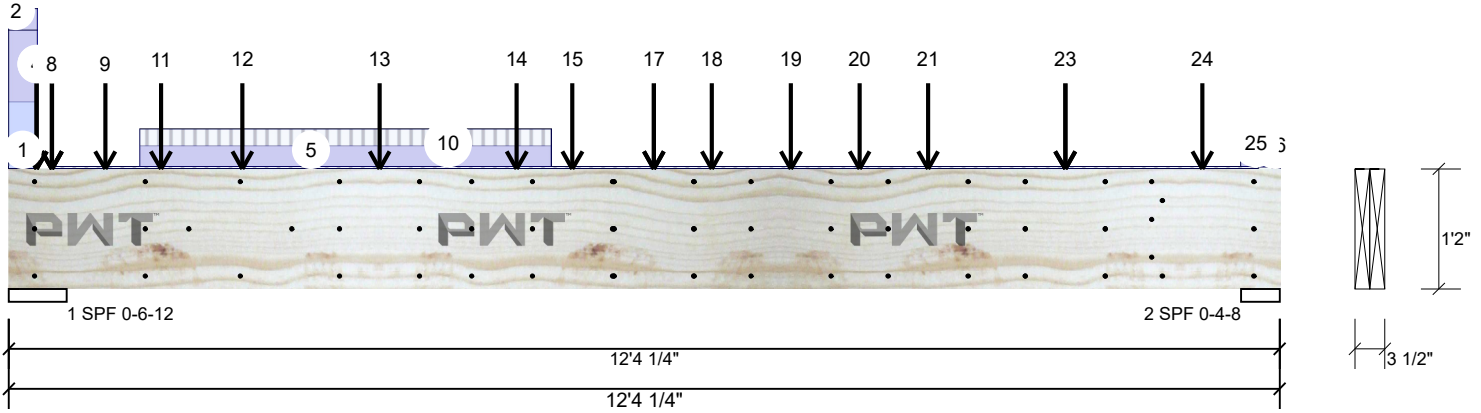


FB4 2.0E 2900Fb PWT LVL 1.750" X 14.000" 2-Ply - PASSED

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 2018
Load Sharing:	No
Deck:	Not Checked

Reactions PATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	2321 (-59)	2279	0	0	83
2	Vertical	2305 (-41)	2037	0	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	6.765"	Vert	46%	2279 / 2321	4600	L	D+L
2 - SPF	4.500"	Vert	65%	2037 / 2305	4343	L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	12970 ft-lb	6'3 1/4"	26792 ft-lb	0.484 (48%)	D+L	L
Shear	4372 lb	10'9 3/4"	9310 lb	0.470 (47%)	D+L	L
LL Defl inch	0.114 (L/1210)	6'3 1/4"	0.385 (L/360)	0.297 (30%)	L	L
TL Defl inch	0.221 (L/628)	6'3 1/4"	0.577 (L/240)	0.382 (38%)	D+L	L

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Dead Load Deflection: Instant = 0.106", Long Term = 0.159".
- 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 10'2 13/16" 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	Part. Uniform	0-0-0 to 0-3-4		Top	320 PLF	0 PLF	0 PLF	0 PLF	305 PLF	
2	Part. Uniform	0-0-0 to 0-3-4		Top	96 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
3	Point	0-3-4		Near Face	59 lb	174 lb	0 lb	0 lb	0 lb	J18
4	Point	0-3-4		Near Face	0 lb	-18 lb	0 lb	0 lb	0 lb	J18

Continued on page 2...

Notes

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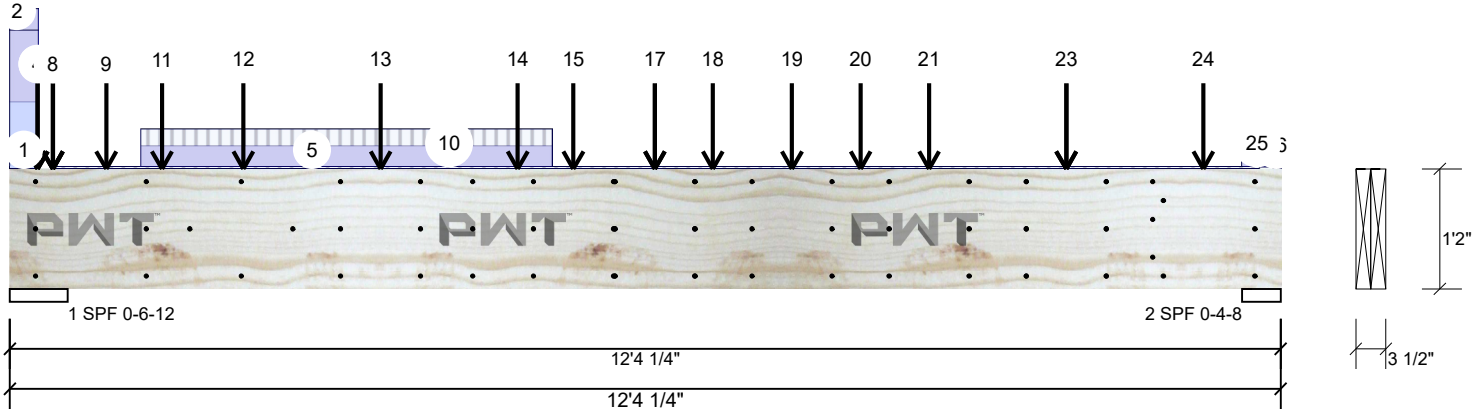
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FB4 2.0E 2900Fb PWT LVL 1.750" X 14.000" 2-Ply - PASSED

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
5	Part. Uniform	0-4-14 to 12-1-10		Near Face	0 PLF	-7 PLF	0 PLF	0 PLF	0 PLF	
6	Point	0-5-0		Top	6 lb	0 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-3-8								
7	Point	0-5-0		Top	4 lb	0 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-3-8								
8	Point	0-5-0		Top	11 lb	0 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-3-8								
9	Point	0-11-4		Near Face	130 lb	180 lb	0 lb	0 lb	0 lb	J8
10	Part. Uniform	1-3-4 to 5-3-4		Far Face	91 PLF	77 PLF	0 PLF	0 PLF	0 PLF	
11	Point	1-5-12		Near Face	313 lb	199 lb	0 lb	0 lb	0 lb	J8
12	Point	2-3-4		Near Face	222 lb	317 lb	0 lb	0 lb	0 lb	J8
13	Point	3-7-4		Near Face	270 lb	398 lb	0 lb	0 lb	0 lb	J8
14	Point	4-11-4		Near Face	198 lb	280 lb	0 lb	0 lb	0 lb	J8
15	Point	5-5-12		Near Face	391 lb	213 lb	0 lb	0 lb	0 lb	J8
16	Point	6-3-4		Far Face	218 lb	155 lb	0 lb	0 lb	0 lb	J9
17	Point	6-3-4		Near Face	316 lb	355 lb	0 lb	0 lb	0 lb	J8
18	Point	6-10-0		Top	3 lb	0 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-3-8								
19	Point	7-7-4		Near Face	308 lb	446 lb	0 lb	0 lb	0 lb	J8
20	Point	8-3-4		Far Face	104 lb	155 lb	0 lb	0 lb	0 lb	J9
21	Point	8-11-4		Near Face	321 lb	446 lb	0 lb	0 lb	0 lb	J8
22	Point	10-3-4		Far Face	77 lb	153 lb	0 lb	0 lb	0 lb	J9
23	Point	10-3-4		Near Face	303 lb	446 lb	0 lb	0 lb	0 lb	J8
24	Point	11-7-4		Near Face	380 lb	401 lb	0 lb	0 lb	0 lb	J8
25	Part. Uniform	11-11-12 to 12-3-4		Top	96 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
26	Part. Uniform	12-3-4 to 12-4-4		Top	48 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
	Self Weight				14 PLF					

Notes

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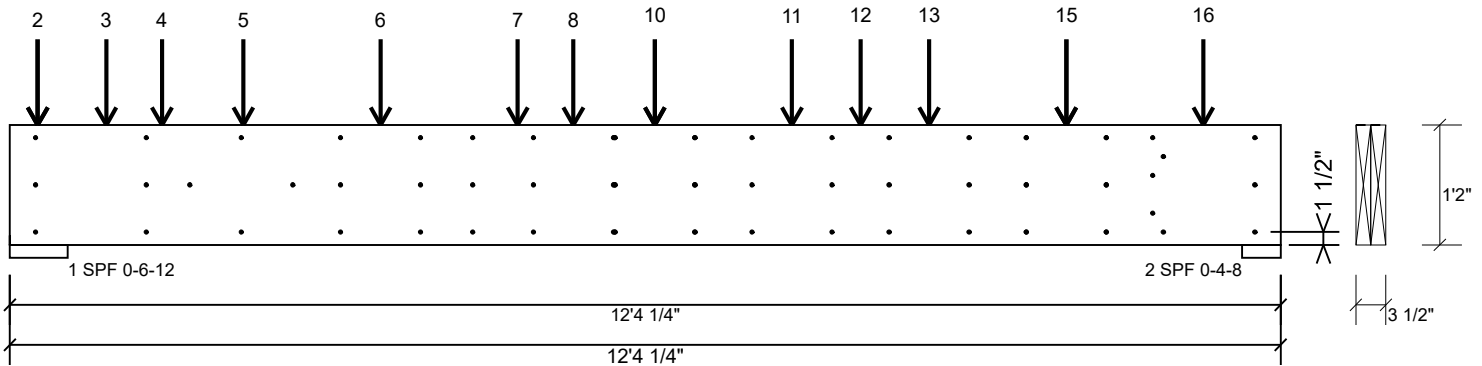
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FB4 2.0E 2900Fb PWT LVL 1.750" X 14.000" 2-Ply - PASSED

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.

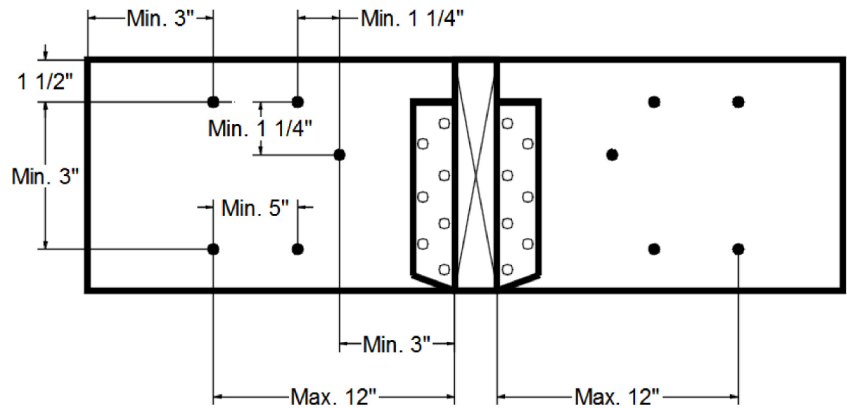
Capacity	23.8 %
Load	84.0 PLF
Yield Limit per Foot	352.8 PLF
Yield Limit per Fastener	117.6 lb.
C _M	1
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	D+L
Duration Factor	1.00

Concentrated Load

Fasten at concentrated side load at 0-11-4 with a minimum of (3) – 16d Sinker Nails (.148x3.25") in the pattern shown.

Capacity	43.9 %
Load	155.0lb.
Total Yield Limit	352.7 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 3-7-4 with a minimum of (6) – 16d Sinker Nails (.148x3.25") in the pattern shown.

Capacity	47.3 %
Load	334.0lb.
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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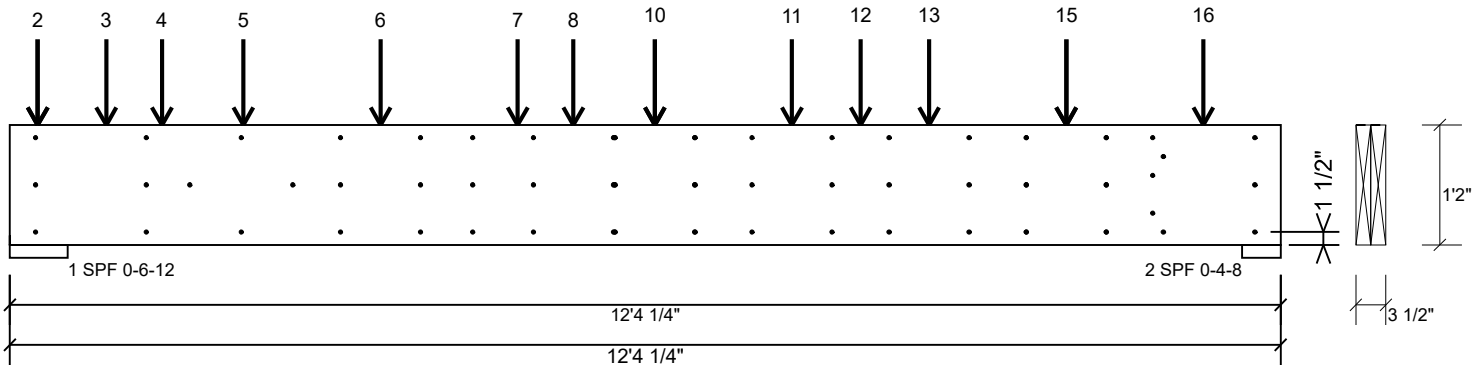
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Level: 2nd floor



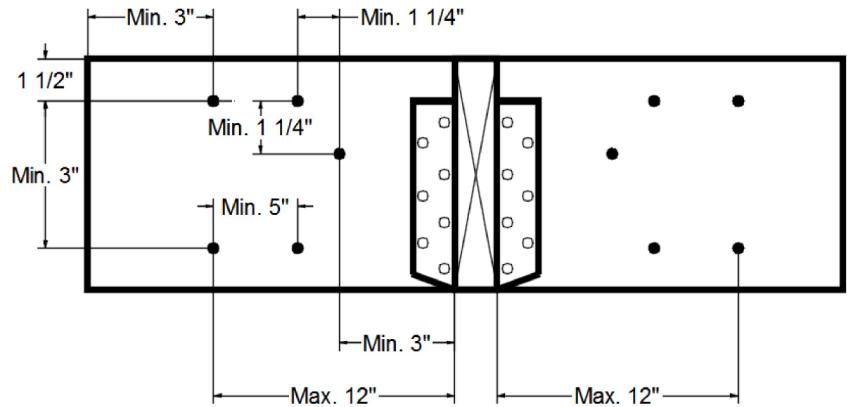
Multi-Ply Analysis

Concentrated Load

Fasten at concentrated side load at 5-5-12 with a minimum of (6) – 16d Sinker Nails (.148x3.25") in the pattern shown.

Capacity	42.8 %
Load	302.0lb.
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

Min/Max fastener distances for Concentrated Side Loads



Concentrated Load

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

Capacity	47.6 %
Load	335.5lb.
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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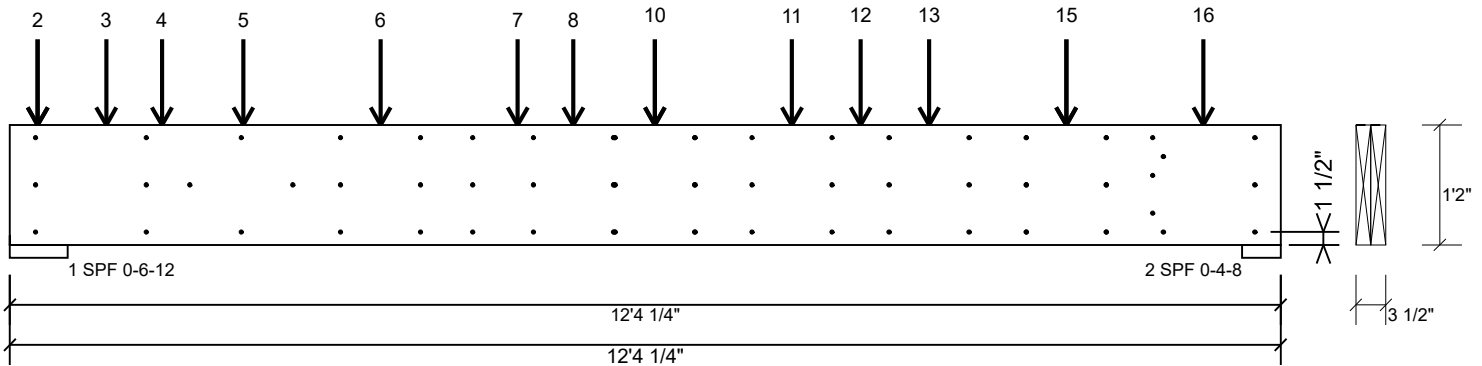
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Level: 2nd floor



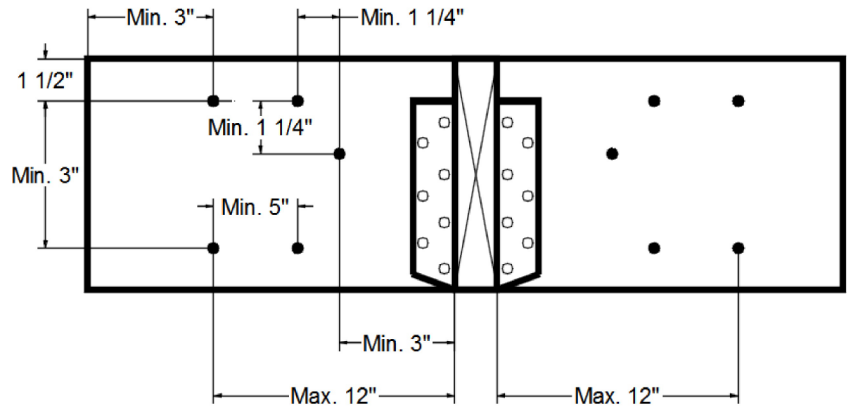
Multi-Ply Analysis

Concentrated Load

Fasten at concentrated side load at 7-7-4 with a minimum of (6) – 16d Sinker Nails (.148x3.25") in the pattern shown.

Capacity	53.4 %
Load	377.0lb.
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

Min/Max fastener distances for Concentrated Side Loads



Concentrated Load

Fasten at concentrated side load at 8-11-4 with a minimum of (6) – 16d Sinker Nails (.148x3.25") in the pattern shown.

Capacity	54.4 %
Load	383.5lb.
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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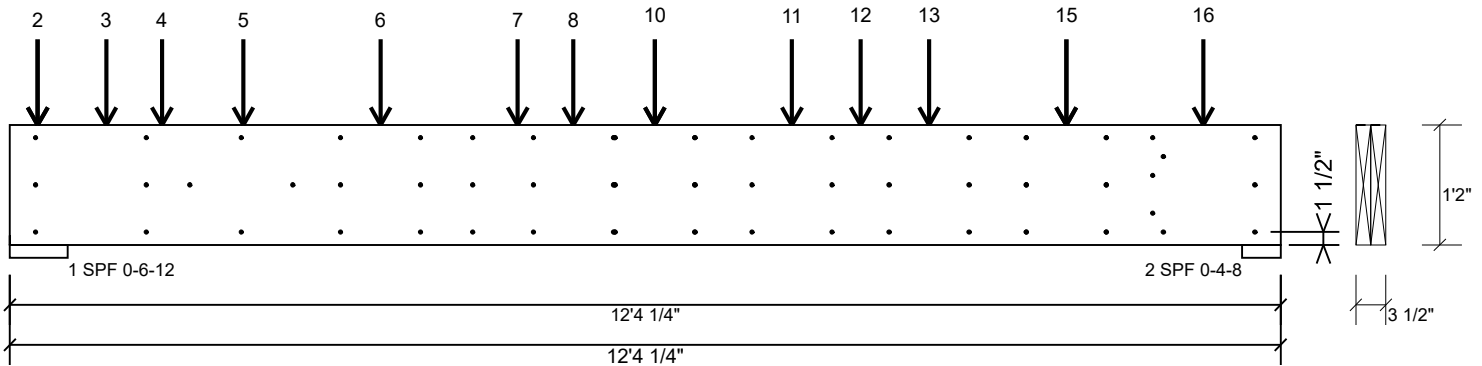
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Level: 2nd floor



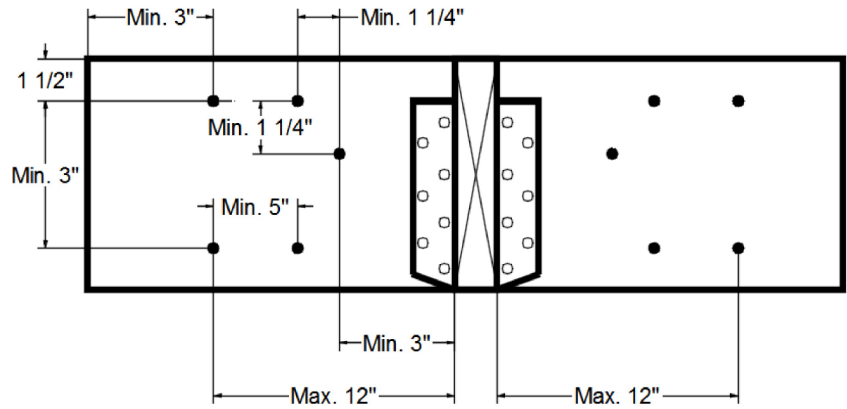
Multi-Ply Analysis

Concentrated Load

Fasten at concentrated side load at 10-3-4 with a minimum of (6) – 16d Sinker Nails (.148x3.25") in the pattern shown.

Capacity	53.1 %
Load	374.5lb.
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

Min/Max fastener distances for Concentrated Side Loads



Concentrated Load

Fasten at concentrated side load at 11-7-4 with a minimum of (5) – 16d Sinker Nails (.148x3.25") in the pattern shown.

Capacity	66.4 %
Load	390.5lb.
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

Notes

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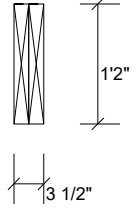
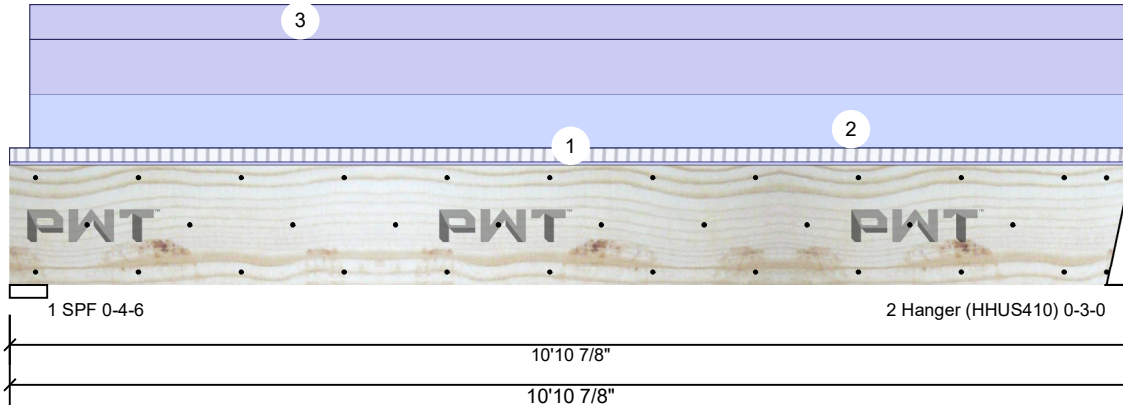
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FB2 2.0E 2900Fb PWT LVL 1.750" X 14.000" 2-Ply - PASSED

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 2018
Load Sharing:	No
Deck:	Not Checked

Reactions PATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	202	1434	0	0	797
2	Vertical	198	1452	0	0	809

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	4.375"	Vert	34%	1434 / 797	2231	L	D+C
2 - Hanger	3.000"	Vert	29%	1452 / 809	2261	L	D+C

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	5684 ft-lb	5'6 1/8"	33490 ft-lb	0.170 (17%)	D+C	L
Shear	1684 lb	1'6 3/8"	11638 lb	0.145 (14%)	D+C	L
LL Defl inch	0.030 (L/4224)	5'6 1/8"	0.347 (L/360)	0.085 (9%)	C	L
TL Defl inch	0.083 (L/1511)	5'6 1/8"	0.521 (L/240)	0.159 (16%)	D+C	L

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Dead Load Deflection: Instant = 0.053", Long Term = 0.080".
- 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 Fill all hanger nailing holes.
- 6 Right Header: DF, Thickness: 7"
- 7 Girders are designed to be supported on the bottom edge only.
- 8 Top loads must be supported equally by all plies.
- 9 Top must be laterally braced at end bearings.
- 10 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 10-10-14	0-11-0	Top	10 PSF	40 PSF	0 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-2-6 to 10-10-14		Top	150 PLF	0 PLF	0 PLF	0 PLF	150 PLF	
3	Part. Uniform	0-2-6 to 10-10-14		Top	96 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
	Self Weight				14 PLF					

Notes

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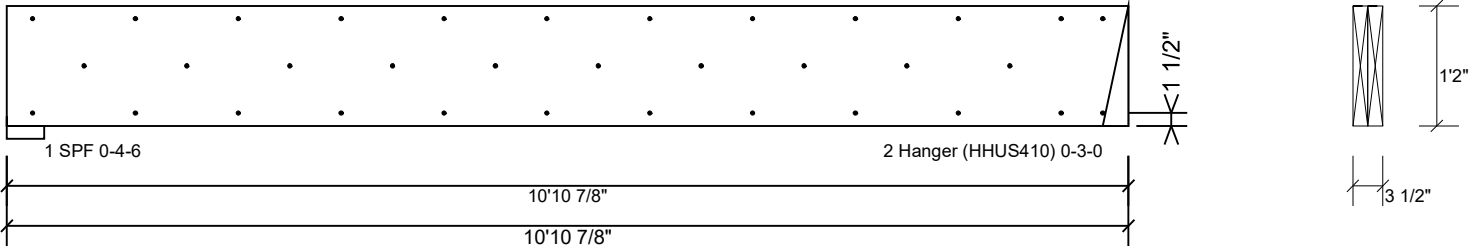
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FB2 2.0E 2900Fb PWT LVL 1.750" X 14.000" 2-Ply - PASSED

Level: 2nd floor



Multi-Ply Analysis

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.

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

Notes

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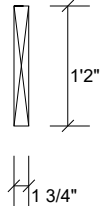
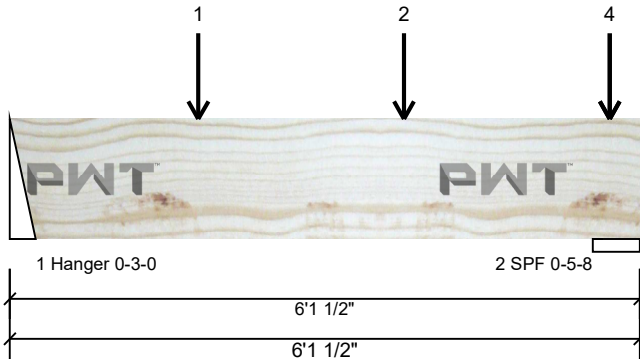
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FB3 2.0E 2900Fb PWT LVL 1.750" X 14.000" - PASSED

Level: 2nd floor



Member Information

Type:	Girder	Application:	Floor
Plies:	1	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IRC 2018
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	555	160	0	0	0
2	Vertical	709 (-21)	380	0	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	3.000"	Vert	18%	160 / 555	714	L	D+L
2 - SPF	5.500"	Vert	27%	380 / 709	1090	L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1235 ft-lb	3'10"	13396 ft-lb	0.092 (9%)	D+L	L
Shear	713 lb	1'5"	4655 lb	0.153 (15%)	D+L	L
LL Defl inch	0.011 (L/5949)	3' 3/16"	0.185 (L/360)	0.061 (6%)	L	L
TL Defl inch	0.014 (L/4652)	3' 3/16"	0.277 (L/240)	0.052 (5%)	D+L	L

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Dead Load Deflection: Instant = 0.003", Long Term = 0.005".
- 3 Fill all hanger nailing holes.
- 4 Left Header: SPF, Thickness: 3 1/2"
- 5 Girders are designed to be supported on the bottom edge only.
- 6 Top must be laterally braced at end bearings.
- 7 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	Point	1-10-0		Far Face	132 lb	527 lb	0 lb	0 lb	0 lb	J2
2	Point	3-10-0		Far Face	135 lb	538 lb	0 lb	0 lb	0 lb	J2
3	Point	5-10-0		Far Face	230 lb	199 lb	0 lb	0 lb	0 lb	J2
4	Point	5-10-0		Far Face	0 lb	-21 lb	0 lb	0 lb	0 lb	J2
	Self Weight				7 PLF					

Notes

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Manufacturer Info

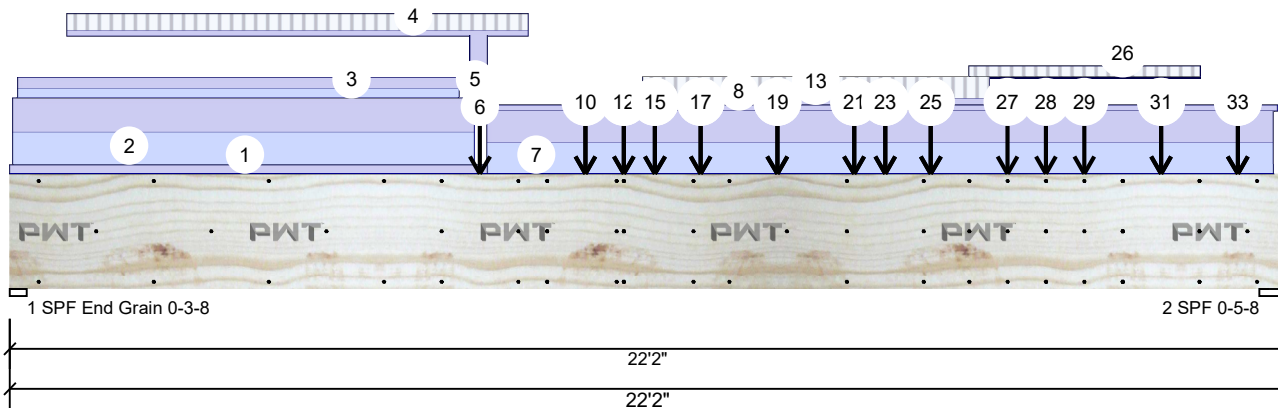
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This design is valid until 6/28/2026

FB5 2.0E 2900Fb PWT LVL 1.750" X 24.000" 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 2018
Load Sharing:	Yes
Deck:	Not Checked

Reactions PATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	2519 (-276)	7026	0	0	4589
2	Vertical	3686 (-831)	5942	0	0	3795

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	67%	7026 / 5331	12356	Uniform	D+0.75(L+C)
2 - SPF	5.500"	Vert	71%	5942 / 5611	11553	Uniform	D+0.75(L+C)

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	54866 ft-lb	10'5 5/8"	147033 ft-lb	0.373 (37%)	D+L	L
Shear	9059 lb	19'8 1/2"	31920 lb	0.284 (28%)	D+L	L
LL Defl inch	0.180 (L/1435)	10'11 3/4"	0.719 (L/360)	0.251 (25%)	0.75(L+C)	Uniform
TL Defl inch	0.394 (L/657)	10'10 1/16"	1.078 (L/240)	0.365 (37%)	D+0.75(L+C)	Uniform

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 = 0.214", Long Term = 0.320".
- 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 Concentrated load fastener specification is in addition to hanger fasteners if a hanger is present.
- 6 Simpson fasteners applied from a single side of the member use tip values where published.
- 7 Girders are designed to be supported on the bottom edge only.
- 8 Top loads must be supported equally by all plies.
- 9 Top must be laterally braced at a maximum of 6'6 13/16" o.c.
- 10 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 8-3-8		Top	86 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
2	Part. Uniform	0-0-12 to 8-0-12		Top	320 PLF	0 PLF	0 PLF	0 PLF	320 PLF	
3	Part. Uniform	0-1-12 to 7-9-8		Top	100 PLF	0 PLF	0 PLF	0 PLF	100 PLF	
4	Part. Uniform	1-0-0 to 9-0-0		Far Face	53 PLF	158 PLF	0 PLF	0 PLF	0 PLF	

Continued on page 2...

Notes

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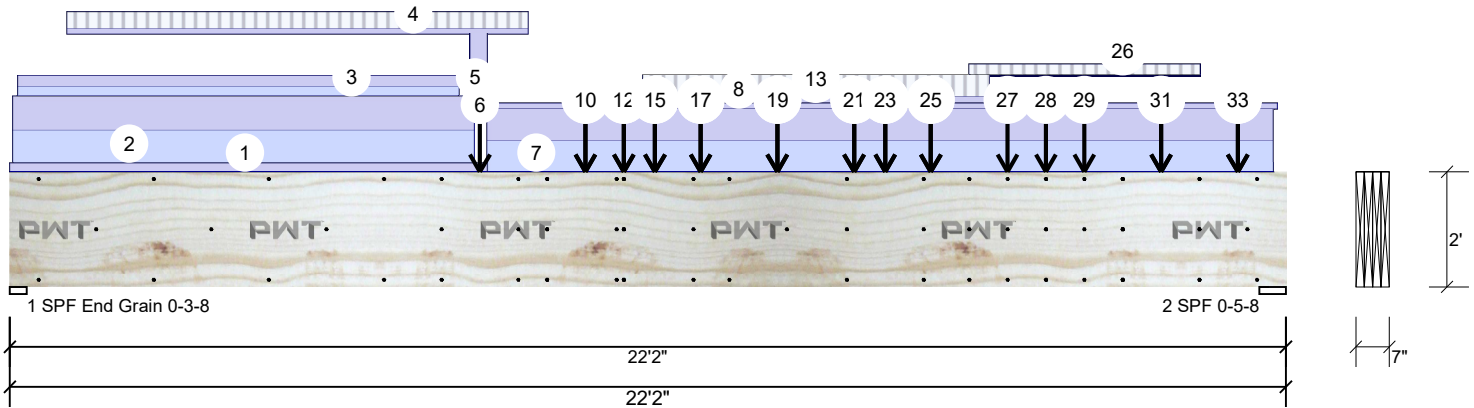
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FB5 2.0E 2900Fb PWT LVL 1.750" X 24.000" 4-Ply - PASSED

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
5	Part. Uniform	8-0-0 to 8-3-8		Top	305 PLF	0 PLF	0 PLF	0 PLF	305 PLF	
6	Point	8-2-0		Near Face	1452 lb	198 lb	0 lb	0 lb	809 lb	FB2
7	Part. Uniform	8-3-8 to 21-11-4		Top	305 PLF	0 PLF	0 PLF	0 PLF	305 PLF	
8	Part. Uniform	8-3-8 to 22-0-0		Top	54 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
9	Point	10-0-0		Far Face	71 lb	212 lb	0 lb	0 lb	0 lb	J11
10	Point	10-0-0		Near Face	103 lb	410 lb	0 lb	0 lb	0 lb	J3
11	Point	10-8-0		Far Face	-5 lb	89 lb	0 lb	0 lb	0 lb	J8
12	Point	10-8-0		Far Face	0 lb	-51 lb	0 lb	0 lb	0 lb	J8
13	Part. Uniform	11-0-0 to 17-0-0		Near Face	54 PLF	214 PLF	0 PLF	0 PLF	0 PLF	
14	Point	11-2-8		Far Face	181 lb	98 lb	0 lb	0 lb	0 lb	J8
15	Point	11-2-8		Far Face	0 lb	-56 lb	0 lb	0 lb	0 lb	J8
16	Point	12-0-0		Far Face	-1 lb	156 lb	0 lb	0 lb	0 lb	J8
17	Point	12-0-0		Far Face	0 lb	-89 lb	0 lb	0 lb	0 lb	J8
18	Point	13-4-0		Far Face	1 lb	196 lb	0 lb	0 lb	0 lb	J8
19	Point	13-4-0		Far Face	0 lb	-111 lb	0 lb	0 lb	0 lb	J8
20	Point	14-8-0		Far Face	-1 lb	138 lb	0 lb	0 lb	0 lb	J8
21	Point	14-8-0		Far Face	0 lb	-78 lb	0 lb	0 lb	0 lb	J8
22	Point	15-2-8		Far Face	164 lb	118 lb	0 lb	0 lb	0 lb	J8
23	Point	15-2-8		Far Face	0 lb	-64 lb	0 lb	0 lb	0 lb	J8
24	Point	16-0-0		Far Face	-57 lb	209 lb	0 lb	0 lb	0 lb	J8
25	Point	16-0-0		Far Face	0 lb	-112 lb	0 lb	0 lb	0 lb	J8
26	Part. Uniform	16-8-0 to 20-8-0		Far Face	0 PLF	-105 PLF	0 PLF	0 PLF	0 PLF	
27	Point	17-4-0		Far Face	-33 lb	262 lb	0 lb	0 lb	0 lb	J8
28	Point	18-0-0		Near Face	150 lb	428 lb	0 lb	0 lb	0 lb	J3
29	Point	18-8-0		Far Face	-56 lb	262 lb	0 lb	0 lb	0 lb	J8
30	Point	20-0-0		Far Face	-33 lb	262 lb	0 lb	0 lb	0 lb	J8
31	Point	20-0-0		Near Face	256 lb	423 lb	0 lb	0 lb	0 lb	J3
32	Point	21-4-0		Far Face	-67 lb	196 lb	0 lb	0 lb	0 lb	J8
33	Point	21-4-0		Far Face	0 lb	-126 lb	0 lb	0 lb	0 lb	J8

Notes

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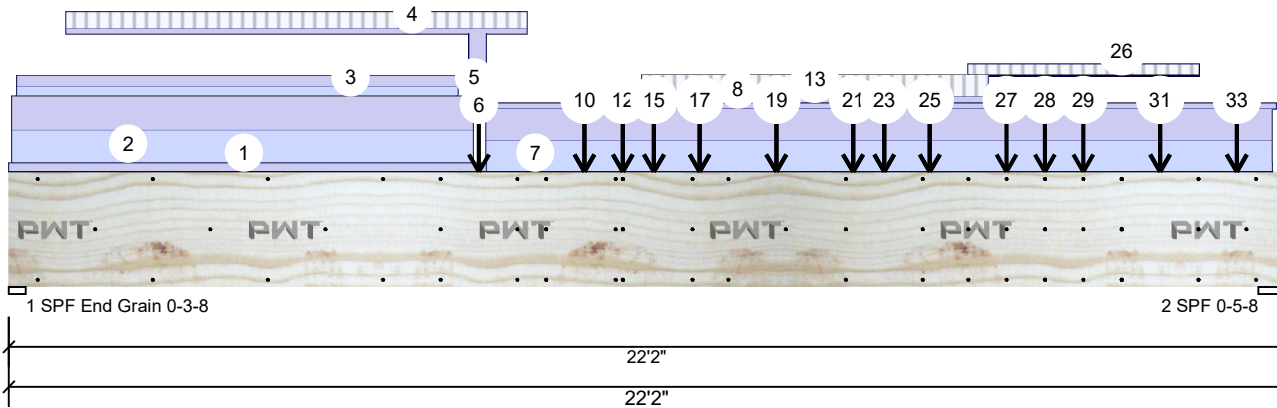
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FB5 2.0E 2900Fb PWT LVL 1.750" X 24.000" 4-Ply - PASSED

Level: 2nd floor



...Continued from page 2

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
	Self Weight				48 PLF					

Notes

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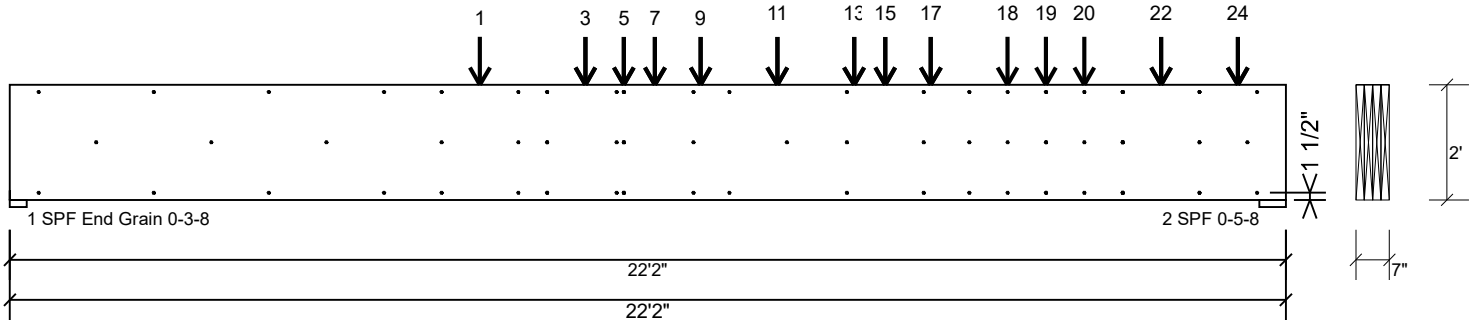
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FB5 2.0E 2900Fb PWT LVL 1.750" X 24.000" 4-Ply - PASSED

Level: 2nd floor



Multi-Ply Analysis

Fasten all plies using 3 rows of SDW22634 at 24" o.c.. except for regions covered by concentrated load fastening. Maximum end distance not to exceed 12".

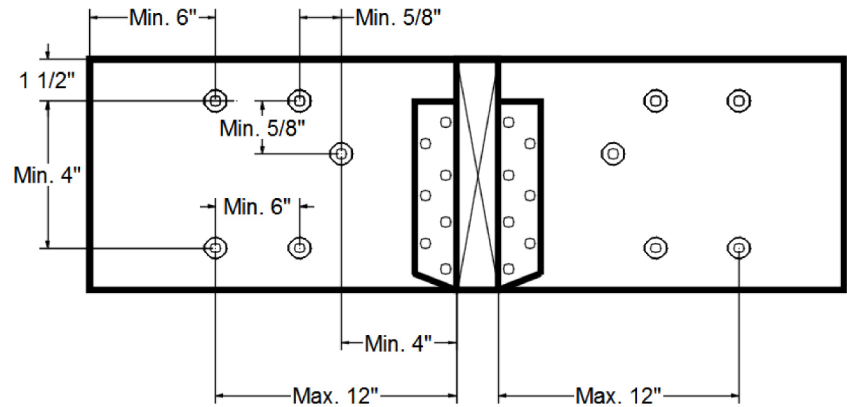
Capacity	44.7 %
Load	201.0 PLF
Yield Limit per Foot	450.0 PLF
Yield Limit per Fastener	300.0 lb.
C _M	1
Yield Mode	Lookup
Edge Distance	1 1/2"
Min. End Distance	6"
Load Combination	D+L
Duration Factor	1.00

Concentrated Load

Fasten at concentrated side load at 8-2-0 with a minimum of (6) – SDW22634 in the pattern shown. All fasteners shall be installed with the head on the side of the applied load.

Capacity	56.5 %
Load	1695.8lb.
Total Yield Limit	3000.0 lb.
C _g	1.0000
C _M	1
Yield Limit per Fastener	500.0 lb.
Yield Mode	Lookup
Load Combination	D+C
Duration Factor	1.25

Min/Max fastener distances for Concentrated Side Loads



Concentrated Load

Fasten at concentrated side load at 10-0-0 with a minimum of (6) – SDW22634 in the pattern shown.

Capacity	21.4 %
Load	384.8lb.
Total Yield Limit	1800.0 lb.
C _g	1.0000
C _M	1
Yield Limit per Fastener	300.0 lb.
Yield Mode	Lookup
Load Combination	D+L
Duration Factor	1.00

Notes

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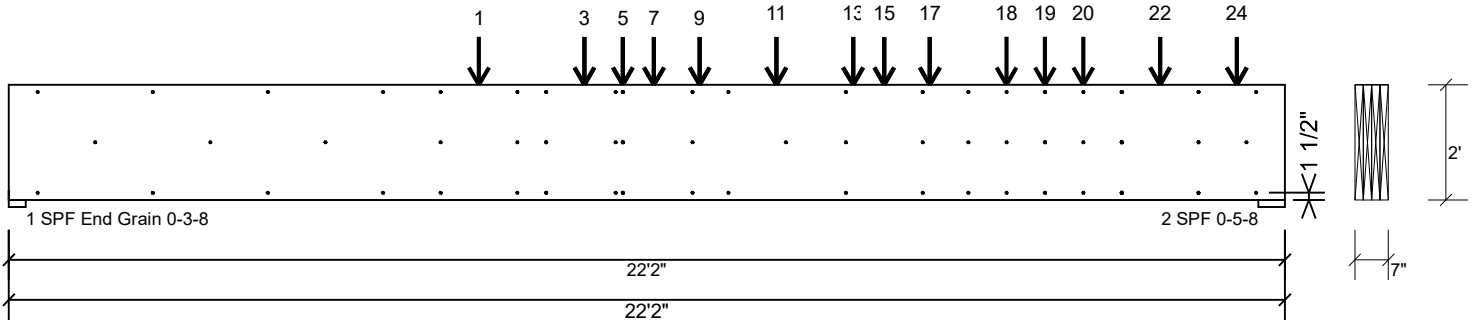
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Level: 2nd floor



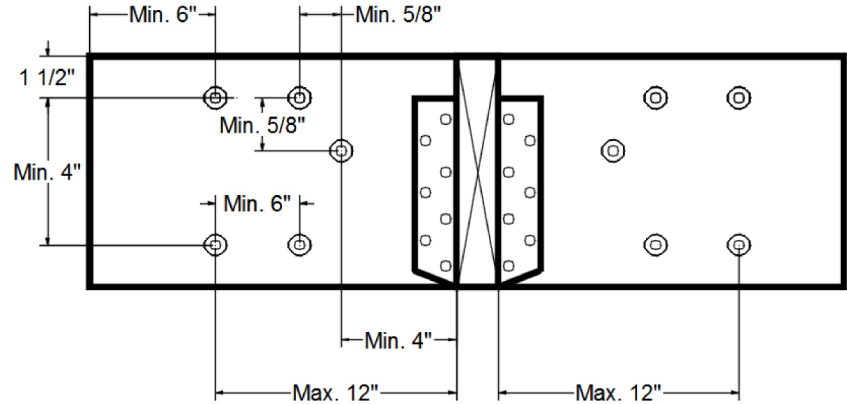
Multi-Ply Analysis

Concentrated Load

Fasten at concentrated side load at 11-2-8 with a minimum of (6) – SDW22634 in the pattern shown. All fasteners shall be installed with the head on the side of the applied load.

Capacity	8.7 %
Load	209.3lb.
Total Yield Limit	2400.0 lb.
C _g	1.0000
C _m	1
Yield Limit per Fastener	400.0 lb.
Yield Mode	Lookup
Load Combination	D+L
Duration Factor	1.00

Min/Max fastener distances for Concentrated Side Loads



Concentrated Load

Fasten at concentrated side load at 15-2-8 with a minimum of (6) – SDW22634 in the pattern shown. All fasteners shall be installed with the head on the side of the applied load.

Capacity	8.8 %
Load	211.5lb.
Total Yield Limit	2400.0 lb.
C _g	1.0000
C _m	1
Yield Limit per Fastener	400.0 lb.
Yield Mode	Lookup
Load Combination	D+L
Duration Factor	1.00

Notes

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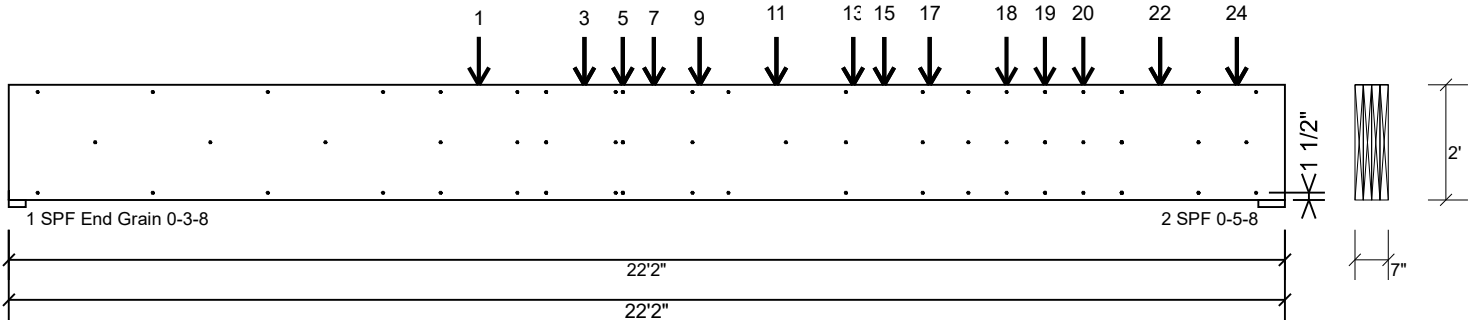
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FB5 2.0E 2900Fb PWT LVL 1.750" X 24.000" 4-Ply - PASSED

Level: 2nd floor



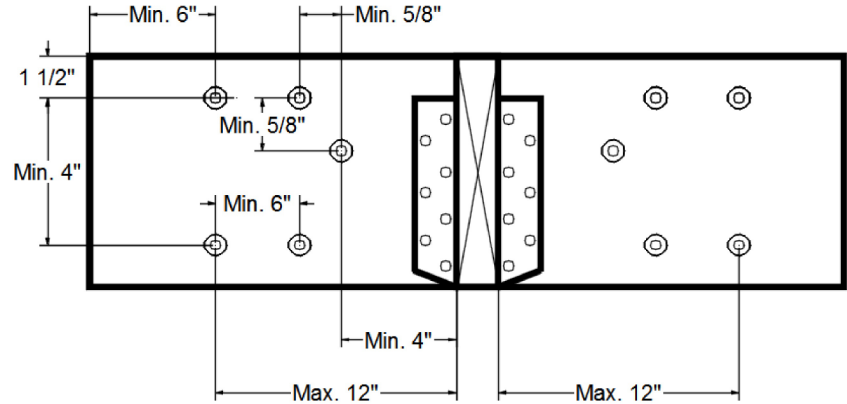
Multi-Ply Analysis

Concentrated Load

Fasten at concentrated side load at 17-4-0 with a minimum of (6) – SDW22634 in the pattern shown. All fasteners shall be installed with the head on the side of the applied load.

Capacity	7.2 %
Load	171.8lb.
Total Yield Limit	2400.0 lb.
C _g	1.0000
C _m	1
Yield Limit per Fastener	400.0 lb.
Yield Mode	Lookup
Load Combination	D+L
Duration Factor	1.00

Min/Max fastener distances for Concentrated Side Loads



Concentrated Load

Fasten at concentrated side load at 18-0-0 with a minimum of (6) – SDW22634 in the pattern shown. All fasteners shall be installed with the head on the side of the applied load.

Capacity	18.1 %
Load	433.5lb.
Total Yield Limit	2400.0 lb.
C _g	1.0000
C _m	1
Yield Limit per Fastener	400.0 lb.
Yield Mode	Lookup
Load Combination	D+L
Duration Factor	1.00

Notes

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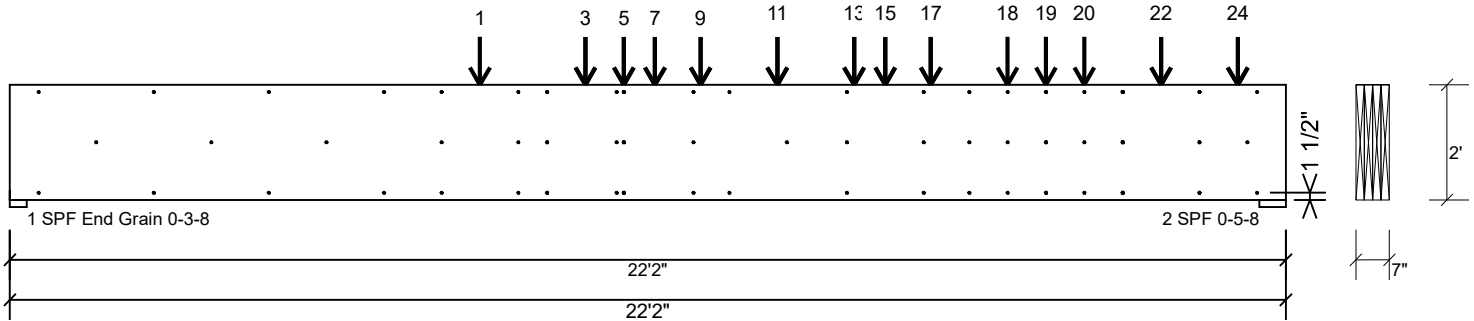
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FB5 2.0E 2900Fb PWT LVL 1.750" X 24.000" 4-Ply - PASSED

Level: 2nd floor



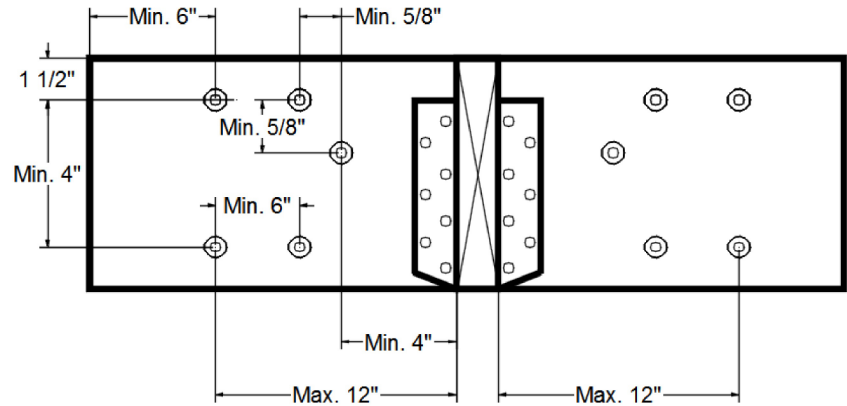
Multi-Ply Analysis

Concentrated Load

Fasten at concentrated side load at 18-8-0 with a minimum of (6) – SDW22634 in the pattern shown. All fasteners shall be installed with the head on the side of the applied load.

Capacity	6.4 %
Load	154.5lb.
Total Yield Limit	2400.0 lb.
C _g	1.0000
C _m	1
Yield Limit per Fastener	400.0 lb.
Yield Mode	Lookup
Load Combination	D+L
Duration Factor	1.00

Min/Max fastener distances for Concentrated Side Loads



Concentrated Load

Fasten at concentrated side load at 20-0-0 with a minimum of (6) – SDW22634 in the pattern shown.

Capacity	28.3 %
Load	509.3lb.
Total Yield Limit	1800.0 lb.
C _g	1.0000
C _m	1
Yield Limit per Fastener	300.0 lb.
Yield Mode	Lookup
Load Combination	D+L
Duration Factor	1.00

Notes

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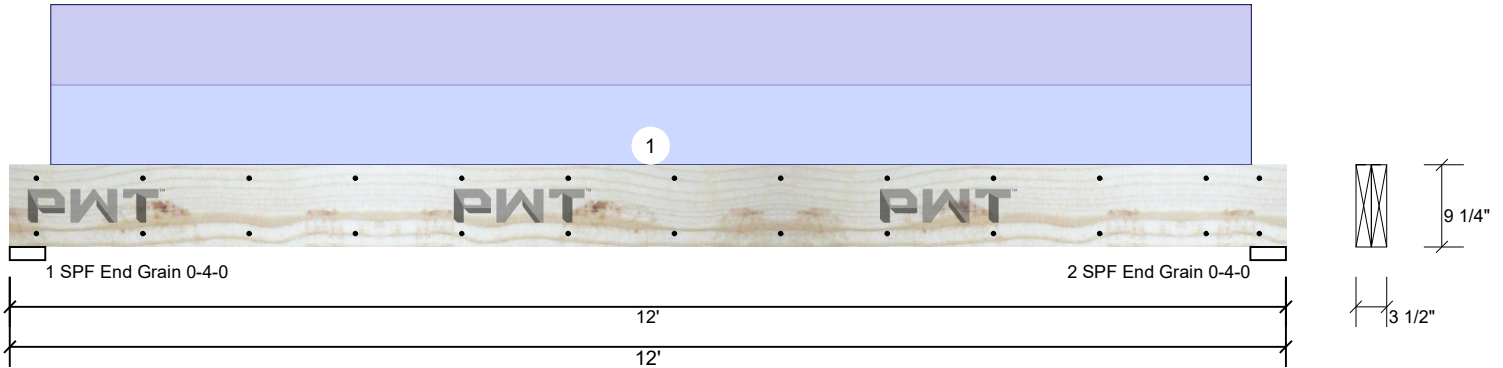
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This design is valid until 6/28/2026

DB8 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 2018
Load Sharing:	No
Deck:	Not Checked

Reactions PATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	673	0	0	618
2	Vertical	0	679	0	0	623

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	4.000"	Vert	12%	673 / 618	1291	L	D+C
2 - SPF End Grain	4.000"	Vert	12%	679 / 623	1302	L	D+C

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3762 ft-lb	6'	15520 ft-lb	0.242 (24%)	D+C	L
Shear	1130 lb	1'1 1/4"	7689 lb	0.147 (15%)	D+C	L
LL Defl inch	0.099 (L/1392)	6'	0.382 (L/360)	0.259 (26%)	C	L
TL Defl inch	0.206 (L/668)	6'	0.573 (L/240)	0.359 (36%)	D+C	L

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Dead Load Deflection: Instant = 0.107", Long Term = 0.161".
- 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	0-4-10 to 11-8-0		Top	110 PLF	0 PLF	0 PLF	0 PLF	110 PLF	
	Self Weight				9 PLF					

Notes

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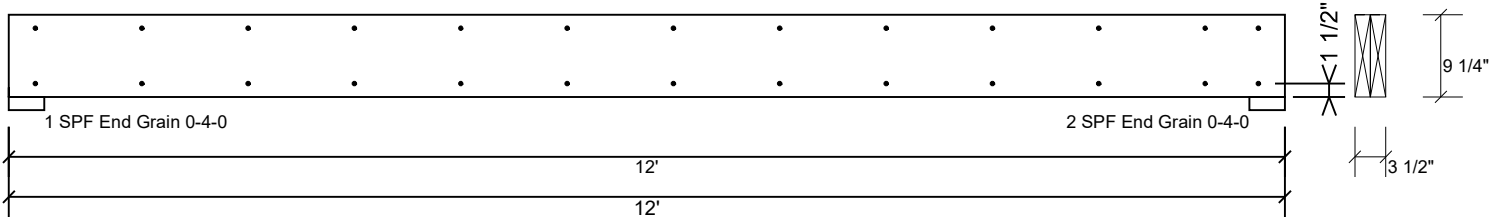
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DB8 2.0E 2900Fb PWT LVL 1.750" X 9.250" 2-Ply - PASSED

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

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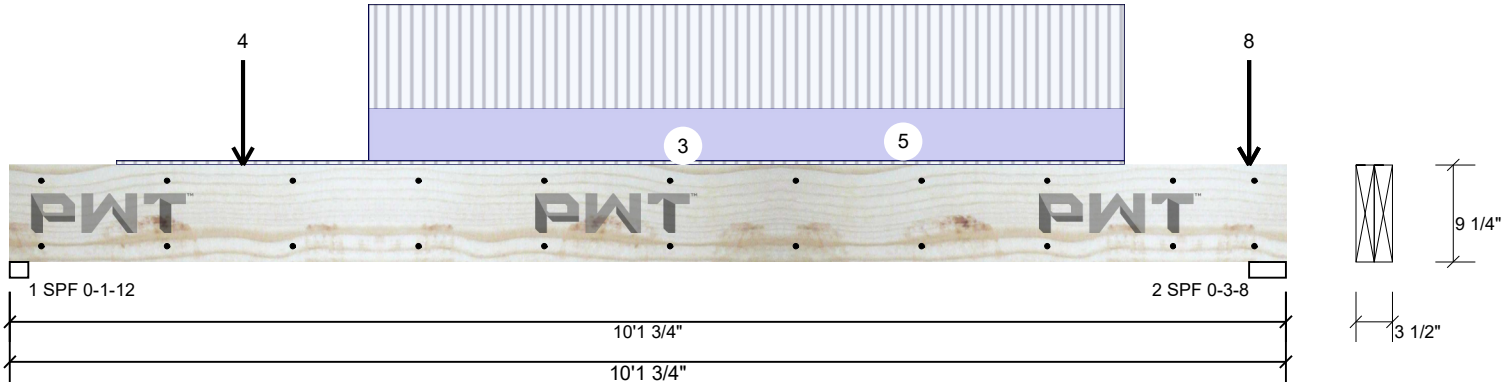
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This design is valid until 6/28/2026

DB8 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 2018
Load Sharing:	No
Deck:	Not Checked

Reactions PATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	1205 (-50)	655	0	0	0
2	Vertical	1524 (-61)	818	0	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	1.750"	Vert	71%	655 / 1205	1859	L	D+L
2 - SPF	3.500"	Vert	45%	818 / 1524	2343	L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	5264 ft-lb	4'11 13/16"	12416 ft-lb	0.424 (42%)	D+L	L
Shear	1858 lb	11"	6151 lb	0.302 (30%)	D+L	L
LL Defl inch	0.141 (L/839)	4'11 7/8"	0.328 (L/360)	0.429 (43%)	L	L
TL Defl inch	0.216 (L/545)	4'11 7/8"	0.492 (L/240)	0.440 (44%)	D+L	L

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Dead Load Deflection: Instant = 0.076", Long Term = 0.114".
- 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
3	Part. Uniform	0-10-4 to 8-10-4		Top	0 PLF	-12 PLF	0 PLF	0 PLF	0 PLF	
4	Point	1-10-4		Top	293 lb	580 lb	0 lb	0 lb	0 lb	J18 J11
	Bearing Length	0-3-8								
5	Part. Uniform	2-10-4 to 8-10-4		Top	148 PLF	293 PLF	0 PLF	0 PLF	0 PLF	
7	Point	9-10-4		Top	198 lb	391 lb	0 lb	0 lb	0 lb	J18 J11
	Bearing Length	0-3-8								

Continued on page 2...

Notes

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Manufacturer Info

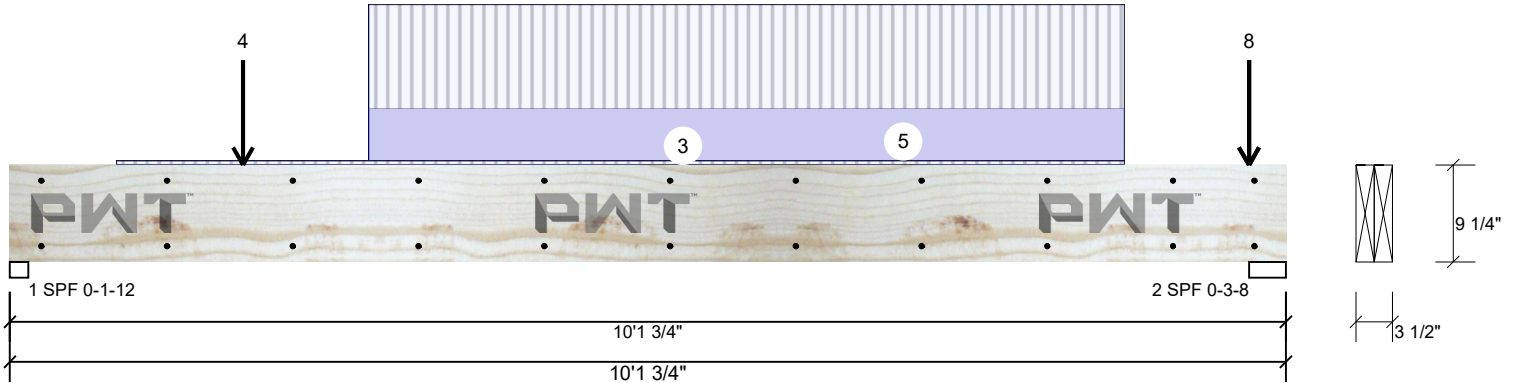
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This design is valid until 6/28/2026

DB8 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
8	Point	9-10-4		Top	0 lb	-15 lb	0 lb	0 lb	0 lb	J18
	Self Weight				9 PLF					

Notes

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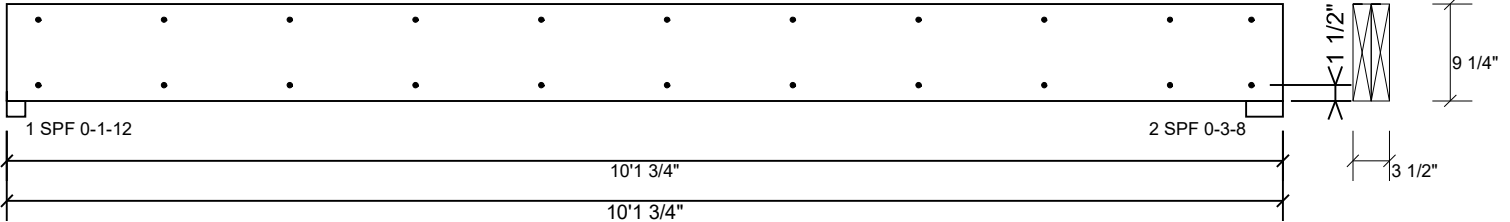
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DB8 2.0E 2900Fb PWT LVL 1.750" X 9.250" 2-Ply - PASSED

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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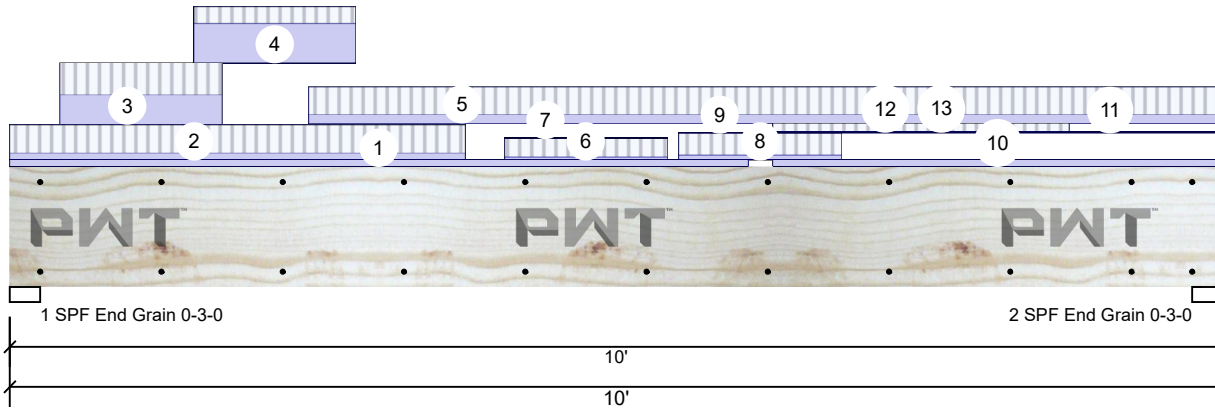
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This design is valid until 6/28/2026

HD1 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 2018
Load Sharing:	No
Deck:	Not Checked

Reactions PATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	2339 (-7)	1591	0	0	0
2	Vertical	1876 (-9)	1042	0	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.000"	Vert	50%	1591 / 2339	3929	L	D+L
2 - SPF End Grain	3.000"	Vert	37%	1042 / 1876	2918	L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	7929 ft-lb	4'7 13/16"	19902 ft-lb	0.398 (40%)	D+L	L
Shear	2960 lb	1'2 7/8"	7897 lb	0.375 (37%)	D+L	L
LL Defl inch	0.101 (L/1147)	4'11 1/8"	0.321 (L/360)	0.314 (31%)	L	L
TL Defl inch	0.158 (L/730)	4'10 9/16"	0.481 (L/240)	0.329 (33%)	D+L	L

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Dead Load Deflection: Instant = 0.058", Long Term = 0.086".
- 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 6-1-0		Top	60 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
2	Part. Uniform	0-0-0 to 3-9-0		Top	67 PLF	268 PLF	0 PLF	0 PLF	0 PLF	J2
3	Part. Uniform	0-5-0 to 1-9-0		Top	278 PLF	301 PLF	0 PLF	0 PLF	0 PLF	J4
4	Part. Uniform	1-6-3 to 2-10-3		Top	375 PLF	158 PLF	0 PLF	0 PLF	0 PLF	J4
5	Part. Uniform	2-5-10 to 10-0-0		Top	85 PLF	256 PLF	0 PLF	0 PLF	0 PLF	J4
6	Part. Uniform	4-1-0 to 5-5-0		Top	30 PLF	171 PLF	0 PLF	0 PLF	0 PLF	J2

Continued on page 2...

Notes

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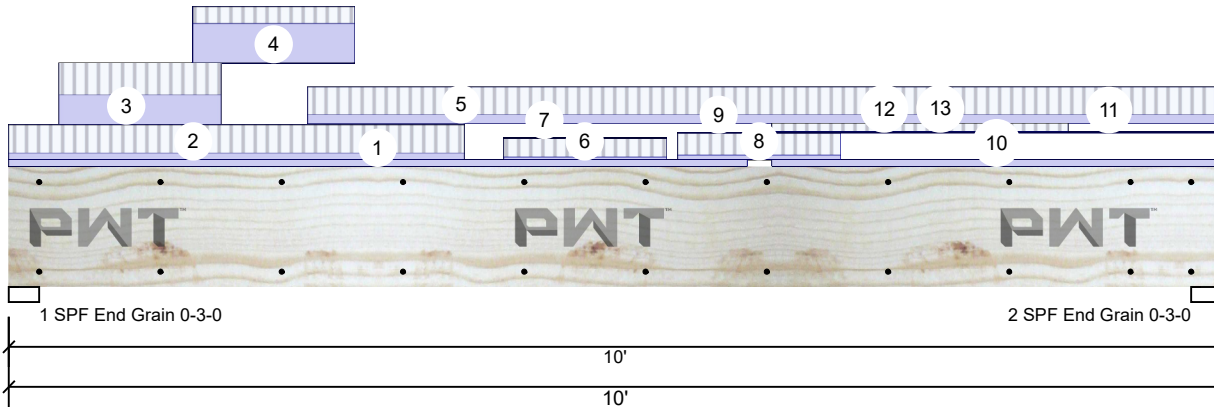
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This design is valid until 6/28/2026

HD1 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
7	Part. Uniform	4-1-0 to 5-5-0		Top	0 PLF	-7 PLF	0 PLF	0 PLF	0 PLF	J2
8	Part. Uniform	5-6-4 to 6-10-4		Top	48 PLF	203 PLF	0 PLF	0 PLF	0 PLF	J10
9	Part. Uniform	5-6-4 to 6-10-4		Top	0 PLF	-5 PLF	0 PLF	0 PLF	0 PLF	J10
10	Part. Uniform	6-3-8 to 10-0-0		Top	60 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
11	Part. Uniform	6-3-8 to 10-0-0		Top	5 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Rim Board Self Weight
12	Tapered Start	6-3-8		Top	0 PLF	1 PLF	0 PLF	0 PLF	0 PLF	
	End	10-0-0			0 PLF	1 PLF	0 PLF	0 PLF	0 PLF	
13	Tapered Start	6-3-8		Top	17 PLF	69 PLF	0 PLF	0 PLF	0 PLF	
	End	8-8-12			17 PLF	69 PLF	0 PLF	0 PLF	0 PLF	
	Self Weight				12 PLF					

Notes

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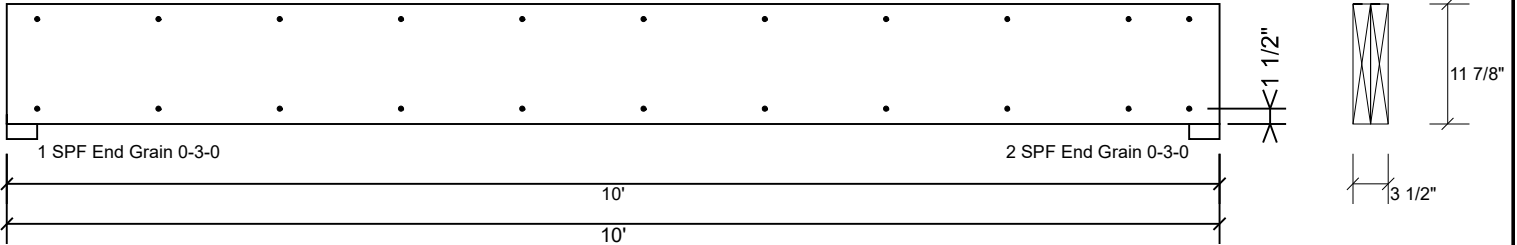
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This design is valid until 6/28/2026

HD1 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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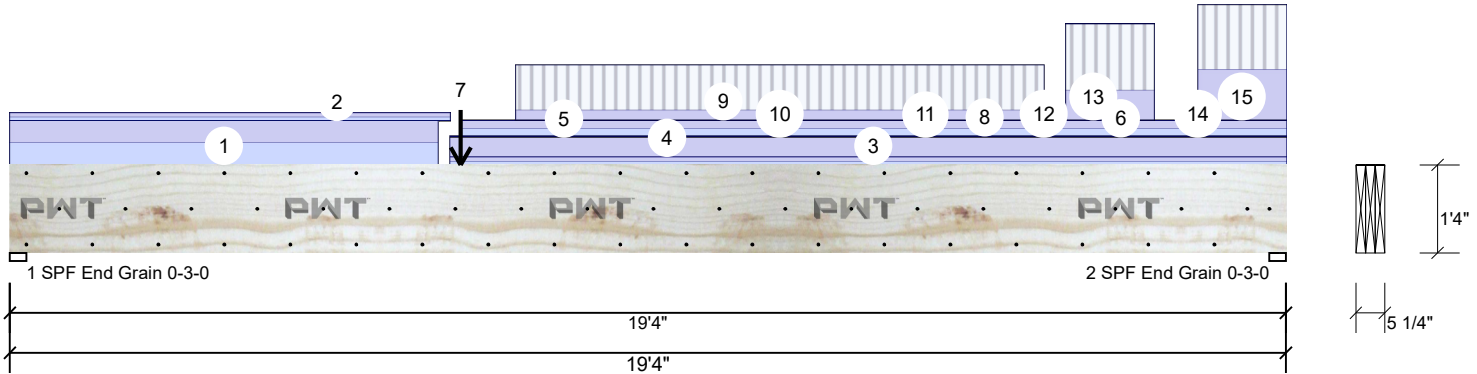
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This design is valid until 6/28/2026

HD3 2.0E 2900Fb PWT LVL 1.750" X 16.000" 3-Ply - PASSED

Level: 2nd floor



Member Information

Type:	Girder
Plies:	3
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 2018
Load Sharing:	Yes
Deck:	Not Checked

Reactions PATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	900	2739	0	0	1469
2	Vertical	1958	3016	0	0	928

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.000"	Vert	38%	2739 / 1776	4515	Uniform	D+0.75(L+C)
2 - SPF End Grain	3.000"	Vert	44%	3016 / 2164	5181	Uniform	D+0.75(L+C)

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	22097 ft-lb	9'5 1/4"	53151 ft-lb	0.416 (42%)	D+L	L
Shear	3937 lb	17'9"	15960 lb	0.247 (25%)	D+L	L
LL Defl inch	0.195 (L/1165)	9'7 11/16"	0.633 (L/360)	0.309 (31%)	0.75(L+C)	Uniform
TL Defl inch	0.478 (L/476)	9'6 3/8"	0.949 (L/240)	0.504 (50%)	D+0.75(L+C)	Uniform

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 = 0.283", Long Term = 0.424".
- 3 Fasten all plies using 3 rows of 16d Sinker Nails (.148x3.25") at 12" o.c. Maximum end distance not to exceed 6". Nail from both sides. 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 8'10 5/16" o.c.
- 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 6-5-14		Top	110 PLF	0 PLF	0 PLF	0 PLF	110 PLF	
2	Part. Uniform	0-0-0 to 6-8-0		Top	20 PLF	0 PLF	0 PLF	0 PLF	20 PLF	
3	Part. Uniform	6-8-0 to 19-4-0		Top	20 PLF	0 PLF	0 PLF	0 PLF	20 PLF	
4	Part. Uniform	6-8-0 to 19-4-0		Top	96 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
5	Tapered Start	6-8-0		Top	0 PLF	1 PLF	0 PLF	0 PLF	0 PLF	
	End	10-8-0			0 PLF	1 PLF	0 PLF	0 PLF	0 PLF	

Continued on page 2...

Notes

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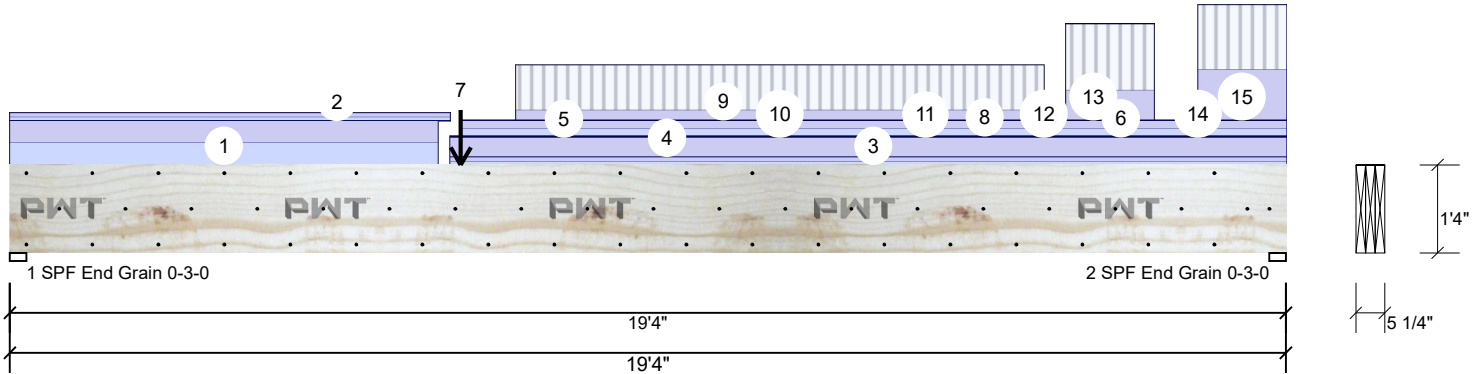
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HD3 2.0E 2900Fb PWT LVL 1.750" X 16.000" 3-Ply - PASSED

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	Part. Uniform	6-8-0 to 19-4-0		Top	5 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Rim Board Self Weight
7	Point	6-10-0		Top	1434 lb	202 lb	0 lb	0 lb	797 lb	FB2
	Bearing Length	0-3-8								
8	Part. Uniform	6-10-3 to 19-4-0		Top	40 PLF	0 PLF	0 PLF	0 PLF	40 PLF	
9	Part. Uniform	7-8-0 to 15-8-0		Top	55 PLF	220 PLF	0 PLF	0 PLF	0 PLF	J3
10	Tapered Start	10-8-0		Top	0 PLF	1 PLF	0 PLF	0 PLF	0 PLF	
	End	12-8-0			0 PLF	1 PLF	0 PLF	0 PLF	0 PLF	
11	Tapered Start	12-8-0		Top	0 PLF	1 PLF	0 PLF	0 PLF	0 PLF	
	End	14-8-0			0 PLF	1 PLF	0 PLF	0 PLF	0 PLF	
12	Tapered Start	14-8-0		Top	0 PLF	1 PLF	0 PLF	0 PLF	0 PLF	
	End	16-8-0			0 PLF	1 PLF	0 PLF	0 PLF	0 PLF	
13	Part. Uniform	16-0-0 to 17-4-0		Top	151 PLF	333 PLF	0 PLF	0 PLF	0 PLF	J3
14	Tapered Start	16-8-0		Top	0 PLF	1 PLF	0 PLF	0 PLF	0 PLF	
	End	19-4-0			0 PLF	1 PLF	0 PLF	0 PLF	0 PLF	
15	Part. Uniform	18-0-0 to 19-4-0		Top	252 PLF	329 PLF	0 PLF	0 PLF	0 PLF	J3
	Self Weight				24 PLF					

Notes

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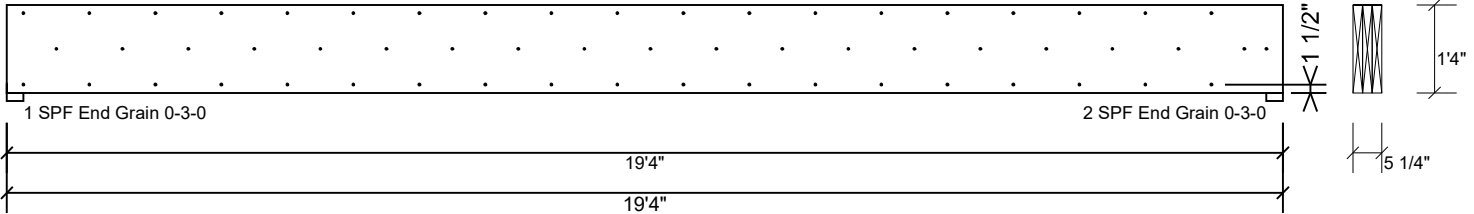
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HD3 2.0E 2900Fb PWT LVL 1.750" X 16.000" 3-Ply - PASSED

Level: 2nd floor



Multi-Ply Analysis

Fasten all plies using 3 rows of 16d Sinker Nails (.148x3.25") at 12" o.c.. Nail from both sides. 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

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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