

NOTICE TO CONTRACTOR

All construction must comply with current NC Building Codes and is subject to field inspection and verification.

APPROVED

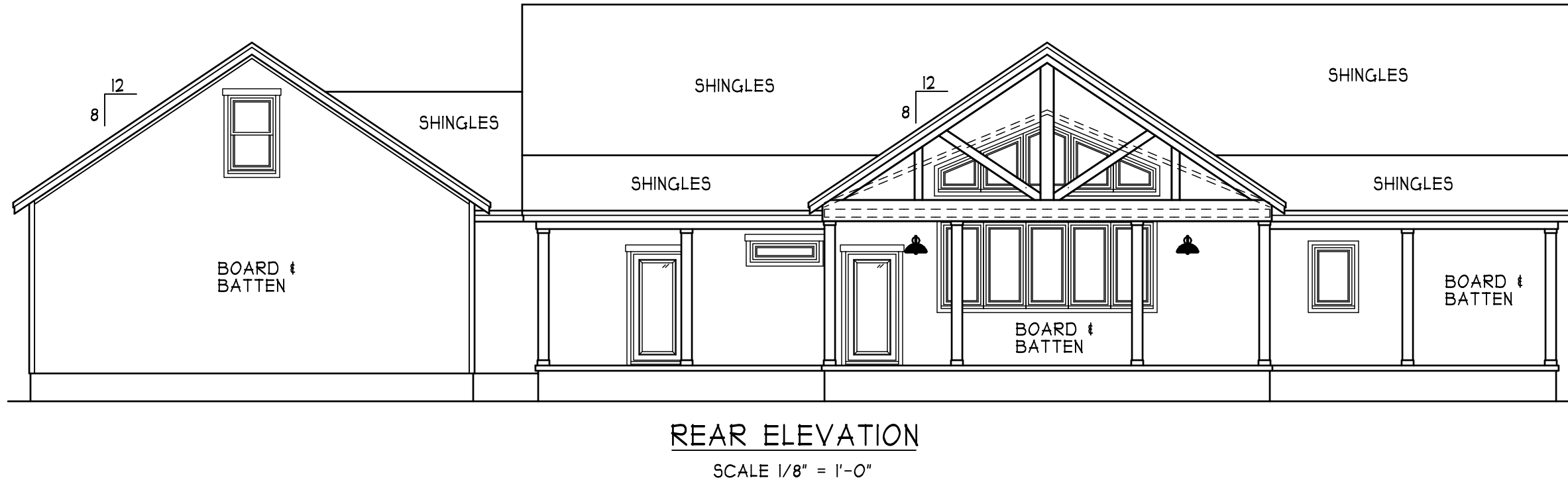
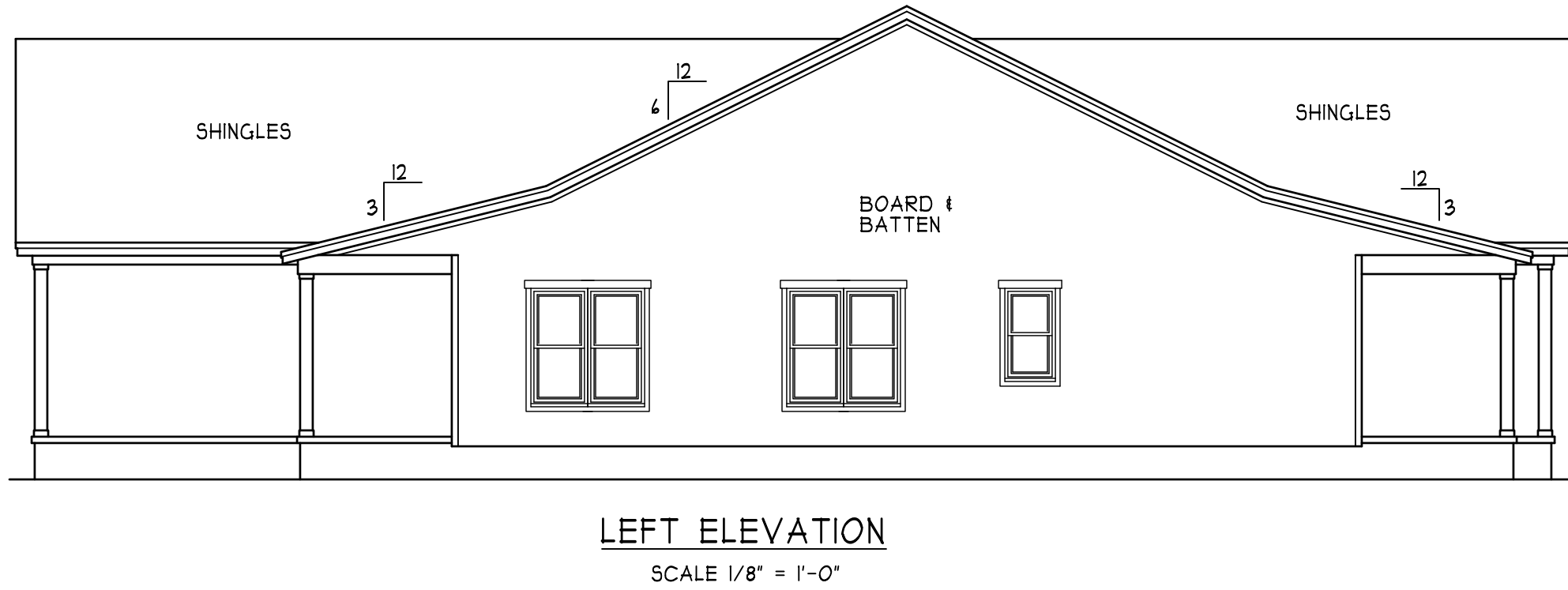
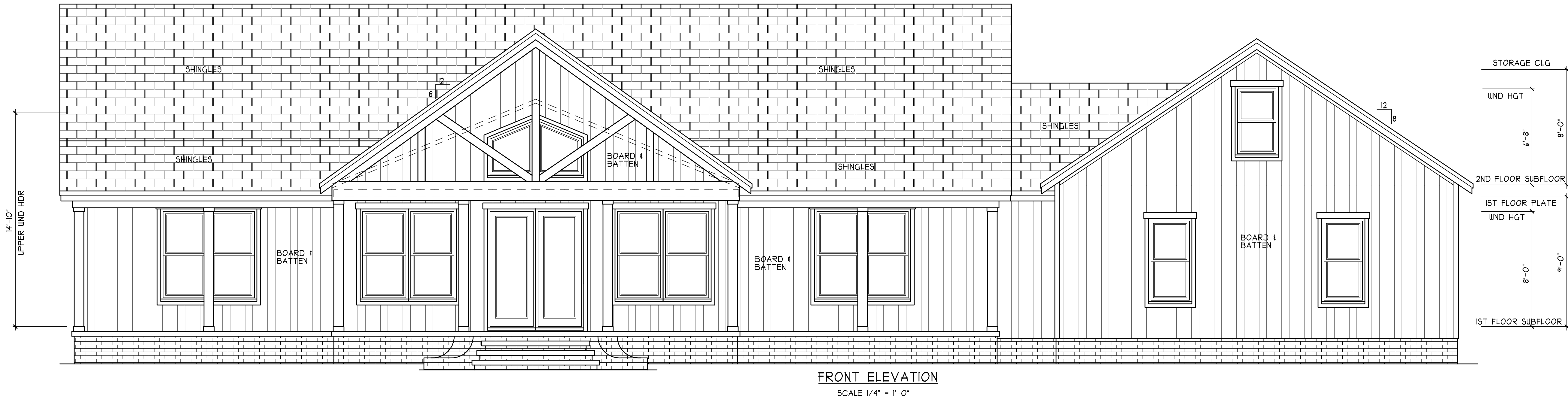
Limited building only review

Permit holder responsible for full compliance with the code

09/22/2025



Engineers letter will be required for any studs exceeding 10' in length at rough framing inspection



ATTIC VENTILATION:

THE NET FREE VENTILATING AREA SHALL BE NOT LESS THAN 1 TO 150 OF THE AREA OF THE SPACE VENTILATED EXCEPT THAT THE AREA MAY BE 1 TO 300 PROVIDED AT LEAST 50 PERCENT OF THE REQUIRED VENTILATING AREA IS PROVIDED BY VENTILATORS LOCATED IN THE UPPER PORTION OF THE SPACE TO BE VENTILATED AT LEAST 3 FEET ABOVE EAVE OR CORNICE VENTS WITH THE BALANCE OF THE REQUIRED VENTILATION TO BE PROVIDED BY EAVE OR CORNICE VENTS.

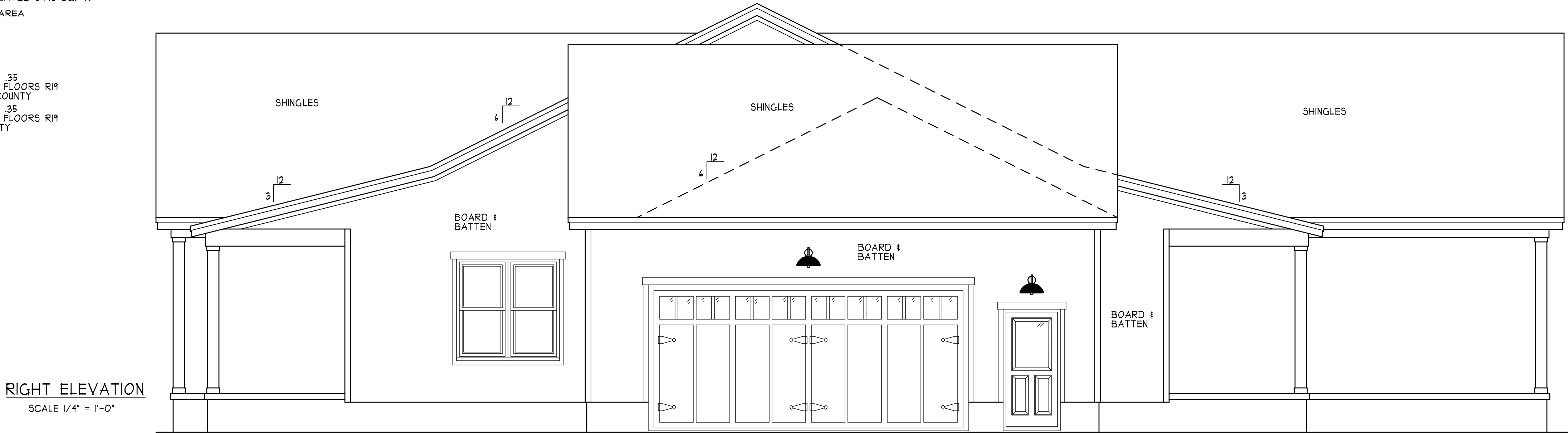
GROSS ATTIC AREA TO BE VENTILATED 5446 SQ.FT.

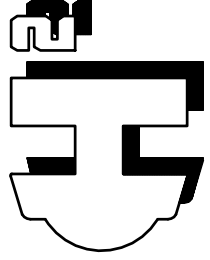
5446/150 = 36.3 SQ.FT. NET FREE AREA

ENERGY COMPLIANCE

ZONE 3 = MAX. GLAZING U-FACTOR .35
R-VALUE = CEILING R38, WALLS R15, FLOORS R19
FOR JOHNSTON, SAMPSON, WAYNE COUNTY

ZONE 4 = MAX. GLAZING U-FACTOR .35
R-VALUE = CEILING R38, WALLS R15, FLOORS R19
FOR WAKE, DURHAM, ORANGE COUNTY





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This plan is to be built by the homeowner or builder as cited in this title block only. Not released for multiple builds.

DATE: 07/16/24

1 STORY

FILE: 022124

DESIGNED BY:

HEATHER or JOHNATHAN HALL
165 HEATHERSTONE CT
BENSON NC 27504
(919) 207-1403

SQUARE FOOTAGE:

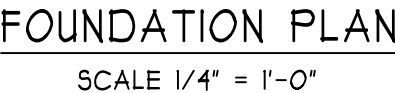
FIRST FLOOR	= 3096
FRONT PORCH	= 588
REAR PORCH	= 904
DBL GARAGE	= 880
STORAGE ABOVE GAR.	= 453

HEATED FOOTAGE:

#3096

TODD & LISA CLIFTON

PRIVATE RESIDENCE



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 PRIVATE RESIDENCE

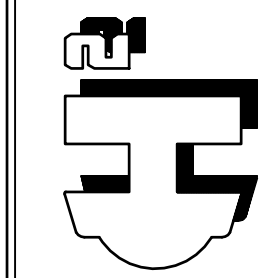
#3096

= 3096
 = 568
 = 904
 = 860
 = 453

FOOTAGE:
FIRST FLOOR
FRONT PORCH
REAR PORCH
DBL GARAGE
STORAGE

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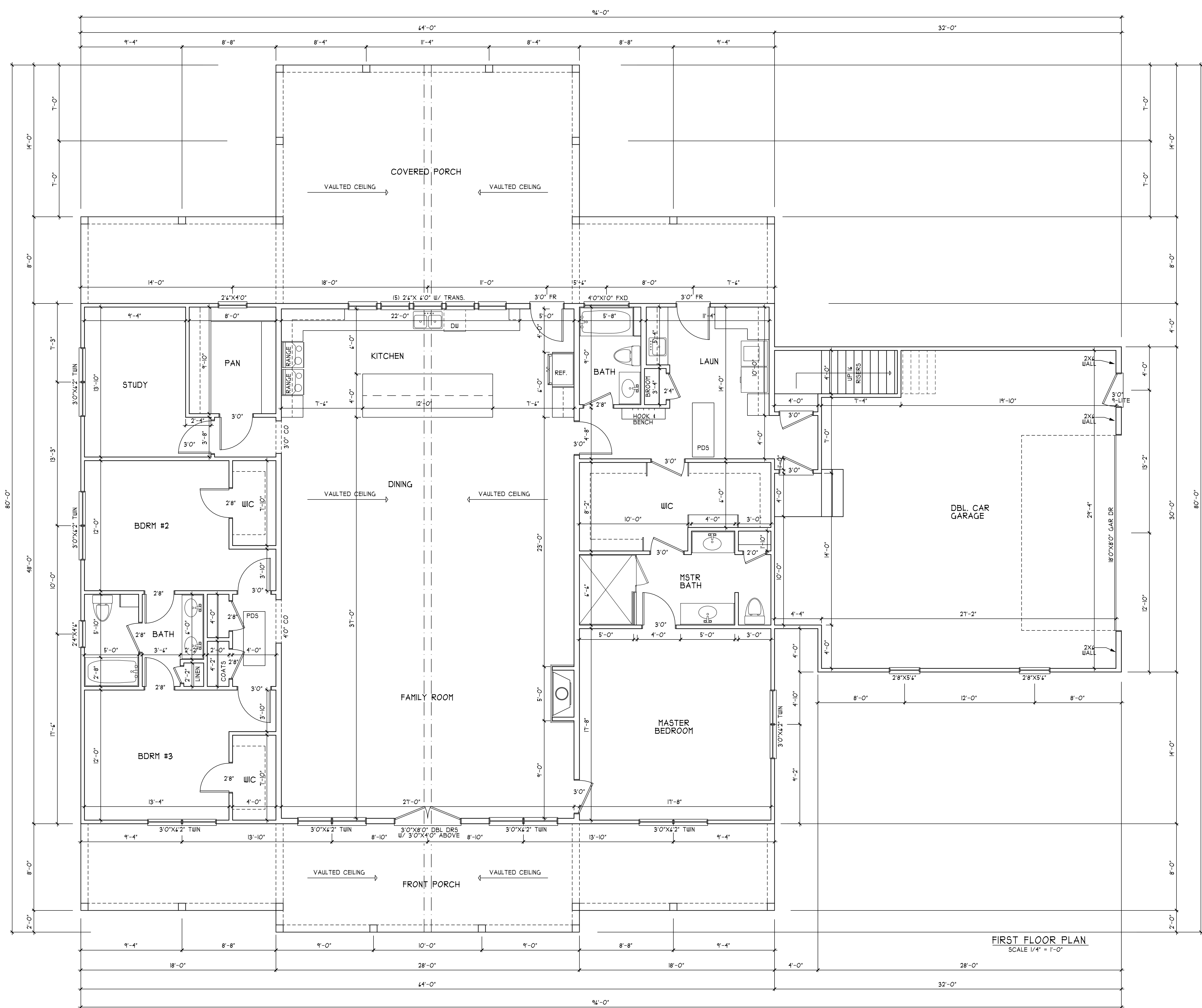
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OF THIS PLAN. DIMENSIONS
SQUARED HOME DESIGN.

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FILE: 022124



TODD & LISA CLIFTON

PRIVATE RESIDENCE

#3096

SQUARE FOOTAGE:

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REAR PORCH = 880

DBL GARAGE = 453

STORAGE ABOVE GAR.

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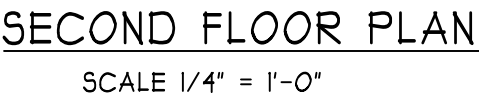
DATE:

07/16/24

I STORY

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022124

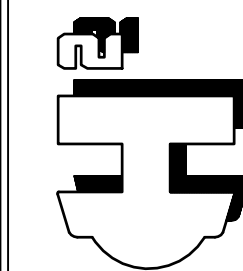


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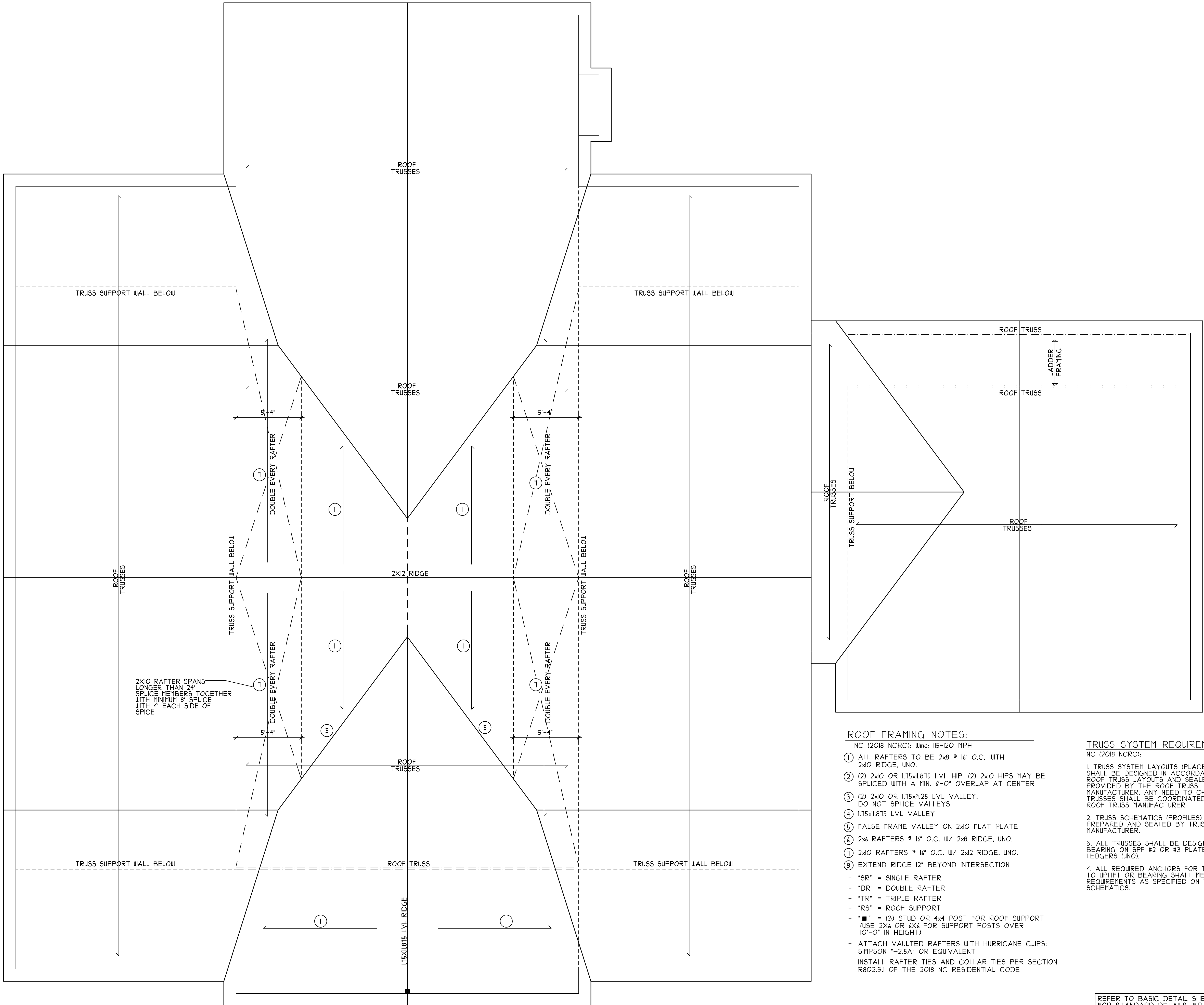
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DATE: 07/16/24

1 STORY

FILE

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ROOF FRAMING NOTES:

- NC (2018 NCRC): Wind: 115-120 MPH
- ALL RAFTERS TO BE 2x8 @ 16" O.C. WITH 2x10 RIDGE, UNO.
 - 2x10 OR 1.75x11.875 LVL HIP. (2) 2x10 HIPs MAY BE SPLICED WITH A MIN. 4'-0" OVERLAP AT CENTER
 - (2) 2x10 OR 1.75x11.875 LVL VALLEY. DO NOT SPLICE VALLEYS
 - 1.75x11.875 LVL VALLEY
 - FALSE FRAME VALLEY ON 2x10 FLAT PLATE
 - 2x6 RAFTERS @ 16" O.C. W/ 2x8 RIDGE, UNO.
 - 2x10 RAFTERS @ 16" O.C. W/ 2x12 RIDGE, UNO.
 - EXTEND RIDGE 12" BEYOND INTERSECTION
 - "SR" = SINGLE RAFTER
 - "DR" = DOUBLE RAFTER
 - "TR" = TRIPLE RAFTER
 - "RS" = ROOF SUPPORT
 - "■" = (3) STUD OR 4x4 POST FOR ROOF SUPPORT (USE 2x6 OR 4x6 FOR SUPPORT POSTS OVER 10'-0" IN HEIGHT)
 - ATTACH VAULTED RAFTERS WITH HURRICANE CLIPS: SIMPSON "H2.5A" OR EQUIVALENT
 - INSTALL RAFTER TIES AND COLLAR TIES PER SECTION R602.3.1 OF THE 2018 NC RESIDENTIAL CODE

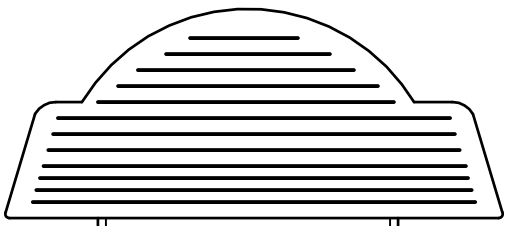
TRUSS SYSTEM REQUIREMENTS

- NC (2018 NCRC):
- TRUSS SYSTEM LAYOUTS (PLACEMENT PLANS) SHALL BE DESIGNED IN ACCORDANCE WITH ROOF TRUSS LAYOUTS AND SEALED PROFILES PROVIDED BY THE ROOF TRUSS MANUFACTURER. ANY NEED TO CHANGE TRUSSES SHALL BE COORDINATED WITH THE ROOF TRUSS MANUFACTURER
 - TRUSS SCHEMATICS (PROFILES) SHALL BE PREPARED AND SEALED BY TRUSS MANUFACTURER.
 - ALL TRUSSES SHALL BE DESIGNED FOR BEARING ON SPF #2 OR #3 PLATES OR LEDGERS (UNO).
 - ALL REQUIRED ANCHORS FOR TRUSSES DUE TO UPLIFT OR BEARING SHALL MEET THE REQUIREMENTS AS SPECIFIED ON THE TRUSS SCHEMATICS.

REFER TO BASIC DETAIL SHEET(S) FOR STANDARD DETAILS, BRACING DETAILS, AND STRUCTURAL NOTES

ROOF PLAN

SCALE 1/4" = 1'-0"



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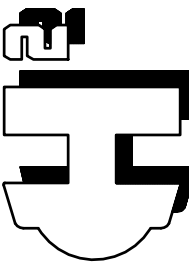
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STRUCTURAL NOTES

- 1) ALL CONSTRUCTION SHALL CONFORM TO THE LATEST REQUIREMENTS OF THE NORTH CAROLINA STATE RESIDENTIAL CODE 2018 EDITION, PLUS ALL LOCAL CODES AND REGULATIONS. THE STRUCTURAL ENGINEER OR DESIGNER IS NOT RESPONSIBLE FOR, AND WILL NOT HAVE CONTROL OF, CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, OR FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE CONSTRUCTION WORK. NOR WILL THE ENGINEER OR DESIGNER BE RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO CARRY OUT THE CONSTRUCTION WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. "CONSTRUCTION REVIEW" SERVICES ARE NOT PART OF OUR CONTRACT. ALL MEMBERS SHALL BE FRAMED, ANCHORED, TIED AND BRACED IN ACCORDANCE WITH GOOD CONSTRUCTION PRACTICE AND THE BUILDING CODE.
- 2) DESIGN LOADS (R301.4)
- | | LIVE LOAD
(PSF) | DEAD LOAD
(PSF) | DEFLECTION
(LL) |
|---------------------------------|--------------------|--------------------|--------------------|
| ROOMS OTHER THAN SLEEPING ROOMS | 40 | 10 | L/360 |
| SLEEPING ROOMS | 30 | 10 | L/360 |
| ATTIC WITH PERMANENT STAIR | 40 | 10 | L/360 |
| ATTIC WITH OUT PERMANENT STAIR | 20 | 10 | L/360 |
| ATTIC WITH OUT STORAGE | 10 | 10 | L/240 |
| STAIRS | 40 | --- | L/360 |
| EXTERIOR BALCONIES | 60 | 10 | L/360 |
| DECKS | 40 | --- | L/360 |
| GUARDRAILS AND HANDRAILS | 200 | 50 | --- |
| PASSENGER VEHICLE GARAGES | 40 | 10 | L/360 |
| FIRE ESCAPES | 40 | 10 | L/360 |
| SNOW | 20 | --- | --- |
- WIND LOAD (BASED ON 115/120 MPH WIND VELOCITY & EXPOSURE B)
- 3) WALL BRACING: BRACED WALL PANELS SHALL BE CONSTRUCTED ACCORDING TO SECTION R602.10.3. THE AMOUNT AND LOCATION OF BRACING SHALL COMPLY WITH TABLE R602.10.1. THE LENGTH OF BRACED PANELS SHALL BE DETERMINED BY SECTION R602.10.4. LATERAL BRACING SHALL BE SATISFIED PER METHOD 3 BY CONTINUOUSLY SHEATHING WALLS WITH STRUCTURAL SHEATHING PER SECTION R602.10.3. NOTE THAT ANY SPECIFIC BRACED WALL DETAIL SHALL BE INSTALLED AS SPECIFIED.
- 4) CONCRETE SHALL HAVE A MINIMUM 28 DAY STRENGTH OF 3000 PSI AND A MAXIMUM SLUMP OF 5 INCHES UNLESS NOTED OTHERWISE (UNO). AIR ENTRAINMENT PER TABLE 402.2. ALL CONCRETE SHALL BE PROPORTIONED, MIXED, HANDLED, SAMPLED, TESTED, AND PLACED IN ACCORDANCE WITH ACI STANDARDS. ALL SAMPLES FOR PUMPING SHALL BE TAKEN FROM THE EXIT END OF THE PUMP.
- 5) ALLOWABLE SOIL BEARING PRESSURE ASSUMED TO BE 2000 PSF. THE CONTRACTOR MUST CONTACT A GEOTECHNICAL ENGINEER AND THE STRUCTUAL ENGINEER IF UNSATISFACTORY SUBSURFACE CONDITIONS ARE ENCOUNTERED. THE SURFACE AREA ADJACENT TO THE FOUNDATION SHALL BE PROVIDED WITH ADEQUATE DRAINAGE, AND SHALL BE GRADED SO AS TO DRAIN SURFACE WATER AWAY FROM FOUNDATION WALLS.
- 6) ALL FRAMING LUMBER SHALL BE SPF #2 (Fb = 875 PSI) UNLESS NOTED OTHERWISE (UNO). ALL TREATED LUMBER SHALL BE SYP #2 (Fb=975 PSI). PLATE MATERIAL MAY BE SPF #3 OR SYP #3 (Fcd/perp) = 425 PSI - MIN).
- 7) ALL WOODEN BEAMS AND HEADERS SHALL HAVE THE FOLLOWING END SUPPORTS: (1) 2x4 STUD COLUMN FOR 4'-0" MAX. BEAM SPAN (UNO). (2) 2x4 STUDS FOR BEAM SPAN GREATER THAN 4'-0" (UNO).
- 8) L.V.L. SHALL BE LAMINATED VENEER LUMBER: Fb=2400 PSI, Fv=285 PSI, E=1.9x10⁶ PSI. P.S.L. SHALL BE PARALLEL STRAND LUMBER: Fb=2400 PSI, Fv=290 PSI, E=2.0x10⁶ PSI. L.S.L. SHALL BE LAMINATED STRAND LUMBER: Fb=2250 PSI, Fv=400 PSI, E=1.55x10⁶ PSI. INSTALL ALL CONNECTIONS PER MANUFACTURERS INSTRUCTIONS.
- 9) ALL ROOF TRUSSES AND I-JOIST LAYOUTS SHALL BE PREPARED IN ACCORDANCE WITH ANY SEALED STRUCTURAL DRAWINGS. TRUSSES AND I-JOISTS SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS. ANY CHANGE IN TRUSSES OR I-JOIST LAYOUT SHALL BE COORDINATED WITH DESIGNER OR ENGINEER.
- 10) ALL STRUCTURAL STEEL SHALL BE ASTM A-36. STEEL BEAMS SHALL BE SUPPORTED AT EACH END WITH A MINIMUM BEARING LENGTH OF 3 1/2" INCHES AND FULL FLANGE WIDTH. PROVIDE SOLID BEARING FROM BEAM SUPPORT TO FOUNDATION. BEAMS SHALL BE ATTACHED TO EACH SUPPORT WITH TWO LAG SCREWS (1/2" DIAMETER x 4' LONG). LATERAL SUPPORT IS CONSIDERED ADEQUATE PROVIDED THE JOIST ARE TOE NAILED TO THE SOLE PLATE, AND SOLE PLATE IS NAILED OR BOLTED TO THE BEAM FLANGE @ 48" O.C. . ALL STEEL TUBING SHALL BE ASTM A500.
- 11) REBAR SHALL BE DEFORMED STEEL, ASTM#65, GRADE 60.
- 12) FLITCH BEAMS SHALL BE BOLTED TOGETHER USING (2) ROWS OF 1/2" DIAMETER BOLTS (ASTM A307) WITH WASHERS PLACED UNDER THE THREADED END OF BOLT. BOLTS SHALL BE SPACED AT 24" O.C. (MAX), AND STAGGERED AT THE TOP AND BOTTOM OF BEAM (2" EDGE DISTANCE), WITH 2 BOLTS LOCATED AT 4" FROM EACH END.
- 13) BRICK LINTELS SHALL BE 3 1/2"x3 1/2"x1/4" STEEL ANGLE FOR UP TO 4'-0" SPAN AND 4"x4"x5/16" STEEL ANGLE WITH 4" LEG VERTICAL FOR SPANS UP TO 9'-0" (UNO).
- 14) THE POSITIVE AND NEGATIVE DESIGN PRESSURE FOR DOORS AND WINDOWS FOR A MEAN ROOF HEIGHT OF 35 FEET OR LESS SHALL BE 25 PSF.
- 15) THE POSITIVE AND NEGATIVE DESIGN PRESSURES REQUIRED FOR ANY ROOF OR WALL CLADDING APPLICATION NOT SPECIFICALLY ADDRESSED IN THE NORTH CAROLINA STATE RESIDENTIAL CODE - 2018 EDITION SHALL BE AS FOLLOWS:
- ROOF:
- 45.4 PSF - 2.25:12 PITCH OR LESS
34.8 PSF - 2.25:12 TO 1:12 PITCH
21 PSF - 1:12 TO 12:12 PITCH
- WALLS:
- 24.1 PSF - WALLS

FOUNDATION STRUCTURAL NOTES:

NC (2018 NCRC):

- ① (3) 2x0 SYP #2 OR SPF#2 GIRDER, TYPICAL UNO.
- ② CONCRETE BLOCK PIER SIZE SHALL BE:
- | SIZE | HOLLOW MASONRY | SOLID MASONRY |
|---------|----------------|-------------------|
| 8 x 16 | UP TO 32" HIGH | UP TO 5'-0" HIGH |
| 12 x 16 | UP TO 48" HIGH | UP TO 9'-0" HIGH |
| 16 x 16 | UP TO 64" HIGH | UP TO 12'-0" HIGH |
| 24 x 24 | UP TO 96" HIGH | |
- WITH 30" x 30" x 10" CONCRETE FOOTING, UNO.
- ③ WALL FOOTING AS FOLLOWS:
- DEPTH: 8" - UP TO 2-1/2 STORY
10" - 3 STORY
- WIDTH: SIDING (OR EQUAL)
- 16" - UP TO 2-1/2 STORY
- 20" - 3 STORY
- BRICK VENEER
- 16" - 1 STORY
- 20" - 2 STORY
- 24" - 3 STORY
- FOR FOUNDATION WALL HEIGHT AND BACKFILL REQUIREMENTS, REFER TO NORTH CAROLINA RESIDENTIAL CODE TABLE R404.11 (I THRU 4). NOTE: ASSUMED SOIL BEARING CAPACITY = 2000 PSF. CONTRACTOR MUST VERIFY SITE CONDITIONS AND CONTACT SOILS ENGINEER IF MARGINAL OR UNSTABLE SOILS ARE ENCOUNTERED.

- ④ (4) 2x0 SYP#2 OR SPF#2 GIRDER.
- ⑤ (2) 1.75X9.25 LVL OR LSL GIRDER
- ⑥ (3) 1.75X9.25 LVL OR LSL GIRDER

1. ■ DESIGNATES A SIGNIFICANT POINT LOAD TO HAVE SOLID BLOCKING TO PIER. SOLID BLOCK ALL BEAM BEARING POINTS NOTED TO HAVE THREE OR MORE STUDS TO FND, TYPICAL.

8. ABBREVIATIONS:
'SJ' = SINGLE JOIST
'DJ' = DOUBLE JOIST
'TJ' = TRIPLE JOIST

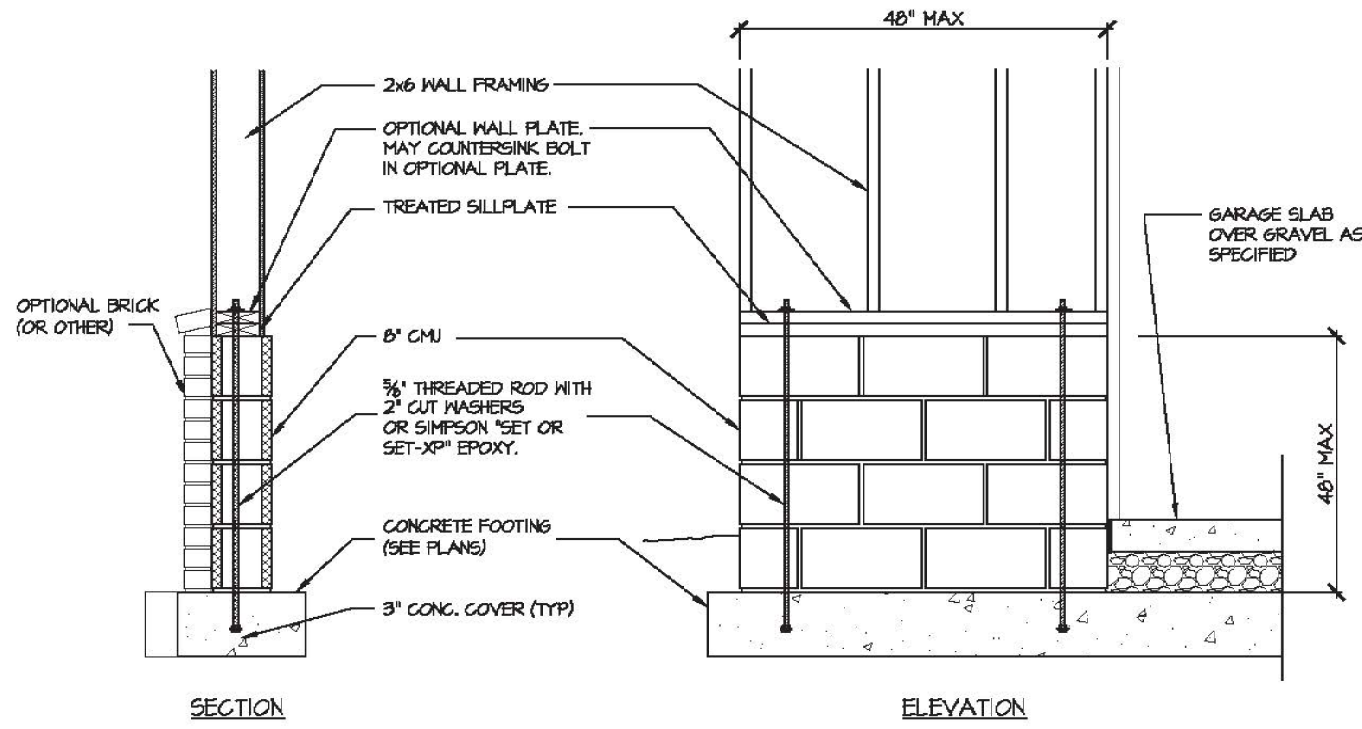
TRUSS SYSTEM REQUIREMENTS

NC (2018 NCRC):

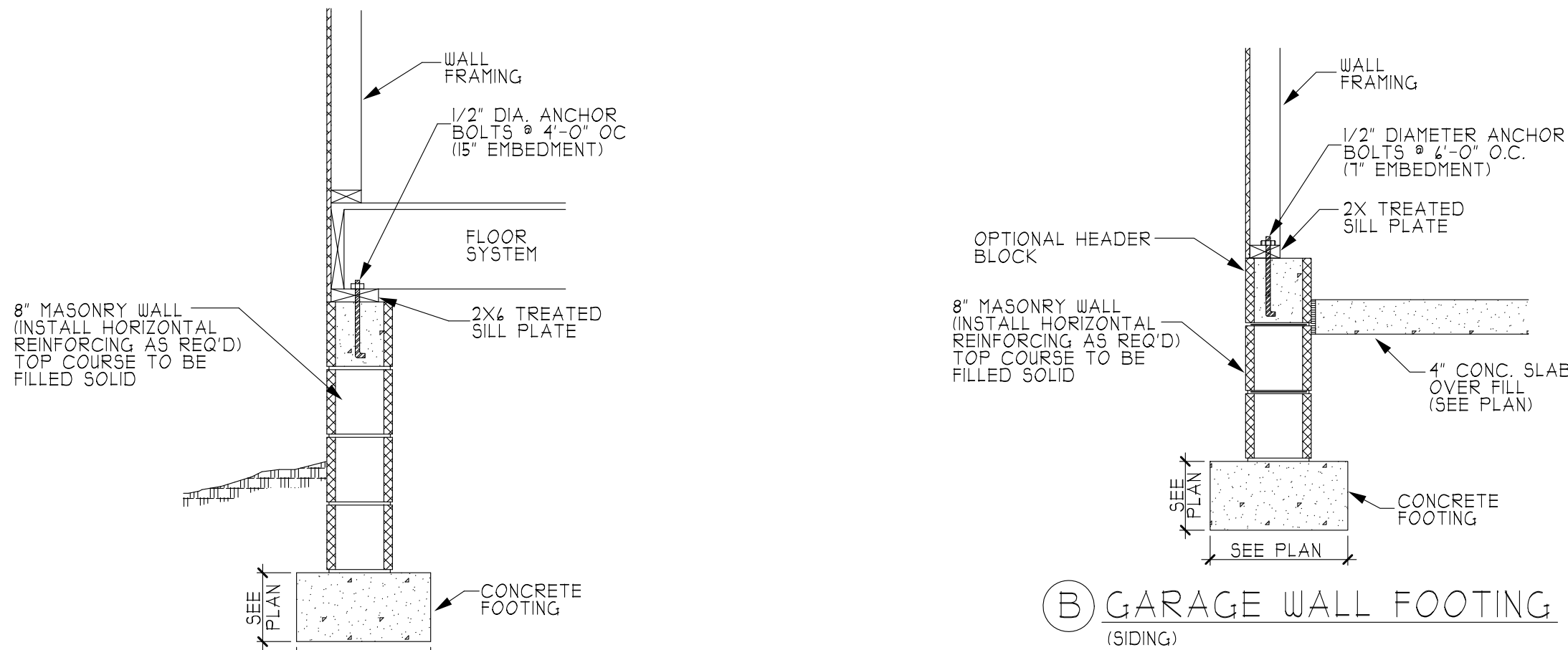
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3. ALL TRUSSES SHALL BE DESIGNED FOR BEARING ON SPF #2 OR #3 PLATES OR LEDGERS (UNO).
4. ALL REQUIRED ANCHORS FOR TRUSSES DUE TO UPLIFT OR BEARING SHALL MEET THE REQUIREMENTS AS SPECIFIED ON THE TRUSS SCHEMATICS.

HEADER/BEAM & COLUMN NOTES

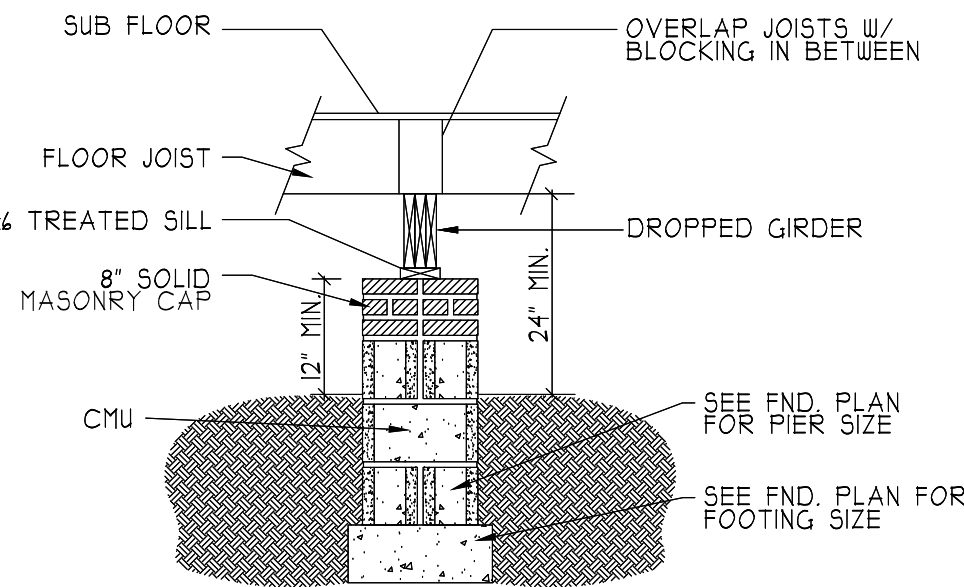
1. ALL EXTERIOR AND LOAD BEARING HEADERS SHALL BE MIN. (2) 2x0 (4" WALL) OR (3) 2x0 (6" WALL) WITH (1) SUPPORT STUD, UNLESS NOTED OTHERWISE.
2. THE NUMBER SHOWN AT BEAM AND HEADER SUPPORTS INDICATES THE NUMBER OF SUPPORT STUDS REQUIRED IN STUD POCKET OR COLUMN. THE NUMBER OF KING STUDS AT EACH END OF HEADERS IN EXTERIOR WALLS SHALL BE ACCORDING TO TABLE R602.15 OR AS BELOW:
- UP TO 3' SPAN: (1) KING STUD
- OVER 3' UP TO 4' SPAN: (2) KING STUDS
- OVER 4' UP TO 9' SPAN: (3) KING STUDS
- OVER 9' UP TO 12' SPAN: (4) KING STUDS
- OVER 12' UP TO 15' SPAN: (5) KING STUDS



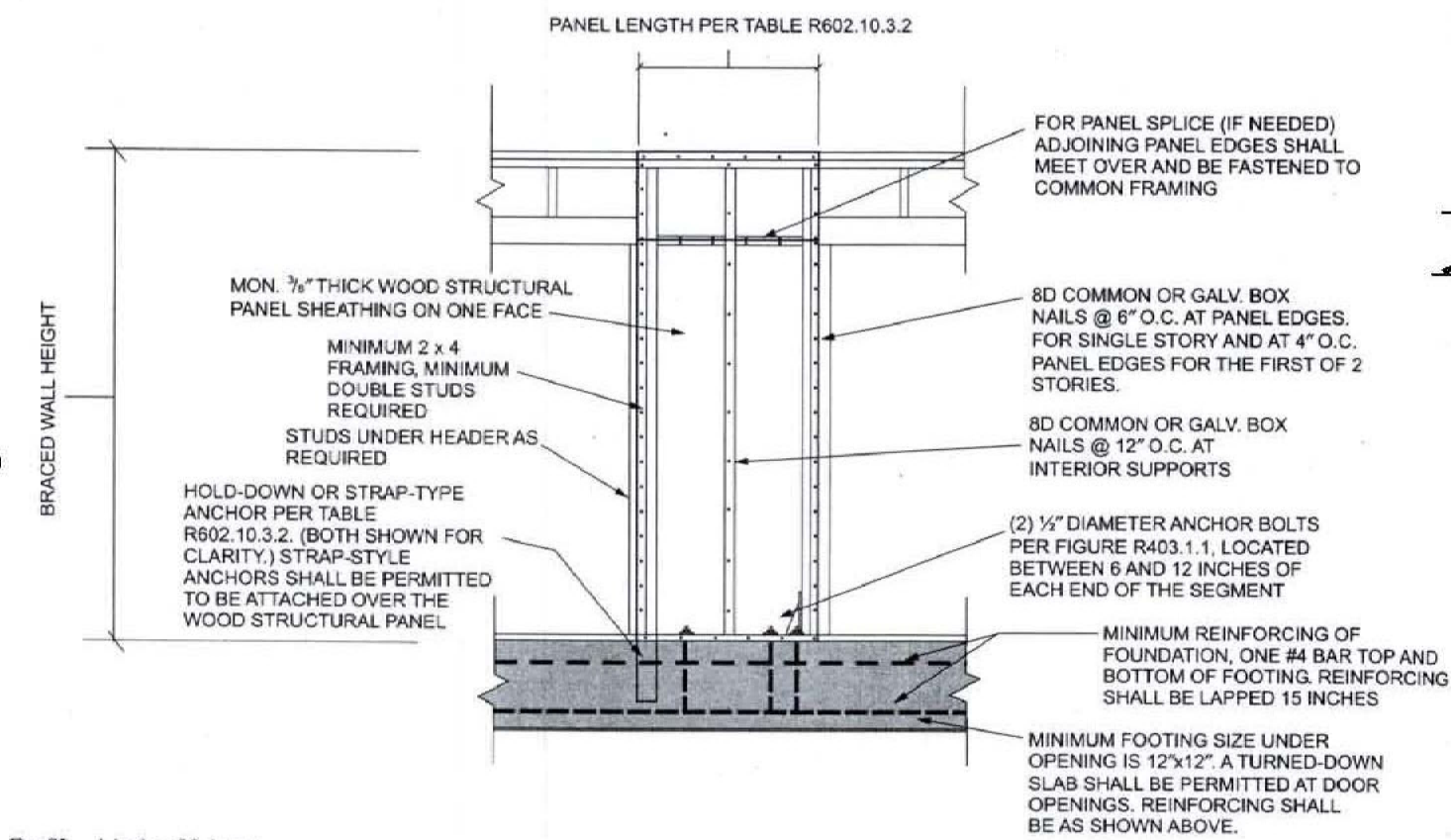
GARAGE 'WING WALL' REINFORCING
PER IRC FIGURE R602.10.4.3



Ⓐ CRAWL SPACE FOOTING
(SIDING)

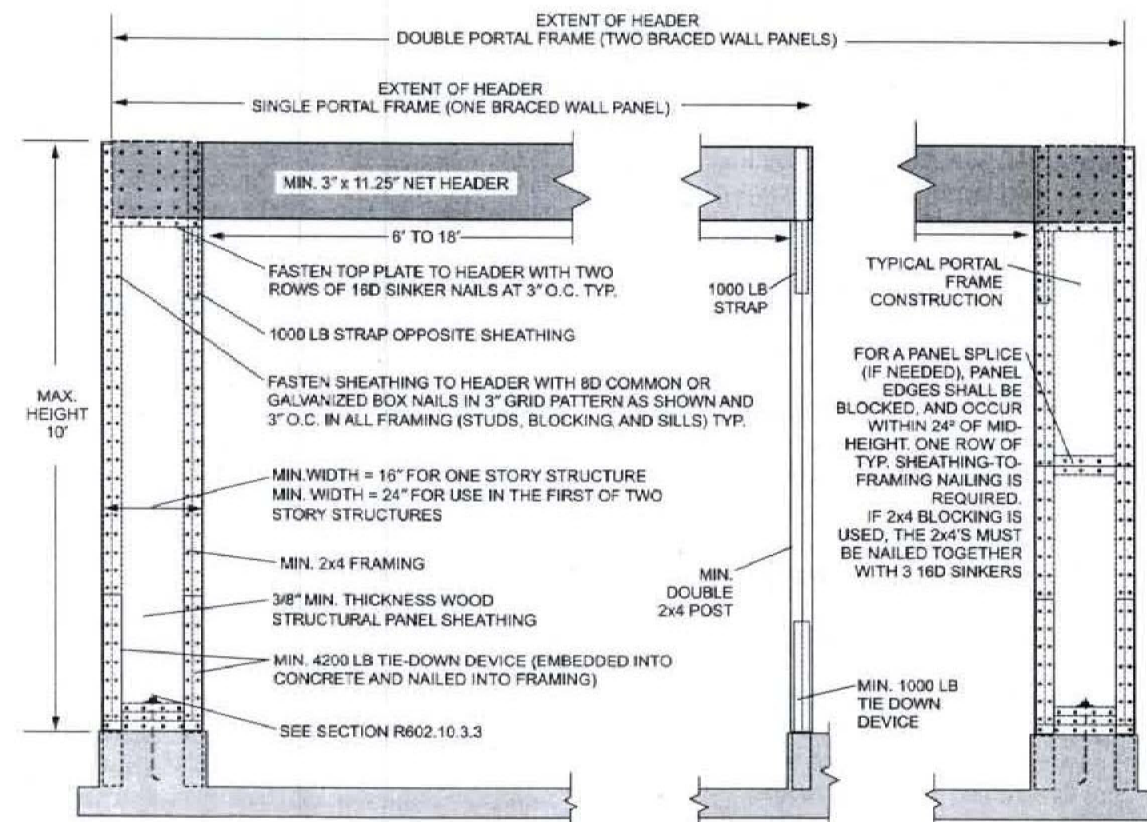


Ⓒ DROPPED GIRDER
NTS



For SE: 1 inch = 25.4 mm.

FIGURE R602.10.3.2
ALTERNATE BRACED WALL PANEL



For SE: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound force = 4.448 N.

FIGURE R602.10.3.3
METHOD PFH: PORTAL FRAME WITH HOLD-DOWNS

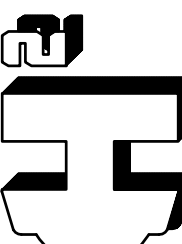
BASIC BUILDING

DETAIL SHEET (115-120 MPH)

*PLEASE NOTE THAT NOT ALL DETAILS APPLY TO EVERY PLAN.

HEATHER HALL
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DATE:

FILE:



Client: SWIFT CREEK
Project:
Address:

Date: 9/16/2025
Input by: KIRK ROBERTSON
Job Name: CLIFTON
Project #: 24061913

Page 1 of 40

BM1 2.0E PWLVL 1.750" X 20.000" 2-Ply - PASSED

Level: Level



1 SPF End Grain 0-4-8

2 SPF End Grain 0-4-8

19'1"

1'8"
3 1/2"

Member Information

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

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	3817	4658	0	0	0
2	Vertical	3817	4658	0	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	4.500"	Vert	63%	4658 / 3817	8475	L	D+L
2 - SPF End Grain	4.500"	Vert	63%	4658 / 3817	8475	L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	38513 ft-lb	9'6 1/2"	54424 ft-lb	71%	D+L	L
Unbraced	38513 ft-lb	9'6 1/2"	38605 ft-lb	100%	D+L	L
Shear	6661 lb	2' 1/2"	13300 lb	50%	D+L	L
LL Defl inch	0.232 (L/963)	9'6 9/16"	0.466 (L/480)	50%	L	L
TL Defl inch	0.515 (L/434)	9'6 9/16"	0.621 (L/360)	83%	D+L	L

Design Notes

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

Loads

Load	Side	units	Dead 0.9	Live 1
Type			+	+
Uniform	Top	PLF	400	400
Uniform	Top	PLF	70	
Self Weight		PLF	18	

Notes

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 2/18/2027

Manufacturer Info

Pacific Woodtech Corp
1850 Park Lane
Burlington, WA 98233
(800) 515-7570
www.pwtewp.com
APA: PR-L233, ICC-ES: ESR-2909



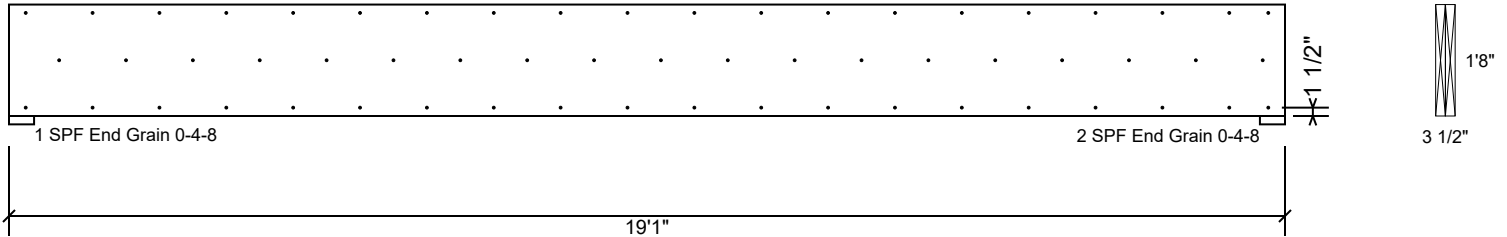
Client: SWIFT CREEK
Project:
Address:

Date: 9/16/2025
Input by: KIRK ROBERTSON
Job Name: CLIFTON
Project #: 24061913

Page 2 of 40

BM1 2.0E PWLVL 1.750" X 20.000" 2-Ply - PASSED

Level: Level



Multi-Ply Analysis

Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6".

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	271.6 PLF
Yield Limit per Fastener	90.5 lb.
C _m	1
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

Notes

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 2/18/2027

Manufacturer Info

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1850 Park Lane
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APA: PR-L233, ICC-ES: ESR-2909



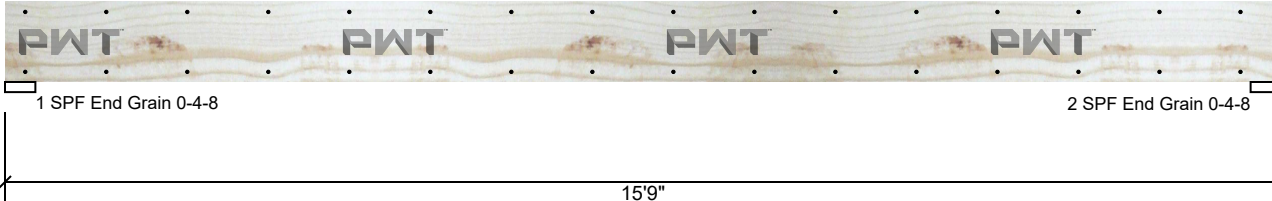
Client: SWIFT CREEK
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Job Name: CLIFTON
Project #: 24061913

Page 3 of 40

BM2 2.0E PWLVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level



Member Information

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

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	315	1975	0	0	0
2	Vertical	315	1975	0	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	4.500"	Vert	17%	1975 / 315	2290	L	D+L
2 - SPF End Grain	4.500"	Vert	17%	1975 / 315	2290	L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	8500 ft-lb	7'10 1/2"	21295 ft-lb	40%	D+L	L
Unbraced	8500 ft-lb	7'10 1/2"	8515 ft-lb	100%	D+L	L
Shear	1893 lb	1'4 3/8"	7897 lb	24%	D+L	L
LL Defl inch	0.050 (L/3642)	7'10 9/16"	0.382 (L/480)	13%	L	L
TL Defl inch	0.366 (L/501)	7'10 9/16"	0.510 (L/360)	72%	D+L	L

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings.
- 2 Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- 3 Refer to last page of calculations for fasteners required for specified loads.
- 4 Girders are designed to be supported on bottom edge only and across their full width.
- 5 Top loads must be supported equally by all plies.
- 6 Compression edge bracing required at 11' o.c. or less.
- 7 Lateral slenderness ratio based on single ply width.

Loads

Load	Side	units	Dead 0.9	Live 1
Type			+	+
Uniform	Top	PLF	40	40
Uniform	Top	PLF	200	
Self Weight		PLF	11	

Notes

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 2/18/2027

Manufacturer Info

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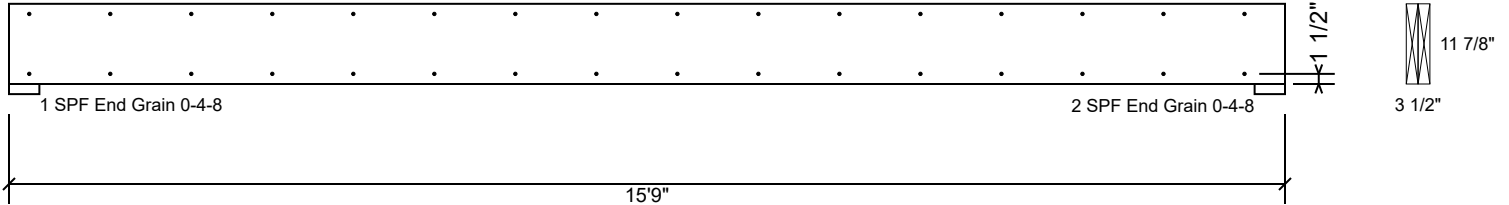
Client: SWIFT CREEK
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Address:

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Input by: KIRK ROBERTSON
Job Name: CLIFTON
Project #: 24061913

Page 4 of 40

BM2 2.0E PWLVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level



Multi-Ply Analysis

Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6".

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	181.1 PLF
Yield Limit per Fastener	90.5 lb.
C _m	1
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

Notes

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 2/18/2027

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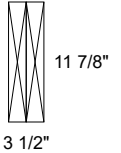
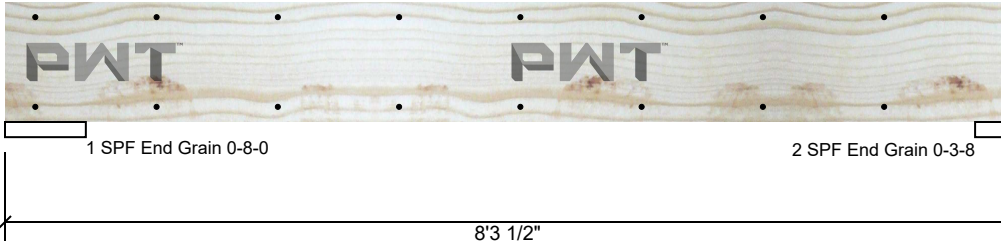
Client: SWIFT CREEK
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Input by: KIRK ROBERTSON
Job Name: CLIFTON
Project #: 24061913

Page 5 of 40

BM3 2.0E PWLVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level



Member Information

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

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	217	393	0	0	0
2	Vertical	198	359	0	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	8.000"	Vert	3%	393 / 217	610	L	D+L
2 - SPF End Grain	3.500"	Vert	5%	359 / 198	557	L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1023 ft-lb	4'4"	21295 ft-lb	5%	D+L	L
Unbraced	1023 ft-lb	4'4"	11272 ft-lb	9%	D+L	L
Shear	377 lb	1'7 7/8"	7897 lb	5%	D+L	L
LL Defl inch (L/23503)	0.004	4'4 1/16"	0.191 (L/480)	2%	L	L
TL Defl inch	0.011 (L/8347)	4'4 1/16"	0.254 (L/360)	4%	D+L	L

Design Notes

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

Loads

Load	Side	units	Dead 0.9	Live 1
Type			+	+
Uniform	Top	PLF	50	50
Uniform	Top	PLF	30	
Self Weight		PLF	11	

Notes

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 2/18/2027

Manufacturer Info

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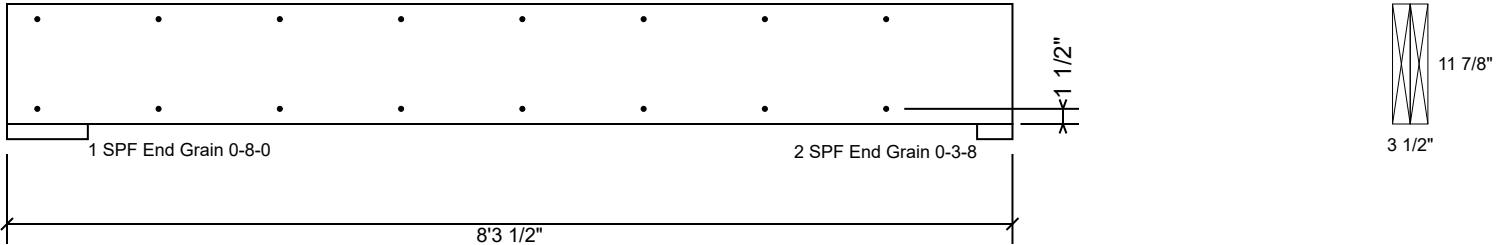
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Job Name: CLIFTON
Project #: 24061913

Page 6 of 40

BM3 2.0E PWLVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level



Multi-Ply Analysis

Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6".

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	181.1 PLF
Yield Limit per Fastener	90.5 lb.
C _m	1
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

Notes

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 2/18/2027

Manufacturer Info

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1850 Park Lane
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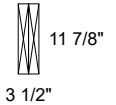
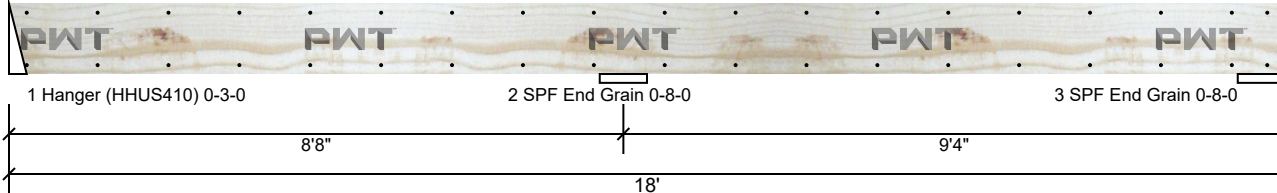
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Project #: 24061913

Page 7 of 40

BM4 2.0E PWLVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level



Member Information

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

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	329	365	0	0	0
2	Vertical	1085	1202	0	0	0
3	Vertical	386	427	0	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	3.000"	Vert	8%	365 / 387	752	L_	D+L
2 - SPF End Grain	8.000"	Vert	10%	1202 / 1085	2287	LL	D+L
3 - SPF End Grain	8.000"	Vert	4%	427 / 437	864	_L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-1985 ft-lb	8'8"	21295 ft-lb	9%	D+L	LL
Unbraced	-1985 ft-lb	8'8"	5640 ft-lb	35%	D+L	LL
Pos Moment	1350 ft-lb	13'10 13/16"	21295 ft-lb	6%	D+L	_L
Unbraced	1350 ft-lb	13'10 13/16"	5640 ft-lb	24%	D+L	_L
Shear	875 lb	9'11 7/8"	7897 lb	11%	D+L	LL
LL Defl inch (L/10903)	0.010	13'3 7/8"	0.220 (L/480)	4%	L	_L
TL Defl inch (L/6485)	0.016	13'6 1/16"	0.294 (L/360)	6%	D+L	_L

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- 3 Refer to last page of calculations for fasteners required for specified loads.
- 4 Fill all hanger nailing holes.
- 5 Left Header: LVL, Thickness: 3 1/2"
- 6 Girders are designed to be supported on bottom edge only and across their full width.
- 7 Top loads must be supported equally by all plies.
- 8 Compression edge bracing required at 17'4" o.c. or less.
- 9 Lateral slenderness ratio based on single ply width.

Notes

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 2/18/2027

Manufacturer Info

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Job Name: CLIFTON
Project #: 24061913

Page 8 of 40

BM4 2.0E PWLVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level

Loads

Load	Side	units	Dead 0.9	Live 1
Type			+	+
Uniform	Top	PLF	100	100
Self Weight		PLF	11	

Notes

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 2/18/2027

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Pacific Woodtech Corp
1850 Park Lane
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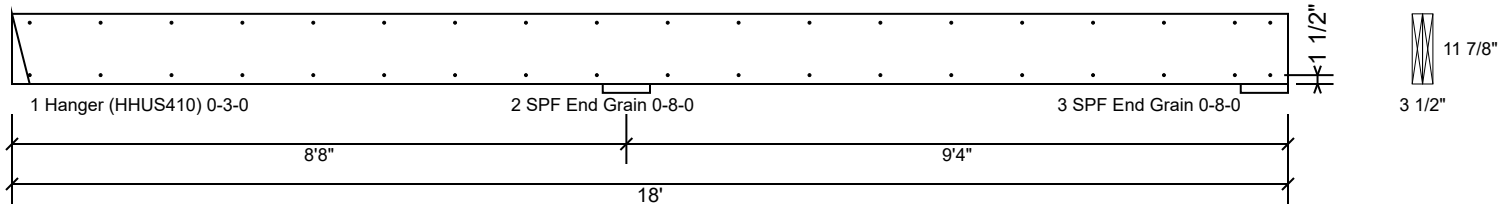
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Job Name: CLIFTON
Project #: 24061913

Page 9 of 40

BM4 2.0E PWLVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level



Multi-Ply Analysis

Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6".

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	181.1 PLF
Yield Limit per Fastener	90.5 lb.
C _m	1
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

Notes

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 2/18/2027

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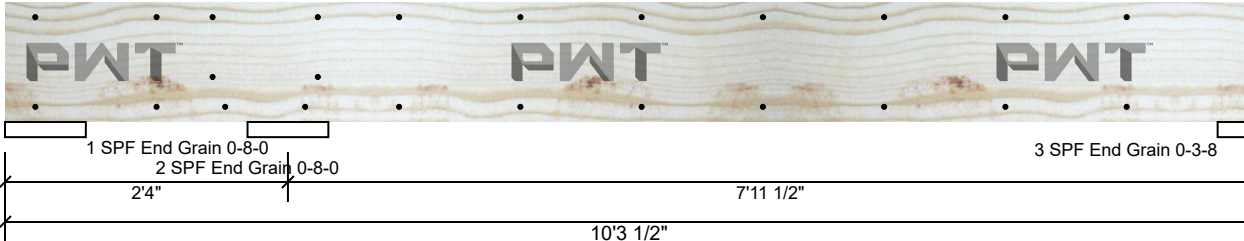
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Job Name: CLIFTON
Project #: 24061913

Page 10 of 40

BM5 2.0E PWLVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level



Member Information

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

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0 (-610)	(-632)	0	0	0
2	Vertical	3109	3185	0	0	0
3	Vertical	975	1010	0	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	8.000"	Vert	0%	-632 / -868	-1500 (-1500)	_L	D+L(D+L)
2 - SPF End Grain	8.000"	Vert	26%	3185 / 3109	6295	LL	D+L
3 - SPF End Grain	3.500"	Vert	19%	1010 / 978	1988	_L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-3830 ft-lb	2'4"	21295 ft-lb	18%	D+L	LL
Unbraced	-3830 ft-lb	2'4"	9449 ft-lb	41%	D+L	LL
Pos Moment	2951 ft-lb	7' 7/16"	21295 ft-lb	14%	D+L	_L
Unbraced	2951 ft-lb	7' 7/16"	9449 ft-lb	31%	D+L	_L
Shear	2253 lb	1'7 7/8"	7897 lb	29%	D+L	LL
LL Defl inch	0.013 (L/6976)	6'8 1/16"	0.195 (L/480)	7%	L	_L
TL Defl inch	0.027 (L/3446)	6'8 1/8"	0.260 (L/360)	10%	D+L	_L

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- 3 Refer to last page of calculations for fasteners required for specified loads.
- 4 Concentrated load fastener specification is in addition to hanger fasteners if a hanger is present.
- 5 Girders are designed to be supported on bottom edge only and across their full width.
- 6 Top loads must be supported equally by all plies.
- 7 Tie-down connection required at bearing 1 for uplift 1500 lb (Combination D+L, Load Case _L).
- 8 Compression edge bracing required at 9'8" o.c. or less.
- 9 Lateral slenderness ratio based on single ply width.

Notes

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 2/18/2027

Manufacturer Info

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APA: PR-L233, ICC-ES: ESR-2909



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Job Name: CLIFTON
Project #: 24061913

Page 11 of 40

BM5 2.0E PWLVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level

Loads

Load	Location	Side	units	Dead 0.9	Live 1
Type	Start			+	+
Uniform		Top	PLF	300	300
Point	2-1-12	Near Face	lb	365	387
Self Weight			PLF	11	

Notes

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

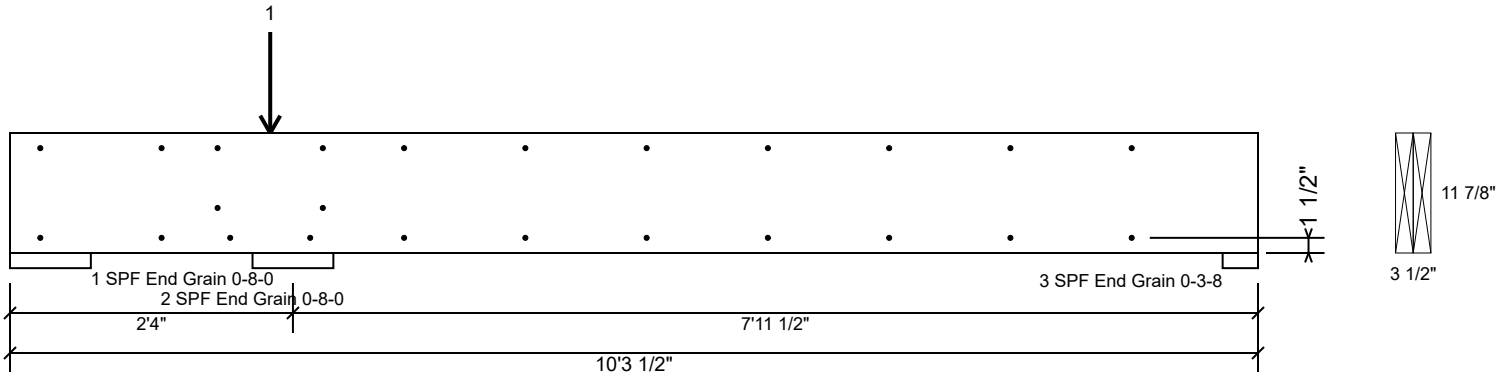
This design is valid until 2/18/2027

Manufacturer Info

Pacific Woodtech Corp
1850 Park Lane
Burlington, WA 98233
(800) 515-7570
www.pwtewp.com
APA: PR-L233, ICC-ES: ESR-2909

BM5 2.0E PWLVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level



Multi-Ply Analysis

Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. except for regions covered by concentrated load fastening. Maximum end distance not to exceed 6".

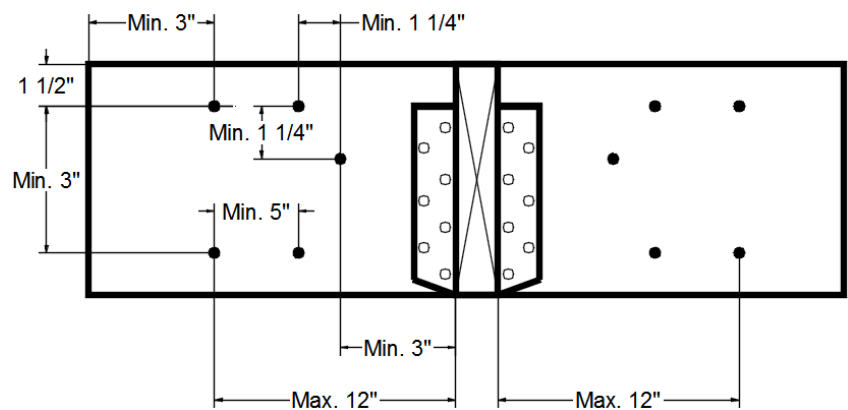
Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	181.1 PLF
Yield Limit per Fastener	90.5 lb.
C _m	1
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

Concentrated Load

Fasten at concentrated side load at 2-1-12 with a minimum of (6) – 10d Box nails (.128x3") in the pattern shown.

Capacity	69.2 %
Load	376.0lb.
Total Yield Limit	543.3 lb.
C _g	1.0000
C _m	1
Yield Limit per Fastener	90.5 lb.
Yield Mode	IV
Load Combination	D+L
Duration Factor	1.00

Min/Max fastener distances for Concentrated Side Loads



Notes

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 2/18/2027

Manufacturer Info

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1850 Park Lane
Burlington, WA 98233
(800) 515-7570
www.pwtewp.com
APA: PR-L233, ICC-ES: ESR-2909



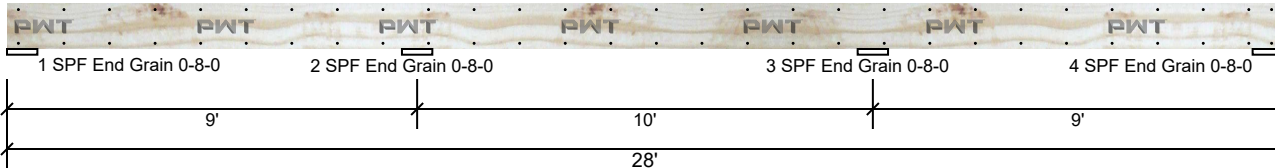
Client: SWIFT CREEK
Project:
Address:

Date: 9/16/2025
Input by: KIRK ROBERTSON
Job Name: CLIFTON
Project #: 24061913

Page 13 of 40

BM6 2.0E PWLVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level



11 7/8"
3 1/2"

Member Information

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

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	187	640	0	0	0
2	Vertical	513	1751	0	0	0
3	Vertical	513	1751	0	0	0
4	Vertical	187	640	0	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	8.000"	Vert	4%	640 / 219	859	L_L	D+L
2 - SPF End Grain	8.000"	Vert	10%	1751 / 548	2299	LL_	D+L
3 - SPF End Grain	8.000"	Vert	10%	1751 / 548	2299	_LL	D+L
4 - SPF End Grain	8.000"	Vert	4%	640 / 219	859	L_L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-1952 ft-lb	19'	21295 ft-lb	9%	D+L	_LL
Unbraced	-1952 ft-lb	19'	3658 ft-lb	53%	D+L	_LL
Pos Moment	1255 ft-lb	24'1 5/16"	21295 ft-lb	6%	D+L	L_L
Unbraced	1255 ft-lb	24'1 5/16"	3658 ft-lb	34%	D+L	L_L
Shear	874 lb	7'8 1/8"	7897 lb	11%	D+L	LL_
LL Defl inch (L/21312)	0.006	14'	0.250 (L/480)	2%	L	_L_
TL Defl inch (L/7477)	0.014	4'3 7/16"	0.283 (L/360)	5%	D+L	L_L

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- 3 Refer to last page of calculations for fasteners required for specified loads.
- 4 Girders are designed to be supported on bottom edge only and across their full width.
- 5 Top loads must be supported equally by all plies.
- 6 Compression edge bracing required at 27' o.c. or less.
- 7 Lateral slenderness ratio based on single ply width.

Loads

Load	Side	units	Dead 0.9	Live 1
Type			+	+
Uniform	Top	PLF	50	50
Uniform	Top	PLF	110	
Self Weight		PLF	11	

Notes

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 2/18/2027

Manufacturer Info

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1850 Park Lane
Burlington, WA 98233
(800) 515-7570
www.pwtewp.com
APA: PR-L233, ICC-ES: ESR-2909



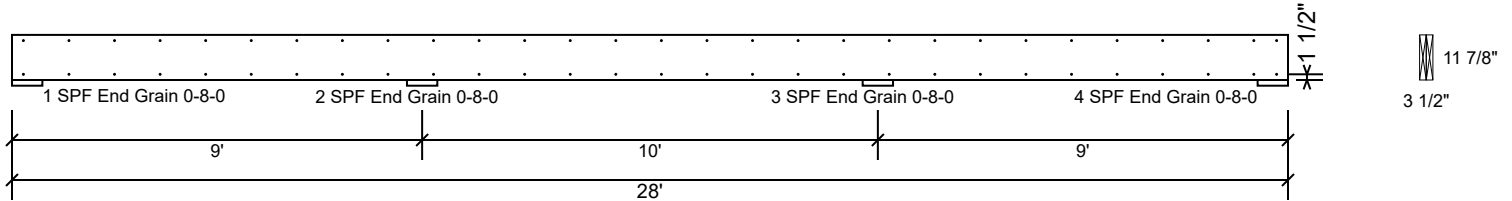
Client: SWIFT CREEK
Project:
Address:

Date: 9/16/2025
Input by: KIRK ROBERTSON
Job Name: CLIFTON
Project #: 24061913

Page 14 of 40

BM6 2.0E PWLVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level



Multi-Ply Analysis

Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6".

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	181.1 PLF
Yield Limit per Fastener	90.5 lb.
C _m	1
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

Notes

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

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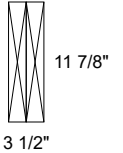
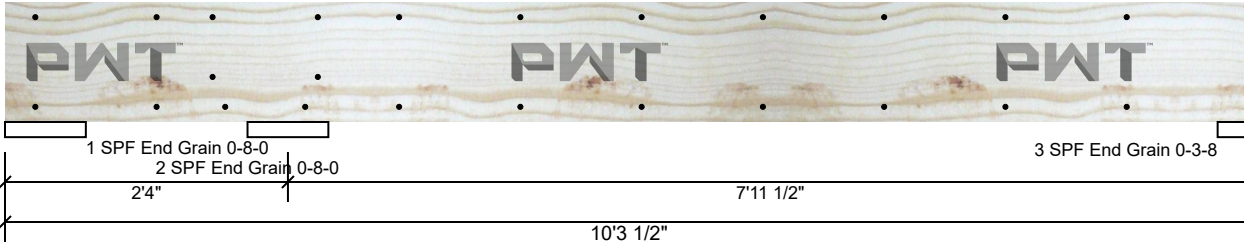
Client: SWIFT CREEK
Project:
Address:

Date: 9/16/2025
Input by: KIRK ROBERTSON
Job Name: CLIFTON
Project #: 24061913

Page 15 of 40

BM7 2.0E PWLVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level



Member Information

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

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0 (-610)	(-632)	0	0	0
2	Vertical	3109	3185	0	0	0
3	Vertical	975	1010	0	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	8.000"	Vert	0%	-632 / -868	-1500 (-1500)	_L	D+L(D+L)
2 - SPF End Grain	8.000"	Vert	26%	3185 / 3109	6295	LL	D+L
3 - SPF End Grain	3.500"	Vert	19%	1010 / 978	1988	_L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-3830 ft-lb	2'4"	21295 ft-lb	18%	D+L	LL
Unbraced	-3830 ft-lb	2'4"	9449 ft-lb	41%	D+L	LL
Pos Moment	2951 ft-lb	7' 7/16"	21295 ft-lb	14%	D+L	_L
Unbraced	2951 ft-lb	7' 7/16"	9449 ft-lb	31%	D+L	_L
Shear	2253 lb	1'7 7/8"	7897 lb	29%	D+L	LL
LL Defl inch	0.013 (L/6976)	6'8 1/16"	0.195 (L/480)	7%	L	_L
TL Defl inch	0.027 (L/3446)	6'8 1/8"	0.260 (L/360)	10%	D+L	_L

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- 3 Refer to last page of calculations for fasteners required for specified loads.
- 4 Concentrated load fastener specification is in addition to hanger fasteners if a hanger is present.
- 5 Girders are designed to be supported on bottom edge only and across their full width.
- 6 Top loads must be supported equally by all plies.
- 7 Tie-down connection required at bearing 1 for uplift 1500 lb (Combination D+L, Load Case _L).
- 8 Compression edge bracing required at 9'8" o.c. or less.
- 9 Lateral slenderness ratio based on single ply width.

Notes

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 2/18/2027

Manufacturer Info

Pacific Woodtech Corp
1850 Park Lane
Burlington, WA 98233
(800) 515-7570
www.pwtewp.com
APA: PR-L233, ICC-ES: ESR-2909



Client: SWIFT CREEK
Project:
Address:

Date: 9/16/2025
Input by: KIRK ROBERTSON
Job Name: CLIFTON
Project #: 24061913

Page 16 of 40

BM7 2.0E PWLVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level

Loads

Load	Location	Side	units	Dead 0.9	Live 1
Type	Start			+	+
Uniform		Top	PLF	300	300
Point	2-1-12	Far Face	lb	365	387
Self Weight			PLF	11	

Notes

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

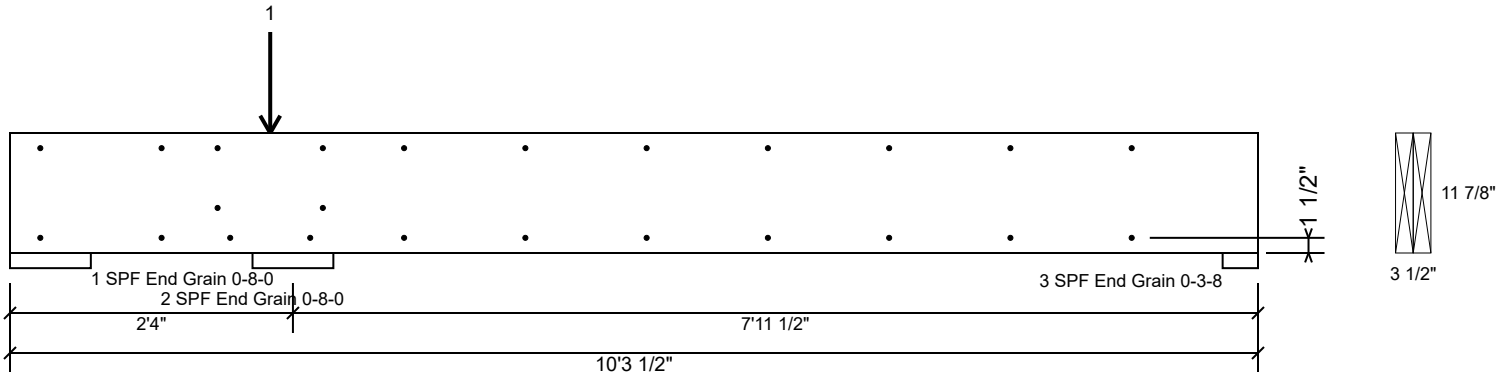
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Manufacturer Info

Pacific Woodtech Corp
1850 Park Lane
Burlington, WA 98233
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APA: PR-L233, ICC-ES: ESR-2909

BM7 2.0E PWLVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level



Multi-Ply Analysis

Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. except for regions covered by concentrated load fastening. Maximum end distance not to exceed 6".

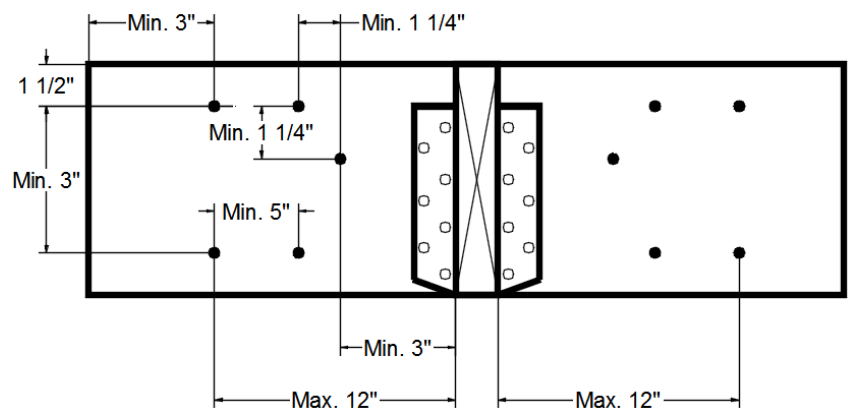
Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	181.1 PLF
Yield Limit per Fastener	90.5 lb.
C _m	1
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

Concentrated Load

Fasten at concentrated side load at 2-1-12 with a minimum of (6) – 10d Box nails (.128x3") in the pattern shown.

Capacity	69.2 %
Load	376.0lb.
Total Yield Limit	543.3 lb.
C _g	1.0000
C _m	1
Yield Limit per Fastener	90.5 lb.
Yield Mode	IV
Load Combination	D+L
Duration Factor	1.00

Min/Max fastener distances for Concentrated Side Loads



Notes

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

Lumber

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

chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
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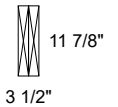
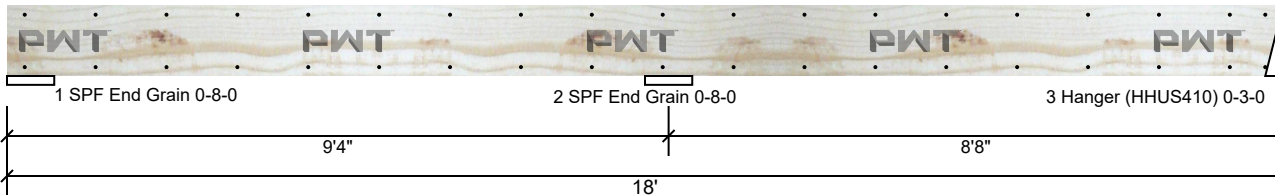
Client: SWIFT CREEK
Project:
Address:

Date: 9/16/2025
Input by: KIRK ROBERTSON
Job Name: CLIFTON
Project #: 24061913

Page 18 of 40

BM8 2.0E PWLVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level



Member Information

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

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	386	427	0	0	0
2	Vertical	1085	1202	0	0	0
3	Vertical	329	365	0	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	8.000"	Vert	4%	427 / 437	864	L_	D+L
2 - SPF End Grain	8.000"	Vert	10%	1202 / 1085	2287	LL	D+L
3 - Hanger	3.000"	Vert	8%	365 / 387	752	_L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-1985 ft-lb	9'4"	21295 ft-lb	9%	D+L	LL
Unbraced	-1985 ft-lb	9'4"	5640 ft-lb	35%	D+L	LL
Pos Moment	1350 ft-lb	4'1 3/16"	21295 ft-lb	6%	D+L	L_
Unbraced	1350 ft-lb	4'1 3/16"	5640 ft-lb	24%	D+L	L_
Shear	875 lb	8' 1/8"	7897 lb	11%	D+L	LL
LL Defl inch (L/10903)	0.010	4'8 3/16"	0.220 (L/480)	4%	L	L_
TL Defl inch (L/6485)	0.016	4'6"	0.294 (L/360)	6%	D+L	L_

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- 3 Refer to last page of calculations for fasteners required for specified loads.
- 4 Fill all hanger nailing holes.
- 5 Right Header: LVL, Thickness: 3 1/2"
- 6 Girders are designed to be supported on bottom edge only and across their full width.
- 7 Top loads must be supported equally by all plies.
- 8 Compression edge bracing required at 17'4" o.c. or less.
- 9 Lateral slenderness ratio based on single ply width.

Notes

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 2/18/2027

Manufacturer Info

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1850 Park Lane
Burlington, WA 98233
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APA: PR-L233, ICC-ES: ESR-2909



Client: SWIFT CREEK
Project:
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Date: 9/16/2025
Input by: KIRK ROBERTSON
Job Name: CLIFTON
Project #: 24061913

Page 19 of 40

BM8 2.0E PWLVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level

Loads

Load	Side	units	Dead 0.9	Live 1
Type			+	+
Uniform	Top	PLF	100	100
Self Weight		PLF	11	

Notes

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

Lumber

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chemicals

Handling & Installation

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2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
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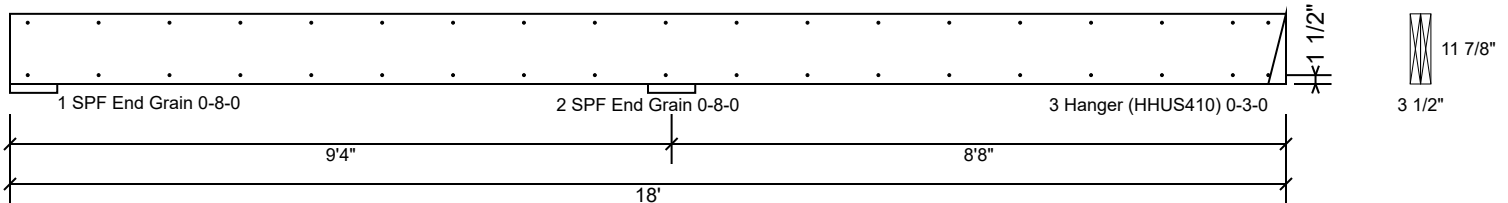
Client: SWIFT CREEK
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Input by: KIRK ROBERTSON
Job Name: CLIFTON
Project #: 24061913

Page 20 of 40

BM8 2.0E PWLVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level



Multi-Ply Analysis

Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6".

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	181.1 PLF
Yield Limit per Fastener	90.5 lb.
C _m	1
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

Notes

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

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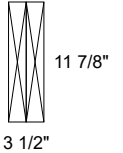
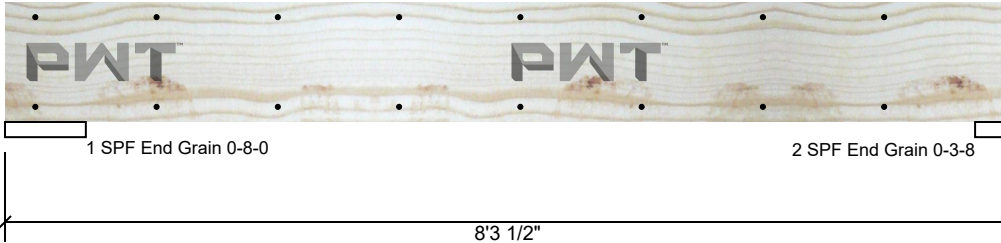
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Address:

Date: 9/16/2025
Input by: KIRK ROBERTSON
Job Name: CLIFTON
Project #: 24061913

Page 21 of 40

BM9 2.0E PWLVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level



Member Information

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

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	217	393	0	0	0
2	Vertical	198	359	0	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	8.000"	Vert	3%	393 / 217	610	L	D+L
2 - SPF End Grain	3.500"	Vert	5%	359 / 198	557	L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1023 ft-lb	4'4"	21295 ft-lb	5%	D+L	L
Unbraced	1023 ft-lb	4'4"	11272 ft-lb	9%	D+L	L
Shear	377 lb	1'7 7/8"	7897 lb	5%	D+L	L
LL Defl inch (L/23503)	0.004	4'4 1/16"	0.191 (L/480)	2%	L	L
TL Defl inch	0.011 (L/8347)	4'4 1/16"	0.254 (L/360)	4%	D+L	L

Design Notes

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

Loads

Load	Side	units	Dead 0.9	Live 1
Type			+	+
Uniform	Top	PLF	50	50
Uniform	Top	PLF	30	
Self Weight		PLF	11	

Notes

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 2/18/2027

Manufacturer Info

Pacific Woodtech Corp
1850 Park Lane
Burlington, WA 98233
(800) 515-7570
www.pwtewp.com
APA: PR-L233, ICC-ES: ESR-2909



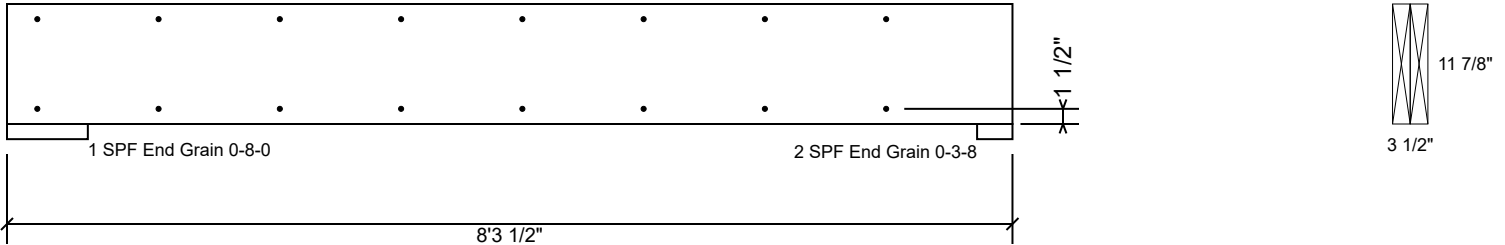
Client: SWIFT CREEK
Project:
Address:

Date: 9/16/2025
Input by: KIRK ROBERTSON
Job Name: CLIFTON
Project #: 24061913

Page 22 of 40

BM9 2.0E PWLVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level



Multi-Ply Analysis

Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6".

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	181.1 PLF
Yield Limit per Fastener	90.5 lb.
C _m	1
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

Notes

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 2/18/2027

Manufacturer Info

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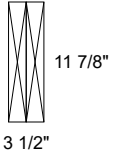
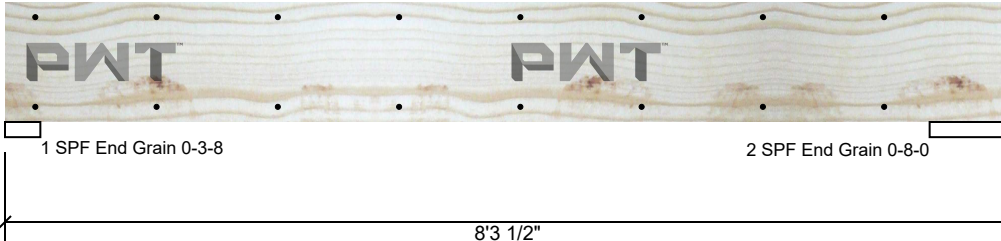
Client: SWIFT CREEK
Project:
Address:

Date: 9/16/2025
Input by: KIRK ROBERTSON
Job Name: CLIFTON
Project #: 24061913

Page 23 of 40

BM10 2.0E PWLVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level



Member Information

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

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	198	359	0	0	0
2	Vertical	217	393	0	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	5%	359 / 198	557	L	D+L
2 - SPF End Grain	8.000"	Vert	3%	393 / 217	610	L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1023 ft-lb	3'11 1/2"	21295 ft-lb	5%	D+L	L
Unbraced	1023 ft-lb	3'11 1/2"	11272 ft-lb	9%	D+L	L
Shear	377 lb	1'3 3/8"	7897 lb	5%	D+L	L
LL Defl inch (L/23503)	0.004	3'11 9/16"	0.191 (L/480)	2%	L	L
TL Defl inch (L/8347)	0.011	3'11 9/16"	0.254 (L/360)	4%	D+L	L

Design Notes

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

Loads

Load	Side	units	Dead 0.9	Live 1
Type			+	+
Uniform	Top	PLF	50	50
Uniform	Top	PLF	30	
Self Weight		PLF	11	

Notes

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 2/18/2027

Manufacturer Info

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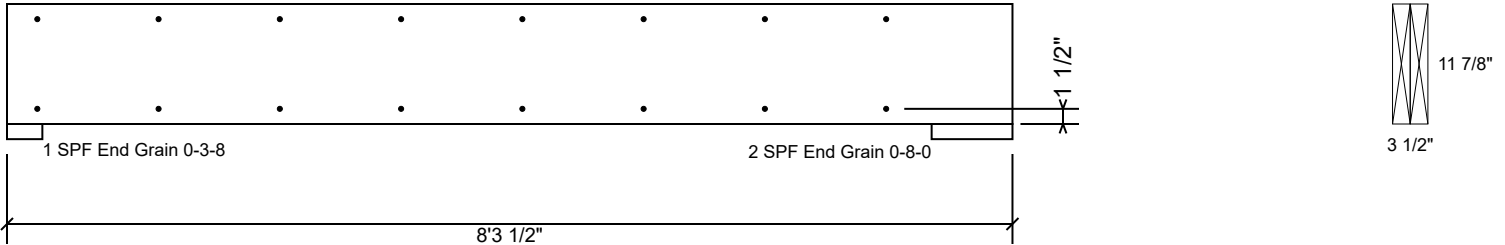
Client: SWIFT CREEK
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Address:

Date: 9/16/2025
Input by: KIRK ROBERTSON
Job Name: CLIFTON
Project #: 24061913

Page 24 of 40

BM10 2.0E PWLVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level



Multi-Ply Analysis

Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6".

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	181.1 PLF
Yield Limit per Fastener	90.5 lb.
C _m	1
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

Notes

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

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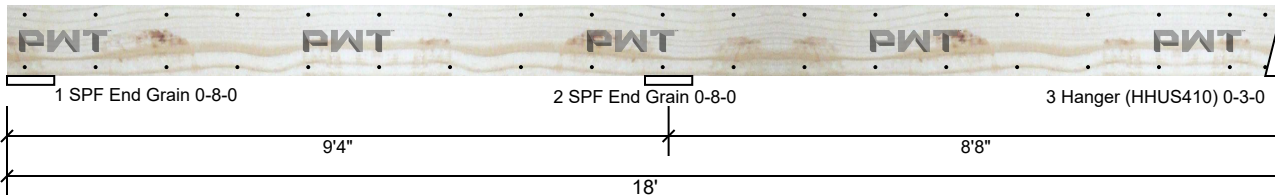
Client: SWIFT CREEK
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Input by: KIRK ROBERTSON
Job Name: CLIFTON
Project #: 24061913

Page 25 of 40

BM11 2.0E PWLVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level



Member Information

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

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	386	427	0	0	0
2	Vertical	1085	1202	0	0	0
3	Vertical	329	365	0	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	8.000"	Vert	4%	427 / 437	864	L_	D+L
2 - SPF End Grain	8.000"	Vert	10%	1202 / 1085	2287	LL	D+L
3 - Hanger	3.000"	Vert	8%	365 / 387	752	_L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-1985 ft-lb	9'4"	21295 ft-lb	9%	D+L	LL
Unbraced	-1985 ft-lb	9'4"	5640 ft-lb	35%	D+L	LL
Pos Moment	1350 ft-lb	4'1 3/16"	21295 ft-lb	6%	D+L	L_
Unbraced	1350 ft-lb	4'1 3/16"	5640 ft-lb	24%	D+L	L_
Shear	875 lb	8' 1/8"	7897 lb	11%	D+L	LL
LL Defl inch (L/10903)	0.010	4'8 3/16"	0.220 (L/480)	4%	L	L_
TL Defl inch	0.016 (L/6485)	4'6"	0.294 (L/360)	6%	D+L	L_

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- 3 Refer to last page of calculations for fasteners required for specified loads.
- 4 Fill all hanger nailing holes.
- 5 Right Header: LVL, Thickness: 3 1/2"
- 6 Girders are designed to be supported on bottom edge only and across their full width.
- 7 Top loads must be supported equally by all plies.
- 8 Compression edge bracing required at 17'4" o.c. or less.
- 9 Lateral slenderness ratio based on single ply width.

Notes

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 2/18/2027

Manufacturer Info

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Address:

Date: 9/16/2025
Input by: KIRK ROBERTSON
Job Name: CLIFTON
Project #: 24061913

Page 26 of 40

BM11 2.0E PWLVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level

Loads

Load	Side	units	Dead 0.9	Live 1
Type			+	+
Uniform	Top	PLF	100	100
Self Weight		PLF	11	

Notes

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

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Pacific Woodtech Corp
1850 Park Lane
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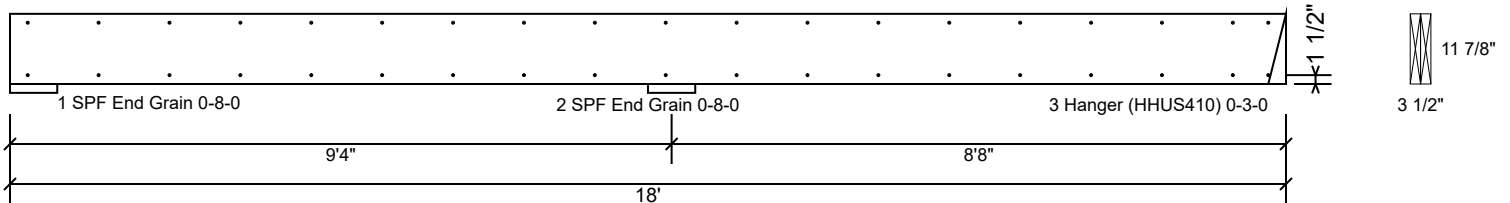
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Address:

Date: 9/16/2025
Input by: KIRK ROBERTSON
Job Name: CLIFTON
Project #: 24061913

Page 27 of 40

BM11 2.0E PWLVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level



Multi-Ply Analysis

Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6".

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	181.1 PLF
Yield Limit per Fastener	90.5 lb.
C _m	1
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

Notes

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 2/18/2027

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Burlington, WA 98233
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Client: SWIFT CREEK
Project:
Address:

Date: 9/16/2025
Input by: KIRK ROBERTSON
Job Name: CLIFTON
Project #: 24061913

Page 28 of 40

BM12 2.0E PWLVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level



11 7/8"
3 1/2"

Member Information

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

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	525	544	0	0	0
2	Vertical	4712	4846	0	0	0
3	Vertical	1837	1904	0	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	16%	544 / 1110	1654	L_	D+L
2 - SPF End Grain	8.000"	Vert	40%	4846 / 4712	9558	LL	D+L
3 - SPF End Grain	8.000"	Vert	16%	1904 / 1897	3801	_L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-10987 ft-lb	7'11 1/2"	21295 ft-lb	52%	D+L	LL
Unbraced	-10987 ft-lb	7'11 1/2"	11010 ft-lb	100%	D+L	LL
Pos Moment	9929 ft-lb	16' 13/16"	21295 ft-lb	47%	D+L	_L
Unbraced	9929 ft-lb	16' 13/16"	9941 ft-lb	100%	D+L	_L
Shear	4206 lb	9'3 3/8"	7897 lb	53%	D+L	LL
LL Defl inch	0.156 (L/1060)	15'4 3/4"	0.345 (L/480)	45%	L	_L
TL Defl inch	0.301 (L/551)	15'5 11/16"	0.460 (L/360)	65%	D+L	_L

Design Notes

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

Notes

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 2/18/2027

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Input by: KIRK ROBERTSON
Job Name: CLIFTON
Project #: 24061913

BM12 2.0E PWLVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level

Loads

Load	Location	Side	units	Dead 0.9	Live 1
Type	Start			+	+
Uniform		Top	PLF	300	300
Point	8-1-12	Far Face	lb	365	387
Self Weight			PLF	11	

Notes

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

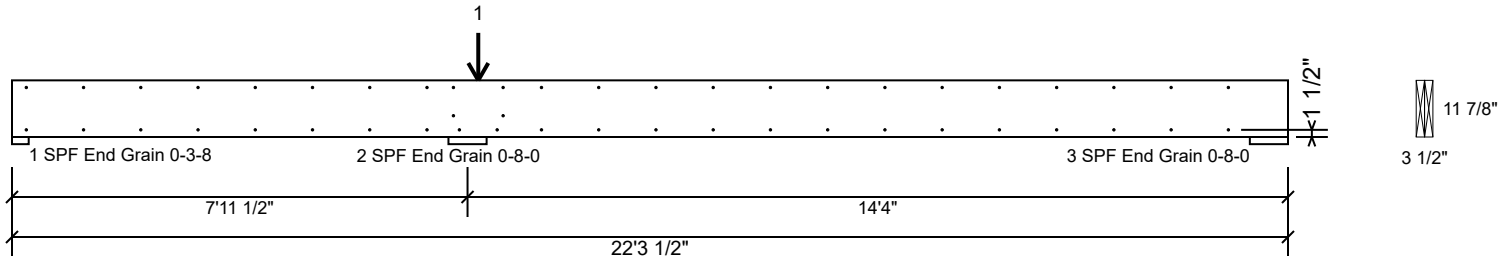
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APA: PR-L233, ICC-ES: ESR-2909

BM12 2.0E PWLVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level



Multi-Ply Analysis

Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c.. except for regions covered by concentrated load fastening.
Maximum end distance not to exceed 6".

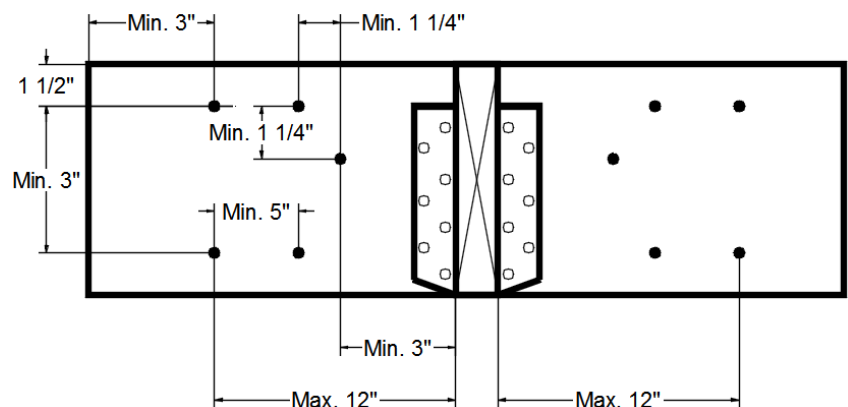
Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	181.1 PLF
Yield Limit per Fastener	90.5 lb.
C _m	1
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

Concentrated Load

Fasten at concentrated side load at 8-1-12 with a minimum of (6) – 10d Box nails (.128x3") in the pattern shown.

Capacity	69.2 %
Load	376.0lb.
Total Yield Limit	543.3 lb.
C _g	1.0000
C _m	1
Yield Limit per Fastener	90.5 lb.
Yield Mode	IV
Load Combination	D+L
Duration Factor	1.00

Min/Max fastener distances for Concentrated Side Loads



Notes

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

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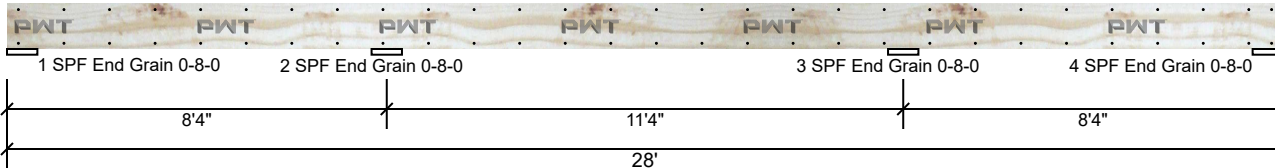
Client: SWIFT CREEK
Project:
Address:

Date: 9/16/2025
Input by: KIRK ROBERTSON
Job Name: CLIFTON
Project #: 24061913

Page 31 of 40

BM13 2.0E PWLV 1.750" X 11.875" 2-Ply - PASSED

Level: Level



11 7/8"
3 1/2"

Member Information

Type: Girder
Plies: 2
Moisture Condition: Dry
Deflection LL: 480
Deflection TL: 360
Importance: Normal - II
Temperature: Temp <= 100°F
General Load
Floor Live: 20 PSF
Dead: 20 PSF

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

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	159	543	0	0	0
2	Vertical	541	1848	0	0	0
3	Vertical	541	1848	0	0	0
4	Vertical	159	543	0	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	8.000"	Vert	3%	543 / 206	749	L_L	D+L
2 - SPF End Grain	8.000"	Vert	10%	1848 / 567	2415	LL_	D+L
3 - SPF End Grain	8.000"	Vert	10%	1848 / 567	2415	_LL	D+L
4 - SPF End Grain	8.000"	Vert	3%	543 / 206	749	L_L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-2200 ft-lb	8'4"	21295 ft-lb	10%	D+L	LL_
Unbraced	-2200 ft-lb	8'4"	3658 ft-lb	60%	D+L	LL_
Pos Moment	1515 ft-lb	14'	21295 ft-lb	7%	D+L	_L_
Unbraced	1515 ft-lb	14'	3658 ft-lb	41%	D+L	_L_
Shear	979 lb	18'4 1/8"	7897 lb	12%	D+L	_LL
LL Defl inch	0.009 (L/15840)	14'	0.283 (L/480)	3%	L	_L_
TL Defl inch	0.026 (L/5178)	14'	0.378 (L/360)	7%	D+L	_L_

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- 3 Refer to last page of calculations for fasteners required for specified loads.
- 4 Girders are designed to be supported on bottom edge only and across their full width.
- 5 Top loads must be supported equally by all plies.
- 6 Compression edge bracing required at 27' o.c. or less.
- 7 Lateral slenderness ratio based on single ply width.

Loads

Load	Side	units	Dead 0.9	Live 1
Type			+	+
Uniform	Top	PLF	50	50
Uniform	Top	PLF	110	
Self Weight		PLF	11	

Notes

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 2/18/2027

Manufacturer Info

Pacific Woodtech Corp
1850 Park Lane
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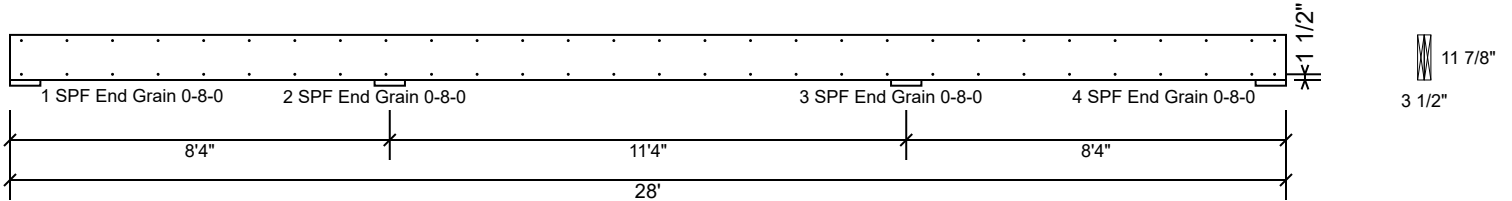
Client: SWIFT CREEK
Project:
Address:

Date: 9/16/2025
Input by: KIRK ROBERTSON
Job Name: CLIFTON
Project #: 24061913

Page 32 of 40

BM13 2.0E PWLVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level



Multi-Ply Analysis

Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6".

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	181.1 PLF
Yield Limit per Fastener	90.5 lb.
C _m	1
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

Notes

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 2/18/2027

Manufacturer Info

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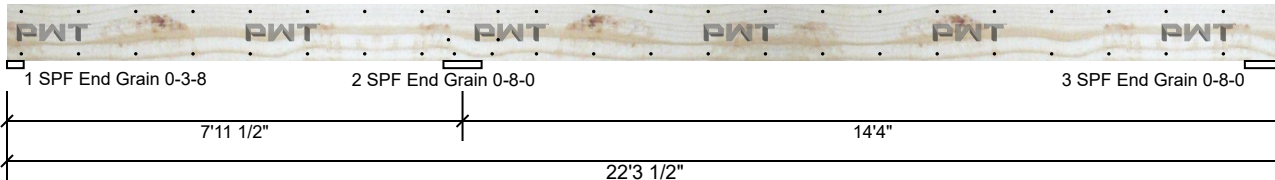
Client: SWIFT CREEK
Project:
Address:

Date: 9/16/2025
Input by: KIRK ROBERTSON
Job Name: CLIFTON
Project #: 24061913

Page 33 of 40

BM14 2.0E PWLVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level



11 7/8"
3 1/2"

Member Information

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

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	525	544	0	0	0
2	Vertical	4712	4846	0	0	0
3	Vertical	1837	1904	0	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	16%	544 / 1110	1654	L_	D+L
2 - SPF End Grain	8.000"	Vert	40%	4846 / 4712	9558	LL	D+L
3 - SPF End Grain	8.000"	Vert	16%	1904 / 1897	3801	_L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-10987 ft-lb	7'11 1/2"	21295 ft-lb	52%	D+L	LL
Unbraced	-10987 ft-lb	7'11 1/2"	11010 ft-lb	100%	D+L	LL
Pos Moment	9929 ft-lb	16' 13/16"	21295 ft-lb	47%	D+L	_L
Unbraced	9929 ft-lb	16' 13/16"	9941 ft-lb	100%	D+L	_L
Shear	4206 lb	9'3 3/8"	7897 lb	53%	D+L	LL
LL Defl inch	0.156 (L/1060)	15'4 3/4"	0.345 (L/480)	45%	L	_L
TL Defl inch	0.301 (L/551)	15'5 11/16"	0.460 (L/360)	65%	D+L	_L

Design Notes

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

Notes

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 2/18/2027

Manufacturer Info

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Address:

Date: 9/16/2025
Input by: KIRK ROBERTSON
Job Name: CLIFTON
Project #: 24061913

Page 34 of 40

BM14 2.0E PWLVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level

Loads

Load	Location	Side	units	Dead 0.9	Live 1
Type	Start			+	+
Uniform		Top	PLF	300	300
Point	8-1-12	Near Face	lb	365	387
Self Weight			PLF	11	

Notes

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Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

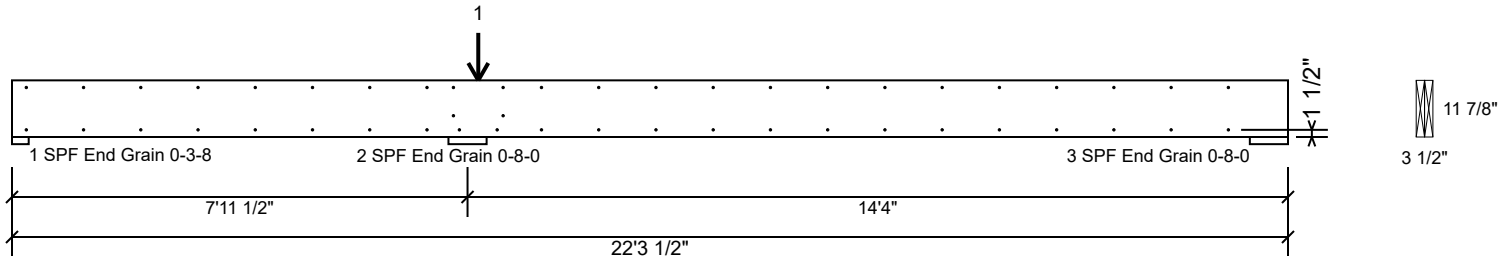
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BM14 2.0E PWLVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level



Multi-Ply Analysis

Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c.. except for regions covered by concentrated load fastening.
Maximum end distance not to exceed 6".

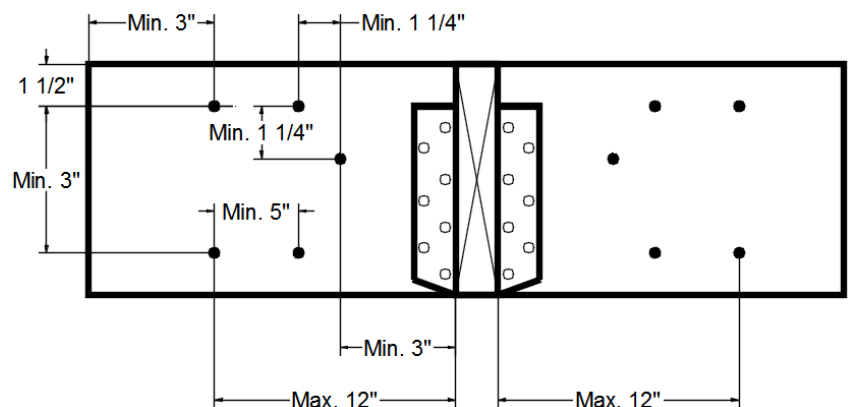
Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	181.1 PLF
Yield Limit per Fastener	90.5 lb.
C _m	1
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

Concentrated Load

Fasten at concentrated side load at 8-1-12 with a minimum of (6) – 10d Box nails (.128x3") in the pattern shown.

Capacity	69.2 %
Load	376.0lb.
Total Yield Limit	543.3 lb.
C _g	1.0000
C _m	1
Yield Limit per Fastener	90.5 lb.
Yield Mode	IV
Load Combination	D+L
Duration Factor	1.00

Min/Max fastener distances for Concentrated Side Loads



Notes

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

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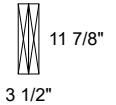
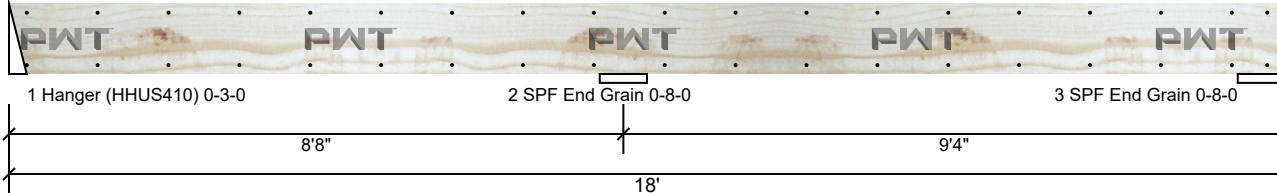
Client: SWIFT CREEK
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Date: 9/16/2025
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Job Name: CLIFTON
Project #: 24061913

Page 36 of 40

BM15 2.0E PWLVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level



Member Information

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

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	329	365	0	0	0
2	Vertical	1085	1202	0	0	0
3	Vertical	386	427	0	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	3.000"	Vert	8%	365 / 387	752	L_	D+L
2 - SPF End Grain	8.000"	Vert	10%	1202 / 1085	2287	LL	D+L
3 - SPF End Grain	8.000"	Vert	4%	427 / 437	864	_L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-1985 ft-lb	8'8"	21295 ft-lb	9%	D+L	LL
Unbraced	-1985 ft-lb	8'8"	5640 ft-lb	35%	D+L	LL
Pos Moment	1350 ft-lb	13'10 13/16"	21295 ft-lb	6%	D+L	_L
Unbraced	1350 ft-lb	13'10 13/16"	5640 ft-lb	24%	D+L	_L
Shear	875 lb	9'11 7/8"	7897 lb	11%	D+L	LL
LL Defl inch (L/10903)	0.010	13'3 7/8"	0.220 (L/480)	4%	L	_L
TL Defl inch	0.016 (L/6485)	13'6 1/16"	0.294 (L/360)	6%	D+L	_L

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- 3 Refer to last page of calculations for fasteners required for specified loads.
- 4 Fill all hanger nailing holes.
- 5 Left Header: LVL, Thickness: 3 1/2"
- 6 Girders are designed to be supported on bottom edge only and across their full width.
- 7 Top loads must be supported equally by all plies.
- 8 Compression edge bracing required at 17'4" o.c. or less.
- 9 Lateral slenderness ratio based on single ply width.

Notes

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 2/18/2027

Manufacturer Info

Pacific Woodtech Corp
1850 Park Lane
Burlington, WA 98233
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Client: SWIFT CREEK
Project:
Address:

Date: 9/16/2025
Input by: KIRK ROBERTSON
Job Name: CLIFTON
Project #: 24061913

Page 37 of 40

BM15 2.0E PWLVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level

Loads

Load	Side	units	Dead 0.9	Live 1
Type			+	+
Uniform	Top	PLF	100	100
Self Weight		PLF	11	

Notes

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

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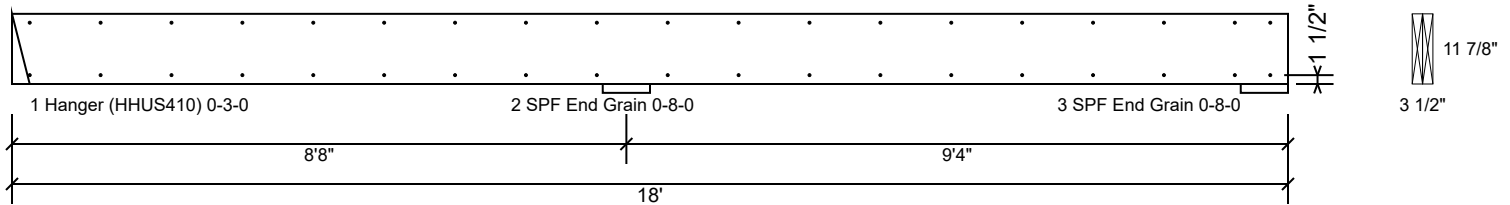
Client: SWIFT CREEK
Project:
Address:

Date: 9/16/2025
Input by: KIRK ROBERTSON
Job Name: CLIFTON
Project #: 24061913

Page 38 of 40

BM15 2.0E PWLVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level



Multi-Ply Analysis

Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6".

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	181.1 PLF
Yield Limit per Fastener	90.5 lb.
C _m	1
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

Notes

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

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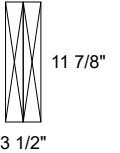
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Date: 9/16/2025
Input by: KIRK ROBERTSON
Job Name: CLIFTON
Project #: 24061913

Page 39 of 40

BM16 2.0E PWLVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level



8'3 1/2"

Member Information

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

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	198	359	0	0	0
2	Vertical	217	393	0	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	5%	359 / 198	557	L	D+L
2 - SPF End Grain	8.000"	Vert	3%	393 / 217	610	L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1023 ft-lb	3'11 1/2"	21295 ft-lb	5%	D+L	L
Unbraced	1023 ft-lb	3'11 1/2"	11272 ft-lb	9%	D+L	L
Shear	377 lb	1'3 3/8"	7897 lb	5%	D+L	L
LL Defl inch (L/23503)	0.004	3'11 9/16"	0.191 (L/480)	2%	L	L
TL Defl inch (L/8347)	0.011	3'11 9/16"	0.254 (L/360)	4%	D+L	L

Design Notes

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

Loads

Load	Side	units	Dead 0.9	Live 1
Type			+	+
Uniform	Top	PLF	50	50
Uniform	Top	PLF	30	
Self Weight		PLF	11	

Notes

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 2/18/2027

Manufacturer Info

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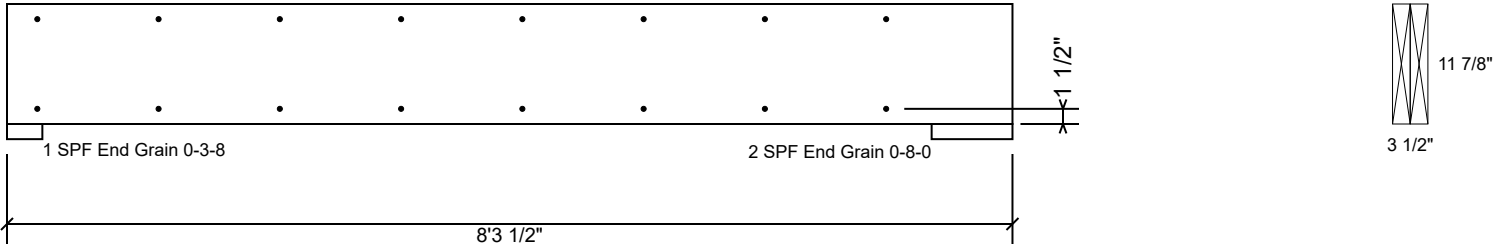
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Project:
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Input by: KIRK ROBERTSON
Job Name: CLIFTON
Project #: 24061913

Page 40 of 40

BM16 2.0E PWLVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level



Multi-Ply Analysis

Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6".

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	181.1 PLF
Yield Limit per Fastener	90.5 lb.
C _m	1
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

Notes

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

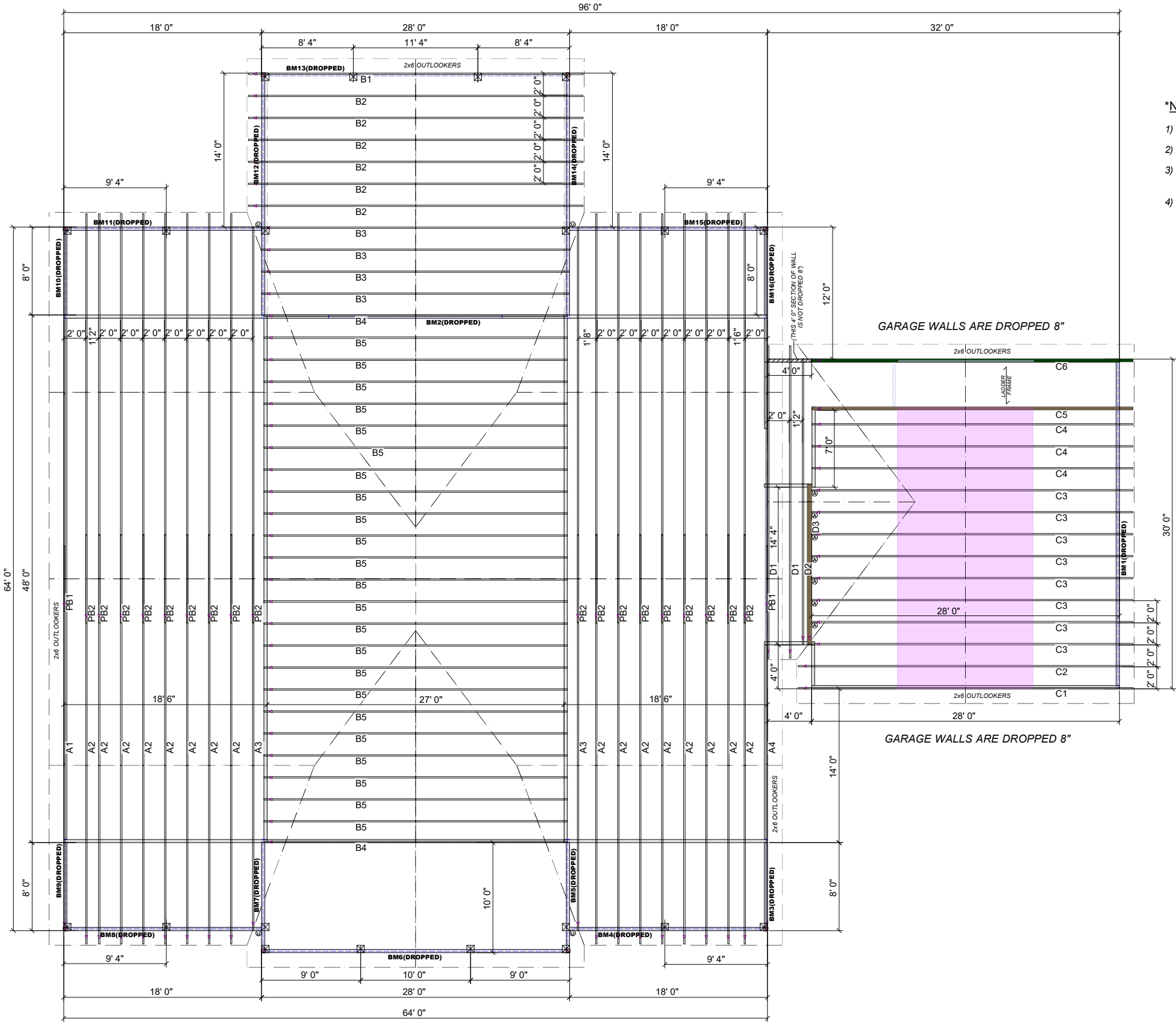
This design is valid until 2/18/2027

Manufacturer Info

Pacific Woodtech Corp
1850 Park Lane
Burlington, WA 98233
(800) 515-7570
www.pwtewp.com
APA: PR-L233, ICC-ES: ESR-2909

THIS IS A TRUSS PLACEMENT DIAGRAM (TPD) ONLY; NOT AN ENGINEERED DOCUMENT. Trusses are designed as individual building components to be incorporated into the building design at the specification of the building designer. See individual truss design drawings (TDD's) for each truss design identified on the TPD. The Contractor is responsible for the temporary bracing of the roof and floor system, and requirements for the permanent restraint/bracing of truss systems may be met by following the methods outlined in ANSI-TPI 1-2014 - 2.3.3. The design of the support structure including but not limited to headers, beams, walls, and columns is also the responsibility of the building designer. For general guidance regarding installation and bracing, consult "Building Component Safety Information" (BCSI) available from the SBC Association (www.sbcacomponents.com). It is the responsibility of the General Contractor to verify that the provided component layout matches the final intended construction plans, loading conditions, and use. If they do not, it is the responsibility of the General Contractor to notify UFP and provide repairs "REPAIR" MANUFACTURED TRUSSES IN ANY WAY WITHOUT PRIOR AUTHORIZATION BY A LICENSED PROFESSIONAL DESIGNATED BY UFP. The Framers are responsible to verify all dimensions, including adjusting member spacing within tolerances to allow for the drop and rise of plumbing/HVAC, unless noted otherwise. Truss-to-wall connections, if shown, are for uplift only and do not consider lateral loads. All connectors on this project are to be installed per the connector manufacturer's specifications. All connectors shown that are not truss-to-truss are suggestions only and are to be verified by the Building Designer or Engineer of Record for suitability to this particular project. UFP accepts no responsibility for the specific application or suitability of any connector that is not truss-to-truss as they apply to this specific structure.

PLACEMENT PLAN



- *NOTES*
- 1) ALL DIMENSIONS MUST BE VERIFIED PRIOR TO TRUSS FABRICATION.
 - 2) SEE ENGINEERED DRAWINGS FOR ADDITIONAL NOTES.
 - 3) SEE ENGINEERED DRAWINGS FOR NAILING SCHEDULE AND NUMBER OF PLYS FOR ALL GIRDERS AND MULTI-MEMBER TRUSSES.
 - 4) REVIEW ENGINEERED DRAWINGS PRIOR TO SETTING TRUSSES; TRUSSES MAY NOT BE SYMMETRICAL.

Products					
PlotID	Length	Product	Piles	Net Qty	Fab Type
BM13(DROPPED)	28' 0"	1-3/4x 11-7/8 2.0E 2900Fb PWT LVL	2	2	MFD
BM6(DROPPED)	28' 0"	1-3/4x 11-7/8 2.0E 2900Fb PWT LVL	2	2	MFD
BM12(DROPPED)	24' 0"	1-3/4x 11-7/8 2.0E 2900Fb PWT LVL	2	2	MFD
BM14(DROPPED)	24' 0"	1-3/4x 11-7/8 2.0E 2900Fb PWT LVL	2	2	MFD
BM11(DROPPED)	18' 0"	1-3/4x 11-7/8 2.0E 2900Fb PWT LVL	2	2	MFD
BM15(DROPPED)	18' 0"	1-3/4x 11-7/8 2.0E 2900Fb PWT LVL	2	2	MFD
BM4(DROPPED)	18' 0"	1-3/4x 11-7/8 2.0E 2900Fb PWT LVL	2	2	MFD
BM8(DROPPED)	18' 0"	1-3/4x 11-7/8 2.0E 2900Fb PWT LVL	2	2	MFD
BM2(DROPPED)	16' 0"	1-3/4x 11-7/8 2.0E 2900Fb PWT LVL	2	2	MFD
BM5(DROPPED)	12' 0"	1-3/4x 11-7/8 2.0E 2900Fb PWT LVL	2	2	MFD
BM7(DROPPED)	12' 0"	1-3/4x 11-7/8 2.0E 2900Fb PWT LVL	2	2	MFD
BM10(DROPPED)	10' 0"	1-3/4x 11-7/8 2.0E 2900Fb PWT LVL	2	2	MFD
BM16(DROPPED)	10' 0"	1-3/4x 11-7/8 2.0E 2900Fb PWT LVL	2	2	MFD
BM3(DROPPED)	10' 0"	1-3/4x 11-7/8 2.0E 2900Fb PWT LVL	2	2	MFD
BM9(DROPPED)	10' 0"	1-3/4x 11-7/8 2.0E 2900Fb PWT LVL	2	2	MFD
BM1(DROPPED)	30' 0"	1-3/4x 20 2.0E 2900Fb PWT LVL	2	2	MFD

Roof Hanger List		
MARK	TYPE	QTY
(A)	HUS26	7
(U)	HHUS410	4

△ INDICATES LEFT END OF TRUSS SCALE: N.T.S

ROOF AREA: 6801.18 sqft

RIDGE LINE: 119.33 ft

VALLEY LINES: 176.42 ft

HIP LINES: 0 ft

THESE VALUES ARE APPROXIMATE ONLY

UFP SITE BUILT

CLIFTON

SWIFT CREEK

DESIGNER KWR

LAYOUT DATE 6-28-24

ARCH DATE -

STRUC DATE -

REVISIONS

DATE	DESCRIPTION	DSN	KWR
9/1/25	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

JOB #:

24061913

TRUSS TRAX

UPCONSTRUCTION

UFP INDUSTRIES COMPANY

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Chesapeake, VA

Clinton, NC

Conway, SC

Jefferson, GA

Stanfield, NC

Locust, NC

Liberty, NC

Ooltewah, TN

Pearisburg, VA

Starfield, NC

Customer Service (800) 476-9356

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UFP SITE BUILT

A UFP INDUSTRIES COMPANY

TRUSS TRAX

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