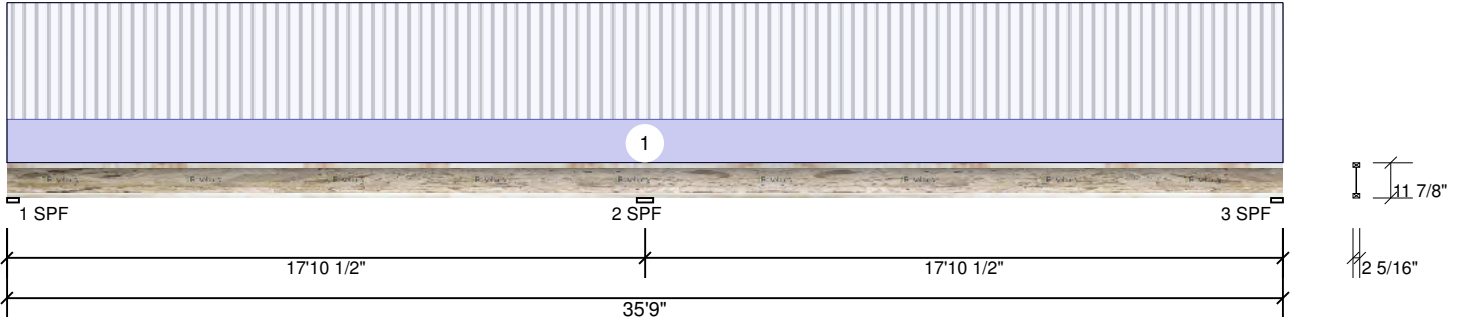


J1 RFPI 70 11.875" - PASSED

Level: Floor



Member Information

Type:	Joist	Application:	Floor
Spacing:	16" o.c.	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	No
Deflection TL:	360	Deck:	23/32 APA Rated Sturd-I-FloorOSB Nailed and Glued
Importance:	Normal		
Temperature:	Temp <= 100°F		
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		
Snow:	20 PSF		
Construction:	20 PSF		

Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	372	139	0	0	0
2	1163	436	0	0	0
3	372	139	0	0	0

Bearings

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	4.000"	37%	139 / 427	567	L_	D+L
2 - SPF	5.500"	60%	437 / 1165	1601	LL	D+L
3 - SPF	4.000"	37%	139 / 427	567	_L	D+L

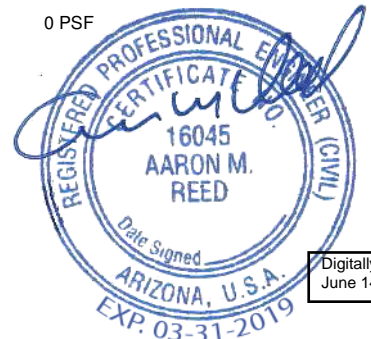
Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-2733 ft-lb	17'10 1/2"	6645 ft-lb	0.411 (41%)	D+L	LL
Unbraced	-1739 ft-lb	17'10 1/2"	1739 ft-lb	1.000 (100%)	D+L	_L
Pos Moment	2038 ft-lb	7'8 11/16"	6645 ft-lb	0.307 (31%)	D+L	L_
Shear	801 lb	17'10 1/2"	1550 lb	0.517 (52%)	D+L	LL
LL Defl inch	0.186 (L/1134)	8'8 1/8"	0.440 (L/480)	0.420 (42%)	L	L_
TL Defl inch	0.233 (L/905)	8'6 3/8"	0.587 (L/360)	0.400 (40%)	D+L	L_

Design Notes

1 Bottom flange must be laterally braced at a maximum of 6'9" o.c.

ID	Load Type	Location	Trib Width	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform		1-4-0	15 PSF	40 PSF	0 PSF	0 PSF	0 PSF	



Digitally sealed
June 14, 2018

Certification is to verify the joist/beam/truss to carry the loads shown and/or for repair design. The applied loads, dimensions, and field conditions info was provided by others. The loads and dimensions must be verified and approved for the specific application by the project design professional.

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. Joist not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. Joist flanges must not be cut or drilled
2. Refer to latest copy of the Joist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details
3. Damaged Joists must not be used
4. Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. Web stiffeners for point load as shown Minimum point load bearing length= 3.5 inches
7. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

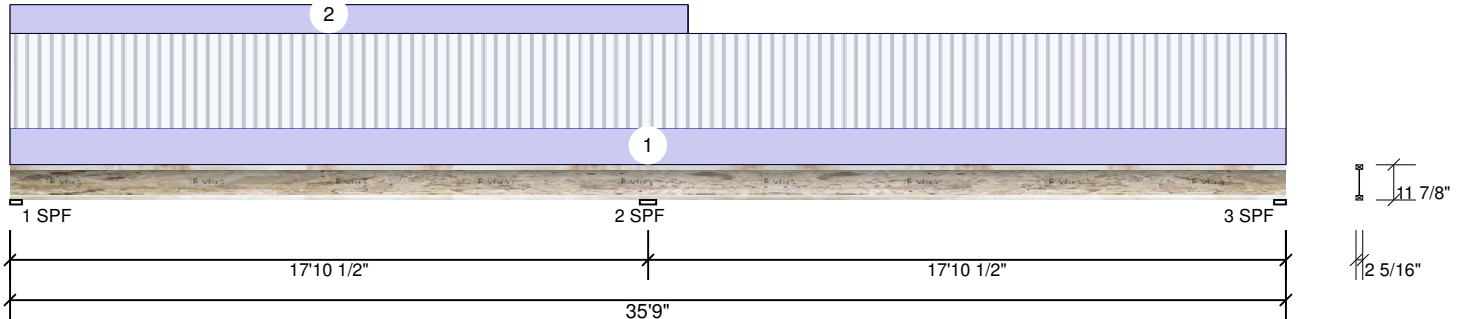
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Capital
33 N. 45th Ave, AZ
85043
602-269-6225



J1a RFPI 70 11.875" - PASSED

Level: Floor



Member Information

Type:	Joist	Application:	Floor
Spacing:	16" o.c.	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	No
Deflection TL:	360	Deck:	23/32 APA Rated Sturd-I-FloorOSB Nailed and Glued
Importance:	Normal		
Temperature:	Temp <= 100°F		
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		
Snow:	20 PSF		
Construction:	20 PSF		

Reactions UNPATTERNED lb (Uplift)

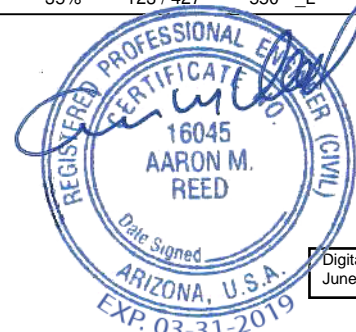
Brg	Live	Dead	Snow	Wind	Const
1	372	267	0	0	0
2	1163	629	0	0	0
3	372	123	0	0	0

Bearings

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	4.000"	45%	267 / 427	695	L_	D+L
2 - SPF	5.500"	67%	629 / 1165	1794	LL	D+L
3 - SPF	4.000"	35%	123 / 427	550	_L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-3035 ft-lb	17'10 1/2"	6645 ft-lb	0.457 (46%)	D+L	LL
Unbraced	-2042 ft-lb	17'10 1/2"	2051 ft-lb	0.995 (100%)	D+L	L_
Pos Moment	2515 ft-lb	7'9 5/16"	6645 ft-lb	0.378 (38%)	D+L	L_
Shear	959 lb	17'10 1/2"	1550 lb	0.619 (62%)	D+L	LL
LL Defl inch	0.186 (L/1134)	8'8 1/8"	0.440 (L/480)	0.420 (42%)	L	L_
TL Defl inch	0.289 (L/731)	8'6 3/4"	0.587 (L/360)	0.490 (49%)	D+L	L_



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June 14, 2018

Design Notes

- 1 Bottom flange must be laterally braced at a maximum of 6'3" o.c.

ID	Load Type	Location	Trib Width	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform		1-4-0	15 PSF	40 PSF	0 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-0-0 to 19-0-0		12 PSF	0 PSF	0 PSF	0 PSF	0 PSF	Tile at Kitchen / Utility

Certification is to verify the joist/beam/truss to carry the loads shown and/or for repair design. The applied loads, dimensions, and field conditions info was provided by others. The loads and dimensions must be verified and approved for the specific application by the project design professional.

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. Joist not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. Joist flanges must not be cut or drilled
2. Refer to latest copy of the Joist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details
3. Damaged Joists must not be used
4. Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. Web stiffeners for point load as shown Minimum point load bearing length= 3.5 inches
7. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

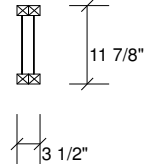
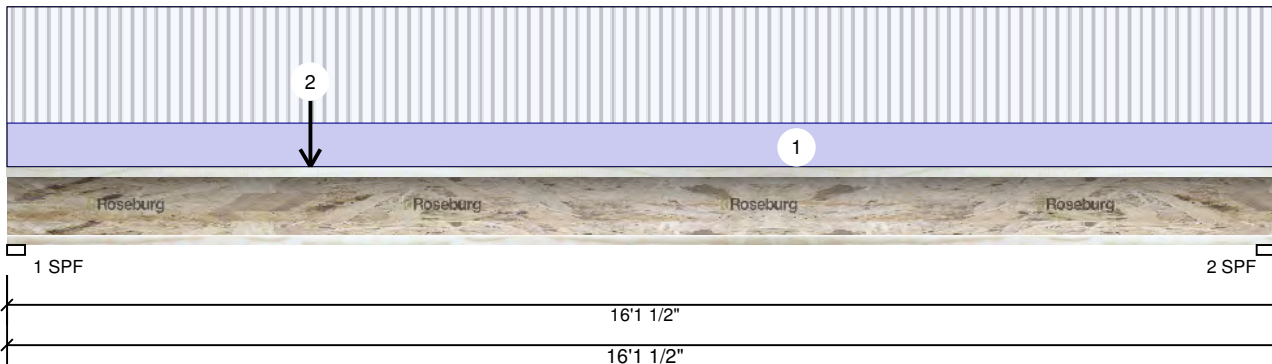
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Riddle, OR 97469
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Capital
33 N. 45th Ave , AZ
85043
602-269-6225



J2 RFPI 20 11.875" 2-Ply - PASSED

Level: Floor



Member Information

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	No
Deflection TL:	360	Deck:	Not Checked
Importance:	Normal		
Temperature:	Temp <= 100°F		
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		
Snow:	20 PSF		
Construction:	20 PSF		

Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	734	275	0	0	0
2	526	197	0	0	0

Bearings

Bearing	Length	Cap. React	D/L lb	Total Ld.	Case	Ld. Comb.
1 - SPF	2.750"	44%	275 / 734	1009	L	D+L
2 - SPF	4.000"	25%	197 / 526	724	L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3377 ft-lb	6'3 1/8"	7280 ft-lb	0.464 (46%)	D+L	L
Unbraced	3377 ft-lb	6'3 1/8"	3387 ft-lb	0.997 (100%)	D+L	L
Shear	997 lb	2"	2840 lb	0.351 (35%)	D+L	L
LL Defl inch	0.211 (L/891)	7'7 7/16"	0.392 (L/480)	0.540 (54%)	L	L
TL Defl inch	0.291 (L/648)	7'7 7/16"	0.523 (L/360)	0.560 (56%)	D+L	L



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June 14, 2018

Design Notes

- 1 Girders are designed to be supported on the bottom edge only.
- 2 Multiple plies must be fastened together as per manufacturer's details.
- 3 Top loads must be supported equally by all plies.
- 4 Top flange must be laterally braced at a maximum of 7'5" o.c.
- 5 Bottom flange braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform		1-4-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	0 PSF	
2	Point	3-10-0		Top	150 lb	400 lb	0 lb	0 lb	0 lb	J5

Certification is to verify the joist/beam/truss to carry the loads shown and/or for repair design. The applied loads, dimensions, and field conditions info was provided by others. The loads and dimensions must be verified and approved for the specific application by the project design professional.

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. Joist not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. Joist flanges must not be cut or drilled
2. Refer to latest copy of the Joist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details
3. Damaged Joists must not be used
4. Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. Web stiffeners for point load as shown Minimum point load bearing length= 3.5 inches
7. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

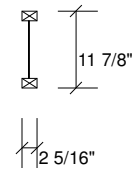
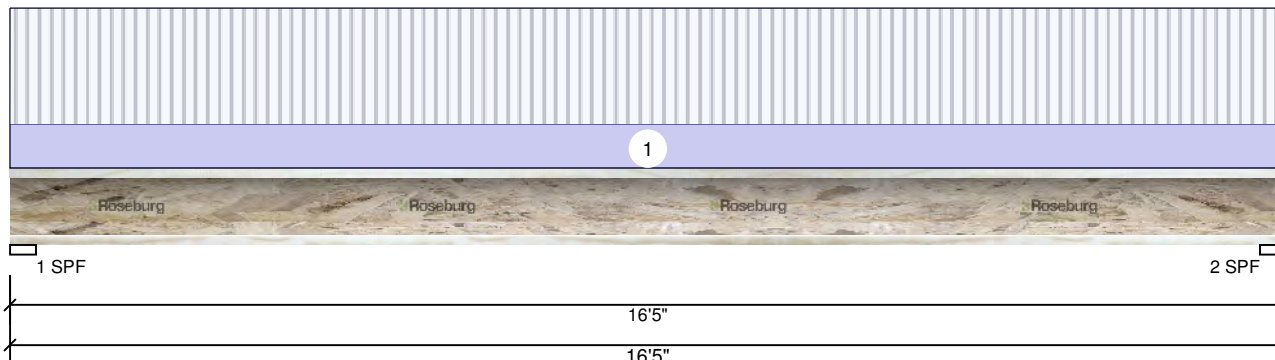
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Capital
33 N. 45th Ave , AZ
85043
602-269-6225



J3 RFPI 70 11.875" - PASSED

Level: Floor



Member Information

Type:	Joist	Application:	Floor
Spacing:	16" o.c.	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	No
Deflection TL:	360	Deck:	23/32 APA Rated Sturd-I-FloorOSB Nailed and Glued
Importance:	Normal		
Temperature:	Temp <= 100°F		
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		
Snow:	20 PSF		
Construction:	20 PSF		

Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	438	164	0	0	0
2	438	164	0	0	0

Bearings

Bearing	Length	Cap. React	D/L lb	Total Ld.	Case	Ld. Comb.
1 - SPF	4.000"	39%	164 / 438	602	L	D+L
2 - SPF	4.000"	39%	164 / 438	602	L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2310 ft-lb	8'2 1/2"	6645 ft-lb	0.348 (35%)	D+L	L
Shear	582 lb	3 1/4"	1550 lb	0.376 (38%)	D+L	L
LL Defl inch	0.169 (L/1130)	8'2 9/16"	0.397 (L/480)	0.420 (42%)	L	L
TL Defl inch	0.232 (L/822)	8'2 9/16"	0.529 (L/360)	0.440 (44%)	D+L	L

Design Notes

1 Bottom flange braced at bearings.

ID	Load Type	Location	Trib Width	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform		1-4-0	15 PSF	40 PSF	0 PSF	0 PSF	0 PSF	



Certification is to verify the joist/beam/truss to carry the loads shown and/or for repair design. The applied loads, dimensions, and field conditions info was provided by others. The loads and dimensions must be verified and approved for the specific application by the project design professional.

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. Joist not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. Joist flanges must not be cut or drilled
2. Refer to latest copy of the Joist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details
3. Damaged Joists must not be used
4. Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. Web stiffeners for point load as shown Minimum point load bearing length= 3.5 inches
7. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

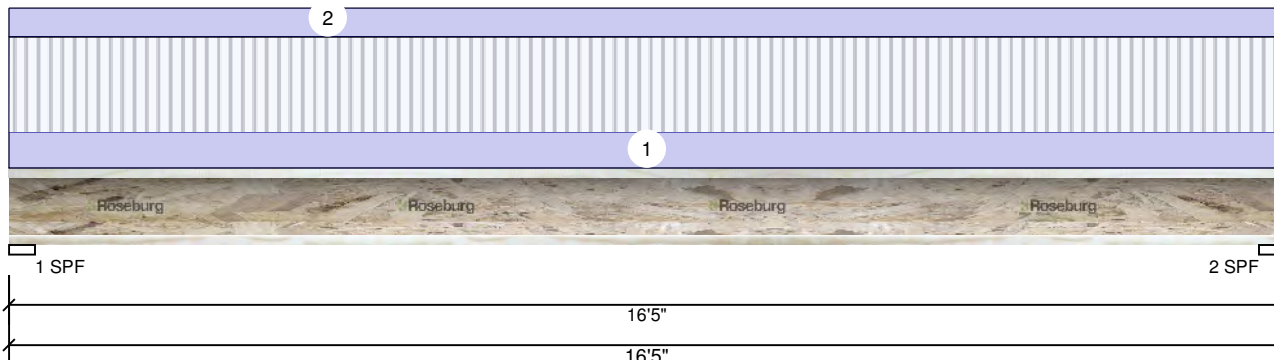
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Riddle, OR 97469
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J3a RFPI 70 11.875" - PASSED

Level: Floor



Member Information

Type:	Joist	Application:	Floor
Spacing:	16" o.c.	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	No
Deflection TL:	360	Deck:	23/32 APA Rated Sturd-I-FloorOSB Nailed and Glued
Importance:	Normal		
Temperature:	Temp <= 100°F		
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		
Snow:	20 PSF		
Construction:	20 PSF		

Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	438	296	0	0	0
2	438	296	0	0	0

Bearings

Bearing	Length	Cap. React	D/L lb	Total Ld.	Case	Ld. Comb.
1 - SPF	4.000"	47%	296 / 438	733	L	D+L
2 - SPF	4.000"	47%	296 / 438	733	L	D+L

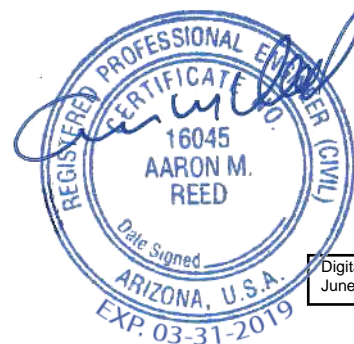
Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2814 ft-lb	8'2 1/2"	6645 ft-lb	0.424 (42%)	D+L	L
Shear	709 lb	3 1/4"	1550 lb	0.457 (46%)	D+L	L
LL Defl inch	0.169 (L/1130)	8'2 9/16"	0.397 (L/480)	0.420 (42%)	L	L
TL Defl inch	0.282 (L/674)	8'2 9/16"	0.529 (L/360)	0.530 (53%)	D+L	L

Design Notes

1 Bottom flange braced at bearings.

ID	Load Type	Location	Trib Width	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform		1-4-0	15 PSF	40 PSF	0 PSF	0 PSF	0 PSF	
2	Uniform		1-4-0	12 PSF	0 PSF	0 PSF	0 PSF	0 PSF	Tile ar Master Bath



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June 14, 2018

Certification is to verify the joist/beam/truss to carry the loads shown and/or for repair design. The applied loads, dimensions, and field conditions info was provided by others. The loads and dimensions must be verified and approved for the specific application by the project design professional.

Notes

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Lumber

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

Handling & Installation

1. Joist flanges must not be cut or drilled
2. Refer to latest copy of the Joist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details
3. Damaged Joists must not be used
4. Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. Web stiffeners for point load as shown Minimum point load bearing length= 3.5 inches
7. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

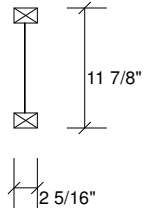
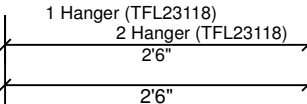
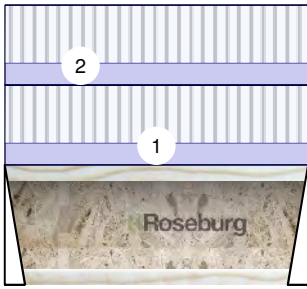
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Capital
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85043
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J5 RFPI 70 11.875" - PASSED

Level: Floor



Member Information

Type:	Girder
Plies:	1
Moisture Condition:	Dry
Deflection LL:	480
Deflection TL:	360
Importance:	Normal
Temperature:	Temp <= 100°F
General Load	
Floor Live:	40 PSF
Dead:	15 PSF
Snow:	20 PSF
Construction:	20 PSF

Application:	Floor
Design Method:	ASD
Building Code:	IBC/IRC 2015
Load Sharing:	No
Deck:	Not Checked

Reactions UNPATTERNED lb (Uplift)

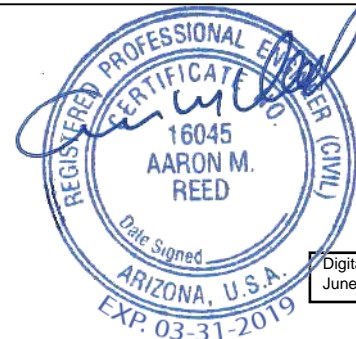
Brg	Live	Dead	Snow	Wind	Const
1	400	150	0	0	0
2	400	150	0	0	0

Bearings

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.000"	44%	150 / 400	550	L	D+L
2 - Hanger	2.000"	44%	150 / 400	550	L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	289 ft-lb	1'3"	6645 ft-lb	0.043 (4%)	D+L	L
Unbraced	289 ft-lb	1'3"	6236 ft-lb	0.046 (5%)	D+L	L
Shear	504 lb	1 1/4"	1550 lb	0.325 (33%)	D+L	L
LL Defl inch	0.004 (L/7433)	1'3"	0.057 (L/480)	0.060 (6%)	L	L
TL Defl inch	0.005 (L/5406)	1'3"	0.076 (L/360)	0.070 (7%)	D+L	L



Digitally sealed
June 14, 2018

Design Notes

- 1 Fill all hanger nailing holes.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Top flange unbraced.
- 4 Bottom flange braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform		6-0-0	Far Face	15 PSF	40 PSF	0 PSF	0 PSF	0 PSF	
2	Uniform		2-0-0	Near Face	15 PSF	40 PSF	0 PSF	0 PSF	0 PSF	

Certification is to verify the joist/beam/truss to carry the loads shown and/or for repair design. The applied loads, dimensions, and field conditions info was provided by others. The loads and dimensions must be verified and approved for the specific application by the project design professional.

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. Joist not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. Joist flanges must not be cut or drilled
2. Refer to latest copy of the Joist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details
3. Damaged Joists must not be used
4. Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. Web stiffeners for point load as shown Minimum point load bearing length= 3.5 inches
7. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

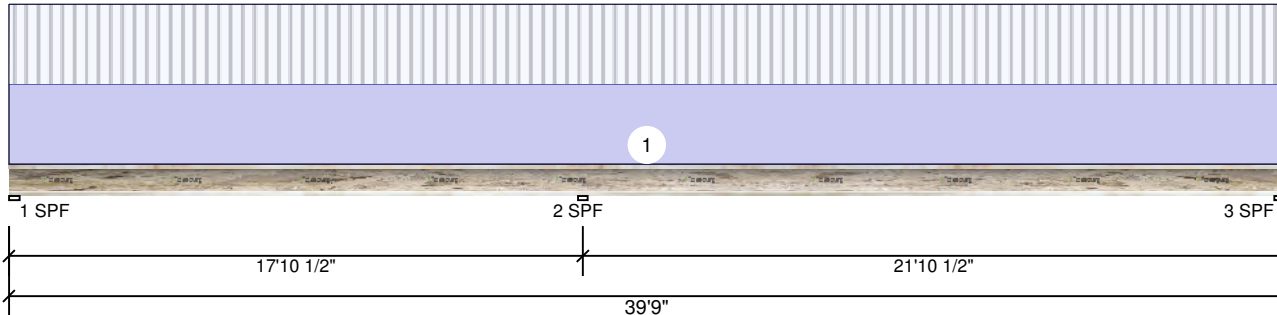
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Capital
33 N. 45th Ave , AZ
85043
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J1 RFPI 20 11.875" - PASSED

Level: Ceiling



Member Information

Type:	Joist
Spacing:	24" o.c.
Moisture Condition:	Dry
Deflection LL:	360
Deflection TL:	240
Importance:	Normal
Temperature:	Temp <= 100°F
General Load	
Floor Live:	40 PSF
Dead:	15 PSF
Snow:	20 PSF
Construction:	20 PSF

Application:	Roof
Slope:	0/12
Design Method:	ASD
Building Code:	IBC/IRC 2015
Load Sharing:	No
Deck:	Not Checked
Ceiling:	Gypsum 5/8"

Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	126	126	0	0	0
2	492	492	0	0	0
3	176	176	0	0	0

Bearings

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	4.000"	20%	126 / 162	288	L_	D+L
2 - SPF	3.500"	51%	492 / 492	984	LL	D+L
3 - SPF	4.000"	26%	176 / 192	369	_L	D+L

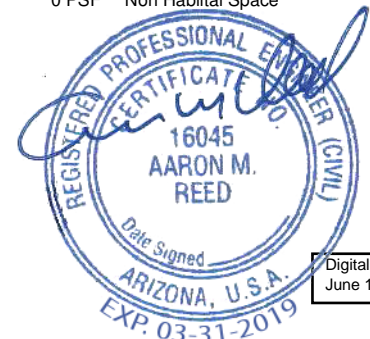
Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-1943 ft-lb	17'10 1/2"	3640 ft-lb	0.534 (53%)	D+L	LL
Pos Moment	1602 ft-lb	30'6 3/8"	3640 ft-lb	0.440 (44%)	D+L	_L
Unbraced	1602 ft-lb	30'6 3/8"	1621 ft-lb	0.988 (99%)	D+L	_L
Shear	522 lb	17'10 1/2"	1420 lb	0.368 (37%)	D+L	LL
LL Defl inch	0.253 (L/1023)	29'3 9/16"	0.720 (L/360)	0.350 (35%)	L	_L
TL Defl inch	0.448 (L/579)	29'6 1/2"	1.080 (L/240)	0.410 (41%)	D+L	_L

Design Notes

1 Top flange must be laterally braced at a maximum of 3'10" o.c.

ID	Load Type	Location	Trib Width	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform		2-0-0	10 PSF	10 PSF	0 PSF	0 PSF	0 PSF	Non Habital Space



Digitally sealed
June 14, 2018

Certification is to verify the joist/beam/truss to carry the loads shown and/or for repair design. The applied loads, dimensions, and field conditions info was provided by others. The loads and dimensions must be verified and approved for the specific application by the project design professional.

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. Joist not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. Joist flanges must not be cut or drilled
2. Refer to latest copy of the Joist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details
3. Damaged Joists must not be used
4. Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. Web stiffeners for point load as shown Minimum point load bearing length= 3.5 inches
7. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

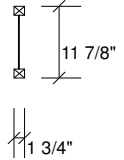
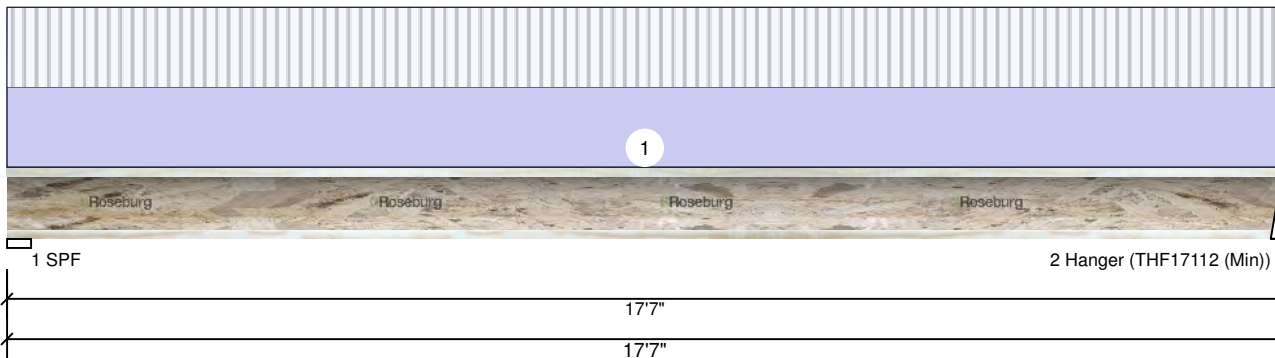
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4500 Riddle By-pass Rd
Riddle, OR 97469
(541) 784-4005
www.roseburg.com
APA: PR-L259, ICC-ES: ESR-1251

Capital
33 N. 45th Ave , AZ
85043
602-269-6225



J2 RFPI 20 11.875" - PASSED

Level: Ceiling



Member Information

Type:	Joist
Spacing:	24" o.c.
Moisture Condition:	Dry
Deflection LL:	360
Deflection TL:	240
Importance:	Normal
Temperature:	Temp <= 100°F
General Load	
Floor Live:	40 PSF
Dead:	15 PSF
Snow:	20 PSF
Construction:	20 PSF

Application:	Floor
Design Method:	ASD
Building Code:	IBC/IRC 2015
Load Sharing:	No
Deck:	Not Checked
Ceiling:	Gypsum 5/8"

Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	178	178	0	0	0
2	174	174	0	0	0

Bearings

Bearing	Length	Cap. React	D/L lb	Total Ld.	Case	Ld. Comb.
1 - SPF	4.000"	25%	178 / 178	355	L	D+L
2 - Hanger	2.000"	35%	174 / 174	348	L	D+L

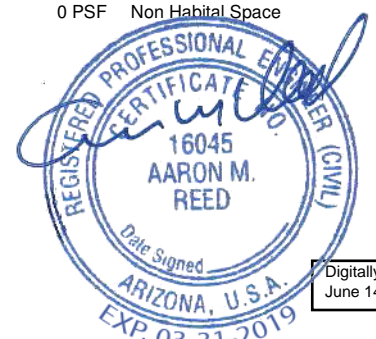
Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1481 ft-lb	8'10 1/2"	3640 ft-lb	0.407 (41%)	D+L	L
Unbraced	1481 ft-lb	8'10 1/2"	1488 ft-lb	0.995 (100%)	D+L	L
Shear	344 lb	3 1/4"	1420 lb	0.242 (24%)	D+L	L
LL Defl inch	0.151 (L/1368)	8'10 9/16"	0.574 (L/360)	0.260 (26%)	L	L
TL Defl inch	0.302 (L/684)	8'10 9/16"	0.860 (L/240)	0.350 (35%)	D+L	L

Design Notes

- 1 Fill all hanger nailing holes.
- 2 Top flange must be laterally braced at a maximum of 4' o.c.

ID	Load Type	Location	Trib Width	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform		2-0-0	10 PSF	10 PSF	0 PSF	0 PSF	0 PSF	Non Habital Space



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June 14, 2018

Certification is to verify the joist/beam/truss to carry the loads shown and/or for repair design. The applied loads, dimensions, and field conditions info was provided by others. The loads and dimensions must be verified and approved for the specific application by the project design professional.

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. Joist not to be treated with fire retardant or corrosive chemicals

Handling & Installation

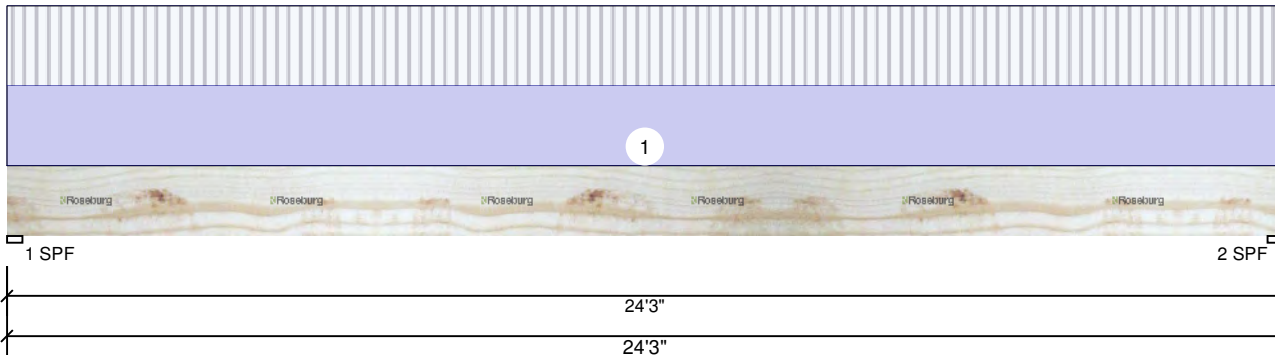
1. Joist flanges must not be cut or drilled
2. Refer to latest copy of the Joist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details
3. Damaged Joists must not be used
4. Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.
5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. Web stiffeners for point load as shown Minimum point load bearing length= 3.5 inches
7. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info
Roseburg Forest Products
4500 Riddle By-pass Rd
Riddle, OR 97469
(541) 784-4005
www.roseburg.com
APA: PR-L259, ICC-ES: ESR-1251

Capital
33 N. 45th Ave , AZ
85043
602-269-6225

B1 2.0E Rigidlam LVL 7.000" X 16.000" - PASSED

Level: Ceiling



Member Information

Type:	Girder	Application:	Floor
Plies:	1	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal		
Temperature:	Temp <= 100°F		
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		
Snow:	20 PSF		
Construction:	20 PSF		

Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	2110	2468	0	0	0
2	2110	2468	0	0	0

Bearings

Bearing	Length	Cap. React	D/L lb	Total Ld.	Case	Ld. Comb.
1 - SPF	3.500"	44%	2468 / 2110	4578	L	D+L
2 - SPF	3.500"	44%	2468 / 2110	4578	L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	26714 ft-lb	12'1 1/2"	74430 ft-lb	0.359 (36%)	D+L	L
Unbraced	26714 ft-lb	12'1 1/2"	72108 ft-lb	0.370 (37%)	D+L	L
Shear	3988 lb	1'6 3/4"	21653 lb	0.184 (18%)	D+L	L
LL Defl inch	0.262 (L/1088)	12'1 9/16"	0.793 (L/360)	0.330 (33%)	L	L
TL Defl inch	0.570 (L/501)	12'1 9/16"	1.190 (L/240)	0.480 (48%)	D+L	L



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June 14, 2018

Design Notes

- Girders are designed to be supported on the bottom edge only.
- Top braced at bearings.
- Bottom braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform			Top	174 PLF	174 PLF	0 PLF	0 PLF	0 PLF	
	Self Weight				30 PLF					

Certification is to verify the joist/beam/truss to carry the loads shown and/or for repair design. The applied loads, dimensions, and field conditions info was provided by others. The loads and dimensions must be verified and approved for the specific application by the project design professional.

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

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

Handling & Installation

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

- For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

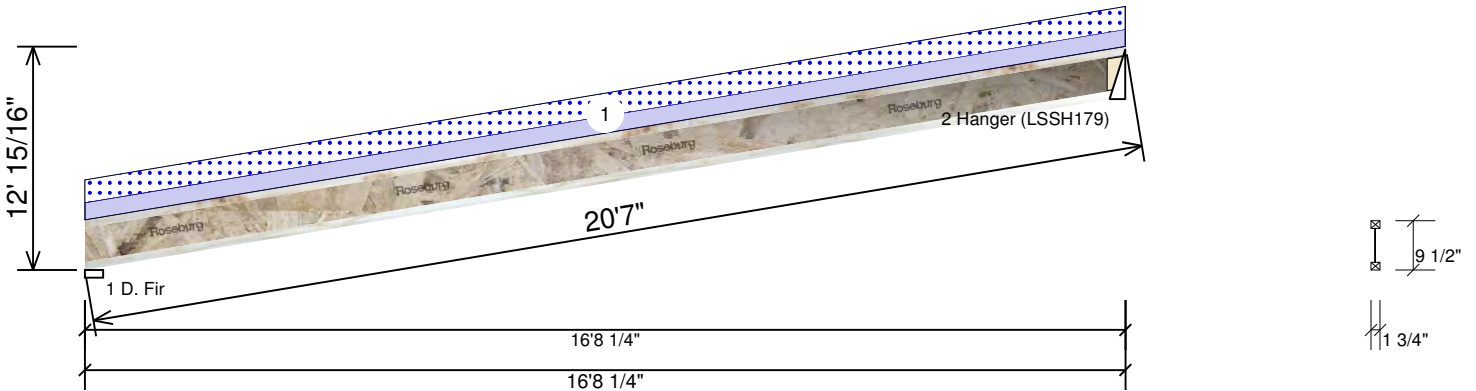
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Riddle, OR 97469
(541) 784-4005
www.roseburg.com
APA: PR-L289, PR-L270, ICC-ES:
ESR-1210

Capital
33 N. 45th Ave, AZ
85043
602-269-6225



J1 RFPI 20 9.500" - PASSED

Level: Roof



Member Information

Type:	Joist	Application:	Roof
Spacing:	16" o.c.	Slope:	8/12
Moisture Condition:	Dry	Design Method:	ASD
Deflection LL:	360	Building Code:	IBC/IRC 2015
Deflection TL:	240	Load Sharing:	No
Importance:	Normal	Deck:	15/32 APA Rated Sheathing OSB Nailed and Glued
Temperature:	Temp <= 100°F		
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		
Snow:	20 PSF		
Construction:	20 PSF		

Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	0	200	223	0	0
2	0	199	222	0	0

Bearings

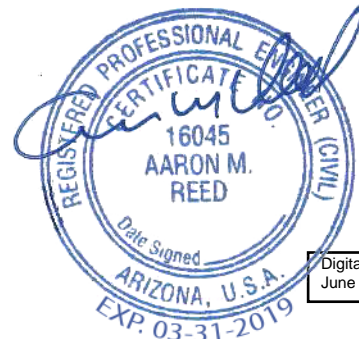
Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - D. Fir	3.500"	32%	200 / 223	423 L D+S
2 - Hanger	3.000"	31%	199 / 222	421 L D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1678 ft-lb	8'4 3/8"	3243 ft-lb	0.517 (52%)	D+S	L
Shear	343 lb	2 3/4"	1403 lb	0.245 (24%)	D+S	L
LL Defl inch	0.385 (L/609)	8'4 7/16"	0.652 (L/360)	0.590 (59%)	S	L
TL Defl inch	0.733 (L/320)	8'4 7/16"	0.978 (L/240)	0.750 (75%)	D+S	L

Design Notes

- 1 Fill all hanger nailing holes.
- 2 Use solid wedge bearings or metal variable pitch connector at each bearing.
- 3 Attach with enough nails to prevent sliding between the joist and the sloped bearing wedge at each support.
- 4 No composite deck properties were used to calculate deflection.
- 5 Bottom flange braced at bearings.
- 6 Web stiffeners required at Bearing 2.



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June 14, 2018

ID	Load Type	Location	Trib Width	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform		1-4-0	15 PSF	0 PSF	20 PSF	0 PSF	0 PSF	
	Moving Concentrated				300 lb.	Moved in	2'6"	steps	Moving load check is non-concurrent with any other live loads

Certification is to verify the joist/beam/truss to carry the loads shown and/or for repair design. The applied loads, dimensions, and field conditions info was provided by others. The loads and dimensions must be verified and approved for the specific application by the project design professional.

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. Joist not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. Joist flanges must not be cut or drilled
2. Refer to latest copy of the Joist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details
3. Damaged Joists must not be used
4. Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. Web stiffeners for point load as shown Minimum point load bearing length= 3.5 inches
7. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

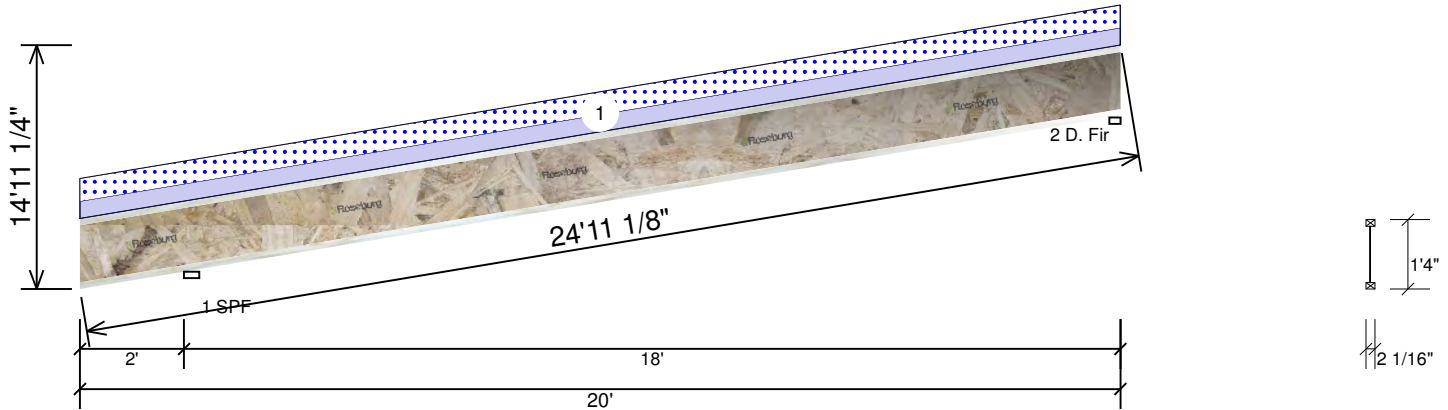
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4500 Riddle By-pass Rd
Riddle, OR 97469
(541) 784-4005
www.roseburg.com
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Capital
33 N. 45th Ave , AZ
85043
602-269-6225



J6 RFPI 400 16.000" - PASSED

Level: Roof



Member Information

Type:	Joist	Application:	Roof
Spacing:	24" o.c.	Slope:	8/12
Moisture Condition:	Dry	Design Method:	ASD
Deflection LL:	360	Building Code:	IBC/IRC 2015
Deflection TL:	240	Load Sharing:	No
Importance:	Normal	Deck:	15/32 APA Rated Sheathing OSB Nailed and Glued
Temperature:	Temp <= 100°F		
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		
Snow:	20 PSF		
Construction:	20 PSF		

Reactions UNPATTERNED lb (Uplift)

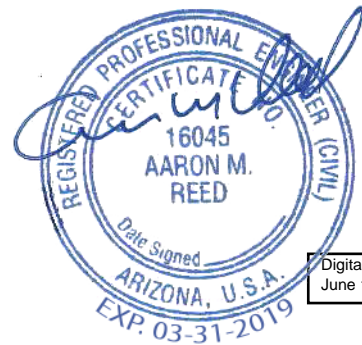
Brg	Live	Dead	Snow	Wind	Const
1	0	399	443	0	0
2	0	321	357	0	0

Bearings

Bearing	Length	Cap. React	D/L lb	Total Ld.	Case	Ld. Comb.
1 - SPF	3.500"	33%	399 / 443	842	LL	D+S
2 - D. Fir	2.563"	48%	321 / 358	679	_L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-152 ft-lb	2'	6762 ft-lb	0.022 (2%)	D+S	L_
Unbraced	-152 ft-lb	2'	6711 ft-lb	0.023 (2%)	D+S	L_
Pos Moment	2927 ft-lb	11'1"	6762 ft-lb	0.433 (43%)	D+S	_L
Shear	568 lb	2'1 3/4"	2266 lb	0.251 (25%)	D+S	LL
LL Defl inch	0.208 (L/1230)	11'1/4"	0.710 (L/360)	0.290 (29%)	S	_L
TL Defl inch	0.392 (L/652)	11'5/16"	1.064 (L/240)	0.370 (37%)	D+S	_L
LL Cant	-0.067 (2L/860)	Lt Cant	0.200 (2L/360)	0.336 (34%)	S	_L
TL Cant	-0.125 (2L/460)	Lt Cant	0.300 (2L/240)	0.418 (42%)	D+S	_L



Digitally sealed
June 14, 2018

Design Notes

- 1 Use solid wedge bearings or metal variable pitch connector at each bearing.
- 2 Attach with enough nails to prevent sliding between the joist and the sloped bearing wedge at each support.
- 3 No composite deck properties were used to calculate deflection.
- 4 Bottom flange must be laterally braced at a maximum of 8'7" o.c. along the slope.

ID	Load Type	Location	Trib Width	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform		2-0-0	15 PSF	0 PSF	20 PSF	0 PSF	0 PSF	

Certification is to verify the joist/beam/truss to carry the loads shown and/or for repair design. The applied loads, dimensions, and field conditions info was provided by others. The loads and dimensions must be verified and approved for the specific application by the project design professional.

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. Joist not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. Joist flanges must not be cut or drilled
2. Refer to latest copy of the Joist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details
3. Damaged Joists must not be used
4. Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. Web stiffeners for point load as shown Minimum point load bearing length= 3.5 inches
7. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

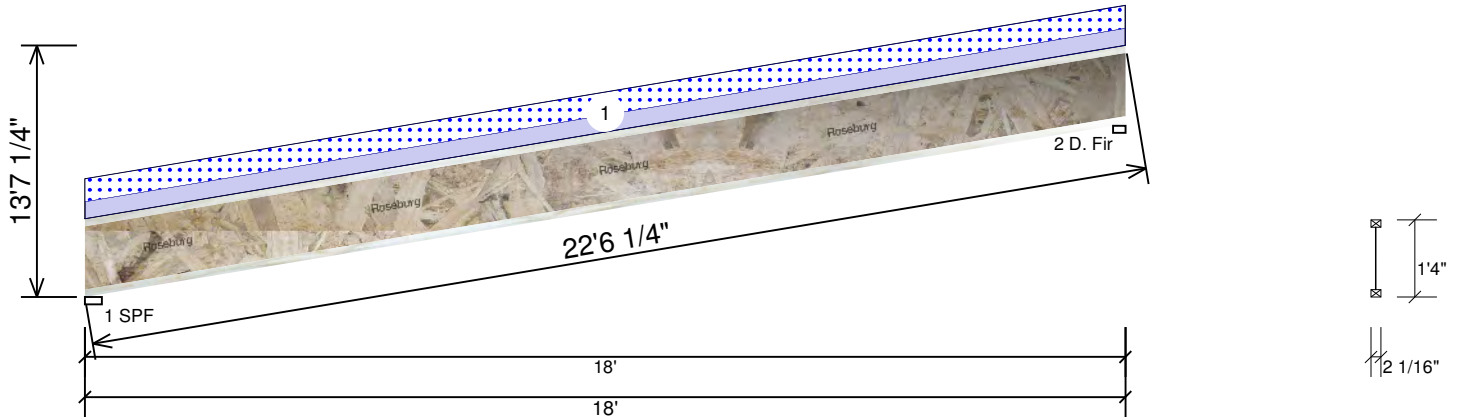
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4500 Riddle By-pass Rd
Riddle, OR 97469
(541) 784-4005
www.roseburg.com
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Capital
33 N. 45th Ave , AZ
85043
602-269-6225



J7 RFPI 400 16.000" - PASSED

Level: Roof



Member Information

Type:	Joist	Application:	Roof
Spacing:	24" o.c.	Slope:	8/12
Moisture Condition:	Dry	Design Method:	ASD
Deflection LL:	360	Building Code:	IBC/IRC 2015
Deflection TL:	240	Load Sharing:	No
Importance:	Normal	Deck:	15/32 APA Rated Sheathing OSB Nailed and Glued
Temperature:	Temp <= 100°F		
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		
Snow:	20 PSF		
Construction:	20 PSF		

Reactions UNPATTERNED lb (Uplift)

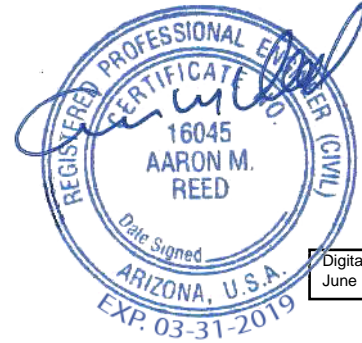
Brg	Live	Dead	Snow	Wind	Const
1	0	325	362	0	0
2	0	322	358	0	0

Bearings

Bearing	Length	Cap. React	D/L lb	Total Ld.	Case	Ld. Comb.
1 - SPF	3.500"	41%	325 / 362	686	L	D+S
2 - D. Fir	2.563"	48%	322 / 358	681	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2958 ft-lb	9' 1/2"	6762 ft-lb	0.438 (44%)	D+S	L
Shear	558 lb	21'5 1/16"	2266 lb	0.246 (25%)	D+S	L
LL Defl inch	0.207 (L/1227)	9' 1/2"	0.707 (L/360)	0.290 (29%)	S	L
TL Defl inch	0.394 (L/646)	9' 1/2"	1.060 (L/240)	0.370 (37%)	D+S	L



Digitally sealed
June 14, 2018

Design Notes

- 1 Use solid wedge bearings or metal variable pitch connector at each bearing.
- 2 Attach with enough nails to prevent sliding between the joist and the sloped bearing wedge at each support.
- 3 No composite deck properties were used to calculate deflection.
- 4 Bottom flange braced at bearings.

ID	Load Type	Location	Trib Width	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform		2-0-0	15 PSF	0 PSF	20 PSF	0 PSF	0 PSF	

Certification is to verify the joist/beam/truss to carry the loads shown and/or for repair design. The applied loads, dimensions, and field conditions info was provided by others. The loads and dimensions must be verified and approved for the specific application by the project design professional.

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. Joist not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. Joist flanges must not be cut or drilled
2. Refer to latest copy of the Joist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details
3. Damaged Joists must not be used
4. Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. Web stiffeners for point load as shown Minimum point load bearing length= 3.5 inches
7. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

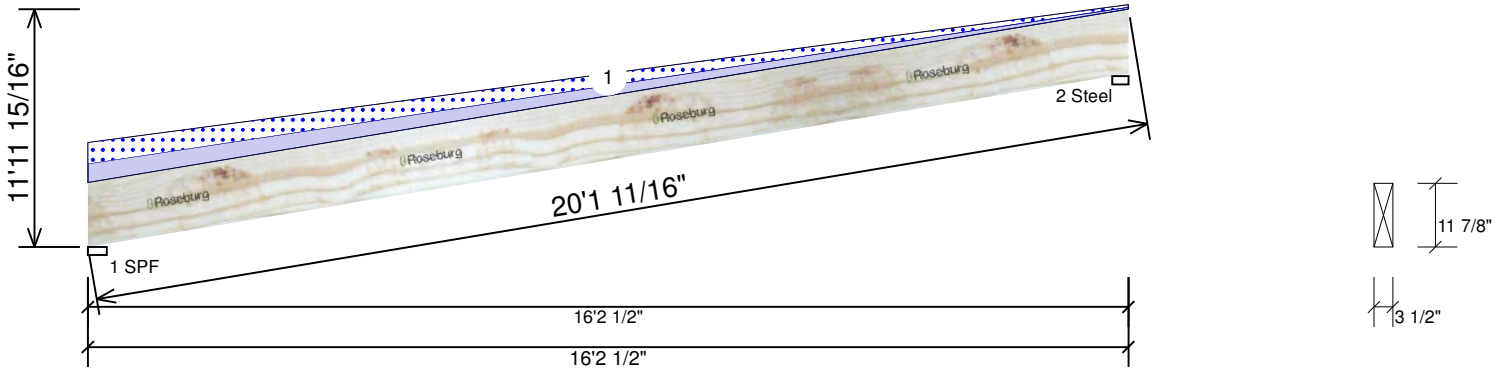
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Capital
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85043
602-269-6225



B1 2.0E Rigidlam LVL 3.500" X 11.875" - PASSED

Level: Roof



Member Information

Type:	Girder	Application:	Roof
Plies:	1	Slope:	8/12
Moisture Condition:	Dry	Design Method:	ASD
Deflection LL:	360	Building Code:	IBC/IRC 2015
Deflection TL:	240	Load Sharing:	No
Importance:	Normal	Deck:	Not Checked
Temperature:	Temp <= 100°F		
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		
Snow:	20 PSF		
Construction:	20 PSF		

Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	0	1124	980	0	0
2	0	679	560	0	0

Bearings

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	40%	1124 / 980	2103	L	D+S
2 - Steel	3.000"	16%	679 / 560	1239	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	6525 ft-lb	7'2 3/8"	24470 ft-lb	0.267 (27%)	D+S	L
Unbraced	6525 ft-lb	7'2 3/8"	20476 ft-lb	0.319 (32%)	D+S	L
Shear	1494 lb	1'2 5/8"	9241 lb	0.162 (16%)	D+S	L
LL Defl inch	0.196 (L/1160)	7'10 5/8"	0.633 (L/360)	0.310 (31%)	S	L
TL Defl inch	0.427 (L/533)	7'10 13/16"	0.949 (L/240)	0.450 (45%)	D+S	L



Digitally sealed
June 14, 2018

Design Notes

- 1 Refer to manufacturer's literature for sloped bearing detail.
- 2 Attach with enough nails to prevent sliding between the joist and the sloped bearing wedge at each support.
- 3 Girders are designed to be supported on the bottom edge only.
- 4 Top braced at bearings.
- 5 Bottom braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Tapered Start	0-0-0		Far Face	149 PLF	0 PLF	170 PLF	0 PLF	0 PLF	
	End	16-2-8			15 PLF	0 PLF	20 PLF	0 PLF	0 PLF	
	Self Weight				11 PLF					

Certification is to verify the joist/beam/truss to carry the loads shown and/or for repair design. The applied loads, dimensions, and field conditions info was provided by others. The loads and dimensions must be verified and approved for the specific application by the project design professional.

Notes

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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

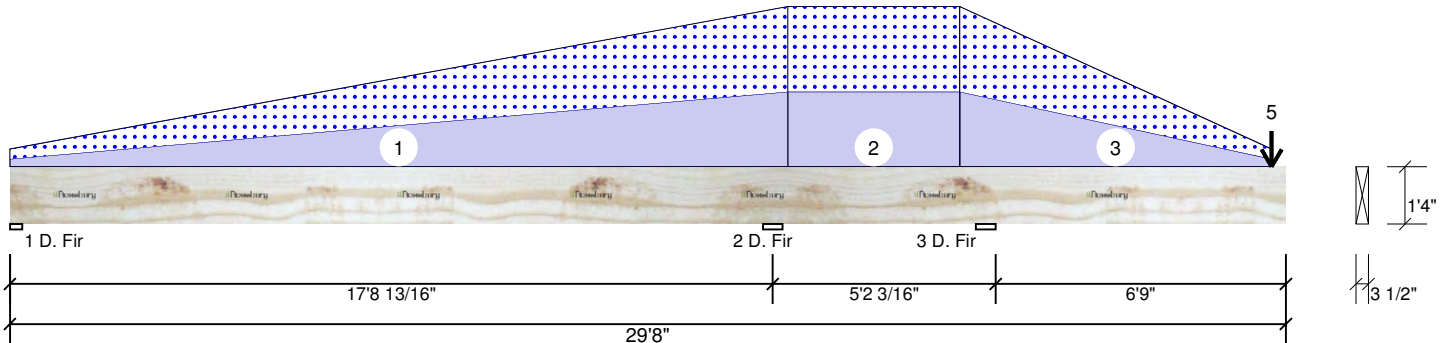
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4500 Riddle By-pass Rd
Riddle, OR 97469
(541) 784-4005
www.roseburg.com
APA: PR-L289, PR-L270, ICC-ES:
ESR-1210

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85043
602-269-6225



B2 2.0E Rigidlam LVL 3.500" X 16.000" - PASSED

Level: Roof



Member Information

Type:	Girder	Application:	Roof
Plies:	1	Slope:	0/12
Moisture Condition:	Dry	Design Method:	ASD
Deflection LL:	360	Building Code:	IBC/IRC 2015
Deflection TL:	240	Load Sharing:	No
Importance:	Normal	Deck:	Not Checked
Temperature:	Temp <= 100°F		
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		
Snow:	20 PSF		
Construction:	20 PSF		

Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	0	930	950	0	0
2	0	1585	2235	0	0
3	0	4628	4109	0	0

Bearings

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - D. Fir	3.375"	26%	930 / 956	1886	L_L	D+S
2 - D. Fir	5.500"	41%	1585 / 3376	4961	LL_	D+S
3 - D. Fir	5.500"	78%	4628 / 4708	9336	_LL	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-21283 ft-lb	22'11"	42797 ft-lb	0.497 (50%)	D+S	LLL
Unbraced	-21283 ft-lb	22'11"	40275 ft-lb	0.528 (53%)	D+S	_LL
Pos Moment	9345 ft-lb	8'7 1/16"	42797 ft-lb	0.218 (22%)	D+S	L_L
Unbraced	9345 ft-lb	8'7 1/16"	31192 ft-lb	0.300 (30%)	D+S	L_L
Shear	3926 lb	24'3"	12451 lb	0.315 (32%)	D+S	LLL
LL Defl inch	0.099 (L/2126)	8'7 7/16"	0.584 (L/360)	0.170 (17%)	S	L_L
TL Defl inch	0.194 (L/1084)	8'7 7/16"	0.876 (L/240)	0.220 (22%)	D+S	L_L
LL Cant	0.192 (2L/845)	Rt Cant	0.450 (2L/360)	0.430 (43%)	S	L_L
TL Cant	0.407 (2L/398)	Rt Cant	0.675 (2L/240)	0.600 (60%)	D+S	L_L



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June 14, 2018

Design Notes

- Warning Note: right cant exceeds 1/3 of back span, wind uplift may need to be checked.
- Girders are designed to be supported on the bottom edge only.
- Top braced at bearings.
- Bottom braced at bearings.

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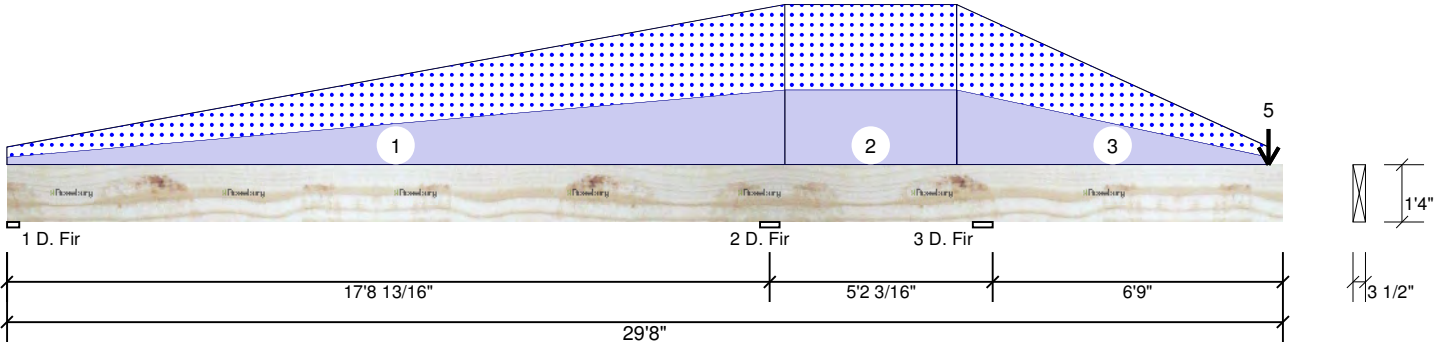
ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Tapered Start	0-0-0		Top	30 PLF	0 PLF	40 PLF	0 PLF	0 PLF	
	End	18-1-0			298 PLF	0 PLF	340 PLF	0 PLF	0 PLF	
2	Part. Uniform	18-1-0 to 22-1-0		Top	298 PLF	0 PLF	340 PLF	0 PLF	0 PLF	

Continued on page 2...

<p>Notes</p> <p>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.</p> <p>Lumber</p> <ol style="list-style-type: none"> Dry service conditions, unless noted otherwise LVL not to be treated with fire retardant or corrosive chemicals 	<p>Handling & Installation</p> <ol style="list-style-type: none"> LVL beams must not be cut or drilled Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals Damaged Beams must not be used Design assumes top edge is laterally restrained 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>Roseburg Forest Products 4500 Riddle By-pass Rd Riddle, OR 97469 (541) 784-4005 www.roseburg.com APA: PR-L289, PR-L270, ICC-ES: ESR-1210</p>	<p>Capital 33 N. 45th Ave, AZ 85043 602-269-6225</p>
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B2 2.0E Rigidlam LVL 3.500" X 16.000" - PASSED

Level: Roof



...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	Tapered Start	22-1-0		Top	298 PLF	0 PLF	340 PLF	0 PLF	0 PLF	
	End	29-4-0			30 PLF	0 PLF	40 PLF	0 PLF	0 PLF	
4	Point	29-4-0		Near Face	679 lb	0 lb	560 lb	0 lb	0 lb	
5	Point	29-4-0		Far Face	679 lb	0 lb	560 lb	0 lb	0 lb	
	Self Weight				15 PLF					

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June 14, 2018

Notes

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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

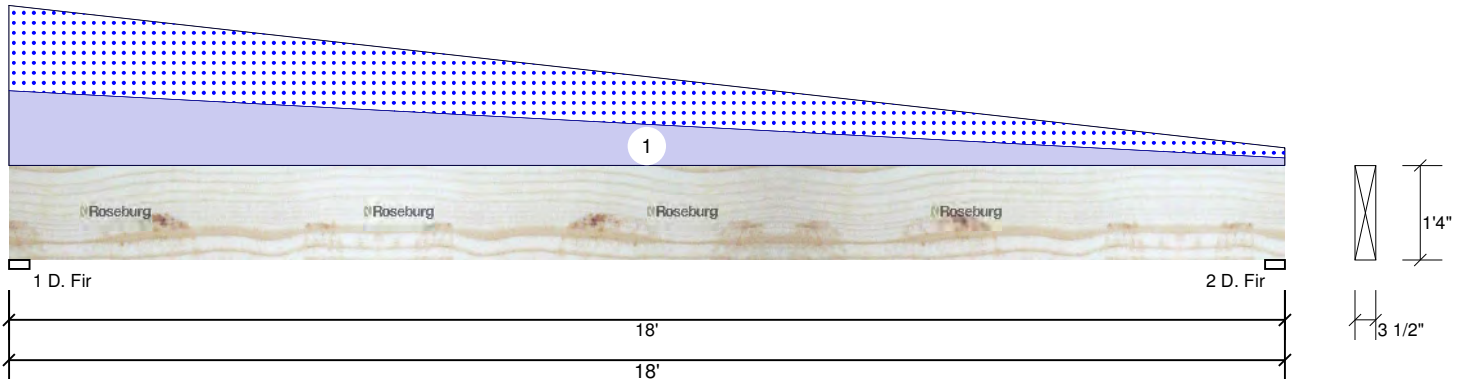
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B3 2.0E Rigidlam LVL 3.500" X 16.000" - PASSED

Level: Roof



Member Information

Type:	Girder	Application:	Roof
Plies:	1	Slope:	0/12
Moisture Condition:	Dry	Design Method:	ASD
Deflection LL:	360	Building Code:	IBC/IRC 2015
Deflection TL:	240	Load Sharing:	No
Importance:	Normal	Deck:	Not Checked
Temperature:	Temp <= 100°F		
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		
Snow:	20 PSF		
Construction:	20 PSF		

Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	0	2022	2172	0	0
2	0	1196	1248	0	0

Bearings

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - D. Fir 3.500"		55% 2022 / 2172	4194 L	D+S
2 - D. Fir 3.375"		33% 1196 / 1248	2444 L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	14411 ft-lb	7'11 7/16"	42797 ft-lb	0.337 (34%)	D+S	L
Unbraced	14411 ft-lb	7'11 7/16"	28170 ft-lb	0.512 (51%)	D+S	L
Shear	3212 lb	1'6 3/4"	12451 lb	0.258 (26%)	D+S	L
LL Defl inch	0.170 (L/1240)	8'8 7/8"	0.585 (L/360)	0.290 (29%)	S	L
TL Defl inch	0.330 (L/639)	8'9"	0.878 (L/240)	0.380 (38%)	D+S	L



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June 14, 2018

Design Notes

- Girders are designed to be supported on the bottom edge only.
- Top braced at bearings.
- Bottom braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Tapered Start	0-0-0		Top	298 PLF	0 PLF	340 PLF	0 PLF	0 PLF	
	End	18-0-0			30 PLF	0 PLF	40 PLF	0 PLF	0 PLF	
	Self Weight				15 PLF					

Certification is to verify the joist/beam/truss to carry the loads shown and/or for repair design. The applied loads, dimensions, and field conditions info was provided by others. The loads and dimensions must be verified and approved for the specific application by the project design professional.

Notes

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Lumber

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

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

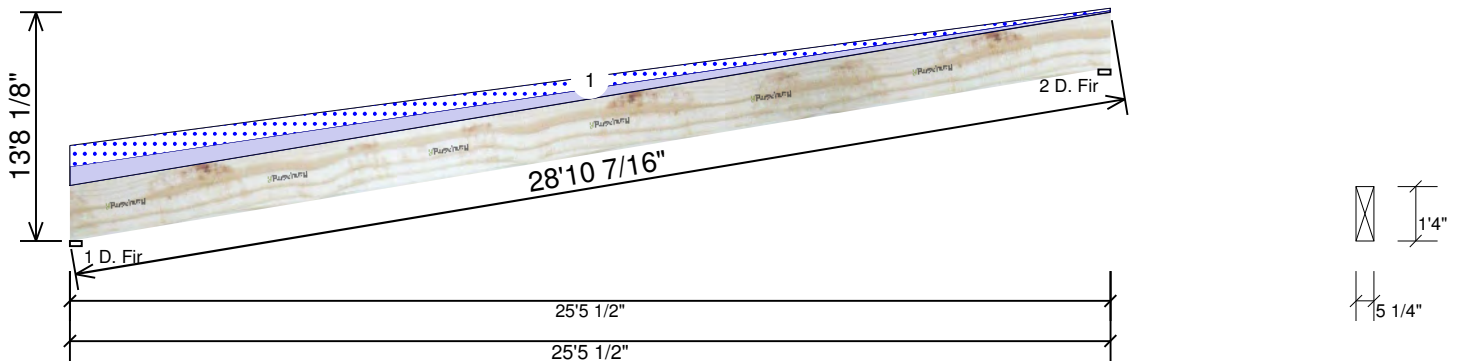
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B4 2.0E Rigidlam LVL 5.250" X 16.000" - PASSED

Level: Roof



Member Information

Type:	Girder	Application:	Roof
Plies:	1	Slope:	5.75/12
Moisture Condition:	Dry	Design Method:	ASD
Deflection LL:	360	Building Code:	IBC/IRC 2015
Deflection TL:	240	Load Sharing:	No
Importance:	Normal	Deck:	Not Checked
Temperature:	Temp <= 100°F		
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		
Snow:	20 PSF		
Construction:	20 PSF		

Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	0	3488	3237	0	0
2	0	2097	1855	0	0

Bearings

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - D. Fir	3.500"	59% 3488 / 3237	6725 L	D+S
2 - D. Fir	3.500"	34% 2097 / 1855	3951 L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	33294 ft-lb	11'2 3/4"	64196 ft-lb	0.519 (52%)	D+S	L
Unbraced	33294 ft-lb	11'2 3/4"	55682 ft-lb	0.598 (60%)	D+S	L
Shear	5138 lb	1'6 3/4"	18676 lb	0.275 (28%)	D+S	L
LL Defl inch	0.604 (L/551)	12'4 1/4"	0.924 (L/360)	0.650 (65%)	S	L
TL Defl inch	1.267 (L/263)	12'4 3/8"	1.386 (L/240)	0.910 (91%)	D+S	L

Design Notes

- 1 Refer to manufacturer's literature for sloped bearing detail.
- 2 Attach with enough nails to prevent sliding between the joist and the sloped bearing wedge at each support.
- 3 Girders are designed to be supported on the bottom edge only.
- 4 Top braced at bearings.
- 5 Bottom braced at bearings.



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ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Tapered Start	0-0-0		Top	322 PLF	0 PLF	360 PLF	0 PLF	0 PLF	
	End	25-5-8			30 PLF	0 PLF	40 PLF	0 PLF	0 PLF	
	Self Weight				22 PLF					

Certification is to verify the joist/beam/truss to carry the loads shown and/or for repair design. The applied loads, dimensions, and field conditions info was provided by others. The loads and dimensions must be verified and approved for the specific application by the project design professional.

Notes

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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

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