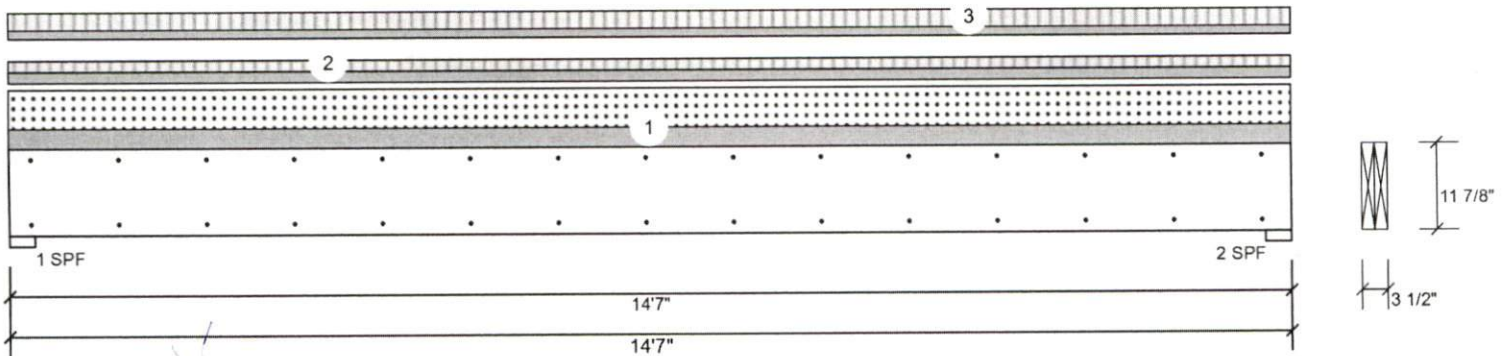




Client:
Project:
Address:

Date: 10/21/2022
Input by:
Job Name: Hornsby
Project #:

B1 between kitchen & dining room onCENTER 2.1E LVL 1.750" X 11.875" 2-Ply - PASSED Level: Level



Member Information

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IRC 2018
Deflection LL:	480	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	1112	1631	1543	0	0
2	Vertical	1112	1631	1543	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	Vert	70%	1631 / 1992	3623	L	D+0.75(L+S)
2 - SPF	3.500"	Vert	70%	1631 / 1992	3623	L	D+0.75(L+S)

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	12391 ft-lb	7'3 1/2"	24470 ft-lb	0.506 (51%)	D+0.75(L+S)	L
Unbraced	12391 ft-lb	7'3 1/2"	12423 ft-lb	0.997 (100%)	D+0.75(L+S)	L
Shear	3101 lb	1'3 3/8"	9081 lb	0.341 (34%)	D+0.75(L+S)	L
LL Defl inch	0.256 (L/661)	7'3 9/16"	0.353 (L/480)	0.726 (73%)	0.75(L+S)	L
TL Defl inch	0.467 (L/363)	7'3 9/16"	0.706 (L/240)	0.661 (66%)	D+0.75(L+S)	L

Design Notes

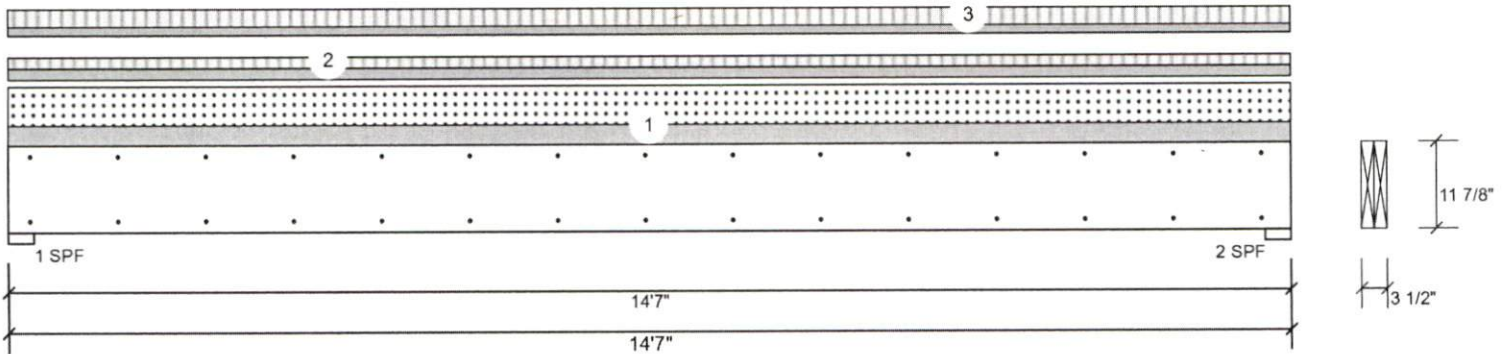
- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- 3 Refer to last page of calculations for fasteners required for specified loads.
- 4 Girders are designed to be supported on the bottom edge only.
- 5 Top loads must be supported equally by all plies.
- 6 Top must be laterally braced at a maximum of 7'3 3/4" o.c.
- 7 Bottom must be laterally braced at end bearings.
- 8 Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Tie-In Far	0-0-0 to 14-7-0	5-11-0	Top	10 PSF	0 PSF	20 PSF	0 PSF	0 PSF	roof
1	Tie-In Near	0-0-0 to 14-7-0	4-8-0	Top	10 PSF	0 PSF	20 PSF	0 PSF	0 PSF	roof
2	Tie-In Far	0-0-0 to 14-7-0	5-11-0	Far Face	10 PSF	10 PSF	0 PSF	0 PSF	0 PSF	ceiling
2	Tie-In Near	0-0-0 to 14-7-0	0-0-0	Top	10 PSF	10 PSF	0 PSF	0 PSF	0 PSF	ceiling

Continued on page 2...

<p>Notes</p> <p>Calculated Structural Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.</p> <p>Lumber</p> <ol style="list-style-type: none"> 1. Dry service conditions, unless noted otherwise 2. LVL not to be treated with fire retardant or corrosive chemicals 	<p>Handling & Installation</p> <ol style="list-style-type: none"> 1. LVL beams must not be cut or drilled 2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals 3. Damaged Beams must not be used 4. Design assumes top edge is laterally restrained 5. Provide lateral support at bearing points to avoid lateral displacement and rotation 	<p>6. For flat roofs provide proper drainage to prevent ponding</p>	<p>Manufacturer Info</p> <p>BlueLinx 1950 Spectrum Circle, Suite 300 Marietta, GA 30067 877-914-7770 www.buildoncenter.com ICC-ES: ESR-2909, ESR-2913, ESR-1210</p>

B1 between kitchen & dining room onCENTER 2.1E LVL 1.750" X 11.875" 2-Ply - PASSED Level: Level



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
3	Tie-In Far	0-0-0 to 14-7-0	0-0-0	Top	10 PSF	20 PSF	0 PSF	0 PSF	0 PSF	ceiling
3	Tie-In Near	0-0-0 to 14-7-0	4-8-0	Top	10 PSF	20 PSF	0 PSF	0 PSF	0 PSF	ceiling
	Self Weight				12 PLF					

Notes

Calculated Structural Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation

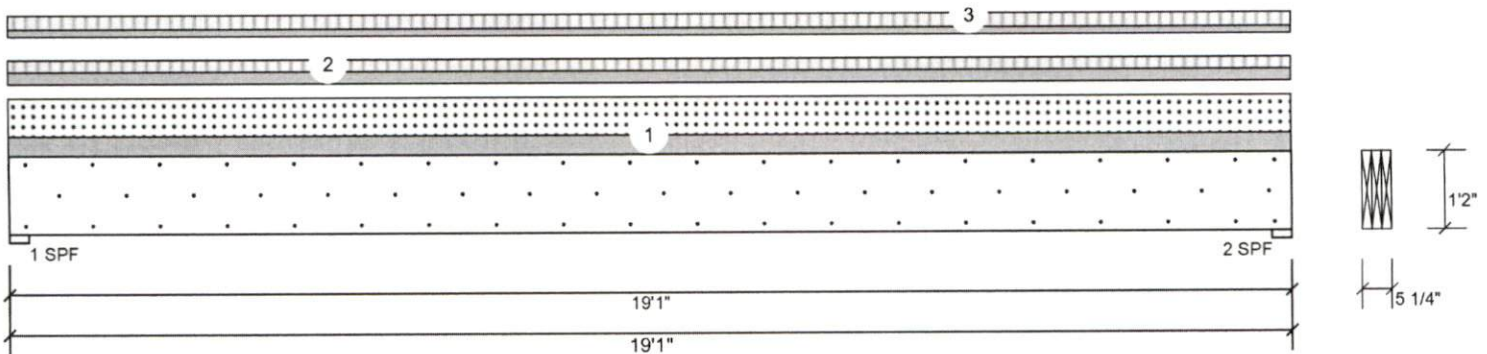
6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

BlueLinx
1950 Spectrum Circle, Suite 300
Marietta, GA 30067
877-914-7770
www.buildoncenter.com
ICC-ES: ESR-2909, ESR-2913,
ESR-1210

This design is valid until 11/3/2024

B2 between dining & great rooms onCENTER 2.1E LVL 1.750" X 14.000" 3-Ply - PASSED Level: Level



Member Information

Type: Girder
Plies: 3
Moisture Condition: Dry
Deflection LL: 480
Deflection TL: 240
Importance: Normal - II
Temperature: Temp <= 100°F

Application: Floor
Design Method: ASD
Building Code: IRC 2018
Load Sharing: Yes
Deck: Not Checked

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	1638	2589	2385	0	0
2	Vertical	1638	2589	2385	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	Vert	72%	2589 / 3018	5607	L	D+0.75(L+S)
2 - SPF	3.500"	Vert	72%	2589 / 3018	5607	L	D+0.75(L+S)

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	25478 ft-lb	9'6 1/2"	51379 ft-lb	0.496 (50%)	D+0.75(L+S)	L
Unbraced	25478 ft-lb	9'6 1/2"	25498 ft-lb	0.999 (100%)	D+0.75(L+S)	L
Shear	4934 lb	1'5 1/2"	16060 lb	0.307 (31%)	D+0.75(L+S)	L
LL Defl inch	0.360 (L/621)	9'6 9/16"	0.466 (L/480)	0.773 (77%)	0.75(L+S)	L
TL Defl inch	0.669 (L/334)	9'6 9/16"	0.931 (L/240)	0.718 (72%)	D+0.75(L+S)	L

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- 3 Refer to last page of calculations for fasteners required for specified loads.
- 4 Girders are designed to be supported on the bottom edge only.
- 5 Top loads must be supported equally by all plies.
- 6 Top must be laterally braced at a maximum of 6'3 1/16" o.c.
- 7 Bottom must be laterally braced at end bearings.
- 8 Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Tie-In Far	0-0-0 to 19-1-0	7-10-0	Top	10 PSF	0 PSF	20 PSF	0 PSF	0 PSF	roof
1	Tie-In Near	0-0-0 to 19-1-0	4-8-0	Top	10 PSF	0 PSF	20 PSF	0 PSF	0 PSF	roof
2	Tie-In Far	0-0-0 to 19-1-0	7-10-0	Far Face	10 PSF	10 PSF	0 PSF	0 PSF	0 PSF	ceiling
2	Tie-In Near	0-0-0 to 19-1-0	0-0-0	Top	10 PSF	10 PSF	0 PSF	0 PSF	0 PSF	ceiling

Continued on page 2...

Notes

Calculated Structural Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation

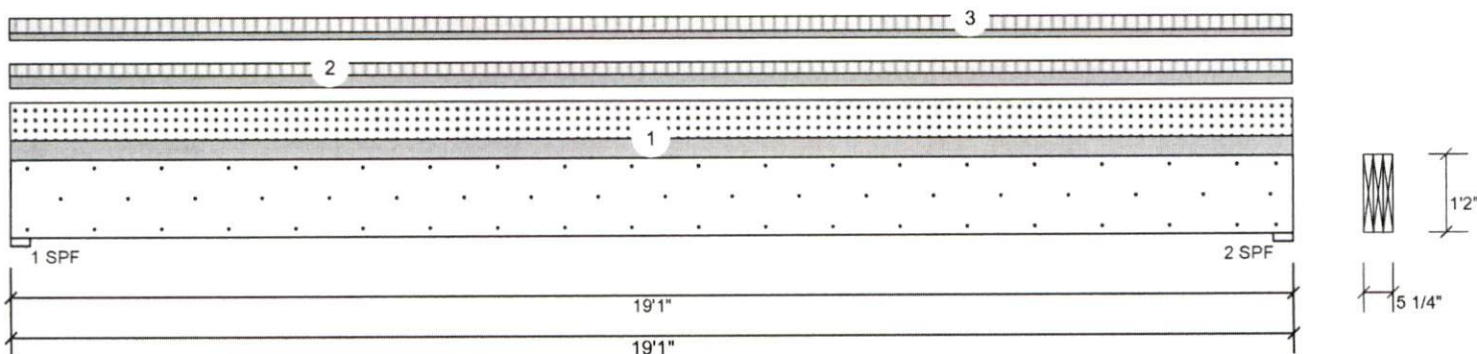
6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 11/3/2024

Manufacturer Info

BlueLinx
1950 Spectrum Circle, Suite 300
Marietta, GA 30067
877-914-7770
www.buildoncenter.com
ICC-ES: ESR-2909, ESR-2913,
ESR-1210

B2 between dining & great rooms onCENTER 2.1E LVL 1.750" X 14.000" 3-Ply - PASSED Level: Level



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
3	Tie-In Far	0-0-0 to 19-1-0	0-0-0	Top	10 PSF	20 PSF	0 PSF	0 PSF	0 PSF	ceiling
3	Tie-In Near	0-0-0 to 19-1-0	4-8-0	Top	10 PSF	20 PSF	0 PSF	0 PSF	0 PSF	ceiling
	Self Weight				21 PLF					

Notes

Calculated Structural Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 11/3/2024

Manufacturer Info

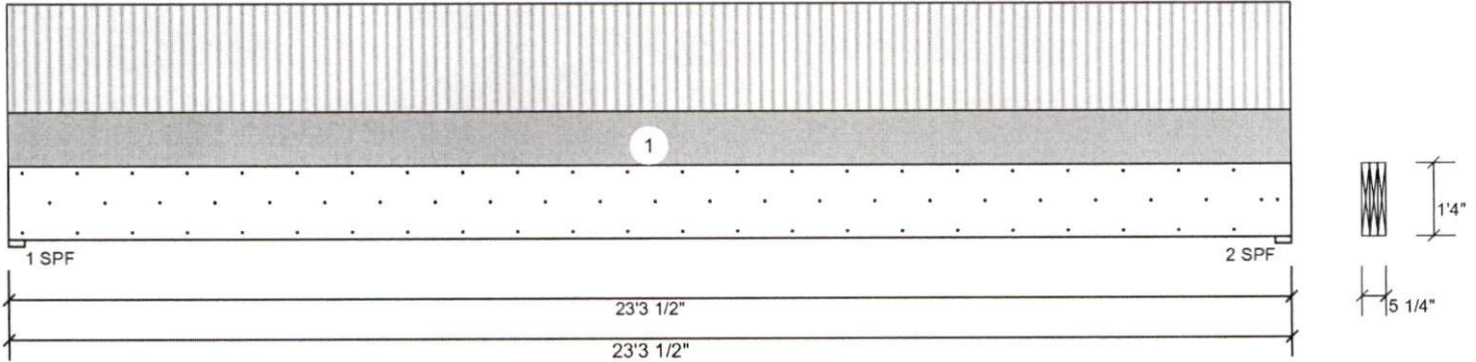
BlueLinx
1950 Spectrum Circle, Suite 300
Marietta, GA 30067
877-914-7770
www.buildoncenter.com
ICC-ES: ESR-2909, ESR-2913,
ESR-1210



Client:
Project:
Address:

Date: 10/21/2022
Input by:
Job Name: Hornsby
Project #:

B3 center carport onCENTER 2.1E LVL 1.750" X 16.000" 3-Ply - PASSED Level: Level



Member Information

Type: Girder
Plies: 3
Moisture Condition: Dry
Deflection LL: 480
Deflection TL: 240
Importance: Normal - II
Temperature: Temp <= 100°F

Application: Floor
Design Method: ASD
Building Code: IRC 2018
Load Sharing: Yes
Deck: Not Checked

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	2717	1643	0	0	0
2	Vertical	2717	1643	0	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	Vert	56%	1643 / 2717	4360	L	D+L
2 - SPF	3.500"	Vert	56%	1643 / 2717	4360	L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	24443 ft-lb	11'7 3/4"	56816 ft-lb	0.430 (43%)	D+L	L
Unbraced	24443 ft-lb	11'7 3/4"	24454 ft-lb	1.000 (100%)	D+L	L
Shear	4251 lb	1'7 1/2"	15960 lb	0.266 (27%)	D+L	L
LL Defl inch	0.400 (L/685)	11'7 13/16"	0.571 (L/480)	0.701 (70%)	L	L
TL Defl inch	0.643 (L/427)	11'7 13/16"	1.143 (L/240)	0.562 (56%)	D+L	L

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- 3 Refer to last page of calculations for fasteners required for specified loads.
- 4 Girders are designed to be supported on the bottom edge only.
- 5 Top must be laterally braced at a maximum of 7'6 1/2" o.c.
- 6 Bottom must be laterally braced at end bearings.
- 7 Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform		11-8-0	Near Face	10 PSF	20 PSF	0 PSF	0 PSF	0 PSF	ceiling (no roof)
	Self Weight				24 PLF					

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation

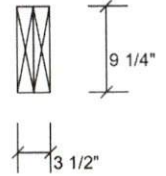
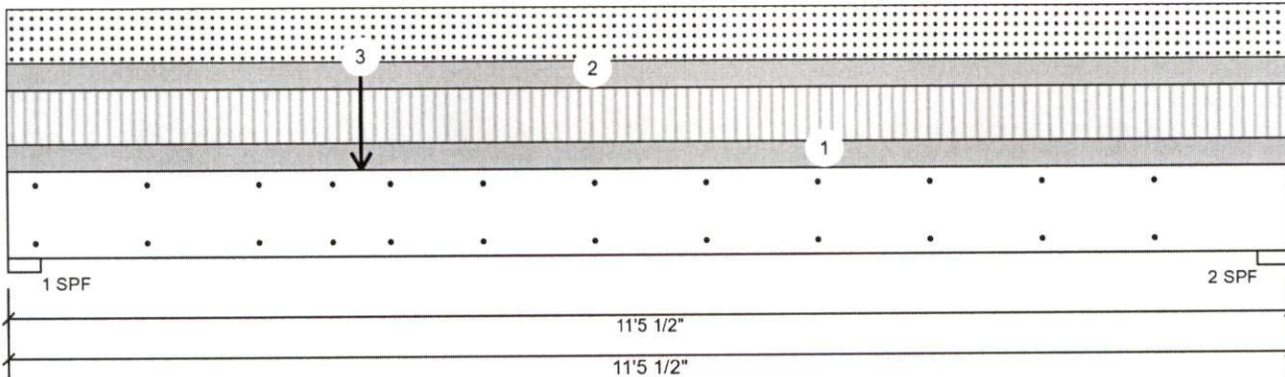
6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

BlueLinX
1950 Spectrum Circle, Suite 300
Marietta, GA 30067
877-914-7770
www.buildoncenter.com
ICC-ES: ESR-2909, ESR-2913,
ESR-1210

This design is valid until 11/3/2024

B4 between carport & rear porch onCENTER 2.1E LVL 1.750" X 9.250" 2-Ply - PASSED Level: Level



Member Information

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IRC 2018
Deflection LL:	480	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	668	1276	1630	0	0
2	Vertical	668	1137	1444	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	Vert	58%	1276 / 1724	3000	L	D+0.75(L+S)
2 - SPF	3.500"	Vert	52%	1137 / 1584	2721	L	D+0.75(L+S)

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	7669 ft-lb	5'4 7/16"	15318 ft-lb	0.501 (50%)	D+0.75(L+S)	L
Unbraced	7669 ft-lb	5'4 7/16"	7670 ft-lb	1.000 (100%)	D+0.75(L+S)	L
Shear	2645 lb	1' 3/4"	7074 lb	0.374 (37%)	D+0.75(L+S)	L
LL Defl inch	0.215 (L/614)	5'7 13/16"	0.275 (L/480)	0.781 (78%)	0.75(L+S)	L
TL Defl inch	0.373 (L/354)	5'7 11/16"	0.550 (L/240)	0.678 (68%)	D+0.75(L+S)	L

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- 3 Refer to last page of calculations for fasteners required for specified loads.
- 4 Concentrated load fastener specification is in addition to hanger fasteners if a hanger is present.
- 5 Girders are designed to be supported on the bottom edge only.
- 6 Top loads must be supported equally by all plies.
- 7 Top must be laterally braced at a maximum of 10'1 7/16" o.c.
- 8 Bottom must be laterally braced at end bearings.
- 9 Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform		5-10-0	Near Face	10 PSF	20 PSF	0 PSF	0 PSF	0 PSF	ceiling
2	Uniform		11-8-0	Top	10 PSF	0 PSF	20 PSF	0 PSF	0 PSF	roof
3	Point	3-2-0		Far Face	300 lb	0 lb	400 lb	0 lb	0 lb	rear porch beam
	Self Weight				9 PLF					

Notes
Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber
1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation
1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 11/3/2024

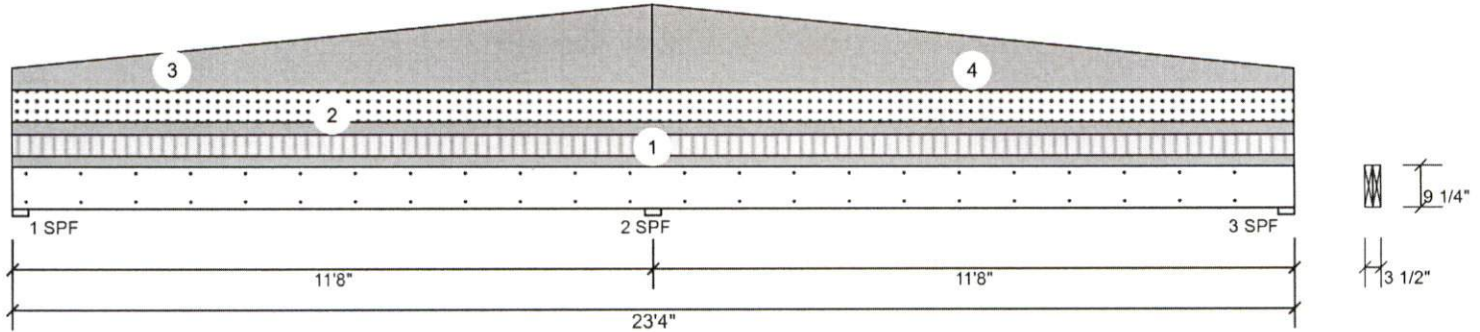
Manufacturer Info
BlueLinX
1950 Spectrum Circle, Suite 300
Marietta, GA 30067
877-914-7770
www.buildoncenter.com
ICC-ES: ESR-2909, ESR-2913, ESR-1210



Client:
Project:
Address:

Date: 10/21/2022
Input by:
Job Name: Hornsby
Project #:

B5 rear carport onCENTER 2.1E LVL 1.750" X 9.250" 2-Ply - PASSED Level: Level



Member Information

Type: Girder
Plies: 2
Moisture Condition: Dry
Deflection LL: 480
Deflection TL: 240
Importance: Normal - II
Temperature: Temp <= 100°F

Application: Floor
Design Method: ASD
Building Code: IRC 2018
Load Sharing: No
Deck: Not Checked

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	91	375	307	0	0
2	Vertical	285	1498	961	0	0
3	Vertical	91	375	307	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	Vert	13%	372 / 329	702	L_	D+S
2 - SPF	3.500"	Vert	47%	1504 / 965	2469	LL	D+S
3 - SPF	3.500"	Vert	13%	372 / 329	702	_L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-2722 ft-lb	11'8"	15318 ft-lb	0.178 (18%)	D+S	LL
Unbraced	-2722 ft-lb	11'8"	3545 ft-lb	0.768 (77%)	D+S	LL
Pos Moment	1577 ft-lb	18'6"	15318 ft-lb	0.103 (10%)	D+0.75(L+S)	_L
Unbraced	1577 ft-lb	18'6"	3545 ft-lb	0.445 (44%)	D+0.75(L+S)	_L
Shear	1066 lb	10'9"	7074 lb	0.151 (15%)	D+S	LL
LL Defl inch	0.035 (L/3941)	17'9 15/16"	0.286 (L/480)	0.122 (12%)	0.75(L+S)	_L
TL Defl inch	0.072 (L/1911)	5'4 9/16"	0.572 (L/240)	0.126 (13%)	D+0.75(L+S)	L_

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- 3 Refer to last page of calculations for fasteners required for specified loads.
- 4 Girders are designed to be supported on the bottom edge only.
- 5 Top loads must be supported equally by all plies.
- 6 Top must be laterally braced at end bearings.
- 7 Bottom must be laterally braced at end bearings.
- 8 Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform		1-0-0	Top	10 PSF	20 PSF	0 PSF	0 PSF	0 PSF	ceiling trib
2	Uniform		2-3-0	Top	12 PSF	0 PSF	30 PSF	0 PSF	0 PSF	rake
3	Tapered Start		0-0-0	Top	20 PLF	0 PLF	0 PLF	0 PLF	0 PLF	gable

Continued on page 2...

Notes

Calculated Structural Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation

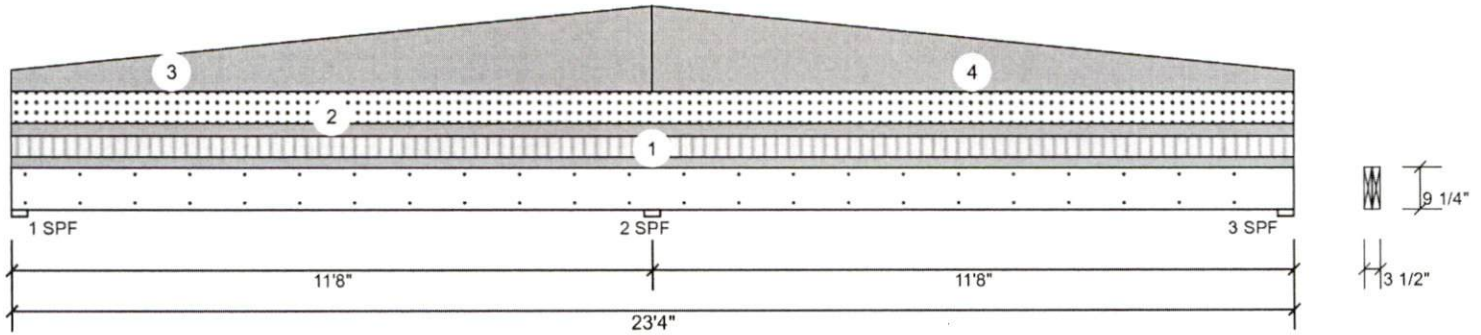
6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 11/3/2024

Manufacturer Info

BlueLinX
1950 Spectrum Circle, Suite 300
Marietta, GA 30067
877-914-7770
www.buildoncenter.com
ICC-ES: ESR-2909, ESR-2913,
ESR-1210

B5 rear carport onCENTER 2.1E LVL 1.750" X 9.250" 2-Ply - PASSED Level: Level



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
	End	11-8-0			80 PLF	0 PLF	0 PLF	0 PLF	0 PLF	
4	Tapered Start	11-8-0		Top	80 PLF	0 PLF	0 PLF	0 PLF	0 PLF	gable
	End	23-4-0			20 PLF	0 PLF	0 PLF	0 PLF	0 PLF	
	Self Weight				9 PLF					

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive

chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation

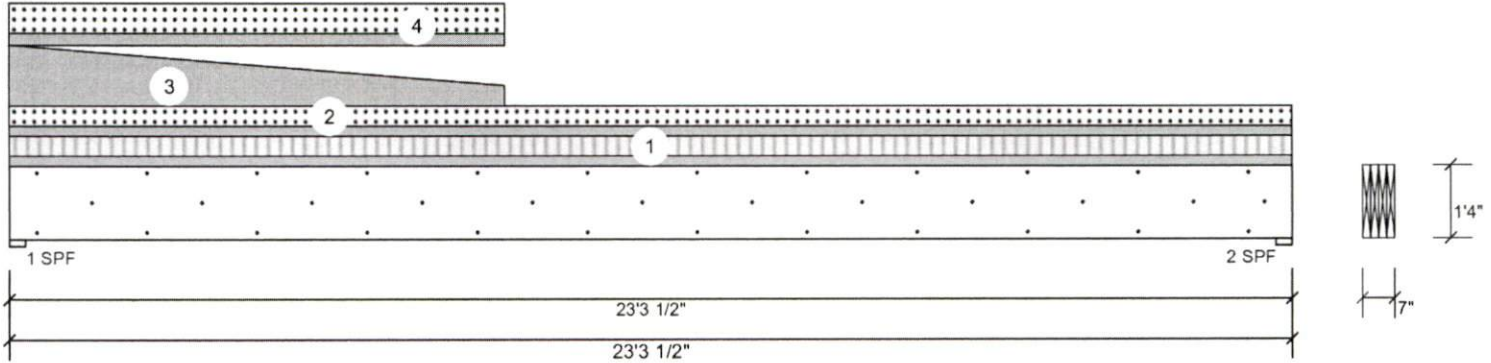
6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

BlueLinx
1950 Spectrum Circle, Suite 300
Marietta, GA 30067
877-914-7770
www.buildoncenter.com
ICC-ES: ESR-2909, ESR-2913,
ESR-1210

This design is valid until 11/3/2024

B6 right car port onCENTER 2.1E LVL 1.750" X 16.000" 4-Ply - PASSED Level: Level



Member Information

Type: Girder
Plies: 4
Moisture Condition: Dry
Deflection LL: 480
Deflection TL: 360
Importance: Normal - II
Temperature: Temp <= 100°F

Application: Floor
Design Method: ASD
Building Code: IRC 2018
Load Sharing: Yes
Deck: Not Checked

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	1359	3035	3444	0	0
2	Vertical	1359	2634	3064	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	Vert	64%	3035 / 3602	6637	L	D+0.75(L+S)
2 - SPF	3.500"	Vert	57%	2634 / 3317	5951	L	D+0.75(L+S)

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	34487 ft-lb	11'3 1/4"	87119 ft-lb	0.396 (40%)	D+0.75(L+S)	L
Unbraced	34487 ft-lb	11'3 1/4"	34582 ft-lb	0.997 (100%)	D+0.75(L+S)	L
Shear	5658 lb	1'7 1/2"	24472 lb	0.231 (23%)	D+0.75(L+S)	L
LL Defl inch	0.378 (L/726)	11'6 13/16"	0.571 (L/480)	0.662 (66%)	0.75(L+S)	L
TL Defl inch	0.683 (L/402)	11'6 5/8"	0.762 (L/360)	0.896 (90%)	D+0.75(L+S)	L

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Fasten all plies using 3 rows of SDW22634 at 24" o.c. Maximum end distance not to exceed 12".
- 3 Refer to last page of calculations for fasteners required for specified loads.
- 4 Simpson fasteners applied from a single side of the member use tip values where published.
- 5 Girders are designed to be supported on the bottom edge only.
- 6 Top loads must be supported equally by all plies.
- 7 Top must be laterally braced at a maximum of 7'1 11/16" o.c.
- 8 Bottom must be laterally braced at end bearings.
- 9 Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform		5-10-0	Top	10 PSF	20 PSF	0 PSF	0 PSF	0 PSF	ceiling
2	Uniform		12-8-0	Top	10 PSF	0 PSF	20 PSF	0 PSF	0 PSF	roof framing
3	Tapered Start	0-0-0		Top	60 PLF	0 PLF	0 PLF	0 PLF	0 PLF	gable
	End	9-0-0			20 PLF	0 PLF	0 PLF	0 PLF	0 PLF	

Continued on page 2...

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

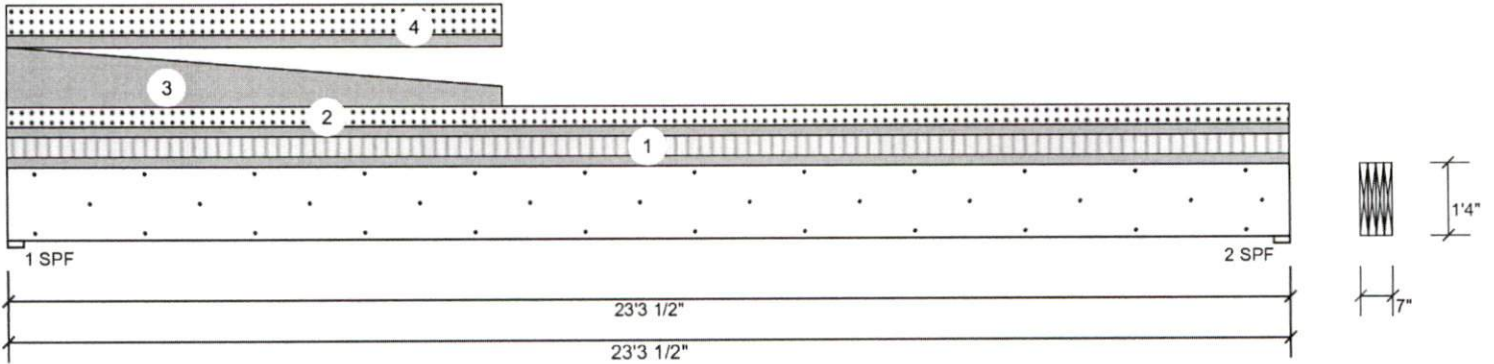
Manufacturer Info

BlueLinX
1950 Spectrum Circle, Suite 300
Marietta, GA 30067
877-914-7770
www.buildoncenter.com
ICC-ES: ESR-2909, ESR-2913,
ESR-1210

This design is valid until 11/3/2024

B6 right car port onCENTER 2.1E LVL 1.750" X 16.000" 4-Ply - PASSED

Level: Level



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
4	Part. Uniform	0-0-0 to 9-0-0	2-3-0	Top	12 PSF	0 PSF	30 PSF	0 PSF	0 PSF	rake
	Self Weight				33 PLF					

Notes

Calculated Structural Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

BlueLinX
1950 Spectrum Circle, Suite 300
Marietta, GA 30067
877-914-7770
www.buildoncenter.com
ICC-ES: ESR-2909, ESR-2913,
ESR-1210

This design is valid until 11/3/2024