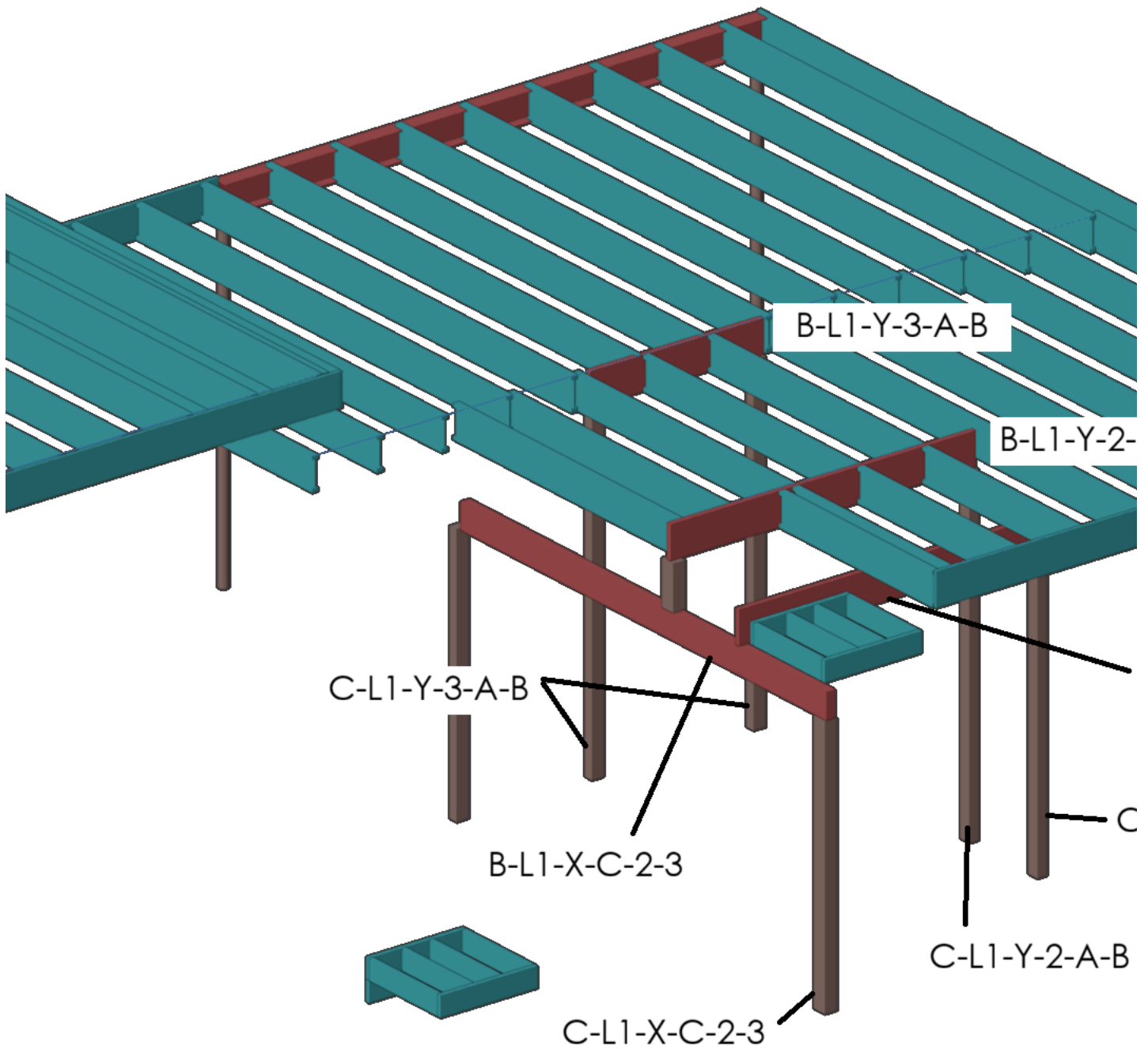


Column Design - Mezzanine

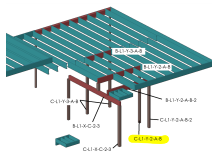
- Column Design: C-L1-Y-2-A-B
- Column Design: C-L1-Y-2-A-B-2
- Column Design: C-L1-Y-3-A-B
- Column Design: C-L1-X-C-2-3



Column Design: C-L1-Y-2-A-B

Components

Height: 10 ft



Section	Product / Species	Grade
(3) 2x4	Spruce-Pine-Fir	No.1/No.2

Loads

Source	Dead	Live	Snow	Wind	Area

Source	Dead	Live	Snow	Wind	Area
Floor - Mezzanine	20 psf	80 psf	-	-	35.2 ft ²

Analysis and Design Results

Strength Checks (ASD)

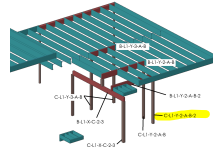
Combination	Check Type	Action	Resistance	Ratio	Check
D + L	Buckling	P: 3.53 kip , f_c : 223.8 psi	F_c : 330 psi , C_p : 0.25	0.68	✓

NB: No serviceability checks required

Column Design: C-L1-Y-2-A-B-2

Components

Height: 8.6 ft



Section	Product / Species	Grade
(2) 2x4	Spruce-Pine-Fir	No.1/No.2

Loads

Source	Dead	Live	Snow	Wind	Area
Floor - Mezzanine	20 psf	80 psf	-	-	7.05 ft ²

Analysis and Design Results

Strength Checks (ASD)

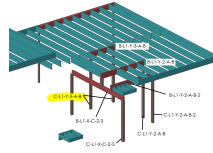
Combination	Check Type	Action	Resistance	Ratio	Check
D + L	Buckling	P: 0.71 kip , f_c : 67.1 psi	F_c : 435.6 psi , C_p : 0.33	0.15	✓

NB: No serviceability checks required

Column Design: C-L1-Y-3-A-B

Components

Height: 10 ft



Section	Product / Species	Grade
(3) 2x4	Spruce-Pine-Fir	No.1/No.2

Loads

Source	Dead	Live	Snow	Wind	Area
Floor - Mezzanine	20 psf	80 psf	-	-	32.4 ft ²

Analysis and Design Results

Strength Checks (ASD)

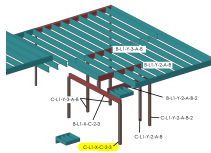
Combination	Check Type	Action	Resistance	Ratio	Check
D + L	Buckling	P: 3.24 kip , f_c : 205.7 psi	F_c : 330 psi , C_p : 0.25	0.62	✓

NB: No serviceability checks required

Column Design: C-L1-X-C-2-3

Components

Height: 8 ft



Section	Product / Species	Grade
(3) 2x4	Spruce-Pine-Fir	No.1/No.2

Loads

Source	Dead	Live	Snow	Wind	Area
Floor - Mezzanine	20 psf	80 psf	-	-	29.4 ft ²

Analysis and Design Results

Strength Checks (ASD)

Combination	Check Type	Action	Resistance	Ratio	Check
D + L	Buckling	P: 2.94 kip , f_c : 186.7 psi	F_c : 501.6 psi , C_p : 0.38	0.37	✓

NB: No serviceability checks required