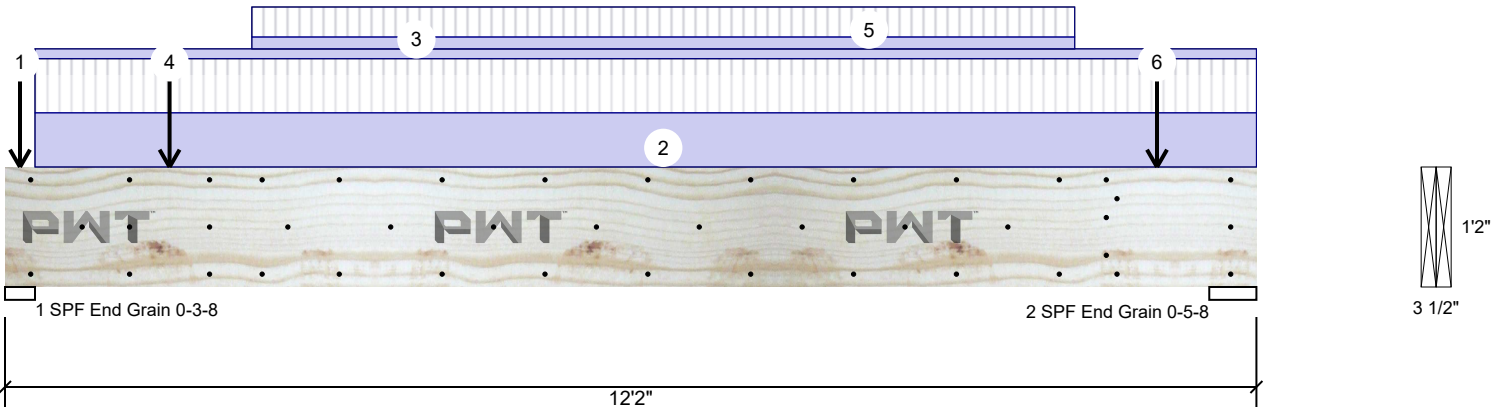


**FB4 2.0E 2900Fb PWT LVL 1.750" X 14.000" 2-Ply - PASSED**

Level: 2nd Floor



**Member Information**

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IRC 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:	15 PSF		

**Reactions PATTERNED lb (Uplift)**

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	4557	4271	0	0	0
2	Vertical	5044	4740	0	0	0

**Bearings**

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	96%	4271 / 4557	8829	L	D+L
2 - SPF End Grain	5.500"	Vert	68%	4740 / 5044	9784	L	D+L

**Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	26327 ft-lb	6' 1/16"	26792 ft-lb	98%	D+L	L
Shear	7879 lb	10'6 1/2"	9310 lb	85%	D+L	L
LL Defl inch	0.238 (L/583)	6'	0.385 (L/360)	62%	L	L
TL Defl inch	0.456 (L/304)	6'	0.577 (L/240)	79%	D+L	L

**Design Notes**

- 1 Provide support to prevent lateral movement and rotation at the end bearings.
- 2 Dead Load Deflection: Instant = 0.219", Long Term = 0.328".
- 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 2'6" 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	Point	0-1-12		Top	1 lb	0 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-3-8								
2	Part. Uniform	0-3-8 to 12-2-0		Top	531 PLF	531 PLF	0 PLF	0 PLF	0 PLF	
3	Part. Uniform	0-3-8 to 12-2-0		Top	96 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
4	Point	1-7-3		Near Face	183 lb	463 lb	0 lb	0 lb	0 lb	J11

Continued on page 2...

**Notes**

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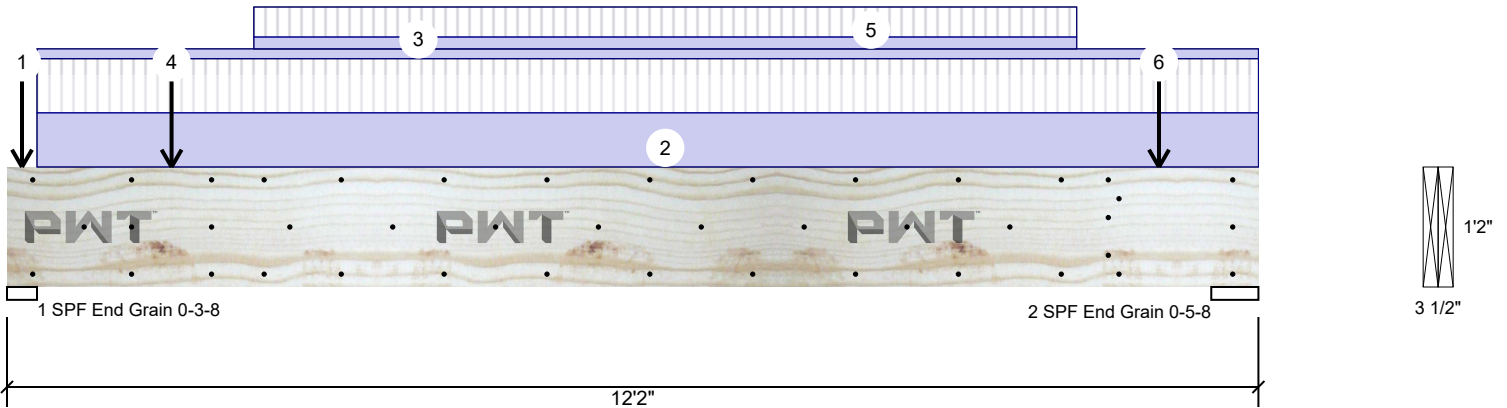
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This design is valid until 9/3/2027

**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	2-4-13 to 10-4-13		Near Face	116 PLF	294 PLF	0 PLF	0 PLF	0 PLF	
6	Point	11-2-6		Near Face	283 lb	481 lb	0 lb	0 lb	0 lb	J11
	Self Weight				14 PLF					

**Notes**

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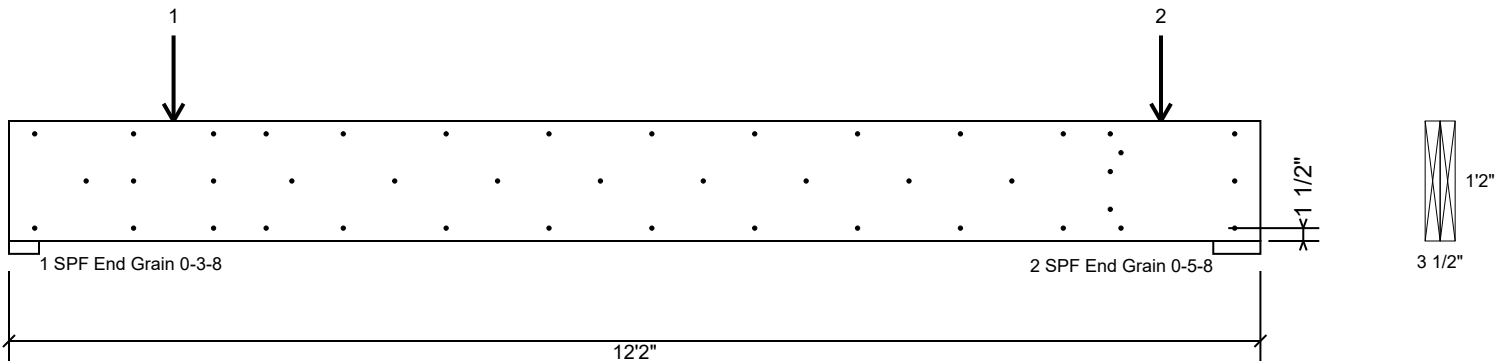
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**FB4 2.0E 2900Fb PWT LVL 1.750" X 14.000" 2-Ply - PASSED**

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.

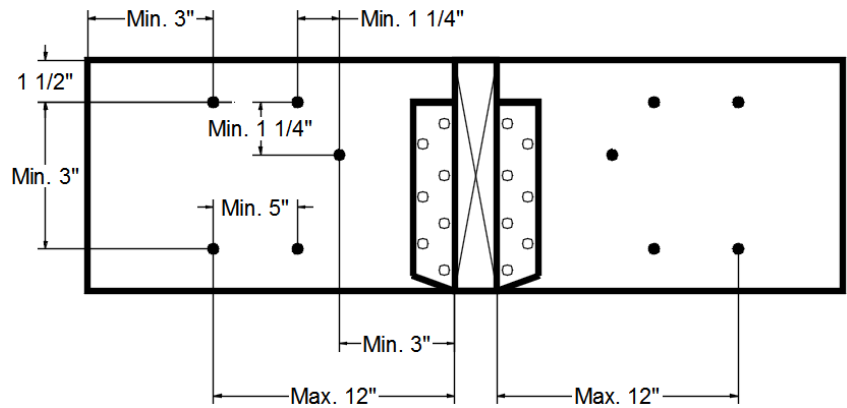
Capacity	58.1 %
Load	205.0 PLF
Yield Limit per Foot	352.8 PLF
Yield Limit per Fastener	117.6 lb.
C <sub>M</sub>	1
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	D+L
Duration Factor	1.00

**Concentrated Load**

Fasten at concentrated side load at 1-7-3 with a minimum of (6) – 16d Sinker Nails (.148x3.25") in the pattern shown.

Capacity	45.8 %
Load	323.0lb.
Total Yield Limit	705.4 lb.
C <sub>g</sub>	0.9998
C <sub>M</sub>	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 11-2-6 with a minimum of (5) – 16d Sinker Nails (.148x3.25") in the pattern shown.

Capacity	65.0 %
Load	382.0lb.
Total Yield Limit	587.8 lb.
C <sub>g</sub>	0.9998
C <sub>M</sub>	1
Yield Limit per Fastener	117.6 lb.
Yield Mode	IV
Load Combination	D+L
Duration Factor	1.00

**Notes**

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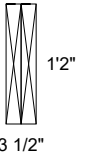
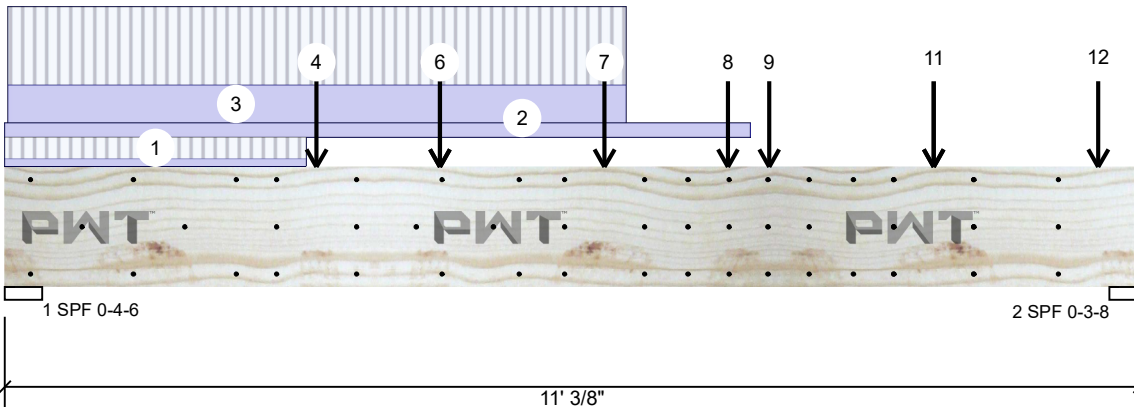
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**FB2 2.0E 2900Fb PWT LVL 1.750" X 14.000" 2-Ply - PASSED**

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:	15 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	2595 (-168)	1390	0	0	0
2	Vertical	2773 (-100)	1325	0	0	0

**Bearings**

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	4.375"	Vert	61%	1390 / 2595	3985	L	D+L
2 - SPF	3.500"	Vert	79%	1325 / 2773	4099	L	D+L

**Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	11204 ft-lb	5'10"	26792 ft-lb	42%	D+L	L
Shear	4544 lb	9'6 7/8"	9310 lb	49%	D+L	L
LL Defl inch	0.108 (L/1169)	5'8 1/4"	0.350 (L/360)	31%	L	L
TL Defl inch	0.163 (L/773)	5'8 1/4"	0.525 (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 = 0.055", Long Term = 0.083".
- 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 2-11-2	1-10-2 to 1-10-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-0-0 to 7-2-14		Top	48 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
3	Part. Uniform	0-0-6 to 6-0-6		Far Face	131 PLF	268 PLF	0 PLF	0 PLF	0 PLF	
4	Point	3-0-6		Near Face	126 lb	484 lb	0 lb	0 lb	0 lb	J9

Continued on page 2...

**Notes**

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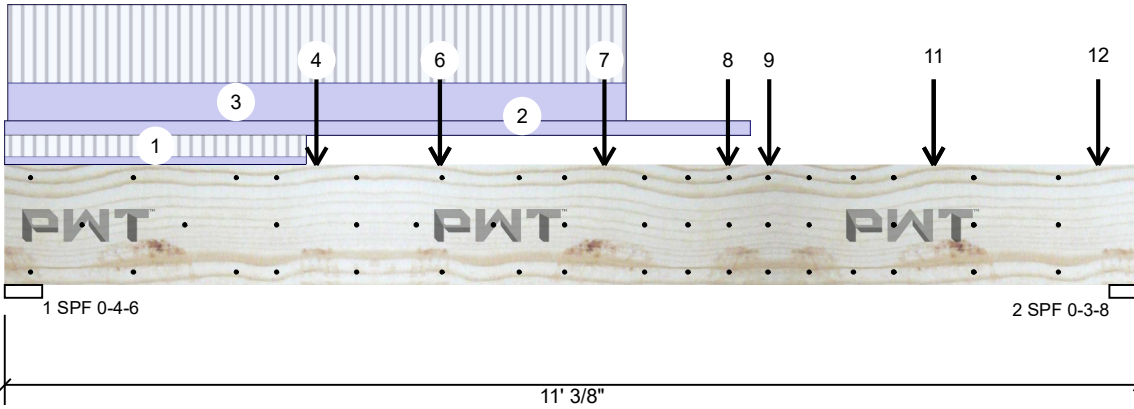
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**FB2 2.0E 2900Fb PWT LVL 1.750" X 14.000" 2-Ply - PASSED**

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
5	Point	4-2-12		Near Face	-53 lb	101 lb	0 lb	0 lb	0 lb	J11
6	Point	4-2-12		Near Face	0 lb	-268 lb	0 lb	0 lb	0 lb	J11
7	Point	5-10-0		Near Face	225 lb	525 lb	0 lb	0 lb	0 lb	J11
8	Point	7-0-6		Far Face	232 lb	536 lb	0 lb	0 lb	0 lb	J7
9	Point	7-5-3		Near Face	334 lb	524 lb	0 lb	0 lb	0 lb	J11
10	Point	9-0-6		Far Face	187 lb	530 lb	0 lb	0 lb	0 lb	J7
11	Point	9-0-6		Near Face	183 lb	524 lb	0 lb	0 lb	0 lb	J11
12	Point	10-7-9		Near Face	112 lb	320 lb	0 lb	0 lb	0 lb	J11
	Self Weight				14 PLF					

**Notes**

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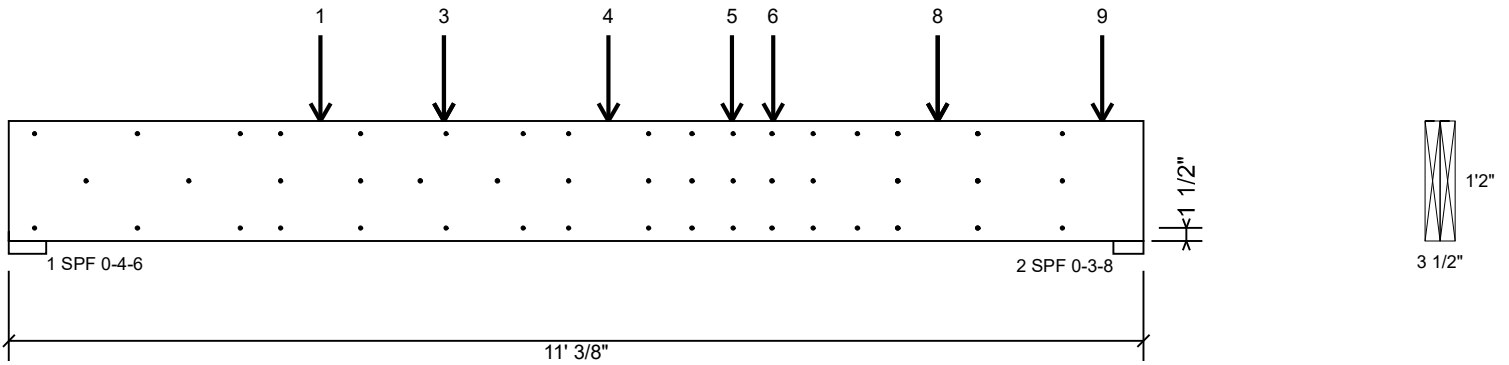
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**FB2 2.0E 2900Fb PWT LVL 1.750" X 14.000" 2-Ply - PASSED**

Level: 2nd Floor



**Multi-Ply Analysis**

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

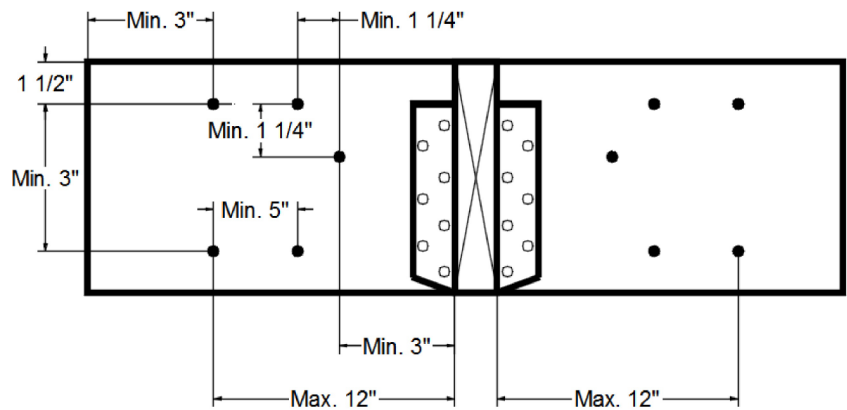
Capacity	56.6 %
Load	199.5 PLF
Yield Limit per Foot	352.8 PLF
Yield Limit per Fastener	117.6 lb.
C <sub>M</sub>	1
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	D+L
Duration Factor	1.00

**Concentrated Load**

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

Capacity	43.2 %
Load	305.0lb.
Total Yield Limit	705.4 lb.
C <sub>g</sub>	0.9998
C <sub>M</sub>	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 5-10-0 with a minimum of (6) – 16d Sinker Nails (.148x3.25") in the pattern shown.

Capacity	53.2 %
Load	375.0lb.
Total Yield Limit	705.4 lb.
C <sub>g</sub>	0.9998
C <sub>M</sub>	1
Yield Limit per Fastener	117.6 lb.
Yield Mode	IV
Load Combination	D+L
Duration Factor	1.00

**Notes**

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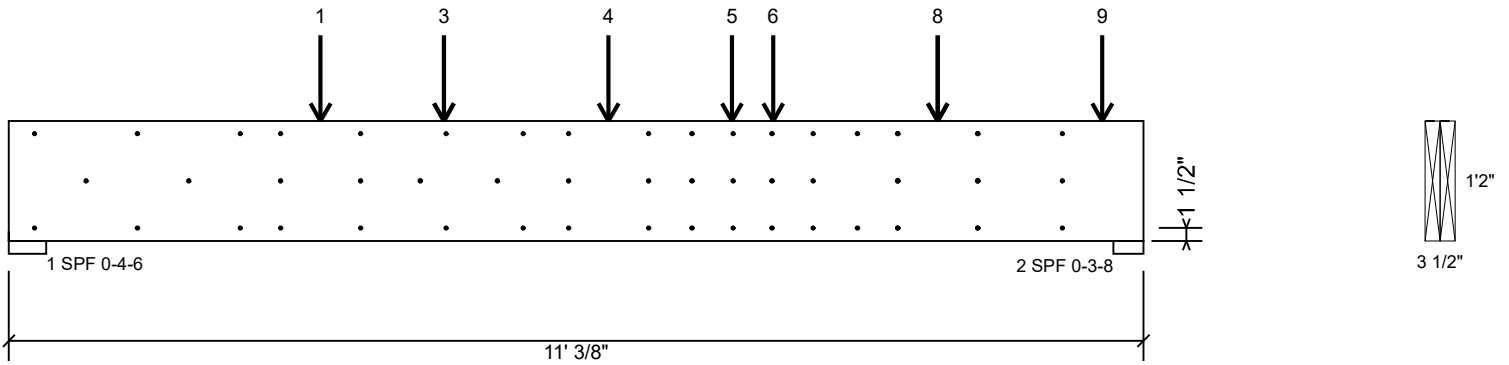
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**FB2 2.0E 2900Fb PWT LVL 1.750" X 14.000" 2-Ply - PASSED**

Level: 2nd Floor



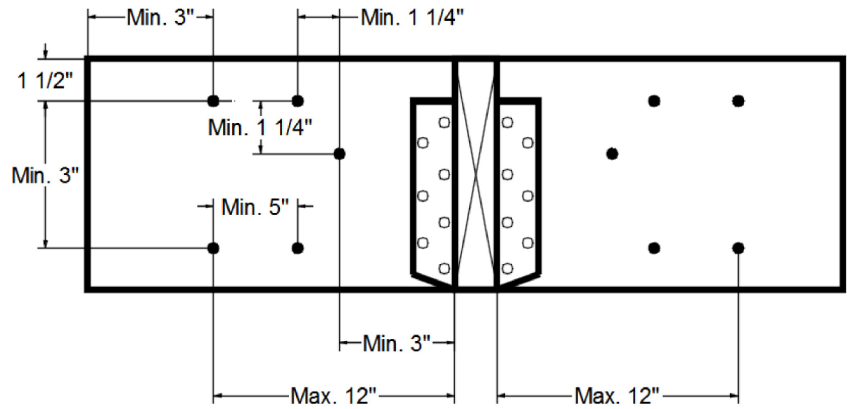
**Multi-Ply Analysis**

**Concentrated Load**

Fasten at concentrated side load at 7-0-6 with a minimum of (6) – 16d Sinker Nails (.148x3.25") in the pattern shown.

Capacity	54.4 %
Load	384.0lb.
Total Yield Limit	705.4 lb.
C <sub>g</sub>	0.9998
C <sub>m</sub>	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 7-5-3 with a minimum of (6) – 16d Sinker Nails (.148x3.25") in the pattern shown.

Capacity	60.8 %
Load	429.0lb.
Total Yield Limit	705.4 lb.
C <sub>g</sub>	0.9998
C <sub>m</sub>	1
Yield Limit per Fastener	117.6 lb.
Yield Mode	IV
Load Combination	D+L
Duration Factor	1.00

**Notes**

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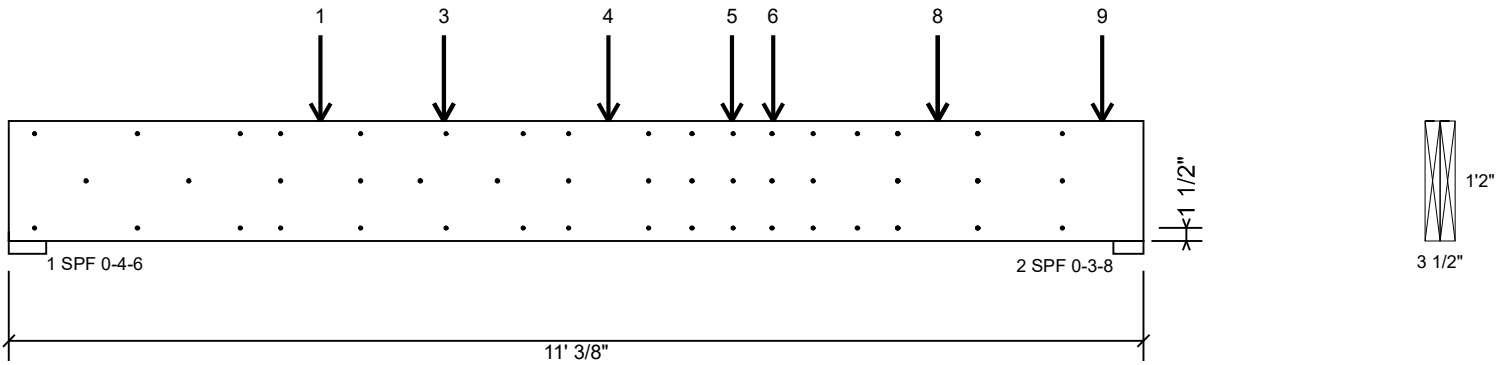
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**FB2 2.0E 2900Fb PWT LVL 1.750" X 14.000" 2-Ply - PASSED**

Level: 2nd Floor



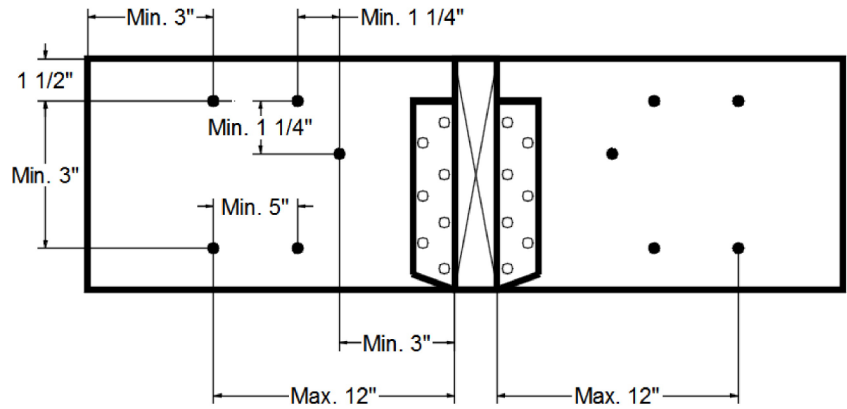
**Multi-Ply Analysis**

**Concentrated Load**

Fasten at concentrated side load at 9-0-6 with a minimum of (6) – 16d Sinker Nails (.148x3.25") in the pattern shown.

Capacity	50.8 %
Load	358.5lb.
Total Yield Limit	705.4 lb.
C <sub>g</sub>	0.9998
C <sub>m</sub>	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 10-7-9 with a minimum of (3) – 16d Sinker Nails (.148x3.25") in the pattern shown.

Capacity	61.2 %
Load	216.0lb.
Total Yield Limit	352.7 lb.
C <sub>g</sub>	0.9998
C <sub>m</sub>	1
Yield Limit per Fastener	117.6 lb.
Yield Mode	IV
Load Combination	D+L
Duration Factor	1.00

**Notes**

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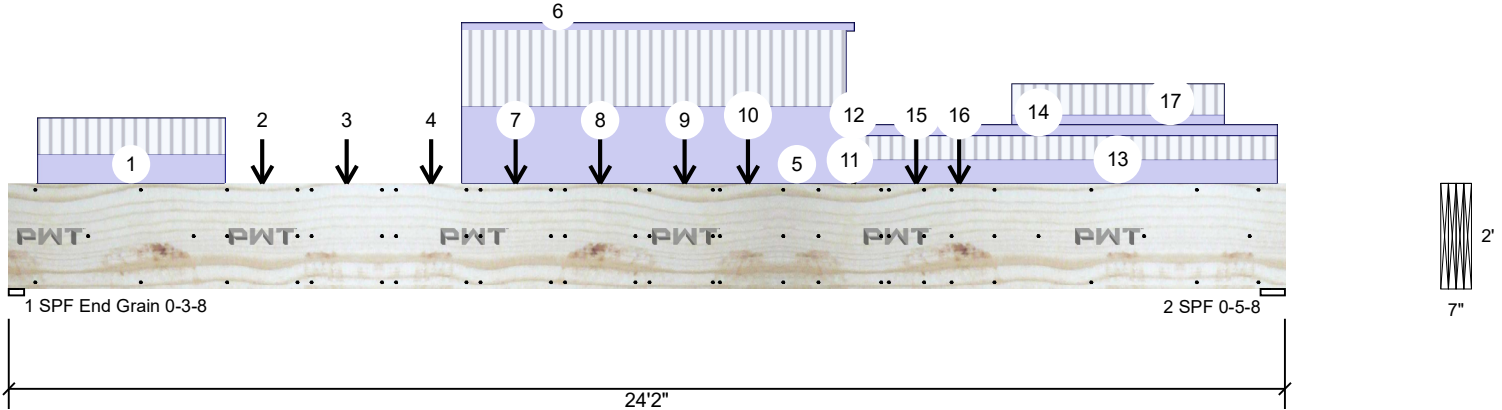
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**FB3 2.0E 2900Fb PWT LVL 1.750" X 24.000" 4-Ply - PASSED**

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:	15 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	5685	5659	0	0	0
2	Vertical	6391	6675	0	0	0

**Bearings**

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	62%	5659 / 5685	11343	L	D+L
2 - SPF	5.500"	Vert	80%	6675 / 6391	13066	L	D+L

**Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	89566 ft-lb	12'6 9/16"	147033 ft-lb	61%	D+L	L
Shear	12351 lb	21'8 1/2"	31920 lb	39%	D+L	L
LL Defl inch	0.294 (L/963)	12'1 1/2"	0.785 (L/360)	37%	L	L
TL Defl inch	0.592 (L/477)	12'1 13/16"	1.178 (L/240)	50%	D+L	L

**Design Notes**

- 1 Provide support to prevent lateral movement and rotation at the end bearings.
- 2 Dead Load Deflection: Instant = 0.299", Long Term = 0.448".
- 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 4'9 11/16" 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	0-6-10 to 4-1-0		Far Face	219 PLF	280 PLF	0 PLF	0 PLF	0 PLF	
2	Point	4-9-10		Far Face	359 lb	482 lb	0 lb	0 lb	0 lb	J7
3	Point	6-4-13		Far Face	368 lb	483 lb	0 lb	0 lb	0 lb	J7
4	Point	8-0-0		Far Face	319 lb	483 lb	0 lb	0 lb	0 lb	J7

Continued on page 2...

**Notes**

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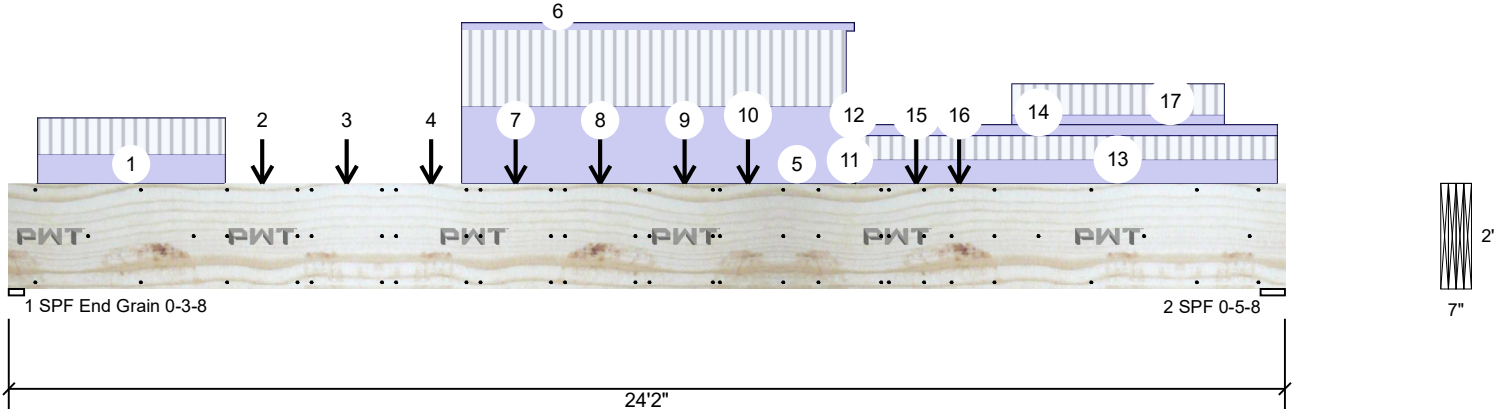
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 888-613-5078

This design is valid until 9/3/2027

**FB3 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	8-7-0 to 15-10-4		Top	586 PLF	586 PLF	0 PLF	0 PLF	0 PLF	
6	Part. Uniform	8-7-0 to 16-0-0		Top	54 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
7	Point	9-7-3		Far Face	296 lb	483 lb	0 lb	0 lb	0 lb	J7
8	Point	11-2-6		Far Face	353 lb	493 lb	0 lb	0 lb	0 lb	J7
9	Point	12-9-10		Far Face	312 lb	440 lb	0 lb	0 lb	0 lb	J7
10	Point	14-0-0		Far Face	359 lb	495 lb	0 lb	0 lb	0 lb	J7
11	Part. Uniform	15-10-4 to 16-0-0		Top	180 PLF	180 PLF	0 PLF	0 PLF	0 PLF	
12	Point	16-0-0		Far Face	386 lb	488 lb	0 lb	0 lb	0 lb	J7
13	Part. Uniform	16-0-0 to 24-0-0		Top	180 PLF	180 PLF	0 PLF	0 PLF	0 PLF	
14	Part. Uniform	16-0-0 to 24-0-0		Top	86 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
15	Point	17-2-4		Far Face	404 lb	236 lb	0 lb	0 lb	0 lb	J7
16	Point	18-0-0		Far Face	111 lb	332 lb	0 lb	0 lb	0 lb	J7
17	Part. Uniform	19-0-0 to 23-0-0		Far Face	79 PLF	236 PLF	0 PLF	0 PLF	0 PLF	
	Self Weight				48 PLF					

**Notes**

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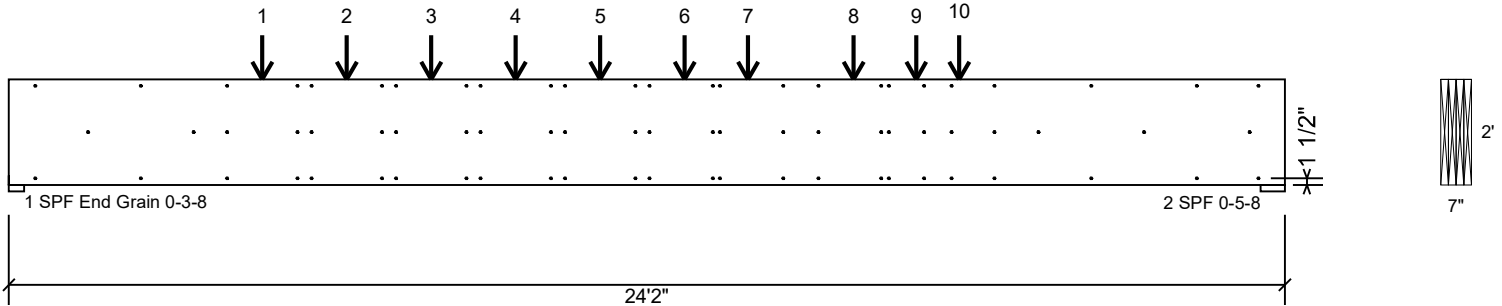
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**FB3 2.0E 2900Fb PWT LVL 1.750" X 24.000" 4-Ply - PASSED**

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".

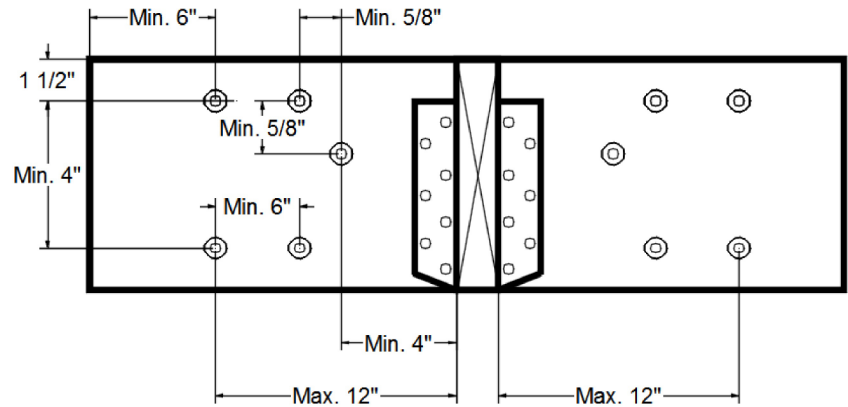
Capacity	83.2 %
Load	374.3 PLF
Yield Limit per Foot	450.0 PLF
Yield Limit per Fastener	300.0 lb.
C <sub>M</sub>	1
Yield Mode	Lookup
Edge Distance	1 1/2"
Min. End Distance	6"
Load Combination	D+L
Duration Factor	1.00

**Concentrated Load**

Fasten at concentrated side load at 4-9-10 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	26.3 %
Load	630.8lb.
Total Yield Limit	2400.0 lb.
C <sub>g</sub>	1.0000
C <sub>M</sub>	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**



**Notes**

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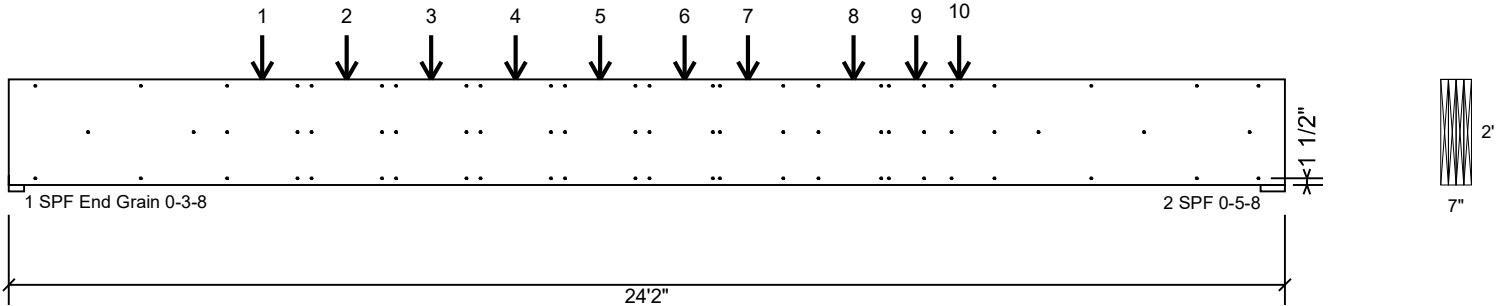
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**FB3 2.0E 2900Fb PWT LVL 1.750" X 24.000" 4-Ply - PASSED**

Level: 2nd Floor



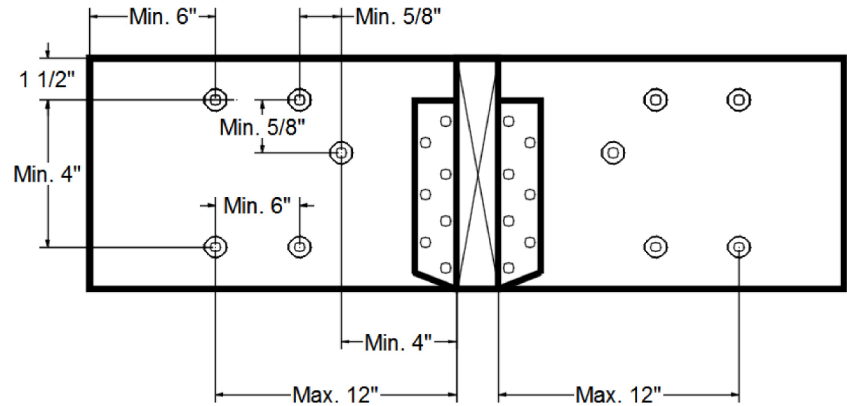
**Multi-Ply Analysis**

**Concentrated Load**

Fasten at concentrated side load at 6-4-13 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	26.6 %
Load	638.3lb.
Total Yield Limit	2400.0 lb.
C <sub>g</sub>	1.0000
C <sub>m</sub>	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 8-0-0 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	25.1 %
Load	601.5lb.
Total Yield Limit	2400.0 lb.
C <sub>g</sub>	1.0000
C <sub>m</sub>	1
Yield Limit per Fastener	400.0 lb.
Yield Mode	Lookup
Load Combination	D+L
Duration Factor	1.00

**Notes**

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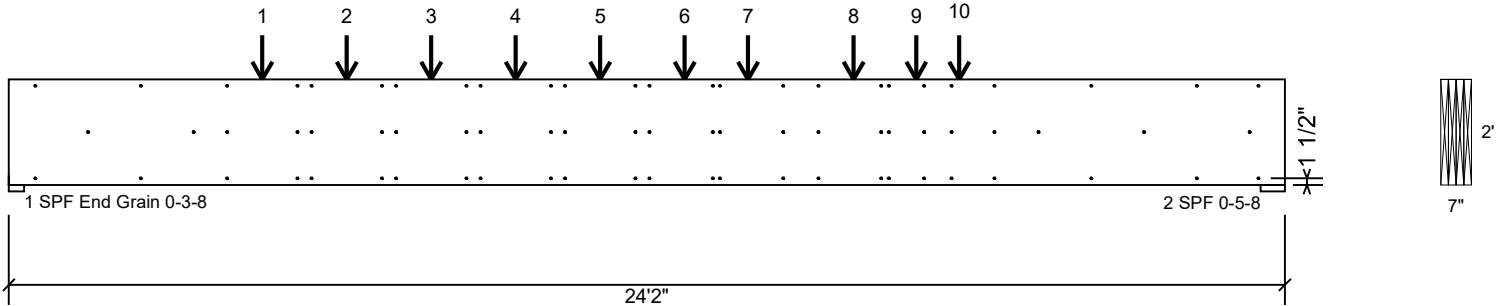
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**FB3 2.0E 2900Fb PWT LVL 1.750" X 24.000" 4-Ply - PASSED**

Level: 2nd Floor



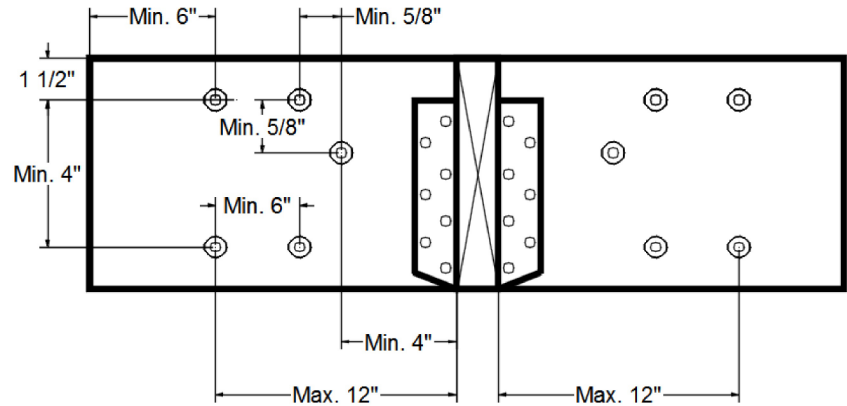
**Multi-Ply Analysis**

**Concentrated Load**

Fasten at concentrated side load at 9-7-3 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	24.3 %
Load	584.3lb.
Total Yield Limit	2400.0 lb.
C <sub>g</sub>	1.0000
C <sub>m</sub>	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 11-2-6 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	26.4 %
Load	634.5lb.
Total Yield Limit	2400.0 lb.
C <sub>g</sub>	1.0000
C <sub>m</sub>	1
Yield Limit per Fastener	400.0 lb.
Yield Mode	Lookup
Load Combination	D+L
Duration Factor	1.00

**Notes**

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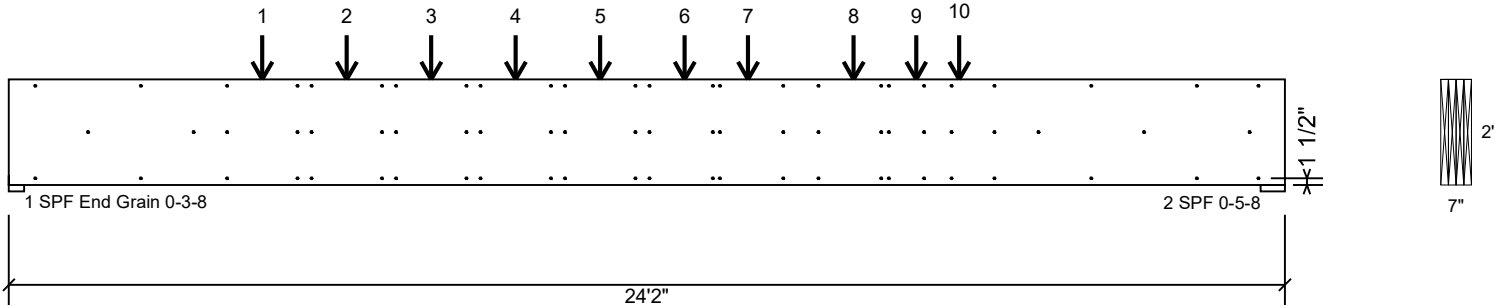
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**FB3 2.0E 2900Fb PWT LVL 1.750" X 24.000" 4-Ply - PASSED**

Level: 2nd Floor



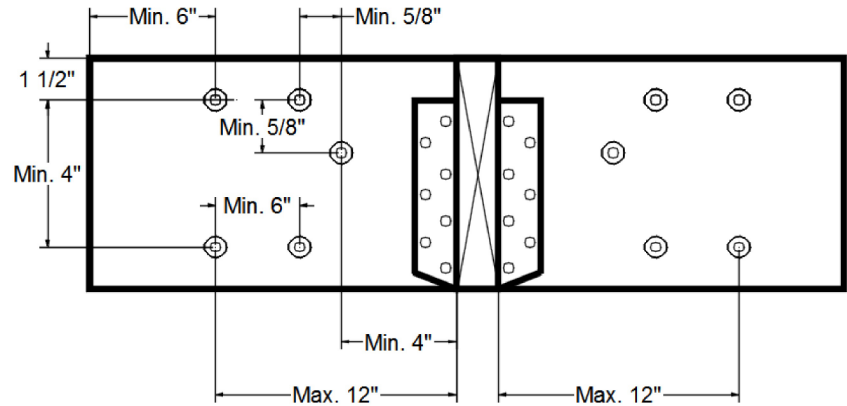
**Multi-Ply Analysis**

**Concentrated Load**

Fasten at concentrated side load at 12-9-10 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	23.5 %
Load	564.0lb.
Total Yield Limit	2400.0 lb.
C <sub>g</sub>	1.0000
C <sub>m</sub>	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 14-0-0 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	26.7 %
Load	640.5lb.
Total Yield Limit	2400.0 lb.
C <sub>g</sub>	1.0000
C <sub>m</sub>	1
Yield Limit per Fastener	400.0 lb.
Yield Mode	Lookup
Load Combination	D+L
Duration Factor	1.00

**Notes**

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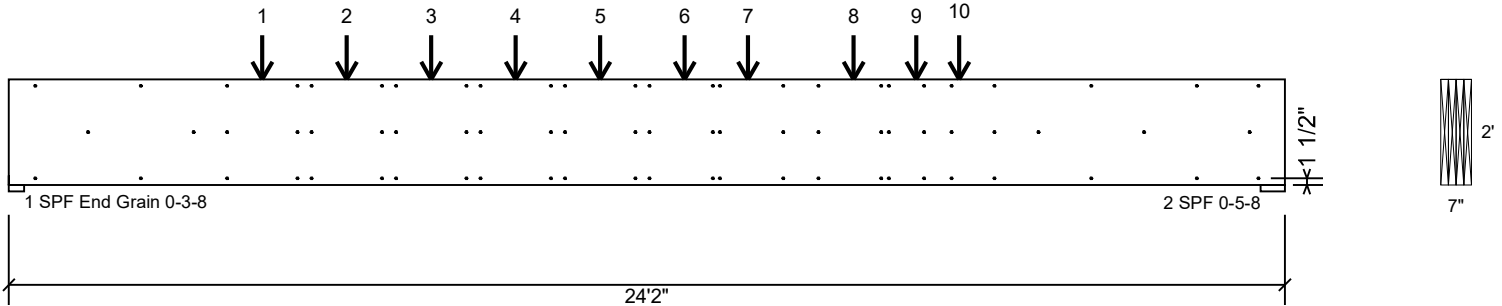
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**FB3 2.0E 2900Fb PWT LVL 1.750" X 24.000" 4-Ply - PASSED**

Level: 2nd Floor



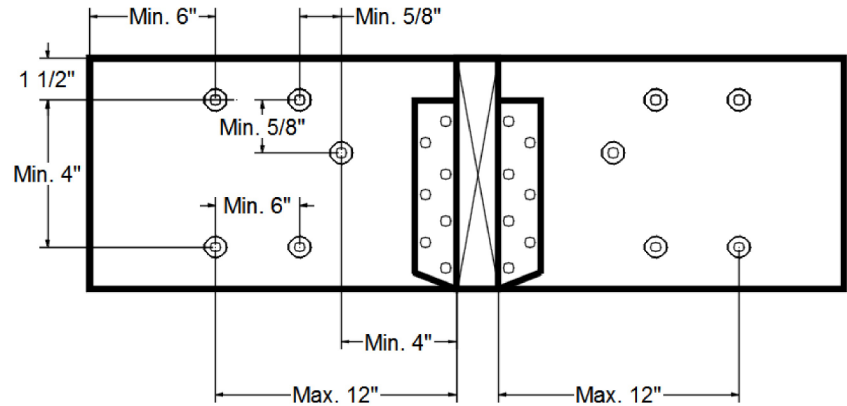
**Multi-Ply Analysis**

**Concentrated Load**

Fasten at concentrated side load at 16-0-0 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	27.3 %
Load	655.5lb.
Total Yield Limit	2400.0 lb.
C <sub>g</sub>	1.0000
C <sub>m</sub>	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 17-2-4 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	20.0 %
Load	480.0lb.
Total Yield Limit	2400.0 lb.
C <sub>g</sub>	1.0000
C <sub>m</sub>	1
Yield Limit per Fastener	400.0 lb.
Yield Mode	Lookup
Load Combination	D+L
Duration Factor	1.00

**Notes**

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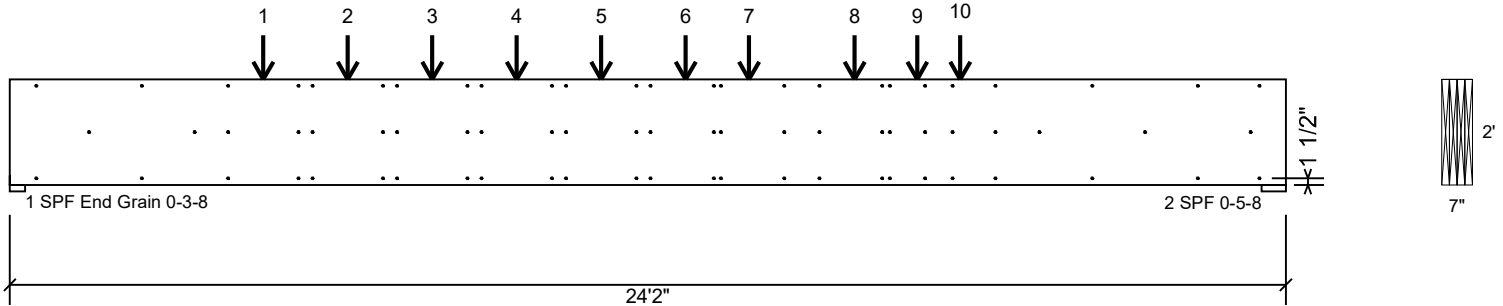
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**FB3 2.0E 2900Fb PWT LVL 1.750" X 24.000" 4-Ply - PASSED**

Level: 2nd Floor



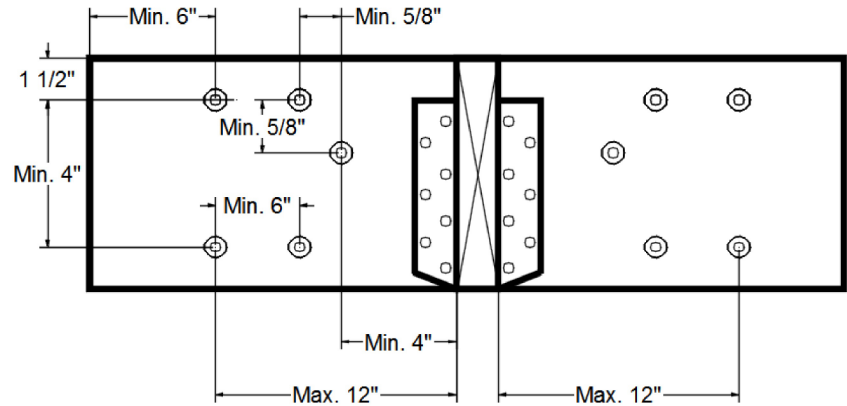
**Multi-Ply Analysis**

**Concentrated Load**

Fasten at concentrated side load at 18-0-0 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	13.8 %
Load	332.3lb.
Total Yield Limit	2400.0 lb.
C <sub>g</sub>	1.0000
C <sub>m</sub>	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**



**Notes**

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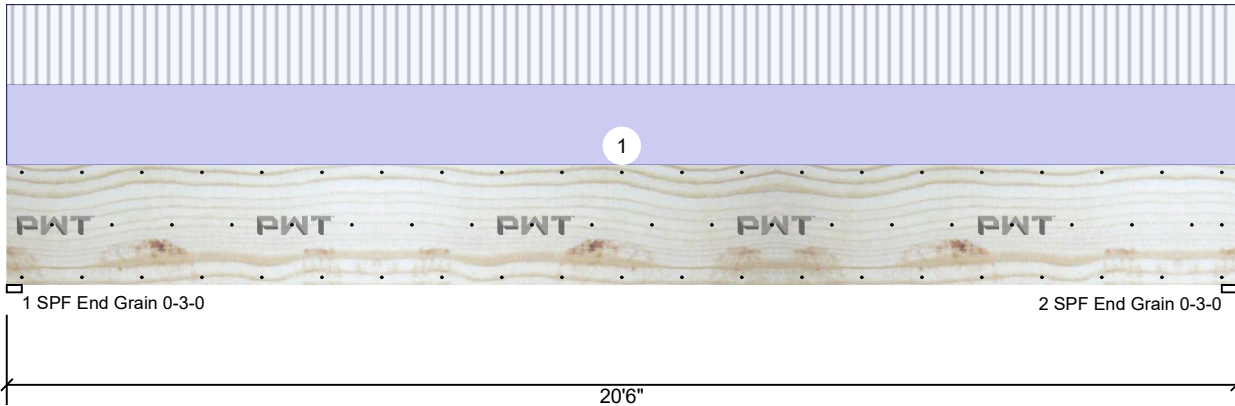


Client: 84 Lumber-Fayetteville #2307  
 Project: CC2424-GL-505 CS  
 Address: Lot 505 Creekside Oaks South

Date: 1/24/2025  
 Input by: Kyle Militzer  
 Job Name: CC2424-GL-505 CS  
 Project #: CC2424-GL-505 CS

**HD1 2.0E 2900Fb PWT LVL 1.750" X 24.000" 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:	15 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	410	780	0	0	0
2	Vertical	410	780	0	0	0

**Bearings**

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.000"	Vert	10%	780 / 410	1190	L	D+L
2 - SPF End Grain	3.000"	Vert	10%	780 / 410	1190	L	D+L

**Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	5887 ft-lb	10'3"	110274 ft-lb	5%	D+L	L
Shear	928 lb	18'3"	23940 lb	4%	D+L	L
LL Defl inch (L/17132)	0.014	10'3 1/16"	0.672 (L/360)	2%	L	L
TL Defl inch (L/5905)	0.041	10'3 1/16"	1.007 (L/240)	4%	D+L	L

**Design Notes**

- 1 Provide support to prevent lateral movement and rotation at the end bearings.
- 2 Dead Load Deflection: Instant = 0.027", Long Term = 0.040".
- 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 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 20-6-0		Top	40 PLF	40 PLF	0 PLF	0 PLF	0 PLF	
	Self Weight				36 PLF					

**Notes**  
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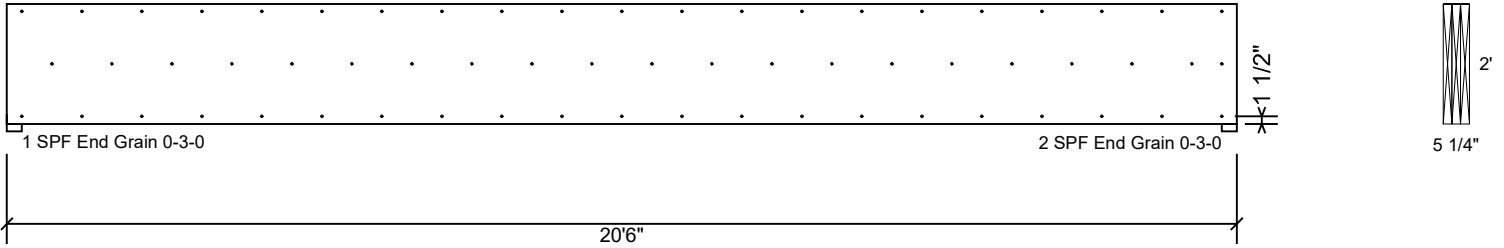
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Level: 2nd Floor



**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 <sub>m</sub>	1
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

**Notes**

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