



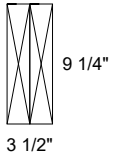
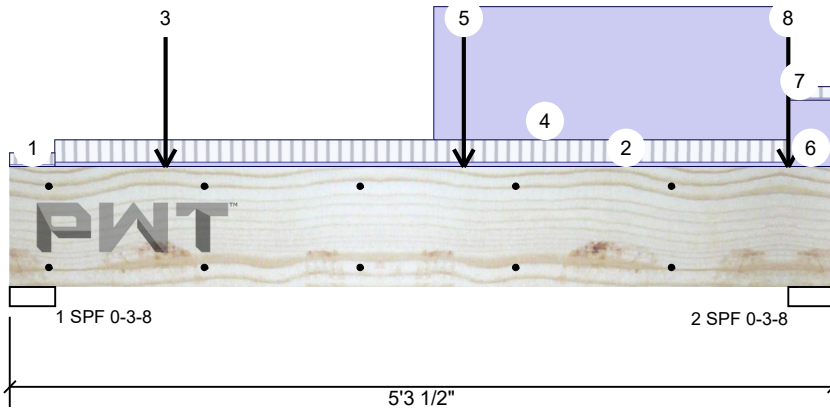
Client: 84 Lumber-Fayetteville #2307
Project: CL3034-GR-CS470
Address: CL3034-GR-CS470

Date: 4/1/2025
Input by: Will Evans
Job Name: 202504-73124
Project #: 73124

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DB1 2.0E 2900Fb PWT LVL 1.750" X 9.250" 2-Ply - PASSED

Level: 2nd Floor



...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	2-8-11 to 5-0-0		Top	60 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Partition Wall Self Weight
5	Point	2-11-0		Top	700 lb	732 lb	0 lb	0 lb	0 lb	J3
	Bearing Length	0-3-8								
6	Part. Uniform	5-0-0 to 5-3-8		Top	30 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Partition Wall Self Weight
7	Tapered Start	5-0-0		Top	1 PLF	5 PLF	0 PLF	0 PLF	0 PLF	
	End	5-3-8			1 PLF	5 PLF	0 PLF	0 PLF	0 PLF	
8	Point	5-0-0		Top	96 lb	271 lb	0 lb	0 lb	0 lb	J4
	Bearing Length	0-3-8								
	Self Weight				9 PLF					

Notes

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Manufacturer Info

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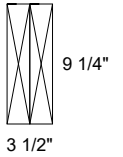
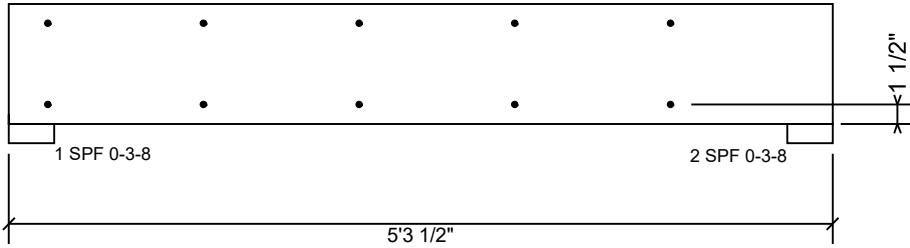
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DB1 2.0E 2900Fb PWT LVL 1.750" X 9.250" 2-Ply - PASSED

Level: 2nd Floor



Multi-Ply Analysis

Fasten all plies using 2 rows of 16d Sinker Nails (.148x3.25") at 12" o.c.. Maximum end distance not to exceed 6". Clinch Nails where possible.

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	235.2 PLF
Yield Limit per Fastener	117.6 lb.
C _m	1
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

Notes

This component analysis is based on the loads, geometry and other conditions as entered by the user and listed in this report. The user is responsible to ensure the accuracy of the input and the applicability to the actual conditions of the structure for which this component is intended. This analysis is valid only for the product listed.

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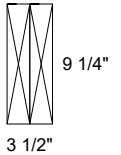
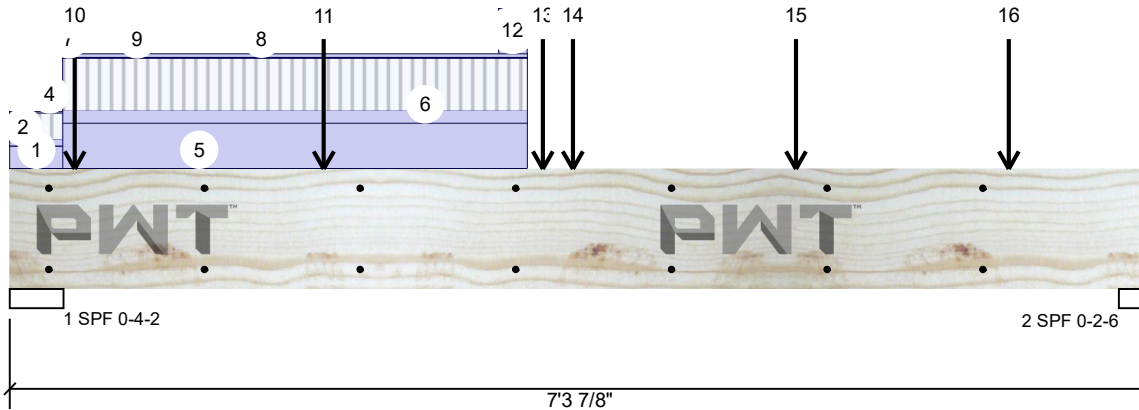
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Address: CL3034-GR-CS470

Date: 4/1/2025
Input by: Will Evans
Job Name: 202504-73124
Project #: 73124

Page 1 of 3

DB2 2.0E 2900Fb PWT LVL 1.750" X 9.250" 2-Ply - PASSED

Level: 2nd Floor



Member Information

Type: Girder
Plies: 2
Moisture Condition: Dry
Deflection LL: 360
Deflection TL: 240
Importance: Normal - II
Temperature: Temp <= 100°F
General Load
Floor Live: 40 PSF
Dead: 10 PSF

Application: Floor
Design Method: ASD
Building Code: IRC 2021
Load Sharing: No
Deck: Not Checked

Reactions PATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	1888	1246	0	0	0
2	Vertical	1996	956	0	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	4.125"	Vert	51%	1246 / 1888	3134	L	D+L
2 - SPF	2.375"	Vert	84%	956 / 1996	2952	L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	4837 ft-lb	3'7 3/8"	12416 ft-lb	39%	D+L	L
Shear	2841 lb	6'4 1/4"	6151 lb	46%	D+L	L
LL Defl inch	0.070 (L/1189)	3'9 5/8"	0.230 (L/360)	30%	L	L
TL Defl inch	0.107 (L/776)	3'9 1/8"	0.345 (L/240)	31%	D+L	L

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings.
- 2 Dead Load Deflection: Instant = 0.037", Long Term = 0.056".
- 3 Fasten all plies using 2 rows of 16d Sinker Nails (.148x3.25") at 12" o.c. Maximum end distance not to exceed 6". Clinch Nails where possible.
- 4 Refer to last page of calculations for fasteners required for specified loads.
- 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 end bearings.
- 8 Bottom must be laterally braced at end bearings.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Part. Uniform	0-0-0 to 0-4-2		Top	30 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Partition Wall Self Weight
2	Tapered Start	0-0-0		Top	9 PLF	34 PLF	0 PLF	0 PLF	0 PLF	
	End	0-4-2			9 PLF	34 PLF	0 PLF	0 PLF	0 PLF	
4	Part. Uniform	0-0-0 to 0-4-2		Top	2 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Rim Board Self Weight
5	Part. Uniform	0-4-2 to 3-3-13		Top	60 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Partition Wall Self Weight
6	Tapered Start	0-4-2		Top	17 PLF	69 PLF	0 PLF	0 PLF	0 PLF	

Continued on page 2...

Notes

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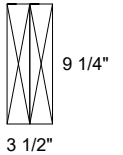
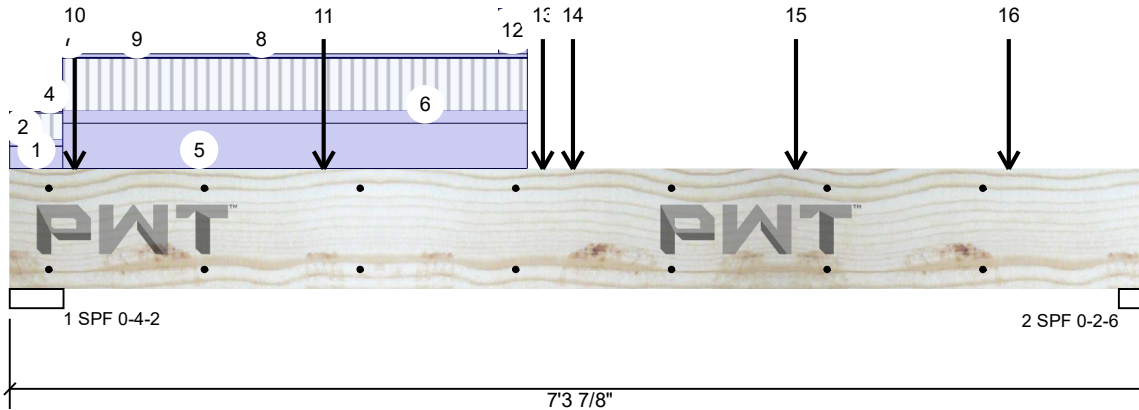
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DB2 2.0E 2900Fb PWT LVL 1.750" X 9.250" 2-Ply - PASSED

Level: 2nd Floor



...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	3-3-13			17 PLF	69 PLF	0 PLF	0 PLF	0 PLF	
7	Tapered Start	0-4-2		Top	0 PLF	1 PLF	0 PLF	0 PLF	0 PLF	
	End	0-5-0			0 PLF	1 PLF	0 PLF	0 PLF	0 PLF	
8	Part. Uniform	0-4-2 to 3-3-13		Top	5 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Rim Board Self Weight
9	Tapered Start	0-5-0		Top	0 PLF	1 PLF	0 PLF	0 PLF	0 PLF	
	End	3-3-13			0 PLF	1 PLF	0 PLF	0 PLF	0 PLF	
10	Point	0-5-0		Top	463 lb	570 lb	0 lb	0 lb	0 lb	J10
	Bearing Length	0-3-8								
11	Point	2-0-3		Top	256 lb	569 lb	0 lb	0 lb	0 lb	J10
	Bearing Length	0-3-8								
12	Part. Uniform	3-1-11 to 3-3-13		Top	60 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Partition Wall Self Weight
13	Point	3-5-1		Top	117 lb	56 lb	0 lb	0 lb	0 lb	J2
	Bearing Length	0-3-8								
14	Point	3-7-6		Top	233 lb	528 lb	0 lb	0 lb	0 lb	J10
	Bearing Length	0-3-8								
15	Point	5-0-10		Top	421 lb	1060 lb	0 lb	0 lb	0 lb	J1
	Bearing Length	0-3-8								
16	Point	6-5-0		Top	375 lb	881 lb	0 lb	0 lb	0 lb	J5
	Bearing Length	0-3-8								
	Self Weight				9 PLF					

Notes

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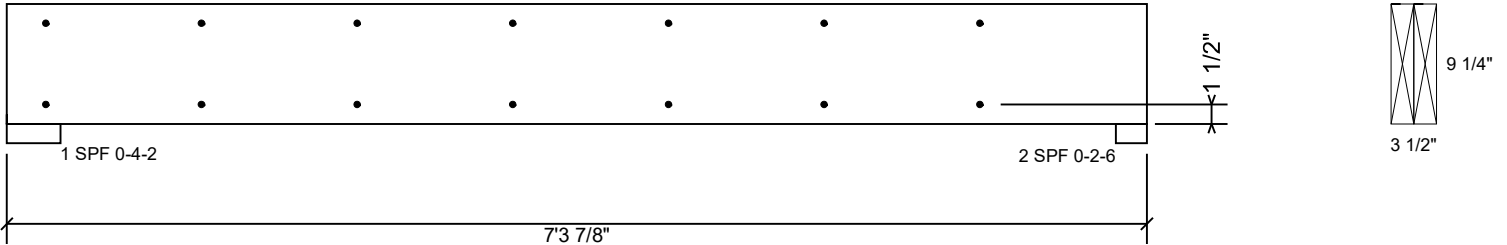
Client: 84 Lumber-Fayetteville #2307
Project: CL3034-GR-CS470
Address: CL3034-GR-CS470

Date: 4/1/2025
Input by: Will Evans
Job Name: 202504-73124
Project #: 73124

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DB2 2.0E 2900Fb PWT LVL 1.750" X 9.250" 2-Ply - PASSED

Level: 2nd Floor



Multi-Ply Analysis

Fasten all plies using 2 rows of 16d Sinker Nails (.148x3.25") at 12" o.c.. Maximum end distance not to exceed 6". Clinch Nails where possible.

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	235.2 PLF
Yield Limit per Fastener	117.6 lb.
C _m	1
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

Notes

This component analysis is based on the loads, geometry and other conditions as entered by the user and listed in this report. The user is responsible to ensure the accuracy of the input and the applicability to the actual conditions of the structure for which this component is intended. This analysis is valid only for the product listed.

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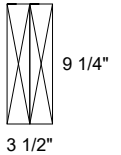
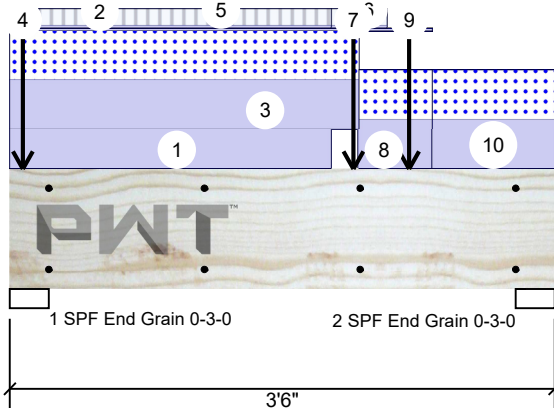
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Date: 4/1/2025
Input by: Will Evans
Job Name: 202504-73124
Project #: 73124

Page 1 of 3

HD1 2.0E 2900Fb PWT LVL 1.750" X 9.250" 2-Ply - PASSED

Level: 2nd Floor



Member Information

Type: Girder
Plies: 2
Moisture Condition: Dry
Deflection LL: 360
Deflection TL: 240
Importance: Normal - II
Temperature: Temp <= 100°F
General Load
Floor Live: 40 PSF
Dead: 10 PSF

Application: Floor
Design Method: ASD
Building Code: IRC 2021
Load Sharing: No
Deck: Not Checked

Reactions PATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	427	921	545	0	0
2	Vertical	164	1343	987	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.000"	Vert	21%	921 / 729	1650	L	D+0.75(L+S)
2 - SPF End Grain	3.000"	Vert	30%	1343 / 987	2330	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1742 ft-lb	2'2 1/2"	14278 ft-lb	12%	D+S	L
Shear	1879 lb	2'5 3/4"	7074 lb	27%	D+S	L
LL Defl inch	0.005 (L/7665)	2'2 1/2"	0.104 (L/360)	5%	S	L
TL Defl inch	0.012 (L/3185)	2'2 1/16"	0.156 (L/240)	8%	D+S	L

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings.
- 2 Dead Load Deflection: Instant = 0.007", Long Term = 0.010".
- 3 Fasten all plies using 2 rows of 16d Sinker Nails (.148x3.25") at 12" o.c. Maximum end distance not to exceed 6". Clinch Nails where possible.
- 4 Refer to last page of calculations for fasteners required for specified loads.
- 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 end bearings.
- 8 Bottom must be laterally braced at end bearings.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Part. Uniform	0-0-0 to 2-0-12		Top	96 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
2	Part. Uniform	0-0-0 to 2-8-8		Top	5 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Rim Board Self Weight
3	Part. Uniform	0-0-0 to 2-2-14		Top	120 PLF	0 PLF	120 PLF	0 PLF	0 PLF	
4	Point	0-1-0		Top	134 lb	329 lb	41 lb	0 lb	0 lb	FB4
	Bearing Length	0-3-8								
5	Tapered Start	0-2-4		Top	10 PLF	39 PLF	0 PLF	0 PLF	0 PLF	

Continued on page 2...

Notes

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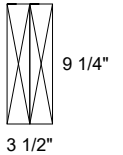
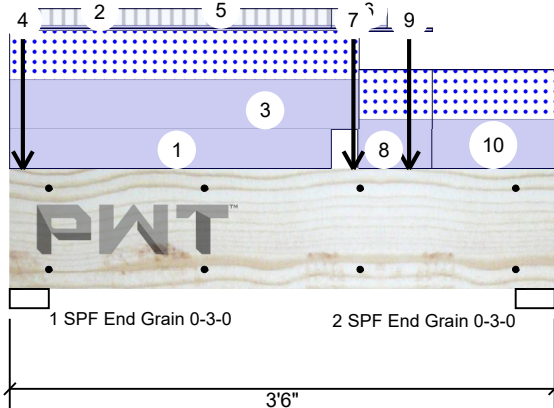
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Page 2 of 3

HD1 2.0E 2900Fb PWT LVL 1.750" X 9.250" 2-Ply - PASSED

Level: 2nd Floor



...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	2-0-12			10 PLF	39 PLF	0 PLF	0 PLF	0 PLF	
6	Tapered Start	2-0-12		Top	10 PLF	39 PLF	0 PLF	0 PLF	0 PLF	
	End	2-5-0			10 PLF	39 PLF	0 PLF	0 PLF	0 PLF	
7	Point	2-2-8		Top	428 lb	0 lb	330 lb	0 lb	0 lb	Wall Self Weight Wall Self Weight
	Bearing Length	0-3-8								
8	Part. Uniform	2-2-14 to 2-8-8		Top	120 PLF	0 PLF	120 PLF	0 PLF	0 PLF	
9	Point	2-6-12		Top	1016 lb	175 lb	741 lb	0 lb	0 lb	FB1
	Bearing Length	0-3-8								
10	Part. Uniform	2-8-8 to 3-6-0		Top	120 PLF	0 PLF	120 PLF	0 PLF	0 PLF	
	Self Weight				9 PLF					

Notes

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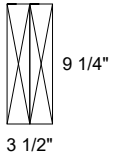
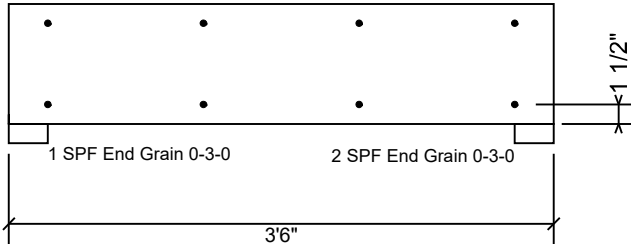
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Level: 2nd Floor



Multi-Ply Analysis

Fasten all plies using 2 rows of 16d Sinker Nails (.148x3.25") at 12" o.c.. Maximum end distance not to exceed 6". Clinch Nails where possible.

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	235.2 PLF
Yield Limit per Fastener	117.6 lb.
C _m	1
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

Notes

This component analysis is based on the loads, geometry and other conditions as entered by the user and listed in this report. The user is responsible to ensure the accuracy of the input and the applicability to the actual conditions of the structure for which this component is intended. This analysis is valid only for the product listed.

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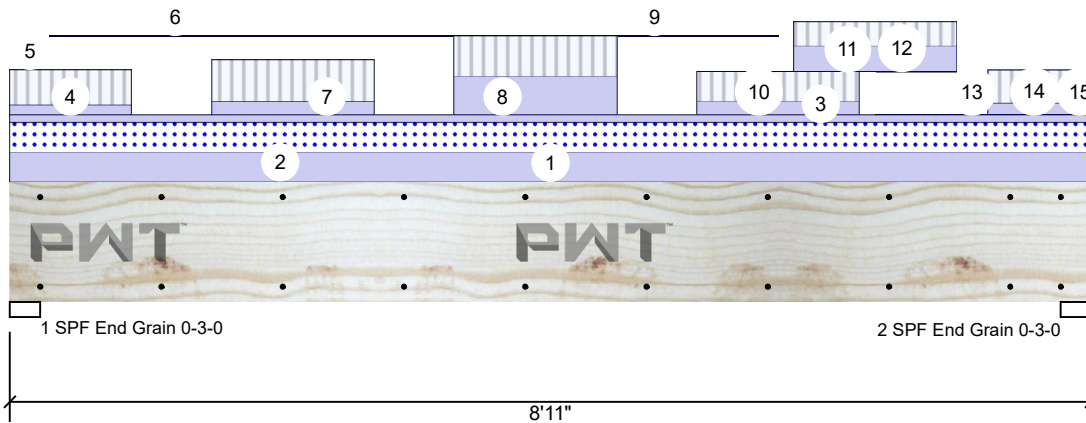
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Project #: 73124

Page 1 of 3

HD2 2.0E 2900Fb PWT LVL 1.750" X 11.875" 2-Ply - PASSED

Level: 2nd Floor



Member Information

Type: Girder
Plies: 2
Moisture Condition: Dry
Deflection LL: 360
Deflection TL: 240
Importance: Normal - II
Temperature: Temp <= 100°F
General Load
Floor Live: 40 PSF
Dead: 10 PSF

Application: Floor
Design Method: ASD
Building Code: IRC 2021
Load Sharing: No
Deck: Not Checked

Reactions PATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	1567	3032	1694	0	0
2	Vertical	1606	3277	1694	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.000"	Vert	70%	3032 / 2446	5478	L	D+0.75(L+S)
2 - SPF End Grain	3.000"	Vert	73%	3277 / 2475	5752	L	D+0.75(L+S)

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	11810 ft-lb	4'5 5/8"	22888 ft-lb	52%	D+0.75(L+S)	L
Shear	4302 lb	7'8 1/8"	9081 lb	47%	D+0.75(L+S)	L
LL Defl inch	0.081 (L/1262)	4'5 1/2"	0.285 (L/360)	29%	0.75(L+S)	L
TL Defl inch	0.190 (L/539)	4'5 11/16"	0.427 (L/240)	45%	D+0.75(L+S)	L

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings.
- 2 Dead Load Deflection: Instant = 0.109", Long Term = 0.163".
- 3 Fasten all plies using 2 rows of 16d Sinker Nails (.148x3.25") at 12" o.c. Maximum end distance not to exceed 6". Clinch Nails where possible.
- 4 Refer to last page of calculations for fasteners required for specified loads.
- 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 end bearings.
- 8 Bottom must be laterally braced at end bearings.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Part. Uniform	0-0-0 to 8-11-0		Top	5 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Rim Board Self Weight
2	Part. Uniform	0-0-0 to 8-11-0		Top	380 PLF	0 PLF	380 PLF	0 PLF	0 PLF	
3	Part. Uniform	0-0-0 to 8-11-0		Top	96 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
4	Part. Uniform	0-0-0 to 1-0-0		Top	147 PLF	450 PLF	0 PLF	0 PLF	0 PLF	J5
5	Tapered Start	0-0-0		Top	0 PLF	1 PLF	0 PLF	0 PLF	0 PLF	
	End	0-4-0			0 PLF	1 PLF	0 PLF	0 PLF	0 PLF	

Continued on page 2...

Notes

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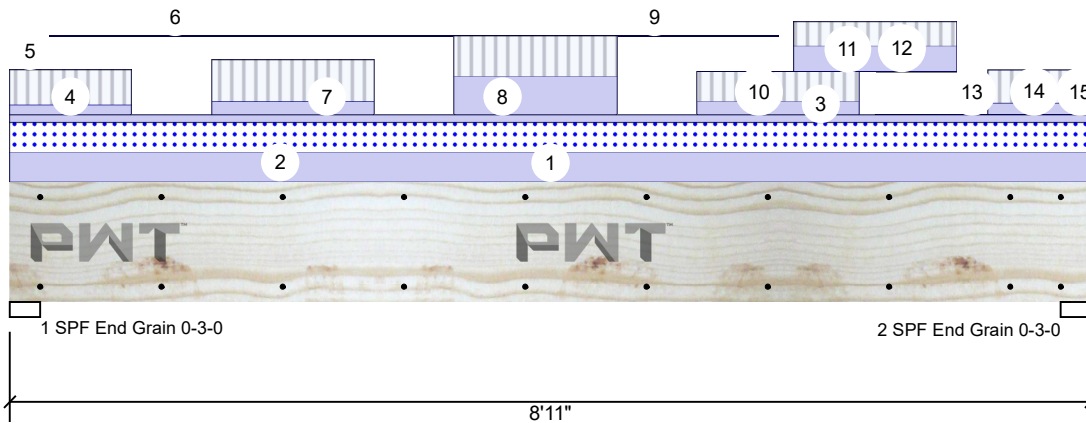
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Project: CL3034-GR-CS470
Address: CL3034-GR-CS470

Date: 4/1/2025
Input by: Will Evans
Job Name: 202504-73124
Project #: 73124

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HD2 2.0E 2900Fb PWT LVL 1.750" X 11.875" 2-Ply - PASSED

Level: 2nd Floor



...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
6	Tapered Start	0-4-0		Top	0 PLF	1 PLF	0 PLF	0 PLF	0 PLF	
	End	4-4-0			0 PLF	1 PLF	0 PLF	0 PLF	0 PLF	
7	Part. Uniform	1-8-0 to 3-0-0		Top	188 PLF	534 PLF	0 PLF	0 PLF	0 PLF	J3
8	Part. Uniform	3-8-0 to 5-0-0		Top	504 PLF	534 PLF	0 PLF	0 PLF	0 PLF	J3
9	Tapered Start	4-4-0		Top	0 PLF	1 PLF	0 PLF	0 PLF	0 PLF	
	End	6-4-0			0 PLF	1 PLF	0 PLF	0 PLF	0 PLF	
10	Part. Uniform	5-8-0 to 7-0-0		Top	190 PLF	374 PLF	0 PLF	0 PLF	0 PLF	J3
11	Tapered Start	6-4-0		Top	0 PLF	1 PLF	0 PLF	0 PLF	0 PLF	
	End	7-1-10			0 PLF	1 PLF	0 PLF	0 PLF	0 PLF	
12	Part. Uniform	6-5-10 to 7-9-10		Top	337 PLF	321 PLF	0 PLF	0 PLF	0 PLF	J10
13	Tapered Start	7-1-10		Top	0 PLF	1 PLF	0 PLF	0 PLF	0 PLF	
	End	8-8-13			0 PLF	1 PLF	0 PLF	0 PLF	0 PLF	
14	Part. Uniform	8-0-13 to 8-11-0		Top	166 PLF	428 PLF	0 PLF	0 PLF	0 PLF	J10
15	Tapered Start	8-8-13		Top	0 PLF	1 PLF	0 PLF	0 PLF	0 PLF	
	End	8-11-0			0 PLF	1 PLF	0 PLF	0 PLF	0 PLF	
	Self Weight				12 PLF					

Notes

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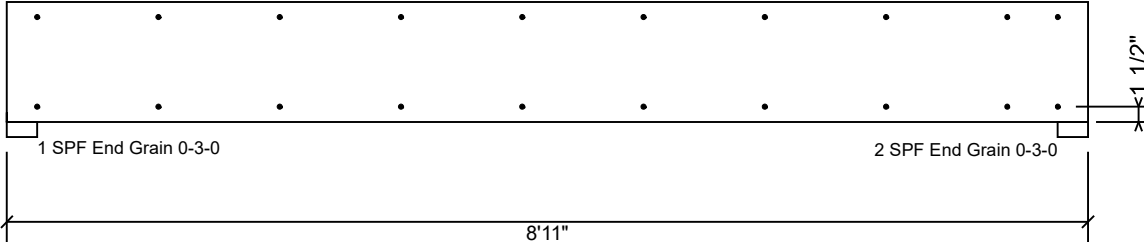
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Input by: Will Evans
Job Name: 202504-73124
Project #: 73124

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HD2 2.0E 2900Fb PWT LVL 1.750" X 11.875" 2-Ply - PASSED

Level: 2nd Floor



Multi-Ply Analysis

Fasten all plies using 2 rows of 16d Sinker Nails (.148x3.25") at 12" o.c.. Maximum end distance not to exceed 6". Clinch Nails where possible.

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	235.2 PLF
Yield Limit per Fastener	117.6 lb.
C _m	1
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

Notes

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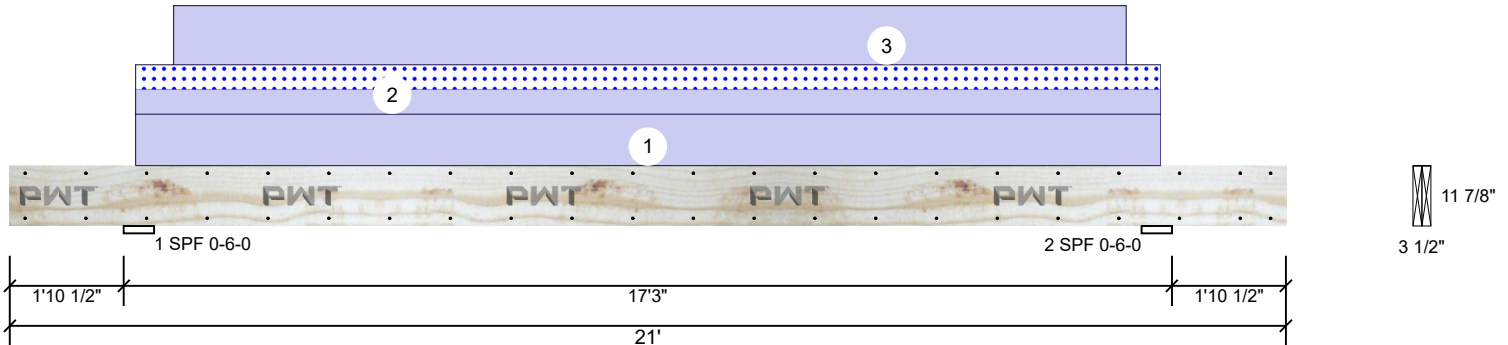
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Project #: 73124

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HD3 2.0E 2900Fb PWT LVL 1.750" X 11.875" 2-Ply - PASSED

Level: 2nd Floor



Member Information

Type: Girder
Plies: 2
Moisture Condition: Dry
Deflection LL: 360
Deflection TL: 240
Importance: Normal - II
Temperature: Temp <= 100°F
General Load
Floor Live: 40 PSF
Dead: 10 PSF

Application: Floor
Design Method: ASD
Building Code: IRC 2021
Load Sharing: No
Deck: Not Checked

Reactions PATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	1917	337	0	0
2	Vertical	0	1923	337	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	6.000"	Vert	25%	1917 / 337	2254	_L_	D+S
2 - SPF	6.000"	Vert	25%	1923 / 337	2260	_L_	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-21 ft-lb	19'1 1/2"	17912 ft-lb	0%	D	Uniform
Pos Moment	8097 ft-lb	10'6"	17912 ft-lb	45%	D	Uniform
Shear	1655 lb	3'4 3/8"	7107 lb	23%	D	Uniform
LL Defl inch	0.076 (L/2630)	10'6 1/16"	0.558 (L/360)	14%	S	LLL
TL Defl inch	0.517 (L/389)	10'6 1/16"	0.838 (L/240)	62%	D+S	LLL
LL Cant	-0.026 (2L/1732)	Lt Cant	0.200 (2L/360)	13%	S	LLL
TL Cant	-0.176 (2L/256)	Rt Cant	0.300 (2L/360)	59%	D+S	LLL

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 Dead Load Deflection: Instant = 0.441", Long Term = 0.661".
- 3 Fasten all plies using 2 rows of 16d Sinker Nails (.148x3.25") at 12" o.c. Maximum end distance not to exceed 6". Clinch Nails where possible.
- 4 Refer to last page of calculations for fasteners required for specified loads.
- 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 12'7 9/16" o.c.
- 8 Bottom must be laterally braced at end bearings.
- 9 Cantilever Upward Deflection Total Load 0.17551 greater than recommended 0.125
- 10 Cantilever Upward Deflection Total Load 0.17554 greater than recommended 0.125

Notes

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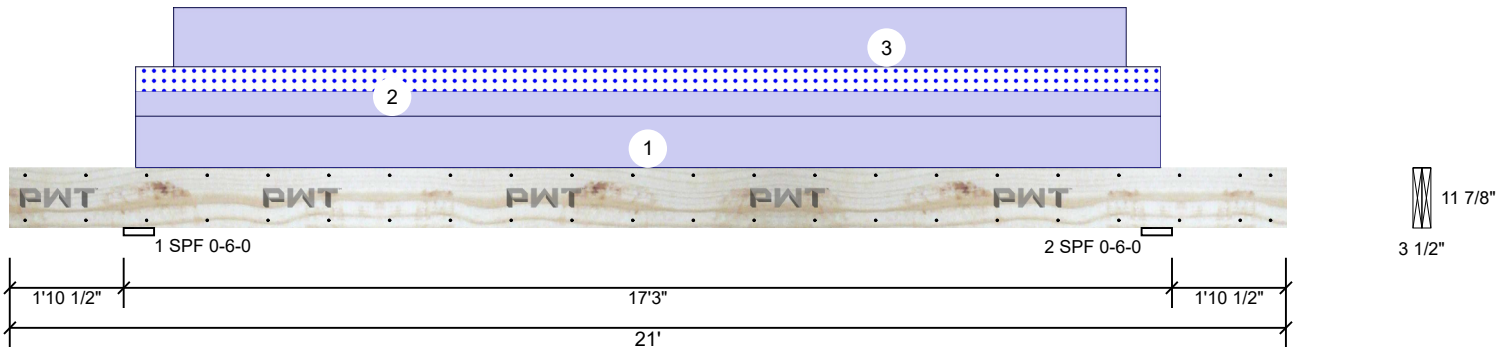
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HD3 2.0E 2900Fb PWT LVL 1.750" X 11.875" 2-Ply - PASSED

Level: 2nd Floor



ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Part. Uniform	2-1-0 to 18-11-0		Top	84 PLF	0 PLF	0 PLF	0 PLF	0 PLF	
2	Part. Uniform	2-1-0 to 18-11-0		Top	40 PLF	0 PLF	40 PLF	0 PLF	0 PLF	
3	Part. Uniform	2-8-7 to 18-4-5		Top	96 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
	Self Weight				12 PLF					

Notes

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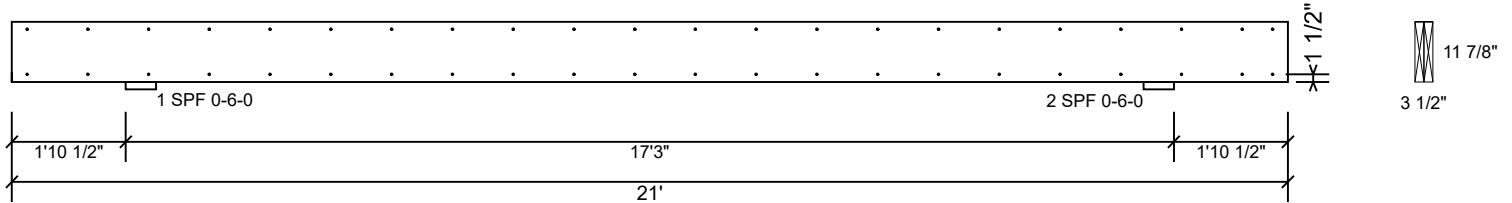
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HD3 2.0E 2900Fb PWT LVL 1.750" X 11.875" 2-Ply - PASSED

Level: 2nd Floor



Multi-Ply Analysis

Fasten all plies using 2 rows of 16d Sinker Nails (.148x3.25") at 12" o.c.. Maximum end distance not to exceed 6". Clinch Nails where possible.

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	235.2 PLF
Yield Limit per Fastener	117.6 lb.
C _m	1
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

Notes

This component analysis is based on the loads, geometry and other conditions as entered by the user and listed in this report. The user is responsible to ensure the accuracy of the input and the applicability to the actual conditions of the structure for which this component is intended. This analysis is valid only for the product listed.

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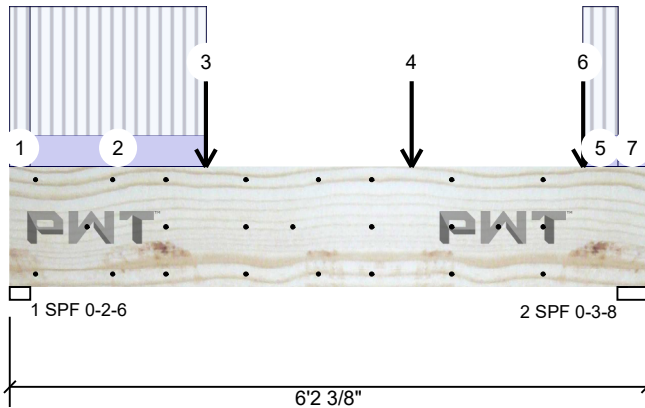
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Project #: 73124

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FB1 2.0E 2900Fb PWT LVL 1.750" X 14.000" 2-Ply - PASSED

Level: 2nd Floor



Member Information

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IRC 2021
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II		
Temperature:	Temp <= 100°F		
General Load			
Floor Live:	40 PSF		
Dead:	10 PSF		

Reactions PATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	175	1016	741	0	0
2	Vertical	146	1224	911	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	Vert	50%	1016 / 741	1757	L	D+S
2 - SPF	3.500"	Vert	41%	1224 / 911	2135	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3230 ft-lb	3'10 7/8"	30810 ft-lb	10%	D+S	L
Shear	2110 lb	4'8 7/8"	10707 lb	20%	D+S	L
LL Defl inch	0.009 (L/8199)	3'1 3/8"	0.194 (L/360)	4%	S	L
TL Defl inch	0.020 (L/3508)	3'1 5/16"	0.292 (L/240)	7%	D+S	L

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings.
- 2 Dead Load Deflection: Instant = 0.011", Long Term = 0.017".
- 3 Fasten all plies using 3 rows of 16d Sinker Nails (.148x3.25") at 12" o.c. Maximum end distance not to exceed 6". Clinch Nails where possible.
- 4 Refer to last page of calculations for fasteners required for specified loads.
- 5 Concentrated load fastener specification is in addition to hanger fasteners if a hanger is present.
- 6 Girders are designed to be supported on the bottom edge only.
- 7 Top loads must be supported equally by all plies.
- 8 Top must be laterally braced at end bearings.
- 9 Bottom must be laterally braced at end bearings.

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	0-0-0 to 0-2-6	1-2-14	Top	10 PSF	40 PSF	0 PSF	0 PSF	0 PSF	
2	Tie-In	0-2-6 to 1-10-14	1-2-14	Top	10 PSF	40 PSF	0 PSF	0 PSF	0 PSF	
3	Point	1-10-14		Far Face	905 lb	88 lb	704 lb	0 lb	0 lb	J2
4	Point	3-10-14		Far Face	839 lb	82 lb	652 lb	0 lb	0 lb	J2
5	Tie-In	5-6-14 to 5-10-14	1-2-14	Top	10 PSF	40 PSF	0 PSF	0 PSF	0 PSF	

Continued on page 2...

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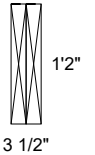
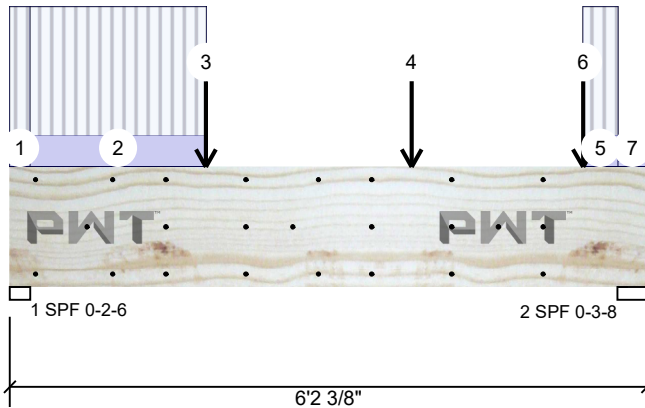
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FB1 2.0E 2900Fb PWT LVL 1.750" X 14.000" 2-Ply - PASSED

Level: 2nd Floor



...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
6	Point	5-6-14		Far Face	381 lb	37 lb	296 lb	0 lb	0 lb	J2
7	Tie-In	5-10-14 to 6-2-6	0-2-10	Top	10 PSF	40 PSF	0 PSF	0 PSF	0 PSF	
	Self Weight				14 PLF					

Notes

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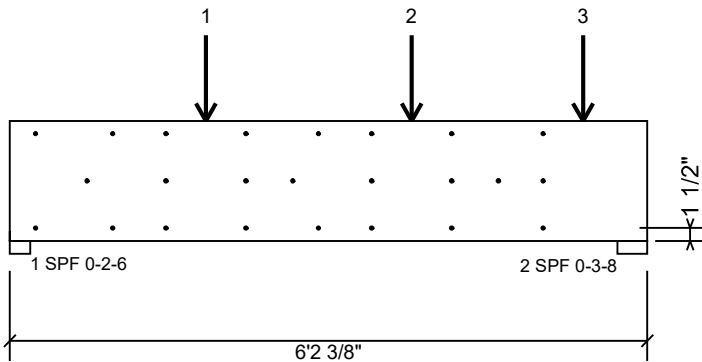
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FB1 2.0E 2900Fb PWT LVL 1.750" X 14.000" 2-Ply - PASSED

Level: 2nd Floor



Multi-Ply Analysis

Fasten all plies using 3 rows of 16d Sinker Nails (.148x3.25") at 12" o.c.. except for regions covered by concentrated load fastening. Maximum end distance not to exceed 6". Clinch Nails where possible.

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	352.8 PLF
Yield Limit per Fastener	117.6 lb.
C _M	1
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

Concentrated Load

Fasten at concentrated side load at 1-10-14 with a minimum of (6) – 16d Sinker Nails (.148x3.25") in the pattern shown.

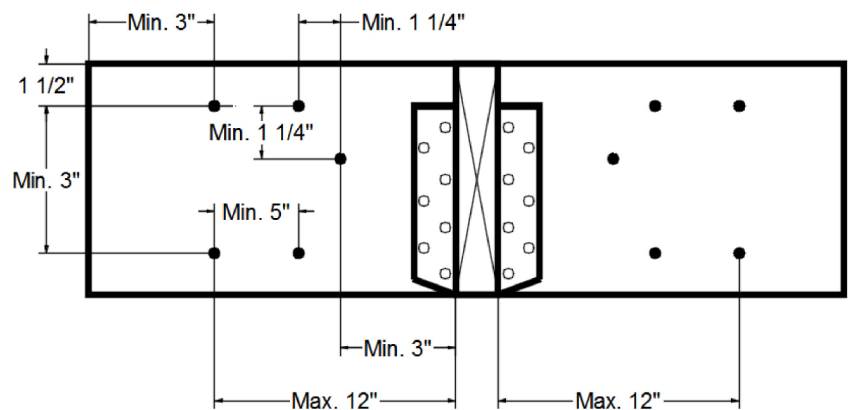
Capacity	99.2 %
Load	804.5lb.
Total Yield Limit	811.2 lb.
C _g	0.9998
C _M	1
Yield Limit per Fastener	135.2 lb.
Yield Mode	IV
Load Combination	D+S
Duration Factor	1.15

Concentrated Load

Fasten at concentrated side load at 3-10-14 with a minimum of (6) – 16d Sinker Nails (.148x3.25") in the pattern shown.

Capacity	91.9 %
Load	745.5lb.
Total Yield Limit	811.2 lb.
C _g	0.9998
C _M	1
Yield Limit per Fastener	135.2 lb.
Yield Mode	IV
Load Combination	D+S
Duration Factor	1.15

Min/Max fastener distances for Concentrated Side Loads



Notes

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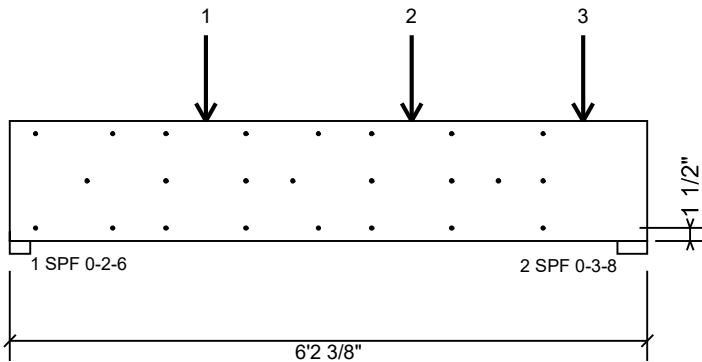
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FB1 2.0E 2900Fb PWT LVL 1.750" X 14.000" 2-Ply - PASSED

Level: 2nd Floor



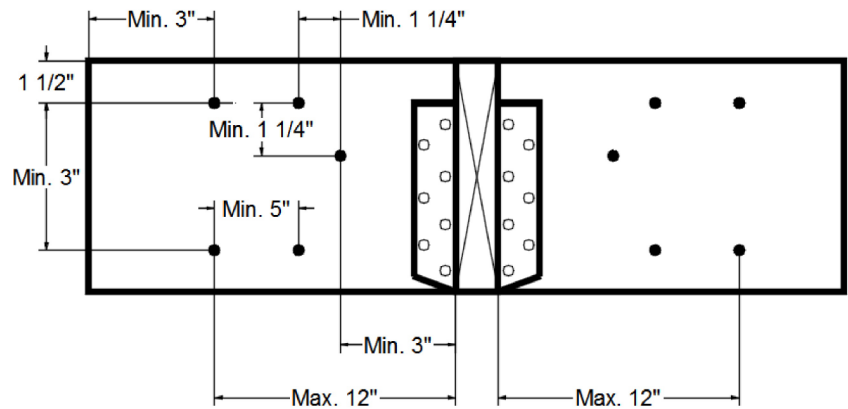
Multi-Ply Analysis

Concentrated Load

Fasten at concentrated side load at 5-6-14 with a minimum of (3) – 16d Sinker Nails (.148x3.25") in the pattern shown.

Capacity	83.5 %
Load	338.5lb.
Total Yield Limit	405.6 lb.
C _g	0.9998
C _m	1
Yield Limit per Fastener	135.2 lb.
Yield Mode	IV
Load Combination	D+S
Duration Factor	1.15

Min/Max fastener distances for Concentrated Side Loads



Notes

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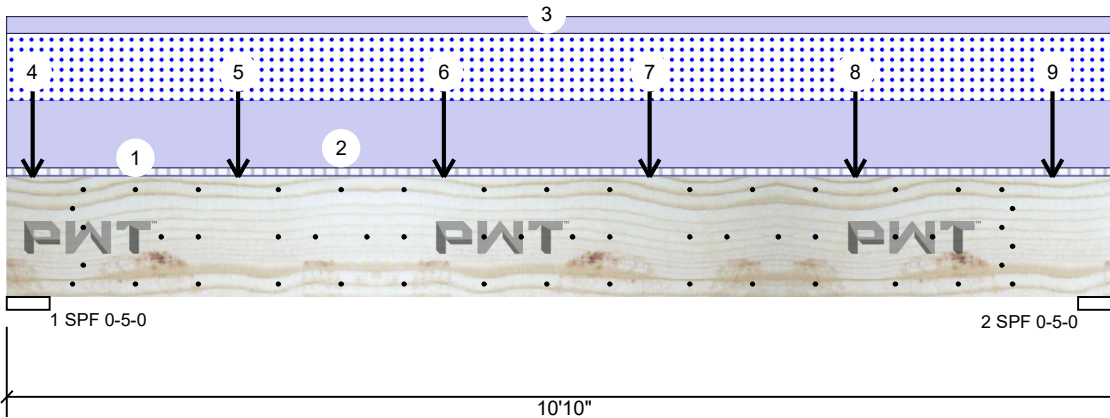
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FB2 2.0E 2900Fb PWT LVL 1.750" X 14.000" 2-Ply - PASSED

Level: 2nd Floor



Member Information

Type: Girder
Plies: 2
Moisture Condition: Dry
Deflection LL: 360
Deflection TL: 240
Importance: Normal - II
Temperature: Temp <= 100°F
General Load
Floor Live: 40 PSF
Dead: 10 PSF

Application: Floor
Design Method: ASD
Building Code: IRC 2021
Load Sharing: No
Deck: Not Checked

Reactions PATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	1968	3609	2058	0	0
2	Vertical	2117	4058	2058	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.000"	Vert	89%	3609 / 3020	6628	L	D+0.75(L+S)
2 - SPF	5.000"	Vert	97%	4058 / 3131	7190	L	D+0.75(L+S)

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	15742 ft-lb	5'9 15/16"	30810 ft-lb	51%	D+0.75(L+S)	L
Shear	5314 lb	9'3"	9310 lb	57%	D+L	L
LL Defl inch	0.096 (L/1270)	5'5 9/16"	0.338 (L/360)	28%	0.75(L+S)	L
TL Defl inch	0.217 (L/559)	5'5 7/8"	0.506 (L/240)	43%	D+0.75(L+S)	L

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings.
- 2 Dead Load Deflection: Instant = 0.122", Long Term = 0.182".
- 3 Fasten all plies using 3 rows of 16d Sinker Nails (.148x3.25") at 12" o.c. Maximum end distance not to exceed 6". Clinch Nails where possible.
- 4 Refer to last page of calculations for fasteners required for specified loads.
- 5 Concentrated load fastener specification is in addition to hanger fasteners if a hanger is present.
- 6 Girders are designed to be supported on the bottom edge only.
- 7 Top loads must be supported equally by all plies.
- 8 Top must be laterally braced at a maximum of 8' 3/8" o.c.
- 9 Bottom must be laterally braced at end bearings.

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	0-0-0 to 10-10-0	1-0-14	Top	10 PSF	40 PSF	0 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-0-0 to 10-10-0		Top	380 PLF	0 PLF	380 PLF	0 PLF	0 PLF	
3	Part. Uniform	0-0-0 to 10-10-0		Top	96 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
4	Point	0-3-0		Near Face	250 lb	541 lb	0 lb	0 lb	0 lb	J3
5	Point	2-3-0		Near Face	205 lb	534 lb	0 lb	0 lb	0 lb	J3

Continued on page 2...

Notes

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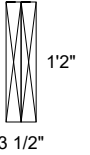
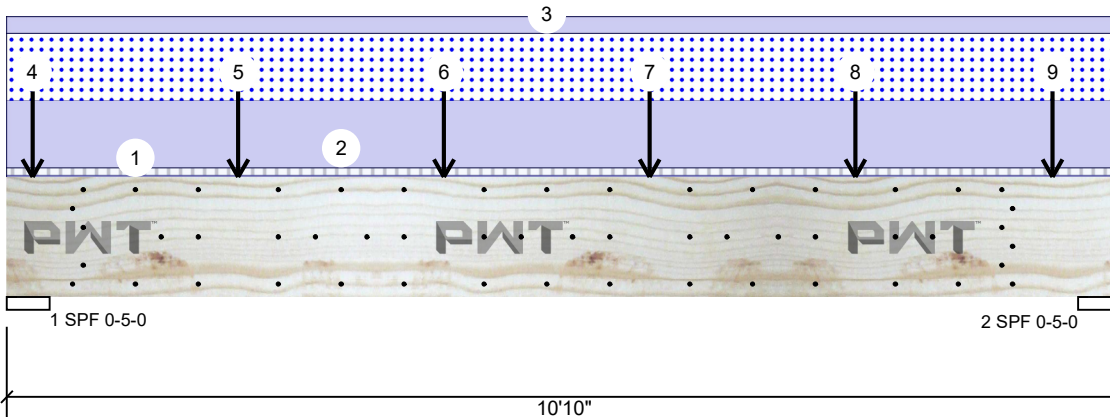
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FB2 2.0E 2900Fb PWT LVL 1.750" X 14.000" 2-Ply - PASSED

Level: 2nd Floor



...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
6	Point	4-3-0		Near Face	198 lb	534 lb	0 lb	0 lb	0 lb	J3
7	Point	6-3-0		Near Face	714 lb	619 lb	0 lb	0 lb	0 lb	J3
8	Point	8-3-0		Near Face	172 lb	689 lb	0 lb	0 lb	0 lb	J3
9	Point	10-2-0		Near Face	703 lb	703 lb	0 lb	0 lb	0 lb	J3
	Self Weight				14 PLF					

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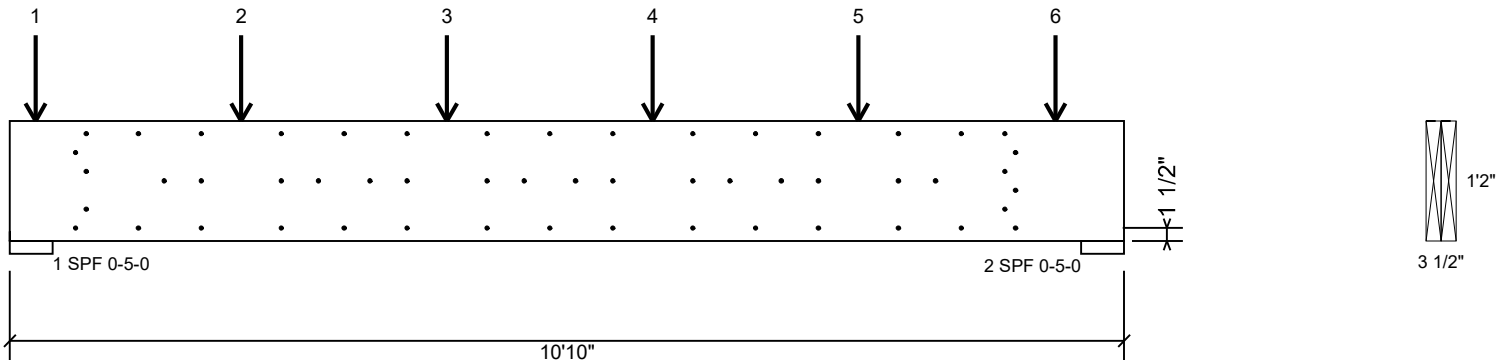
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Project: CL3034-GR-CS470
Address: CL3034-GR-CS470

Date: 4/1/2025
Input by: Will Evans
Job Name: 202504-73124
Project #: 73124

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FB2 2.0E 2900Fb PWT LVL 1.750" X 14.000" 2-Ply - PASSED

Level: 2nd Floor



Multi-Ply Analysis

Fasten all plies using 3 rows of 16d Sinker Nails (.148x3.25") at 12" o.c.. except for regions covered by concentrated load fastening. Maximum end distance not to exceed 6". Clinch Nails where possible.

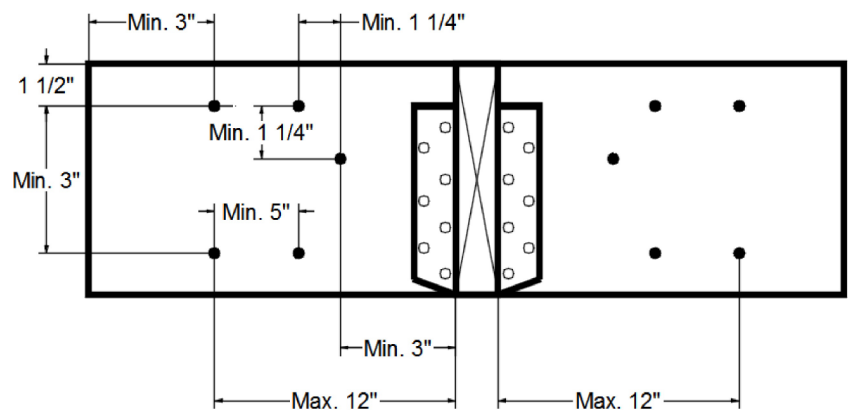
Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	352.8 PLF
Yield Limit per Fastener	117.6 lb.
C _m	1
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

Concentrated Load

Fasten at concentrated side load at 0-3-0 with a minimum of (5) – 16d Sinker Nails (.148x3.25") in the pattern shown.

Capacity	67.3 %
Load	395.5lb.
Total Yield Limit	587.8 lb.
C _g	0.9998
C _m	1
Yield Limit per Fastener	117.6 lb.
Yield Mode	IV
Load Combination	D+L
Duration Factor	1.00

Min/Max fastener distances for Concentrated Side Loads



Concentrated Load

Fasten at concentrated side load at 2-3-0 with a minimum of (6) – 16d Sinker Nails (.148x3.25") in the pattern shown.

Capacity	52.4 %
Load	369.5lb.
Total Yield Limit	705.4 lb.
C _g	0.9998
C _m	1
Yield Limit per Fastener	117.6 lb.
Yield Mode	IV
Load Combination	D+L
Duration Factor	1.00

Notes

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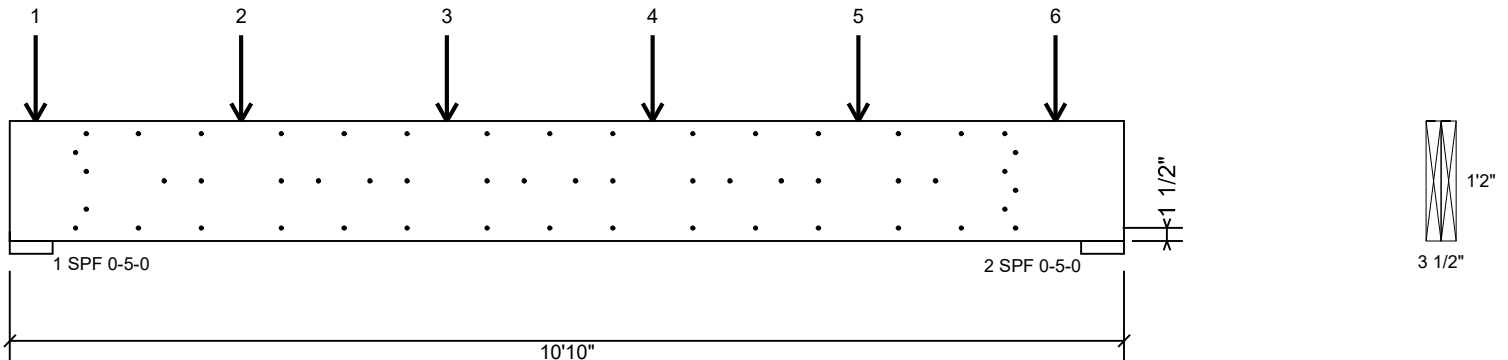
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Address: CL3034-GR-CS470

Date: 4/1/2025
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Job Name: 202504-73124
Project #: 73124

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FB2 2.0E 2900Fb PWT LVL 1.750" X 14.000" 2-Ply - PASSED

Level: 2nd Floor



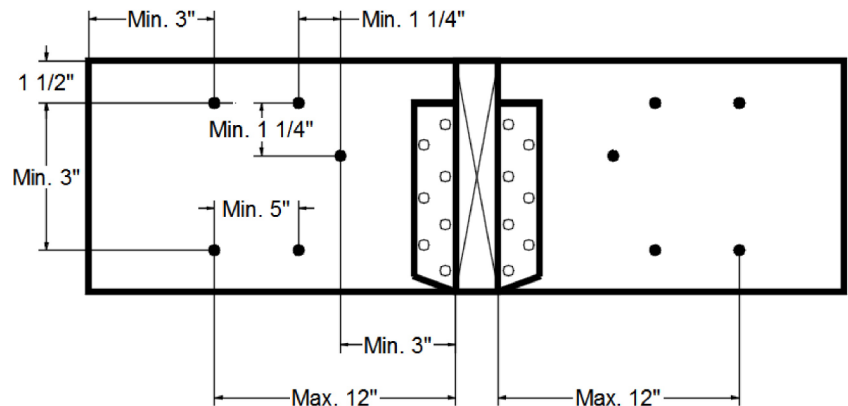
Multi-Ply Analysis

Concentrated Load

Fasten at concentrated side load at 4-3-0 with a minimum of (6) – 16d Sinker Nails (.148x3.25") in the pattern shown.

Capacity	51.9 %
Load	366.0lb.
Total Yield Limit	705.4 lb.
Cg	0.9998
Cm	1
Yield Limit per Fastener	117.6 lb.
Yield Mode	IV
Load Combination	D+L
Duration Factor	1.00

Min/Max fastener distances for Concentrated Side Loads



Concentrated Load

Fasten at concentrated side load at 6-3-0 with a minimum of (6) – 16d Sinker Nails (.148x3.25") in the pattern shown.

Capacity	94.5 %
Load	666.5lb.
Total Yield Limit	705.4 lb.
Cg	0.9998
Cm	1
Yield Limit per Fastener	117.6 lb.
Yield Mode	IV
Load Combination	D+L
Duration Factor	1.00

Notes

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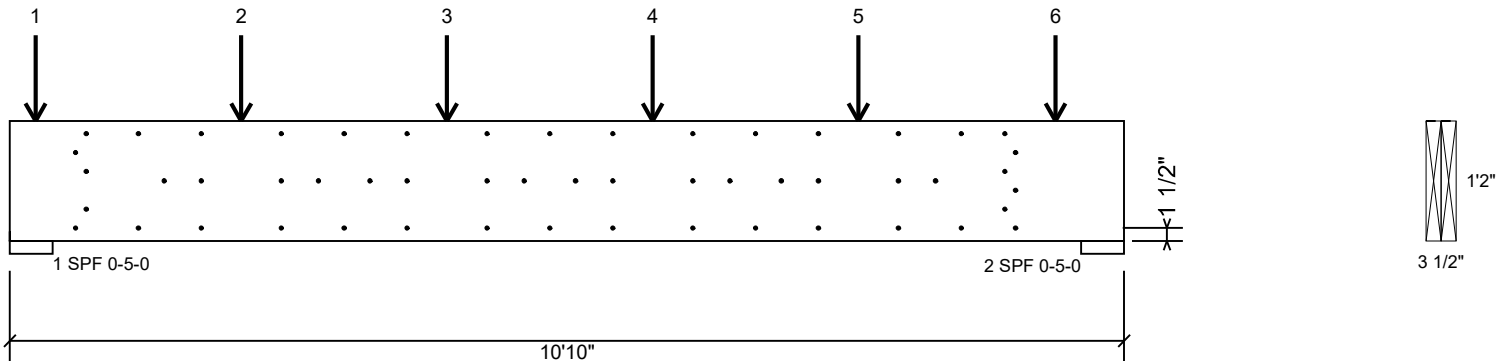
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Project: CL3034-GR-CS470
Address: CL3034-GR-CS470

Date: 4/1/2025
Input by: Will Evans
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Project #: 73124

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FB2 2.0E 2900Fb PWT LVL 1.750" X 14.000" 2-Ply - PASSED

Level: 2nd Floor



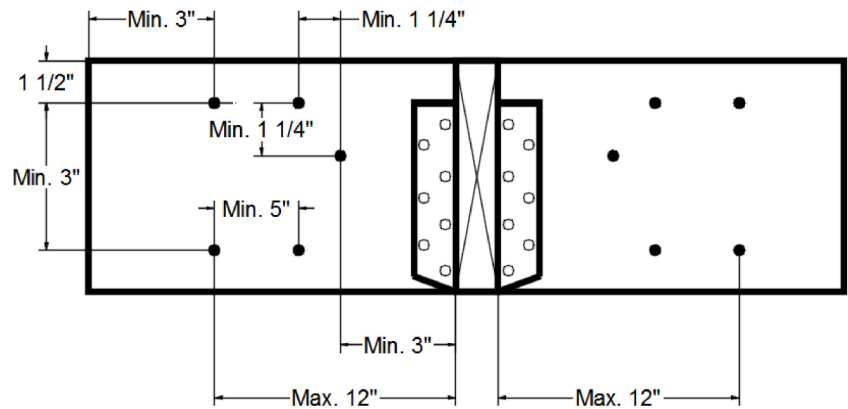
Multi-Ply Analysis

Concentrated Load

Fasten at concentrated side load at 8-3-0 with a minimum of (6) – 16d Sinker Nails (.148x3.25") in the pattern shown.

Capacity	61.0 %
Load	430.5lb.
Total Yield Limit	705.4 lb.
Cg	0.9998
Cm	1
Yield Limit per Fastener	117.6 lb.
Yield Mode	IV
Load Combination	D+L
Duration Factor	1.00

Min/Max fastener distances for Concentrated Side Loads



Concentrated Load

Fasten at concentrated side load at 10-2-0 with a minimum of (6) – 16d Sinker Nails (.148x3.25") in the pattern shown.

Capacity	99.7 %
Load	703.0lb.
Total Yield Limit	705.4 lb.
Cg	0.9998
Cm	1
Yield Limit per Fastener	117.6 lb.
Yield Mode	IV
Load Combination	D+L
Duration Factor	1.00

Notes

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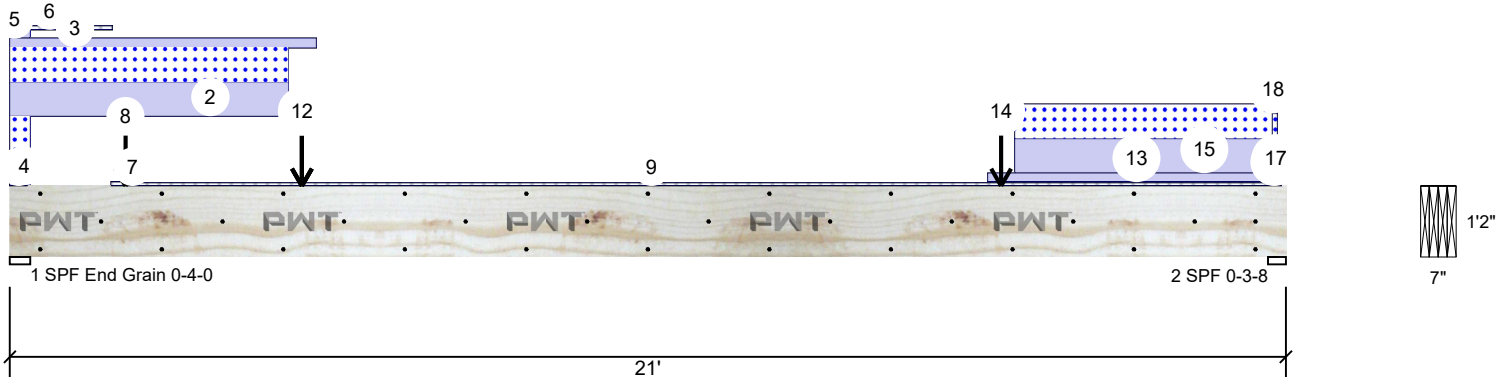
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Address: CL3034-GR-CS470

Date: 4/1/2025
Input by: Will Evans
Job Name: 202504-73124
Project #: 73124

Page 1 of 3

FB3 2.0E 2900Fb PWT LVL 1.750" X 14.000" 4-Ply - PASSED

Level: 2nd Floor



Member Information

Type: Girder
Plies: 4
Moisture Condition: Dry
Deflection LL: 360
Deflection TL: 240
Importance: Normal - II
Temperature: Temp <= 100°F
General Load
Floor Live: 40 PSF
Dead: 10 PSF

Application: Floor
Design Method: ASD
Building Code: IRC 2021
Load Sharing: Yes
Deck: Not Checked

Reactions PATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	285	5125	4082	0	0
2	Vertical	269	4829	3886	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	4.000"	Vert	44%	5125 / 4082	9206	L	D+S
2 - SPF	3.500"	Vert	84%	4829 / 3886	8715	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	30582 ft-lb	9'5 5/8"	64086 ft-lb	48%	D+S	L
Shear	7597 lb	1'6"	21413 lb	35%	D+S	L
LL Defl inch	0.379 (L/650)	10'6 1/8"	0.683 (L/360)	55%	S	L
TL Defl inch	0.849 (L/290)	10'6"	1.025 (L/240)	83%	D+S	L

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings.
- 2 Dead Load Deflection: Instant = 0.470", Long Term = 0.706".
- 3 Fasten all plies using 3 rows of SDW22634 at 24" o.c. Maximum end distance not to exceed 12".
- 4 Refer to last page of calculations for fasteners required for specified loads.
- 5 Simpson fasteners applied from a single side of the member use tip values where published.
- 6 Girders are designed to be supported on the bottom edge only.
- 7 Top loads must be supported equally by all plies.
- 8 Top must be laterally braced at a maximum of 8'4 7/16" o.c.
- 9 Bottom must be laterally braced at end bearings.

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	0-0-0 to 0-3-8	0-2-10	Top	10 PSF	40 PSF	0 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-0-0 to 4-6-15		Top	376 PLF	0 PLF	376 PLF	0 PLF	0 PLF	
3	Part. Uniform	0-0-0 to 5-0-7		Top	96 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
4	Part. Uniform	0-0-0 to 0-4-0		Top	376 PLF	0 PLF	376 PLF	0 PLF	0 PLF	
5	Part. Uniform	0-0-0 to 0-4-0		Top	96 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight

Continued on page 2...

Notes

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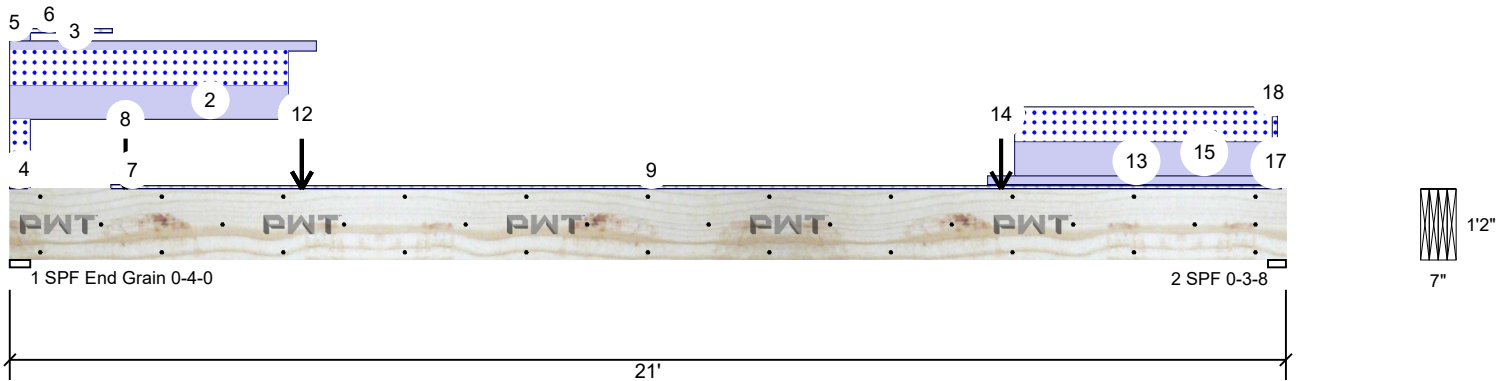
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FB3 2.0E 2900Fb PWT LVL 1.750" X 14.000" 4-Ply - PASSED

Level: 2nd Floor



...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
6	Tie-In	0-1-12 to 1-8-1	0-10-4	Top	10 PSF	40 PSF	0 PSF	0 PSF	0 PSF	
7	Tie-In	1-8-1 to 2-1-10	0-10-4	Top	10 PSF	40 PSF	0 PSF	0 PSF	0 PSF	
8	Point	1-10-13		Top	47 lb	0 lb	0 lb	0 lb	0 lb	Partition Wall Self Weight
	Bearing Length	0-3-8								
9	Tie-In	2-1-10 to 20-8-9	0-10-4	Top	10 PSF	30 PSF	0 PSF	0 PSF	0 PSF	
10	Point	4-9-11		Top	5 lb	0 lb	0 lb	0 lb	0 lb	Partition Wall Self Weight
	Bearing Length	0-3-8								
11	Point	4-9-11		Top	4 lb	0 lb	0 lb	0 lb	0 lb	Partition Wall Self Weight
	Bearing Length	0-3-8								
12	Point	4-9-11		Top	2345 lb	0 lb	2250 lb	0 lb	0 lb	FB1
	Bearing Length	0-3-8								
13	Part. Uniform	16-1-0 to 20-9-4		Top	96 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
14	Point	16-3-12		Top	2345 lb	0 lb	2250 lb	0 lb	0 lb	FB1
	Bearing Length	0-3-8								
15	Part. Uniform	16-6-8 to 20-9-4		Top	376 PLF	0 PLF	376 PLF	0 PLF	0 PLF	
16	Tie-In	20-8-9 to 20-10-14	0-10-4	Top	10 PSF	40 PSF	0 PSF	0 PSF	0 PSF	
17	Part. Uniform	20-9-4 to 20-10-4		Top	376 PLF	0 PLF	376 PLF	0 PLF	0 PLF	
18	Part. Uniform	20-9-4 to 20-10-4		Top	96 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
	Self Weight				28 PLF					

Notes

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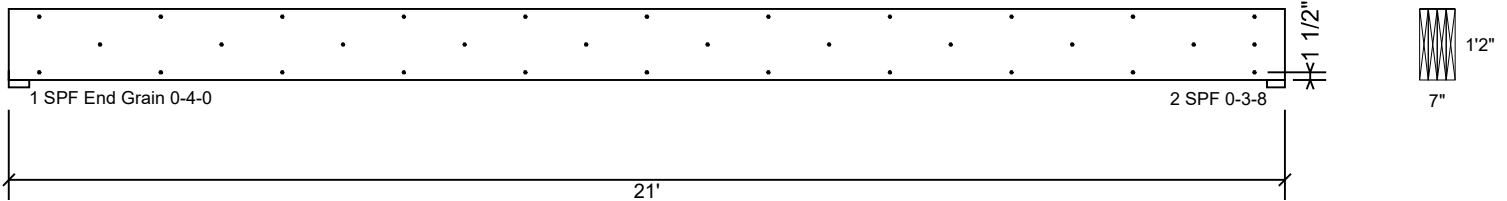
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Project #: 73124

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FB3 2.0E 2900Fb PWT LVL 1.750" X 14.000" 4-Ply - PASSED

Level: 2nd Floor



Multi-Ply Analysis

Fasten all plies using 3 rows of SDW22634 at 24" o.c.. Maximum end distance not to exceed 12".

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	450.0 PLF
Yield Limit per Fastener	300.0 lb.
C _m	1
Yield Mode	Lookup
Edge Distance	1 1/2"
Min. End Distance	6"
Load Combination	
Duration Factor	1.00

Notes

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