0.002	0.133 (=L/180)	1	S	
Bearing Stress (psi)	PASS (73.1%)	168.0	625.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE ROOF	SNOW	TOTAL
A	81	1	800	882
B	81	1	800	882

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	2	RoofLive	Y
Self Weight (lbf/ft)	-	5.79	5.79	0	2	Dead	Y

Linked Load List								
Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Outlookers	B	75.56889	75.56889	0	2	Dead	Y
Uniform (lbf/ft)	Outlookers	B	800.4514	800.4514	0	2	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Headers - 1st Level	LOADING:	ASD
MEMBER NAME:	Header #2	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(1) 3.5 X 7.25	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 2 Member Slope (in): 0/12 Actual Length (ft): 2

Area	I _x	I _y	BSW	Lams	G	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
25.38	111.15	25.9	5.79	1	0.5	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1170	690	180	1418	625	1600	580
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1
C _i	1	1	1	1	1	1	1
C _F	1.3	1.2	1	1.05	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1**BEAM DATA**

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	2	0	2	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (50.6%)	102.2	207.0	0	D+S	1.15
Bending Stress Y (psi)	PASS (74.8%)	338.4	1345.5	1	D+S	1.15
Deflection Y (in)	PASS (97.6%)	0.003	0.133 (=L/180)	1	S	
Bearing Stress (psi)	PASS (47.3%)	329.4	625.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE ROOF	SNOW	TOTAL
A	181	1	1548	1730
B	181	1	1548	1730

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	2	RoofLive	Y
Self Weight (lbf/ft)	-	5.79	5.79	0	2	Dead	Y

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Trusses #1	B	175.4644	175.4644	0	2	Dead	Y
Uniform (lb/ft)	Trusses #1	B	1548.214	1548.214	0	2	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Headers - 1st Level	LOADING:	ASD
MEMBER NAME:	Header #3	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Structural Composite Lumber		
Weyerhaeuser	2.0E Microlam LVL	(3) 1.75 X 11.25	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 9.5 Member Slope (in): 0/12 Actual Length (ft): 9.5

Area	I _x	I _y	BSW	Lams	C _{fn}	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
59.06	622.92	15.07	17.23	3	7.35	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2600	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 1.01 C_r = 1 Volume factor is applied on a load combination basis And is Not reflected in the adjusted values**BEAM DATA**

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	9.5	0	9.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (67.1%)	107.8	327.8	0	D+S	1.15
Bending Stress Y (psi)	PASS (63.8%)	1091.9	3016.4	4.75	D+S	1.15
Deflection Y (in)	PASS (81.4%)	0.118	0.633 (=L/180)	4.75	S	
Bearing Stress (psi)	PASS (28.2%)	538.8	750.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE ROOF	SNOW	TOTAL
A	441	5	3802	4248
B	441	5	3802	4248

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	9.5	RoofLive	Y
Self Weight (lbf/ft)	-	17.23	17.23	0	9.5	Dead	Y

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Outlookers	B	75.56889	75.56889	0	9.5	Dead	Y
Uniform (lbf/ft)	Outlookers	B	800.4514	800.4514	0	9.5	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Headers - 1st Level	LOADING:	ASD
MEMBER NAME:	Header #4	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(1) 3.5 X 7.25	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 3 Member Slope (in): 0/12 Actual Length (ft): 3

Area	I _x	I _y	BSW	Lams	G	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
25.38	111.15	25.9	5.79	1	0.5	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1170	690	180	1418	625	1600	580
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1
C _i	1	1	1	1	1	1	1
C _F	1.3	1.2	1	1.05	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1**BEAM DATA**

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	3	0	3	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (14.5%)	177.1	207.0	3	D+S	1.15
Bending Stress Y (psi)	PASS (34.6%)	879.3	1345.5	1.5	D+S	1.15
Deflection Y (in)	PASS (90.8%)	0.019	0.200 (=L/180)	1.5	S	
Bearing Stress (psi)	PASS (8.7%)	570.6	625.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE ROOF	SNOW	TOTAL
A	292	2	2703	2997
B	292	2	2703	2997

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	3	RoofLive	Y
Self Weight (lbf/ft)	-	5.79	5.79	0	3	Dead	Y

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Outlookers	B	75.56889	75.56889	0	3	Dead	Y
Uniform (lbf/ft)	Outlookers	B	800.4514	800.4514	0	3	Snow	Y
Uniform (lbf/ft)	Trusses #1	C	113.5357	113.5357	0	3	Dead	Y
Uniform (lbf/ft)	Trusses #1	C	1001.786	1001.786	0	3	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Headers - 1st Level	LOADING:	ASD
MEMBER NAME:	Header #5	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(1) 5.5 X 9.5	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 3 Member Slope (in): 0/12 Actual Length (ft): 3

Area	I _x	I _y	BSW	Lams	G	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
52.25	392.96	131.71	11.92	1	0.5	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	875	425	170	600	625	1300	470
Adjusted Values	875	425	170	600	625	1300	470
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1
C _i	1	1	1	1	1	1	1
C _F	1	1	1	1	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1**BEAM DATA**

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	3	0	3	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (34.9%)	127.3	195.5	3	D+S	1.15
Bending Stress Y (psi)	PASS (52.1%)	482.2	1006.3	1.5	D+S	1.15
Deflection Y (in)	PASS (95.3%)	0.009	0.200 (=L/180)	1.5	S	
Bearing Stress (psi)	PASS (57.0%)	268.7	625.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE ROOF	SNOW	TOTAL
A	467	2	3966	4435
B	467	2	3966	4435

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	3	RoofLive	Y
Self Weight (lbf/ft)	-	11.92	11.92	0	3	Dead	Y

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Trusses #3	C	299.616	299.616	0	3	Dead	Y
Uniform (lb/ft)	Trusses #3	C	2643.67	2643.67	0	3	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Headers - 1st Level	LOADING:	ASD
MEMBER NAME:	Header #7	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Structural Composite Lumber		
Weyerhaeuser	2.0E Microlam LVL	(3) 1.75 X 11.875	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 15 Member Slope (in): 0/12 Actual Length (ft): 15

Area	I _x	I _y	BSW	Lams	C _{fn}	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
62.34	732.62	15.91	18.18	3	7.35	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2600	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 1 C_r = 1 Volume factor is applied on a load combination basis And is Not reflected in the adjusted values**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	3.75	0	3.75	0				
2	3.75	0	3.75	0				
3	3.75	0	3.75	0				
4	3.75	0	3.75	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (93.4%)	21.6	327.8	3.75	D+S	1.15
Bending Stress Y (psi)	PASS (98.1%)	57.7	2978.2	11.25	D+S	1.15
Deflection Y (in)	PASS (99.8%)	0.001	0.250 (=L/180)	1.65	S	
Bearing Stress (psi)	PASS (32.3%)	571.1	843.8	3.75	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	83	497	580
B	1040	7955	8995
C	845	6464	7309
D	1040	7955	8995
E	83	497	580

Reaction Location

A	B	C	D	E
---	---	---	---	---

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Self Weight (lb/ft)	-	18.18	18.18	0	15	Dead	Y

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Trusses #6	C	38.25	38.25	0	15	Dead	Y
Uniform (lb/ft)	Trusses #6	C	337.5	337.5	0	15	Snow	Y
Point (lb)	Header #6	B	798.3354	-	3.75	-	Dead	Y
Point (lb)	Header #6	C	648.7457	-	7.5	-	Dead	Y
Point (lb)	Header #6	D	798.3354	-	11.25	-	Dead	Y
Point (lb)	Header #6	B	6508.551	-	3.75	-	Snow	Y
Point (lb)	Header #6	C	5288.998	-	7.5	-	Snow	Y
Point (lb)	Header #6	D	6508.551	-	11.25	-	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Headers - 1st Level	LOADING:	ASD
MEMBER NAME:	Header #10	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Structural Composite Lumber		
Weyerhaeuser	2.0E Microlam LVL	(3) 1.75 X 11.25	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 17 Member Slope (in): 0/12 Actual Length (ft): 17

Area	I _x	I _y	BSW	Lams	C _{fn}	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
59.06	622.92	15.07	17.23	3	7.35	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2600	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 1.01 C_r = 1 Volume factor is applied on a load combination basis And is Not reflected in the adjusted values**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	4.25	0	4.25	0				
2	4.25	0	4.25	0				
3	4.25	0	4.25	0				
4	4.25	0	4.25	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (56.9%)	141.3	327.8	4.25	D+S	1.15
Bending Stress Y (psi)	PASS (84.9%)	452.1	2998.9	4.25	D+S	1.15
Deflection Y (in)	PASS (98.0%)	0.006	0.283 (=L/180)	1.87	S	
Bearing Stress (psi)	PASS (21.2%)	664.9	843.8	4.25	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE ROOF	SNOW	TOTAL
A	370	2	3231	3603
B	1075	5	9397	10477
C	874	4	7636	8514
D	1075	5	9397	10477
E	370	2	3231	3603

Reaction Location

A	B	C	D	E
---	---	---	---	---

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	17	RoofLive	Y
Self Weight (lbf/ft)	-	17.23	17.23	0	17	Dead	Y

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Outlookers	B	75.56889	75.56889	0	17	Dead	Y
Uniform (lbf/ft)	Outlookers	B	800.4514	800.4514	0	17	Snow	Y
Uniform (lbf/ft)	Trusses #7	B	128.5625	128.5625	0	17	Dead	Y
Uniform (lbf/ft)	Trusses #7	B	1134.375	1134.375	0	17	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Headers - 1st Level	LOADING:	ASD
MEMBER NAME:	Header #16	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Glulams		
Stress Class Rated 24F-1.8E	24F-V4 DF/DF	(1) 6.75 X 19.5	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 12 Member Slope (in): 0/12 Actual Length (ft): 12

Area	I _x	I _y	BSW	Lams	G	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lb/ft)			Creep Factor
131.62	4170.87	499.76	30.02	1	0.5	1

STRENGTH PROPERTIES

	F _{bx} +	F _{bx} -	F _{by}	F _t	F _{vx}	F _{vy}	F _c	F _c ⊥	E _x	E _{xmin}	E _y	E _{ymin}
	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)
Base Values	2400	1850	1450	1100	265	230	1650	650	1800000	950000	1600000	850000
Adjusted Values	2400	1850	1450	1100	265	230	1650	650	1800000	950000	1600000	850000
C _M	1	1	1	1	1	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1	1	1	1	1	1
Bending Adjustment Factors	C _{vr} = 1											

BEAM DATA

Span	Length (ft)	Unbraced Length (ft)		Beam End		CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
		Top	Bottom	Elev. Diff (ft)					
1	12	0	12	0					

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (7.8%)	280.9	304.8	12	D+S	1.15
Bending Stress Y (psi)	PASS (51.7%)	1306.1	2705.0	4.56	D+S	1.15
Deflection Y (in)	PASS (83.3%)	0.134	0.800 (=L/180)	5.76	S	
Bearing Stress (psi)	PASS (13.0%)	487.0	560.0	12	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	TOTAL
A	3948	2848	6	20624	27426
B	4030	3319	6	20623	27978

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Uniform	1	1	0	12	RoofLive	Y
Self Weight (lb/ft)	-	30.02	30.02	0	12	Dead	Y

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Trusses #8	A	122.4	122.4	0	12	Dead	Y
Uniform (lbf/ft)	Trusses #8	A	1080	1080	0	12	Snow	Y
Uniform (lbf/ft)	Trusses #20	C	267.1416	267.1416	0	2	Dead	Y
Uniform (lbf/ft)	Trusses #20	C	267.1416	267.1416	11.5	12	Dead	Y
Uniform (lbf/ft)	Trusses #20	C	2357.133	2357.133	0	2	Snow	Y
Uniform (lbf/ft)	Trusses #20	C	2357.133	2357.133	11.5	12	Snow	Y
Uniform (lbf/ft)	Joist #2	B	124.8	124.8	0	3	Dead	Y
Uniform (lbf/ft)	Joist #2	B	320	320	0	3	Live	Y
Uniform (lbf/ft)	Joist #3	B	220.5	220.5	3	12	Dead	Y
Uniform (lbf/ft)	Joist #3	B	560	560	3	12	Live	Y
Point (lbf)	Header #11	A	1370.751	-	2	-	Dead	Y
Point (lbf)	Header #11	B	1370.751	-	11.5	-	Dead	Y
Point (lbf)	Header #11	A	11196.38	-	2	-	Snow	Y
Point (lbf)	Header #11	B	11196.38	-	11.5	-	Snow	Y
Point (lbf)	Beam #10	C	380.6067	-	3.5	-	Dead	Y
Point (lbf)	Beam #10	C	166.0488	-	3.5	-	Live	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Headers - 1st Level	LOADING:	ASD
MEMBER NAME:	Header #17	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Glulams		
Stress Class Rated 24F-1.8E	24F-V4 DF/DF	(1) 6.75 X 19.5	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 9.5 Member Slope (in): 0/12 Actual Length (ft): 9.5

Area	Ix	Iy	BSW	Lams	G	Kcr
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
131.62	4170.87	499.76	30.02	1	0.5	1

STRENGTH PROPERTIES

	Fbx+	Fbx-	Fby	Ft	Fvx	Fvy	Fc	Fc _⊥	Ex	Exmin	Ey	Eymin
	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)
Base Values	2400	1850	1450	1100	265	230	1650	650	1800000	950000	1600000	850000
Adjusted Values	2400	1850	1450	1100	265	230	1650	650	1800000	950000	1600000	850000
C _M	1	1	1	1	1	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1	1	1	1	1	1
Bending Adjustment Factors	C _{vr} = 1											

BEAM DATA

Span	Length (ft)	Unbraced Length (ft)		Beam End		CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
		Top	Bottom	Elev. Diff (ft)					
1	9.5	0	9.5	0					

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (17.4%)	251.7	304.8	0	D+S	1.15
Bending Stress Y (psi)	PASS (63.2%)	1014.6	2760.0	2.47	D+S	1.15
Deflection Y (in)	PASS (90.3%)	0.062	0.633 (=L/180)	4.37	S	
Bearing Stress (psi)	PASS (22.1%)	436.3	560.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	TOTAL
A	3390	2660	5	18700	24755
B	2132	2660	5	8120	12917

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	9.5	RoofLive	Y
Self Weight (lbf/ft)	-	30.02	30.02	0	9.5	Dead	Y

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Trusses #8	A	122.4	122.4	0	9.5	Dead	Y
Uniform (lbf/ft)	Trusses #8	A	1080	1080	0	9.5	Snow	Y
Uniform (lbf/ft)	Trusses #20	C	267.1416	267.1416	0	2	Dead	Y
Uniform (lbf/ft)	Trusses #20	C	2357.133	2357.133	0	2	Snow	Y
Uniform (lbf/ft)	Joist #3	B	220.5	220.5	0	9.5	Dead	Y
Uniform (lbf/ft)	Joist #3	B	560	560	0	9.5	Live	Y
Point (lbf)	Header #12	A	1444.374	-	2	-	Dead	Y
Point (lbf)	Header #12	A	11846.01	-	2	-	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Headers - 1st Level	LOADING:	ASD
MEMBER NAME:	Header #18	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Structural Composite Lumber		
Weyerhaeuser	2.0E Microlam LVL	(3) 1.75 X 9.25	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 6.5 Member Slope (in): 0/12 Actual Length (ft): 6.5

Area	I _x	I _y	BSW	Lams	C _{fn}	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
48.56	346.26	12.39	14.16	3	7.35	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2600	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 1.04 C_r = 1 Volume factor is applied on a load combination basis And is Not reflected in the adjusted values**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	6.5	0	6.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (51.4%)	159.3	327.8	0	D+0.75L+0.75S	1.15
Bending Stress Y (psi)	PASS (56.6%)	1343.4	3097.8	3.25	D+0.75L+0.75S	1.15
Deflection Y (in)	PASS (85.5%)	0.063	0.433 (=L/180)	3.25	S	
Bearing Stress (psi)	PASS (12.7%)	655.0	750.0	0	D+0.75L+0.75S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	TOTAL
A	1160	1820	3	3510	6493
B	1160	1820	3	3510	6493

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	6.5	RoofLive	Y
Self Weight (lbf/ft)	-	14.16	14.16	0	6.5	Dead	Y

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Trusses #8	A	122.4	122.4	0	6.5	Dead	Y
Uniform (lbf/ft)	Trusses #8	A	1080	1080	0	6.5	Snow	Y
Uniform (lbf/ft)	Joist #5	B	220.5	220.5	0	6.5	Dead	Y
Uniform (lbf/ft)	Joist #5	B	560	560	0	6.5	Live	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Headers - 1st Level	LOADING:	ASD
MEMBER NAME:	Header #19	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Structural Composite Lumber		
Weyerhaeuser	2.0E Microlam LVL	(3) 1.75 X 14	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 7.5 Member Slope (in): 0/12 Actual Length (ft): 7.5

Area	I _x	I _y	BSW	Lams	C _{fn}	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lb/ft)			Creep Factor
73.5	1200.5	18.76	21.44	3	7.35	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2600	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 0.98C_r = 1 Volume factor is applied on a load combination basis And is Not reflected in the adjusted values**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	7.5	0	7.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (10.2%)	294.4	327.8	7.5	D+S	1.15
Bending Stress Y (psi)	PASS (35.8%)	1880.4	2927.9	3.45	D+S	1.15
Deflection Y (in)	PASS (81.8%)	0.091	0.500 (=L/180)	3.675	S	
Bearing Stress (psi)	PASS (18.6%)	610.2	750.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	TOTAL
A	2293	2100	4	12122	16519
B	2305	2100	4	12122	16531

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Uniform	1	1	0	7.5	RoofLive	Y
Self Weight (lb/ft)	-	21.44	21.44	0	7.5	Dead	Y

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Trusses #9	C	77.35001	77.35001	0	7.5	Dead	Y
Uniform (lbf/ft)	Trusses #9	C	682.5001	682.5001	0	7.5	Snow	Y
Uniform (lbf/ft)	Trusses #21	B	289.0001	289.0001	0	3.5	Dead	Y
Uniform (lbf/ft)	Trusses #21	B	289.0001	289.0001	6.5	7.5	Dead	Y
Uniform (lbf/ft)	Trusses #21	B	2550.003	2550.003	0	3.5	Snow	Y
Uniform (lbf/ft)	Trusses #21	B	2550.003	2550.003	6.5	7.5	Snow	Y
Uniform (lbf/ft)	Joist #3	A	220.5	220.5	0	7.5	Dead	Y
Uniform (lbf/ft)	Joist #3	A	560	560	0	7.5	Live	Y
Point (lbf)	Header #14	A	451.3752	-	3.5	-	Dead	Y
Point (lbf)	Header #14	B	451.3752	-	6.5	-	Dead	Y
Point (lbf)	Header #14	A	3825.004	-	3.5	-	Snow	Y
Point (lbf)	Header #14	B	3825.004	-	6.5	-	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Headers - 1st Level	LOADING:	ASD
MEMBER NAME:	Header #20	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Structural Composite Lumber		
Weyerhaeuser	2.0E Microlam LVL	(3) 1.75 X 11.25	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 6 Member Slope (in): 0/12 Actual Length (ft): 6

Area	I _x	I _y	BSW	Lams	C _{fn}	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
59.06	622.92	15.07	17.23	3	7.35	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2600	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 1.01 C_r = 1 Volume factor is applied on a load combination basis And is Not reflected in the adjusted values**BEAM DATA**

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	6	0	6	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (30.1%)	228.9	327.8	0	D+S	1.15
Bending Stress Y (psi)	PASS (41.2%)	1774.2	3016.4	2.94	D+S	1.15
Deflection Y (in)	PASS (82.9%)	0.069	0.400 (=L/180)	2.94	S	
Bearing Stress (psi)	PASS (23.7%)	572.3	750.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	TOTAL
A	1577	1680	3	7438	10698
B	1330	1680	3	5313	8326

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	6	RoofLive	Y
Self Weight (lbf/ft)	-	17.23	17.23	0	6	Dead	Y

Linked Load List								
Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Trusses #21	B	289.0001	289.0001	1.5	3.5	Dead	Y
Uniform (lbf/ft)	Trusses #21	B	2550.003	2550.003	1.5	3.5	Snow	Y
Uniform (lbf/ft)	Joist #3	A	220.5	220.5	0	6	Dead	Y
Uniform (lbf/ft)	Joist #3	A	560	560	0	6	Live	Y
Point (lbf)	Header #14	A	451.3752	-	3.5	-	Dead	Y
Point (lbf)	Header #14	B	451.3752	-	1.5	-	Dead	Y
Point (lbf)	Header #14	A	3825.004	-	3.5	-	Snow	Y
Point (lbf)	Header #14	B	3825.004	-	1.5	-	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Headers - 1st Level	LOADING:	ASD
MEMBER NAME:	Header #21	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(1) 3.5 X 7.25	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 4 Member Slope (in): 0/12 Actual Length (ft): 4

Area	I _x	I _y	BSW	Lams	G	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
25.38	111.15	25.9	5.79	1	0.5	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1170	690	180	1418	625	1600	580
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1
C _i	1	1	1	1	1	1	1
C _F	1.3	1.2	1	1.05	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1**BEAM DATA**

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	4	0	4	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (49.6%)	104.3	207.0	0	D+S	1.15
Bending Stress Y (psi)	PASS (48.7%)	690.2	1345.5	2	D+S	1.15
Deflection Y (in)	PASS (90.3%)	0.026	0.267 (=L/180)	2	S	
Bearing Stress (psi)	PASS (46.3%)	335.9	625.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE ROOF	SNOW	TOTAL
A	163	2	1601	1766
B	163	2	1601	1766

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	4	RoofLive	Y
Self Weight (lbf/ft)	-	5.79	5.79	0	4	Dead	Y

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Outlookers	B	75.56889	75.56889	0	4	Dead	Y
Uniform (lbf/ft)	Outlookers	B	800.4514	800.4514	0	4	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Headers - 1st Level	LOADING:	ASD
MEMBER NAME:	Header #22	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Structural Composite Lumber		
Weyerhaeuser	2.0E Microlam LVL	(2) 1.75 X 9.25	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 4.5 Member Slope (in): 0/12 Actual Length (ft): 4.5

Area	I _x	I _y	BSW	Lams	C _{fn}	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
32.38	230.84	8.26	9.44	2	7.35	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2600	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 1.04 C_r = 1 Volume factor is applied on a load combination basis And is Not reflected in the adjusted values**BEAM DATA**

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	4.5	0	4.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (28.3%)	234.9	327.8	4.5	D+S	1.15
Bending Stress Y (psi)	PASS (55.7%)	1371.3	3097.8	2.25	D+S	1.15
Deflection Y (in)	PASS (86.6%)	0.040	0.300 (=L/180)	2.25	S	
Bearing Stress (psi)	PASS (35.6%)	482.8	750.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE ROOF	SNOW	TOTAL
A	535	2	4535	5072
B	535	2	4535	5072

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	4.5	RoofLive	Y
Self Weight (lbf/ft)	-	9.44	9.44	0	4.5	Dead	Y

Linked Load List								
Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Trusses #10	A	174.8571	174.8571	0	4.5	Dead	Y
Uniform (lbf/ft)	Trusses #10	A	1542.857	1542.857	0	4.5	Snow	Y
Uniform (lbf/ft)	Trusses #11	C	53.55	53.55	0	4.5	Dead	Y
Uniform (lbf/ft)	Trusses #11	C	472.5	472.5	0	4.5	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Headers - 1st Level	LOADING:	ASD
MEMBER NAME:	Header #23	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Structural Composite Lumber		
Weyerhaeuser	2.0E Microlam LVL	(3) 1.75 X 9.25	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 7 Member Slope (in): 0/12 Actual Length (ft): 7

Area	I _x	I _y	BSW	Lams	C _{fn}	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
48.56	346.26	12.39	14.16	3	7.35	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2600	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 1.04 C_r = 1 Volume factor is applied on a load combination basis And is Not reflected in the adjusted values**BEAM DATA**

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	7	0	7	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (25.5%)	244.1	327.8	0	D+S	1.15
Bending Stress Y (psi)	PASS (28.4%)	2216.7	3097.8	3.5	D+S	1.15
Deflection Y (in)	PASS (66.3%)	0.157	0.467 (=L/180)	3.5	S	
Bearing Stress (psi)	PASS (33.1%)	501.8	750.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	849	7054	7903
B	849	7054	7903

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Self Weight (lbf/ft)	-	14.16	14.16	0	7	Dead	Y

Linked Load List								
Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Trusses #10	A	174.8571	174.8571	0	7	Dead	Y
Uniform (lbf/ft)	Trusses #10	A	1542.857	1542.857	0	7	Snow	Y
Uniform (lbf/ft)	Trusses #11	C	53.55	53.55	0	7	Dead	Y
Uniform (lbf/ft)	Trusses #11	C	472.5	472.5	0	7	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Headers - 1st Level	LOADING:	ASD
MEMBER NAME:	Header #24	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Structural Composite Lumber		
Weyerhaeuser	2.0E Microlam LVL	(2) 1.75 X 9.25	WET

BEAM PROPERTIES

Start (ft): 0 End (ft): 7.5 Member Slope (in): 0/12 Actual Length (ft): 7.5

Area	I _x	I _y	BSW	Lams	C _{fn}	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
32.38	230.84	8.26	9.44	2	7.35	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2600	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 1.04 C_r = 1 Volume factor is applied on a load combination basis And is Not reflected in the adjusted values**BEAM DATA**

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	7.5	0	7.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (34.4%)	214.9	327.8	7.5	D+S	1.15
Bending Stress Y (psi)	PASS (32.5%)	2091.0	3097.8	3.75	D+S	1.15
Deflection Y (in)	PASS (66.0%)	0.170	0.500 (=L/180)	3.75	S	
Bearing Stress (psi)	PASS (41.1%)	441.7	750.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	504	4134	4638
B	504	4134	4638

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Self Weight (lbf/ft)	-	9.44	9.44	0	7.5	Dead	Y

Linked Load List								
Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Trusses #11	B	124.95	124.95	0	7.5	Dead	Y
Uniform (lbf/ft)	Trusses #11	B	1102.5	1102.5	0	7.5	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Headers - 1st Level	LOADING:	ASD
MEMBER NAME:	Header #25	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(1) 3.5 X 7.25	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 4.5 Member Slope (in): 0/12 Actual Length (ft): 4.5

Area	I _x	I _y	BSW	Lams	G	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
25.38	111.15	25.9	5.79	1	0.5	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1170	690	180	1418	625	1600	580
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1
C _i	1	1	1	1	1	1	1
C _F	1.3	1.2	1	1.05	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1**BEAM DATA**

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	4.5	0	4.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (20.8%)	164.0	207.0	4.5	D+S	1.15
Bending Stress Y (psi)	PASS (9.2%)	1221.7	1345.5	2.25	D+S	1.15
Deflection Y (in)	PASS (80.9%)	0.057	0.300 (=L/180)	2.25	S	
Bearing Stress (psi)	PASS (15.4%)	528.5	625.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE ROOF	SNOW	TOTAL
A	294	2	2481	2777
B	294	2	2481	2777

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	4.5	RoofLive	Y
Self Weight (lbf/ft)	-	5.79	5.79	0	4.5	Dead	Y

Linked Load List								
Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Trusses #11	B	124.95	124.95	0	4.5	Dead	Y
Uniform (lb/ft)	Trusses #11	B	1102.5	1102.5	0	4.5	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Headers - 1st Level	LOADING:	ASD
MEMBER NAME:	Header #26	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Structural Composite Lumber		
Weyerhaeuser	2.0E Microlam LVL	(2) 1.75 X 9.25	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 5 Member Slope (in): 0/12 Actual Length (ft): 5

Area	I _x	I _y	BSW	Lams	C _{fn}	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
32.38	230.84	8.26	9.44	2	7.35	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2600	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 1.04 C_r = 1 Volume factor is applied on a load combination basis And is Not reflected in the adjusted values**BEAM DATA**

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	5	0	5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (22.9%)	252.6	327.8	0	D+S	1.15
Bending Stress Y (psi)	PASS (47.1%)	1638.2	3097.8	2.5	D+S	1.15
Deflection Y (in)	PASS (82.2%)	0.059	0.333 (=L/180)	2.5	S	
Bearing Stress (psi)	PASS (30.8%)	519.2	750.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	576	4875	5451
B	576	4875	5451

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Self Weight (lbf/ft)	-	9.44	9.44	0	5	Dead	Y

Linked Load List								
Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Trusses #12	B	220.9997	220.9997	0	5	Dead	Y
Uniform (lb/ft)	Trusses #12	B	1950	1950	0	5	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Headers - 1st Level	LOADING:	ASD
MEMBER NAME:	Header #27	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(1) 3.5 X 7.25	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 2.5 Member Slope (in): 0/12 Actual Length (ft): 2.5

Area	I _x	I _y	BSW	Lams	G	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
25.38	111.15	25.9	5.79	1	0.5	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1170	690	180	1418	625	1600	580
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1
C _i	1	1	1	1	1	1	1
C _F	1.3	1.2	1	1.05	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1**BEAM DATA**

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	2.5	0	2.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (22.3%)	160.8	207.0	0	D+S	1.15
Bending Stress Y (psi)	PASS (50.5%)	665.6	1345.5	1.25	D+S	1.15
Deflection Y (in)	PASS (94.2%)	0.010	0.167 (=L/180)	1.25	S	
Bearing Stress (psi)	PASS (17.1%)	518.3	625.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE ROOF	SNOW	TOTAL
A	283	1	2438	2722
B	283	1	2438	2722

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	2.5	RoofLive	Y
Self Weight (lbf/ft)	-	5.79	5.79	0	2.5	Dead	Y

Linked Load List								
Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Trusses #12	B	220.9997	220.9997	0	2.5	Dead	Y
Uniform (lb/ft)	Trusses #12	B	1950	1950	0	2.5	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Headers - 1st Level	LOADING:	ASD
MEMBER NAME:	Header #28	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Structural Composite Lumber		
Weyerhaeuser	2.0E Microlam LVL	(3) 1.75 X 11.875	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 12.5 Member Slope (in): 0/12 Actual Length (ft): 12.5

Area	I _x	I _y	BSW	Lams	C _{fn}	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
62.34	732.62	15.91	18.18	3	7.35	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2600	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 1 C_r = 1 Volume factor is applied on a load combination basis And is Not reflected in the adjusted values**BEAM DATA**

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	12.5	0	12.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (59.0%)	134.5	327.8	0	D+S	1.15
Bending Stress Y (psi)	PASS (43.3%)	1698.5	2994.3	6.25	D+S	1.15
Deflection Y (in)	PASS (64.0%)	0.300	0.833 (=L/180)	6.25	S	
Bearing Stress (psi)	PASS (52.7%)	354.8	750.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	586	5003	5589
B	586	5003	5589

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Self Weight (lbf/ft)	-	18.18	18.18	0	12.5	Dead	Y

Linked Load List								
Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Outlookers	B	75.56889	75.56889	0	12.5	Dead	Y
Uniform (lbf/ft)	Outlookers	B	800.4514	800.4514	0	12.5	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Headers - 1st Level	LOADING:	ASD
MEMBER NAME:	Header #29	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Structural Composite Lumber		
Weyerhaeuser	2.0E Microlam LVL	(3) 1.75 X 9.25	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 6 Member Slope (in): 0/12 Actual Length (ft): 6

Area	I _x	I _y	BSW	Lams	C _{fn}	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
48.56	346.26	12.39	14.16	3	7.35	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2600	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 1.04 C_r = 1 Volume factor is applied on a load combination basis And is Not reflected in the adjusted values**BEAM DATA**

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	6	0	6	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (53.1%)	153.7	327.8	6	D+S	1.15
Bending Stress Y (psi)	PASS (61.4%)	1196.2	3097.8	3	D+S	1.15
Deflection Y (in)	PASS (84.5%)	0.062	0.400 (=L/180)	3	S	
Bearing Stress (psi)	PASS (15.8%)	631.8	750.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	545	4431	4976
B	545	4431	4976

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Self Weight (lbf/ft)	-	14.16	14.16	0	6	Dead	Y

Linked Load List								
Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Trusses #13	B	167.3846	167.3846	0	6	Dead	Y
Uniform (lb/ft)	Trusses #13	B	1476.923	1476.923	0	6	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Headers - 1st Level	LOADING:	ASD
MEMBER NAME:	Header #30	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	Select Structural	(1) 3.5 X 7.25	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 5.5 Member Slope (in): 0/12 Actual Length (ft): 5.5

Area	I _x	I _y	BSW	Lams	G	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
25.38	111.15	25.9	5.79	1	0.5	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	1500	1000	180	1700	625	1900	690
Adjusted Values	1950	1200	180	1785	625	1900	690
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1
C _i	1	1	1	1	1	1	1
C _F	1.3	1.2	1	1.05	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1**BEAM DATA**

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	5.5	0	5.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (73.9%)	54.1	207.0	0	D+S	1.15
Bending Stress Y (psi)	PASS (78.0%)	492.6	2242.5	2.75	D+S	1.15
Deflection Y (in)	PASS (92.2%)	0.029	0.367 (=L/180)	2.75	S	
Bearing Stress (psi)	PASS (72.1%)	174.3	625.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE ROOF	SNOW	TOTAL
A	107	3	808	918
B	107	3	808	918

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	5.5	RoofLive	Y
Self Weight (lbf/ft)	-	5.79	5.79	0	5.5	Dead	Y

Linked Load List								
Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Rafters #1	A	33.29365	33.29365	0	5.5	Dead	Y
Uniform (lbf/ft)	Rafters #1	A	293.7675	293.7675	0	5.5	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Headers - 1st Level	LOADING:	ASD
MEMBER NAME:	Header #31	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(1) 3.5 X 7.25	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 3 Member Slope (in): 0/12 Actual Length (ft): 3

Area	I _x	I _y	BSW	Lams	G	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
25.38	111.15	25.9	5.79	1	0.5	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1170	690	180	1418	625	1600	580
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1
C _i	1	1	1	1	1	1	1
C _F	1.3	1.2	1	1.05	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1**BEAM DATA**

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	3	0	3	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (13.9%)	178.2	207.0	3	D+S	1.15
Bending Stress Y (psi)	PASS (34.2%)	884.9	1345.5	1.5	D+S	1.15
Deflection Y (in)	PASS (90.8%)	0.018	0.200 (=L/180)	1.5	S	
Bearing Stress (psi)	PASS (8.1%)	574.2	625.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE ROOF	SNOW	TOTAL
A	315	2	2700	3017
B	315	2	2700	3017

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	3	RoofLive	Y
Self Weight (lbf/ft)	-	5.79	5.79	0	3	Dead	Y

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Trusses #14	B	203.9998	203.9998	0	3	Dead	Y
Uniform (lb/ft)	Trusses #14	B	1799.999	1799.999	0	3	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Headers - 1st Level	LOADING:	ASD
MEMBER NAME:	Header #32	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	Select Structural	(1) 3.5 X 7.25	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 3 Member Slope (in): 0/12 Actual Length (ft): 3

Area	I _x	I _y	BSW	Lams	G	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
25.38	111.15	25.9	5.79	1	0.5	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	1500	1000	180	1700	625	1900	690
Adjusted Values	1950	1200	180	1785	625	1900	690
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1
C _i	1	1	1	1	1	1	1
C _F	1.3	1.2	1	1.05	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1**BEAM DATA**

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	3	0	3	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (13.9%)	178.2	207.0	3	D+S	1.15
Bending Stress Y (psi)	PASS (60.5%)	884.9	2242.5	1.5	D+S	1.15
Deflection Y (in)	PASS (92.2%)	0.016	0.200 (=L/180)	1.5	S	
Bearing Stress (psi)	PASS (8.1%)	574.2	625.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE ROOF	SNOW	TOTAL
A	315	2	2700	3017
B	315	2	2700	3017

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	3	RoofLive	Y
Self Weight (lbf/ft)	-	5.79	5.79	0	3	Dead	Y

Linked Load List								
Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Trusses #15	B	203.9998	203.9998	0	3	Dead	Y
Uniform (lbf/ft)	Trusses #15	B	1799.999	1799.999	0	3	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Headers - 1st Level	LOADING:	ASD
MEMBER NAME:	Header #33	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Structural Composite Lumber		
Weyerhaeuser	2.0E Microlam LVL	(3) 1.75 X 9.25	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 10 Member Slope (in): 0/12 Actual Length (ft): 10

Area	I _x	I _y	BSW	Lams	C _{fn}	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
48.56	346.26	12.39	14.16	3	7.35	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2600	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 1.04 C_r = 1 Volume factor is applied on a load combination basis And is Not reflected in the adjusted values**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	10	0	10	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (58.1%)	137.5	327.8	0	D+S	1.15
Bending Stress Y (psi)	PASS (42.4%)	1783.5	3097.8	5	D+S	1.15
Deflection Y (in)	PASS (61.0%)	0.260	0.667 (=L/180)	5	S	
Bearing Stress (psi)	PASS (24.6%)	565.2	750.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE ROOF	SNOW	TOTAL
A	449	5	4002	4456
B	449	5	4002	4456

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	10	RoofLive	Y
Self Weight (lbf/ft)	-	14.16	14.16	0	10	Dead	Y

Linked Load List								
Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Outlookers	B	75.56889	75.56889	0	10	Dead	Y
Uniform (lbf/ft)	Outlookers	B	800.4514	800.4514	0	10	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Headers - 1st Level	LOADING:	ASD
MEMBER NAME:	Header #34	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Glulams		
Stress Class Rated 24F-1.8E	24F-V4 DF/DF	(1) 5.5 X 18	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 10 Member Slope (in): 0/12 Actual Length (ft): 10

Area	Ix	Iy	BSW	Lams	G	Kcr
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
99	2673	249.56	22.58	1	0.5	1

STRENGTH PROPERTIES

	Fbx+	Fbx-	Fby	Ft	Fvx	Fvy	Fc	Fc _⊥	Ex	Exmin	Ey	Eymin
	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)
Base Values	2400	1850	1450	1100	265	230	1650	650	1800000	950000	1600000	850000
Adjusted Values	2400	1850	1450	1100	265	230	1650	650	1800000	950000	1600000	850000
C _M	1	1	1	1	1	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1	1	1	1	1	1
Bending Adjustment Factors	C _{vr} = 1											

BEAM DATA

Span	Length (ft)	Unbraced Length (ft)		Beam End		CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
		Top	Bottom	Elev. Diff (ft)					
1	10	0	10	0					

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (11.7%)	269.2	304.8	0	D+S	1.15
Bending Stress Y (psi)	PASS (35.0%)	1794.5	2760.0	5	D+S	1.15
Deflection Y (in)	PASS (77.8%)	0.148	0.667 (=L/180)	5	S	
Bearing Stress (psi)	PASS (3.9%)	538.3	560.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE ROOF	SNOW	TOTAL
A	1910	5	15855	17770
B	1910	5	15855	17770

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	10	RoofLive	Y
Self Weight (lbf/ft)	-	22.58	22.58	0	10	Dead	Y

Linked Load List								
Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Trusses #16	B	359.3906	359.3906	0	10	Dead	Y
Uniform (lbf/ft)	Trusses #16	B	3171.093	3171.093	0	10	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Headers - 1st Level	LOADING:	ASD
MEMBER NAME:	Header #35	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(1) 5.5 X 9.5	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 3 Member Slope (in): 0/12 Actual Length (ft): 3

Area	I _x	I _y	BSW	Lams	G	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
52.25	392.96	131.71	11.92	1	0.5	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	875	425	170	600	625	1300	470
Adjusted Values	875	425	170	600	625	1300	470
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1
C _i	1	1	1	1	1	1	1
C _F	1	1	1	1	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1**BEAM DATA**

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	3	0	3	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (26.7%)	143.3	195.5	3	D+S	1.15
Bending Stress Y (psi)	PASS (46.0%)	543.1	1006.3	1.5	D+S	1.15
Deflection Y (in)	PASS (94.7%)	0.011	0.200 (=L/180)	1.5	S	
Bearing Stress (psi)	PASS (3.2%)	605.2	625.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE ROOF	SNOW	TOTAL
A	524	2	4468	4994
B	524	2	4468	4994

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	3	RoofLive	Y
Self Weight (lbf/ft)	-	11.92	11.92	0	3	Dead	Y

Linked Load List								
Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Trusses #16	C	337.6094	337.6094	0	3	Dead	Y
Uniform (lb/ft)	Trusses #16	C	2978.898	2978.898	0	3	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Headers - 1st Level	LOADING:	ASD
MEMBER NAME:	Header #36	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Glulams		
Stress Class Rated 24F-1.8E	24F-V4 DF/DF	(1) 5.5 X 18	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 14 Member Slope (in): 0/12 Actual Length (ft): 14

Area	Ix	Iy	BSW	Lams	G	Kcr
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
99	2673	249.56	22.58	1	0.5	1

STRENGTH PROPERTIES

	Fbx+	Fbx-	Fby	Ft	Fvx	Fvy	Fc	Fc _⊥	Ex	Exmin	Ey	Eymin
	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)	(psi)
Base Values	2400	1850	1450	1100	265	230	1650	650	1800000	950000	1600000	850000
Adjusted Values	2400	1850	1450	1100	265	230	1650	650	1800000	950000	1600000	850000
C _M	1	1	1	1	1	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1	1	1	1	1	1
Bending Adjustment Factors	C _{vr} = 1											

BEAM DATA

Span	Length (ft)	Unbraced Length (ft)		Beam End		CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
		Top	Bottom	Elev. Diff (ft)					
1	14	0	14	0					

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (39.6%)	184.0	304.8	0	D+S	1.15
Bending Stress Y (psi)	PASS (37.4%)	1717.0	2740.6	7	D+S	1.15
Deflection Y (in)	PASS (70.9%)	0.272	0.933 (=L/180)	7	S	
Bearing Stress (psi)	PASS (12.4%)	490.6	560.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	1554	10588	12142
B	1554	10588	12142

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Self Weight (lbf/ft)	-	22.58	22.58	0	14	Dead	Y

Linked Load List								
Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Outlookers - 5	B	199.4019	199.4019	0	14	Dead	Y
Uniform (lbf/ft)	Outlookers - 5	B	1512.5	1512.5	0	14	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Headers - 1st Level	LOADING:	ASD
MEMBER NAME:	Header #37	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(1) 3.5 X 7.25	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 2.5 Member Slope (in): 0/12 Actual Length (ft): 2.5

Area	I _x	I _y	BSW	Lams	G	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
25.38	111.15	25.9	5.79	1	0.5	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1170	690	180	1418	625	1600	580
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1
C _i	1	1	1	1	1	1	1
C _F	1.3	1.2	1	1.05	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1**BEAM DATA**

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	2.5	0	2.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (38.7%)	126.9	207.0	0	D+S	1.15
Bending Stress Y (psi)	PASS (61.0%)	525.2	1345.5	1.25	D+S	1.15
Deflection Y (in)	PASS (95.5%)	0.008	0.167 (=L/180)	1.25	S	
Bearing Stress (psi)	PASS (34.6%)	409.0	625.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE ROOF	SNOW	TOTAL
A	256	1	1891	2148
B	256	1	1891	2148

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	2.5	RoofLive	Y
Self Weight (lbf/ft)	-	5.79	5.79	0	2.5	Dead	Y

Linked Load List								
Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Outlookers - 5	B	199.4019	199.4019	0	2.5	Dead	Y
Uniform (lbf/ft)	Outlookers - 5	B	1512.5	1512.5	0	2.5	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Headers - 1st Level	LOADING:	ASD
MEMBER NAME:	Header #38	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(1) 3.5 X 7.25	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 3 Member Slope (in): 0/12 Actual Length (ft): 3

Area	I _x	I _y	BSW	Lams	G	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
25.38	111.15	25.9	5.79	1	0.5	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1170	690	180	1418	625	1600	580
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1
C _i	1	1	1	1	1	1	1
C _F	1.3	1.2	1	1.05	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1**BEAM DATA**

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	3	0	3	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (13.9%)	178.2	207.0	3	D+S	1.15
Bending Stress Y (psi)	PASS (34.2%)	884.9	1345.5	1.5	D+S	1.15
Deflection Y (in)	PASS (90.8%)	0.018	0.200 (=L/180)	1.5	S	
Bearing Stress (psi)	PASS (8.1%)	574.2	625.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE ROOF	SNOW	TOTAL
A	315	2	2700	3017
B	315	2	2700	3017

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	3	RoofLive	Y
Self Weight (lbf/ft)	-	5.79	5.79	0	3	Dead	Y

Linked Load List								
Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Trusses #17	C	203.9998	203.9998	0	3	Dead	Y
Uniform (lbf/ft)	Trusses #17	C	1800.004	1800.004	0	3	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Headers - 1st Level	LOADING:	ASD
MEMBER NAME:	Header #39	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Structural Composite Lumber		
Weyerhaeuser	2.0E Microlam LVL	(3) 1.75 X 16	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 10 Member Slope (in): 0/12 Actual Length (ft): 10

Area	I _x	I _y	BSW	Lams	C _{fn}	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
84	1792	21.44	24.5	3	7.35	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2600	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 0.96C_r = 1 Volume factor is applied on a load combination basis And is Not reflected in the adjusted values**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	10	0	10	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (16.7%)	272.9	327.8	0	D+S	1.15
Bending Stress Y (psi)	PASS (28.8%)	2046.6	2875.2	5	D+S	1.15
Deflection Y (in)	PASS (74.4%)	0.171	0.667 (=L/180)	5	S	
Bearing Stress (psi)	PASS (13.8%)	646.8	750.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE ROOF	SNOW	TOTAL
A	1666	5	13615	15286
B	1666	5	13615	15286

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	10	RoofLive	Y
Self Weight (lbf/ft)	-	24.5	24.5	0	10	Dead	Y

Linked Load List								
Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Trusses #17	C	203.9998	203.9998	0	10	Dead	Y
Uniform (lbf/ft)	Trusses #17	C	1800.004	1800.004	0	10	Snow	Y
Uniform (lbf/ft)	Trusses #18	C	104.6154	104.6154	0	10	Dead	Y
Uniform (lbf/ft)	Trusses #18	C	923.0771	923.0771	0	10	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Headers - 1st Level	LOADING:	ASD
MEMBER NAME:	Header #40	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Structural Composite Lumber		
Weyerhaeuser	2.0E Microlam LVL	(2) 1.75 X 9.25	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 8 Member Slope (in): 0/12 Actual Length (ft): 8

Area	Ix	Iy	BSW	Lams	Cfn	Kcr
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
32.38	230.84	8.26	9.44	2	7.35	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10 ³	Emin (psi) x10 ³
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2600	1895	285	2510	750	2000	1017
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 1.04 C_r = 1 Volume factor is applied on a load combination basis And is Not reflected in the adjusted values**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	8	0	8	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (49.9%)	164.1	327.8	0	D+S	1.15
Bending Stress Y (psi)	PASS (45.0%)	1703.1	3097.8	4	D+S	1.15
Deflection Y (in)	PASS (70.0%)	0.160	0.533 (=L/180)	4	S	
Bearing Stress (psi)	PASS (10.0%)	674.6	750.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	SNOW	TOTAL
A	340	3202	3542
B	340	3202	3542

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Self Weight (lbf/ft)	-	9.44	9.44	0	8	Dead	Y

Linked Load List								
Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Outlookers	B	75.56889	75.56889	0	8	Dead	Y
Uniform (lb/ft)	Outlookers	B	800.4514	800.4514	0	8	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Headers - 1st Level	LOADING:	ASD
MEMBER NAME:	Header #41	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(1) 3.5 X 7.25	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 4 Member Slope (in): 0/12 Actual Length (ft): 4

Area	I _x	I _y	BSW	Lams	G	Kcr
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
25.38	111.15	25.9	5.79	1	0.5	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1170	690	180	1418	625	1600	580
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1
C _i	1	1	1	1	1	1	1
C _F	1.3	1.2	1	1.05	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1**BEAM DATA**

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	4	0	4	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (5.8%)	195.1	207.0	0	D+S	1.15
Bending Stress Y (psi)	PASS (4.0%)	1291.6	1345.5	2	D+S	1.15
Deflection Y (in)	PASS (82.1%)	0.048	0.267 (=L/180)	2	S	
Bearing Stress (psi)	PASS (49.7%)	314.3	625.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE ROOF	SNOW	TOTAL
A	346	2	2954	3302
B	346	2	2954	3302

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	4	RoofLive	Y
Self Weight (lbf/ft)	-	5.79	5.79	0	4	Dead	Y

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Trusses #18	B	167.3846	167.3846	0	4	Dead	Y
Uniform (lb/ft)	Trusses #18	B	1476.922	1476.922	0	4	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Headers - 1st Level	LOADING:	ASD
MEMBER NAME:	Header #42	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(1) 3.5 X 7.25	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 5.5 Member Slope (in): 0/12 Actual Length (ft): 5.5

Area	I _x	I _y	BSW	Lams	G	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
25.38	111.15	25.9	5.79	1	0.5	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1170	690	180	1418	625	1600	580
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1
C _i	1	1	1	1	1	1	1
C _F	1.3	1.2	1	1.05	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1**BEAM DATA**

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	5.5	0	5.5	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (73.9%)	54.1	207.0	5.5	D+S	1.15
Bending Stress Y (psi)	PASS (63.4%)	492.6	1345.5	2.75	D+S	1.15
Deflection Y (in)	PASS (90.7%)	0.034	0.367 (=L/180)	2.75	S	
Bearing Stress (psi)	PASS (72.1%)	174.3	625.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE ROOF	SNOW	TOTAL
A	107	3	808	918
B	107	3	808	918

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	5.5	RoofLive	Y
Self Weight (lbf/ft)	-	5.79	5.79	0	5.5	Dead	Y

Linked Load List								
Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Rafters #1	A	33.29365	33.29365	0	5.5	Dead	Y
Uniform (lbf/ft)	Rafters #1	A	293.7675	293.7675	0	5.5	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Headers - 1st Level	LOADING:	ASD
MEMBER NAME:	Header #43	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(1) 3.5 X 7.25	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 3 Member Slope (in): 0/12 Actual Length (ft): 3

Area	I _x	I _y	BSW	Lams	G	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
25.38	111.15	25.9	5.79	1	0.5	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1170	690	180	1418	625	1600	580
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1
C _i	1	1	1	1	1	1	1
C _F	1.3	1.2	1	1.05	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1**BEAM DATA**

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	3	0	3	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (85.7%)	29.5	207.0	3	D+S	1.15
Bending Stress Y (psi)	PASS (89.1%)	146.6	1345.5	1.5	D+S	1.15
Deflection Y (in)	PASS (98.5%)	0.003	0.200 (=L/180)	1.5	S	
Bearing Stress (psi)	PASS (84.8%)	95.1	625.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE ROOF	SNOW	TOTAL
A	59	2	441	502
B	59	2	441	502

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	3	RoofLive	Y
Self Weight (lbf/ft)	-	5.79	5.79	0	3	Dead	Y

Linked Load List								
Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Rafters #1	A	33.29365	33.29365	0	3	Dead	Y
Uniform (lbf/ft)	Rafters #1	A	293.7675	293.7675	0	3	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Headers - 1st Level	LOADING:	ASD
MEMBER NAME:	Header #44	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(1) 3.5 X 7.25	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 2 Member Slope (in): 0/12 Actual Length (ft): 2

Area	I _x	I _y	BSW	Lams	G	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
25.38	111.15	25.9	5.79	1	0.5	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1170	690	180	1418	625	1600	580
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1
C _i	1	1	1	1	1	1	1
C _F	1.3	1.2	1	1.05	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1**BEAM DATA**

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	2	0	2	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (12.3%)	181.5	207.0	0	D+S	1.15
Bending Stress Y (psi)	PASS (55.3%)	601.0	1345.5	1	D+S	1.15
Deflection Y (in)	PASS (95.8%)	0.006	0.133 (=L/180)	1	S	
Bearing Stress (psi)	PASS (6.4%)	585.0	625.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE ROOF	SNOW	TOTAL
A	336	1	2735	3072
B	336	1	2735	3072

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	1	1	0	2	RoofLive	Y
Self Weight (lbf/ft)	-	5.79	5.79	0	2	Dead	Y

Linked Load List								
Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Trusses #12	B	220.9997	220.9997	0	2	Dead	Y
Uniform (lbf/ft)	Trusses #12	B	1950	1950	0	2	Snow	Y
Uniform (lbf/ft)	Rafters #2	C	109.1217	109.1217	0	2	Dead	Y
Uniform (lbf/ft)	Rafters #2	C	785.098	785.098	0	2	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Floor - 1st Level	LOADING:	ASD
MEMBER NAME:	Beam #12	CODE:	2018 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		
Douglas Fir-Larch	No. 2	(1) 5.5 X 9.5	DRY

BEAM PROPERTIES

Start (ft): 0 End (ft): 3 Member Slope (in): 0/12 Actual Length (ft): 3

Area	I _x	I _y	BSW	Lams	G	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lb/ft)			Creep Factor
52.25	392.96	131.71	11.92	1	0.5	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _c ⊥ (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	875	425	170	600	625	1300	470
Adjusted Values	875	425	170	600	625	1300	470
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1
C _i	1	1	1	1	1	1	1
C _F	1	1	1	1	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1**BEAM DATA**

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	3	0	3	0				

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (33.9%)	129.3	195.5	3	D+S	1.15
Bending Stress Y (psi)	PASS (35.1%)	652.8	1006.3	1.5	D+S	1.15
Deflection Y (in)	PASS (94.2%)	0.012	0.200 (=L/180)	1.5	S	
Bearing Stress (psi)	PASS (76.2%)	148.9	625.0	0	D+S	1.15

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	SNOW	TOTAL
A	448	2	4055	4505
B	448	2	4055	4505

Reaction Location

A

B

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Uniform	1	1	0	3	Live	Y
Self Weight (lb/ft)	-	11.92	11.92	0	3	Dead	Y

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Outlookers	B	75.56889	75.56889	0	3	Dead	Y
Uniform (lbf/ft)	Outlookers	B	800.4514	800.4514	0	3	Snow	Y
Uniform (lbf/ft)	Trusses #1	C	113.5357	113.5357	0	3	Dead	Y
Uniform (lbf/ft)	Trusses #1	C	1001.786	1001.786	0	3	Snow	Y
Point (lbf)	Header #4	A	292.3378	-	1.5	-	Dead	Y
Point (lbf)	Header #4	A	2703.356	-	1.5	-	Snow	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design		
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis		
CUSTOMER:		REVIEWED BY:	Stephen Curtis		
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts		
	--				
LEVEL:	Floor - 1st Level	LOADING:	ASD		
MEMBER NAME:	Joists #6	CODE:	2018 International Building Code		
MEMBER TYPE:	FLOOR JOIST	NDS:	2018 NDS		
MATERIAL:	I-Joists				
Weyerhaeuser	TJI 110	(1) 9.5	0 (in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 27.5 Member Slope (in): 0/12 Actual Length (ft): 27.5 O.C. Spacing (in): 24

						End Rcap	End Rcap	End Rcap	End Rcap	Int Rcap	Int Rcap	Int Rcap	Int Rcap
El x 10 ⁶	BSW	Lams	K x 10 ⁶	Mcap	Vcap	1.75 NS	3.5 NS	1.75 WS	3.5 WS	3.5 NS	5.25 NS	3.5 WS	5.25 WS
(lbf-in ²)	(lbf/ft)		(lbf)	(lbf-ft)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)
157	2.3	1	4.5	2500	1220	910	1220	910	1220	1935	2350	1935	2350

BEAM DATA

		Unbraced Length (ft)		Beam End
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)
1	8.5	0	8.5	0
2	9.5	0	9.5	0
3	9.5	0	9.5	0

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Force (lbf)	PASS (51.4%)	593.5	1220.0	18.15	D+L	1
Bending Moment (lbf-ft)	PASS (62.9%)	928.5	2500.0	17.875	D+L	1
Deflection Y (in)	PASS (84.9%)	0.048	0.317 (=L/360)	23.375	L	
Bearing Load (lbf)	PASS (41.5%)	1132.2	1935.0	18	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	TOTAL
A	88	267	355
B	256	780	1036
C	280	852	1132
D	99	301	400

Reaction Location WS-Web Stiffener Required NSR-No Stiffener Required

A	B	C	D
NSR	NSR	NSR	NSR

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft ²)	Uniform	40	40	0	27.5	Live	Y
Uniform (lbf/ft ²)	Uniform	12	12	0	27.5	Dead	Y
Self Weight (lbf/ft)	-	2.3	2.3	0	27.5	Dead	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design		
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis		
CUSTOMER:		REVIEWED BY:	Stephen Curtis		
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts		
	--				
LEVEL:	Floor - 1st Level	LOADING:	ASD		
MEMBER NAME:	Joists #7	CODE:	2018 International Building Code		
MEMBER TYPE:	FLOOR JOIST	NDS:	2018 NDS		
MATERIAL:	I-Joists				
Weyerhaeuser	TJI 110	(1) 9.5	0 (in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 30 Member Slope (in): 0/12 Actual Length (ft): 30 O.C. Spacing (in): 24

						End Rcap	End Rcap	End Rcap	End Rcap	Int Rcap	Int Rcap	Int Rcap	Int Rcap
El x 10 ⁶	BSW	Lams	K x 10 ⁶	Mcap	Vcap	1.75 NS	3.5 NS	1.75 WS	3.5 WS	3.5 NS	5.25 NS	3.5 WS	5.25 WS
(lbf-in ²)	(lbf/ft)		(lbf)	(lbf-ft)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)
157	2.3	1	4.5	2500	1220	910	1220	910	1220	1935	2350	1935	2350

BEAM DATA

		Unbraced Length (ft)		Beam End
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)
1	10.5	0	10.5	0
2	8	0	8	0
3	11.5	0	11.5	0

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Force (lbf)	PASS (42.3%)	704.2	1220.0	18.6	D+L	1
Bending Moment (lbf-ft)	PASS (51.5%)	1211.8	2500.0	25.2	D+L	1
Deflection Y (in)	PASS (68.7%)	0.120	0.383 (=L/360)	24.6	L	
Bearing Load (lbf)	PASS (39.5%)	1171.4	1935.0	18.5	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	TOTAL
A	116	353	469
B	258	784	1042
C	290	882	1172
D	126	382	508

Reaction Location WS-Web Stiffener Required NSR-No Stiffener Required

A	B	C	D
NSR	NSR	NSR	NSR

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft ²)	Uniform	40	40	0	30	Live	Y
Uniform (lbf/ft ²)	Uniform	12	12	0	30	Dead	Y
Self Weight (lbf/ft)	-	2.3	2.3	0	30	Dead	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design		
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis		
CUSTOMER:		REVIEWED BY:	Stephen Curtis		
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts		
	--				
LEVEL:	Floor - 1st Level	LOADING:	ASD		
MEMBER NAME:	Joists #8	CODE:	2018 International Building Code		
MEMBER TYPE:	FLOOR JOIST	NDS:	2018 NDS		
MATERIAL:	I-Joists				
Weyerhaeuser	TJI 110	(1) 9.5	0 (in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 41 Member Slope (in): 0/12 Actual Length (ft): 41 O.C. Spacing (in): 24

						End Rcap	End Rcap	End Rcap	End Rcap	Int Rcap	Int Rcap	Int Rcap	Int Rcap
El x 10 ⁶	BSW	Lams	K x 10 ⁶	Mcap	Vcap	1.75 NS	3.5 NS	1.75 WS	3.5 WS	3.5 NS	5.25 NS	3.5 WS	5.25 WS
(lbf-in ²)	(lbf/ft)		(lbf)	(lbf-ft)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)
157	2.3	1	4.5	2500	1220	910	1220	910	1220	1935	2350	1935	2350

BEAM DATA

		Unbraced Length (ft)		Beam End
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)
1	10.5	0	10.5	0
2	8	0	8	0
3	6.5	0	6.5	0
4	9.5	0	9.5	0
5	6.5	0	6.5	0

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Force (lbf)	PASS (47.5%)	640.4	1220.0	10.25	D+L	1
Bending Moment (lbf-ft)	PASS (57.6%)	1059.2	2500.0	10.66	D+L	1
Deflection Y (in)	PASS (78.6%)	0.075	0.350 (=L/360)	4.51	L	
Bearing Load (lbf)	PASS (37.8%)	1203.2	1935.0	10.5	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	TOTAL
A	111	338	449
B	298	905	1203
C	148	449	597
D	224	682	906
E	241	732	973
F	57	174	231

Reaction Location WS-Web Stiffener Required NSR-No Stiffener Required

A	B	C	D	E	F
NSR	NSR	NSR	NSR	NSR	NSR

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft ²)	Uniform	40	40	0	41	Live	Y
Uniform (lbf/ft ²)	Uniform	12	12	0	41	Dead	Y
Self Weight (lbf/ft)	-	2.3	2.3	0	41	Dead	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design		
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis		
CUSTOMER:		REVIEWED BY:	Stephen Curtis		
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts		
	--				
LEVEL:	Floor - 1st Level	LOADING:	ASD		
MEMBER NAME:	Joists #9	CODE:	2018 International Building Code		
MEMBER TYPE:	FLOOR JOIST	NDS:	2018 NDS		
MATERIAL:	I-Joists				
Weyerhaeuser	TJI 110	(1) 9.5	0 (in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 41.5 Member Slope (in): 0/12 Actual Length (ft): 41.5 O.C. Spacing (in): 24

						End Rcap	End Rcap	End Rcap	End Rcap	Int Rcap	Int Rcap	Int Rcap	Int Rcap
El x 10 ⁶	BSW	Lams	K x 10 ⁶	Mcap	Vcap	1.75 NS	3.5 NS	1.75 WS	3.5 WS	3.5 NS	5.25 NS	3.5 WS	5.25 WS
(lbf-in ²)	(lbf/ft)		(lbf)	(lbf-ft)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)
157	2.3	1	4.5	2500	1220	910	1220	910	1220	1935	2350	1935	2350

BEAM DATA

		Unbraced Length (ft)		Beam End
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)
1	10.5	0	10.5	0
2	8	0	8	0
3	13.5	0	13.5	0
4	9.5	0	9.5	0

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Force (lbf)	PASS (39.1%)	742.9	1220.0	31.955	D+L	1
Bending Moment (lbf-ft)	PASS (38.4%)	1540.6	2500.0	31.955	D+L	1
Deflection Y (in)	PASS (72.8%)	0.122	0.450 (=L/360)	24.9	L	
Bearing Load (lbf)	PASS (26.7%)	1418.3	1935.0	32	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	TOTAL
A	116	352	468
B	259	787	1046
C	282	858	1140
D	351	1067	1418
E	84	255	339

Reaction Location WS-Web Stiffener Required NSR-No Stiffener Required

A	B	C	D	E
NSR	NSR	NSR	NSR	NSR

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft ²)	Uniform	40	40	0	41.5	Live	Y
Uniform (lbf/ft ²)	Uniform	12	12	0	41.5	Dead	Y
Self Weight (lbf/ft)	-	2.3	2.3	0	41.5	Dead	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design		
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis		
CUSTOMER:		REVIEWED BY:	Stephen Curtis		
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts		
	--				
LEVEL:	Floor - 1st Level	LOADING:	ASD		
MEMBER NAME:	Joists #10	CODE:	2018 International Building Code		
MEMBER TYPE:	FLOOR JOIST	NDS:	2018 NDS		
MATERIAL:	I-Joists				
Weyerhaeuser	TJI 110	(1) 9.5	0 (in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 31 Member Slope (in): 0/12 Actual Length (ft): 31 O.C. Spacing (in): 24

						End Rcap	End Rcap	End Rcap	End Rcap	Int Rcap	Int Rcap	Int Rcap	Int Rcap
El x 10 ⁶	BSW	Lams	K x 10 ⁶	Mcap	Vcap	1.75 NS	3.5 NS	1.75 WS	3.5 WS	3.5 NS	5.25 NS	3.5 WS	5.25 WS
(lbf-in ²)	(lbf/ft)		(lbf)	(lbf-ft)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)
157	2.3	1	4.5	2500	1220	910	1220	910	1220	1935	2350	1935	2350

BEAM DATA

		Unbraced Length (ft)		Beam End
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)
1	12	0	12	0
2	9.5	0	9.5	0
3	9.5	0	9.5	0

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Force (lbf)	PASS (40.0%)	732.0	1220.0	11.78	D+L	1
Bending Moment (lbf-ft)	PASS (45.6%)	1360.2	2500.0	12.09	D+L	1
Deflection Y (in)	PASS (66.5%)	0.134	0.400 (=L/360)	5.58	L	
Bearing Load (lbf)	PASS (31.8%)	1319.6	1935.0	12	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	TOTAL
A	129	392	521
B	326	993	1319
C	257	782	1039
D	103	313	416

Reaction Location WS-Web Stiffener Required NSR-No Stiffener Required

A	B	C	D
NSR	NSR	NSR	NSR

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft ²)	Uniform	40	40	0	31	Live	Y
Uniform (lbf/ft ²)	Uniform	12	12	0	31	Dead	Y
Self Weight (lbf/ft)	-	2.3	2.3	0	31	Dead	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design		
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis		
CUSTOMER:		REVIEWED BY:	Stephen Curtis		
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts		
	--				
LEVEL:	Floor - 1st Level	LOADING:	ASD		
MEMBER NAME:	Joists #11	CODE:	2018 International Building Code		
MEMBER TYPE:	FLOOR JOIST	NDS:	2018 NDS		
MATERIAL:	I-Joists				
Weyerhaeuser	TJI 110	(1) 9.5	0 (in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 30 Member Slope (in): 0/12 Actual Length (ft): 30 O.C. Spacing (in): 24

						End Rcap	End Rcap	End Rcap	End Rcap	Int Rcap	Int Rcap	Int Rcap	Int Rcap
El x 10 ⁶	BSW	Lams	K x 10 ⁶	Mcap	Vcap	1.75 NS	3.5 NS	1.75 WS	3.5 WS	3.5 NS	5.25 NS	3.5 WS	5.25 WS
(lbf-in ²)	(lbf/ft)		(lbf)	(lbf-ft)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)
157	2.3	1	4.5	2500	1220	910	1220	910	1220	1935	2350	1935	2350

BEAM DATA

		Unbraced Length (ft)		Beam End
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)
1	10	0	10	0
2	10	0	10	0
3	10	0	10	0

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Force (lbf)	PASS (48.6%)	627.2	1220.0	9.9	D+L	1
Bending Moment (lbf-ft)	PASS (60.0%)	999.6	2500.0	9.9	D+L	1
Deflection Y (in)	PASS (81.8%)	0.061	0.333 (=L/360)	25.5	L	
Bearing Load (lbf)	PASS (39.6%)	1169.3	1935.0	10	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	TOTAL
A	105	320	425
B	289	880	1169
C	289	880	1169
D	105	320	425

Reaction Location WS-Web Stiffener Required NSR-No Stiffener Required

A	B	C	D
NSR	NSR	NSR	NSR

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft ²)	Uniform	40	40	0	30	Live	Y
Uniform (lbf/ft ²)	Uniform	12	12	0	30	Dead	Y
Self Weight (lbf/ft)	-	2.3	2.3	0	30	Dead	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design		
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis		
CUSTOMER:		REVIEWED BY:	Stephen Curtis		
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts		
	--				
LEVEL:	Floor - 1st Level	LOADING:	ASD		
MEMBER NAME:	Joists #12	CODE:	2018 International Building Code		
MEMBER TYPE:	FLOOR JOIST	NDS:	2018 NDS		
MATERIAL:	I-Joists				
Weyerhaeuser	TJI 110	(1) 9.5	0 (in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 26 Member Slope (in): 0/12 Actual Length (ft): 26 O.C. Spacing (in): 24

						End Rcap	End Rcap	End Rcap	End Rcap	Int Rcap	Int Rcap	Int Rcap	Int Rcap
El x 10 ⁶	BSW	Lams	K x 10 ⁶	Mcap	Vcap	1.75 NS	3.5 NS	1.75 WS	3.5 WS	3.5 NS	5.25 NS	3.5 WS	5.25 WS
(lbf-in ²)	(lbf/ft)		(lbf)	(lbf-ft)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)
157	2.3	1	4.5	2500	1220	910	1220	910	1220	1935	2350	1935	2350

BEAM DATA

		Unbraced Length (ft)		Beam End
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)
1	6	0	6	0
2	10	0	10	0
3	10	0	10	0

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Force (lbf)	PASS (47.9%)	635.5	1220.0	16.12	D+L	1
Bending Moment (lbf-ft)	PASS (56.4%)	1090.2	2500.0	16.12	D+L	1
Deflection Y (in)	PASS (83.4%)	0.056	0.333 (=L/360)	21.58	L	
Bearing Load (lbf)	PASS (36.3%)	1231.9	1935.0	16	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	TOTAL
A	52	159	211
B	224	682	906
C	305	927	1232
D	103	312	415

Reaction Location WS-Web Stiffener Required NSR-No Stiffener Required

A	B	C	D
NSR	NSR	NSR	NSR

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft ²)	Uniform	40	40	0	26	Live	Y
Uniform (lbf/ft ²)	Uniform	12	12	0	26	Dead	Y
Self Weight (lbf/ft)	-	2.3	2.3	0	26	Dead	Y

**PASS**

DATE:	10/27/2025			COMPANY:	SMC Design	
STRUCALC BUILD:	StruCalc Pro			DESIGNED BY:	Stephen Curtis	
CUSTOMER:				REVIEWED BY:	Stephen Curtis	
PROJ. ADDRESS:	--			PROJECT NAME:	25-016 Keatts	
	--					
LEVEL:	Floor - 1st Level			LOADING:	ASD	
MEMBER NAME:	Joists #13			CODE:	2018 International Building Code	
MEMBER TYPE:	FLOOR JOIST			NDS:	2018 NDS	
MATERIAL:	I-Joists					
Weyerhaeuser	TJI 110	(1) 9.5	0 (in) O.C.	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 40 Member Slope (in): 0/12 Actual Length (ft): 40 O.C. Spacing (in): 24

						End Rcap	End Rcap	End Rcap	End Rcap	Int Rcap	Int Rcap	Int Rcap	Int Rcap
El x 10 ⁶	BSW	Lams	K x 10 ⁶	Mcap	Vcap	1.75 NS	3.5 NS	1.75 WS	3.5 WS	3.5 NS	5.25 NS	3.5 WS	5.25 WS
(lbf-in ²)	(lbf/ft)		(lbf)	(lbf-ft)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)
157	2.3	1	4.5	2500	1220	910	1220	910	1220	1935	2350	1935	2350

BEAM DATA

		Unbraced Length (ft)		Beam End
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)
1	7.5	0	7.5	0
2	7	0	7	0
3	4.5	0	4.5	0
4	7	0	7	0
5	7.5	0	7.5	0
6	6.5	0	6.5	0

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Force (lbf)	PASS (62.9%)	452.2	1220.0	7.2	D+L	1
Bending Moment (lbf-ft)	PASS (76.0%)	598.8	2500.0	7.6	D+L	1
Deflection Y (in)	PASS (92.8%)	0.018	0.250 (=L/360)	3.2	L	
Bearing Load (lbf)	PASS (52.8%)	912.5	1935.0	7.5	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	TOTAL
A	77	236	313
B	226	687	913
C	134	408	542
D	148	449	597
E	196	596	792
F	206	625	831
G	65	199	264

Reaction Location WS-Web Stiffener Required NSR-No Stiffener Required

A	B	C	D	E	F	G
NSR	NSR	NSR	NSR	NSR	NSR	NSR

LOAD LIST							
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft²)	Uniform	40	40	0	40	Live	Y
Uniform (lbf/ft²)	Uniform	12	12	0	40	Dead	Y
Self Weight (lbf/ft)	-	2.3	2.3	0	40	Dead	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design		
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis		
CUSTOMER:		REVIEWED BY:	Stephen Curtis		
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts		
	--				
LEVEL:	Floor - 1st Level	LOADING:	ASD		
MEMBER NAME:	Joists #15	CODE:	2018 International Building Code		
MEMBER TYPE:	FLOOR JOIST	NDS:	2018 NDS		
MATERIAL:	I-Joists				
Weyerhaeuser	TJI 110	(1) 9.5	0 (in) O.C.	DRY	

BEAM PROPERTIES

Start (ft): 0 End (ft): 26 Member Slope (in): 0/12 Actual Length (ft): 26 O.C. Spacing (in): 24

						End Rcap	End Rcap	End Rcap	End Rcap	Int Rcap	Int Rcap	Int Rcap	Int Rcap
El x 10 ⁶	BSW	Lams	K x 10 ⁶	Mcap	Vcap	1.75 NS	3.5 NS	1.75 WS	3.5 WS	3.5 NS	5.25 NS	3.5 WS	5.25 WS
(lbf-in ²)	(lbf/ft)		(lbf)	(lbf-ft)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)	(lbf)
157	2.3	1	4.5	2500	1220	910	1220	910	1220	1935	2350	1935	2350

BEAM DATA

		Unbraced Length (ft)		Beam End
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)
1	8.5	0	8.5	0
2	9	0	9	0
3	8.5	0	8.5	0

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Force (lbf)	PASS (56.7%)	528.1	1220.0	17.68	D+L	1
Bending Moment (lbf-ft)	PASS (69.1%)	773.2	2500.0	8.58	D+L	1
Deflection Y (in)	PASS (89.4%)	0.030	0.283 (=L/360)	3.64	L	
Bearing Load (lbf)	PASS (47.0%)	1025.6	1935.0	8.5	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	TOTAL
A	88	268	356
B	254	772	1026
C	254	772	1026
D	88	268	356

Reaction Location WS-Web Stiffener Required NSR-No Stiffener Required

A	B	C	D
NSR	NSR	NSR	NSR

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft ²)	Uniform	40	40	0	26	Live	Y
Uniform (lbf/ft ²)	Uniform	12	12	0	26	Dead	Y
Self Weight (lbf/ft)	-	2.3	2.3	0	26	Dead	Y



PASS

DATE:	10/27/2025			COMPANY:	SMC Design	
STRUCALC BUILD:	StruCalc Pro			DESIGNED BY:	Stephen Curtis	
CUSTOMER:				REVIEWED BY:	Stephen Curtis	
PROJ. ADDRESS:	--			PROJECT NAME:	25-016 Keatts	
	--					
LEVEL:	Floor - 1st Level			LOADING:	ASD	
MEMBER NAME:	Joists #16			CODE:	2018 International Building Code	
MEMBER TYPE:	FLOOR JOIST			NDS:	2018 NDS	
MATERIAL:	I-Joists					
Weyerhaeuser	TJI 110	(1) 9.5	0 (in) O.C.	DRY		

BEAM PROPERTIES

Start (ft): 0 End (ft): 17 Member Slope (in): 0/12 Actual Length (ft): 17 O.C. Spacing (in): 24

						End Rcap	End Rcap	End Rcap	End Rcap	Int Rcap	Int Rcap	Int Rcap	Int Rcap
El x 10 ⁶	BSW	Lams	K x 10 ⁶	Mcap	Vcap	1.75 NS	3.5 NS	1.75 WS	3.5 WS	3.5 NS	5.25 NS	3.5 WS	5.25 WS
(lb-ft-in ²)	(lb-ft)		(lb-ft)	(lb-ft)	(lb-ft)	(lb-ft)	(lb-ft)	(lb-ft)	(lb-ft)	(lb-ft)	(lb-ft)	(lb-ft)	(lb-ft)
157	2.3	1	4.5	2500	1220	910	1220	910	1220	1935	2350	1935	2350

BEAM DATA

		Unbraced Length (ft)		Beam End
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)
1	5.5	0	5.5	0
2	11.5	0	11.5	0

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Force (lb-ft)	PASS (41.5%)	714.2	1220.0	5.61	D+L	1
Bending Moment (lb-ft)	PASS (48.5%)	1286.7	2500.0	5.44	D+L	1
Deflection Y (in)	PASS (70.9%)	0.112	0.383 (=L/360)	11.73	L	
Bearing Load (lb-ft)	PASS (35.0%)	1257.9	1935.0	5.5	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	TOTAL
A	13	40	53
B	311	947	1258
C	123	374	497

Reaction Location WS-Web Stiffener Required NSR-No Stiffener Required

A	B	C
NSR	NSR	NSR

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb-ft/ft ²)	Uniform	40	40	0	17	Live	Y
Uniform (lb-ft/ft ²)	Uniform	12	12	0	17	Dead	Y
Self Weight (lb-ft/ft)	-	2.3	2.3	0	17	Dead	Y

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	Footing #1	CODE:	2018 International Building Code
MEMBER TYPE:	CONTINUOUS FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
2 (ft) Wide X 10 (in) Deep		Soil Depth TOF : 0 (ft)	Long.(3) #4 Bars, Transv:#4 @6(in) O.C.

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Depth (in)	Footing Weight (lb/ft)	Stemwall Weight (lb/ft)	
2	10	241.6667	193.3333	
CONCRETE				
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia. (in)	
3000	3122019	145	0.75	
STEM WALL				
Width (in)	Height (in)	Material	Stemwall Offset(in)	
8	24	Concrete	0	
SOIL				
Bearing Strength(lb/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	Bottom Bar Spacing(in)	fy (psi)	Es (psi)	
4	6	60000	2.9E+07	
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft ²)	PASS (28.0%)	1079.3	1500.0	D+S	ASD
One-Way Shear (lb/ft)	PASS (96.7%)	518.1	15774.4	1.2D+1.6S+L	LRFD
Moment (lb/ft)	PASS (97.3%)	298.7	11245.8	1.2D+1.6S+L	LRFD

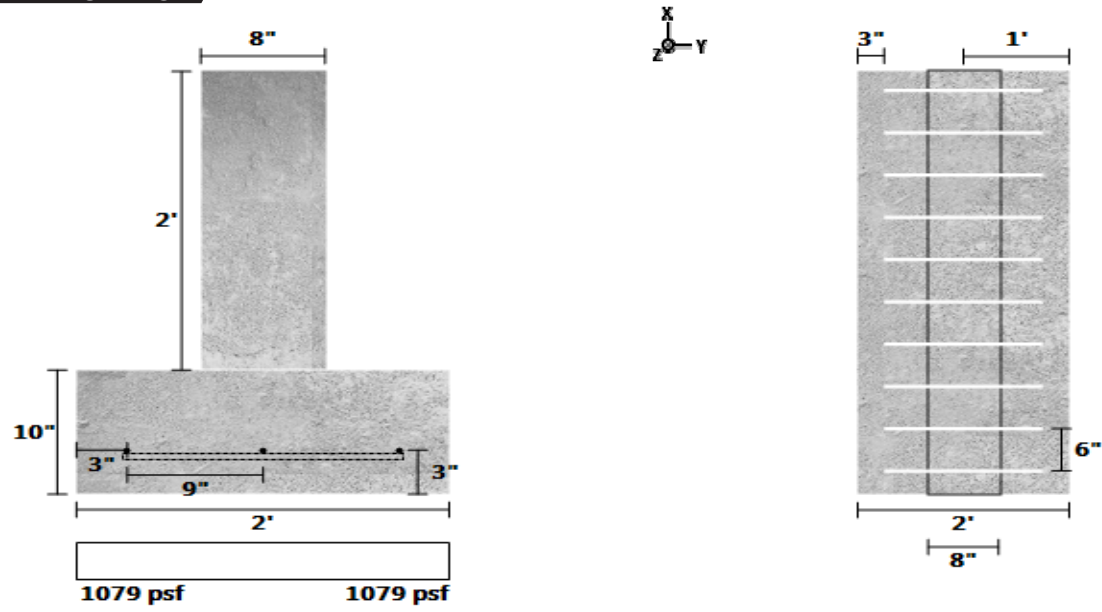
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Uniform	1	1	0	1	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Trusses #1	B	175.4644	175.4644	0	1	Dead	Z
Uniform (lb/ft)	Trusses #1	B	1548.214	1548.214	0	1	Snow	Z

Footing #1 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	Footing - WD-#2	CODE:	2018 International Building Code
MEMBER TYPE:	CONTINUOUS FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
2 (ft) Wide X 10 (in) Deep		Soil Depth TOF : 0 (ft)	Long.(3) #4 Bars, Transv:#4 @6(in) O.C.

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Depth (in)	Footing Weight (lb/ft)	Stemwall Weight (lb/ft)	
2	10	241.6667	84.58334	
CONCRETE				
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia. (in)	
3000	3122019	145	0.75	
STEM WALL				
Width (in)	Height (in)	Material	Stemwall Offset(in)	
3.5	24	Wood	0	
SOIL				
Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	Bottom Bar Spacing(in)	fy (psi)	Es (psi)	
4	6	60000	2.9E+07	
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft²)	PASS (22.7%)	1158.8	1500.0	D+S	ASD
One-Way Shear (lb/ft)	PASS (94.3%)	891.3	15774.4	1.2D+1.6S+L	LRFD
Moment (lb/ft)	PASS (94.1%)	668.6	11245.8	1.2D+1.6S+L	LRFD

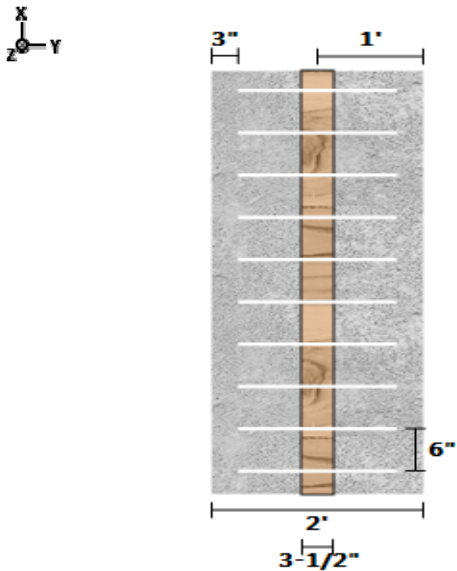
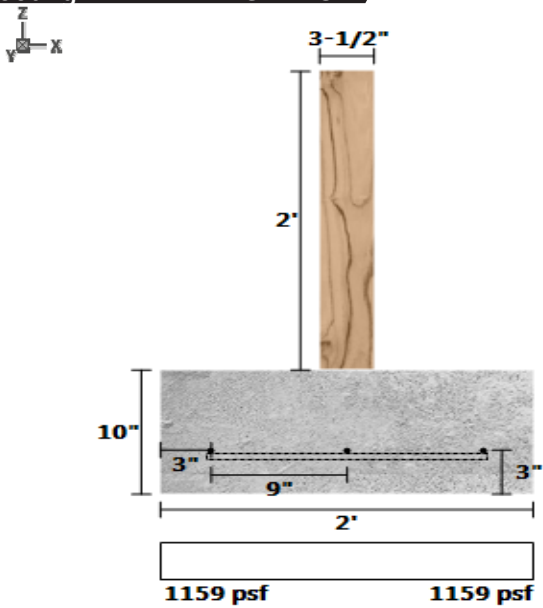
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Uniform	1	1	0	1	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Outlookers	B	75.56889	75.56889	0	1	Dead	Z
Uniform (lb/ft)	Outlookers	B	800.4514	800.4514	0	1	Snow	Z
Uniform (lb/ft)	Trusses #1	C	113.5357	113.5357	0	1	Dead	Z
Uniform (lb/ft)	Trusses #1	C	1001.786	1001.786	0	1	Snow	Z

Footing - WD-#2 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	Footing #3	CODE:	2018 International Building Code
MEMBER TYPE:	CONTINUOUS FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
2 (ft) Wide X 10 (in) Deep		Soil Depth TOF : 0 (ft)	Long.(3) #4 Bars, Transv:#4 @6(in) O.C.

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Depth (in)	Footing Weight (lb/ft)	Stemwall Weight (lb/ft)	
2	10	241.6667	193.3333	
CONCRETE				
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia. (in)	
3000	3122019	145	0.75	
STEM WALL				
Width (in)	Height (in)	Material	Stemwall Offset(in)	
8	24	Concrete	0	
SOIL				
Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	Bottom Bar Spacing(in)	fy (psi)	Es (psi)	
4	6	60000	2.9E+07	
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft ²)	PASS (2.6%)	1461.4	1500.0	D+S	ASD
One-Way Shear (lb/ft)	PASS (95.1%)	777.7	15774.4	1.2D+1.6S+L	LRFD
Moment (lb/ft)	PASS (96.0%)	448.4	11245.8	1.2D+1.6S+L	LRFD

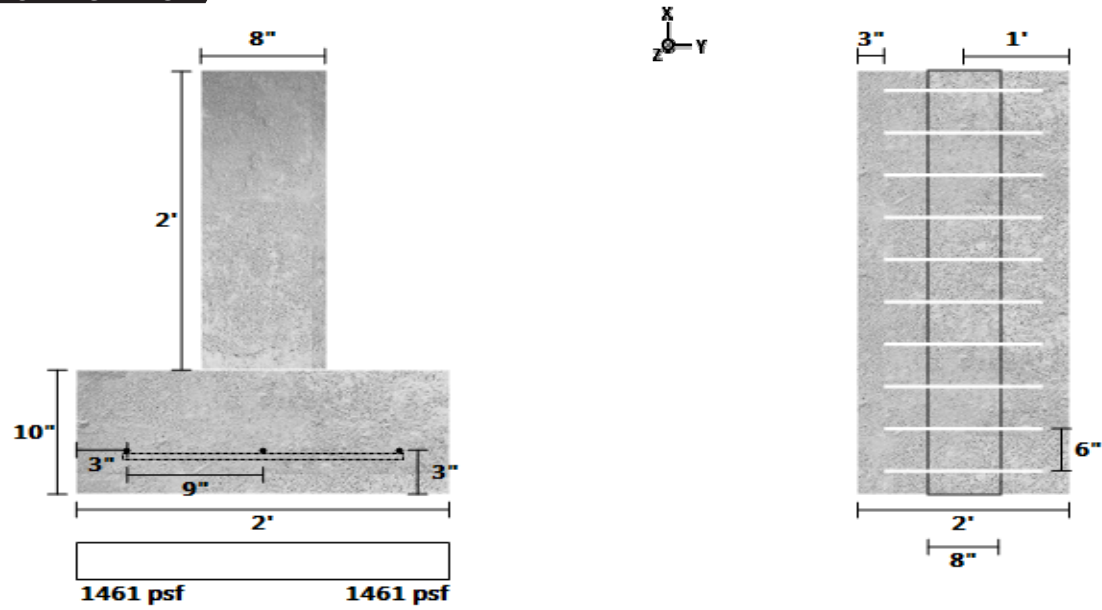
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Uniform	1	1	0	1	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Trusses #3	B	247.3536	247.3536	0	1	Dead	Z
Uniform (lb/ft)	Trusses #3	B	2182.532	2182.532	0	1	Snow	Z
Uniform (lb/ft)	Joists #7	A	57.94658	57.94658	0	1	Dead	Z
Uniform (lb/ft)	Joists #7	A	176.2634	176.2634	0	1	Live	Z

Footing #3 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	Footing - WD-#4	CODE:	2018 International Building Code
MEMBER TYPE:	CONTINUOUS FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
2.5 (ft) Wide X 10 (in) Deep		Soil Depth TOF : 0 (ft)	Long.(4) #4 Bars, Transv:#4 @6(in) O.C.

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Depth (in)	Footing Weight (lb/ft)	Stemwall Weight (lb/ft)	
2.5	10	302.0833	84.58334	
CONCRETE				
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia. (in)	
3000	3122019	145	0.75	
STEM WALL				
Width (in)	Height (in)	Material	Stemwall Offset(in)	
3.5	24	Wood	0	
SOIL				
Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	Bottom Bar Spacing(in)	fy (psi)	Es (psi)	
4	6	60000	2.9E+07	
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft ²)	PASS (7.3%)	1389.9	1500.0	D+S	ASD
One-Way Shear (lb/ft)	PASS (91.3%)	1713.3	19718.0	1.2D+1.6S+L	LRFD
Moment (lb/ft)	PASS (87.2%)	1442.4	11245.8	1.2D+1.6S+L	LRFD

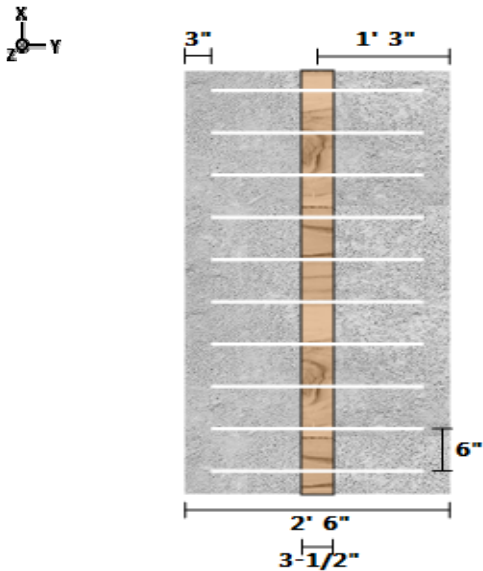
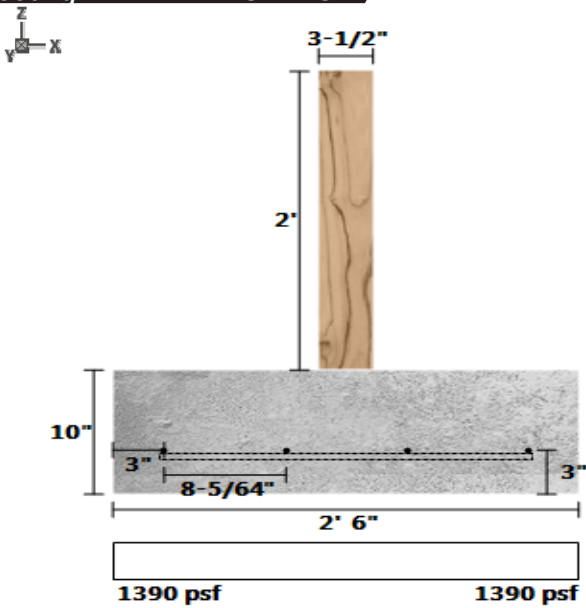
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Uniform	1	1	0	1	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Trusses #3	C	299.616	299.616	0	1	Dead	Z
Uniform (lb/ft)	Trusses #3	C	2643.67	2643.67	0	1	Snow	Z
Uniform (lb/ft)	Joists #7	C	144.9082	144.9082	0	1	Dead	Z
Uniform (lb/ft)	Joists #7	C	440.7854	440.7854	0	1	Live	Z

Footing - WD-#4 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	Footing - WD-#5	CODE:	2018 International Building Code
MEMBER TYPE:	CONTINUOUS FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
1.3334 (ft) Wide X 10 (in) Deep		Soil Depth TOF : 0 (ft)	Long.(2) #4 Bars, Transv:#4 @6(in) O.C.

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Depth (in)	Footing Weight (lb/ft)	Stemwall Weight (lb/ft)	
1.3334	10	161.1192	132.9167	
CONCRETE				
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia. (in)	
3000	3122019	145	0.75	
STEM WALL				
Width (in)	Height (in)	Material	Stemwall Offset(in)	
5.5	24	Wood	0	
SOIL				
Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	Bottom Bar Spacing(in)	fy (psi)	Es (psi)	
4	6	60000	2.9E+07	
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft ²)	PASS (50.2%)	747.1	1500.0	D+0.75L+0.75S	ASD
One-Way Shear (lb/ft)	PASS (98.6%)	148.1	10516.8	1.2D+1.6S+L	LRFD
Moment (lb/ft)	PASS (98.7%)	144.4	11245.8	1.2D+1.6S+L	LRFD

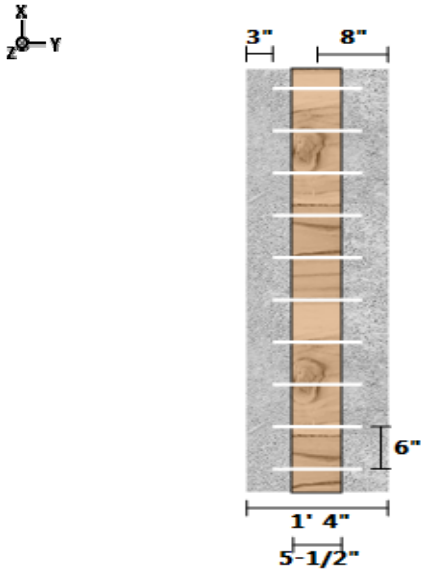
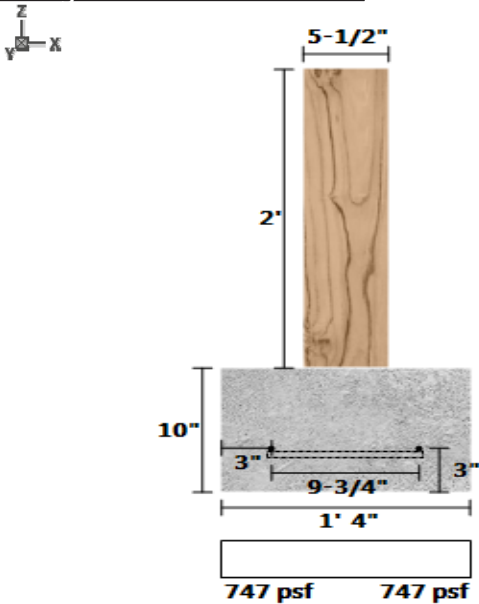
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Uniform	1	1	0	1	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Trusses #3	D	65.03041	65.03041	0	1	Dead	Z
Uniform (lb/ft)	Trusses #3	D	573.7978	573.7978	0	1	Snow	Z
Uniform (lb/ft)	Joists #7	D	62.79095	62.79095	0	1	Dead	Z
Uniform (lb/ft)	Joists #7	D	190.9991	190.9991	0	1	Live	Z

Footing - WD-#5 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	Footing - WD-#6	CODE:	2018 International Building Code
MEMBER TYPE:	CONTINUOUS FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
3.5 (ft) Wide X 10 (in) Deep		Soil Depth TOF : 0 (ft)	Long.(5) #4 Bars, Transv:#4 @6(in) O.C.

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Depth (in)	Footing Weight (lb/ft)	Stemwall Weight (lb/ft)	
3.5	10	422.9167	193.3333	
CONCRETE				
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia. (in)	
3000	3122019	145	0.75	
STEM WALL				
Width (in)	Height (in)	Material	Stemwall Offset(in)	
8	24	Concrete	0	
SOIL				
Bearing Strength(lb/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	Bottom Bar Spacing(in)	fy (psi)	Es (psi)	
4	6	60000	2.9E+07	
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft ²)	PASS (13.4%)	1298.3	1500.0	D+S	ASD
One-Way Shear (lb/ft)	PASS (92.8%)	1987.1	27605.2	1.2D+1.6S+L	LRFD
Moment (lb-ft)	PASS (84.4%)	1756.2	11245.8	1.2D+1.6S+L	LRFD

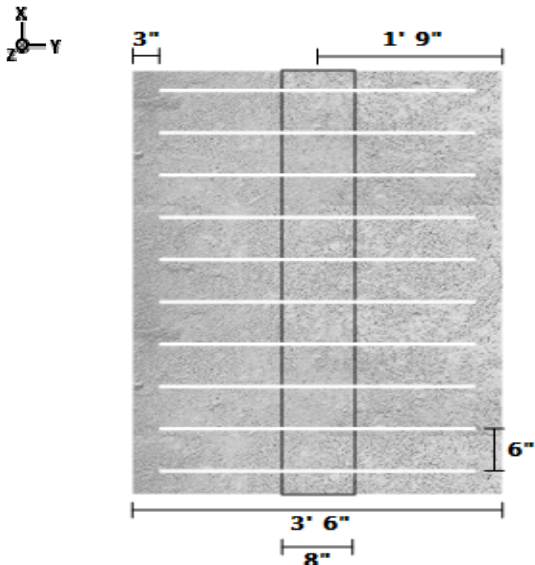
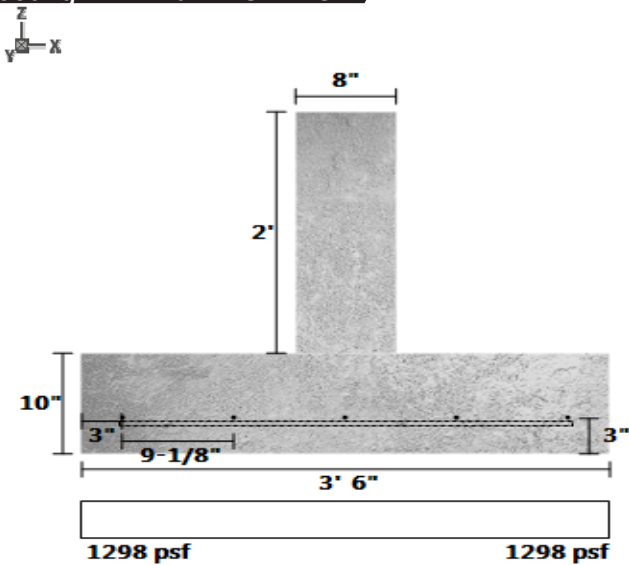
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Uniform	1	1	0	1	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Trusses #2	C	161.827	161.827	0	1	Dead	Z
Uniform (lb/ft)	Trusses #2	C	1427.885	1427.885	0	1	Snow	Z
Uniform (lb/ft)	Trusses #19	B	237.9999	237.9999	0	1	Dead	Z
Uniform (lb/ft)	Trusses #19	B	2100	2100	0	1	Snow	Z

Footing - WD-#6 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	Footing - WD-#7	CODE:	2018 International Building Code
MEMBER TYPE:	CONTINUOUS FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
2 (ft) Wide X 10 (in) Deep		Soil Depth TOF : 0 (ft)	Long.(3) #4 Bars, Transv:#4 @6(in) O.C.

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Depth (in)	Footing Weight (lb/ft)	Stemwall Weight (lb/ft)	
2	10	241.6667	84.58334	
CONCRETE				
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia. (in)	
3000	3122019	145	0.75	
STEM WALL				
Width (in)	Height (in)	Material	Stemwall Offset(in)	
3.5	24	Wood	0	
SOIL				
Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	Bottom Bar Spacing(in)	fy (psi)	Es (psi)	
4	6	60000	2.9E+07	
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft ²)	PASS (11.2%)	1332.1	1500.0	D+S	ASD
One-Way Shear (lb/ft)	PASS (93.4%)	1044.6	15774.4	1.2D+1.6S+L	LRFD
Moment (lb/ft)	PASS (93.0%)	783.6	11245.8	1.2D+1.6S+L	LRFD

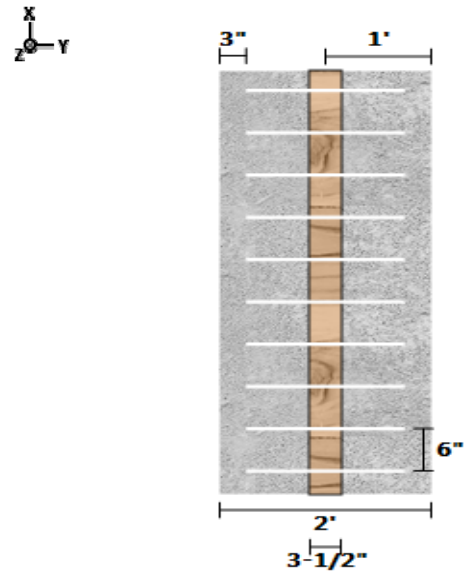
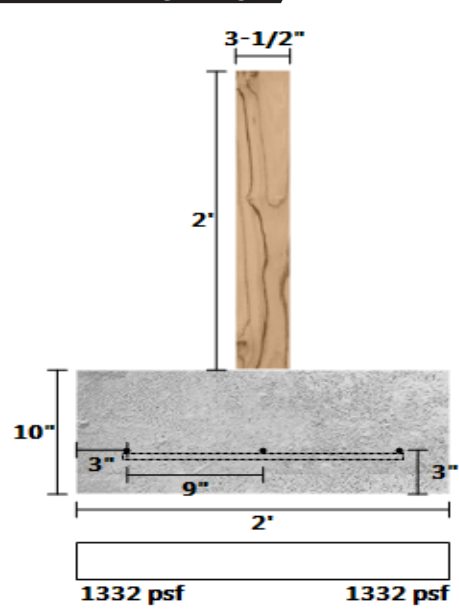
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Uniform	1	1	0	1	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Trusses #19	B	237.9999	237.9999	0	1	Dead	Z
Uniform (lb/ft)	Trusses #19	B	2100	2100	0	1	Snow	Z

Footing - WD-#7 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	Footing - WD-#8	CODE:	2018 International Building Code
MEMBER TYPE:	CONTINUOUS FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
1.333 (ft) Wide X 10 (in) Deep		Soil Depth TOF : 0 (ft)	Long.(2) #4 Bars, Transv:#4 @6(in) O.C.

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Depth (in)	Footing Weight (lb/ft)	Stemwall Weight (lb/ft)	
1.333	10	161.0708	84.58334	
CONCRETE				
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia. (in)	
3000	3122019	145	0.75	
STEM WALL				
Width (in)	Height (in)	Material	Stemwall Offset(in)	
3.5	24	Wood	0	
SOIL				
Bearing Strength(lb/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	Bottom Bar Spacing(in)	fy (psi)	Es (psi)	
4	6	60000	2.9E+07	
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft ²)	PASS (47.7%)	784.3	1500.0	D+L	ASD
One-Way Shear (lb/ft)	PASS (98.0%)	215.5	10513.6	1.2D+1.6L+0.5Lr	LRFD
Moment (lb/ft)	PASS (98.6%)	158.6	11245.8	1.2D+1.6L+0.5Lr	LRFD

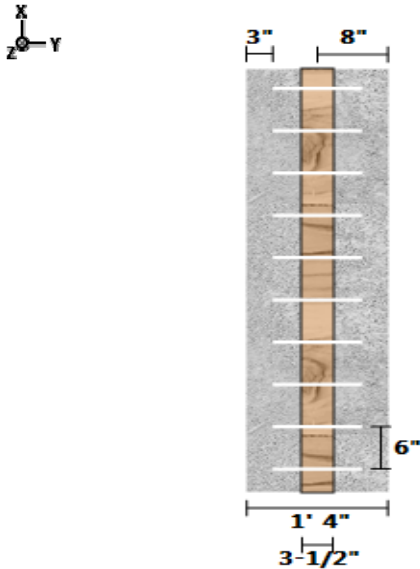
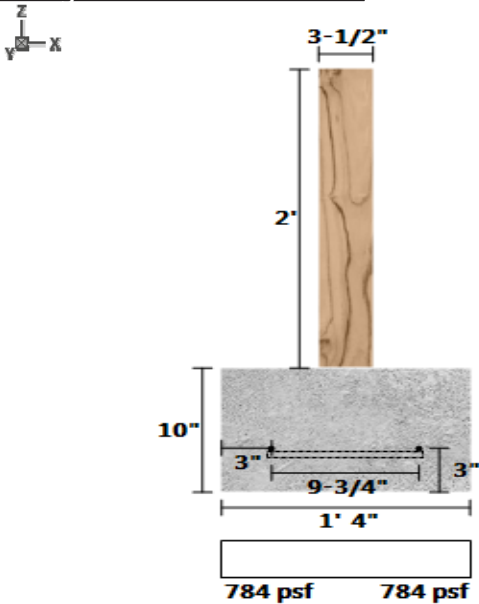
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Uniform	1	1	0	1	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Joist #1	B	58.8625	58.8625	0	1	Dead	Z
Uniform (lb/ft)	Joist #1	B	170	170	0	1	Live	Z
Uniform (lb/ft)	Joists #9	C	141.029	141.029	0	1	Dead	Z
Uniform (lb/ft)	Joists #9	C	428.9857	428.9857	0	1	Live	Z

Footing - WD-#8 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	Footing #9	CODE:	2018 International Building Code
MEMBER TYPE:	CONTINUOUS FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
1.333 (ft) Wide X 10 (in) Deep		Soil Depth TOF : 0 (ft)	Long.(2) #4 Bars, Transv:#4 @6(in) O.C.

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Depth (in)	Footing Weight (lb/ft)	Stemwall Weight (lb/ft)	
1.333	10	161.0708	193.3333	
CONCRETE				
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia. (in)	
3000	3122019	145	0.75	
STEM WALL				
Width (in)	Height (in)	Material	Stemwall Offset(in)	
8	24	Concrete	0	
SOIL				
Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	Bottom Bar Spacing(in)	fy (psi)	Es (psi)	
4	6	60000	2.9E+07	
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

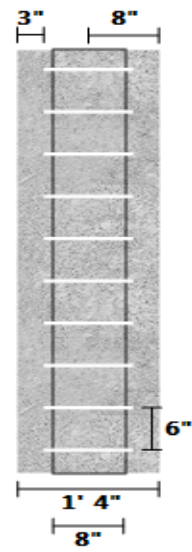
	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft ²)	PASS (69.2%)	461.8	1500.0	D+L	ASD
One-Way Shear (lb/ft)	PASS (99.9%)	15.3	10513.6	1.2D+1.6L+0.5Lr	LRFD
Moment (lb/ft)	PASS (99.9%)	16.3	11245.8	1.2D+1.6L+0.5Lr	LRFD

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Uniform	1	1	0	1	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Joists #10	A	64.35892	64.35892	0	1	Dead	Z
Uniform (lb/ft)	Joists #10	A	195.7686	195.7686	0	1	Live	Z



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	Footing #10	CODE:	2018 International Building Code
MEMBER TYPE:	CONTINUOUS FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
2 (ft) Wide X 10 (in) Deep		Soil Depth TOF : 0 (ft)	Long.(3) #4 Bars, Transv:#4 @6(in) O.C.

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Depth (in)	Footing Weight (lb/ft)	Stemwall Weight (lb/ft)	
2	10	241.6667	193.3333	
CONCRETE				
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia. (in)	
3000	3122019	145	0.75	
STEM WALL				
Width (in)	Height (in)	Material	Stemwall Offset(in)	
8	24	Concrete	0	
SOIL				
Bearing Strength(lb/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	Bottom Bar Spacing(in)	fy (psi)	Es (psi)	
4	6	60000	2.9E+07	
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft ²)	PASS (35.4%)	968.3	1500.0	D+S	ASD
One-Way Shear (lb/ft)	PASS (97.0%)	479.0	15774.4	1.2D+1.6S+L	LRFD
Moment (lb/ft)	PASS (97.5%)	276.2	11245.8	1.2D+1.6S+L	LRFD

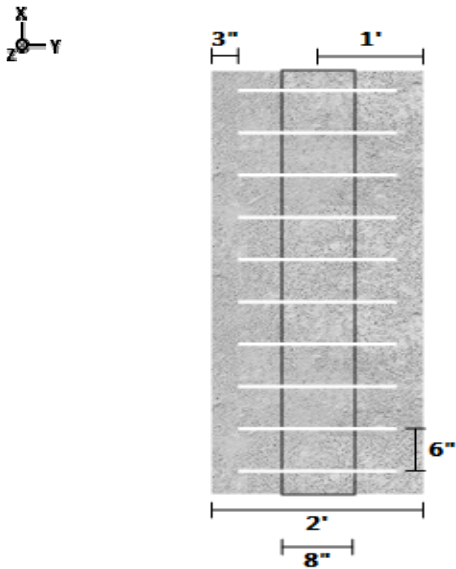
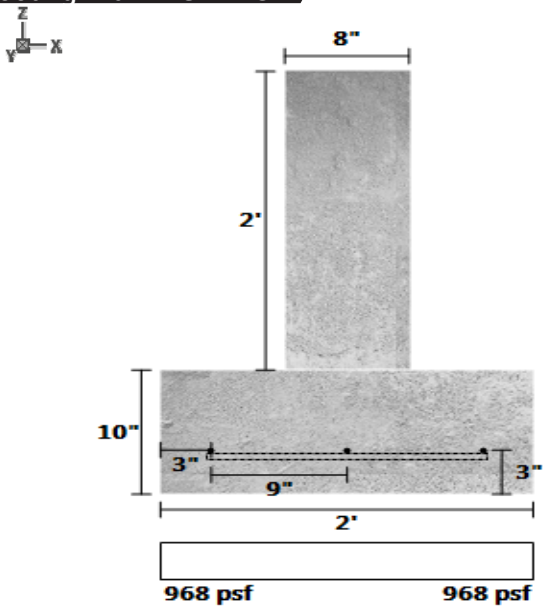
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Uniform	1	1	0	1	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Outlookers	B	75.56889	75.56889	0	1	Dead	Z
Uniform (lb/ft)	Outlookers	B	800.4514	800.4514	0	1	Snow	Z
Uniform (lb/ft)	Trusses #7	A	58.4375	58.4375	0	1	Dead	Z
Uniform (lb/ft)	Trusses #7	A	515.625	515.625	0	1	Snow	Z
Uniform (lb/ft)	Joists #10	D	51.43925	51.43925	0	1	Dead	Z
Uniform (lb/ft)	Joists #10	D	156.4692	156.4692	0	1	Live	Z

Footing #10 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	Footing #11	CODE:	2018 International Building Code
MEMBER TYPE:	CONTINUOUS FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
2 (ft) Wide X 10 (in) Deep		Soil Depth TOF : 0 (ft)	Long.(3) #4 Bars, Transv:#4 @6(in) O.C.

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Depth (in)	Footing Weight (lb/ft)	Stemwall Weight (lb/ft)	
2	10	241.6667	193.3333	
CONCRETE				
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia. (in)	
3000	3122019	145	0.75	
STEM WALL				
Width (in)	Height (in)	Material	Stemwall Offset(in)	
8	24	Concrete	0	
SOIL				
Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	Bottom Bar Spacing(in)	fy (psi)	Es (psi)	
4	6	60000	2.9E+07	
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft ²)	PASS (7.6%)	1386.5	1500.0	D+S	ASD
One-Way Shear (lb/ft)	PASS (95.5%)	702.7	15774.4	1.2D+1.6S+L	LRFD
Moment (lb/ft)	PASS (96.4%)	405.2	11245.8	1.2D+1.6S+L	LRFD

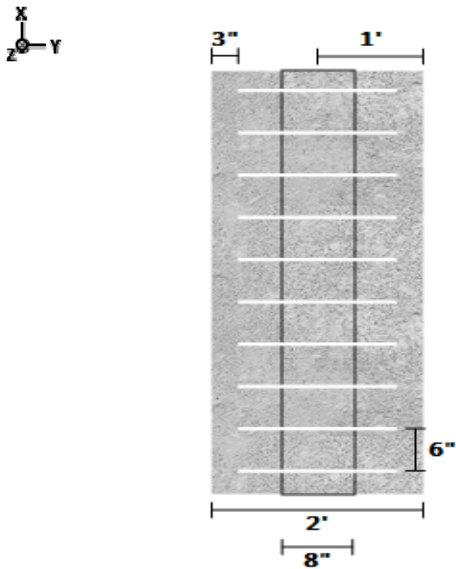
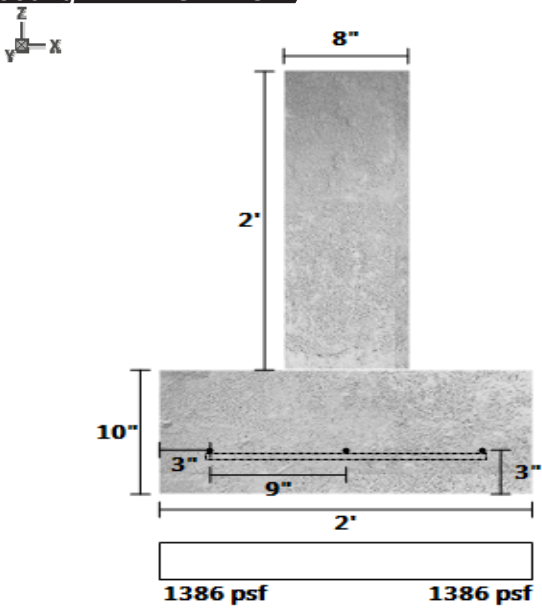
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Uniform	1	1	0	1	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Trusses #19	C	238	238	0	1	Dead	Z
Uniform (lb/ft)	Trusses #19	C	2099.992	2099.992	0	1	Snow	Z

Footing #11 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	Footing #12	CODE:	2018 International Building Code
MEMBER TYPE:	CONTINUOUS FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
2 (ft) Wide X 10 (in) Deep		Soil Depth TOF : 0 (ft)	Long.(3) #4 Bars, Transv:#4 @6(in) O.C.

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Depth (in)	Footing Weight (lb/ft)	Stemwall Weight (lb/ft)	
2	10	241.6667	193.3333	
CONCRETE				
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia. (in)	
3000	3122019	145	0.75	
STEM WALL				
Width (in)	Height (in)	Material	Stemwall Offset(in)	
8	24	Concrete	0	
SOIL				
Bearing Strength(lb/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	Bottom Bar Spacing(in)	fy (psi)	Es (psi)	
4	6	60000	2.9E+07	
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft ²)	PASS (14.9%)	1277.1	1500.0	D+S	ASD
One-Way Shear (lb/ft)	PASS (95.8%)	664.2	15774.4	1.2D+1.6S+L	LRFD
Moment (lb/ft)	PASS (96.6%)	383.0	11245.8	1.2D+1.6S+L	LRFD

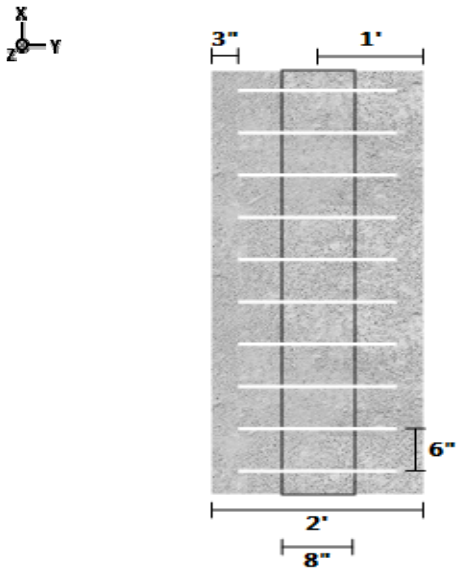
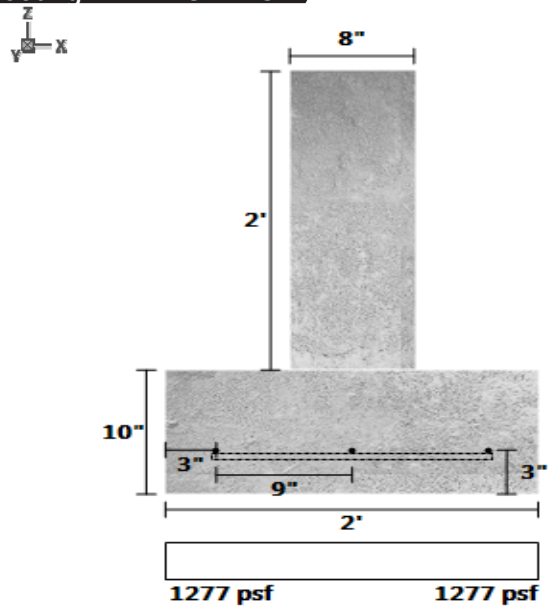
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Uniform	1	1	0	1	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Trusses #20-2	B	172.125	172.125	0	1	Dead	Z
Uniform (lb/ft)	Trusses #20-2	B	1518.75	1518.75	0	1	Snow	Z
Uniform (lb/ft)	Trusses #6	C	38.25	38.25	0	1	Dead	Z
Uniform (lb/ft)	Trusses #6	C	337.5	337.5	0	1	Snow	Z
Uniform (lb/ft)	Joists #11	A	52.60131	52.60131	0	1	Dead	Z
Uniform (lb/ft)	Joists #11	A	160.004	160.004	0	1	Live	Z

Footing #12 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	Footing #13	CODE:	2018 International Building Code
MEMBER TYPE:	CONTINUOUS FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
3.5 (ft) Wide X 10 (in) Deep		Soil Depth TOF : 0 (ft)	Long.(5) #4 Bars, Transv:#4 @6(in) O.C.

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Depth (in)	Footing Weight (lb/ft)	Stemwall Weight (lb/ft)	
3.5	10	422.9167	193.3333	
CONCRETE				
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia. (in)	
3000	3122019	145	0.75	
STEM WALL				
Width (in)	Height (in)	Material	Stemwall Offset(in)	
8	24	Concrete	0	
SOIL				
Bearing Strength(lb/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	Bottom Bar Spacing(in)	fy (psi)	Es (psi)	
4	6	60000	2.9E+07	
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft ²)	PASS (10.2%)	1347.4	1500.0	D+S	ASD
One-Way Shear (lb/ft)	PASS (91.8%)	2275.9	27605.2	1.2D+1.6S+L	LRFD
Moment (lb/ft)	PASS (82.1%)	2011.4	11245.8	1.2D+1.6S+L	LRFD

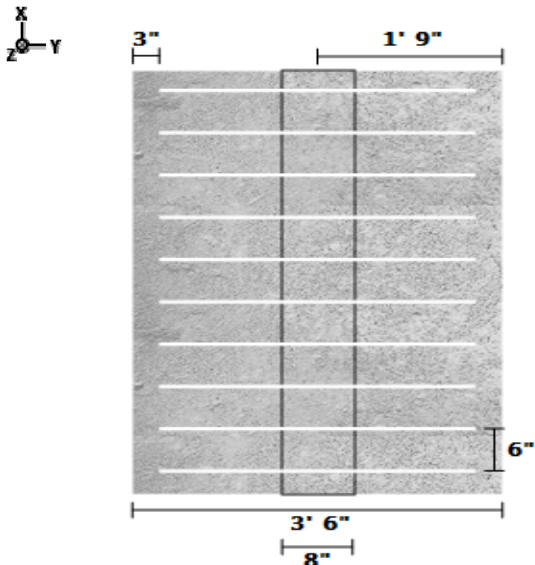
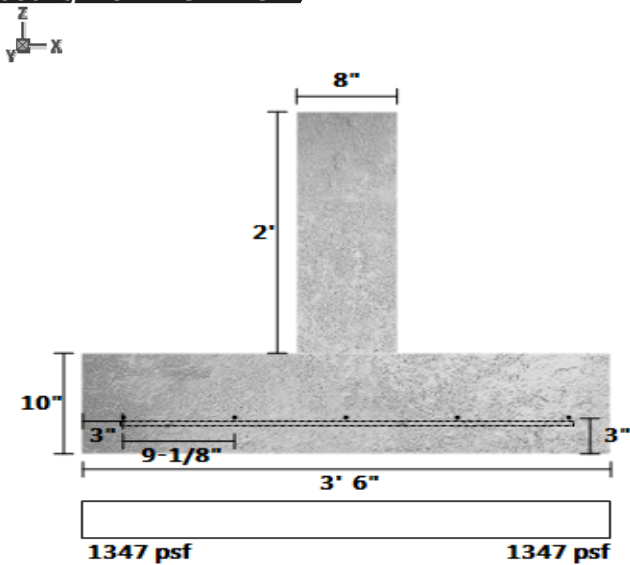
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Uniform	1	1	0	1	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Trusses #8	A	122.4	122.4	0	1	Dead	Z
Uniform (lb/ft)	Trusses #8	A	1080	1080	0	1	Snow	Z
Uniform (lb/ft)	Trusses #20	C	267.1416	267.1416	0	1	Dead	Z
Uniform (lb/ft)	Trusses #20	C	2357.133	2357.133	0	1	Snow	Z
Uniform (lb/ft)	Joist #3	B	220.5	220.5	0	1	Dead	Z
Uniform (lb/ft)	Joist #3	B	560	560	0	1	Live	Z
Uniform (lb/ft)	Joists #11	D	52.60131	52.60131	0	1	Dead	Z
Uniform (lb/ft)	Joists #11	D	160.004	160.004	0	1	Live	Z

Footing #13 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	Footing - WD-#14	CODE:	2018 International Building Code
MEMBER TYPE:	CONTINUOUS FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
3.5 (ft) Wide X 10 (in) Deep		Soil Depth TOF : 0 (ft)	Long.(5) #4 Bars, Transv:#4 @6(in) O.C.

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Depth (in)	Footing Weight (lb/ft)	Stemwall Weight (lb/ft)	
3.5	10	422.9167	82.5	
CONCRETE				
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia. (in)	
3000	3122019	145	0.75	
STEM WALL				
Width (in)	Height (in)	Material	Stemwall Offset(in)	
5.5	24	Wood	0	
SOIL				
Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	Bottom Bar Spacing(in)	fy (psi)	Es (psi)	
4	6	60000	2.9E+07	
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft ²)	PASS (17.1%)	1243.1	1500.0	D+S	ASD
One-Way Shear (lb/ft)	PASS (91.6%)	2319.1	27605.2	1.2D+1.6S+L	LRFD
Moment (lb/ft)	PASS (77.8%)	2501.9	11245.8	1.2D+1.6S+L	LRFD

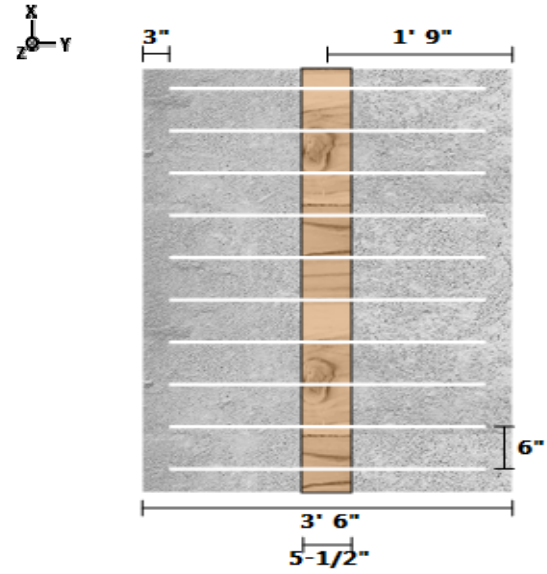
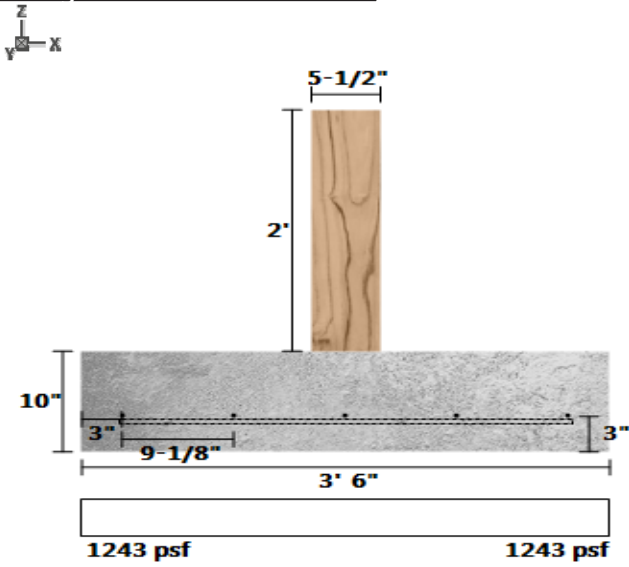
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Uniform	1	1	0	1	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Trusses #9	C	77.35001	77.35001	0	1	Dead	Z
Uniform (lb/ft)	Trusses #9	C	682.5001	682.5001	0	1	Snow	Z
Uniform (lb/ft)	Trusses #21	B	289.0001	289.0001	0	1	Dead	Z
Uniform (lb/ft)	Trusses #21	B	2550.003	2550.003	0	1	Snow	Z
Uniform (lb/ft)	Joist #3	A	220.5	220.5	0	1	Dead	Z
Uniform (lb/ft)	Joist #3	A	560	560	0	1	Live	Z
Uniform (lb/ft)	Joists #12	A	26.14947	26.14947	0	1	Dead	Z
Uniform (lb/ft)	Joists #12	A	79.5421	79.5421	0	1	Live	Z

Footing - WD-#14 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	Footing - WD-#15	CODE:	2018 International Building Code
MEMBER TYPE:	CONTINUOUS FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
2.5 (ft) Wide X 10 (in) Deep		Soil Depth TOF : 0 (ft)	Long.(4) #4 Bars, Transv:#4 @6(in) O.C.

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Depth (in)	Footing Weight (lb/ft)	Stemwall Weight (lb/ft)	
2.5	10	302.0833	84.58334	
CONCRETE				
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia. (in)	
3000	3122019	145	0.75	
STEM WALL				
Width (in)	Height (in)	Material	Stemwall Offset(in)	
3.5	24	Wood	0	
SOIL				
Bearing Strength(lb/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	Bottom Bar Spacing(in)	fy (psi)	Es (psi)	
4	6	60000	2.9E+07	
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft ²)	PASS (6.3%)	1405.3	1500.0	D+S	ASD
One-Way Shear (lb/ft)	PASS (90.8%)	1822.6	19718.0	1.2D+1.6S+L	LRFD
Moment (lb/ft)	PASS (86.4%)	1534.3	11245.8	1.2D+1.6S+L	LRFD

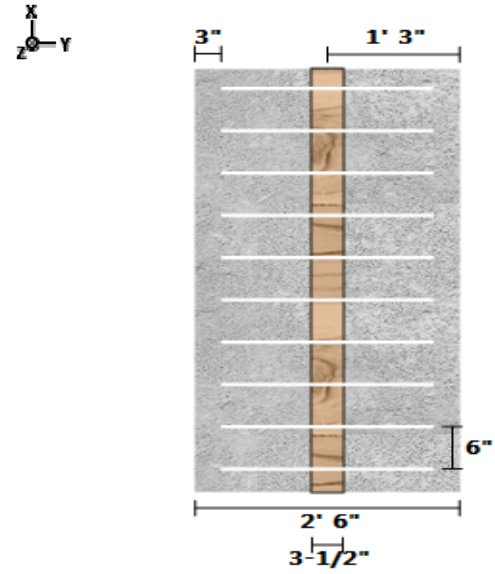
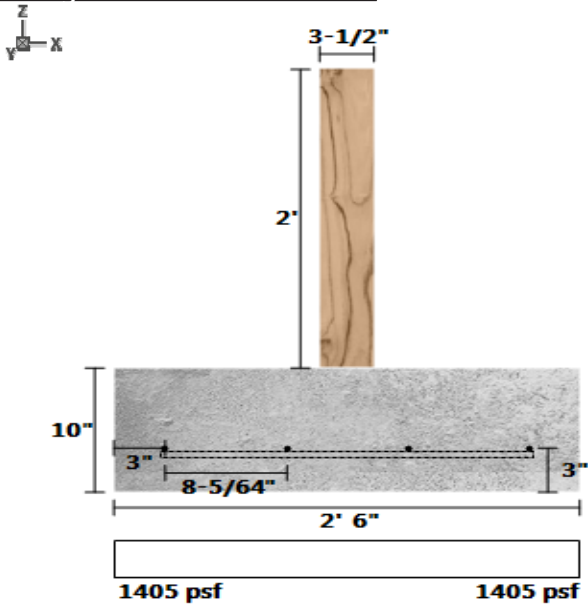
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Uniform	1	1	0	1	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Trusses #21	B	289.0001	289.0001	0	1	Dead	Z
Uniform (lb/ft)	Trusses #21	B	2550.003	2550.003	0	1	Snow	Z
Uniform (lb/ft)	Joist #5	A	220.5	220.5	0	1	Dead	Z
Uniform (lb/ft)	Joist #5	A	560	560	0	1	Live	Z
Uniform (lb/ft)	Joists #13	C	67.08307	67.08307	0	1	Dead	Z
Uniform (lb/ft)	Joists #13	C	204.055	204.055	0	1	Live	Z

Footing - WD-#15 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	Footing #16	CODE:	2018 International Building Code
MEMBER TYPE:	CONTINUOUS FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
2 (ft) Wide X 10 (in) Deep		Soil Depth TOF : 0 (ft)	Long.(3) #4 Bars, Transv:#4 @6(in) O.C.

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Depth (in)	Footing Weight (lb/ft)	Stemwall Weight (lb/ft)	
2	10	241.6667	193.3333	
CONCRETE				
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia. (in)	
3000	3122019	145	0.75	
STEM WALL				
Width (in)	Height (in)	Material	Stemwall Offset(in)	
8	24	Concrete	0	
SOIL				
Bearing Strength(lb/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	Bottom Bar Spacing(in)	fy (psi)	Es (psi)	
4	6	60000	2.9E+07	
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft ²)	PASS (13.1%)	1303.0	1500.0	D+S	ASD
One-Way Shear (lb/ft)	PASS (95.9%)	652.6	15774.4	1.2D+1.6S+L	LRFD
Moment (lb-ft)	PASS (96.7%)	376.2	11245.8	1.2D+1.6S+L	LRFD

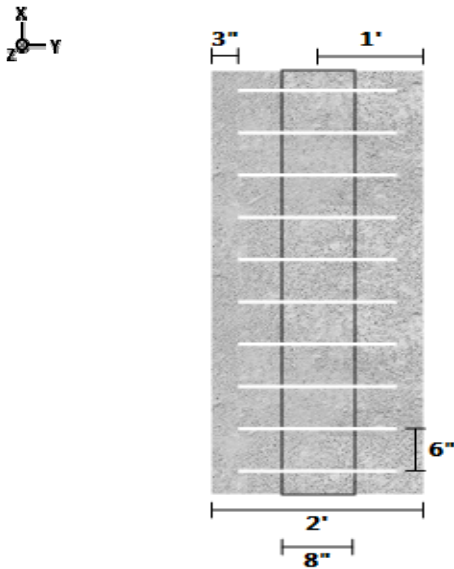
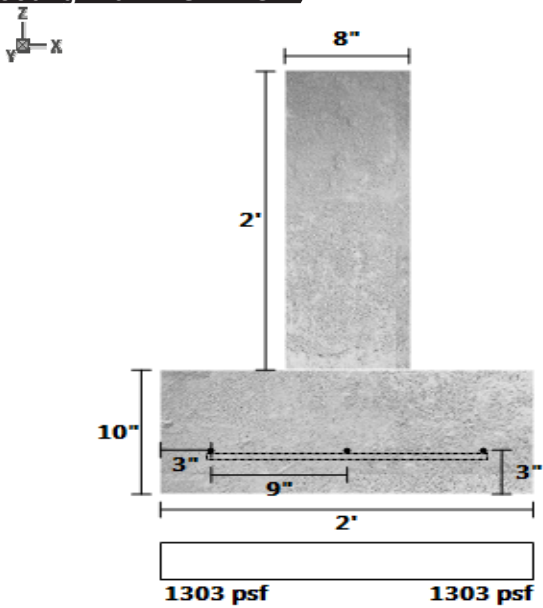
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Uniform	1	1	0	1	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Trusses #12	B	220.9997	220.9997	0	1	Dead	Z
Uniform (lb/ft)	Trusses #12	B	1950	1950	0	1	Snow	Z

Footing #16 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	Footing #17	CODE:	2018 International Building Code
MEMBER TYPE:	CONTINUOUS FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
2 (ft) Wide X 10 (in) Deep		Soil Depth TOF : 0 (ft)	Long.(3) #4 Bars, Transv:#4 @6(in) O.C.

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Depth (in)	Footing Weight (lb/ft)	Stemwall Weight (lb/ft)	
2	10	241.6667	193.3333	
CONCRETE				
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia. (in)	
3000	3122019	145	0.75	
STEM WALL				
Width (in)	Height (in)	Material	Stemwall Offset(in)	
8	24	Concrete	0	
SOIL				
Bearing Strength(lb/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	Bottom Bar Spacing(in)	fy (psi)	Es (psi)	
4	6	60000	2.9E+07	
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft ²)	PASS (13.1%)	1303.0	1500.0	D+S	ASD
One-Way Shear (lb/ft)	PASS (95.9%)	652.6	15774.4	1.2D+1.6S+L	LRFD
Moment (lb/ft)	PASS (96.7%)	376.2	11245.8	1.2D+1.6S+L	LRFD

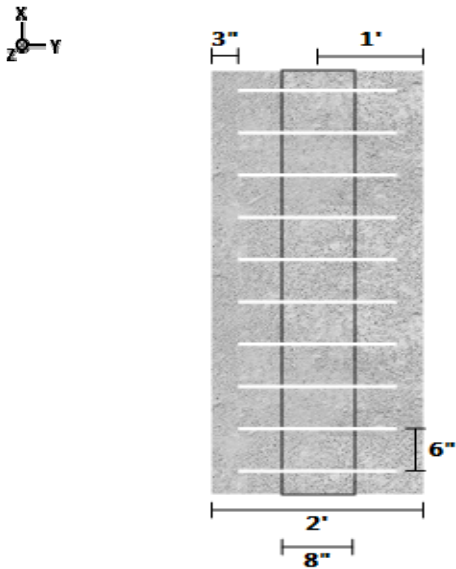
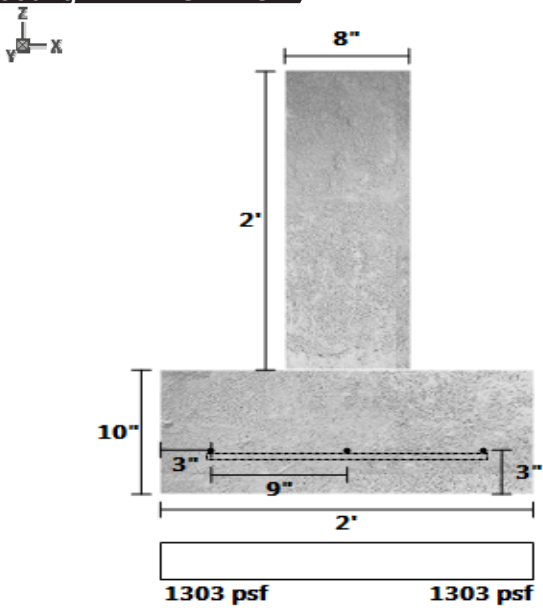
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Uniform	1	1	0	1	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Trusses #12	C	220.9995	220.9995	0	1	Dead	Z
Uniform (lb/ft)	Trusses #12	C	1949.998	1949.998	0	1	Snow	Z

Footing #17 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	Footing - WD-#18	CODE:	2018 International Building Code
MEMBER TYPE:	CONTINUOUS FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
2.5 (ft) Wide X 10 (in) Deep		Soil Depth TOF : 0 (ft)	Long.(4) #4 Bars, Transv:#4 @6(in) O.C.

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Depth (in)	Footing Weight (lb/ft)	Stemwall Weight (lb/ft)	
2.5	10	302.0833	84.58334	
CONCRETE				
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia. (in)	
3000	3122019	145	0.75	
STEM WALL				
Width (in)	Height (in)	Material	Stemwall Offset(in)	
3.5	24	Wood	0	
SOIL				
Bearing Strength(lb/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	Bottom Bar Spacing(in)	fy (psi)	Es (psi)	
4	6	60000	2.9E+07	
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft ²)	PASS (4.4%)	1434.1	1500.0	D+S	ASD
One-Way Shear (lb/ft)	PASS (91.7%)	1642.1	19718.0	1.2D+1.6S+L	LRFD
Moment (lb-ft)	PASS (87.7%)	1382.4	11245.8	1.2D+1.6S+L	LRFD

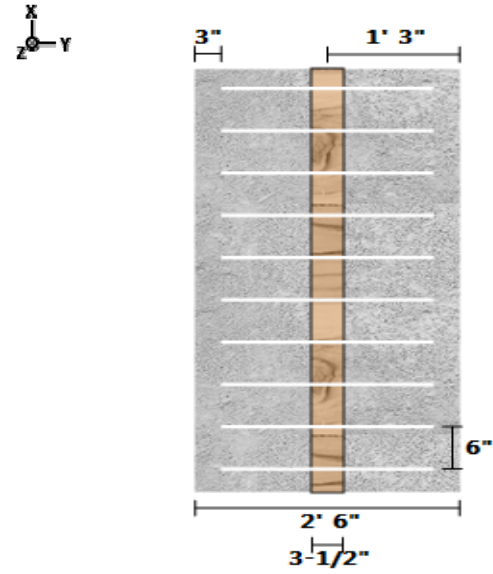
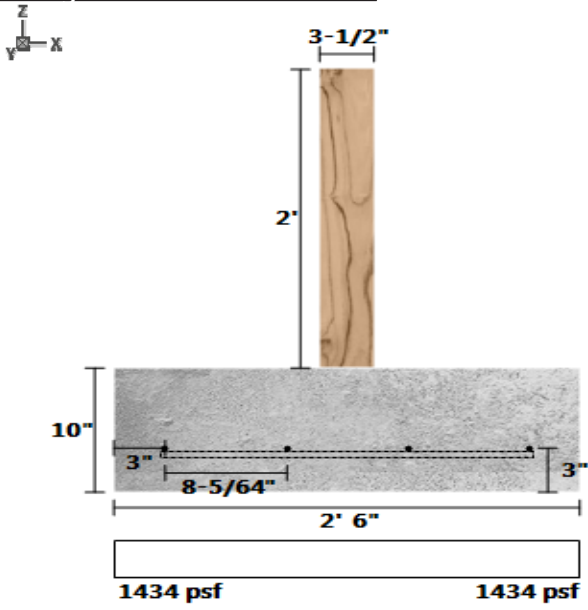
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Uniform	1	1	0	1	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Trusses #12	C	220.9995	220.9995	0	1	Dead	Z
Uniform (lb/ft)	Trusses #12	C	1949.998	1949.998	0	1	Snow	Z
Uniform (lb/ft)	Trusses #13	A	104.6154	104.6154	0	1	Dead	Z
Uniform (lb/ft)	Trusses #13	A	923.077	923.077	0	1	Snow	Z

Footing - WD-#18 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	Footing #19	CODE:	2018 International Building Code
MEMBER TYPE:	CONTINUOUS FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
2 (ft) Wide X 10 (in) Deep		Soil Depth TOF : 0 (ft)	Long.(3) #4 Bars, Transv:#4 @6(in) O.C.

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Depth (in)	Footing Weight (lb/ft)	Stemwall Weight (lb/ft)	
2	10	241.6667	193.3333	
CONCRETE				
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia. (in)	
3000	3122019	145	0.75	
STEM WALL				
Width (in)	Height (in)	Material	Stemwall Offset(in)	
8	24	Concrete	0	
SOIL				
Bearing Strength(lb/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	Bottom Bar Spacing(in)	fy (psi)	Es (psi)	
4	6	60000	2.9E+07	
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft ²)	PASS (18.7%)	1219.5	1500.0	D+S	ASD
One-Way Shear (lb/ft)	PASS (96.2%)	602.4	15774.4	1.2D+1.6S+L	LRFD
Moment (lb/ft)	PASS (96.9%)	347.3	11245.8	1.2D+1.6S+L	LRFD

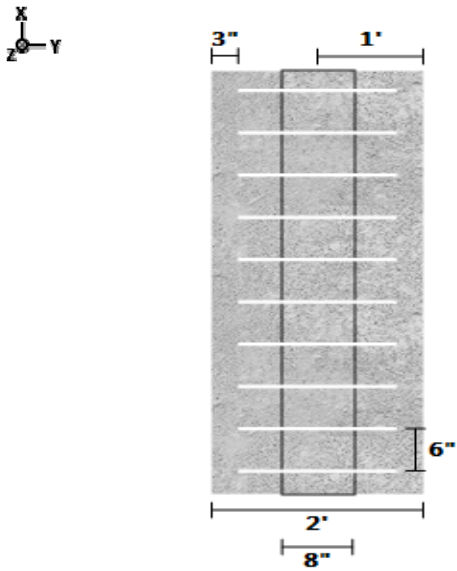
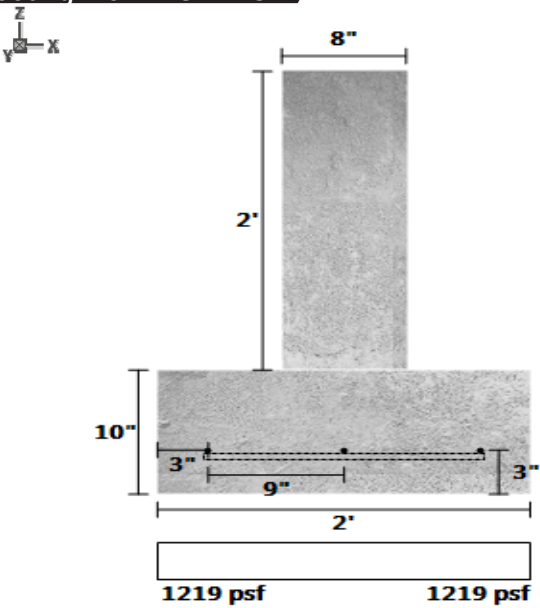
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Uniform	1	1	0	1	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Trusses #14	B	203.9998	203.9998	0	1	Dead	Z
Uniform (lb/ft)	Trusses #14	B	1799.999	1799.999	0	1	Snow	Z

Footing #19 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	Footing #20	CODE:	2018 International Building Code
MEMBER TYPE:	CONTINUOUS FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
3 (ft) Wide X 10 (in) Deep		Soil Depth TOF : 0 (ft)	Long.(4) #4 Bars, Transv:#4 @6(in) O.C.

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Depth (in)	Footing Weight (lb/ft)	Stemwall Weight (lb/ft)	
3	10	362.5	193.3333	
CONCRETE				
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia. (in)	
3000	3122019	145	0.75	
STEM WALL				
Width (in)	Height (in)	Material	Stemwall Offset(in)	
8	24	Concrete	0	
SOIL				
Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	Bottom Bar Spacing(in)	fy (psi)	Es (psi)	
4	6	60000	2.9E+07	
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft ²)	PASS (13.9%)	1290.8	1500.0	D+S	ASD
One-Way Shear (lb/ft)	PASS (93.5%)	1526.6	23661.6	1.2D+1.6S+L	LRFD
Moment (lb/ft)	PASS (89.6%)	1173.4	11245.8	1.2D+1.6S+L	LRFD

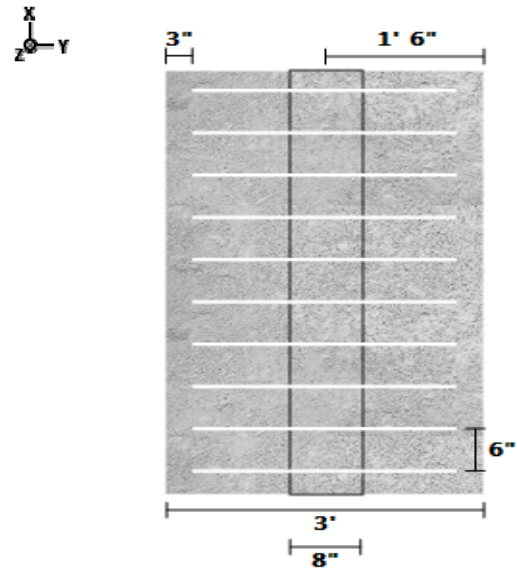
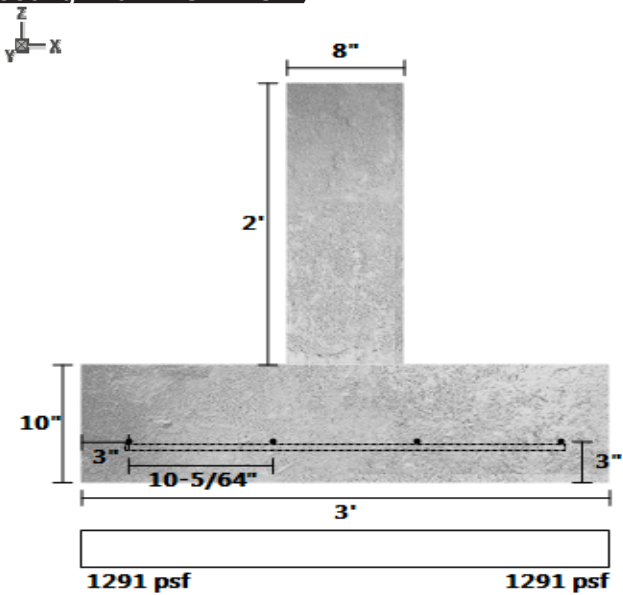
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Uniform	1	1	0	1	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Trusses #16	C	337.6094	337.6094	0	1	Dead	Z
Uniform (lb/ft)	Trusses #16	C	2978.898	2978.898	0	1	Snow	Z

Footing #20 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	Footing #21	CODE:	2018 International Building Code
MEMBER TYPE:	CONTINUOUS FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
2 (ft) Wide X 10 (in) Deep		Soil Depth TOF : 0 (ft)	Long.(3) #4 Bars, Transv:#4 @6(in) O.C.

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Depth (in)	Footing Weight (lb/ft)	Stemwall Weight (lb/ft)	
2	10	241.6667	193.3333	
CONCRETE				
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia. (in)	
3000	3122019	145	0.75	
STEM WALL				
Width (in)	Height (in)	Material	Stemwall Offset(in)	
8	24	Concrete	0	
SOIL				
Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	Bottom Bar Spacing(in)	fy (psi)	Es (psi)	
4	6	60000	2.9E+07	
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft ²)	PASS (18.7%)	1219.5	1500.0	D+S	ASD
One-Way Shear (lb/ft)	PASS (96.2%)	602.4	15774.4	1.2D+1.6S+L	LRFD
Moment (lb/ft)	PASS (96.9%)	347.3	11245.8	1.2D+1.6S+L	LRFD

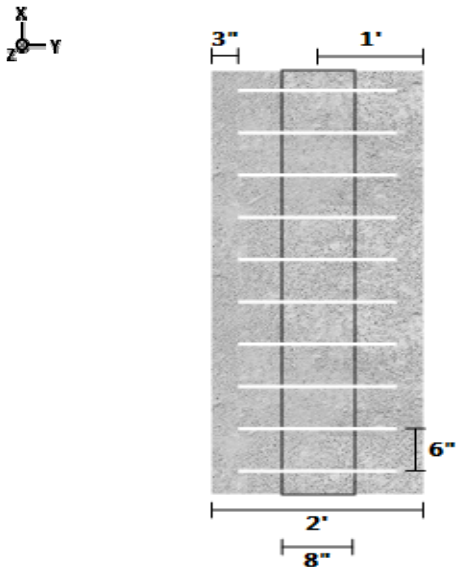
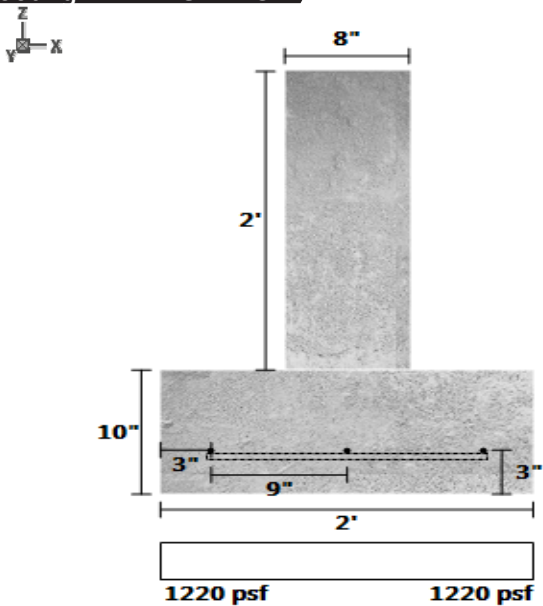
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Uniform	1	1	0	1	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Trusses #17	C	203.9998	203.9998	0	1	Dead	Z
Uniform (lb/ft)	Trusses #17	C	1800.004	1800.004	0	1	Snow	Z

Footing #21 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	Footing - WD-#22	CODE:	2018 International Building Code
MEMBER TYPE:	CONTINUOUS FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
2.5 (ft) Wide X 10 (in) Deep		Soil Depth TOF : 0 (ft)	Long.(4) #4 Bars, Transv:#4 @6(in) O.C.

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Depth (in)	Footing Weight (lb/ft)	Stemwall Weight (lb/ft)	
2.5	10	302.0833	84.58334	
CONCRETE				
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia. (in)	
3000	3122019	145	0.75	
STEM WALL				
Width (in)	Height (in)	Material	Stemwall Offset(in)	
3.5	24	Wood	0	
SOIL				
Bearing Strength(lb/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	Bottom Bar Spacing(in)	fy (psi)	Es (psi)	
4	6	60000	2.9E+07	
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft ²)	PASS (8.8%)	1367.3	1500.0	D+S	ASD
One-Way Shear (lb/ft)	PASS (92.1%)	1556.4	19718.0	1.2D+1.6S+L	LRFD
Moment (lb/ft)	PASS (88.3%)	1310.2	11245.8	1.2D+1.6S+L	LRFD

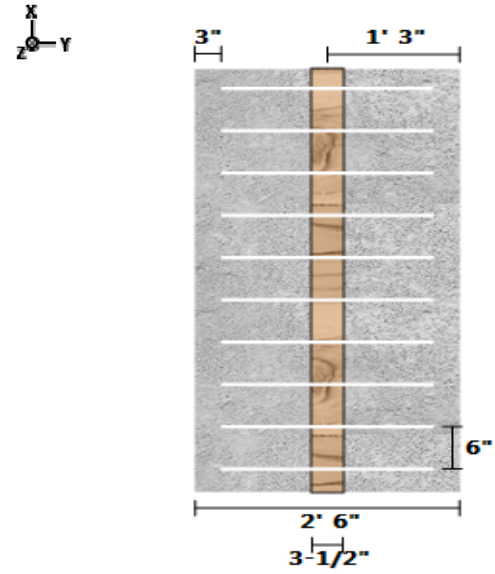
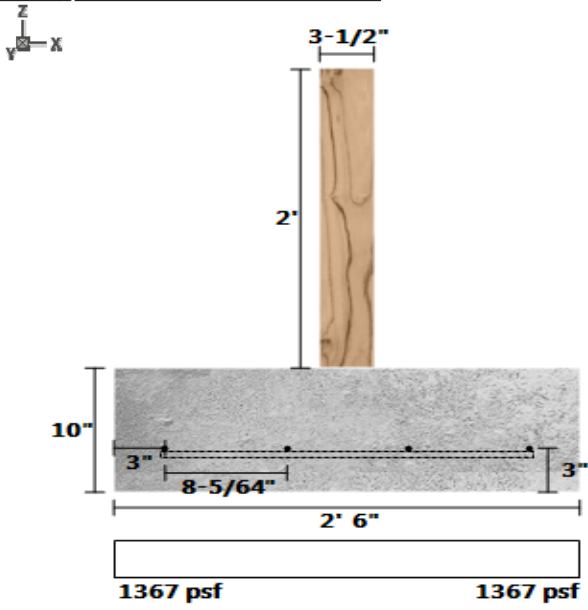
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Uniform	1	1	0	1	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Trusses #17	B	203.9998	203.9998	0	1	Dead	Z
Uniform (lb/ft)	Trusses #17	B	1799.999	1799.999	0	1	Snow	Z
Uniform (lb/ft)	Trusses #18	C	104.6154	104.6154	0	1	Dead	Z
Uniform (lb/ft)	Trusses #18	C	923.0771	923.0771	0	1	Snow	Z

Footing - WD-#22 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	Footing #23	CODE:	2018 International Building Code
MEMBER TYPE:	CONTINUOUS FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
2 (ft) Wide X 10 (in) Deep		Soil Depth TOF : 0 (ft)	Long.(3) #4 Bars, Transv:#4 @6(in) O.C.

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Depth (in)	Footing Weight (lb/ft)	Stemwall Weight (lb/ft)	
2	10	241.6667	193.3333	
CONCRETE				
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia. (in)	
3000	3122019	145	0.75	
STEM WALL				
Width (in)	Height (in)	Material	Stemwall Offset(in)	
8	24	Concrete	0	
SOIL				
Bearing Strength(lb/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	Bottom Bar Spacing(in)	fy (psi)	Es (psi)	
4	6	60000	2.9E+07	
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft ²)	PASS (28.4%)	1073.5	1500.0	D+S	ASD
One-Way Shear (lb/ft)	PASS (96.8%)	512.7	15774.4	1.2D+1.6S+L	LRFD
Moment (lb/ft)	PASS (97.4%)	295.6	11245.8	1.2D+1.6S+L	LRFD

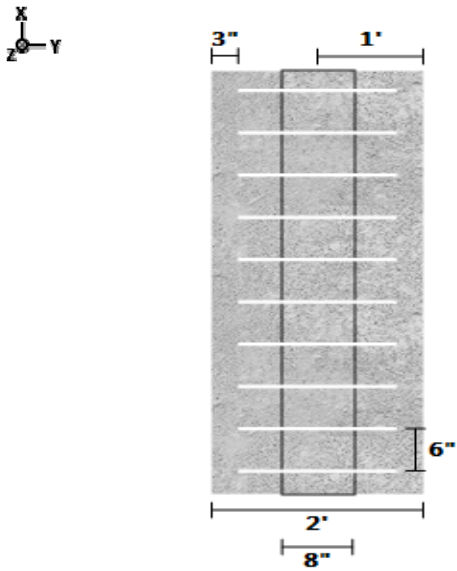
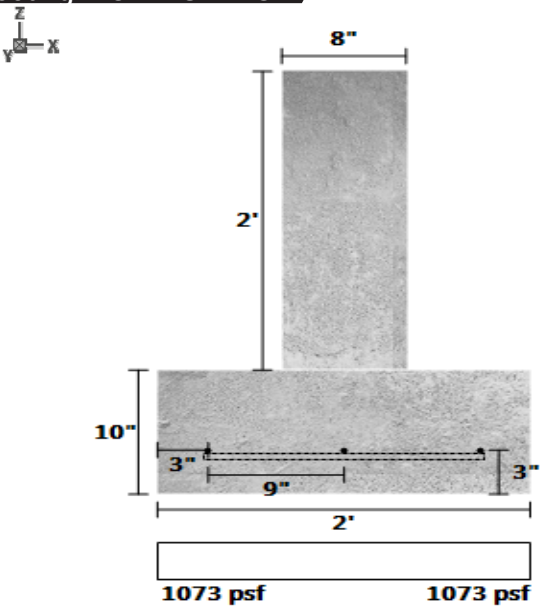
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Uniform	1	1	0	1	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Outlookers - 5	B	199.4019	199.4019	0	1	Dead	Z
Uniform (lb/ft)	Outlookers - 5	B	1512.5	1512.5	0	1	Snow	Z

Footing #23 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	Footing #24	CODE:	2018 International Building Code
MEMBER TYPE:	CONTINUOUS FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
2 (ft) Wide X 10 (in) Deep		Soil Depth TOF : 0 (ft)	Long.(3) #4 Bars, Transv:#4 @6(in) O.C.

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Depth (in)	Footing Weight (lb/ft)	Stemwall Weight (lb/ft)	
2	10	241.6667	193.3333	
CONCRETE				
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia. (in)	
3000	3122019	145	0.75	
STEM WALL				
Width (in)	Height (in)	Material	Stemwall Offset(in)	
8	24	Concrete	0	
SOIL				
Bearing Strength(lb/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	Bottom Bar Spacing(in)	fy (psi)	Es (psi)	
4	6	60000	2.9E+07	
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft ²)	PASS (30.7%)	1039.7	1500.0	D+S	ASD
One-Way Shear (lb/ft)	PASS (96.9%)	494.3	15774.4	1.2D+1.6S+L	LRFD
Moment (lb/ft)	PASS (97.5%)	285.0	11245.8	1.2D+1.6S+L	LRFD

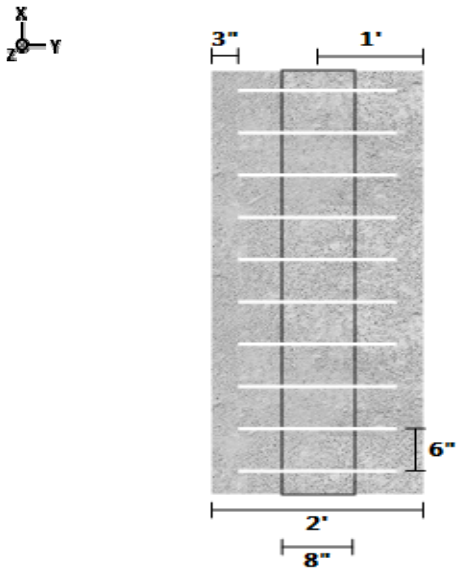
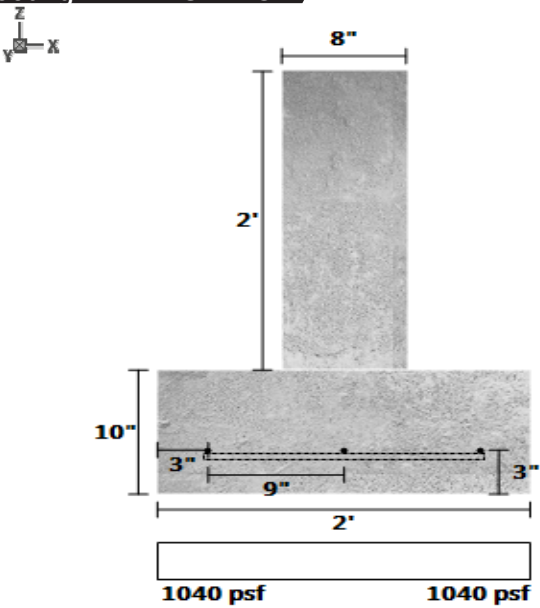
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Uniform	1	1	0	1	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Trusses #18	B	167.3846	167.3846	0	1	Dead	Z
Uniform (lb/ft)	Trusses #18	B	1476.922	1476.922	0	1	Snow	Z

Footing #24 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #1-1	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
4.00 (ft) X 4.00 (ft) X 10 (in)		Soil Depth TOF : 0 (ft)	Bot.(5) #4 Long, (5) #4 Short

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lbf/ft)
4	4	10	13.33	1933.33
CONCRETE				
fc' (psi)	Ec (psi)	Density (lbf/ft³)	Agg. Dia.(in)	
3000	0	145	0.75	
CALCULATION VARIABLES				
Bo (in)	Rankine Coefficient(Kp)			
0	3			
COLUMN				
Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
16	8	Concrete	0	0
SOIL				
Bearing Strength(lbf/ft²)	Density (lbf/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	fy (psi)	Es (psi)		
4	60000	2.9E+07		
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft²)	PASS (6.6%)	1400.4	1500.0	D+S	ASD
One-Way Shear X (lbf)	PASS (73.6%)	8339.2	31548.8	1.2D+1.6S+L	LRFD
One-Way Shear Y (lbf)	PASS (73.6%)	8339.2	31548.8	1.2D+1.6S+L	LRFD
Two-Way Shear (lbf-ft)	PASS (72.5%)	27087.8	98590.1	1.2D+1.6S+L	LRFD
Moment X (lbf-ft)	PASS (61.7%)	11008.8	28754.4	1.2D+1.6S+L	LRFD
Moment Y (lbf-ft)	PASS (75.5%)	7045.7	28754.4	1.2D+1.6S+L	LRFD
Crushing (psi)	PASS (92.5%)	31705.5	424320.0	1.2D+1.6S+L	LRFD

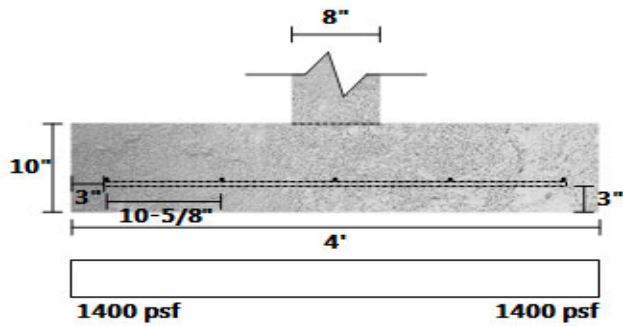
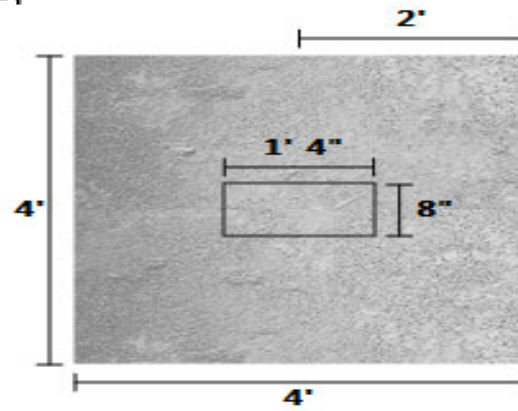
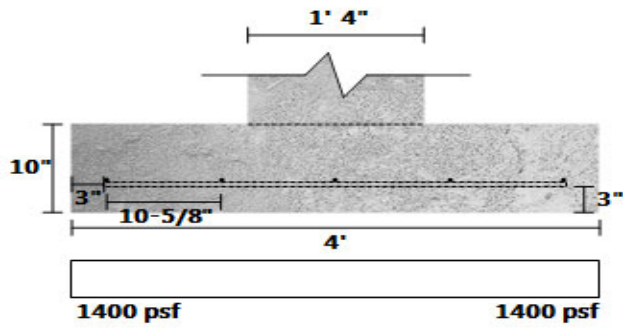
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Point	1	-	0	-	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #1	B	2627.817	-	0	-	Dead	Z
Point (lbf)	Beam #1	B	17844.43	-	0	-	Snow	Z

SpotFtg Bm #1-1 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #1-2	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
5.00 (ft) X 5.00 (ft) X 10 (in)		Soil Depth TOF : 0 (ft)	Bot.(6) #4 Long, (6) #4 Short

MATERIAL PROPERTIES**FOOTING**

Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lb/ft)
5	5	10	20.83	3020.83

CONCRETE

fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia.(in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)	Rankine Coefficient(Kp)
0	3

COLUMN

Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
16	8	Concrete	0	0

SOIL

Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in)	Bottom Cover (in)	Side Cover (in)
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft²)	PASS (3.5%)	1446.8	1500.0	D+S	ASD
One-Way Shear X (lb/ft)	PASS (59.6%)	15951.2	39436.0	1.2D+1.6S+L	LRFD
One-Way Shear Y (lb/ft)	PASS (59.6%)	15951.2	39436.0	1.2D+1.6S+L	LRFD
Two-Way Shear (lb/ft)	PASS (52.7%)	46596.5	98590.1	1.2D+1.6S+L	LRFD
Moment X (lb/ft)	PASS (30.2%)	24123.0	34556.4	1.2D+1.6S+L	LRFD
Moment Y (lb/ft)	PASS (50.0%)	17271.5	34556.4	1.2D+1.6S+L	LRFD
Crushing (psi)	PASS (87.9%)	51386.4	424320.0	1.2D+1.6S+L	LRFD

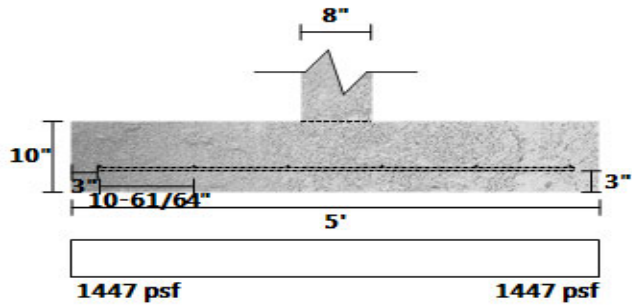
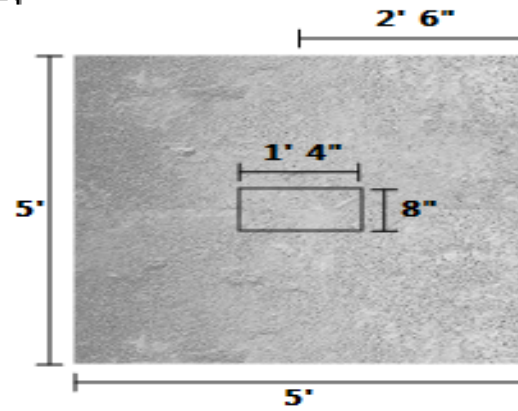
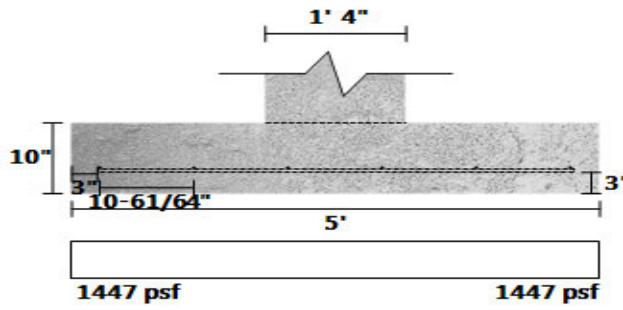
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Point	1	-	0	-	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Beam #1	C	4131.375	-	0	-	Dead	Z
Point (lb/ft)	Beam #1	C	29017.31	-	0	-	Snow	Z

SpotFtg Bm #1-2 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #1-3	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
4.00 (ft) X 4.00 (ft) X 10 (in)		Soil Depth TOF : 0 (ft)	Bot.(5) #4 Long, (5) #4 Short

MATERIAL PROPERTIES**FOOTING**

Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lb/ft)
4	4	10	13.33	1933.33

CONCRETE

fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia.(in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)	Rankine Coefficient(Kp)
0	3

COLUMN

Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0

SOIL

Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in)	Bottom Cover (in)	Side Cover (in)
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft²)	PASS (9.0%)	1365.6	1500.0	D+S	ASD
One-Way Shear X (lb/ft)	PASS (66.1%)	10707.6	31548.8	1.2D+1.6S+L	LRFD
One-Way Shear Y (lb/ft)	PASS (66.1%)	10707.6	31548.8	1.2D+1.6S+L	LRFD
Two-Way Shear (lb/ft)	PASS (63.9%)	27996.0	77557.5	1.2D+1.6S+L	LRFD
Moment X (lb/ft)	PASS (62.7%)	10734.5	28754.4	1.2D+1.6S+L	LRFD
Moment Y (lb/ft)	PASS (62.7%)	10734.5	28754.4	1.2D+1.6S+L	LRFD
Crushing (psi)	PASS (85.4%)	30915.3	212160.0	1.2D+1.6S+L	LRFD

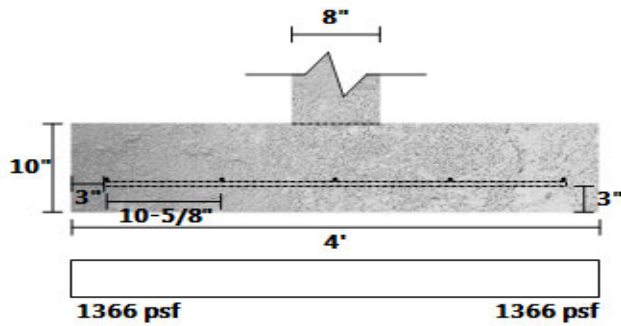
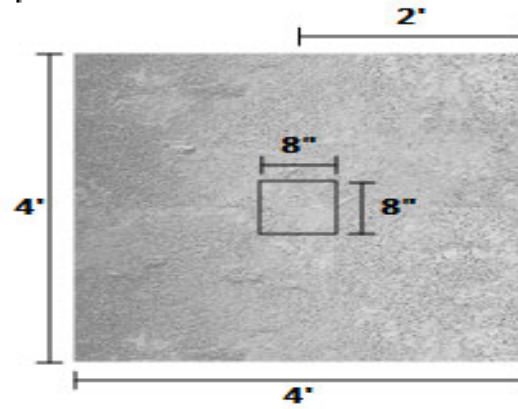
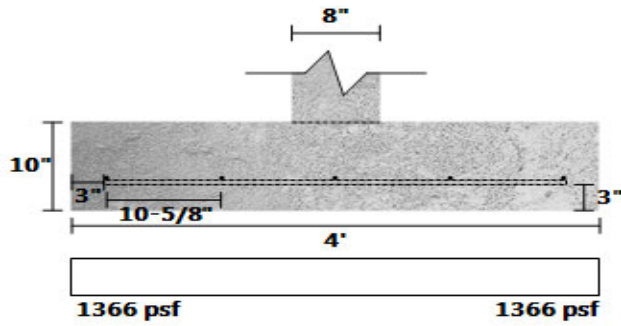
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Point	1	-	0	-	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Beam #1	D	1090.229	-	0	-	Dead	Z
Point (lb/ft)	Beam #1	D	8147.881	-	0	-	Snow	Z
Point (lb/ft)	Beam #7	A	1288.617	-	0	-	Dead	Z
Point (lb/ft)	Beam #7	A	9389.393	-	0	-	Snow	Z

SpotFtg Bm #1-3 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #3-3	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
7.50 (ft) X 10.50 (ft) X 12 (in)		Soil Depth TOF : 0 (ft)	Bot.(16) #4 Long, (10) #4 Short

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lb/ft)
7.5	10.5	12	78.75	11418.75
CONCRETE				
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia.(in)	
3000	0	145	0.75	
CALCULATION VARIABLES				
Bo (in)	Rankine Coefficient(Kp)			
0	3			
COLUMN				
Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
10	54	Concrete	0	0
SOIL				
Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	fy (psi)	Es (psi)		
4	60000	2.9E+07		
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft²)	PASS (12.7%)	1310.2	1500.0	D+S	ASD
One-Way Shear X (lb/ft)	PASS (38.9%)	60673.9	99378.8	1.2D+1.6S+L	LRFD
One-Way Shear Y (lb/ft)	PASS (14.5%)	60673.9	70984.8	1.2D+1.6S+L	LRFD
Two-Way Shear (lb/ft)	PASS (22.0%)	137378.0	176176.8	1.2D+1.6S+L	LRFD
Moment X (lb/ft)	PASS (12.5%)	65692.1	75038.0	1.2D+1.6S+L	LRFD
Moment Y (lb/ft)	PASS (5.0%)	113541.8	119540.9	1.2D+1.6S+L	LRFD
Crushing (psi)	PASS (91.4%)	153281.4	1790100.0	1.2D+1.6S+L	LRFD

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Point	1	-	0	-	Live	Z

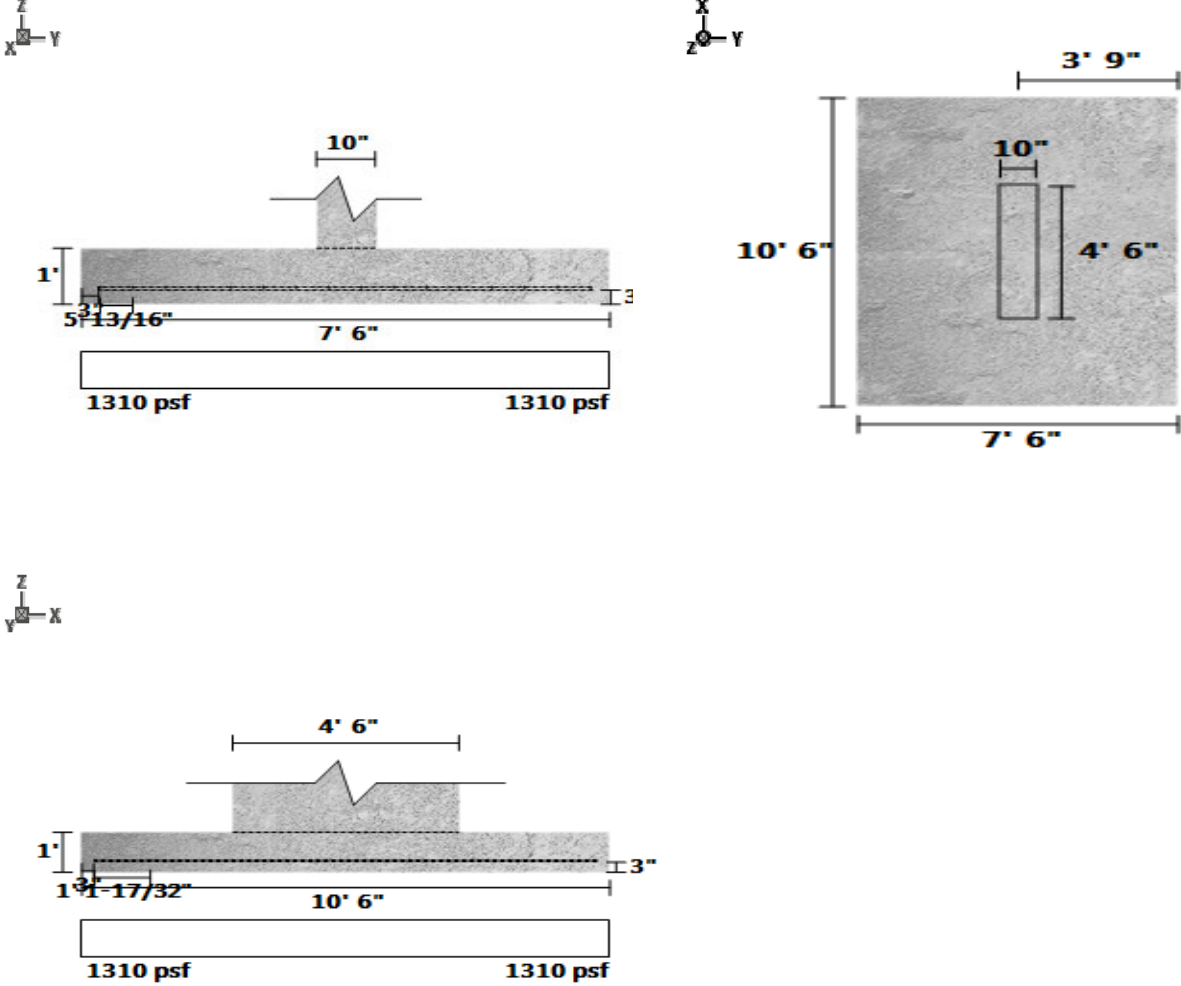
Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Beam #3	C	6840.211	-	0	-	Dead	Z
Point (lb/ft)	Beam #3	C	12569.68	-	0	-	Live	Z
Point (lb/ft)	Beam #3	C	9968.454	-	0	-	Snow	Z
Point (lb/ft)	Beam #5	A	3945.995	-	0	-	Dead	Z
Point (lb/ft)	Beam #5	A	31904.88	-	0	-	Snow	Z

Linked Load List CONT.

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #14	A	4490.893	-	0	-	Dead	Z
Point (lbf)	Beam #14	A	9.5	-	0	-	Live	Z
Point (lbf)	Beam #14	A	34607.13	-	0	-	Snow	Z

SpotFtg Bm #3-3 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #2-2	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
4.50 (ft) X 4.50 (ft) X 10 (in)		Soil Depth TOF : 0 (ft)	Bot.(5) #4 Long, (5) #4 Short

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lb/ft)
4.5	4.5	10	16.88	2446.88

CONCRETE			
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia.(in)
3000	0	145	0.75

CALCULATION VARIABLES	
Bo (in)	Rankine Coefficient(Kp)
0	3

COLUMN				
Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
5.5	5.5	Wood	0	0

SOIL				
Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0

REBAR		
Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER		
Top Cover (in)	Bottom Cover (in)	Side Cover (in)
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft²)	PASS (13.4%)	1299.2	1500.0	D+S	ASD
One-Way Shear X (lb/ft)	PASS (58.3%)	14801.0	35492.4	1.2D+1.6S+L	LRFD
One-Way Shear Y (lb/ft)	PASS (58.3%)	14801.0	35492.4	1.2D+1.6S+L	LRFD
Two-Way Shear (lb/ft)	PASS (43.6%)	36317.2	64412.2	1.2D+1.6S+L	LRFD
Moment X (lb/ft)	PASS (32.8%)	19399.0	28872.8	1.2D+1.6S+L	LRFD
Moment Y (lb/ft)	PASS (32.8%)	19399.0	28872.8	1.2D+1.6S+L	LRFD
Crushing (psi)	PASS (61.8%)	38287.5	100278.8	1.2D+1.6S+L	LRFD

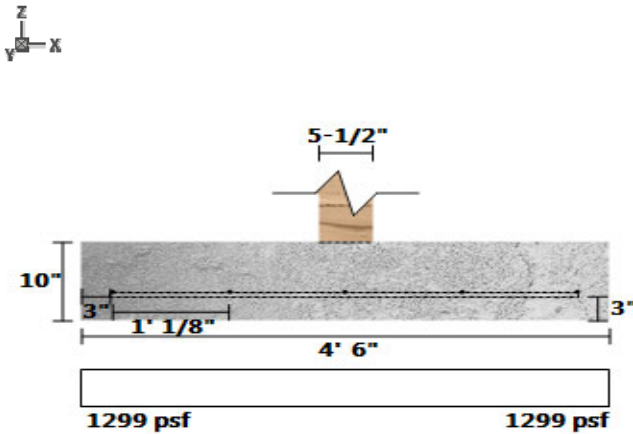
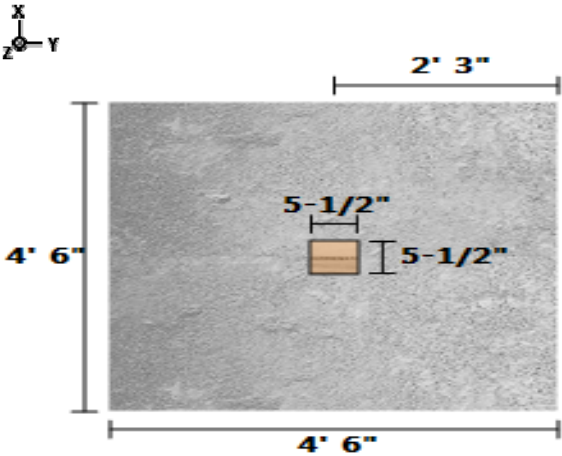
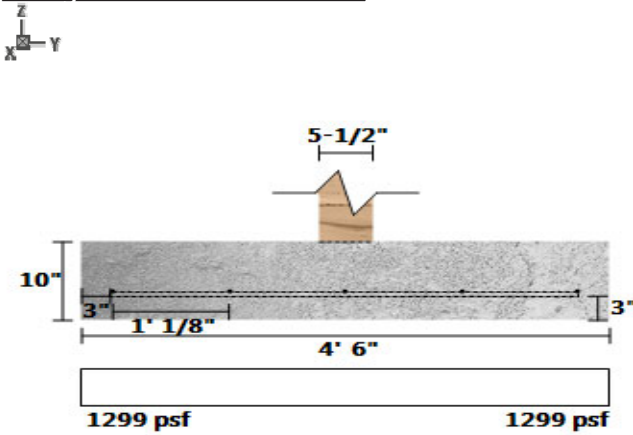
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Point	1	-	0	-	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Beam #2	B	1089.593	-	0	-	Dead	Z
Point (lb/ft)	Beam #2	B	8925	-	0	-	Snow	Z
Point (lb/ft)	Girder #1	C	2026.562	-	0	-	Dead	Z
Point (lb/ft)	Girder #1	C	1354.47	-	0	-	Live	Z
Point (lb/ft)	Girder #1	C	11820.4	-	0	-	Snow	Z

SpotFtg Bm #2-2 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #4-1	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
3.50 (ft) X 3.50 (ft) X 10 (in)		Soil Depth TOF : 0 (ft)	Bot.(4) #4 Long, (4) #4 Short

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lbf/ft)
3.5	3.5	10	10.21	1480.21
CONCRETE				
fc' (psi)	Ec (psi)	Density (lbf/ft³)	Agg. Dia.(in)	
3000	0	145	0.75	
CALCULATION VARIABLES				
Bo (in)	Rankine Coefficient(Kp)			
0	3			
COLUMN				
Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0
SOIL				
Bearing Strength(lbf/ft²)	Density (lbf/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	fy (psi)	Es (psi)		
4	60000	2.9E+07		
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft²)	PASS (16.5%)	1253.1	1500.0	D+S	ASD
One-Way Shear X (lbf)	PASS (74.7%)	6996.9	27605.2	1.2D+1.6S+L	LRFD
One-Way Shear Y (lbf)	PASS (74.7%)	6996.9	27605.2	1.2D+1.6S+L	LRFD
Two-Way Shear (lbf-ft)	PASS (75.6%)	18908.3	77557.5	1.2D+1.6S+L	LRFD
Moment X (lbf-ft)	PASS (73.2%)	6183.8	23076.6	1.2D+1.6S+L	LRFD
Moment Y (lbf-ft)	PASS (73.2%)	6183.8	23076.6	1.2D+1.6S+L	LRFD
Crushing (psi)	PASS (89.8%)	21568.4	212160.0	1.2D+1.6S+L	LRFD

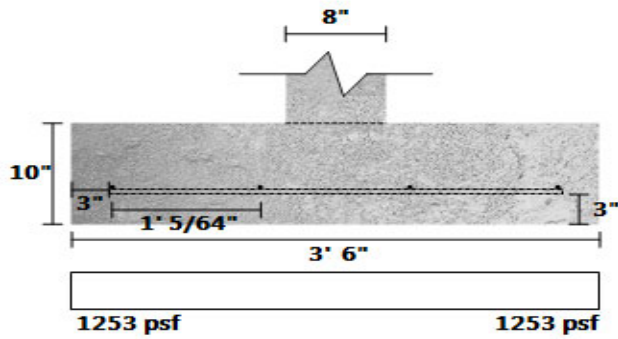
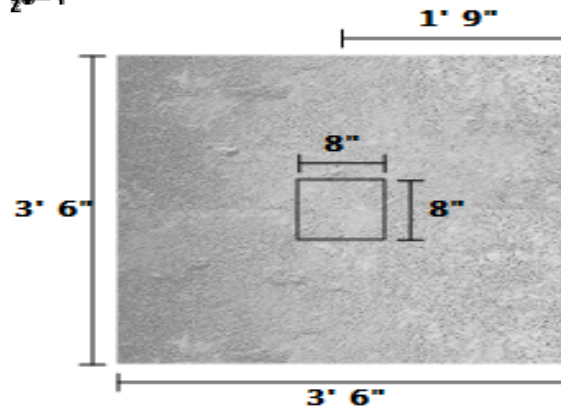
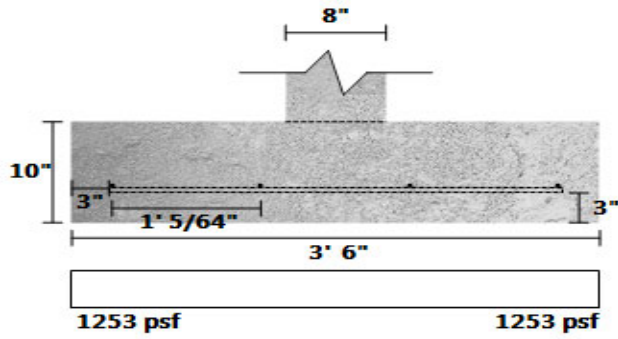
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Point	1	-	0	-	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #4	B	1561.246	-	0	-	Dead	Z
Point (lbf)	Beam #4	B	12308.71	-	0	-	Snow	Z

SpotFtg Bm #4-1 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #4-2	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
4.50 (ft) X 4.50 (ft) X 10 (in)		Soil Depth TOF : 0 (ft)	Bot.(5) #4 Long, (5) #4 Short

MATERIAL PROPERTIES**FOOTING**

Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lbf/ft)
4.5	4.5	10	16.88	2446.88

CONCRETE

fc' (psi)	Ec (psi)	Density (lbf/ft³)	Agg. Dia.(in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)	Rankine Coefficient(Kp)
0	3

COLUMN

Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0

SOIL

Bearing Strength(lbf/ft²)	Density (lbf/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in)	Bottom Cover (in)	Side Cover (in)
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft²)	PASS (13.6%)	1295.7	1500.0	D+S	ASD
One-Way Shear X (lbf)	PASS (62.2%)	13431.4	35492.4	1.2D+1.6S+L	LRFD
One-Way Shear Y (lbf)	PASS (62.2%)	13431.4	35492.4	1.2D+1.6S+L	LRFD
Two-Way Shear (lbf-ft)	PASS (55.9%)	34200.4	77557.5	1.2D+1.6S+L	LRFD
Moment X (lbf-ft)	PASS (47.8%)	15085.4	28872.8	1.2D+1.6S+L	LRFD
Moment Y (lbf-ft)	PASS (47.8%)	15085.4	28872.8	1.2D+1.6S+L	LRFD
Crushing (psi)	PASS (82.6%)	36957.8	212160.0	1.2D+1.6S+L	LRFD

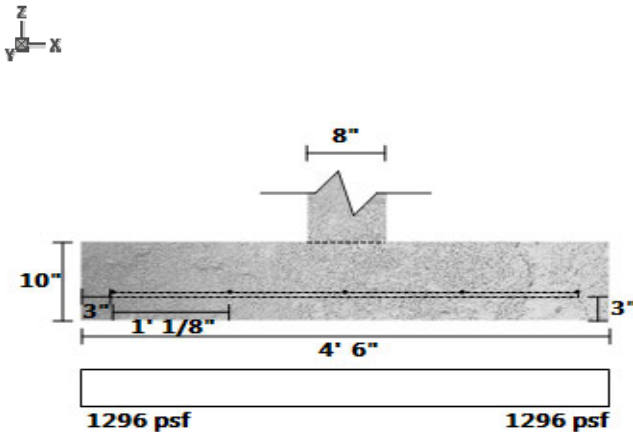
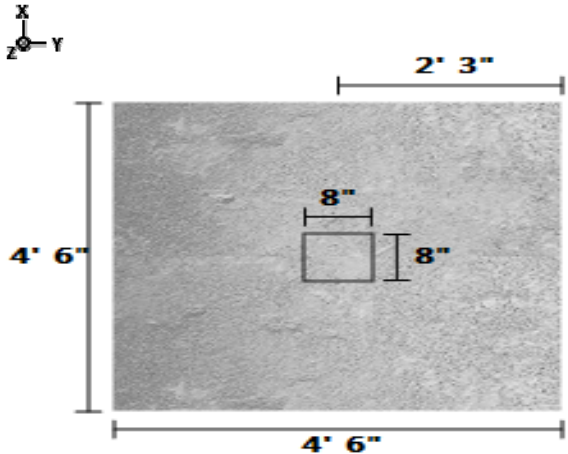
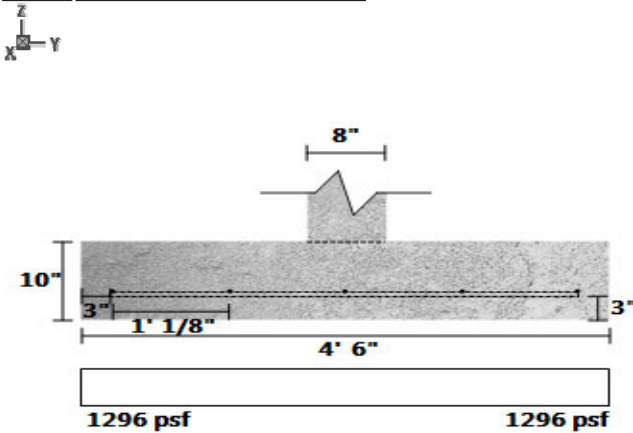
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Point	1	-	0	-	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #4	C	2770.964	-	0	-	Dead	Z
Point (lbf)	Beam #4	C	21019.8	-	0	-	Snow	Z

SpotFtg Bm #4-2 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #4-3	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
4.00 (ft) X 4.00 (ft) X 10 (in)		Soil Depth TOF : 0 (ft)	Bot.(5) #4 Long, (5) #4 Short

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lb/ft)
4	4	10	13.33	1933.33
CONCRETE				
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia.(in)	
3000	0	145	0.75	
CALCULATION VARIABLES				
Bo (in)	Rankine Coefficient(Kp)			
0	3			
COLUMN				
Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0
SOIL				
Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	fy (psi)	Es (psi)		
4	60000	2.9E+07		
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft²)	PASS (11.5%)	1327.4	1500.0	D+S	ASD
One-Way Shear X (lb/ft)	PASS (67.1%)	10382.6	31548.8	1.2D+1.6S+L	LRFD
One-Way Shear Y (lb/ft)	PASS (67.1%)	10382.6	31548.8	1.2D+1.6S+L	LRFD
Two-Way Shear (lb/ft)	PASS (65.0%)	27146.0	77557.5	1.2D+1.6S+L	LRFD
Moment X (lb/ft)	PASS (63.8%)	10408.6	28754.4	1.2D+1.6S+L	LRFD
Moment Y (lb/ft)	PASS (63.8%)	10408.6	28754.4	1.2D+1.6S+L	LRFD
Crushing (psi)	PASS (85.9%)	29976.7	212160.0	1.2D+1.6S+L	LRFD

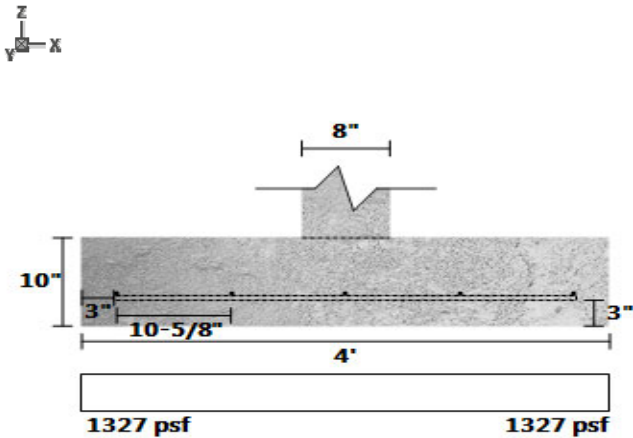
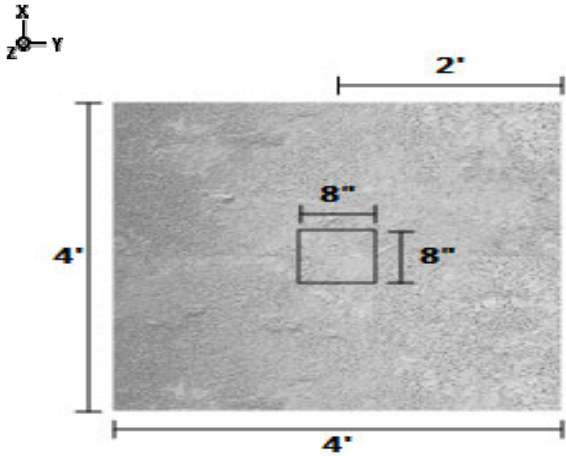
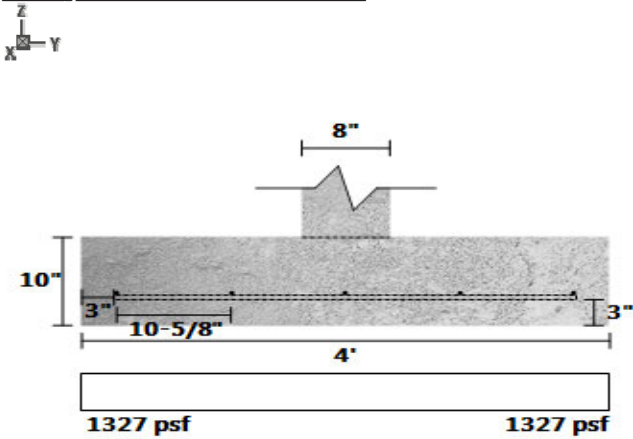
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Point	1	-	0	-	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Beam #4	D	2277.89	-	0	-	Dead	Z
Point (lb/ft)	Beam #4	D	17026.38	-	0	-	Snow	Z

SpotFtg Bm #4-3 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #4-4	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
2.00 (ft) X 2.00 (ft) X 10 (in)		Soil Depth TOF : 0 (ft)	Bot.(3) #4 Long, (3) #4 Short

MATERIAL PROPERTIES**FOOTING**

Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lb/ft)
2	2	10	3.33	483.33

CONCRETE

fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia.(in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)	Rankine Coefficient(Kp)
0	3

COLUMN

Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0

SOIL

Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in)	Bottom Cover (in)	Side Cover (in)
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft²)	PASS (21.7%)	1174.9	1500.0	D+S	ASD
One-Way Shear X (lb/ft)	PASS (92.0%)	1263.5	15774.4	1.2D+1.6S+L	LRFD
One-Way Shear Y (lb/ft)	PASS (92.0%)	1263.5	15774.4	1.2D+1.6S+L	LRFD
Two-Way Shear (lb/ft)	PASS (94.7%)	4079.9	77557.5	1.2D+1.6S+L	LRFD
Moment X (lb/ft)	PASS (95.7%)	728.5	17124.7	1.2D+1.6S+L	LRFD
Moment Y (lb/ft)	PASS (95.7%)	728.5	17124.7	1.2D+1.6S+L	LRFD
Crushing (psi)	PASS (96.9%)	6556.3	212160.0	1.2D+1.6S+L	LRFD

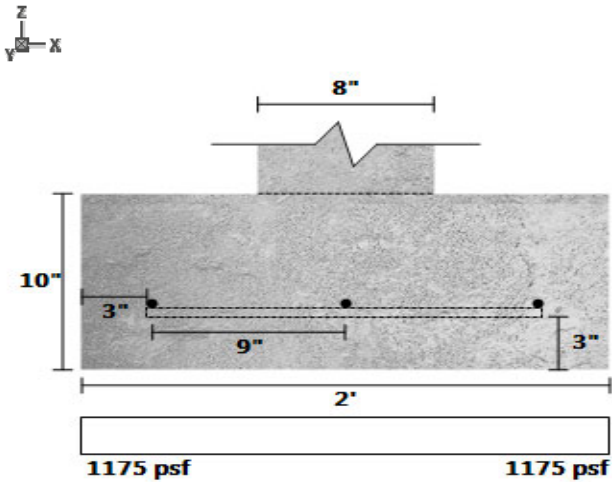
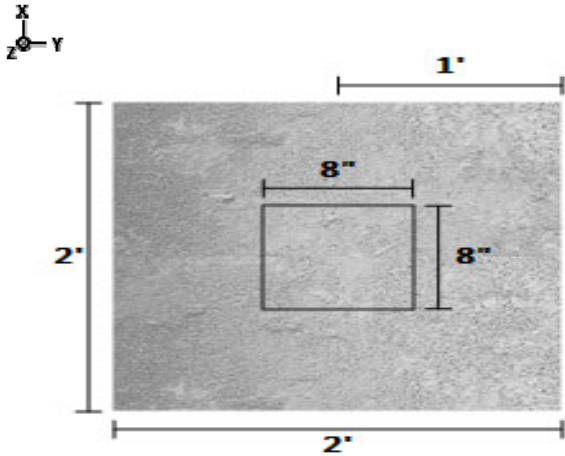
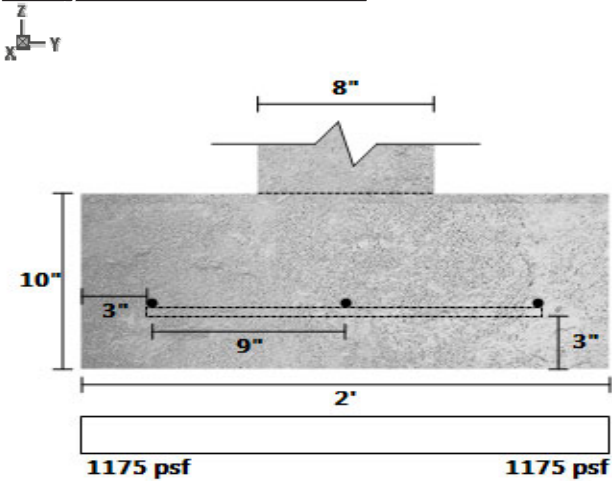
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Point	1	-	0	-	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Beam #4	E	477.521	-	0	-	Dead	Z
Point (lb/ft)	Beam #4	E	3738.923	-	0	-	Snow	Z

SpotFtg Bm #4-4 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Hdr #6-1	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
2.00 (ft) X 2.00 (ft) X 10 (in)		Soil Depth TOF : 0 (ft)	Bot.(3) #4 Long, (3) #4 Short

MATERIAL PROPERTIES**FOOTING**

Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lb/ft)
2	2	10	3.33	483.33

CONCRETE

fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia.(in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)	Rankine Coefficient(Kp)
0	3

COLUMN

Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0

SOIL

Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in)	Bottom Cover (in)	Side Cover (in)
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft²)	PASS (40.4%)	893.9	1500.0	D+S	ASD
One-Way Shear X (lb/ft)	PASS (94.1%)	926.1	15774.4	1.2D+1.6S+L	LRFD
One-Way Shear Y (lb/ft)	PASS (94.1%)	926.1	15774.4	1.2D+1.6S+L	LRFD
Two-Way Shear (lb/ft)	PASS (96.1%)	2990.6	77557.5	1.2D+1.6S+L	LRFD
Moment X (lb/ft)	PASS (96.9%)	534.0	17124.7	1.2D+1.6S+L	LRFD
Moment Y (lb/ft)	PASS (96.9%)	534.0	17124.7	1.2D+1.6S+L	LRFD
Crushing (psi)	PASS (97.7%)	4805.8	212160.0	1.2D+1.6S+L	LRFD

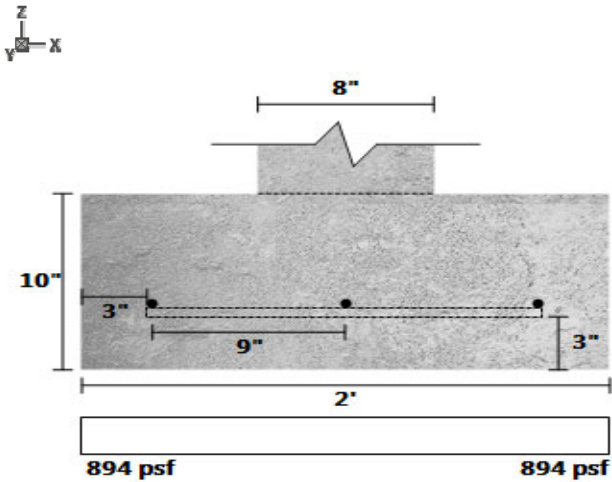
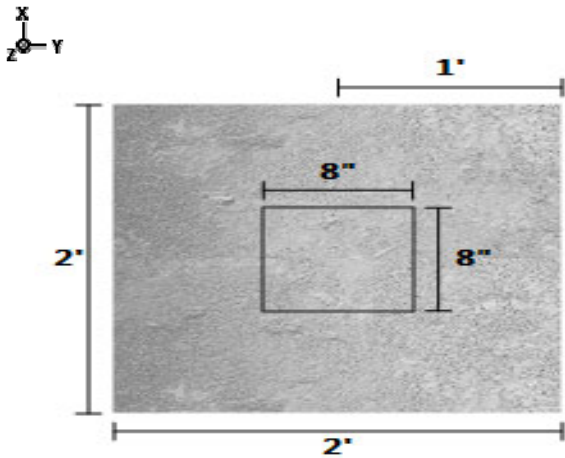
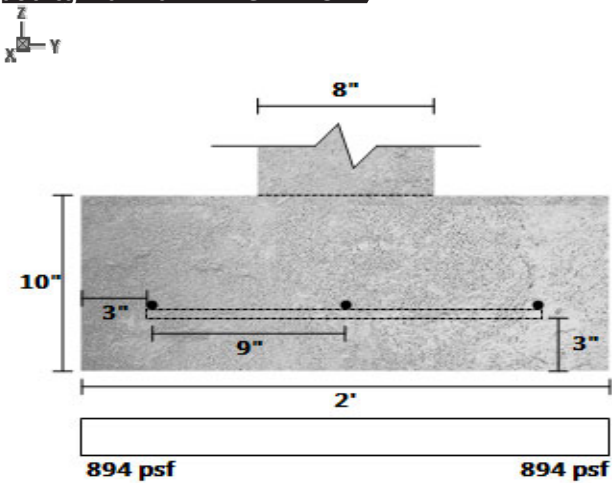
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Point	1	-	0	-	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Header #6	A	274.4597	-	0	-	Dead	Z
Point (lb/ft)	Header #6	A	2237.575	-	0	-	Snow	Z
Point (lb/ft)	Header #7	A	83.14363	-	0	-	Dead	Z
Point (lb/ft)	Header #7	A	497.2389	-	0	-	Snow	Z

SpotFtg Hdr #6-1 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Hdr #19-2	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
3.50 (ft) X 3.50 (ft) X 10 (in)		Soil Depth TOF : 0 (ft)	Bot.(4) #4 Long, (4) #4 Short

MATERIAL PROPERTIES**FOOTING**

Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lb/ft)
3.5	3.5	10	10.21	1480.21

CONCRETE

fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia.(in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)	Rankine Coefficient(Kp)
0	3

COLUMN

Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0

SOIL

Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in)	Bottom Cover (in)	Side Cover (in)
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft²)	PASS (13.4%)	1298.5	1500.0	D+S	ASD
One-Way Shear X (lb/ft)	PASS (71.5%)	7870.7	27605.2	1.2D+1.6S+L	LRFD
One-Way Shear Y (lb/ft)	PASS (71.5%)	7870.7	27605.2	1.2D+1.6S+L	LRFD
Two-Way Shear (lb/ft)	PASS (72.6%)	21269.6	77557.5	1.2D+1.6S+L	LRFD
Moment X (lb/ft)	PASS (69.9%)	6956.1	23076.6	1.2D+1.6S+L	LRFD
Moment Y (lb/ft)	PASS (69.9%)	6956.1	23076.6	1.2D+1.6S+L	LRFD
Crushing (psi)	PASS (88.6%)	24261.9	212160.0	1.2D+1.6S+L	LRFD

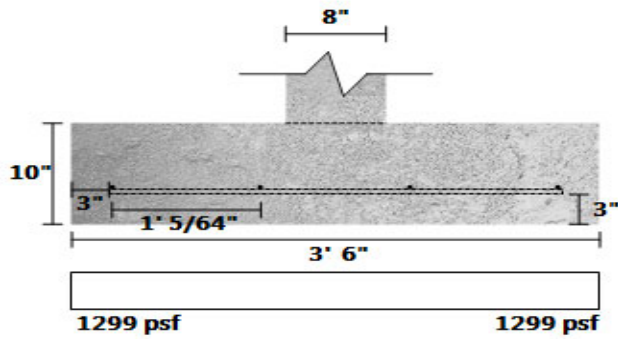
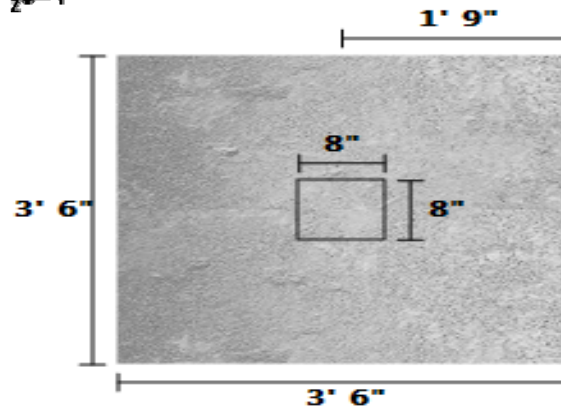
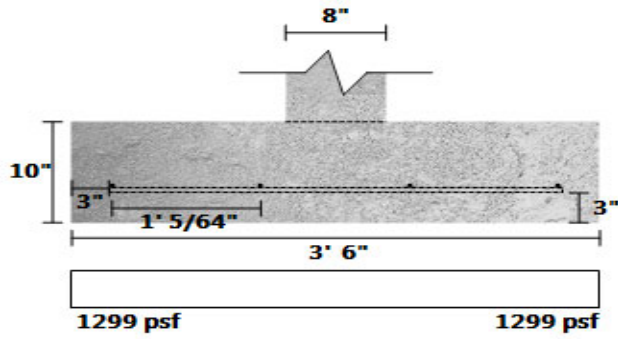
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Point	1	-	0	-	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Header #19	B	2304.906	-	0	-	Dead	Z
Point (lb/ft)	Header #19	B	2099.992	-	0	-	Live	Z
Point (lb/ft)	Header #19	B	12121.91	-	0	-	Snow	Z

SpotFtg Hdr #19-2 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Hdr #16-1	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
7.00 (ft) X 7.00 (ft) X 12 (in)		Soil Depth TOF : 0 (ft)	Bot.(10) #4 Long, (10) #4 Short

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lb/ft)
7	7	12	49	7105
CONCRETE				
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia.(in)	
3000	0	145	0.75	
CALCULATION VARIABLES				
Bo (in)	Rankine Coefficient(Kp)			
0	3			
COLUMN				
Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0
SOIL				
Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	fy (psi)	Es (psi)		
4	60000	2.9E+07		
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft²)	PASS (8.1%)	1378.1	1500.0	D+S	ASD
One-Way Shear X (lb/ft)	PASS (41.8%)	38575.8	66252.5	1.2D+1.6S+L	LRFD
One-Way Shear Y (lb/ft)	PASS (41.8%)	38575.8	66252.5	1.2D+1.6S+L	LRFD
Two-Way Shear (lb/ft)	PASS (12.4%)	92536.0	105688.6	1.2D+1.6S+L	LRFD
Moment X (lb/ft)	PASS (7.8%)	69025.4	74875.5	1.2D+1.6S+L	LRFD
Moment Y (lb/ft)	PASS (7.8%)	69025.4	74875.5	1.2D+1.6S+L	LRFD
Crushing (psi)	PASS (54.6%)	96367.8	212160.0	1.2D+1.6S+L	LRFD

LOAD LIST

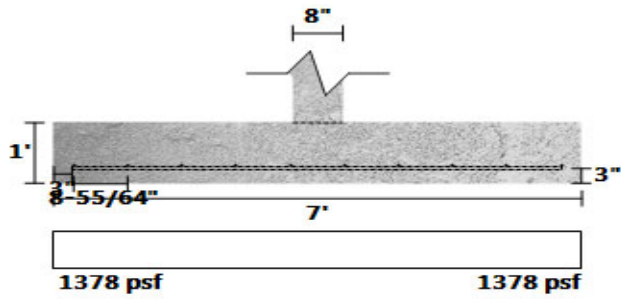
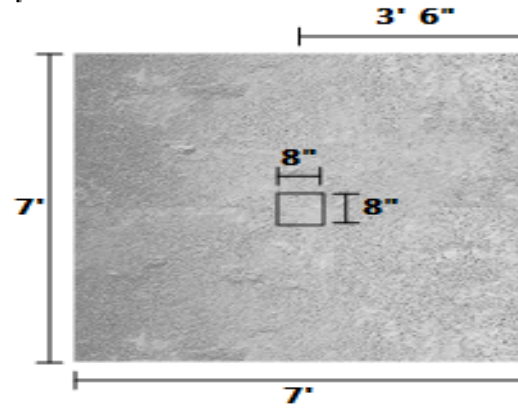
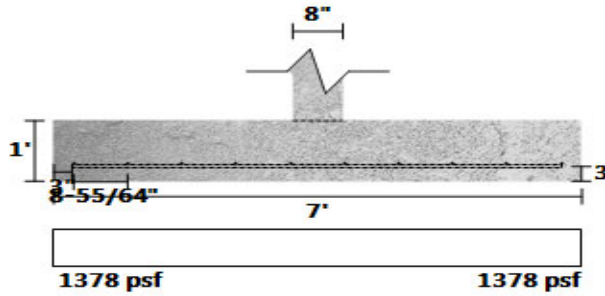
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Point	1	-	0	-	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Beam #5	B	3945.995	-	0	-	Dead	Z
Point (lb/ft)	Beam #5	B	31904.88	-	0	-	Snow	Z
Point (lb/ft)	Header #16	A	3948.104	-	0	-	Dead	Z
Point (lb/ft)	Header #16	A	2847.875	-	0	-	Live	Z
Point (lb/ft)	Header #16	A	20623.9	-	0	-	Snow	Z

Linked Load List CONT.

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Header #16	A	6.000465	-	0	-	RoofLive	Z

SpotFtg Hdr #16-1 DIAGRAMS

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Hdr #16-2	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
7.00 (ft) X 7.00 (ft) X 12 (in)		Soil Depth TOF : 0 (ft)	Bot.(10) #4 Long, (10) #4 Short

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lb/ft)
7	7	12	49	7105
CONCRETE				
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia.(in)	
3000	0	145	0.75	
CALCULATION VARIABLES				
Bo (in)	Rankine Coefficient(Kp)			
0	3			
COLUMN				
Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
24	8	Concrete	0	0
SOIL				
Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	fy (psi)	Es (psi)		
4	60000	2.9E+07		
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft²)	PASS (26.7%)	1098.9	1500.0	D+S	ASD
One-Way Shear X (lb/ft)	PASS (64.2%)	23733.9	66252.5	1.2D+1.6S+L	LRFD
One-Way Shear Y (lb/ft)	PASS (64.2%)	23733.9	66252.5	1.2D+1.6S+L	LRFD
Two-Way Shear (lb/ft)	PASS (44.9%)	71752.3	130138.9	1.2D+1.6S+L	LRFD
Moment X (lb/ft)	PASS (25.6%)	55726.4	74875.5	1.2D+1.6S+L	LRFD
Moment Y (lb/ft)	PASS (53.6%)	34732.5	74875.5	1.2D+1.6S+L	LRFD
Crushing (psi)	PASS (87.8%)	77800.9	636480.0	1.2D+1.6S+L	LRFD

LOAD LIST

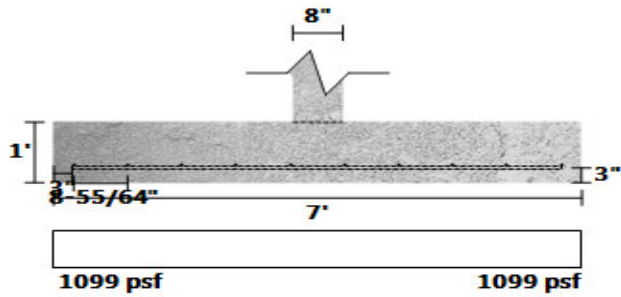
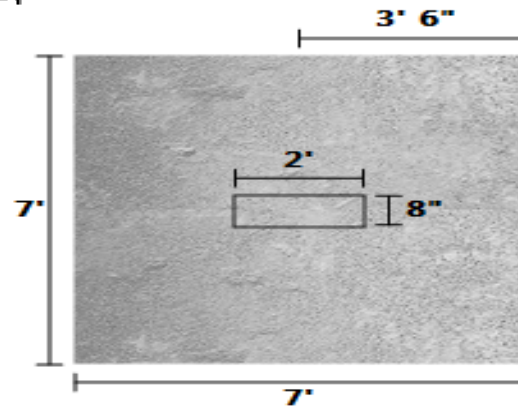
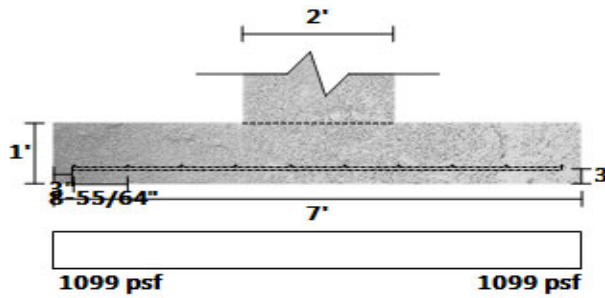
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Point	1	-	0	-	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Header #16	B	4030.14	-	0	-	Dead	Z
Point (lb/ft)	Header #16	B	3318.562	-	0	-	Live	Z
Point (lb/ft)	Header #16	B	20623.28	-	0	-	Snow	Z
Point (lb/ft)	Header #16	B	6.000244	-	0	-	RoofLive	Z
Point (lb/ft)	Header #17	A	3389.702	-	0	-	Dead	Z

Linked Load List CONT.

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Header #17	A	2659.994	-	0	-	Live	Z
Point (lbf)	Header #17	A	18700.15	-	0	-	Snow	Z

SpotFtg Hdr #16-2 DIAGRAMS

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Hdr #17-2	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
3.50 (ft) X 3.50 (ft) X 10 (in)		Soil Depth TOF : 0 (ft)	Bot.(4) #4 Long, (4) #4 Short

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lb/ft)
3.5	3.5	10	10.21	1480.21

CONCRETE			
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia.(in)
3000	0	145	0.75

CALCULATION VARIABLES	
Bo (in)	Rankine Coefficient(Kp)
0	3

COLUMN				
Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0

SOIL				
Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0

REBAR		
Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER		
Top Cover (in)	Bottom Cover (in)	Side Cover (in)
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft²)	PASS (36.2%)	957.7	1500.0	D+S	ASD
One-Way Shear X (lb/ft)	PASS (78.6%)	5907.8	27605.2	1.2D+1.6S+L	LRFD
One-Way Shear Y (lb/ft)	PASS (78.6%)	5907.8	27605.2	1.2D+1.6S+L	LRFD
Two-Way Shear (lb/ft)	PASS (79.4%)	15965.2	77557.5	1.2D+1.6S+L	LRFD
Moment X (lb/ft)	PASS (77.4%)	5221.3	23076.6	1.2D+1.6S+L	LRFD
Moment Y (lb/ft)	PASS (77.4%)	5221.3	23076.6	1.2D+1.6S+L	LRFD
Crushing (psi)	PASS (91.4%)	18211.2	212160.0	1.2D+1.6S+L	LRFD

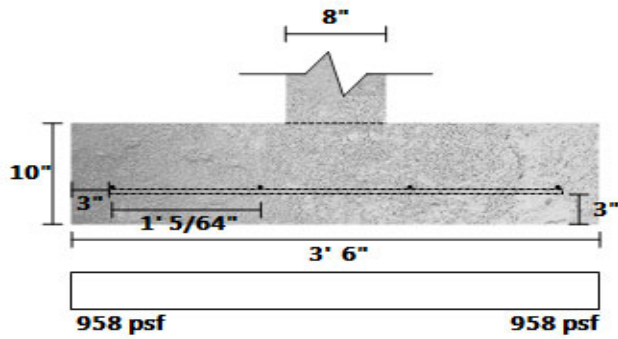
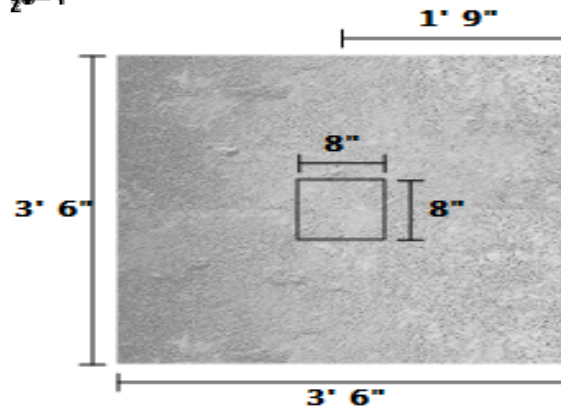
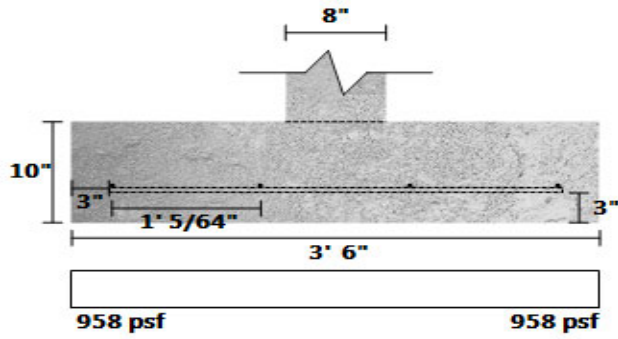
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Point	1	-	0	-	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Header #17	B	2131.687	-	0	-	Dead	Z
Point (lb/ft)	Header #17	B	2659.999	-	0	-	Live	Z
Point (lb/ft)	Header #17	B	8120.132	-	0	-	Snow	Z

SpotFtg Hdr #17-2 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Hdr #12-2	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
3.50 (ft) X 3.50 (ft) X 10 (in)		Soil Depth TOF : 0 (ft)	Bot.(4) #4 Long, (4) #4 Short

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lb/ft)
3.5	3.5	10	10.21	1480.21
CONCRETE				
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia.(in)	
3000	0	145	0.75	
CALCULATION VARIABLES				
Bo (in)	Rankine Coefficient(Kp)			
0	3			
COLUMN				
Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0
SOIL				
Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	fy (psi)	Es (psi)		
4	60000	2.9E+07		
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft²)	PASS (18.1%)	1227.9	1500.0	D+S	ASD
One-Way Shear X (lb/ft)	PASS (75.2%)	6848.4	27605.2	1.2D+1.6S+L	LRFD
One-Way Shear Y (lb/ft)	PASS (75.2%)	6848.4	27605.2	1.2D+1.6S+L	LRFD
Two-Way Shear (lb/ft)	PASS (76.1%)	18507.0	77557.5	1.2D+1.6S+L	LRFD
Moment X (lb/ft)	PASS (73.8%)	6052.6	23076.6	1.2D+1.6S+L	LRFD
Moment Y (lb/ft)	PASS (73.8%)	6052.6	23076.6	1.2D+1.6S+L	LRFD
Crushing (psi)	PASS (90.0%)	21110.7	212160.0	1.2D+1.6S+L	LRFD

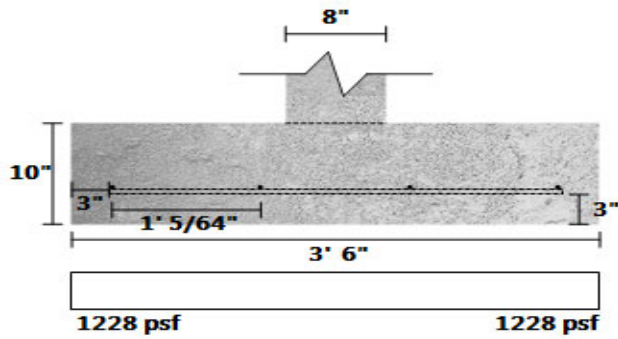
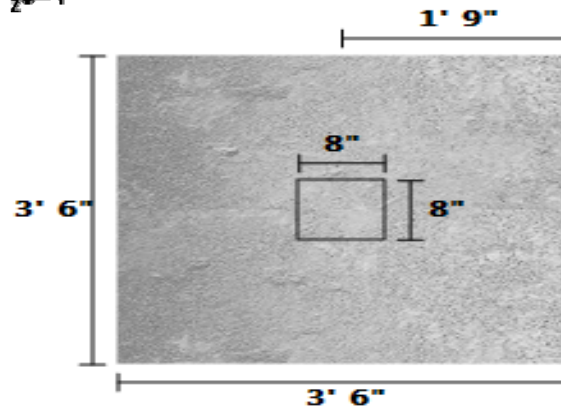
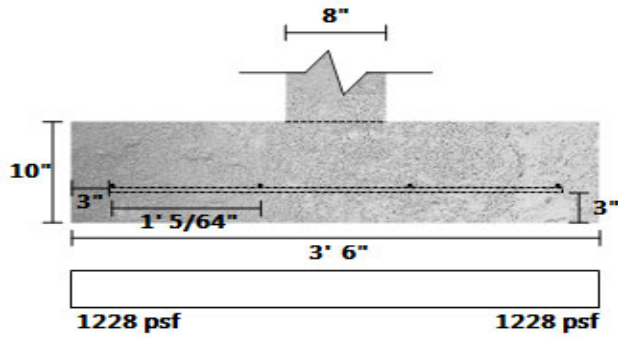
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Point	1	-	0	-	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Header #12	B	1471.98	-	0	-	Dead	Z
Point (lb/ft)	Header #12	B	12089.55	-	0	-	Snow	Z

SpotFtg Hdr #12-2 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Hdr #13	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
3.50 (ft) X 3.50 (ft) X 10 (in)		Soil Depth TOF : 0 (ft)	Bot.(4) #4 Long, (4) #4 Short

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lb/ft)
3.5	3.5	10	10.21	1480.21
CONCRETE				
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia.(in)	
3000	0	145	0.75	
CALCULATION VARIABLES				
Bo (in)	Rankine Coefficient(Kp)			
0	3			
COLUMN				
Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0
SOIL				
Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	fy (psi)	Es (psi)		
4	60000	2.9E+07		
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft²)	PASS (18.0%)	1230.0	1500.0	D+S	ASD
One-Way Shear X (lb/ft)	PASS (75.1%)	6861.3	27605.2	1.2D+1.6S+L	LRFD
One-Way Shear Y (lb/ft)	PASS (75.1%)	6861.3	27605.2	1.2D+1.6S+L	LRFD
Two-Way Shear (lb/ft)	PASS (76.1%)	18541.7	77557.5	1.2D+1.6S+L	LRFD
Moment X (lb/ft)	PASS (73.7%)	6063.9	23076.6	1.2D+1.6S+L	LRFD
Moment Y (lb/ft)	PASS (73.7%)	6063.9	23076.6	1.2D+1.6S+L	LRFD
Crushing (psi)	PASS (90.0%)	21150.3	212160.0	1.2D+1.6S+L	LRFD

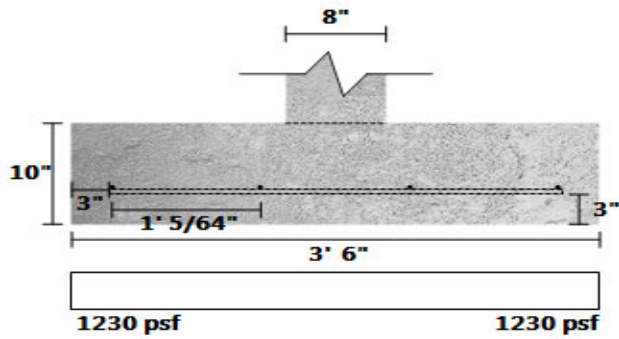
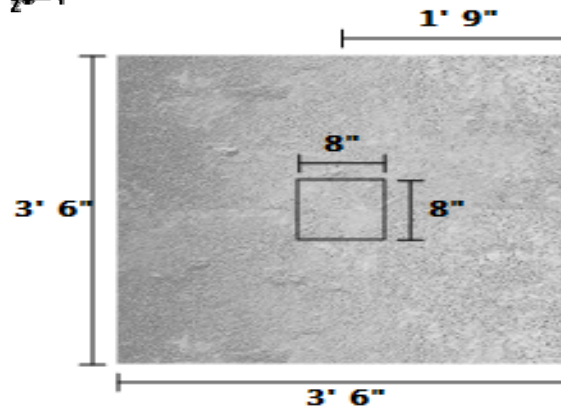
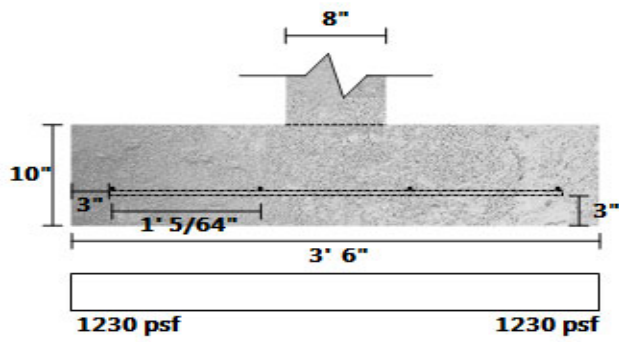
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Point	1	-	0	-	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Header #13	A	1474.569	-	0	-	Dead	Z
Point (lb/ft)	Header #13	A	12112.39	-	0	-	Snow	Z

SpotFtg Hdr #13 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Hdr #18	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
3.50 (ft) X 3.50 (ft) X 10 (in)		Soil Depth TOF : 0 (ft)	Bot.(4) #4 Long, (4) #4 Short

MATERIAL PROPERTIES**FOOTING**

Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lb/ft)
3.5	3.5	10	10.21	1480.21

CONCRETE

fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia.(in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)	Rankine Coefficient(Kp)
0	3

COLUMN

Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0

SOIL

Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in)	Bottom Cover (in)	Side Cover (in)
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft²)	PASS (63.9%)	542.0	1500.0	D+0.75L+0.75S	ASD
One-Way Shear X (lb/ft)	PASS (89.6%)	2864.4	27605.2	1.2D+1.6S+L	LRFD
One-Way Shear Y (lb/ft)	PASS (89.6%)	2864.4	27605.2	1.2D+1.6S+L	LRFD
Two-Way Shear (lb/ft)	PASS (90.0%)	7740.6	77557.5	1.2D+1.6S+L	LRFD
Moment X (lb/ft)	PASS (89.0%)	2531.5	23076.6	1.2D+1.6S+L	LRFD
Moment Y (lb/ft)	PASS (89.0%)	2531.5	23076.6	1.2D+1.6S+L	LRFD
Crushing (psi)	PASS (95.8%)	8829.6	212160.0	1.2D+1.6S+L	LRFD

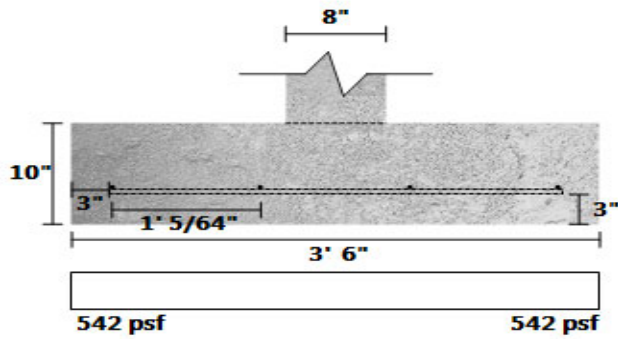
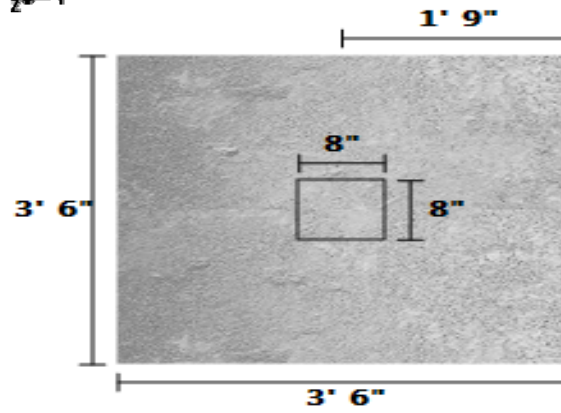
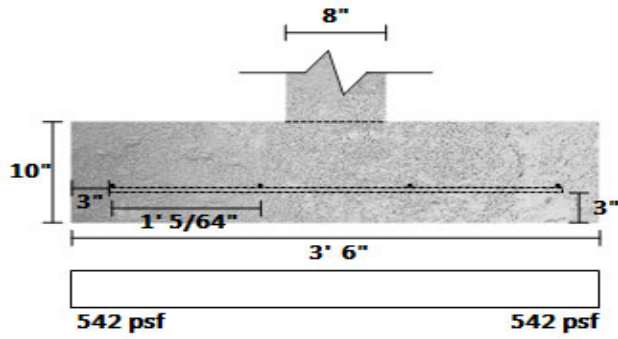
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Point	1	-	0	-	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Header #18	A	1160.458	-	0	-	Dead	Z
Point (lb/ft)	Header #18	A	1820	-	0	-	Live	Z
Point (lb/ft)	Header #18	A	3510	-	0	-	Snow	Z

SpotFtg Hdr #18 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #7-2	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
6.00 (ft) X 6.00 (ft) X 10 (in)		Soil Depth TOF : 0 (ft)	Bot.(7) #4 Long, (7) #4 Short

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lb/ft)
6	6	10	30	4350
CONCRETE				
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia.(in)	
3000	0	145	0.75	
CALCULATION VARIABLES				
Bo (in)	Rankine Coefficient(Kp)			
0	3			
COLUMN				
Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
18	8	Concrete	0	0
SOIL				
Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	fy (psi)	Es (psi)		
4	60000	2.9E+07		
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft²)	PASS (15.1%)	1273.9	1500.0	D+S	ASD
One-Way Shear X (lb/ft)	PASS (55.3%)	21140.3	47323.2	1.2D+1.6S+L	LRFD
One-Way Shear Y (lb/ft)	PASS (55.3%)	21140.3	47323.2	1.2D+1.6S+L	LRFD
Two-Way Shear (lb/ft)	PASS (38.9%)	59890.5	98078.9	1.2D+1.6S+L	LRFD
Moment X (lb/ft)	PASS (5.4%)	38179.3	40355.6	1.2D+1.6S+L	LRFD
Moment Y (lb/ft)	PASS (32.6%)	27180.4	40355.6	1.2D+1.6S+L	LRFD
Crushing (psi)	PASS (86.5%)	64427.5	477360.0	1.2D+1.6S+L	LRFD

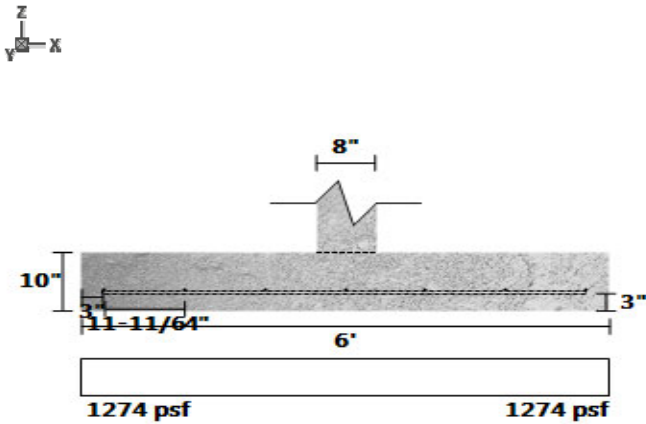
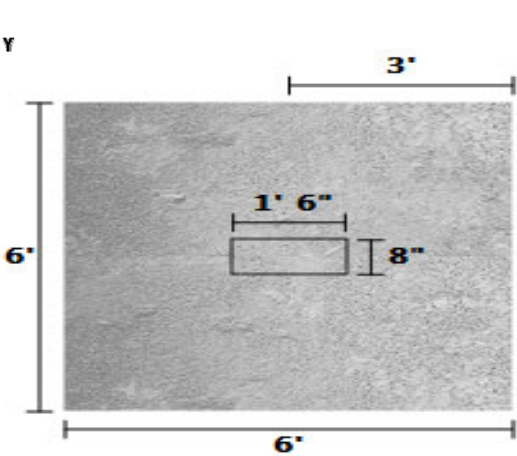
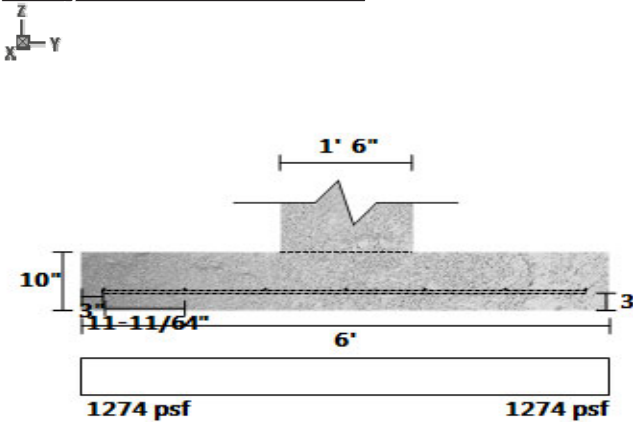
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Point	1	-	0	-	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Beam #7	B	4974.158	-	0	-	Dead	Z
Point (lb/ft)	Beam #7	B	36535.97	-	0	-	Snow	Z

SpotFtg Bm #7-2 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #7-3	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
4.50 (ft) X 4.50 (ft) X 10 (in)		Soil Depth TOF : 0 (ft)	Bot.(5) #4 Long, (5) #4 Short

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lbf/ft)
4.5	4.5	10	16.88	2446.88

CONCRETE			
fc' (psi)	Ec (psi)	Density (lbf/ft³)	Agg. Dia.(in)
3000	0	145	0.75

CALCULATION VARIABLES	
Bo (in)	Rankine Coefficient(Kp)
0	3

COLUMN				
Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0

SOIL				
Bearing Strength(lbf/ft²)	Density (lbf/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0

REBAR		
Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER		
Top Cover (in)	Bottom Cover (in)	Side Cover (in)
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft²)	PASS (5.0%)	1424.3	1500.0	D+S	ASD
One-Way Shear X (lbf)	PASS (58.0%)	14900.3	35492.4	1.2D+1.6S+L	LRFD
One-Way Shear Y (lbf)	PASS (58.0%)	14900.3	35492.4	1.2D+1.6S+L	LRFD
Two-Way Shear (lbf-ft)	PASS (51.1%)	37940.6	77557.5	1.2D+1.6S+L	LRFD
Moment X (lbf-ft)	PASS (42.0%)	16735.1	28872.8	1.2D+1.6S+L	LRFD
Moment Y (lbf-ft)	PASS (42.0%)	16735.1	28872.8	1.2D+1.6S+L	LRFD
Crushing (psi)	PASS (80.7%)	40999.5	212160.0	1.2D+1.6S+L	LRFD

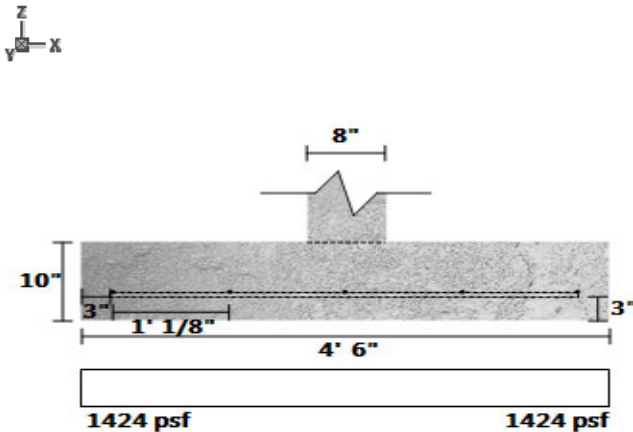
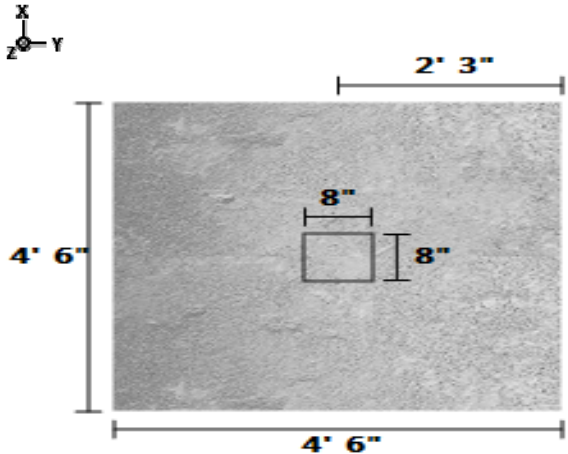
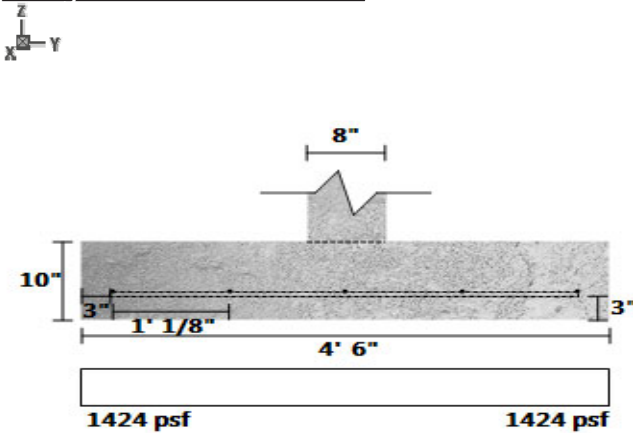
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Point	1	-	0	-	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #7	C	3084.95	-	0	-	Dead	Z
Point (lbf)	Beam #7	C	23310.36	-	0	-	Snow	Z

SpotFtg Bm #7-3 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #8-2	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
4.00 (ft) X 4.00 (ft) X 10 (in)		Soil Depth TOF : 0 (ft)	Bot.(5) #4 Long, (5) #4 Short

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lb/ft)
4	4	10	13.33	1933.33
CONCRETE				
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia.(in)	
3000	0	145	0.75	
CALCULATION VARIABLES				
Bo (in)	Rankine Coefficient(Kp)			
0	3			
COLUMN				
Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0
SOIL				
Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	fy (psi)	Es (psi)		
4	60000	2.9E+07		
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

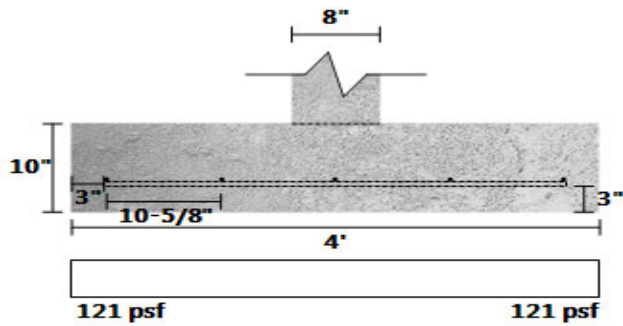
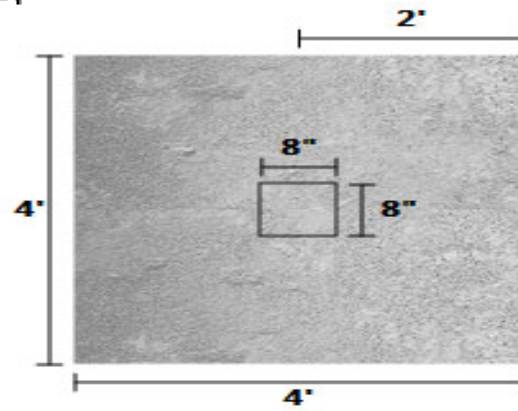
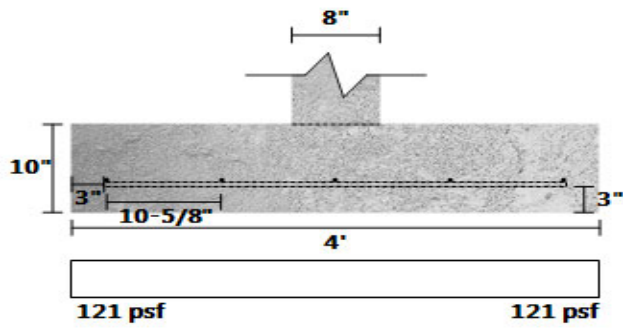
PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft²)	PASS (91.9%)	120.9	1500.0	D+L	ASD
One-Way Shear X (lb/ft)	PASS (100.0%)	0.6	31548.8	1.2D+1.6L+0.5Lr	LRFD
One-Way Shear Y (lb/ft)	PASS (100.0%)	0.6	31548.8	1.2D+1.6L+0.5Lr	LRFD
Two-Way Shear (lb/ft)	PASS (100.0%)	1.5	77557.5	1.2D+1.6L+0.5Lr	LRFD
Moment X (lb-ft)	PASS (100.0%)	0.6	28754.4	1.2D+1.6L+0.5Lr	LRFD
Moment Y (lb-ft)	PASS (100.0%)	0.6	28754.4	1.2D+1.6L+0.5Lr	LRFD
Crushing (psi)	PASS (100.0%)	1.6	212160.0	1.2D+1.6L+0.5Lr	LRFD

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Point	1	-	0	-	Live	Z

SpotFtg Bm #8-2 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Hdr #34-1	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
2.50 (ft) X 5.50 (ft) X 10 (in)		Soil Depth TOF : 0 (ft)	Bot.(7) #4 Long, (3) #4 Short

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lb/ft)
2.5	5.5	10	11.46	1661.46
CONCRETE				
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia.(in)	
3000	0	145	0.75	
CALCULATION VARIABLES				
Bo (in)	Rankine Coefficient(Kp)			
0	3			
COLUMN				
Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0
SOIL				
Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	fy (psi)	Es (psi)		
4	60000	2.9E+07		
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft²)	PASS (5.8%)	1412.9	1500.0	D+S	ASD
One-Way Shear X (lb/ft)	PASS (83.8%)	7030.7	43379.6	1.2D+1.6S+L	LRFD
One-Way Shear Y (lb/ft)	PASS (64.3%)	7030.7	19718.0	1.2D+1.6S+L	LRFD
Two-Way Shear (lb/ft)	PASS (68.3%)	24622.1	77557.5	1.2D+1.6S+L	LRFD
Moment X (lb/ft)	PASS (15.0%)	14686.5	17278.2	1.2D+1.6S+L	LRFD
Moment Y (lb/ft)	PASS (88.4%)	4648.7	40229.0	1.2D+1.6S+L	LRFD
Crushing (psi)	PASS (87.0%)	27661.6	212160.0	1.2D+1.6S+L	LRFD

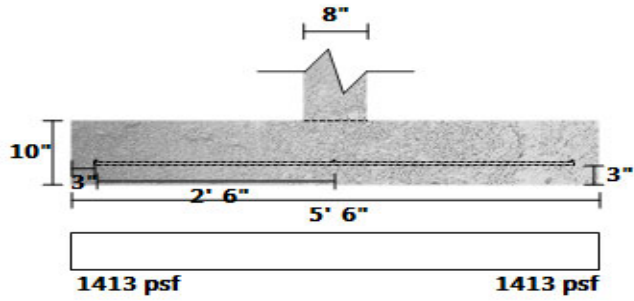
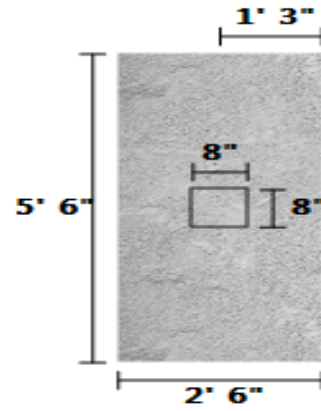
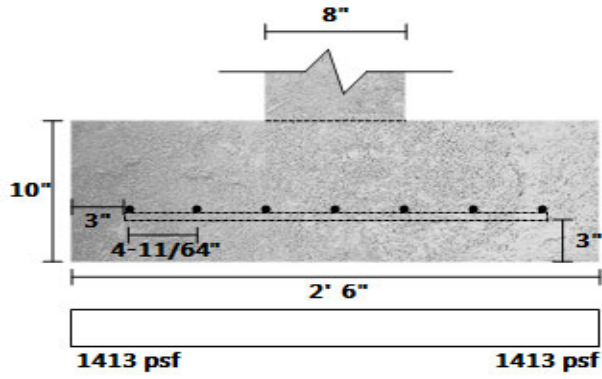
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Point	1	-	0	-	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Header #34	A	1909.848	-	0	-	Dead	Z
Point (lb/ft)	Header #34	A	15855.46	-	0	-	Snow	Z

SpotFtg Hdr #34-1 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Hdr #34-2	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
5.50 (ft) X 5.50 (ft) X 10 (in)		Soil Depth TOF : 0 (ft)	Bot.(7) #4 Long, (7) #4 Short

MATERIAL PROPERTIES**FOOTING**

Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lb/ft)
5.5	5.5	10	25.21	3655.21

CONCRETE

fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia.(in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)	Rankine Coefficient(Kp)
0	3

COLUMN

Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
8	24	Concrete	0	0

SOIL

Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in)	Bottom Cover (in)	Side Cover (in)
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft²)	PASS (13.6%)	1295.4	1500.0	D+S	ASD
One-Way Shear X (lb/ft)	PASS (50.5%)	21479.2	43379.6	1.2D+1.6S+L	LRFD
One-Way Shear Y (lb/ft)	PASS (50.5%)	21479.2	43379.6	1.2D+1.6S+L	LRFD
Two-Way Shear (lb/ft)	PASS (50.3%)	49561.8	99685.5	1.2D+1.6S+L	LRFD
Moment X (lb/ft)	PASS (61.7%)	15402.2	40229.0	1.2D+1.6S+L	LRFD
Moment Y (lb/ft)	PASS (27.0%)	29372.4	40229.0	1.2D+1.6S+L	LRFD
Crushing (psi)	PASS (91.3%)	55322.1	636480.0	1.2D+1.6S+L	LRFD

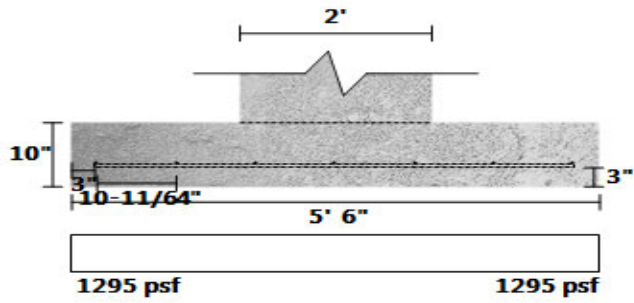
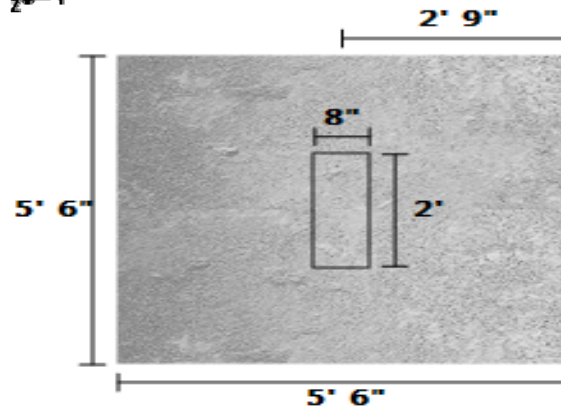
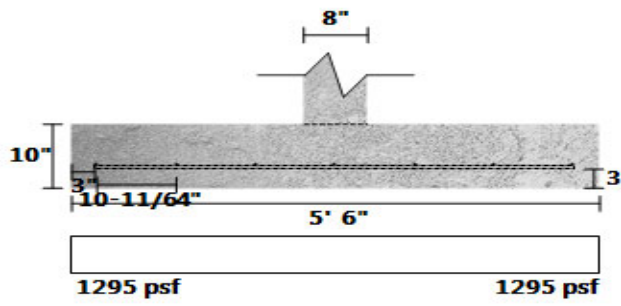
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Point	1	-	0	-	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Header #34	A	1909.848	-	0	-	Dead	Z
Point (lb/ft)	Header #34	B	1909.848	-	0	-	Dead	Z
Point (lb/ft)	Header #34	A	15855.46	-	0	-	Snow	Z
Point (lb/ft)	Header #34	B	15855.46	-	0	-	Snow	Z

SpotFtg Hdr #34-2 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Hdr #36-1	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
3.00 (ft) X 3.00 (ft) X 10 (in)		Soil Depth TOF : 0 (ft)	Bot.(4) #4 Long, (4) #4 Short

MATERIAL PROPERTIES**FOOTING**

Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lb/ft)
3	3	10	7.5	1087.5

CONCRETE

fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia.(in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)	Rankine Coefficient(Kp)
0	3

COLUMN

Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0

SOIL

Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in)	Bottom Cover (in)	Side Cover (in)
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft²)	PASS (2.0%)	1469.9	1500.0	D+S	ASD
One-Way Shear X (lb/ft)	PASS (76.5%)	5550.3	23661.6	1.2D+1.6S+L	LRFD
One-Way Shear Y (lb/ft)	PASS (76.5%)	5550.3	23661.6	1.2D+1.6S+L	LRFD
Two-Way Shear (lb/ft)	PASS (79.8%)	15648.7	77557.5	1.2D+1.6S+L	LRFD
Moment X (lb/ft)	PASS (81.4%)	4266.1	22946.6	1.2D+1.6S+L	LRFD
Moment Y (lb/ft)	PASS (81.4%)	4266.1	22946.6	1.2D+1.6S+L	LRFD
Crushing (psi)	PASS (91.1%)	18805.6	212160.0	1.2D+1.6S+L	LRFD

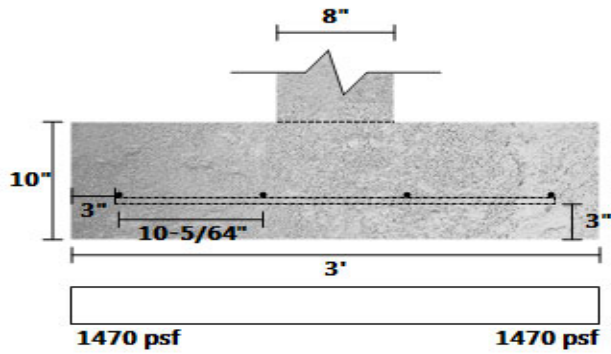
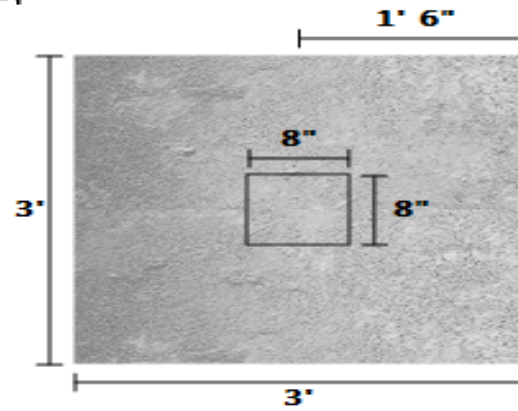
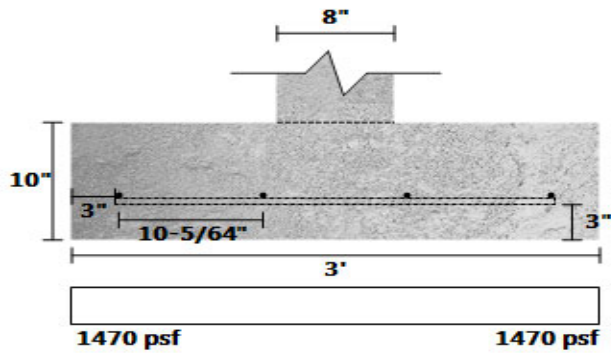
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Point	1	-	0	-	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Header #36	A	1553.866	-	0	-	Dead	Z
Point (lb/ft)	Header #36	A	10587.5	-	0	-	Snow	Z

SpotFtg Hdr #36-1 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #6-1	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
5.50 (ft) X 5.50 (ft) X 10 (in)		Soil Depth TOF : 0 (ft)	Bot.(7) #4 Long, (7) #4 Short

MATERIAL PROPERTIES**FOOTING**

Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lb/ft)
5.5	5.5	10	25.21	3655.21

CONCRETE

fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia.(in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)	Rankine Coefficient(Kp)
0	3

COLUMN

Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0

SOIL

Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in)	Bottom Cover (in)	Side Cover (in)
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft²)	PASS (17.6%)	1236.3	1500.0	D+S	ASD
One-Way Shear X (lb/ft)	PASS (53.2%)	20301.0	43379.6	1.2D+1.6S+L	LRFD
One-Way Shear Y (lb/ft)	PASS (53.2%)	20301.0	43379.6	1.2D+1.6S+L	LRFD
Two-Way Shear (lb/ft)	PASS (35.9%)	49675.9	77557.5	1.2D+1.6S+L	LRFD
Moment X (lb/ft)	PASS (31.0%)	27761.2	40229.0	1.2D+1.6S+L	LRFD
Moment Y (lb/ft)	PASS (31.0%)	27761.2	40229.0	1.2D+1.6S+L	LRFD
Crushing (psi)	PASS (75.4%)	52287.4	212160.0	1.2D+1.6S+L	LRFD

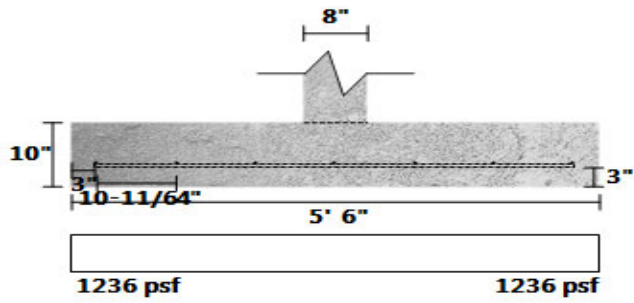
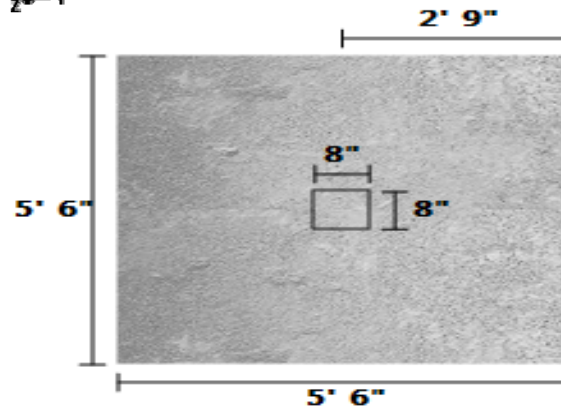
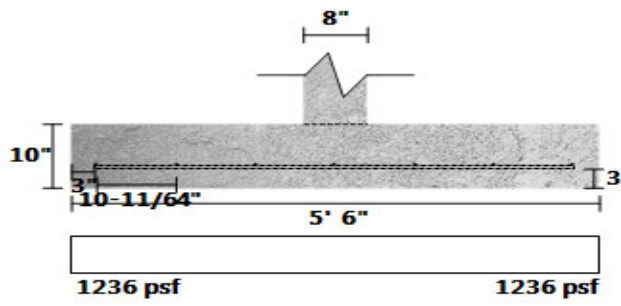
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Point	1	-	0	-	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Beam #6	A	4290.673	-	0	-	Dead	Z
Point (lb/ft)	Beam #6	A	15.99976	-	0	-	Live	Z
Point (lb/ft)	Beam #6	A	29451	-	0	-	Snow	Z

SpotFtg Bm #6-1 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #6-2	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
5.50 (ft) X 5.50 (ft) X 10 (in)		Soil Depth TOF : 0 (ft)	Bot.(7) #4 Long, (7) #4 Short

MATERIAL PROPERTIES**FOOTING**

Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lb/ft)
5.5	5.5	10	25.21	3655.21

CONCRETE

fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia.(in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)	Rankine Coefficient(Kp)
0	3

COLUMN

Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0

SOIL

Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in)	Bottom Cover (in)	Side Cover (in)
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft²)	PASS (12.4%)	1314.7	1500.0	D+S	ASD
One-Way Shear X (lb/ft)	PASS (49.9%)	21739.5	43379.6	1.2D+1.6S+L	LRFD
One-Way Shear Y (lb/ft)	PASS (49.9%)	21739.5	43379.6	1.2D+1.6S+L	LRFD
Two-Way Shear (lb/ft)	PASS (31.4%)	53195.9	77557.5	1.2D+1.6S+L	LRFD
Moment X (lb/ft)	PASS (26.1%)	29728.3	40229.0	1.2D+1.6S+L	LRFD
Moment Y (lb/ft)	PASS (26.1%)	29728.3	40229.0	1.2D+1.6S+L	LRFD
Crushing (psi)	PASS (73.6%)	55992.4	212160.0	1.2D+1.6S+L	LRFD

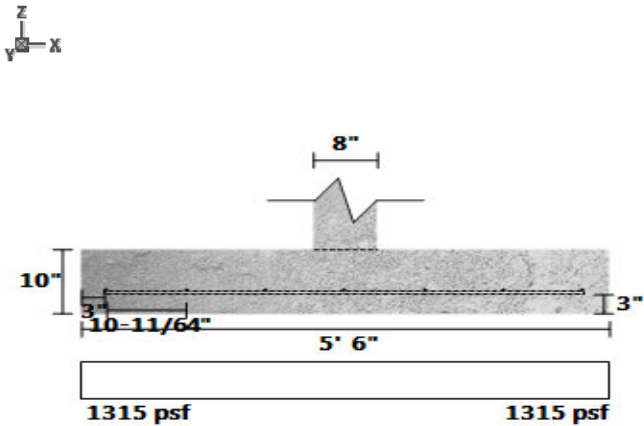
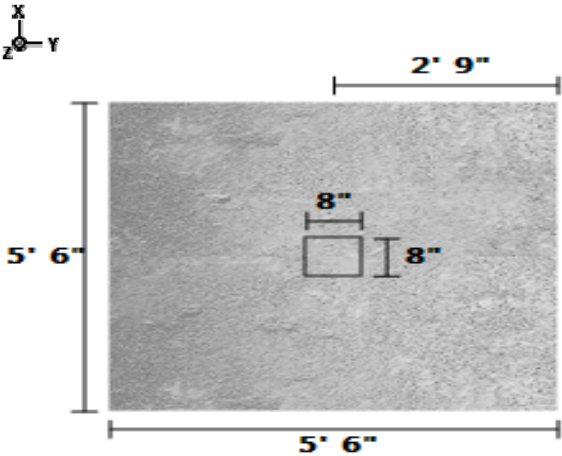
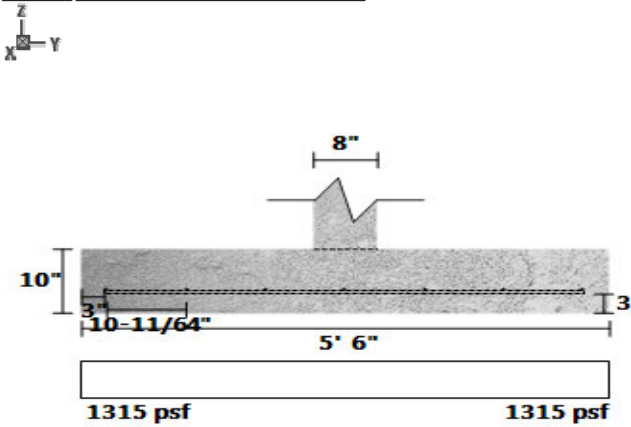
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Point	1	-	0	-	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Beam #6	B	4200.258	-	0	-	Dead	Z
Point (lb/ft)	Beam #6	B	15.99996	-	0	-	Live	Z
Point (lb/ft)	Beam #6	B	28898.43	-	0	-	Snow	Z
Point (lb/ft)	Header #38	A	314.6806	-	0	-	Dead	Z
Point (lb/ft)	Header #38	A	2700.006	-	0	-	Snow	Z

SpotFtg Bm #6-2 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Hdr #39	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
3.50 (ft) X 3.50 (ft) X 10 (in)		Soil Depth TOF : 0 (ft)	Bot.(4) #4 Long, (4) #4 Short

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lbf/ft)
3.5	3.5	10	10.21	1480.21
CONCRETE				
fc' (psi)	Ec (psi)	Density (lbf/ft³)	Agg. Dia.(in)	
3000	0	145	0.75	
CALCULATION VARIABLES				
Bo (in)	Rankine Coefficient(Kp)			
0	3			
COLUMN				
Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
5.5	5.5	Wood	0	0
SOIL				
Bearing Strength(lbf/ft²)	Density (lbf/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	fy (psi)	Es (psi)		
4	60000	2.9E+07		
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft²)	PASS (8.8%)	1368.3	1500.0	D+S	ASD
One-Way Shear X (lbf)	PASS (69.5%)	8423.6	27605.2	1.2D+1.6S+L	LRFD
One-Way Shear Y (lbf)	PASS (69.5%)	8423.6	27605.2	1.2D+1.6S+L	LRFD
Two-Way Shear (lbf-ft)	PASS (66.2%)	21761.0	64412.2	1.2D+1.6S+L	LRFD
Moment X (lbf-ft)	PASS (60.6%)	9087.6	23076.6	1.2D+1.6S+L	LRFD
Moment Y (lbf-ft)	PASS (60.6%)	9087.6	23076.6	1.2D+1.6S+L	LRFD
Crushing (psi)	PASS (76.3%)	23784.4	100278.8	1.2D+1.6S+L	LRFD

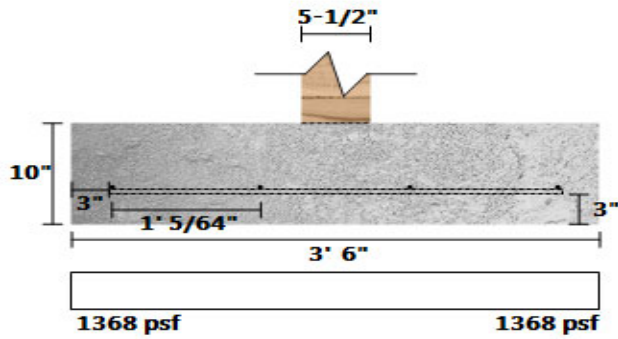
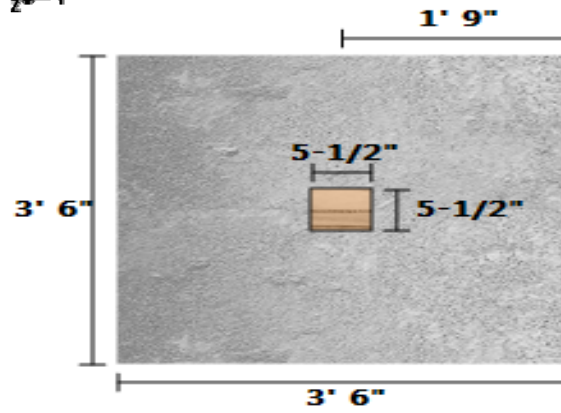
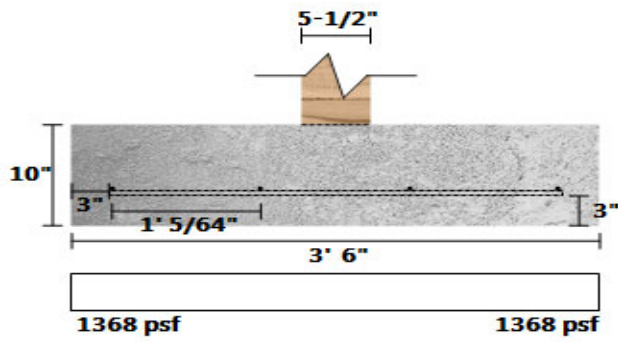
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Point	1	-	0	-	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Header #39	A	1665.576	-	0	-	Dead	Z
Point (lbf)	Header #39	A	13615.41	-	0	-	Snow	Z

SpotFtg Hdr #39 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #9-1	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
2.50 (ft) X 2.50 (ft) X 10 (in)		Soil Depth TOF : 0 (ft)	Bot.(3) #4 Long, (3) #4 Short

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lb/ft)
2.5	2.5	10	5.21	755.21
CONCRETE				
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia.(in)	
3000	0	145	0.75	
CALCULATION VARIABLES				
Bo (in)	Rankine Coefficient(Kp)			
0	3			
COLUMN				
Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0
SOIL				
Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	fy (psi)	Es (psi)		
4	60000	2.9E+07		
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft²)	PASS (64.3%)	535.0	1500.0	D+L	ASD
One-Way Shear X (lb/ft)	PASS (95.1%)	971.4	19718.0	1.2D+1.6L+0.5Lr	LRFD
One-Way Shear Y (lb/ft)	PASS (95.1%)	971.4	19718.0	1.2D+1.6L+0.5Lr	LRFD
Two-Way Shear (lb/ft)	PASS (96.3%)	2898.1	77557.5	1.2D+1.6L+0.5Lr	LRFD
Moment X (lb/ft)	PASS (96.3%)	642.3	17278.2	1.2D+1.6L+0.5Lr	LRFD
Moment Y (lb/ft)	PASS (96.3%)	642.3	17278.2	1.2D+1.6L+0.5Lr	LRFD
Crushing (psi)	PASS (98.2%)	3822.1	212160.0	1.2D+1.6L+0.5Lr	LRFD

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Point	1	-	0	-	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Beam #9	A	798.7716	-	0	-	Dead	Z
Point (lb/ft)	Beam #9	A	1788.717	-	0	-	Live	Z

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #13-1	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
4.00 (ft) X 4.00 (ft) X 10 (in)		Soil Depth TOF : 0 (ft)	Bot.(5) #4 Long, (5) #4 Short

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lb/ft)
4	4	10	13.33	1933.33
CONCRETE				
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia.(in)	
3000	0	145	0.75	
CALCULATION VARIABLES				
Bo (in)	Rankine Coefficient(Kp)			
0	3			
COLUMN				
Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0
SOIL				
Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	fy (psi)	Es (psi)		
4	60000	2.9E+07		
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft²)	PASS (5.6%)	1415.4	1500.0	D+S	ASD
One-Way Shear X (lb/ft)	PASS (64.3%)	11251.5	31548.8	1.2D+1.6S+L	LRFD
One-Way Shear Y (lb/ft)	PASS (64.3%)	11251.5	31548.8	1.2D+1.6S+L	LRFD
Two-Way Shear (lb/ft)	PASS (62.1%)	29418.1	77557.5	1.2D+1.6S+L	LRFD
Moment X (lb/ft)	PASS (60.8%)	11279.7	28754.4	1.2D+1.6S+L	LRFD
Moment Y (lb/ft)	PASS (60.8%)	11279.7	28754.4	1.2D+1.6S+L	LRFD
Crushing (psi)	PASS (84.7%)	32485.6	212160.0	1.2D+1.6S+L	LRFD

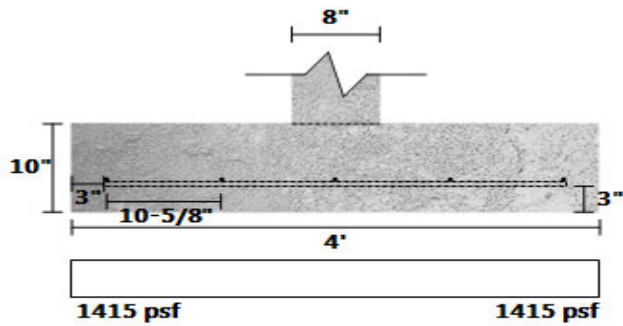
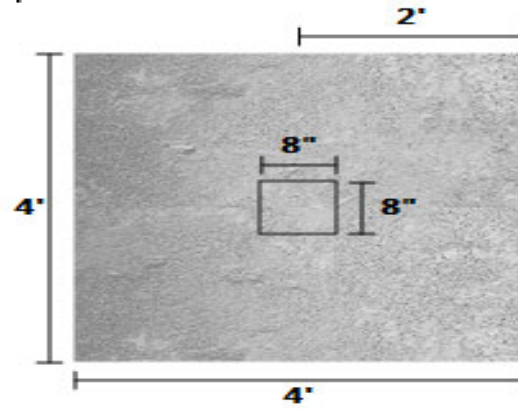
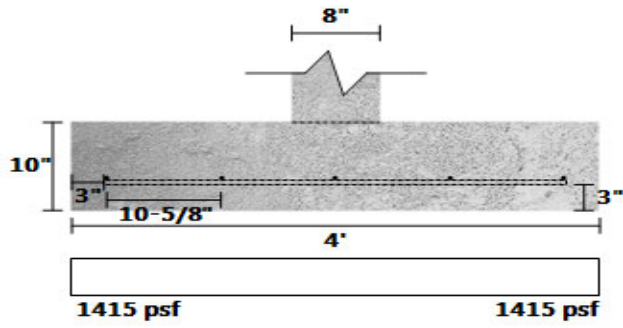
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Point	1	-	0	-	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Beam #13	A	2489.133	-	0	-	Dead	Z
Point (lb/ft)	Beam #13	A	339.8218	-	0	-	Live	Z
Point (lb/ft)	Beam #13	A	18223.65	-	0	-	Snow	Z

SpotFtg Bm #13-1 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #13-2	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
4.00 (ft) X 4.00 (ft) X 10 (in)		Soil Depth TOF : 0 (ft)	Bot.(5) #4 Long, (5) #4 Short

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lbf/ft)
4	4	10	13.33	1933.33
CONCRETE				
fc' (psi)	Ec (psi)	Density (lbf/ft³)	Agg. Dia.(in)	
3000	0	145	0.75	
CALCULATION VARIABLES				
Bo (in)	Rankine Coefficient(Kp)			
0	3			
COLUMN				
Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0
SOIL				
Bearing Strength(lbf/ft²)	Density (lbf/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	fy (psi)	Es (psi)		
4	60000	2.9E+07		
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft²)	PASS (17.5%)	1237.3	1500.0	D+S	ASD
One-Way Shear X (lbf)	PASS (69.3%)	9669.8	31548.8	1.2D+1.6S+L	LRFD
One-Way Shear Y (lbf)	PASS (69.3%)	9669.8	31548.8	1.2D+1.6S+L	LRFD
Two-Way Shear (lbf-ft)	PASS (67.4%)	25282.5	77557.5	1.2D+1.6S+L	LRFD
Moment X (lbf-ft)	PASS (66.3%)	9694.0	28754.4	1.2D+1.6S+L	LRFD
Moment Y (lbf-ft)	PASS (66.3%)	9694.0	28754.4	1.2D+1.6S+L	LRFD
Crushing (psi)	PASS (86.8%)	27918.8	212160.0	1.2D+1.6S+L	LRFD

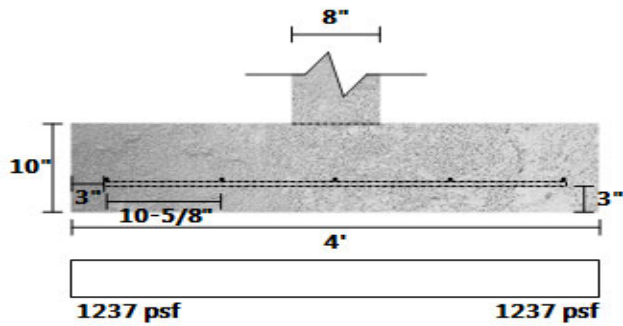
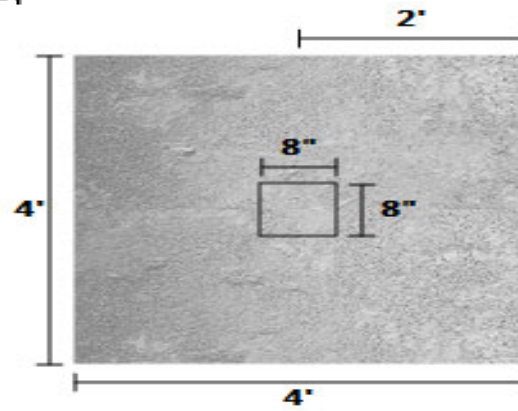
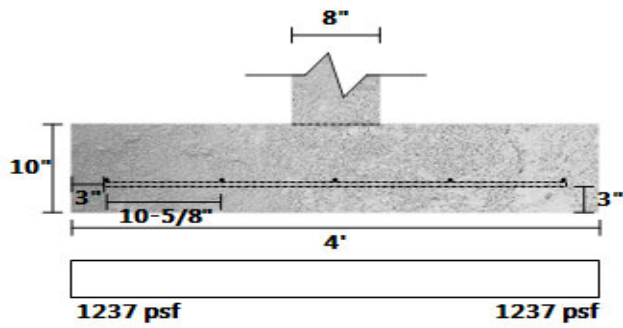
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Point	1	-	0	-	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #13	B	2130.259	-	0	-	Dead	Z
Point (lbf)	Beam #13	B	188.7898	-	0	-	Live	Z
Point (lbf)	Beam #13	B	15732.95	-	0	-	Snow	Z

SpotFtg Bm #13-2 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #14-2	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
7.00 (ft) X 7.00 (ft) X 12 (in)		Soil Depth TOF : 0 (ft)	Bot.(10) #4 Long, (10) #4 Short

MATERIAL PROPERTIES**FOOTING**

Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lb/ft)
7	7	12	49	7105

CONCRETE

fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia.(in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)	Rankine Coefficient(Kp)
0	3

COLUMN

Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
10	10	Concrete	0	0

SOIL

Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in)	Bottom Cover (in)	Side Cover (in)
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft²)	PASS (15.2%)	1272.4	1500.0	D+S	ASD
One-Way Shear X (lb/ft)	PASS (46.6%)	35404.3	66252.5	1.2D+1.6S+L	LRFD
One-Way Shear Y (lb/ft)	PASS (46.6%)	35404.3	66252.5	1.2D+1.6S+L	LRFD
Two-Way Shear (lb/ft)	PASS (26.8%)	86614.0	118308.1	1.2D+1.6S+L	LRFD
Moment X (lb/ft)	PASS (17.3%)	61900.9	74875.5	1.2D+1.6S+L	LRFD
Moment Y (lb/ft)	PASS (17.3%)	61900.9	74875.5	1.2D+1.6S+L	LRFD
Crushing (psi)	PASS (72.5%)	91155.8	331500.0	1.2D+1.6S+L	LRFD

LOAD LIST

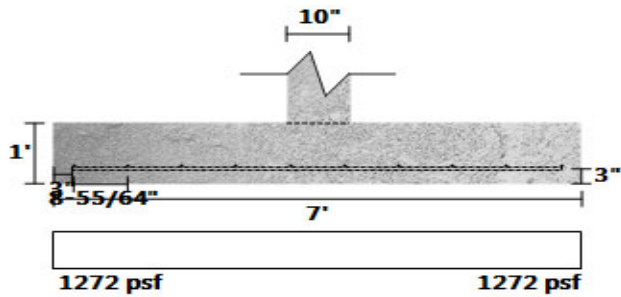
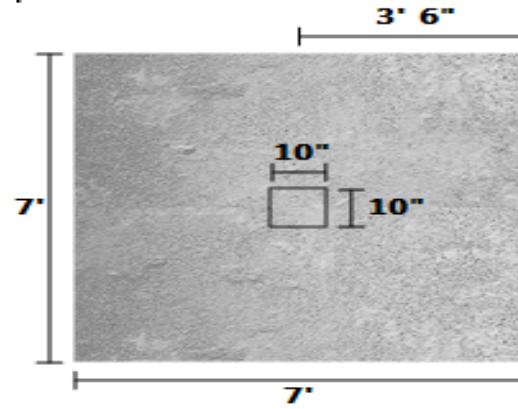
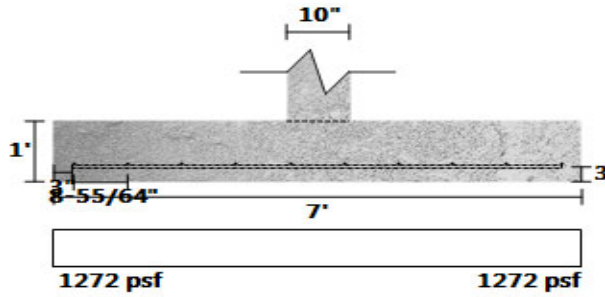
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Point	1	-	0	-	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Header #19	A	2292.996	-	0	-	Dead	Z
Point (lb/ft)	Header #19	A	2100	-	0	-	Live	Z
Point (lb/ft)	Header #19	A	12121.88	-	0	-	Snow	Z
Point (lb/ft)	Beam #11	B	1731.844	-	0	-	Dead	Z
Point (lb/ft)	Beam #11	B	4060	-	0	-	Live	Z

Linked Load List CONT.

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #14	B	4490.893	-	0	-	Dead	Z
Point (lbf)	Beam #14	B	9.5	-	0	-	Live	Z
Point (lbf)	Beam #14	B	34607.12	-	0	-	Snow	Z

SpotFtg Bm #14-2 DIAGRAMS

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	Footing #16	CODE:	2018 International Building Code
MEMBER TYPE:	CONTINUOUS FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
2 (ft) Wide X 10 (in) Deep		Soil Depth TOF : 0 (ft)	Long.(3) #4 Bars, Transv:#4 @6(in) O.C.

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Depth (in)	Footing Weight (lb/ft)	Stemwall Weight (lb/ft)	
2	10	241.6667	193.3333	
CONCRETE				
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia. (in)	
3000	3122019	145	0.75	
STEM WALL				
Width (in)	Height (in)	Material	Stemwall Offset(in)	
8	24	Concrete	0	
SOIL				
Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	Bottom Bar Spacing(in)	fy (psi)	Es (psi)	
4	6	60000	2.9E+07	
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft ²)	PASS (13.1%)	1303.0	1500.0	D+S	ASD
One-Way Shear (lb/ft)	PASS (95.9%)	652.6	15774.4	1.2D+1.6S+L	LRFD
Moment (lb/ft)	PASS (96.7%)	376.2	11245.8	1.2D+1.6S+L	LRFD

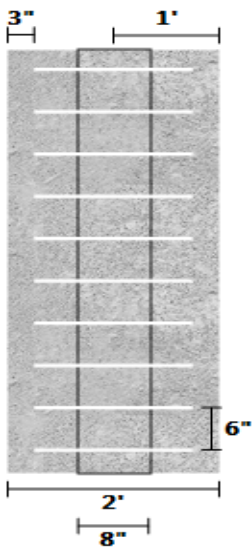
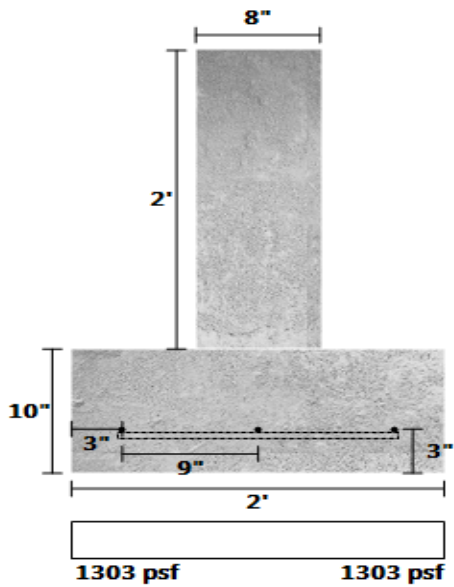
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Uniform	1	1	0	1	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Trusses #12	B	220.9997	220.9997	0	1	Dead	Z
Uniform (lb/ft)	Trusses #12	B	1950	1950	0	1	Snow	Z

Footing #16 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	Footing #25	CODE:	2018 International Building Code
MEMBER TYPE:	CONTINUOUS FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
2 (ft) Wide X 10 (in) Deep		Soil Depth TOF : 0 (ft)	Long.(3) #4 Bars, Transv:#4 @6(in) O.C.

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Depth (in)	Footing Weight (lb/ft)	Stemwall Weight (lb/ft)	
2	10	241.6667	193.3333	
CONCRETE				
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia. (in)	
3000	3122019	145	0.75	
STEM WALL				
Width (in)	Height (in)	Material	Stemwall Offset(in)	
8	24	Concrete	0	
SOIL				
Bearing Strength(lb/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	Bottom Bar Spacing(in)	fy (psi)	Es (psi)	
4	6	60000	2.9E+07	
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft ²)	PASS (9.4%)	1359.1	1500.0	D+S	ASD
One-Way Shear (lb/ft)	PASS (95.5%)	706.7	15774.4	1.2D+1.6S+L	LRFD
Moment (lb/ft)	PASS (96.4%)	407.4	11245.8	1.2D+1.6S+L	LRFD

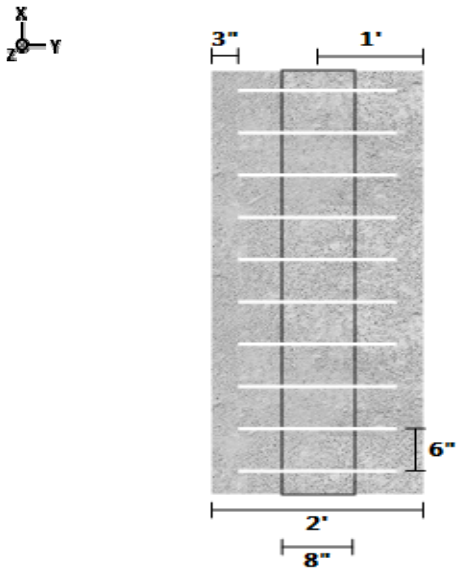
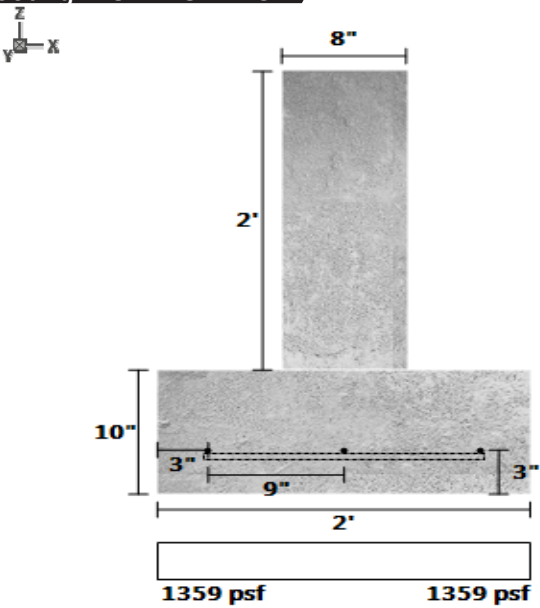
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Uniform	1	1	0	1	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Trusses #10	A	174.8571	174.8571	0	1	Dead	Z
Uniform (lb/ft)	Trusses #10	A	1542.857	1542.857	0	1	Snow	Z
Uniform (lb/ft)	Trusses #11	C	53.55	53.55	0	1	Dead	Z
Uniform (lb/ft)	Trusses #11	C	472.5	472.5	0	1	Snow	Z
Uniform (lb/ft)	Joists #14	B	39.45	39.45	0	1	Dead	Z
Uniform (lb/ft)	Joists #14	B	120	120	0	1	Live	Z

Footing #25 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	Footing #26	CODE:	2018 International Building Code
MEMBER TYPE:	CONTINUOUS FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
1.333 (ft) Wide X 10 (in) Deep		Soil Depth TOF : 0 (ft)	Long.(2) #4 Bars, Transv:#4 @6(in) O.C.

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Depth (in)	Footing Weight (lb/ft)	Stemwall Weight (lb/ft)	
1.333	10	161.0708	193.3333	
CONCRETE				
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia. (in)	
3000	3122019	145	0.75	
STEM WALL				
Width (in)	Height (in)	Material	Stemwall Offset(in)	
8	24	Concrete	0	
SOIL				
Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	Bottom Bar Spacing(in)	fy (psi)	Es (psi)	
4	6	60000	2.9E+07	
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft ²)	PASS (18.9%)	1216.3	1500.0	D+S	ASD
One-Way Shear (lb/ft)	PASS (99.2%)	81.1	10513.6	1.2D+1.6S+L	LRFD
Moment (lb/ft)	PASS (99.2%)	86.7	11245.8	1.2D+1.6S+L	LRFD

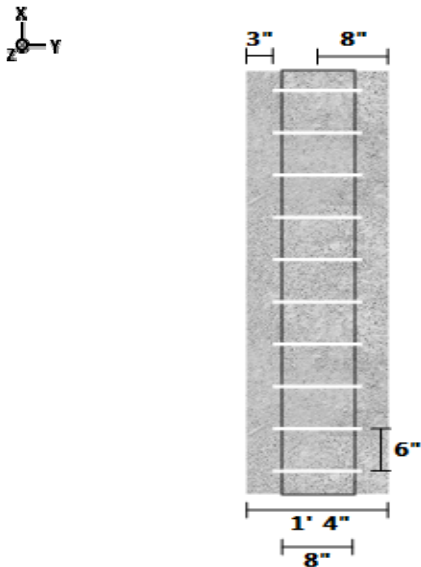
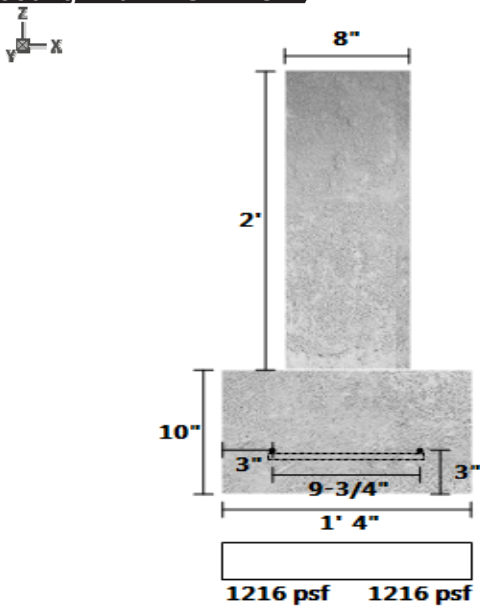
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Uniform	1	1	0	1	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	Trusses #11	B	124.95	124.95	0	1	Dead	Z
Uniform (lb/ft)	Trusses #11	B	1102.5	1102.5	0	1	Snow	Z
Uniform (lb/ft)	Joists #14	A	39.45	39.45	0	1	Dead	Z
Uniform (lb/ft)	Joists #14	A	120	120	0	1	Live	Z

Footing #26 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Hdr #22-1	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
2.00 (ft) X 2.00 (ft) X 10 (in)		Soil Depth TOF : 0 (ft)	Bot.(3) #4 Long, (3) #4 Short

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lb/ft)
2	2	10	3.33	483.33
CONCRETE				
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia.(in)	
3000	0	145	0.75	
CALCULATION VARIABLES				
Bo (in)	Rankine Coefficient(Kp)			
0	3			
COLUMN				
Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0
SOIL				
Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	fy (psi)	Es (psi)		
4	60000	2.9E+07		
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft²)	PASS (7.4%)	1388.3	1500.0	D+S	ASD
One-Way Shear X (lb/ft)	PASS (90.4%)	1522.1	15774.4	1.2D+1.6S+L	LRFD
One-Way Shear Y (lb/ft)	PASS (90.4%)	1522.1	15774.4	1.2D+1.6S+L	LRFD
Two-Way Shear (lb/ft)	PASS (93.7%)	4915.1	77557.5	1.2D+1.6S+L	LRFD
Moment X (lb/ft)	PASS (94.9%)	877.6	17124.7	1.2D+1.6S+L	LRFD
Moment Y (lb/ft)	PASS (94.9%)	877.6	17124.7	1.2D+1.6S+L	LRFD
Crushing (psi)	PASS (96.3%)	7898.5	212160.0	1.2D+1.6S+L	LRFD

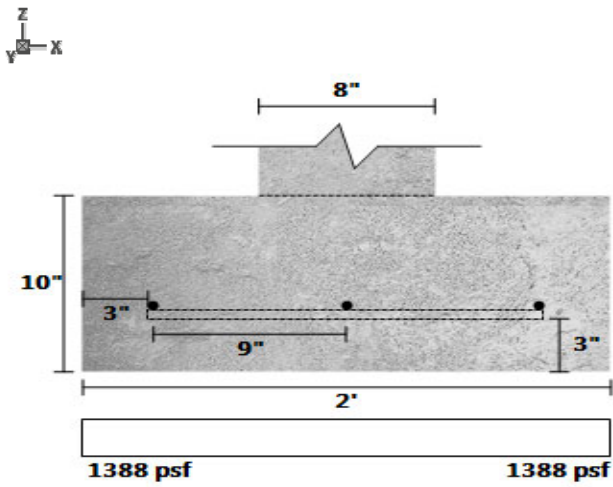
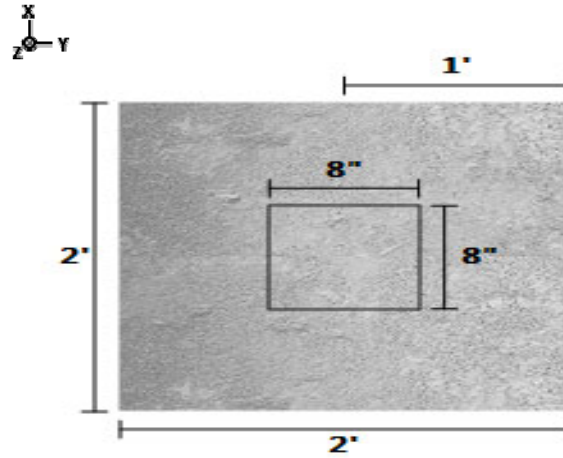
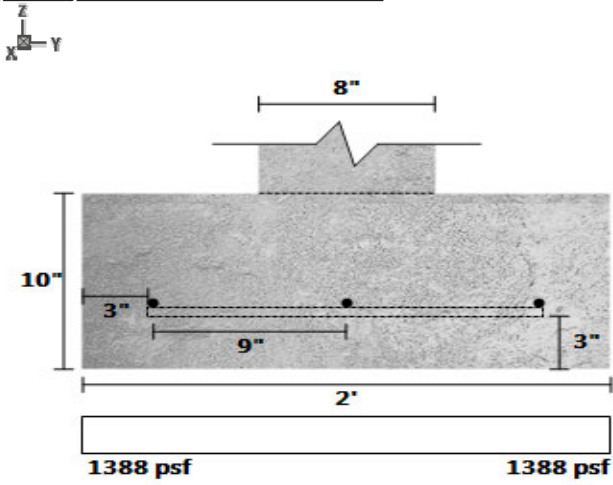
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Point	1	-	0	-	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Header #22	A	535.1621	-	0	-	Dead	Z
Point (lb/ft)	Header #22	A	4534.554	-	0	-	Snow	Z

SpotFtg Hdr #22-1 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Hdr #22-2	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
3.50 (ft) X 3.50 (ft) X 10 (in)		Soil Depth TOF : 0 (ft)	Bot.(4) #4 Long, (4) #4 Short

MATERIAL PROPERTIES**FOOTING**

Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lb/ft)
3.5	3.5	10	10.21	1480.21

CONCRETE

fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia.(in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)	Rankine Coefficient(Kp)
0	3

COLUMN

Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0

SOIL

Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in)	Bottom Cover (in)	Side Cover (in)
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft²)	PASS (21.3%)	1179.8	1500.0	D+S	ASD
One-Way Shear X (lb/ft)	PASS (76.3%)	6553.7	27605.2	1.2D+1.6S+L	LRFD
One-Way Shear Y (lb/ft)	PASS (76.3%)	6553.7	27605.2	1.2D+1.6S+L	LRFD
Two-Way Shear (lb/ft)	PASS (77.2%)	17710.6	77557.5	1.2D+1.6S+L	LRFD
Moment X (lb/ft)	PASS (74.9%)	5792.1	23076.6	1.2D+1.6S+L	LRFD
Moment Y (lb/ft)	PASS (74.9%)	5792.1	23076.6	1.2D+1.6S+L	LRFD
Crushing (psi)	PASS (90.5%)	20202.3	212160.0	1.2D+1.6S+L	LRFD

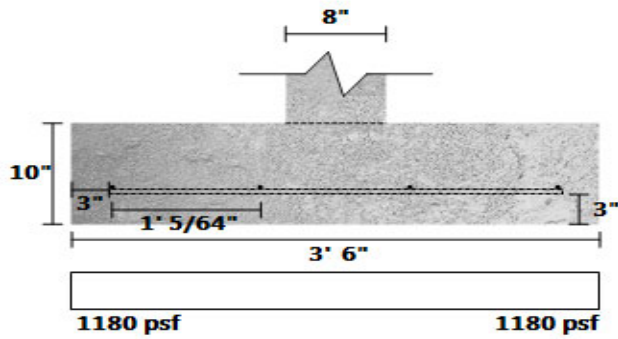
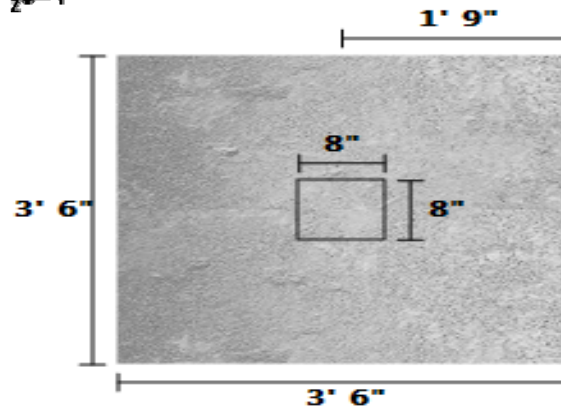
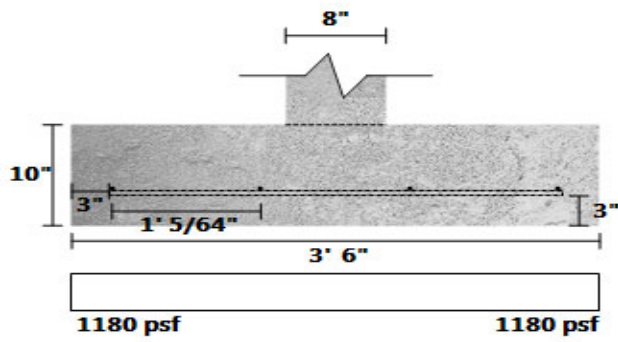
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
------	------	----------------	-----------------	-----------------	---------------	-----------	-----------

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Header #22	B	535.1621	-	0	-	Dead	Z
Point (lb/ft)	Header #22	B	4534.554	-	0	-	Snow	Z
Point (lb/ft)	Header #23	A	848.9991	-	0	-	Dead	Z
Point (lb/ft)	Header #23	A	7053.75	-	0	-	Snow	Z

SpotFtg Hdr #22-2 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Hdr #23-2	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
2.00 (ft) X 4.00 (ft) X 10 (in)		Soil Depth TOF : 0 (ft)	Bot.(5) #4 Long, (3) #4 Short

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lb/ft)
2	4	10	6.67	966.67
CONCRETE				
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia.(in)	
3000	0	145	0.75	
CALCULATION VARIABLES				
Bo (in)	Rankine Coefficient(Kp)			
0	3			
COLUMN				
Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0
SOIL				
Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	fy (psi)	Es (psi)		
4	60000	2.9E+07		
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft²)	PASS (26.1%)	1108.7	1500.0	D+S	ASD
One-Way Shear X (lb/ft)	PASS (92.5%)	2371.4	31548.8	1.2D+1.6S+L	LRFD
One-Way Shear Y (lb/ft)	PASS (85.0%)	2371.4	15774.4	1.2D+1.6S+L	LRFD
Two-Way Shear (lb/ft)	PASS (87.1%)	9981.8	77557.5	1.2D+1.6S+L	LRFD
Moment X (lb/ft)	PASS (75.0%)	4272.9	17124.7	1.2D+1.6S+L	LRFD
Moment Y (lb/ft)	PASS (95.2%)	1367.3	28754.4	1.2D+1.6S+L	LRFD
Crushing (psi)	PASS (94.2%)	12305.8	212160.0	1.2D+1.6S+L	LRFD

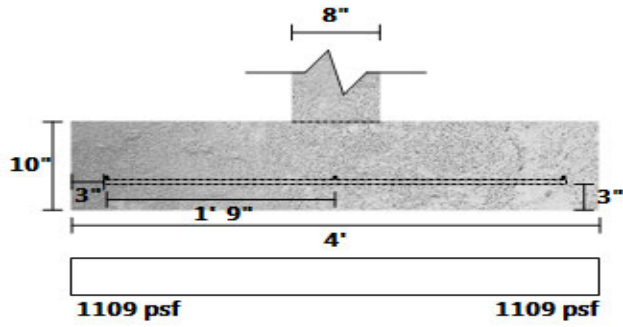
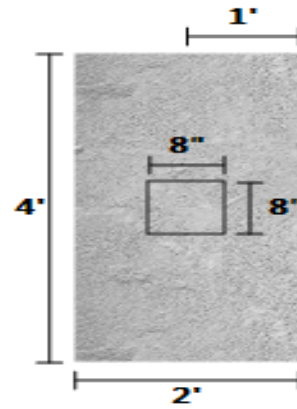
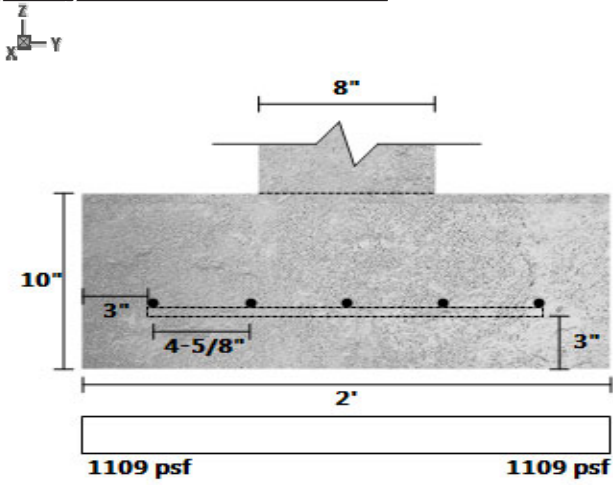
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Point	1	-	0	-	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Header #23	B	848.9991	-	0	-	Dead	Z
Point (lb/ft)	Header #23	B	7053.75	-	0	-	Snow	Z

SpotFtg Hdr #23-2 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #8-2	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
3.00 (ft) X 3.00 (ft) X 10 (in)		Soil Depth TOF : 0 (ft)	Bot.(4) #4 Long, (4) #4 Short

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lb/ft)
3	3	10	7.5	1087.5
CONCRETE				
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia.(in)	
3000	0	145	0.75	
CALCULATION VARIABLES				
Bo (in)	Rankine Coefficient(Kp)			
0	3			
COLUMN				
Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0
SOIL				
Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	fy (psi)	Es (psi)		
4	60000	2.9E+07		
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft²)	PASS (14.3%)	1285.0	1500.0	D+S	ASD
One-Way Shear X (lb/ft)	PASS (79.7%)	4803.9	23661.6	1.2D+1.6S+L	LRFD
One-Way Shear Y (lb/ft)	PASS (79.7%)	4803.9	23661.6	1.2D+1.6S+L	LRFD
Two-Way Shear (lb/ft)	PASS (82.5%)	13544.2	77557.5	1.2D+1.6S+L	LRFD
Moment X (lb/ft)	PASS (83.9%)	3692.4	22946.6	1.2D+1.6S+L	LRFD
Moment Y (lb/ft)	PASS (83.9%)	3692.4	22946.6	1.2D+1.6S+L	LRFD
Crushing (psi)	PASS (92.3%)	16276.6	212160.0	1.2D+1.6S+L	LRFD

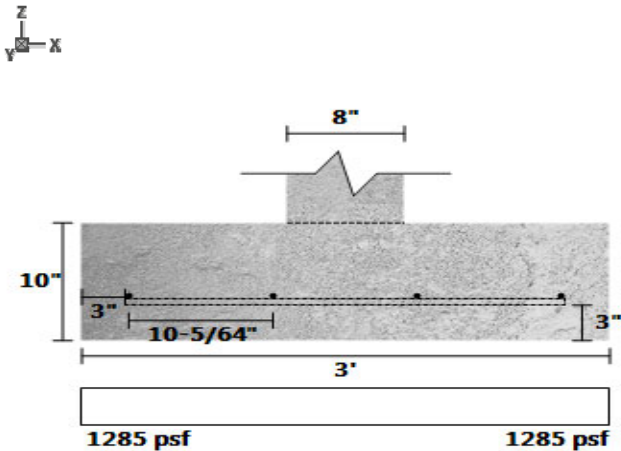
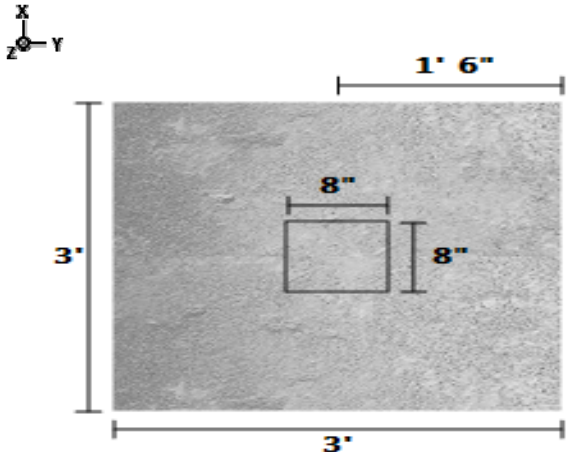
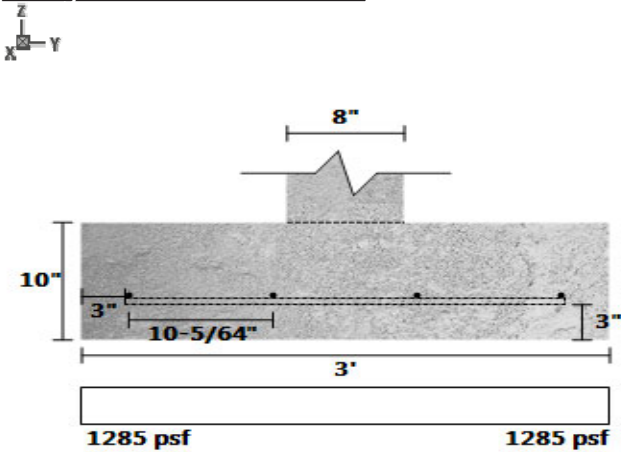
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Point	1	-	0	-	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Beam #8	B	1220.145	-	0	-	Dead	Z
Point (lb/ft)	Beam #8	B	9257.153	-	0	-	Snow	Z

SpotFtg Bm #8-2 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Hdr #25-1	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
1.33 (ft) X 2.00 (ft) X 10 (in)		Soil Depth TOF : 0 (ft)	Bot.(3) #4 Long, (2) #4 Short

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lbf/ft)
1.3334	2	10	2.22	322.24
CONCRETE				
fc' (psi)	Ec (psi)	Density (lbf/ft³)	Agg. Dia.(in)	
3000	0	145	0.75	
CALCULATION VARIABLES				
Bo (in)	Rankine Coefficient(Kp)			
0	3			
COLUMN				
Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0
SOIL				
Bearing Strength(lbf/ft²)	Density (lbf/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	fy (psi)	Es (psi)		
4	60000	2.9E+07		
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft²)	PASS (22.6%)	1161.3	1500.0	D+S	ASD
One-Way Shear X (lbf)	PASS (98.9%)	169.0	15774.4	1.2D+1.6S+L	LRFD
One-Way Shear Y (lbf)	PASS (98.4%)	169.0	10516.8	1.2D+1.6S+L	LRFD
Two-Way Shear (lbf-ft)	PASS (97.6%)	1873.8	77557.5	1.2D+1.6S+L	LRFD
Moment X (lbf-ft)	PASS (95.8%)	480.3	11416.5	1.2D+1.6S+L	LRFD
Moment Y (lbf-ft)	PASS (98.9%)	180.2	17124.7	1.2D+1.6S+L	LRFD
Crushing (psi)	PASS (98.0%)	4323.0	212160.0	1.2D+1.6S+L	LRFD

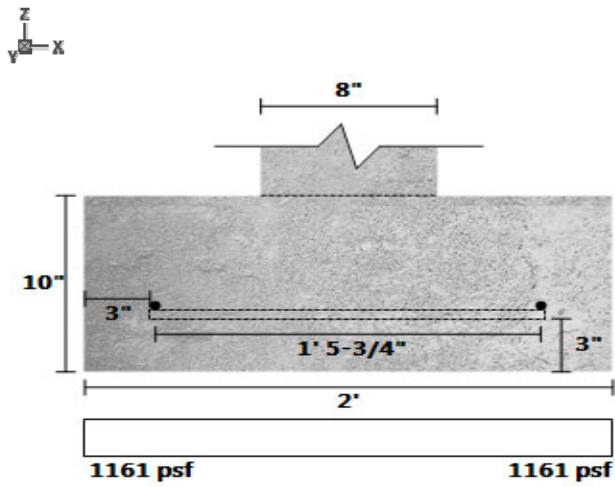
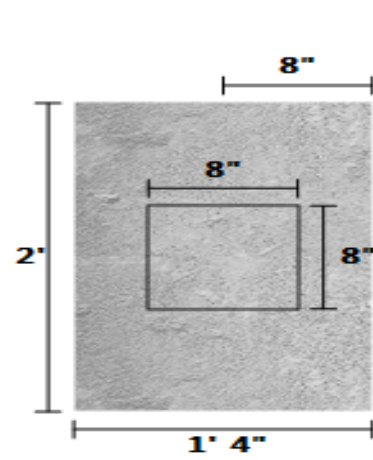
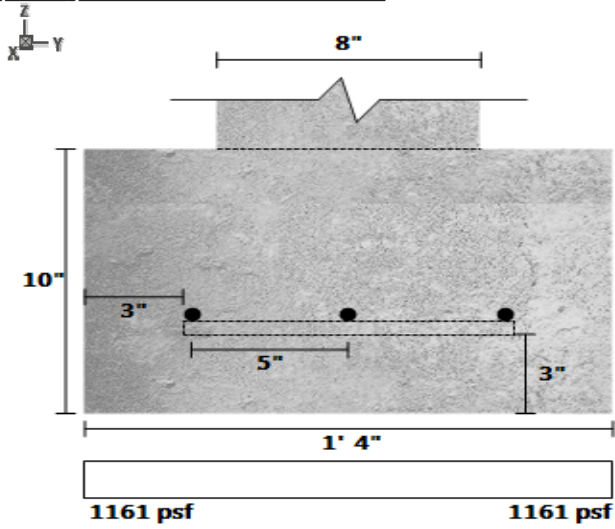
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Point	1	-	0	-	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Header #25	A	294.1589	-	0	-	Dead	Z
Point (lbf)	Header #25	A	2480.625	-	0	-	Snow	Z

SpotFtg Hdr #25-1 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Hdr #25-2	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
1.33 (ft) X 2.00 (ft) X 10 (in)		Soil Depth TOF : 0 (ft)	Bot.(3) #4 Long, (2) #4 Short

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lb/ft)
1.3334	2	10	2.22	322.24
CONCRETE				
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia.(in)	
3000	0	145	0.75	
CALCULATION VARIABLES				
Bo (in)	Rankine Coefficient(Kp)			
0	3			
COLUMN				
Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0
SOIL				
Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	fy (psi)	Es (psi)		
4	60000	2.9E+07		
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft²)	PASS (22.6%)	1161.3	1500.0	D+S	ASD
One-Way Shear X (lb/ft)	PASS (98.9%)	169.0	15774.4	1.2D+1.6S+L	LRFD
One-Way Shear Y (lb/ft)	PASS (98.4%)	169.0	10516.8	1.2D+1.6S+L	LRFD
Two-Way Shear (lb/ft)	PASS (97.6%)	1873.8	77557.5	1.2D+1.6S+L	LRFD
Moment X (lb/ft)	PASS (95.8%)	480.3	11416.5	1.2D+1.6S+L	LRFD
Moment Y (lb/ft)	PASS (98.9%)	180.2	17124.7	1.2D+1.6S+L	LRFD
Crushing (psi)	PASS (98.0%)	4323.0	212160.0	1.2D+1.6S+L	LRFD

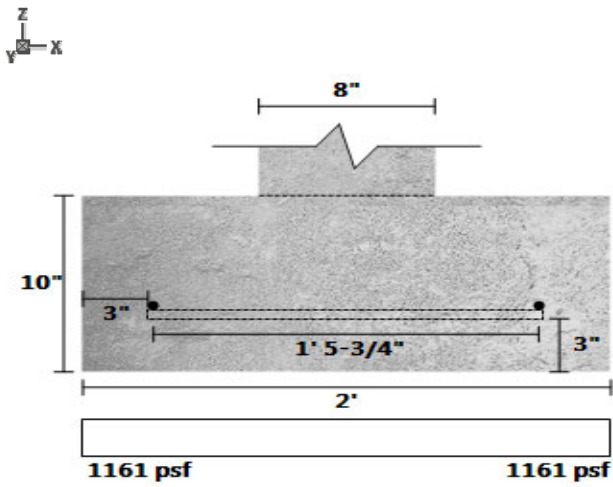
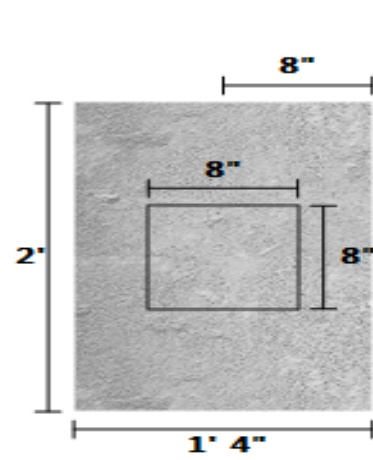
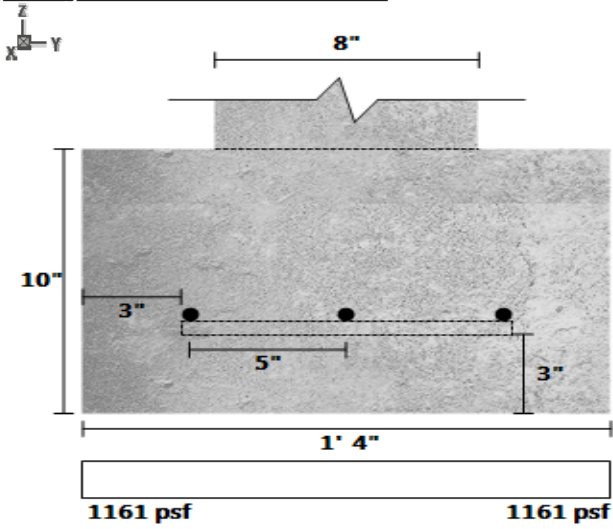
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Point	1	-	0	-	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Header #25	B	294.1589	-	0	-	Dead	Z
Point (lb/ft)	Header #25	B	2480.625	-	0	-	Snow	Z

SpotFtg Hdr #25-2 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Hdr #24-1	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
3.50 (ft) X 3.50 (ft) X 10 (in)		Soil Depth TOF : 0 (ft)	Bot.(4) #4 Long, (4) #4 Short

MATERIAL PROPERTIES**FOOTING**

Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lb/ft)
3.5	3.5	10	10.21	1480.21

CONCRETE

fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia.(in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)	Rankine Coefficient(Kp)
0	3

COLUMN

Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0

SOIL

Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in)	Bottom Cover (in)	Side Cover (in)
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft²)	PASS (14.4%)	1284.4	1500.0	D+S	ASD
One-Way Shear X (lb/ft)	PASS (74.0%)	7164.1	27605.2	1.2D+1.6S+L	LRFD
One-Way Shear Y (lb/ft)	PASS (74.0%)	7164.1	27605.2	1.2D+1.6S+L	LRFD
Two-Way Shear (lb/ft)	PASS (75.0%)	19360.1	77557.5	1.2D+1.6S+L	LRFD
Moment X (lb/ft)	PASS (72.6%)	6331.6	23076.6	1.2D+1.6S+L	LRFD
Moment Y (lb/ft)	PASS (72.6%)	6331.6	23076.6	1.2D+1.6S+L	LRFD
Crushing (psi)	PASS (89.6%)	22083.8	212160.0	1.2D+1.6S+L	LRFD

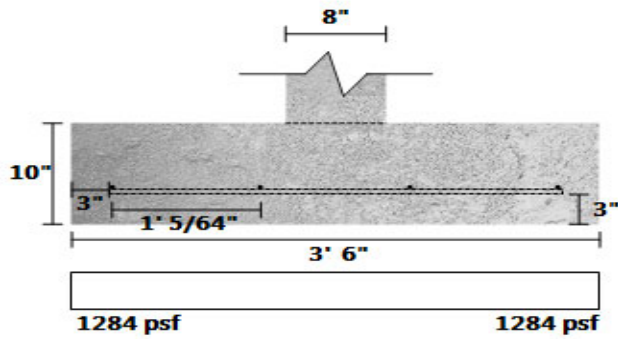
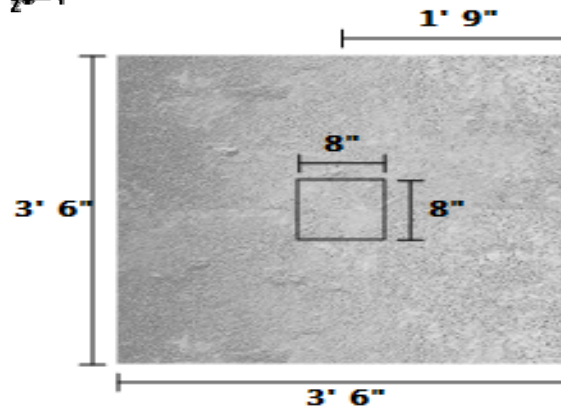
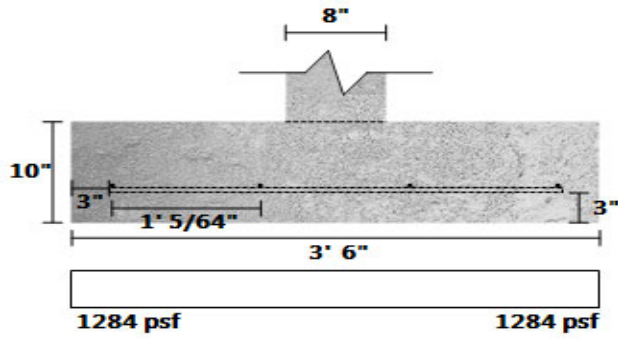
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Point	1	-	0	-	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Header #24	A	503.9726	-	0	-	Dead	Z
Point (lb/ft)	Header #24	A	4134.375	-	0	-	Snow	Z
Point (lb/ft)	Beam #18	A	1302.075	-	0	-	Dead	Z
Point (lb/ft)	Beam #18	A	8312.81	-	0	-	Snow	Z

SpotFtg Hdr #24-1 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Hdr #24-2	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
1.33 (ft) X 4.00 (ft) X 10 (in)		Soil Depth TOF : 0 (ft)	Bot.(5) #4 Long, (2) #4 Short

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lb/ft)
1.3334	4	10	4.44	644.48

CONCRETE			
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia.(in)
3000	0	145	0.75

CALCULATION VARIABLES	
Bo (in)	Rankine Coefficient(Kp)
0	3

COLUMN				
Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0

SOIL				
Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0

REBAR		
Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER		
Top Cover (in)	Bottom Cover (in)	Side Cover (in)
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft²)	PASS (34.0%)	990.5	1500.0	D+S	ASD
One-Way Shear X (lb/ft)	PASS (99.1%)	282.2	31548.8	1.2D+1.6S+L	LRFD
One-Way Shear Y (lb/ft)	PASS (97.3%)	282.2	10516.8	1.2D+1.6S+L	LRFD
Two-Way Shear (lb/ft)	PASS (93.3%)	5175.3	77557.5	1.2D+1.6S+L	LRFD
Moment X (lb/ft)	PASS (78.0%)	2507.2	11416.5	1.2D+1.6S+L	LRFD
Moment Y (lb/ft)	PASS (99.0%)	300.9	28754.4	1.2D+1.6S+L	LRFD
Crushing (psi)	PASS (96.6%)	7220.8	212160.0	1.2D+1.6S+L	LRFD

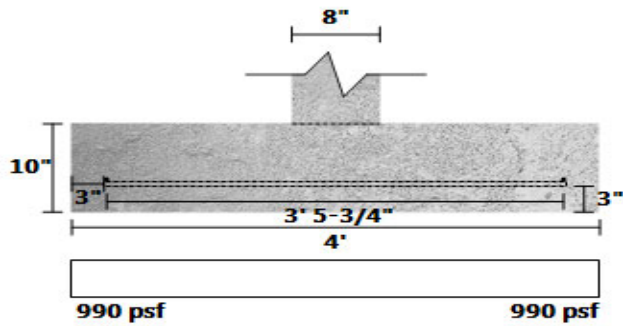
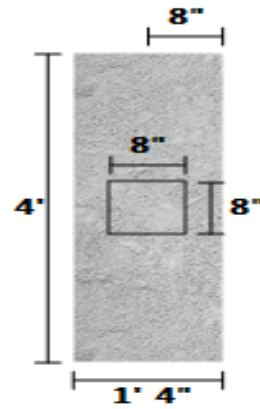
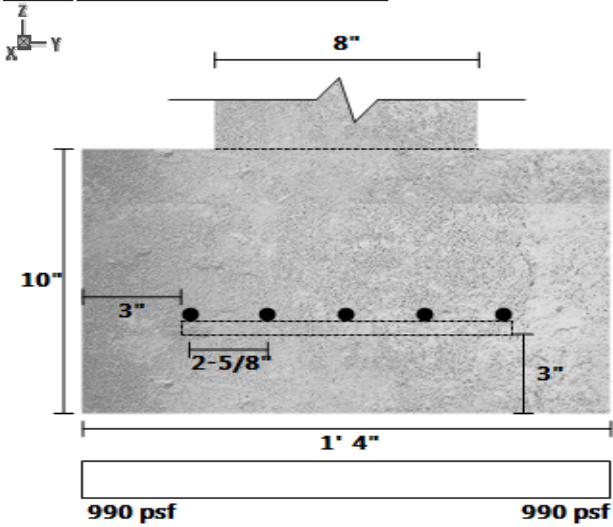
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Point	1	-	0	-	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Header #24	B	503.9726	-	0	-	Dead	Z
Point (lb/ft)	Header #24	B	4134.375	-	0	-	Snow	Z

SpotFtg Hdr #24-2 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Hdr #26-1	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
2.00 (ft) X 3.00 (ft) X 10 (in)		Soil Depth TOF : 0 (ft)	Bot.(4) #4 Long, (3) #4 Short

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lb/ft)
2	3	10	5	725
CONCRETE				
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia.(in)	
3000	0	145	0.75	
CALCULATION VARIABLES				
Bo (in)	Rankine Coefficient(Kp)			
0	3			
COLUMN				
Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0
SOIL				
Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	fy (psi)	Es (psi)		
4	60000	2.9E+07		
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft²)	PASS (31.4%)	1029.4	1500.0	D+S	ASD
One-Way Shear X (lb/ft)	PASS (93.1%)	1636.5	23661.6	1.2D+1.6S+L	LRFD
One-Way Shear Y (lb/ft)	PASS (89.6%)	1636.5	15774.4	1.2D+1.6S+L	LRFD
Two-Way Shear (lb/ft)	PASS (91.8%)	6353.9	77557.5	1.2D+1.6S+L	LRFD
Moment X (lb/ft)	PASS (88.8%)	1926.5	17124.7	1.2D+1.6S+L	LRFD
Moment Y (lb/ft)	PASS (95.9%)	943.6	22946.6	1.2D+1.6S+L	LRFD
Crushing (psi)	PASS (96.0%)	8492.3	212160.0	1.2D+1.6S+L	LRFD

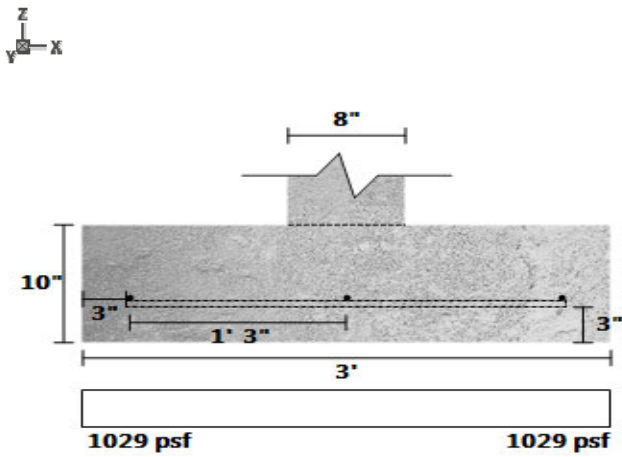
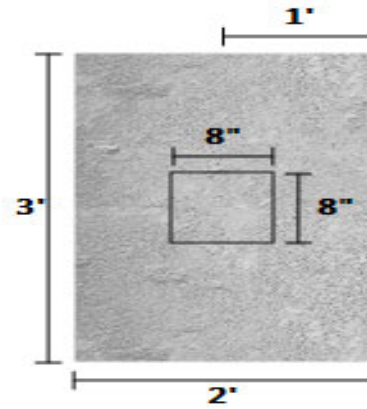
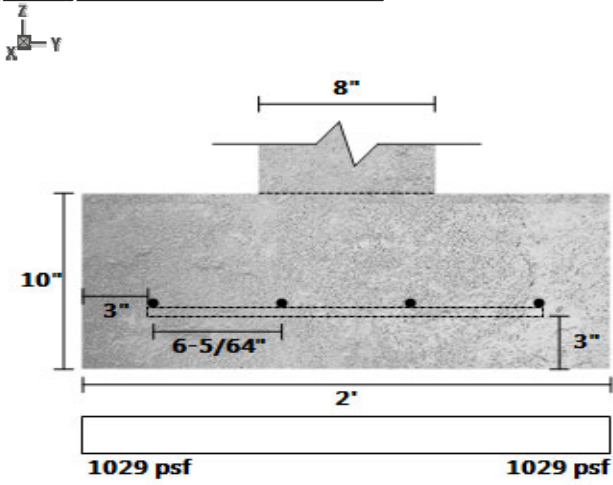
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Point	1	-	0	-	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Header #26	A	576.106	-	0	-	Dead	Z
Point (lb/ft)	Header #26	A	4875	-	0	-	Snow	Z

SpotFtg Hdr #26-1 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Hdr #26-2	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
2.00 (ft) X 2.00 (ft) X 10 (in)		Soil Depth TOF : 0 (ft)	Bot.(3) #4 Long, (3) #4 Short

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lb/ft)
2	2	10	3.33	483.33
CONCRETE				
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia.(in)	
3000	0	145	0.75	
CALCULATION VARIABLES				
Bo (in)	Rankine Coefficient(Kp)			
0	3			
COLUMN				
Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0
SOIL				
Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	fy (psi)	Es (psi)		
4	60000	2.9E+07		
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft²)	PASS (1.1%)	1483.6	1500.0	D+S	ASD
One-Way Shear X (lb/ft)	PASS (89.6%)	1636.5	15774.4	1.2D+1.6S+L	LRFD
One-Way Shear Y (lb/ft)	PASS (89.6%)	1636.5	15774.4	1.2D+1.6S+L	LRFD
Two-Way Shear (lb/ft)	PASS (93.2%)	5284.7	77557.5	1.2D+1.6S+L	LRFD
Moment X (lb/ft)	PASS (94.5%)	943.6	17124.7	1.2D+1.6S+L	LRFD
Moment Y (lb/ft)	PASS (94.5%)	943.6	17124.7	1.2D+1.6S+L	LRFD
Crushing (psi)	PASS (96.0%)	8492.3	212160.0	1.2D+1.6S+L	LRFD

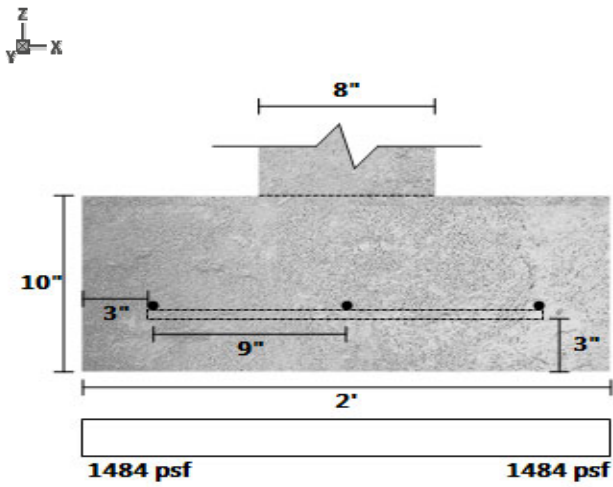
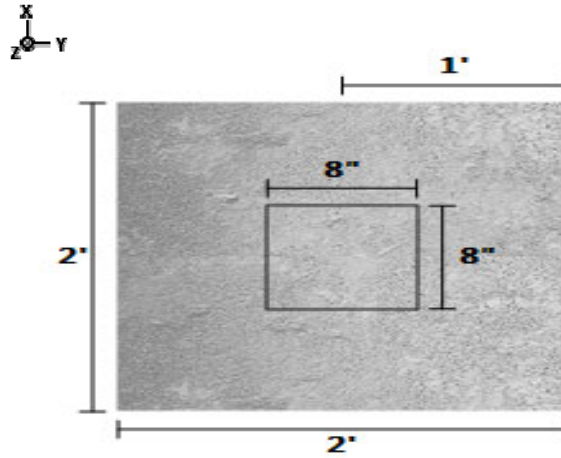
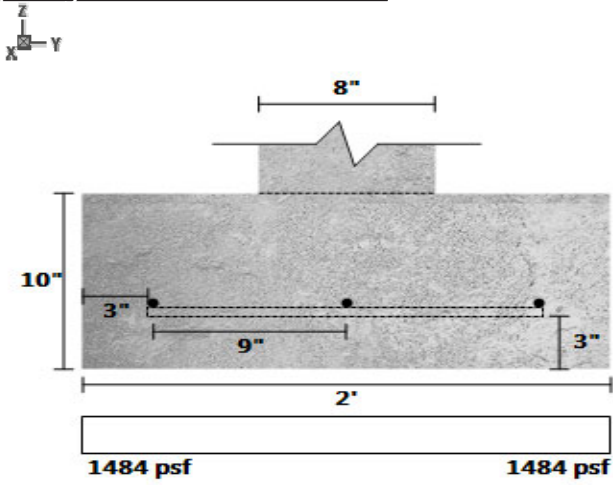
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Point	1	-	0	-	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Header #26	B	576.106	-	0	-	Dead	Z
Point (lb/ft)	Header #26	B	4875	-	0	-	Snow	Z

SpotFtg Hdr #26-2 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #15-1	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
2.50 (ft) X 2.50 (ft) X 10 (in)		Soil Depth TOF : 0 (ft)	Bot.(3) #4 Long, (3) #4 Short

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lbf/ft)
2.5	2.5	10	5.21	755.21
CONCRETE				
fc' (psi)	Ec (psi)	Density (lbf/ft³)	Agg. Dia.(in)	
3000	0	145	0.75	
CALCULATION VARIABLES				
Bo (in)	Rankine Coefficient(Kp)			
0	3			
COLUMN				
Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0
SOIL				
Bearing Strength(lbf/ft²)	Density (lbf/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	fy (psi)	Es (psi)		
4	60000	2.9E+07		
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft²)	PASS (34.7%)	979.5	1500.0	D+S	ASD
One-Way Shear X (lbf)	PASS (89.2%)	2123.5	19718.0	1.2D+1.6S+L	LRFD
One-Way Shear Y (lbf)	PASS (89.2%)	2123.5	19718.0	1.2D+1.6S+L	LRFD
Two-Way Shear (lbf-ft)	PASS (91.8%)	6335.0	77557.5	1.2D+1.6S+L	LRFD
Moment X (lbf-ft)	PASS (91.9%)	1404.0	17278.2	1.2D+1.6S+L	LRFD
Moment Y (lbf-ft)	PASS (91.9%)	1404.0	17278.2	1.2D+1.6S+L	LRFD
Crushing (psi)	PASS (96.1%)	8354.6	212160.0	1.2D+1.6S+L	LRFD

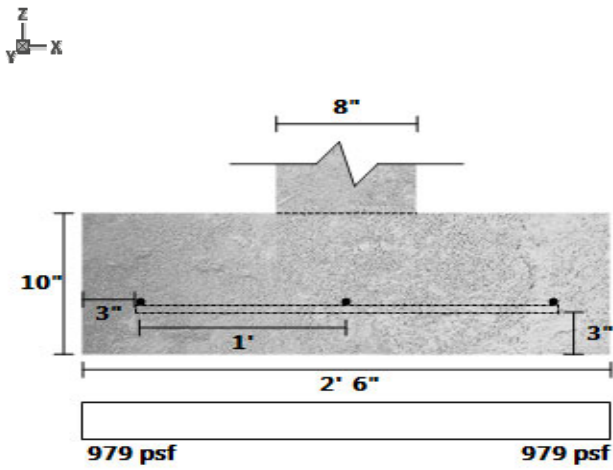
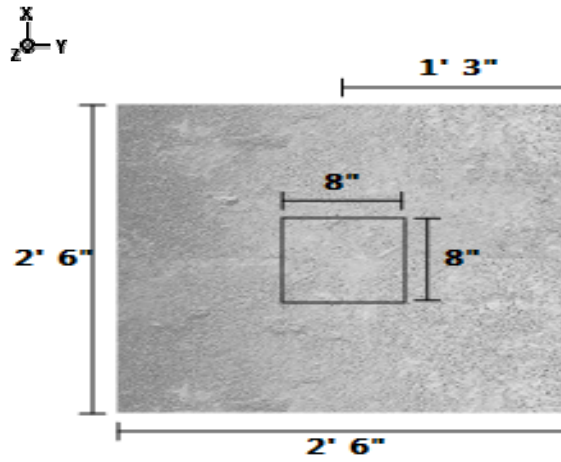
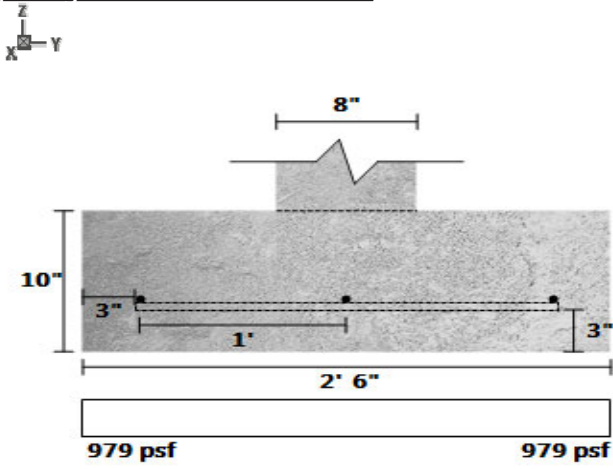
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Point	1	-	0	-	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #15	A	581.5898	-	0	-	Dead	Z
Point (lbf)	Beam #15	A	4784.786	-	0	-	Snow	Z

SpotFtg Bm #15-1 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #15-2	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
3.50 (ft) X 3.50 (ft) X 10 (in)		Soil Depth TOF : 0 (ft)	Bot.(4) #4 Long, (4) #4 Short

MATERIAL PROPERTIES**FOOTING**

Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lb/ft)
3.5	3.5	10	10.21	1480.21

CONCRETE

fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia.(in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)	Rankine Coefficient(Kp)
0	3

COLUMN

Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0

SOIL

Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in)	Bottom Cover (in)	Side Cover (in)
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft²)	PASS (6.3%)	1405.3	1500.0	D+S	ASD
One-Way Shear X (lb/ft)	PASS (71.2%)	7946.0	27605.2	1.2D+1.6S+L	LRFD
One-Way Shear Y (lb/ft)	PASS (71.2%)	7946.0	27605.2	1.2D+1.6S+L	LRFD
Two-Way Shear (lb/ft)	PASS (72.3%)	21473.0	77557.5	1.2D+1.6S+L	LRFD
Moment X (lb/ft)	PASS (69.6%)	7022.6	23076.6	1.2D+1.6S+L	LRFD
Moment Y (lb/ft)	PASS (69.6%)	7022.6	23076.6	1.2D+1.6S+L	LRFD
Crushing (psi)	PASS (88.5%)	24494.0	212160.0	1.2D+1.6S+L	LRFD

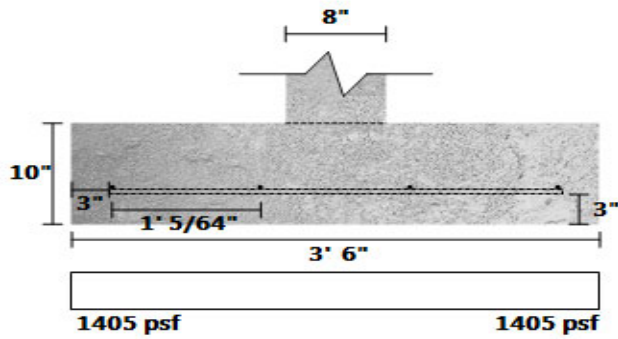
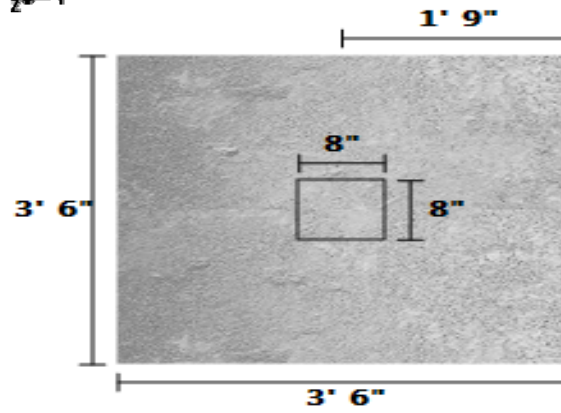
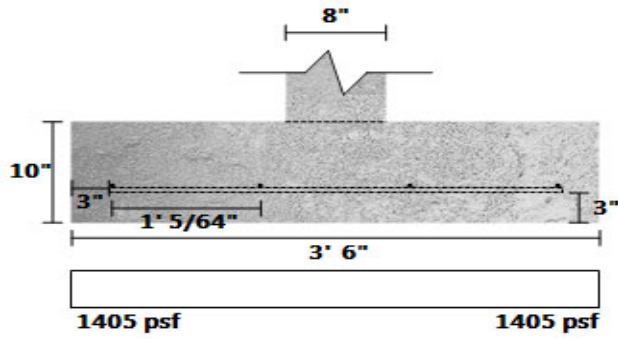
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Point	1	-	0	-	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Beam #15	B	1705.244	-	0	-	Dead	Z
Point (lb/ft)	Beam #15	B	14029.18	-	0	-	Snow	Z

SpotFtg Bm #15-2 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #15-4	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
2.50 (ft) X 2.50 (ft) X 10 (in)		Soil Depth TOF : 0 (ft)	Bot.(3) #4 Long, (3) #4 Short

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lbf/ft)
2.5	2.5	10	5.21	755.21
CONCRETE				
fc' (psi)	Ec (psi)	Density (lbf/ft³)	Agg. Dia.(in)	
3000	0	145	0.75	
CALCULATION VARIABLES				
Bo (in)	Rankine Coefficient(Kp)			
0	3			
COLUMN				
Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0
SOIL				
Bearing Strength(lbf/ft²)	Density (lbf/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	fy (psi)	Es (psi)		
4	60000	2.9E+07		
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft²)	PASS (54.3%)	685.1	1500.0	D+S	ASD
One-Way Shear X (lbf)	PASS (92.9%)	1395.6	19718.0	1.2D+1.6S+L	LRFD
One-Way Shear Y (lbf)	PASS (92.9%)	1395.6	19718.0	1.2D+1.6S+L	LRFD
Two-Way Shear (lbf-ft)	PASS (94.6%)	4163.6	77557.5	1.2D+1.6S+L	LRFD
Moment X (lbf-ft)	PASS (94.7%)	922.8	17278.2	1.2D+1.6S+L	LRFD
Moment Y (lbf-ft)	PASS (94.7%)	922.8	17278.2	1.2D+1.6S+L	LRFD
Crushing (psi)	PASS (97.4%)	5491.0	212160.0	1.2D+1.6S+L	LRFD

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Point	1	-	0	-	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #15	D	382.2218	-	0	-	Dead	Z
Point (lbf)	Beam #15	D	3144.57	-	0	-	Snow	Z

**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Hdr #29	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
1.33 (ft) X 4.00 (ft) X 10 (in)		Soil Depth TOF : 0 (ft)	Bot.(5) #4 Long, (2) #4 Short

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lb/ft)
1.3334	4	10	4.44	644.48
CONCRETE				
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia.(in)	
3000	0	145	0.75	
CALCULATION VARIABLES				
Bo (in)	Rankine Coefficient(Kp)			
0	3			
COLUMN				
Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0
SOIL				
Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	fy (psi)	Es (psi)		
4	60000	2.9E+07		
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft²)	PASS (29.8%)	1053.7	1500.0	D+S	ASD
One-Way Shear X (lb/ft)	PASS (99.0%)	302.7	31548.8	1.2D+1.6S+L	LRFD
One-Way Shear Y (lb/ft)	PASS (97.1%)	302.7	10516.8	1.2D+1.6S+L	LRFD
Two-Way Shear (lb/ft)	PASS (92.8%)	5550.2	77557.5	1.2D+1.6S+L	LRFD
Moment X (lb/ft)	PASS (76.4%)	2688.8	11416.5	1.2D+1.6S+L	LRFD
Moment Y (lb/ft)	PASS (98.9%)	322.7	28754.4	1.2D+1.6S+L	LRFD
Crushing (psi)	PASS (96.4%)	7743.8	212160.0	1.2D+1.6S+L	LRFD

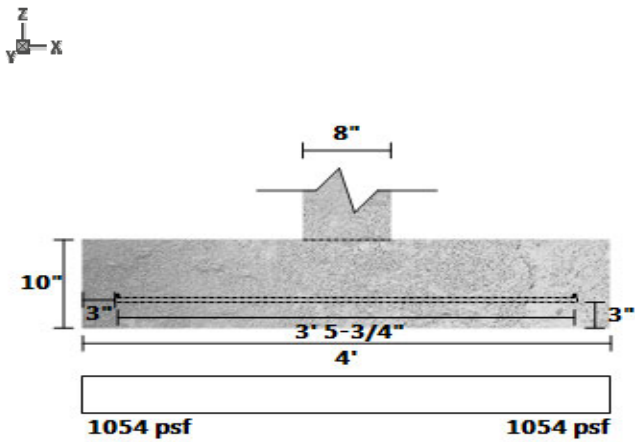
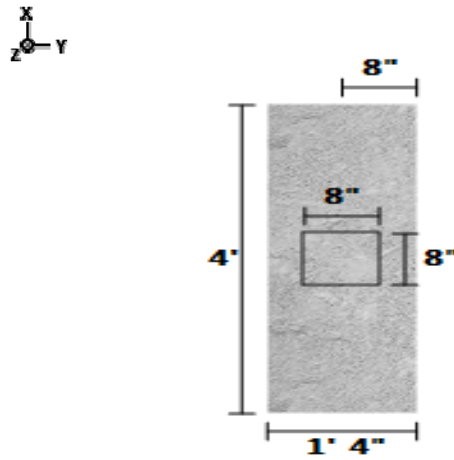
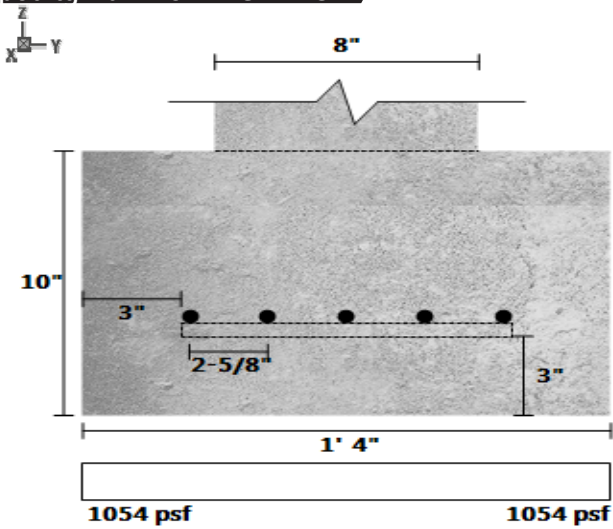
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Point	1	-	0	-	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Header #29	A	544.646	-	0	-	Dead	Z
Point (lb/ft)	Header #29	A	4430.769	-	0	-	Snow	Z

SpotFtg Hdr #29 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #16-1	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
2.50 (ft) X 2.50 (ft) X 10 (in)		Soil Depth TOF : 0 (ft)	Bot.(3) #4 Long, (3) #4 Short

MATERIAL PROPERTIES**FOOTING**

Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lb/ft)
2.5	2.5	10	5.21	755.21

CONCRETE

fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia.(in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)	Rankine Coefficient(Kp)
0	3

COLUMN

Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0

SOIL

Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in)	Bottom Cover (in)	Side Cover (in)
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft²)	PASS (11.6%)	1325.6	1500.0	D+S	ASD
One-Way Shear X (lb/ft)	PASS (85.1%)	2944.1	19718.0	1.2D+1.6S+L	LRFD
One-Way Shear Y (lb/ft)	PASS (85.1%)	2944.1	19718.0	1.2D+1.6S+L	LRFD
Two-Way Shear (lb/ft)	PASS (88.7%)	8783.1	77557.5	1.2D+1.6S+L	LRFD
Moment X (lb/ft)	PASS (88.7%)	1946.6	17278.2	1.2D+1.6S+L	LRFD
Moment Y (lb/ft)	PASS (88.7%)	1946.6	17278.2	1.2D+1.6S+L	LRFD
Crushing (psi)	PASS (94.5%)	11583.2	212160.0	1.2D+1.6S+L	LRFD

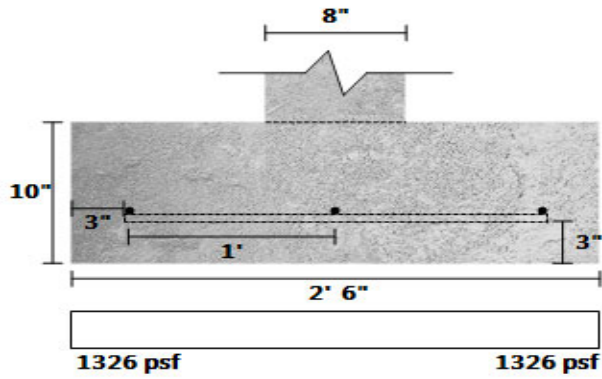
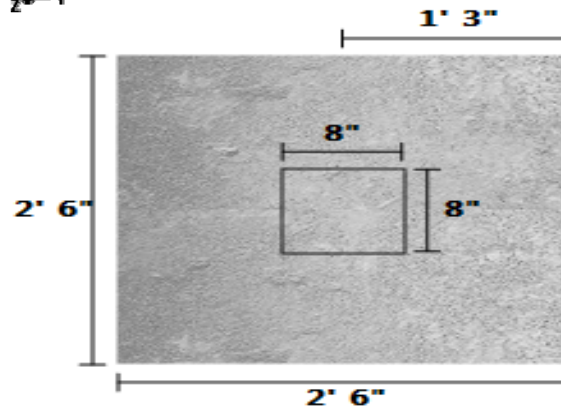
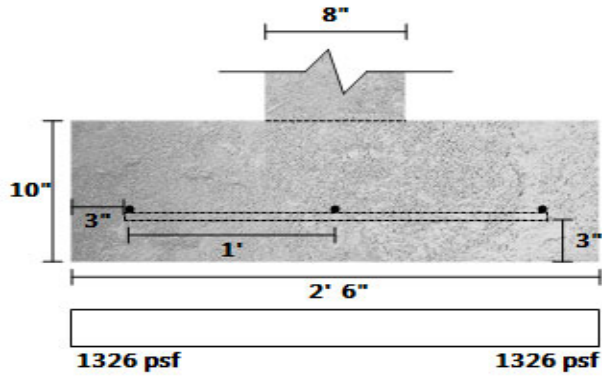
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Point	1	-	0	-	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Beam #16	A	632.5256	-	0	-	Dead	Z
Point (lb/ft)	Beam #16	A	3375.225	-	0	-	Snow	Z
Point (lb/ft)	Beam #19	A	531.2017	-	0	-	Dead	Z
Point (lb/ft)	Beam #19	A	2990.85	-	0	-	Snow	Z

SpotFtg Bm #16-1 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #16-2	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
3.50 (ft) X 3.50 (ft) X 10 (in)		Soil Depth TOF : 0 (ft)	Bot.(4) #4 Long, (4) #4 Short

MATERIAL PROPERTIES**FOOTING**

Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lb/ft)
3.5	3.5	10	10.21	1480.21

CONCRETE

fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia.(in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)	Rankine Coefficient(Kp)
0	3

COLUMN

Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0

SOIL

Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in)	Bottom Cover (in)	Side Cover (in)
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft²)	PASS (21.3%)	1180.7	1500.0	D+S	ASD
One-Way Shear X (lb/ft)	PASS (76.5%)	6489.7	27605.2	1.2D+1.6S+L	LRFD
One-Way Shear Y (lb/ft)	PASS (76.5%)	6489.7	27605.2	1.2D+1.6S+L	LRFD
Two-Way Shear (lb/ft)	PASS (77.4%)	17537.8	77557.5	1.2D+1.6S+L	LRFD
Moment X (lb/ft)	PASS (75.1%)	5735.6	23076.6	1.2D+1.6S+L	LRFD
Moment Y (lb/ft)	PASS (75.1%)	5735.6	23076.6	1.2D+1.6S+L	LRFD
Crushing (psi)	PASS (90.6%)	20005.1	212160.0	1.2D+1.6S+L	LRFD

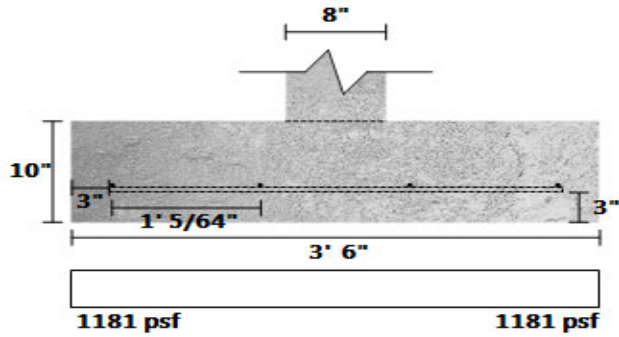
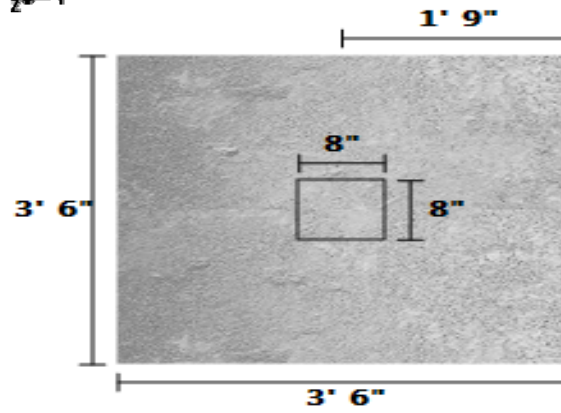
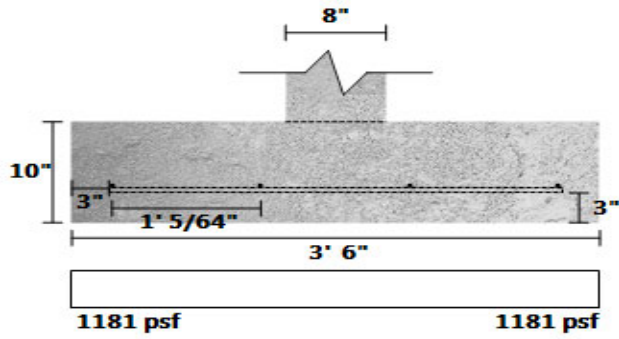
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Point	1	-	0	-	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Beam #16	B	1677.577	-	0	-	Dead	Z
Point (lb/ft)	Beam #16	B	10125.67	-	0	-	Snow	Z
Point (lb/ft)	Beam #19	B	245.4068	-	0	-	Dead	Z
Point (lb/ft)	Beam #19	B	934.6409	-	0	-	Snow	Z

SpotFtg Bm #16-2 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #17-1	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
2.50 (ft) X 2.50 (ft) X 10 (in)		Soil Depth TOF : 0 (ft)	Bot.(3) #4 Long, (3) #4 Short

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lb/ft)
2.5	2.5	10	5.21	755.21
CONCRETE				
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia.(in)	
3000	0	145	0.75	
CALCULATION VARIABLES				
Bo (in)	Rankine Coefficient(Kp)			
0	3			
COLUMN				
Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0
SOIL				
Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	fy (psi)	Es (psi)		
4	60000	2.9E+07		
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft²)	PASS (49.2%)	762.1	1500.0	D+S	ASD
One-Way Shear X (lb/ft)	PASS (92.1%)	1565.8	19718.0	1.2D+1.6S+L	LRFD
One-Way Shear Y (lb/ft)	PASS (92.1%)	1565.8	19718.0	1.2D+1.6S+L	LRFD
Two-Way Shear (lb/ft)	PASS (94.0%)	4671.2	77557.5	1.2D+1.6S+L	LRFD
Moment X (lb/ft)	PASS (94.0%)	1035.3	17278.2	1.2D+1.6S+L	LRFD
Moment Y (lb/ft)	PASS (94.0%)	1035.3	17278.2	1.2D+1.6S+L	LRFD
Crushing (psi)	PASS (97.1%)	6160.4	212160.0	1.2D+1.6S+L	LRFD

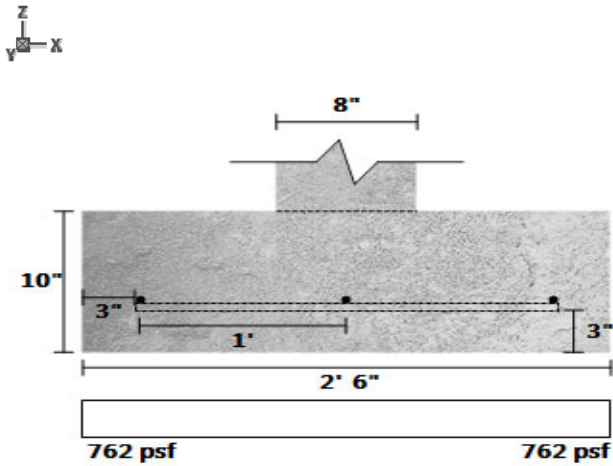
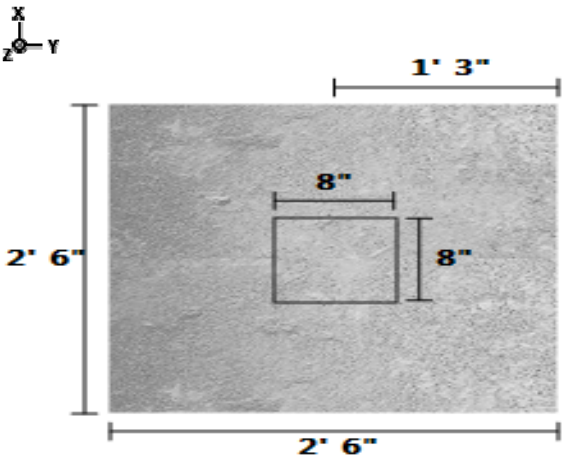
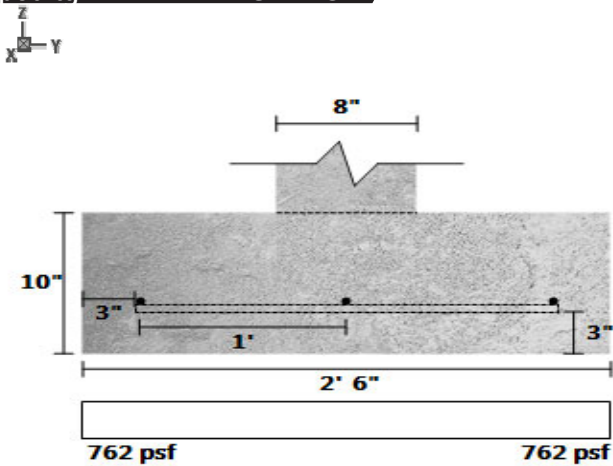
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Point	1	-	0	-	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Beam #17	A	632.5256	-	0	-	Dead	Z
Point (lb/ft)	Beam #17	A	3375.225	-	0	-	Snow	Z

SpotFtg Bm #17-1 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #17-2	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
3.50 (ft) X 3.50 (ft) X 10 (in)		Soil Depth TOF : 0 (ft)	Bot.(4) #4 Long, (4) #4 Short

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lbf/ft)
3.5	3.5	10	10.21	1480.21
CONCRETE				
fc' (psi)	Ec (psi)	Density (lbf/ft³)	Agg. Dia.(in)	
3000	0	145	0.75	
CALCULATION VARIABLES				
Bo (in)	Rankine Coefficient(Kp)			
0	3			
COLUMN				
Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0
SOIL				
Bearing Strength(lbf/ft²)	Density (lbf/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	fy (psi)	Es (psi)		
4	60000	2.9E+07		
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lbf/ft²)	PASS (27.7%)	1084.4	1500.0	D+S	ASD
One-Way Shear X (lbf)	PASS (78.6%)	5909.1	27605.2	1.2D+1.6S+L	LRFD
One-Way Shear Y (lbf)	PASS (78.6%)	5909.1	27605.2	1.2D+1.6S+L	LRFD
Two-Way Shear (lbf-ft)	PASS (79.4%)	15968.6	77557.5	1.2D+1.6S+L	LRFD
Moment X (lbf-ft)	PASS (77.4%)	5222.4	23076.6	1.2D+1.6S+L	LRFD
Moment Y (lbf-ft)	PASS (77.4%)	5222.4	23076.6	1.2D+1.6S+L	LRFD
Crushing (psi)	PASS (91.4%)	18215.2	212160.0	1.2D+1.6S+L	LRFD

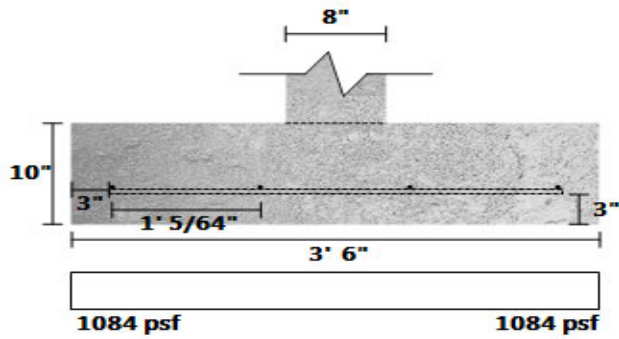
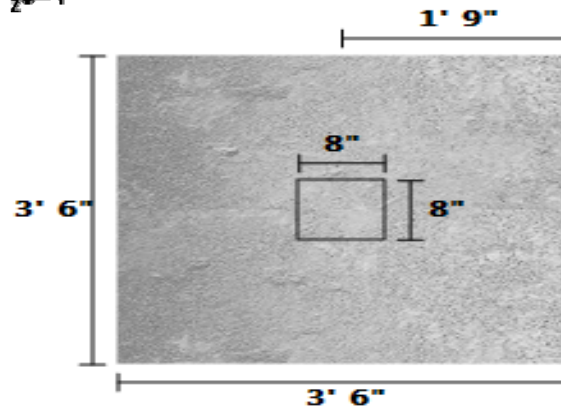
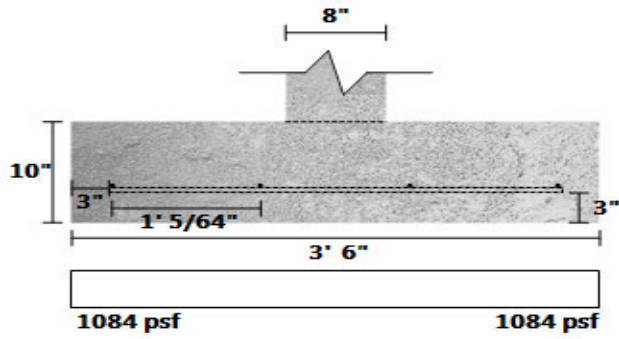
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Point	1	-	0	-	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Beam #17	B	1677.577	-	0	-	Dead	Z
Point (lbf)	Beam #17	B	10125.67	-	0	-	Snow	Z

SpotFtg Bm #17-2 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design		
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis		
CUSTOMER:		REVIEWED BY:	Stephen Curtis		
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts		
	--				
LEVEL:	Basement	LOADING:	ASD		
MEMBER NAME:	SpotFtg Bm #18-2	CODE:	2018 International Building Code		
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14		
MATERIAL:	Concrete				
2.00 (ft) X 2.00 (ft) X 10 (in)	Soil Depth TOF : 0 (ft)	Bot.(2) #4 Long, (2) #4 Short	Top(2) #4 Long, (2) #4 Short	Dowel(2) #4	

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lb/ft)
2	2	10	3.33	483.33

CONCRETE			
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia.(in)
3000	0	145	0.75

CALCULATION VARIABLES	
Bo (in)	Rankine Coefficient(Kp)
0	3

COLUMN				
Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0

SOIL				
Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0

REBAR				
Bottom Bar Size #	Top Bar Size #	Dowel Bar Size #	fy (psi)	Es (psi)
4	4	4	60000	2.9E+07

DOWELS		
Dowel Height (in.)	Left (X-Axis) (in.)	Right (X-Axis) (in.)
6.25	7	7

COVER		
Top Cover (in)	Bottom Cover (in)	Side Cover (in)
3	3	3

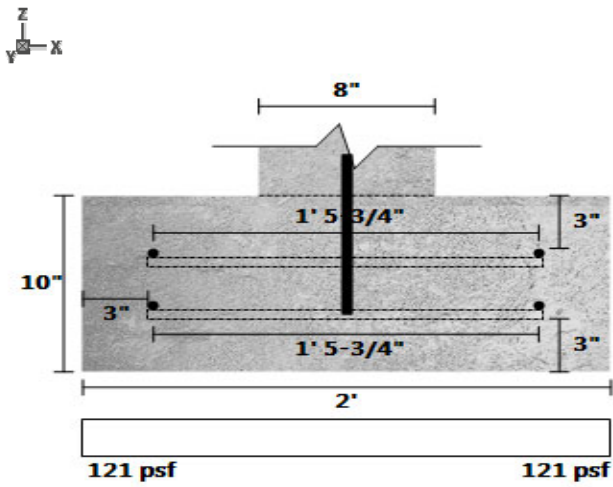
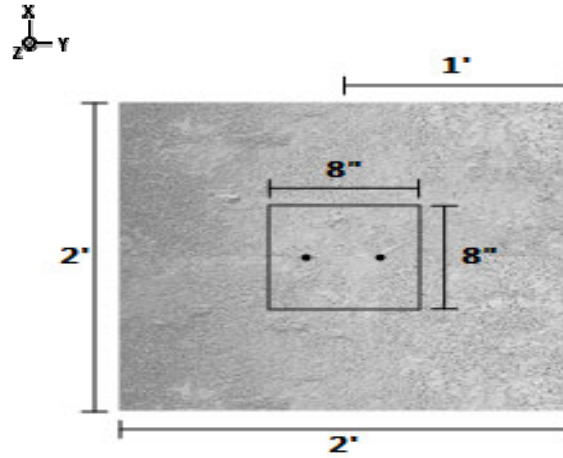
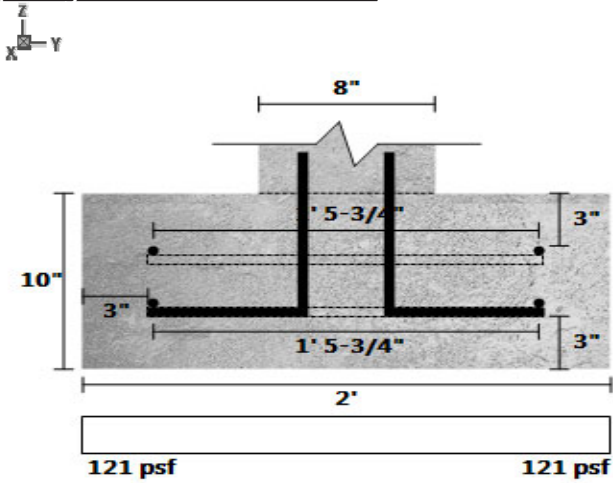
PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft²)	PASS (91.9%)	121.1	1500.0	D+L	ASD
One-Way Shear X (lb/ft)	PASS (100.0%)	0.3	15774.4	1.2D+1.6L+0.5Lr	LRFD
One-Way Shear Y (lb/ft)	PASS (100.0%)	0.3	15774.4	1.2D+1.6L+0.5Lr	LRFD
Two-Way Shear (lb/ft)	PASS (100.0%)	1.0	77557.5	1.2D+1.6L+0.5Lr	LRFD
Moment X (lb/ft)	PASS (100.0%)	0.2	21124.7	1.2D+1.6L+0.5Lr	LRFD
Moment Y (lb/ft)	PASS (100.0%)	0.2	21124.7	1.2D+1.6L+0.5Lr	LRFD
Crushing (psi)	PASS (100.0%)	1.6	227475.3	1.2D+1.6L+0.5Lr	LRFD

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Point	1	-	0	-	Live	Z

SpotFtg Bm #18-2 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #18-2	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
4.00 (ft) X 4.00 (ft) X 10 (in)		Soil Depth TOF : 0 (ft)	Bot.(5) #4 Long, (5) #4 Short

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lb/ft)
4	4	10	13.33	1933.33
CONCRETE				
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia.(in)	
3000	0	145	0.75	
CALCULATION VARIABLES				
Bo (in)	Rankine Coefficient(Kp)			
0	3			
COLUMN				
Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0
SOIL				
Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0
REBAR				
Bottom Bar Size #	fy (psi)	Es (psi)		
4	60000	2.9E+07		
COVER				
Top Cover (in)	Bottom Cover (in)	Side Cover (in)		
3	3	3		

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft²)	PASS (11.8%)	1322.7	1500.0	D+S	ASD
One-Way Shear X (lb/ft)	PASS (67.4%)	10296.1	31548.8	1.2D+1.6S+L	LRFD
One-Way Shear Y (lb/ft)	PASS (67.4%)	10296.1	31548.8	1.2D+1.6S+L	LRFD
Two-Way Shear (lb/ft)	PASS (65.3%)	26919.9	77557.5	1.2D+1.6S+L	LRFD
Moment X (lb/ft)	PASS (64.1%)	10321.9	28754.4	1.2D+1.6S+L	LRFD
Moment Y (lb/ft)	PASS (64.1%)	10321.9	28754.4	1.2D+1.6S+L	LRFD
Crushing (psi)	PASS (86.0%)	29727.0	212160.0	1.2D+1.6S+L	LRFD

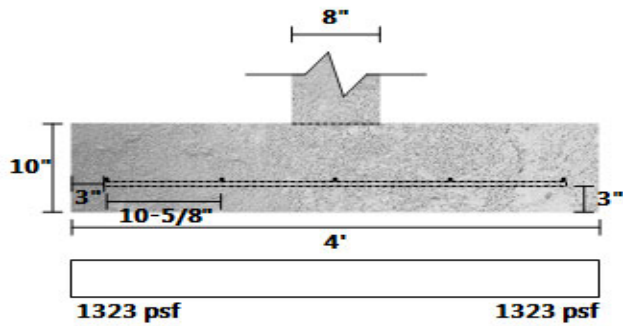
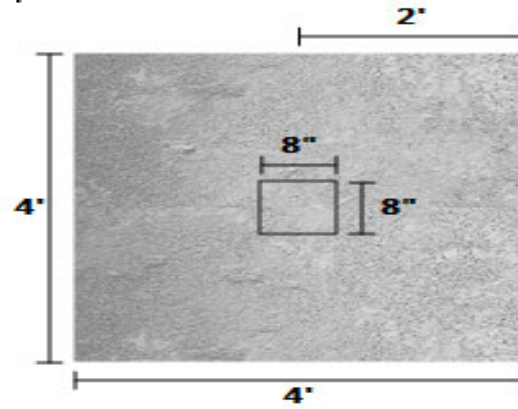
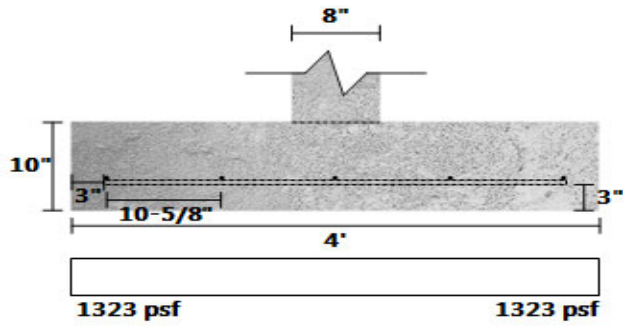
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Point	1	-	0	-	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Beam #18	B	2604.148	-	0	-	Dead	Z
Point (lb/ft)	Beam #18	B	16625.61	-	0	-	Snow	Z

SpotFtg Bm #18-2 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #3-2	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
4.50 (ft) X 4.50 (ft) X 10 (in)		Soil Depth TOF : 0 (ft)	Bot.(5) #4 Long, (5) #4 Short

MATERIAL PROPERTIES

FOOTING				
Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lb/ft)
4.5	4.5	10	16.88	2446.88

CONCRETE			
fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia.(in)
3000	0	145	0.75

CALCULATION VARIABLES	
Bo (in)	Rankine Coefficient(Kp)
0	3

COLUMN				
Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0

SOIL				
Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0

REBAR		
Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER		
Top Cover (in)	Bottom Cover (in)	Side Cover (in)
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft²)	PASS (10.2%)	1346.5	1500.0	D+S	ASD
One-Way Shear X (lb/ft)	PASS (58.2%)	14822.8	35492.4	1.2D+1.6S+L	LRFD
One-Way Shear Y (lb/ft)	PASS (58.2%)	14822.8	35492.4	1.2D+1.6S+L	LRFD
Two-Way Shear (lb/ft)	PASS (51.3%)	37743.3	77557.5	1.2D+1.6S+L	LRFD
Moment X (lb/ft)	PASS (42.3%)	16648.2	28872.8	1.2D+1.6S+L	LRFD
Moment Y (lb/ft)	PASS (42.3%)	16648.2	28872.8	1.2D+1.6S+L	LRFD
Crushing (psi)	PASS (80.8%)	40786.4	212160.0	1.2D+1.6S+L	LRFD

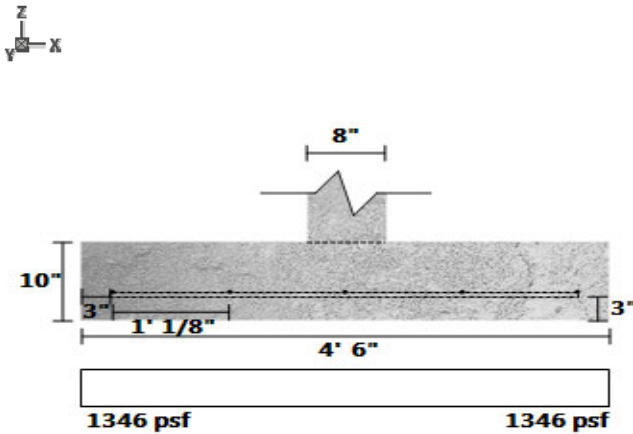
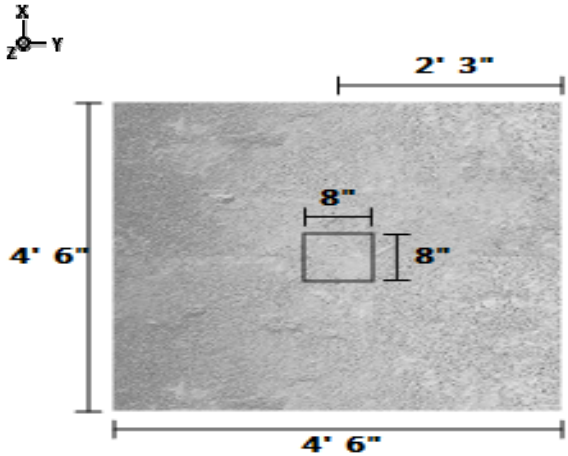
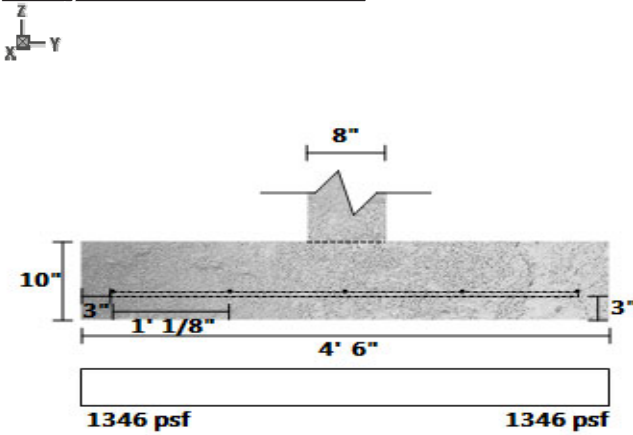
LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Point	1	-	0	-	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Beam #3	B	1527.275	-	0	-	Dead	Z
Point (lb/ft)	Beam #3	B	23292.45	-	0	-	Snow	Z
Point (lb/ft)	Beam #3	B	1784.778	-	0	-	Live	Z
Point (lb/ft)	Beam #3	B	-100.0337	-	0	-	Live	Z

SpotFtg Bm #3-2 DIAGRAMS



**PASS**

DATE:	10/27/2025	COMPANY:	SMC Design
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Stephen Curtis
CUSTOMER:		REVIEWED BY:	Stephen Curtis
PROJ. ADDRESS:	--	PROJECT NAME:	25-016 Keatts
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	SpotFtg Bm #15-3	CODE:	2018 International Building Code
MEMBER TYPE:	ISOLATED FOOTING	ACI:	ACI 318-14
MATERIAL:	Concrete		
3.50 (ft) X 3.50 (ft) X 10 (in)		Soil Depth TOF : 0 (ft)	Bot.(4) #4 Long, (4) #4 Short

MATERIAL PROPERTIES**FOOTING**

Width (ft)	Length (ft)	Depth (in)	Volume (ft³)	Footing Weight (lb/ft)
3.5	3.5	10	10.21	1480.21

CONCRETE

fc' (psi)	Ec (psi)	Density (lb/ft³)	Agg. Dia.(in)
3000	0	145	0.75

CALCULATION VARIABLES

Bo (in)	Rankine Coefficient(Kp)
0	3

COLUMN

Width (in)	length (in)	Material	Offset X (in)	Offset Y (in)
8	8	Concrete	0	0

SOIL

Bearing Strength(lbf/ft²)	Density (lb/ft³)	Cohesion	Friction Angle	Depth (ft)
1500	140	0	30	0

REBAR

Bottom Bar Size #	fy (psi)	Es (psi)
4	60000	2.9E+07

COVER

Top Cover (in)	Bottom Cover (in)	Side Cover (in)
3	3	3

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOAD COMBO	CALCULATION TYPE
Soil Bearing Pressure (lb/ft²)	PASS (24.3%)	1135.4	1500.0	D+S	ASD
One-Way Shear X (lb/ft)	PASS (77.3%)	6276.7	27605.2	1.2D+1.6S+L	LRFD
One-Way Shear Y (lb/ft)	PASS (77.3%)	6276.7	27605.2	1.2D+1.6S+L	LRFD
Two-Way Shear (lb/ft)	PASS (78.1%)	16962.0	77557.5	1.2D+1.6S+L	LRFD
Moment X (lb/ft)	PASS (76.0%)	5547.3	23076.6	1.2D+1.6S+L	LRFD
Moment Y (lb/ft)	PASS (76.0%)	5547.3	23076.6	1.2D+1.6S+L	LRFD
Crushing (psi)	PASS (90.9%)	19348.3	212160.0	1.2D+1.6S+L	LRFD

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Point	1	-	0	-	Live	Z

Linked Load List

Type	Member	Support	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lb/ft)	Beam #15	C	1346.994	-	0	-	Dead	Z
Point (lb/ft)	Beam #15	C	11081.83	-	0	-	Snow	Z

