GENERAL NOTES AND SPECIFICATIONS

ABBREVIATIONS

ACC.	=	ACCESS
BWL.	=	BRACED WALL LINE
BWP.	=	BRACED WALL PANEL
C.O.	=	CASED OPENING
C.J.	=	CEILING JOIST
CLOS.	=	CLOSET
COL.	=	COLUMN
COMP.	=	COMPOSITION
CONC.	=	CONCRETE
CONT.	=	CONTINUOUS
C.M.A.	=	CARBON MONOXIDE ALARM
C.M.U.	=	CONCRETE MASONRY UNIT
D.H.	=	DOUBLE HUNG
DIA.	=	DIAMETER
D.J.	=	DOUBLE JOIST
DN.	=	DOWN
EXH.	=	EXHAUST
EXT.	=	EXTERIOR
FL.J.	=	FLOOR JOIST
FTG.	=	FOOTING
G.F.I.	=	GROUND FAULT INTERRUPTER
H.B.	=	HOSE BIB
LVL	=	LAMINATED VENEER LUMBER
M.O.	=	MASONRY OPENING
MAS.	=	MASONRY
MAX.	=	MAXIMUM
M.C.	=	MEDICINE CABINET
MTL.	=	METAL
MIN.	=	MINIMUM
O.C.	=	ON CENTER
OSB	=	ORIENTED STRAND BOARD
PERF.	=	PERFORATED
REC.	=	RECESSED
REINF.	=	REINFORCED
SCR.	=	SCREENED
S.D.	=	SMOKE DETECTOR
SEC.	=	SECOND
SHWR.	=	SHOWER
S.Y.P.	=	SOUTHERN YELLOW PINE
S.P.F.	=	SPRUCE/PINE/FIR
SUSP.	=	SUSPENDED
TYP.	=	TYPICAL
U.O.N.	=	UNLESS OTHERWISE NOTED
WASH.	=	WASHER
W.H.	=	WATER HEATER
W.P.	=	WEATHER PROOF
W.W.M.	=	WELDED WIRE MESH
WDW. HT.	=	WINDOW HEIGHT
WD.	=	WOOD

SYMBOLS

- = HOSE BIB
- S = SWITCH
- S_3 = 3-WAY SWITCH
- = LIGHT FIXTURE
- = EXHAUST FAN & LIGHT
- = SMOKE DETECTOR
- = SHOWER HEAD
- = TELEPHONE JACK
- = CONVENIENCE OUTLET
- = 220 VOLT OUTLET
- = GROUND FAULT INTERRUPTER
- = CEILING FAN
- C = CARBON MONOXIDE ALARM

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ORIGINAL PURCHASE AGREEMENT

SEE ATTACHED CONSTRUCTION LICENSE FOR INVOICE NUMBER 13056.

BUILDING CODE INFORMATION

THIS PLAN HAS BEEN DRAWN TO CONFORM TO THE NORTH CAROLINA RESIDENTIAL CODE, 2018 EDITION (2015 INTERNATIONAL RESIDENTIAL CODE FOR ONE- AND TWO-FAMILY DWELLINGS, CURRENT EDITION) WITH AMENDMENTS UNLESS OTHERWISE NOTED. (SEE ATTACHMENTS)

PRIOR TO CONSTRUCTION

THE CONTRACTOR SHALL REVIEW THE PLAN(S) FOR THIS PARTICULAR BUILDING PROJECT TO ENSURE COMPLIANCE WITH ALL NATIONAL, STATE AND LOCAL CODES, CLIMATIC GEOGRAPHIC DESIGN CRITERIA, AND ANY OTHER PROVISIONS THAT MAY BE REQUIRED BY VA/FHA/RD.

THE CONTRACTOR SHALL VERIFY PLAN DIMENSIONS, STRUCTURAL COMPONENTS, AND GENERAL SPECIFICATIONS CONTAINED IN THIS SET OF PLANS AND REPORT ANY DISCREPANCIES TO STANDARD HOMES PLAN SERVICE, INC. FOR JUSTIFICATION OR CORRECTION BEFORE PROCEEDING WITH WORK ON HOUSE.

THE CONTRACTOR SHALL DETERMINE ROUGH OPENING SIZES FOR ALL BUILT-IN EQUIPMENT AND/OR FACILITIES AND ADJUST PLAN DIMENSIONS AS REQUIRED.

DO NOT SCALE FROM BLUEPRINTS. REFER TO THE LABELED DIMENSIONS FOR ACTUAL MEASUREMENTS.

IT SHALL BE THE RESPONSIBILITY OF THE OWNER/BUILDER TO PROVIDE FOR THE SERVICES OF A PROFESSIONAL ENGINEER IF REQUIRED BY THE BUILDING CODE OFFICIAL.

SHIPPING DATE : _____

STAMP MUST APPEAR IN RED. PLANS FOR WHICH A BUILDING PERMIT HAS NOT BEEN OBTAINED ONE YEAR FROM THE ABOVE DATE IS SUBJECT TO REVIEW BY STANDARD HOMES PLAN SERVICE, INC. A FEE MAY BE CHARGED FOR THIS SERVICE.

EXCAVATION

EXCAVATE TO UNDISTURBED SOIL. BOTTOM OF FOOTING SHALL EXTEND BELOW LOCAL FROST LINE AND TO A MINIMUM DEPTH OF 12" BELOW ADJACENT GRADE. (PRESUMED 2000 PSF SOIL BEARING CAPACITY).

EXPANSIVE, COMPRESSIVE OR SHIFTING SOILS SHALL BE REMOVED TO A DEPTH AND WIDTH SUFFICIENT TO ASSUME A STABLE MOISTURE CONTENT IN EACH ACTIVE ZONE.

FOUNDATION

PROVIDE 1/2" DIA. STEEL ANCHOR BOLTS 6'-0" O.C., 1'-0" MAX. FROM CORNERS AND 1'-0" MAX. FROM ENDS OF EACH PLATE SECTION, WITH 7" MIN. EMBEDMENT.

PROVIDE FOUNDATION WATERPROOFING AND DRAIN WITH POSITIVE SLOPE TO OUTLET AS REQUIRED BY SITE CONDITIONS.

SLOPE GRADE AWAY FROM FOUNDATION WALLS 6" MINIMUM WITHIN THE FIRST 10 FEET.

PROVIDE PRESSURE TREATED LUMBER FOR SILLS, PLATES, BANDS AND ANY LUMBER IN CONTACT WITH MASONRY.

PROVIDE APPROVED AND BONDED CHEMICAL SOIL TREATMENT AGAINST FUNGUS, TERMITES AND OTHER HARMFUL INSECTS.

CRAWL SPACE

ALL GIRDER JOINTS AND ENDS OF GIRDERS SHALL REST ON SOLID BEARINGS. FILL CORES OF HOLLOW MASONRY TO FOOTING WITH CONCRETE. FILL TOP COURSE CORES OF EXTERIOR FOUNDATION WALL WITH CONCRETE.

FOOTINGS SHALL EXTEND 6" AND SHALL BE 12" THICK UNDER GIRDER PIERS.

CHIMNEY FOOTING SHALL EXTEND 12" MINIMUM BEYOND EACH SIDE AND SHALL BE AT LEAST 12" THICK.

FRAMING

ALL FLOOR JOISTS, CEILING JOISTS, RAFTERS, GIRDERS, HEADERS, SILLS AND BEAMS SHALL BE NO. 2 SPRUCE/PINE/FIR (S.P.F.) UNLESS OTHERWISE INDICATED.

ALL LOAD BEARING WALLS SHALL BE STUD GRADE SPRUCE/PINE/FIR (S.P.F.) UNLESS OTHERWISE INDICATED.

DESIGN SPECIFICATIONS FOR LAMINATED VENEER LUMBER (LVL) BEAMS AND HEADERS :

GRADE : 2950Fb-2.0E
BENDING Fb : 2950
MOE : 2.0 X 10^6
SHEAR Fv : 290

SUPPORT FOR HEADERS:
HEADERS SHALL BE SUPPORTED ON EACH END WITH ONE OR MORE JACK STUDS OR WITH APPROVED FRAMING ANCHORS IN ACCORDANCE WITH BUILDING CODE (SEE PLAN). THE FULL-HEIGHT STUD ADJACENT TO EACH END OF THE HEADER SHALL BE END NAILED TO EACH END OF THE HEADER WITH FOUR-16D NAILS. SEE TABLE BELOW.

MINIMUM NUMBER OF FULL HEIGHT STUDS AT EACH END OF HEADERS IN EXTERIOR WALLS:

HEADER SPAN (FEET)	MAXIMUM STUD SPACING (INCHES	
	16	24
3 FEET OR LESS	1	1
4 FT.	2	1
8 FT.	3	2
12 FT.	5	3
16 FT.	6	4

CLIMATIC AND GEOGRAPHICAL DESIGN CRITERIA

ROOF LIVE LOAD (POUNDS PER SQUARE FOOT) : 20 PSF
ULTIMATE DESIGN WIND SPEED (MILES PER HOUR) : 120 MPH
NOMINAL DESIGN WIND SPEED : 93 MPH
EXPOSURE CATEGORY "B" UNLESS OTHERWISE NOTED
WINDOW DESIGN PRESSURE RATING : DP 25
COMPONENT AND CLADDING LOADS FOR A BUILDING WITH A MEAN ROOF HEIGHT OF 30 FEET OR LESS:

PRESSURE ZONE	ULTIMATE DESIGN WIND SPEED (MPH)			
	115	120	130	140
ZONE 1	13.1, -14.0	14.2, -15.0	16.7, -18.0	19.4, -21.0
ZONE 2	13.1, -16.0	14.2, -18.0	16.7, -21.0	19.4, -24.0
ZONE 3	13.1, -16.0	14.2, -18.0	16.7, -21.0	19.4, -24.0
ZONE 4	14.3, -15.0	15.5, -16.0	18.2, -19.0	21.2, -22.0
ZONE 5	14.3, -19.0	15.5, -20.0	18.2, -24.0	21.2, -28.0

ASSUMED MEAN ROOF HEIGHT: 16'-3"

SEISMIC CONDITION BY ZONE : ZONES A AND B
SUBJECT TO DAMAGE FROM WEATHERING : MODERATE
CLIMATE ZONES (UNLESS OTHERWISE NOTED): ZONES 3 AND 4
MINIMUM VALUES FOR ENERGY COMPLIANCE:
CEILING R-38; EXTERIOR WALLS R-15; FLOORS R-19
WINDOW U-FACTOR $\leq$ 0.35; RECOMMENDED SHGC $\leq$ 0.30

MISCELLANEOUS

LOCATE ALL CONVENIENCE OUTLETS ABOVE KITCHEN BASE CABINETS 42" ABOVE FINISHED FLOOR.

EMERGENCY EGRESS REQUIREMENTS

IT SHALL BE THE RESPONSIBILITY OF THE OWNER/BUILDER TO VERIFY CONFORMITY WITH EGRESS REQUIREMENTS BASED ON SPECIFICATIONS PROVIDED BY WINDOW MANUFACTURER.

2018 NORTH CAROLINA RESIDENTIAL CODE

THE REQUIRED EGRESS WINDOW FROM EVERY SLEEPING ROOM SHALL HAVE A SILL HEIGHT OF NOT MORE THAN 44 INCHES ABOVE FINISHED FLOOR. THE NET CLEAR OPENING SHALL NOT BE LESS THAN 4.0 SQUARE FEET WHERE THE NET CLEAR OPENING HEIGHT SHALL BE AT LEAST 22 INCHES AND THE NET CLEAR OPENING WIDTH SHALL BE AT LEAST 20 INCHES. IN ADDITION THE MINIMUM TOTAL GLASS AREA SHALL NOT BE LESS THAN 5.0 SQUARE FEET IN THE CASE OF A GROUND STORY WINDOW AND NOT LESS THAN 5.7 SQUARE FEET IN THE CASE OF A SECOND STORY WINDOW.

2015 INTERNATIONAL RESIDENTIAL CODE

THE REQUIRED EGRESS WINDOW FROM EVERY SLEEPING ROOM SHALL HAVE A SILL HEIGHT OF NOT MORE THAN 44 INCHES ABOVE FINISHED FLOOR. ALL EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL HAVE A MINIMUM NET CLEAR OPENING OF 5.7 SQUARE FEET EXCEPT GRADE FLOOR OPENINGS SHALL HAVE A MINIMUM NET OPENING OF 5 SQUARE FEET. THE MINIMUM NET CLEAR OPENING HEIGHT SHALL BE 24 INCHES. THE MINIMUM NET CLEAR OPENING WIDTH SHALL BE 20 INCHES

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

10/28/2024

Harnett COUNTY NORTH CAROLINA

07-30-22

DESIGNED

Standard Homes Plan Service, Inc.
7200 SUNSET LAKE ROAD FUQUAY-VARINA, NC 27526 (919)552-5677
SEE HOME DESIGN PREVIEWS ONLINE AT WWW.STANDARDHOMES.COM

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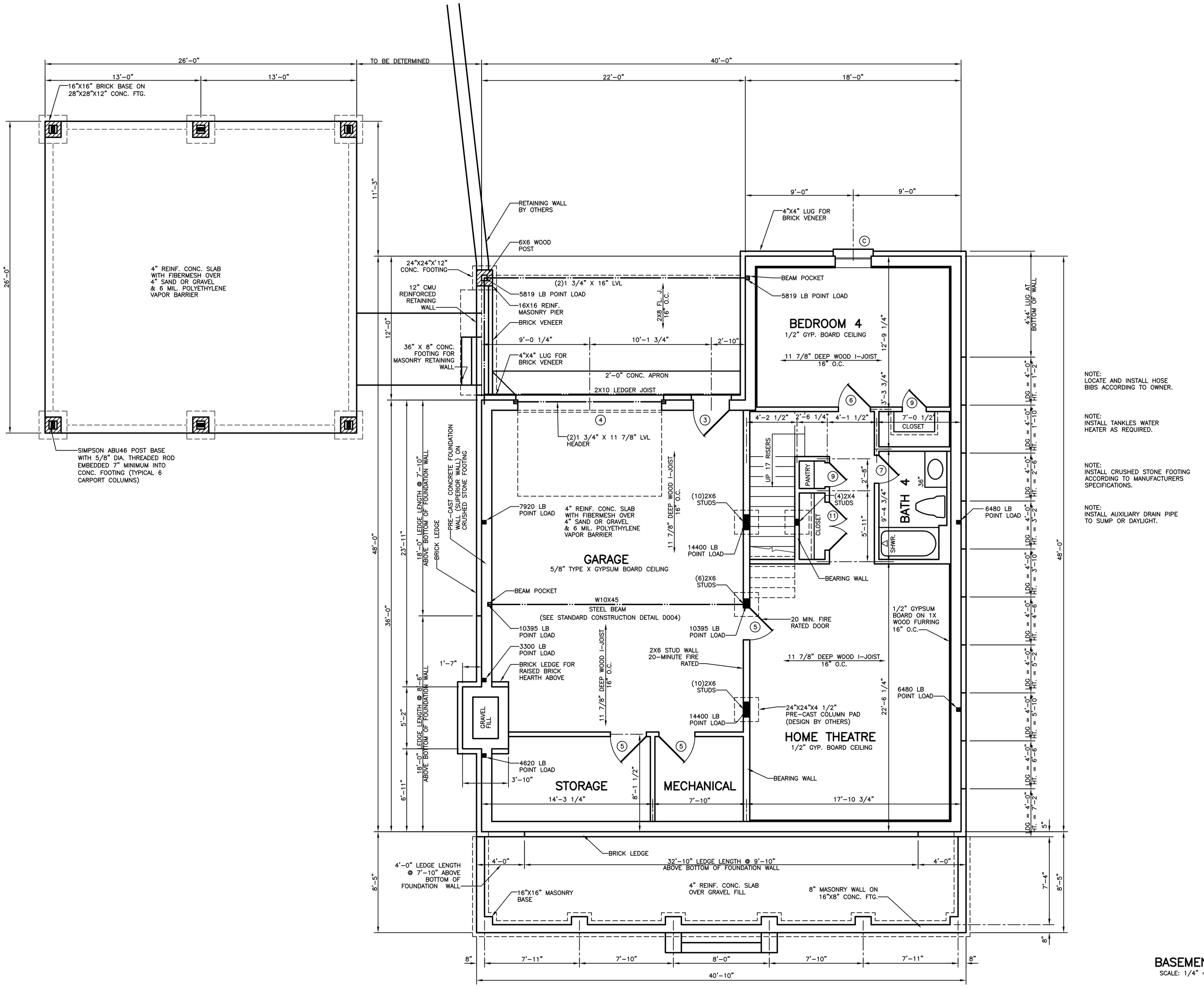
DESIGNED FOR	PLAN	NO.	MAT'L.	SHOWN	SHEET
ROBERT & MELINDA BENNETT	CUSTOM	2601	B.V.	-	1 OF 9



BASEMENT/FOUNDATION PLAN

SCALE: 1/4" = 1'-0"

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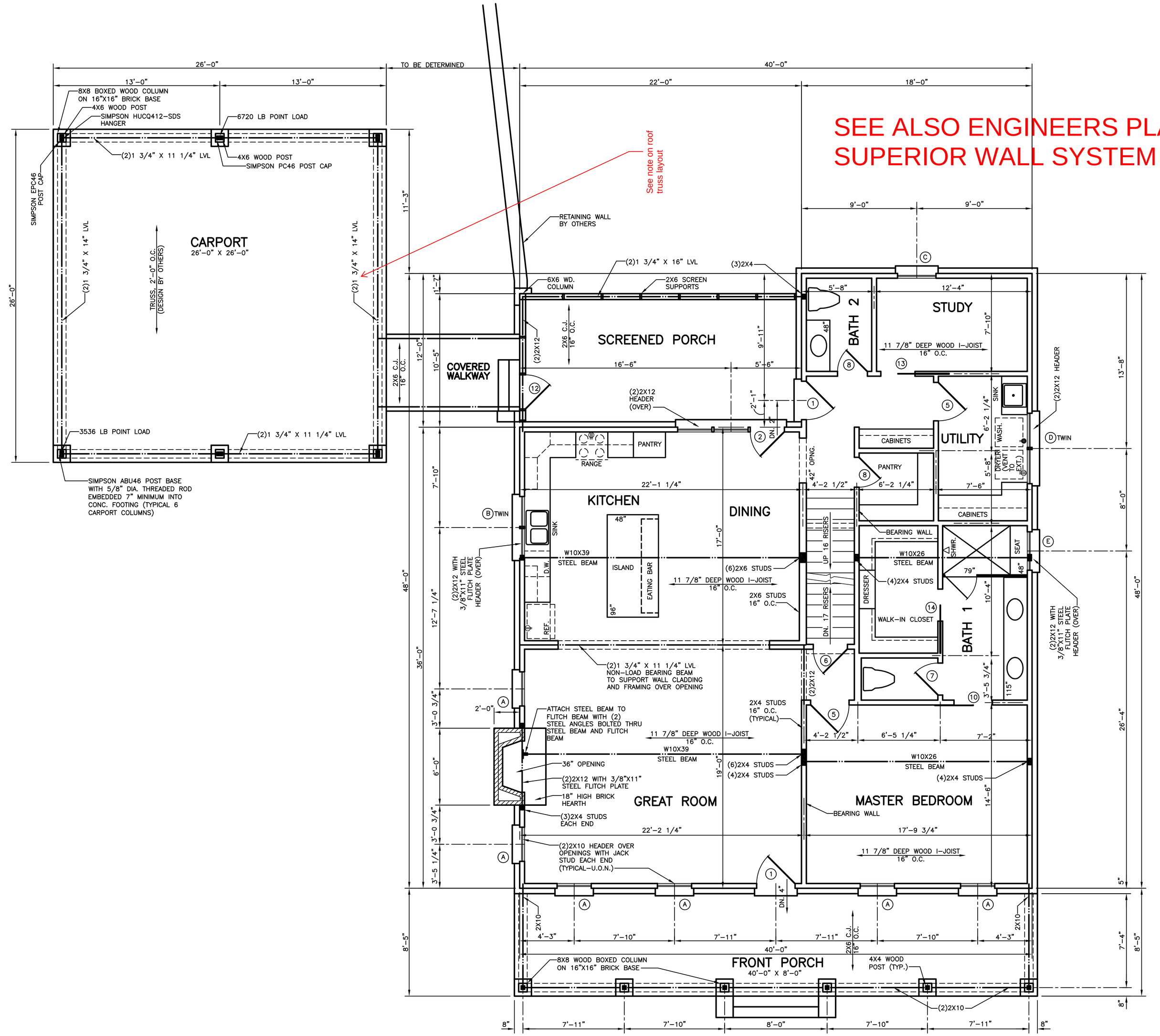

FIRST FLOOR PLAN

SCALE: 1/4" = 1'-0"

1729 SQ. FT. 1ST. FLOOR HEATED AREA
781 SQ. FT. 2ND. FLOOR HEATED AREA
886 SQ. FT. BSMT. FLOOR HEATED AREA
3396 SQ. FT. TOTAL HEATED AREA

832 SQ. FT. GARAGE UN-HEATED AREA
327 SQ. FT. FRONT PORCH
220 SQ. FT. SCREENED PORCH
676 SQ. FT. CARPORT

07-30-22

WINDOW SCHEDULE

A	2'-8" X 6'-0" WD. D.H.	D	2'-8" X 3'-0" WD. D.H.	G		L		P	
B	2'-4" X 3'-0" WD. D.H.	E	3'-0" X 1'-0" WD. FIXED	H		M		Q	
C	3'-0" X 5'-0" WD. D.H.	F	3'-0" X 3'-10" WD. D.H.	K		N		R	

DOOR SCHEDULE

1	4-LITE 3'-0" X 6'-8" X 1 3/4"	4	OVERHEAD GARAGE 12'-0" X 7'-0"	7	2'-6" X 6'-8" X 1 3/8"	10	SLIDING BARN DOOR 3'-0" X 6'-8" X 1-3/8"	13	POCKET 2'-8" X 6'-8" X 1 3/8"	16			
2	TRIPLE 8'-4" X 6'-8" X 1 3/4"	5	3'-0" X 6'-8" X 1 3/8"	8	2'-4" X 6'-8" X 1 3/8"	11	DOUBLE 4'-0" X 6'-8" X 1-3/8"	14	POCKET 2'-6" X 6'-8" X 1 3/8"	17			
3	3'-0" X 6'-8" X 1 3/4"	6	2'-8" X 6'-8" X 1 3/8"	9	2'-0" X 6'-8" X 1 3/8"	12	SCREEN 2'-8" X 6'-8" X 1-1/8"	15		18			

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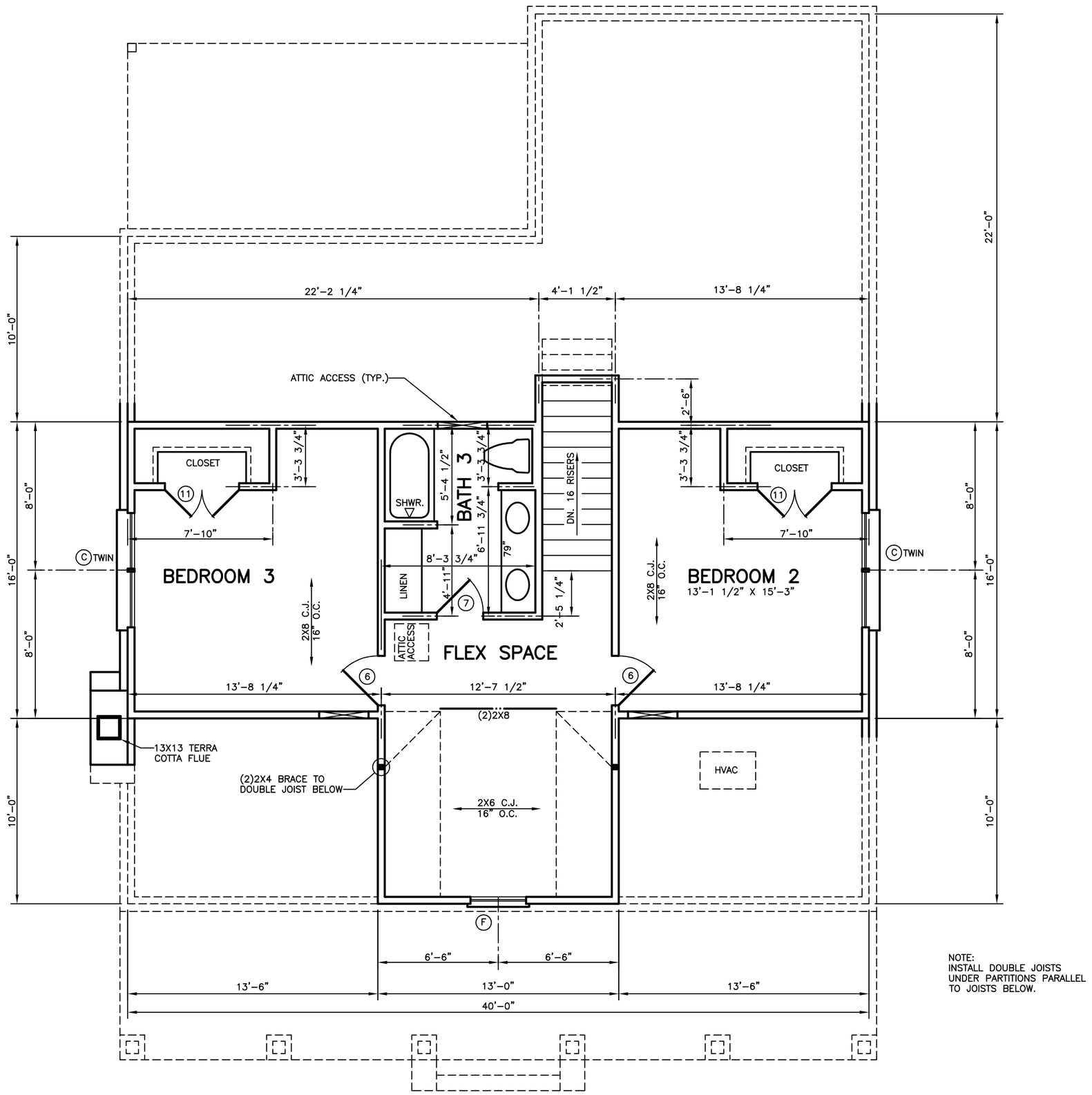

NOTE:
INSTALL DOUBLE JOISTS UNDER PARTITIONS PARALLEL TO JOISTS BELOW.

SECOND FLOOR PLAN

SCALE: 1/4" = 1'-0"

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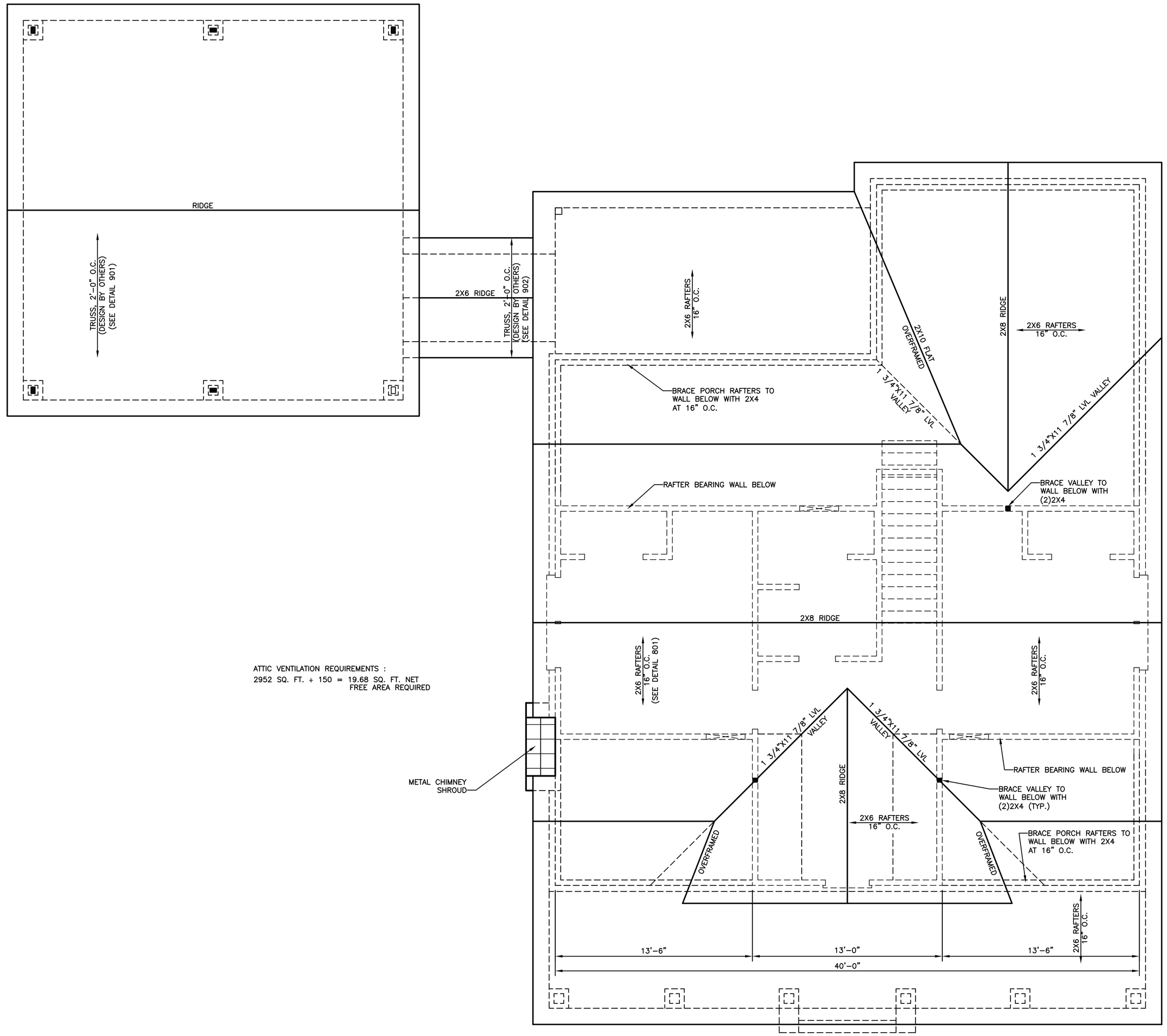

ATTIC VENTILATION REQUIREMENTS :
2952 SQ. FT. ÷ 150 = 19.68 SQ. FT. NET
FREE AREA REQUIRED

ROOF PLAN
SCALE: 1/4" = 1'-0"

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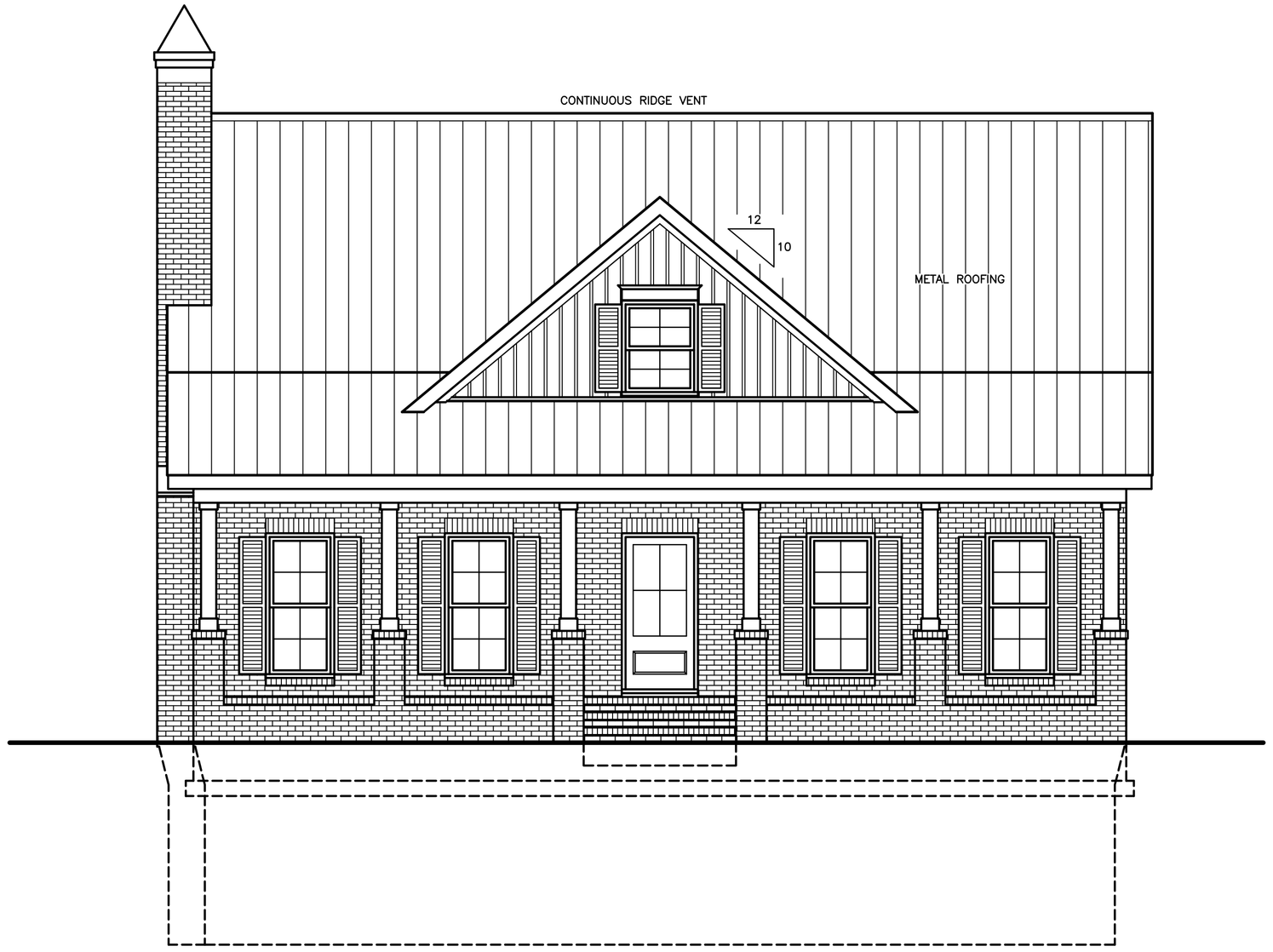
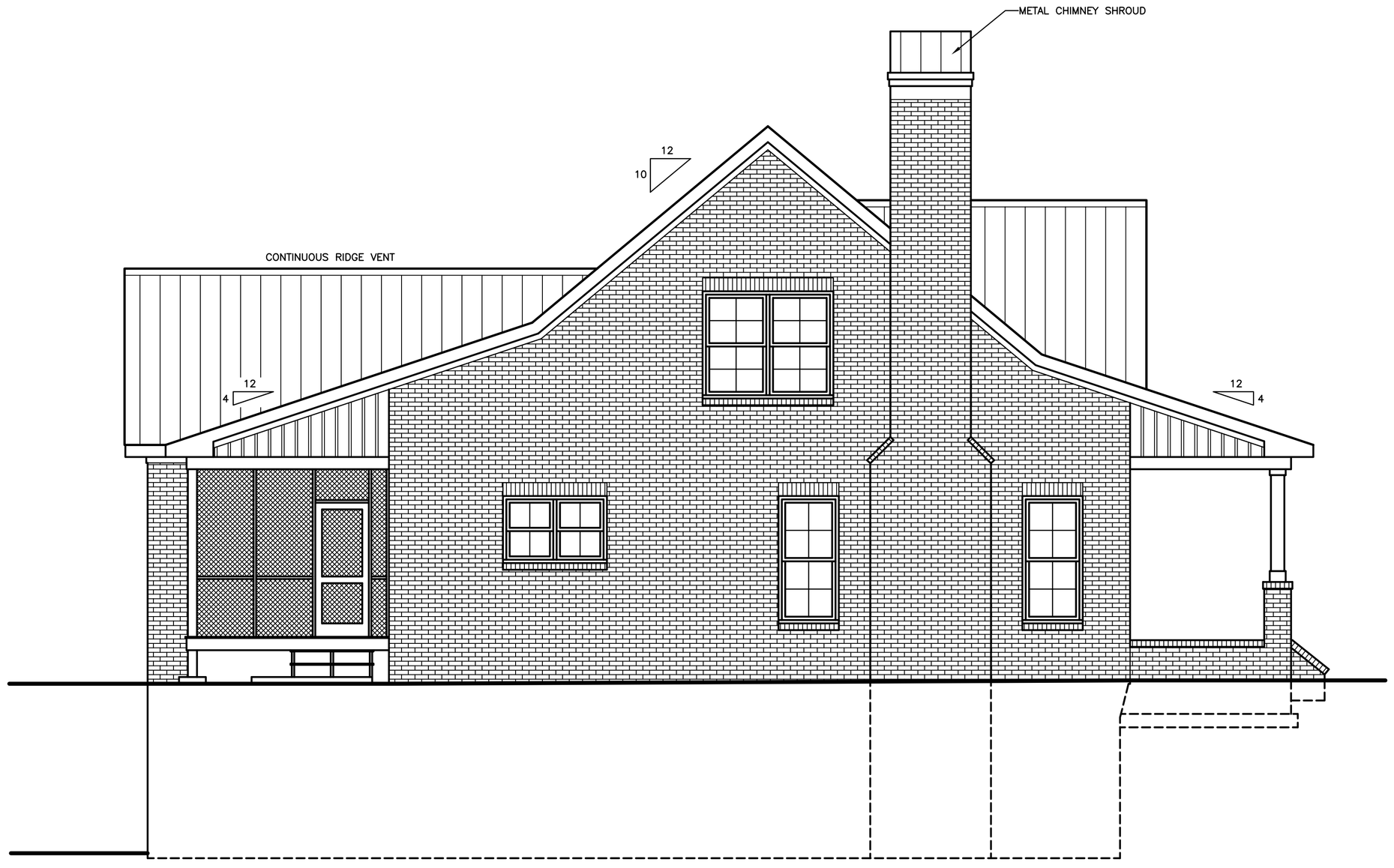


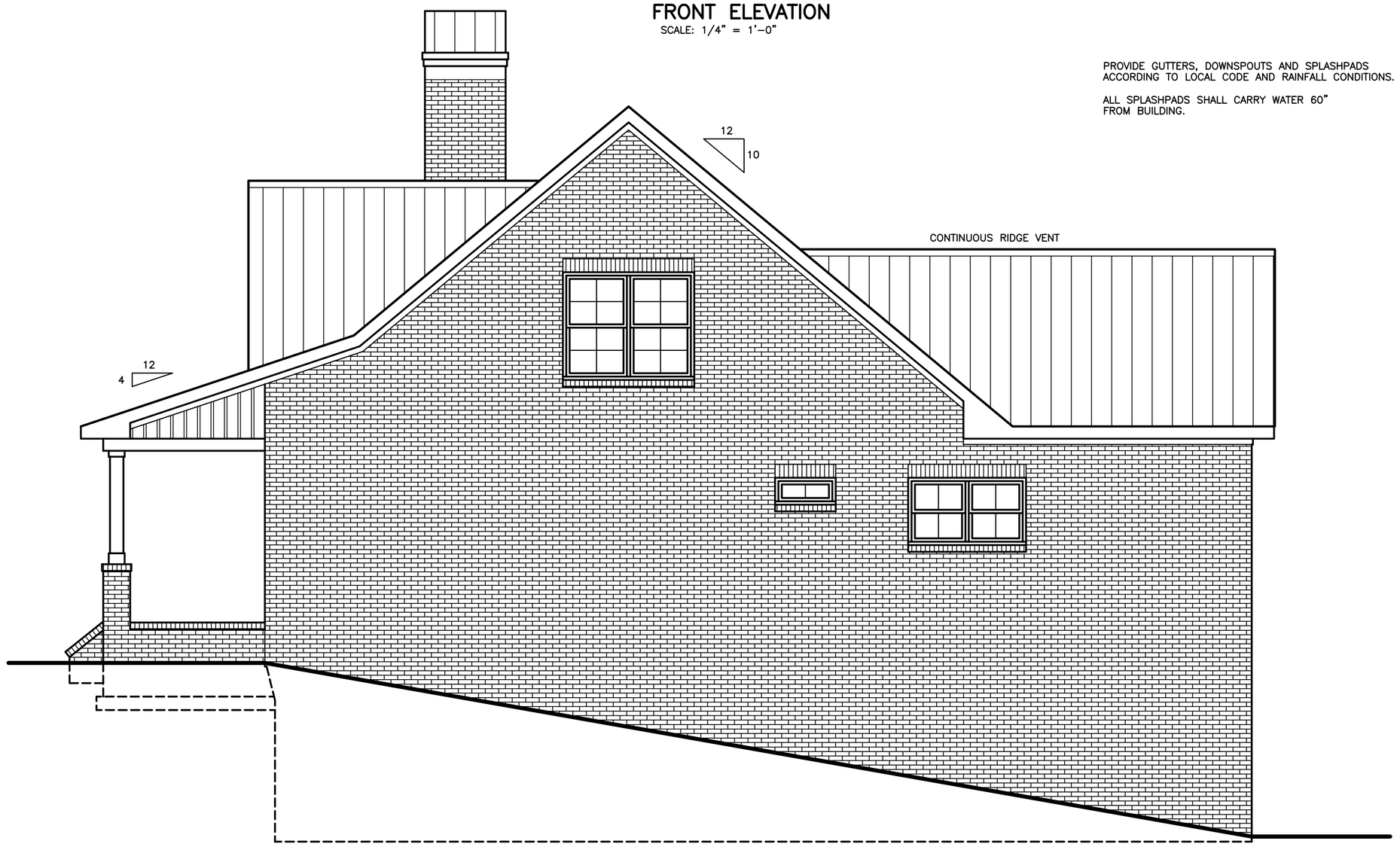
FRONT ELEVATION
SCALE: 1/4" = 1'-0"



LEFT ELEVATION
SCALE: 1/4" = 1'-0"

PROVIDE GUTTERS, DOWNSPOUTS AND SPLASHPADS ACCORDING TO LOCAL CODE AND RAINFALL CONDITIONS.

ALL SPLASHPADS SHALL CARRY WATER 60" FROM BUILDING.



RIGHT ELEVATION
SCALE: 1/4" = 1'-0"

REAR ELEVATION
SCALE: 1/4" = 1'-0"

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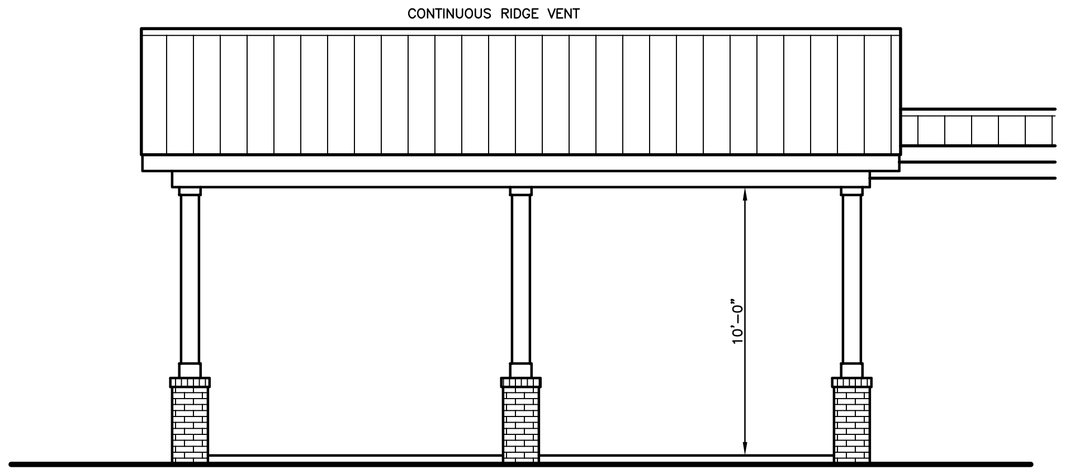
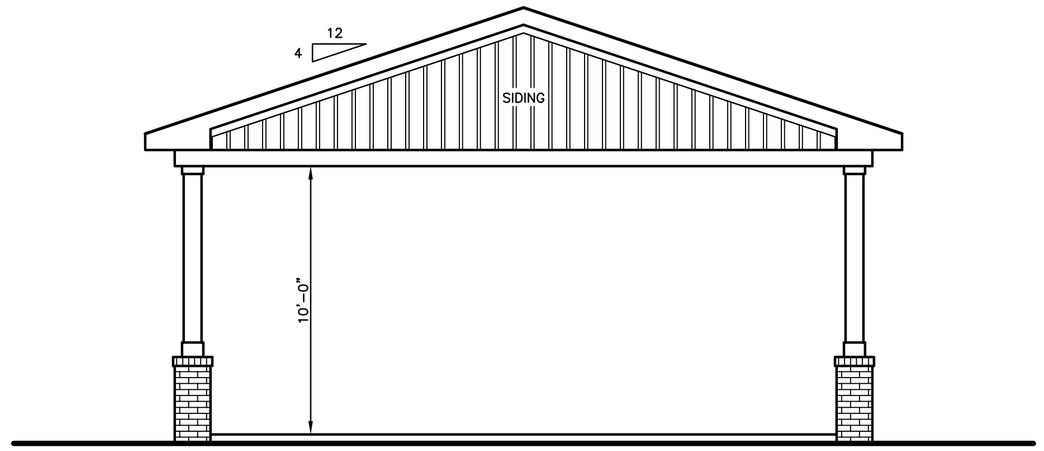
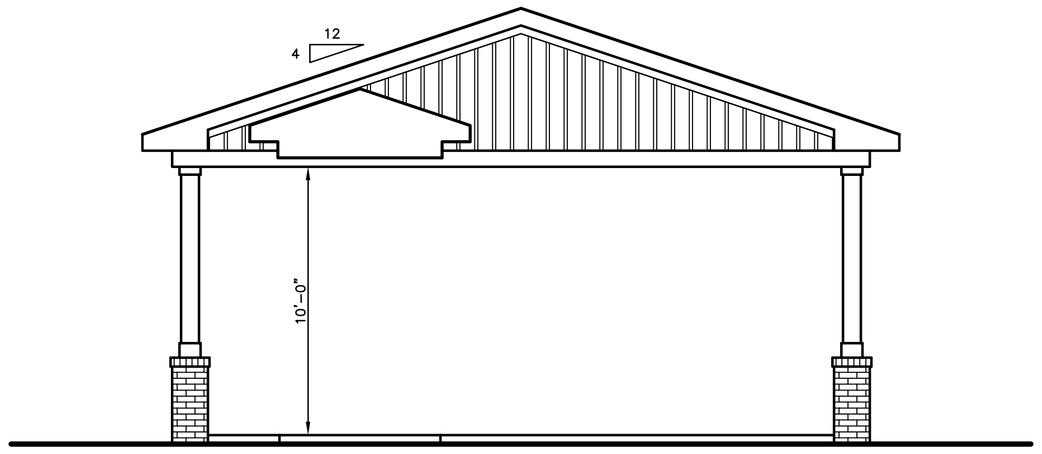


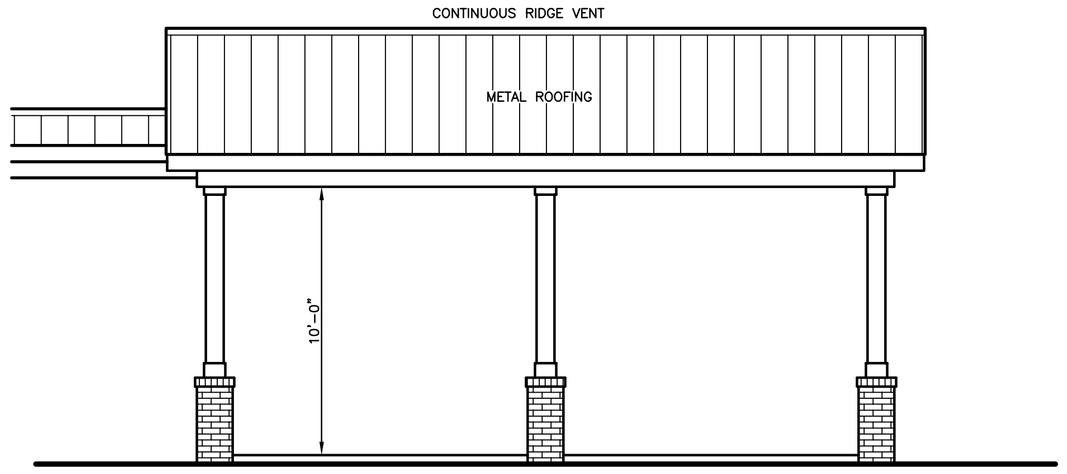
FRONT ELEVATION
SCALE: 1/4" = 1'-0"



LEFT ELEVATION
SCALE: 1/4" = 1'-0"



RIGHT ELEVATION
SCALE: 1/4" = 1'-0"



REAR ELEVATION
SCALE: 1/4" = 1'-0"

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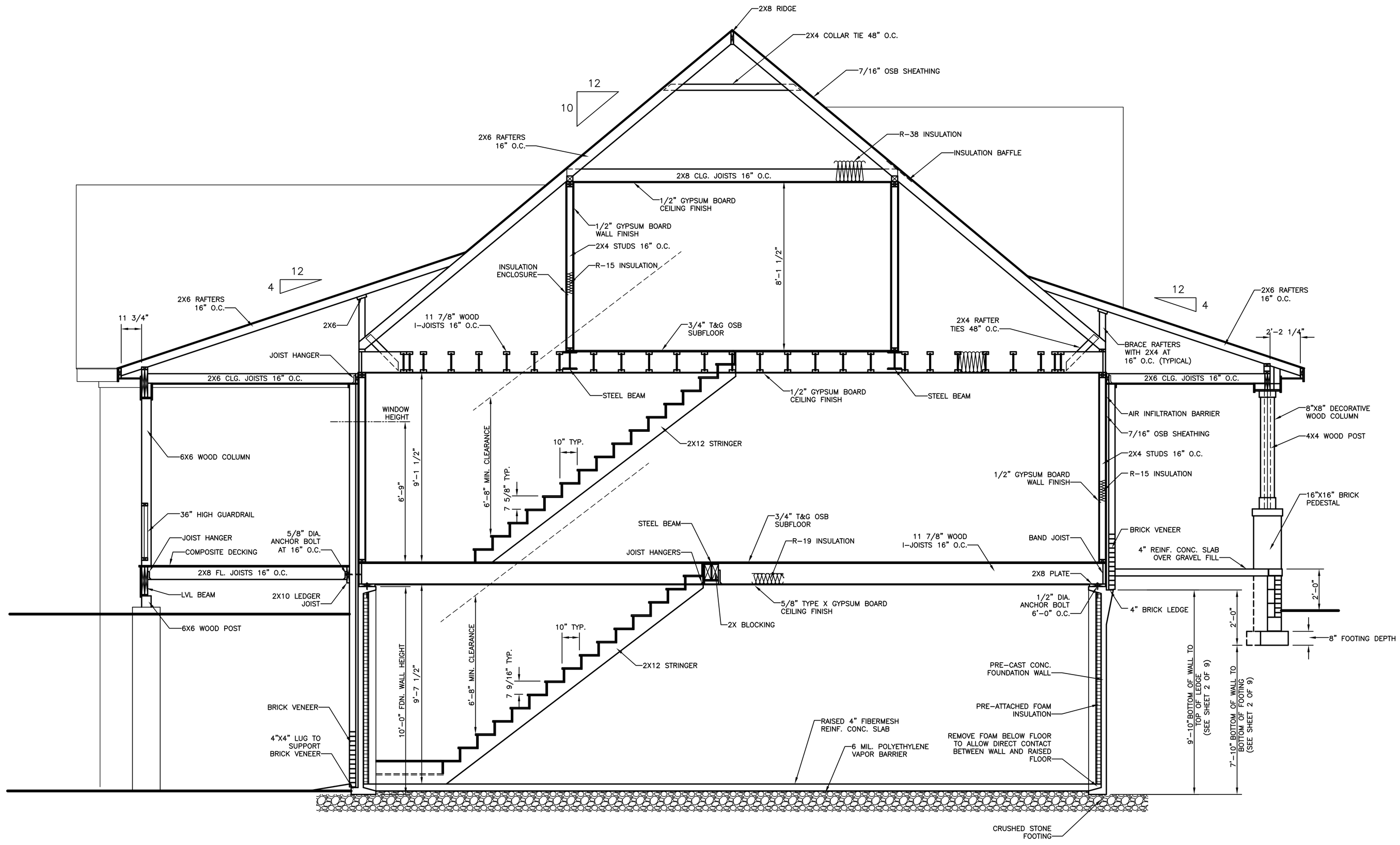

801 SECTION

SCALE: 3/8" = 1'-0"

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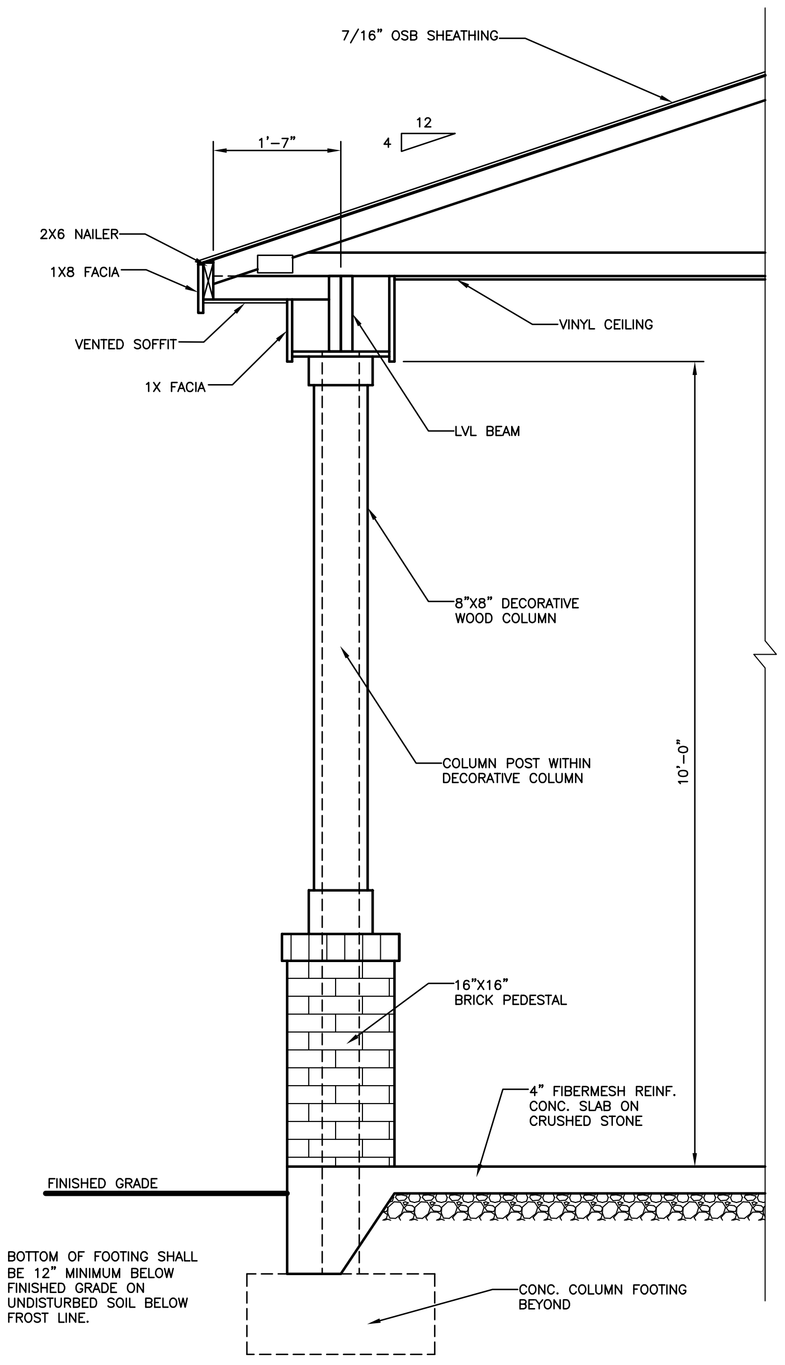
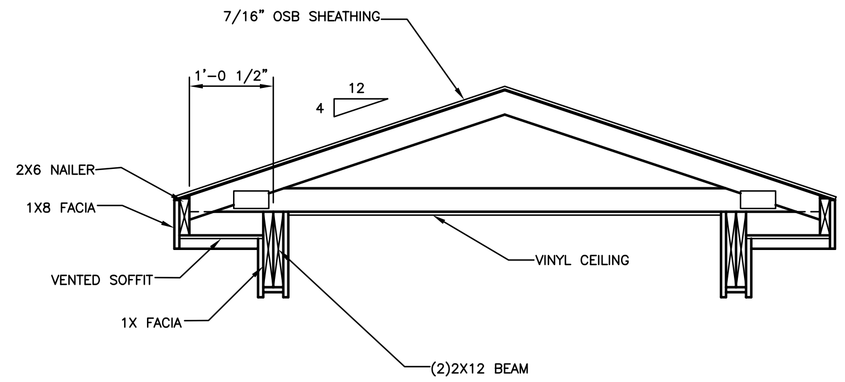


901 SECTION
SCALE: 3/4" = 1'-0"



902 SECTION
SCALE: 3/4" = 1'-0"

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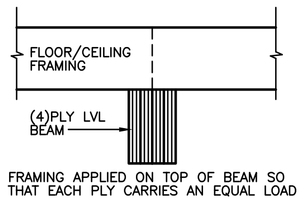
CONNECTION OF MULTIPLE PLY BEAMS

(INSTALLATION & CONNECTION OF BEAMS SHALL BE ACCORDING TO MANUFACTURERS SPECIFICATIONS)



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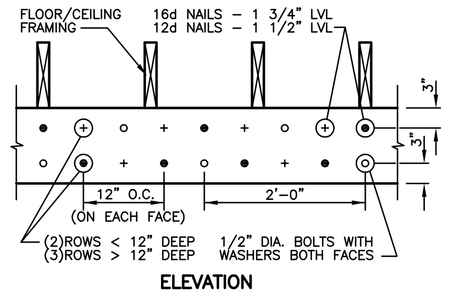
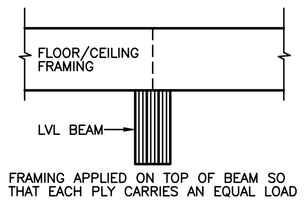
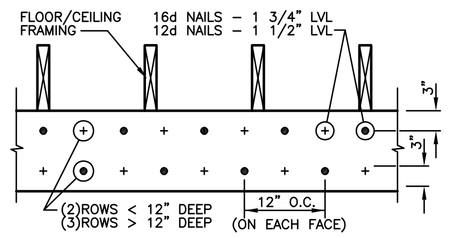


ELEVATION

D001
TOP LOADED (4 PILES)



SECTION

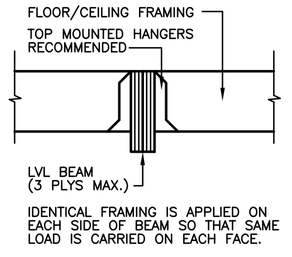


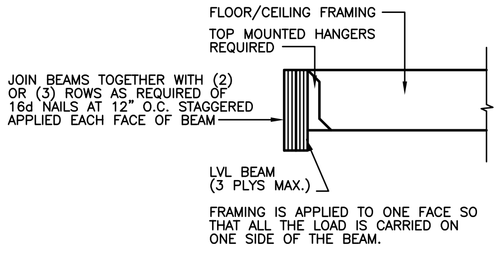
ELEVATION

D002
TOP LOADED (3 PILES MAXIMUM)

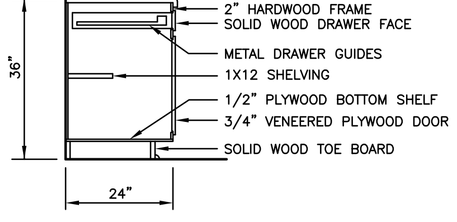
MINUMUM UNIFORMLY DISTRIBUTED LIVE LOADS (PSF)	
USE	LIVE LOAD
UNINHABITABLE ATTICS WITHOUT STORAGE	10
UNINHABITABLE ATTICS WITH LIMITED STORAGE	20
HABITABLE ATTICS AND ATTICS SERVED WITH FIXED STAIRS	30
BALCONIES AND DECKS	40
ROOMS OTHER THAN SLEEPING ROOMS	40
SLEEPING ROOMS	30
STAIRS	40
FIRE ESCAPES	40
GUARDS AND HANDRAILS	200
GUARD IN–FILL COMPONENTS	50
PASSENGER VEHICLE GARAGES	50

ALLOWABLE DEFLECTION OF STRUCTURAL MEMBERS (NOTE : L = SPAN LENGTH ; H = SPAN HEIGHT)	
STRUCTURAL MEMBER	ALLOWABLE DEFLECTION
RAFTERS HAVING SLOPES GREATER THAN 3:12 WITH FINISHED CEILING NOT ATTACHED TO RAFTERS	L/180
FLOORS	L/360
CEILING WITH BRITTLE FINISHES (INCLUDING PLASTER AND STUCCO)	L/360
CEILING WITH FLEXIBLE FINISHES (INCLUDING GYPUSM BOARD)	L/240
ALL OTHER STRUCTURAL MEMBERS	L/240
LINTELS SUPPORTING MASONRY VENEER WALLS	L/600
INTERIOR WALLS AND PARTITIONS	H/180
EXTERIOR WALLS – WIND LOADS WITH PLASTER OR STUCCO FINISH	H/360
EXTERIOR WALLS – WIND LOADS WITH OTHER BRITTLE FINISHES	H/240
EXTERIOR WALLS – WIND LOADS WITH FLEXIBLE FINISHES	H/120

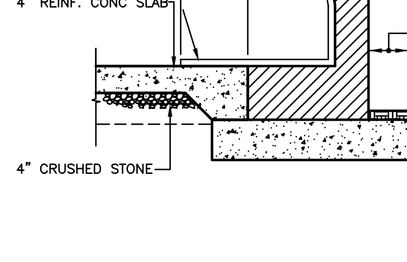




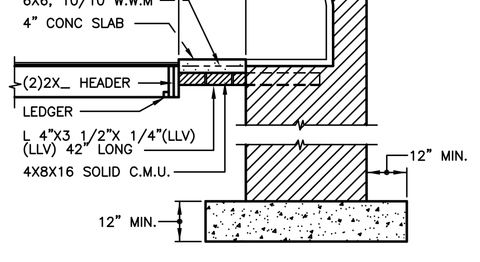
D003
SIDE LOADED



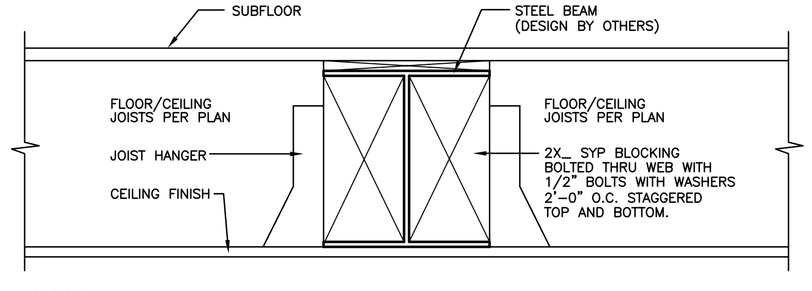
SECTION THRU KITCHEN CABINETS



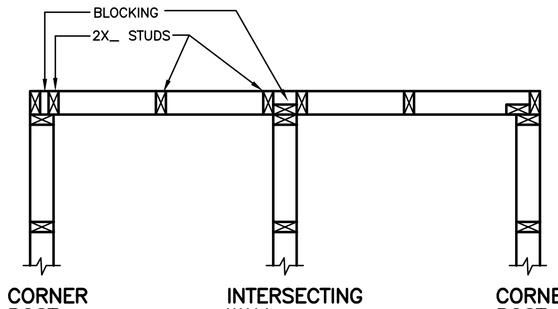
D005
SECT. THRU FIREPLACE ON CONCRETE SLAB



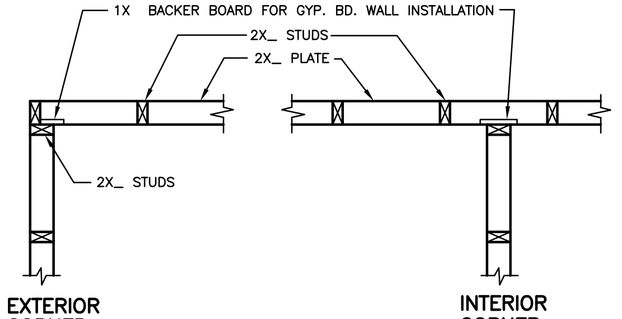
D006
SECT. THRU FIREPLACE ON WOOD FLOOR



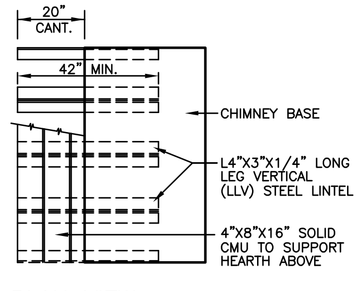
D004
SECTION THRU STEEL BEAM



D007
DETAIL BASIC WALL FRAMING



D008
DETAIL ADVANCED WALL FRAMING



PLAN VIEW
OF SUSPENDED HEARTH

DESIGNED

Standard Homes Plan Service, Inc.

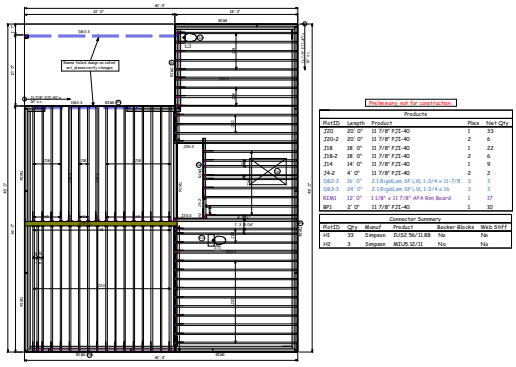
7200 SUNSET LAKE ROAD FUQUAY–VARINA, NC 27526 (919)552–5677

SEE HOME DESIGN PREVIEWS ONLINE AT WWW.STANDARDHOMES.COM

STANDARD CONSTRUCTION DETAILS | D

Carter Sanford Component Plant
298 Harvey Faulk Rd
Sanford, NC 27332

Phone #:919-775-1450



Builder: Robert Bennett

Model: 7281 NC HWY 42

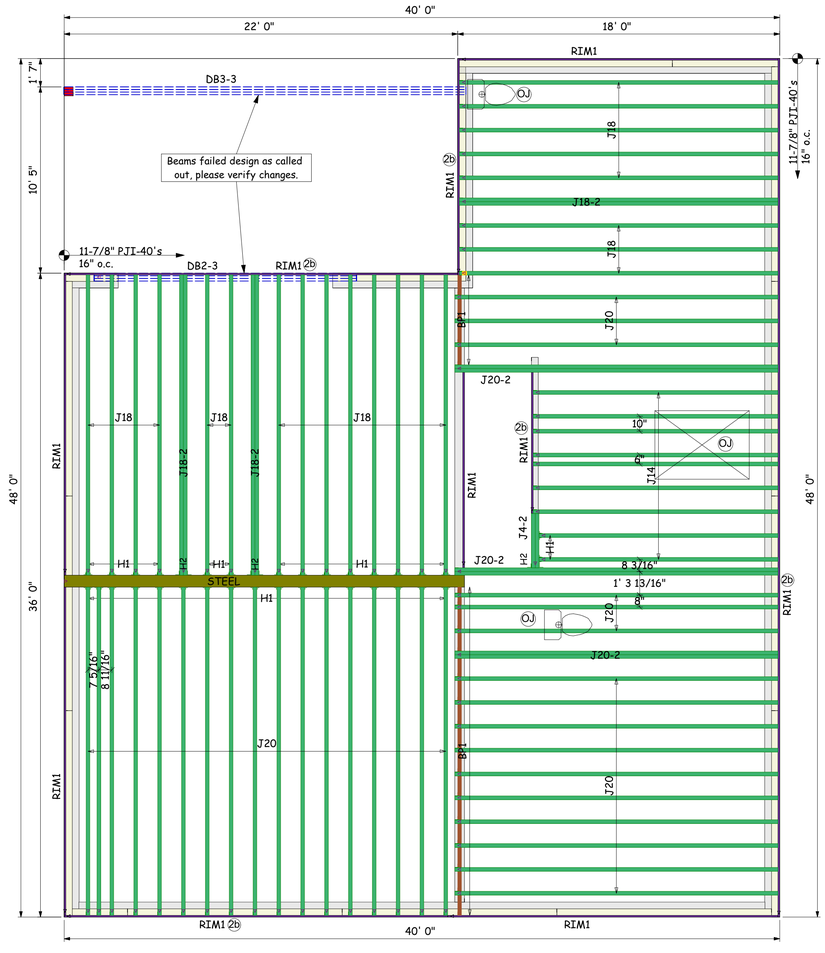
THE PLACEMENT PLAN NOTES:

1. The Placement Plan is a diagram for truss installation. It is not an engineered drawing and has not been reviewed by an engineer. The Owner/Building Designer is responsible for obtaining an engineer's review if one is required by the local jurisdiction.
2. The responsibilities of the Owner, Contractor, Building Designer, Component Designer and Component Manufacturer shall be as set forth in ANSI/TPI 1. Capitalized terms shall be as defined in ANSI/TP 1 unless otherwise indicated.
3. Each Component is designed as an individual component utilizing information provided by others. The Owner/Building Designer is responsible for reviewing all Component Submittal Packages and individual Component Design Drawings for compliance with the Construction Documents and compatibility with the overall Building design.
4. Contractor will not proceed with component installation until the Owner/Building Designer has reviewed the Component Submittal Package. Questions on the suitability of any Component will be resolved by the Building Designer.
5. The Building Designer and Contractor are responsible for all temporary and permanent bracing.
6. The Placement Plan assumes the building is dimensionally correct, structurally sound, and in a suitable condition to support each Component during installation and thereafter, including but not limited to installation of all bearing points. Proper design and construction of all structural components, including foundations, headers, beams, walls and columns are the responsibility of the Owner, Building Designer and Contractor.
7. Do not cut, drill, or modify any Component without first consulting the Component Manufacturer or Building Designer. Damaged Components shall not be installed unless directed by the Building Designer or approved by the Component Manufacturer.
8. Components must be handled and installed following all applicable safety standards and best practices, including but not limited to BCSI, OSHA, TPI and local codes. Failure to properly handle, brace or otherwise install Component can result in serious injury or death.

General Notes:

** CUTTING OR DRILLING OF COMPONENTS SHOULD NOT BE DONE WITHOUT CONTACTING COMPONENT SUPPLIER FIRST. CUSTOMER TAKES FULL RESPONSIBILITY FOR COMPONENTS IF CUT BEFORE AUTHORIZATION.

** LVL AND JOISTS MUST BE FULLY CONNECTED TOGETHER PRIOR TO ADDING ANY LOADS.

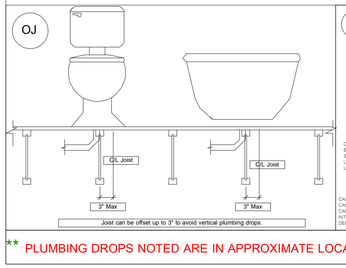


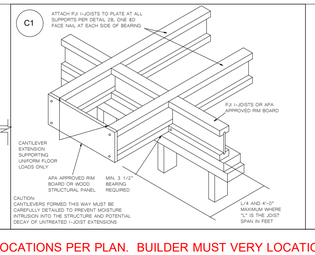
Preliminary, not for construction.

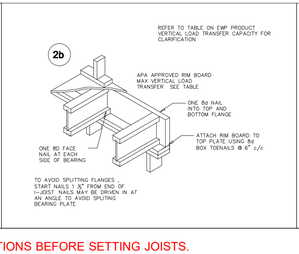
Products				
PlotID	Length	Product	Plies	Net Qty
J20	20' 0"	11 7/8" PJI-40	1	33
J20-2	20' 0"	11 7/8" PJI-40	2	6
J18	18' 0"	11 7/8" PJI-40	1	22
J18-2	18' 0"	11 7/8" PJI-40	2	6
J14	14' 0"	11 7/8" PJI-40	1	9
J4-2	4' 0"	11 7/8" PJI-40	2	2
DB2-3	16' 0"	2.1 RigidLam SP LVL 1-3/4 x 11-7/8	3	3
DB3-3	24' 0"	2.1 RigidLam SP LVL 1-3/4 x 16	3	3
RIM1	12' 0"	1 1/8" x 11 7/8" APA Rim Board	1	17
BP1	2' 0"	11 7/8" PJI-40	1	10

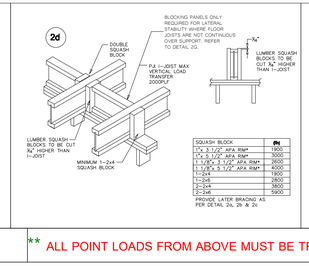
Connector Summary					
PlotID	Qty	Manuf	Product	Backer Blocks	Web Stiff
H1	33	Simpson	IUS2.56/11.88	No	No
H2	3	Simpson	MIU5.12/11	No	No

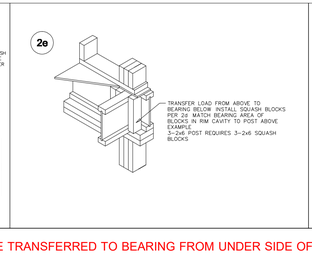
1ST FLOOR LAYOUT

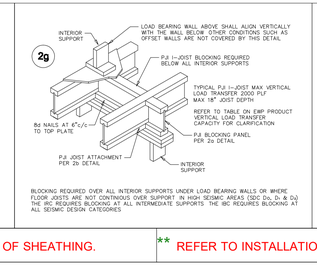


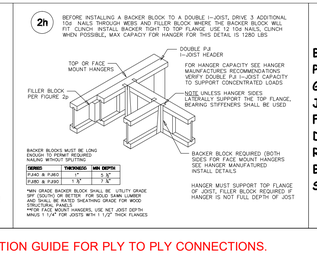












LABEL LEGEND

BBO = Beam by Others
PBO = Post by Others
GBO = Girder by Others
J = I-Joist
FB = Flush Beam
DB = Dropped Beam
RB = Roof Beam
BP = Blocking Panels
SB = Squash Blocks

** PLUMBING DROPS NOTED ARE IN APPROXIMATE LOCATIONS PER PLAN. BUILDER MUST VERY LOCATIONS BEFORE SETTING JOISTS.

** ALL POINT LOADS FROM ABOVE MUST BE TRANSFERRED TO BEARING FROM UNDER SIDE OF SHEATHING.

** REFER TO INSTALLATION GUIDE FOR PLY TO PLY CONNECTIONS.

** FRAMER MUST REFER TO PLANS WHILE SETTING COMPONENTS.

** DIMENSIONS ARE READ AS: FOOT-INCH-SIXTEENTH.

** DAMAGED FLOOR JOISTS SHOULD NOT BE INSTALLED UNLESS APPROVED BY COMPONENT PLANT.

Revisions	
00/00/00	Name
00/00/00	Name
00/00/00	Name
00/00/00	Name
00/00/00	Name

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Kempsville Building Materials
A Division of the Carter Lumber Company

Robert Bennett

7281 NC HWY 42

FLOOR JOIST LAYOUT

Scale: **1/4" = 1'-0"**

Date: **// 09/26/24**

Designer: **DW**

Project #: **24090120**

Sheet Number:

1 / 2

General Notes:

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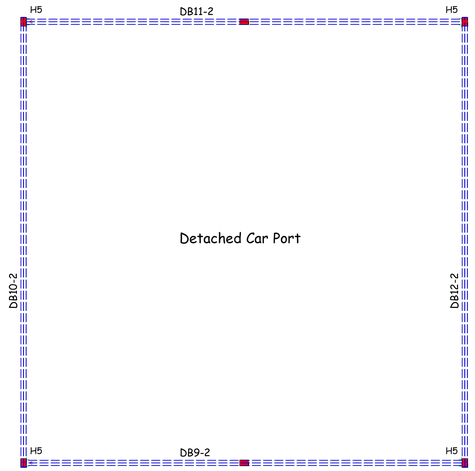
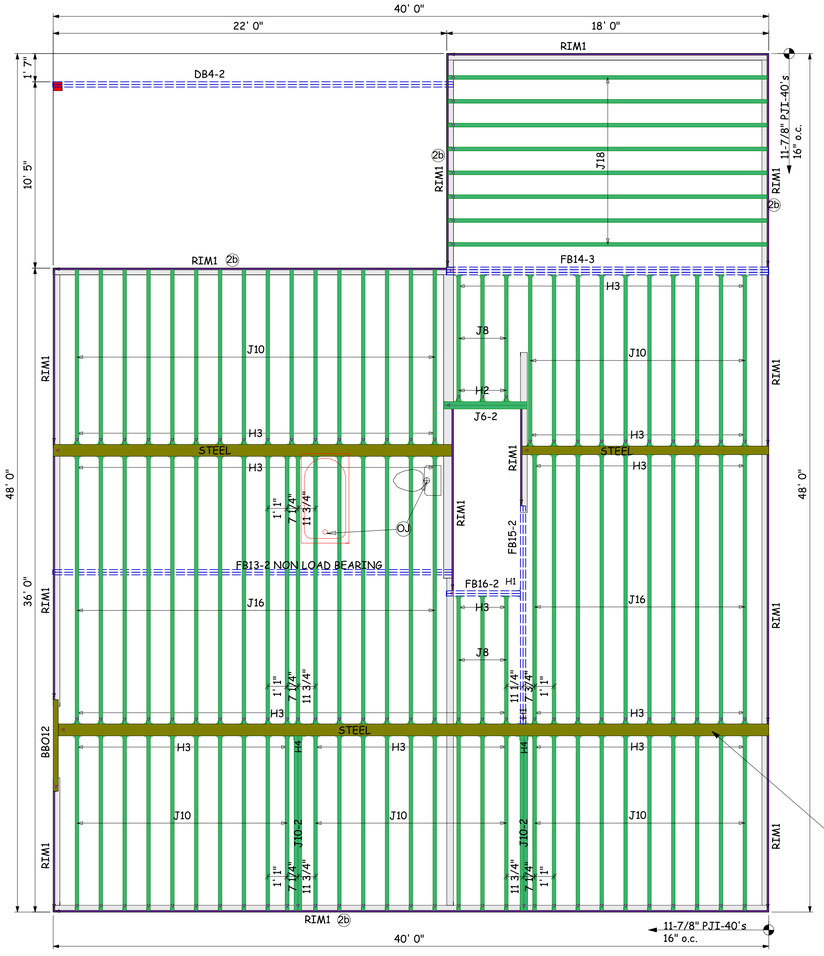




Preliminary, not for construction.

Joists ran vertically into steel beams to reduce deflection below .70" if ran horizontally. Verify steel capacity with EOR.

In order for steel beam to pick up wall above, span through. Please verify.

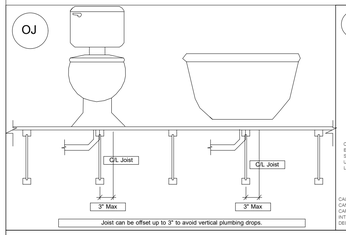
Products

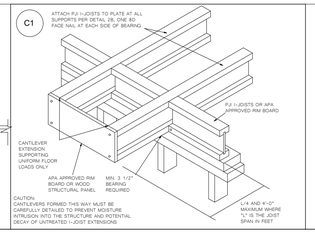
PlotID	Length	Product	Plies	Net Qty
J18	18' 0"	11 7/8" PJI-40	1	8
J16	16' 0"	11 7/8" PJI-40	1	27
J10	10' 0"	11 7/8" PJI-40	1	55
J10-2	10' 0"	11 7/8" PJI-40	2	4
J8	8' 0"	11 7/8" PJI-40	1	6
J6-2	6' 0"	11 7/8" PJI-40	2	2
DB11-2	26' 0"	2.1 RigidLam SP LVL 1-3/4 x 11-7/8	2	2
DB9-2	26' 0"	2.1 RigidLam SP LVL 1-3/4 x 11-7/8	2	2
FB13-2 NON LOAD BEARING	24' 0"	2.1 RigidLam SP LVL 1-3/4 x 11-7/8	2	2
FB14-3	18' 0"	2.1 RigidLam SP LVL 1-3/4 x 11-7/8	3	3
FB15-2	14' 0"	2.1 RigidLam SP LVL 1-3/4 x 11-7/8	2	2
FB16-2	6' 0"	2.1 RigidLam SP LVL 1-3/4 x 11-7/8	2	2
DB10-2	26' 0"	2.1 RigidLam SP LVL 1-3/4 x 14	2	2
DB12-2	26' 0"	2.1 RigidLam SP LVL 1-3/4 x 14	2	2
DB4-2	24' 0"	2.1 RigidLam SP LVL 1-3/4 x 16	2	2
RIM1	12' 0"	1 1/8" x 11 7/8" APA Rim Board	1	16

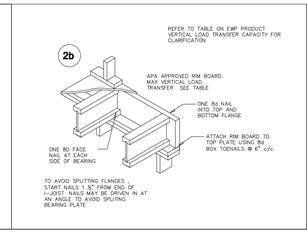
Connector Summary

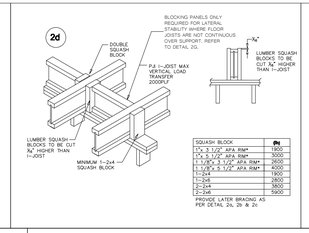
PlotID	Qty	Manuf	Product	Backer Blocks	Web Stiff
H1	2	MiTek	HUS410	No	No
H2	3	Simpson	IUS2.56/11.88	2 and Filler	No
H3	128	Simpson	IUS2.56/11.88	No	No
H4	2	Simpson	MIU5.12/11	No	No
H5	4	Simpson	HUCQ412-SDS	No	No

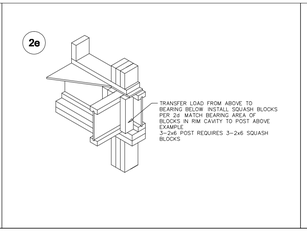
2ND FLOOR LAYOUT

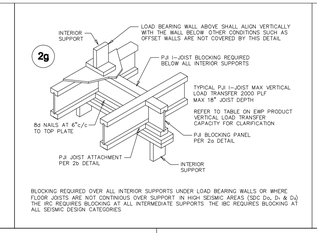


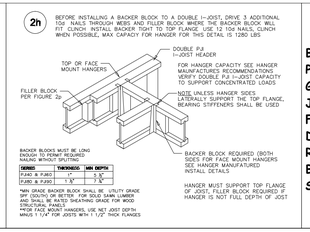












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Revisions	
00/00/00	Name
00/00/00	Name
00/00/00	Name
00/00/00	Name
00/00/00	Name

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Kempsville Building Materials
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Robert Bennett

7281 NC HWY 42

FLOOR JOIST LAYOUT

Scale: **1/4" = 1'-0"**

Date: **// 09/26/24**

Designer: **DW**

Project #: **24090120**

Sheet Number:

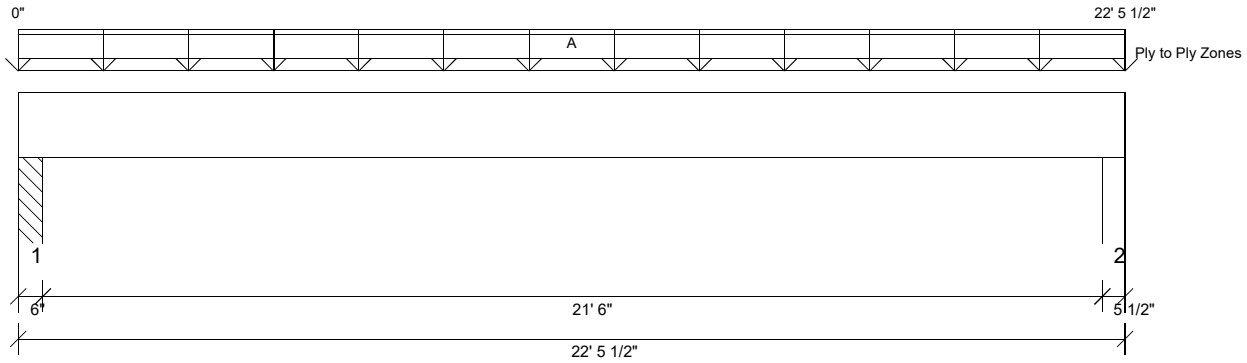
2 / 2

MiTek	Customer: Job Name: Adress: City/State:	Job Name: **24090120a 09.27.24 7281 NC H...** Level: **1ST FLOOR** Label: **DB3-3 - i551** Type: **Beam**	**3 Ply Member** **2.1 RigidLam SP LVL 1-3/4 x 16**	Status: **Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.7.3.303.Update13.26

Report Version: 2023.09.18 09/27/2024 11:46



DESIGN INFORMATION a

Building Code:	IRC 2018
Design Methodology:	ASD
Risk Category:	II (General Construction) Residential
Service Condition:	Dry
System Spacing:	-
LL Deflection Limit:	L/480, 0.75" (absolute)
TL Deflection Limit:	L/240, 1.00" (absolute)

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 21'- 6"

Bearing Stress of Support Material:

- 725 psi Column @ 0'- 5"
- 725 psi Wall @ 22'- 1"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	11'- 3"	D + L	1.00	29429 lb ft	54632 lb ft	Passed - 54%
Max Shear:	1'- 10"	D + L	1.00	4729 lb	16240 lb	Passed - 29%
Live Load (LL) Pos. Defl.:	11'- 3"	L		0.512"	L/480	Passed - L/503
Total Load (TL) Pos. Defl.:	11'- 3"	D + L		0.699"	L/240	Passed - L/369

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	6"	D + L	1.00	5650 lb		23625 lb	22838 lb	Passed - 25%
2	5 1/2"	D + L	1.00	5628 lb		21656 lb	20934 lb	Passed - 27%

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Self Weight	0'	22'- 5 1/2"	Self Weight	Top	22 lb/ft	-	-	-	-
Uniform	-0'	22'- 5 1/2"	User Load	Top	120 lb/ft	360 lb/ft	-	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	0'- 6"	PBO2(i75)	1600 lb	4050 lb	-	-	-
2	22'	22'- 5 1/2"	W2(i4)	1593 lb	4035 lb	-	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (CL) = 1.00
- The unbraced length used in this design was manually input by the user. Install lateral bracing to satisfy the unbraced lengths specified on this report.

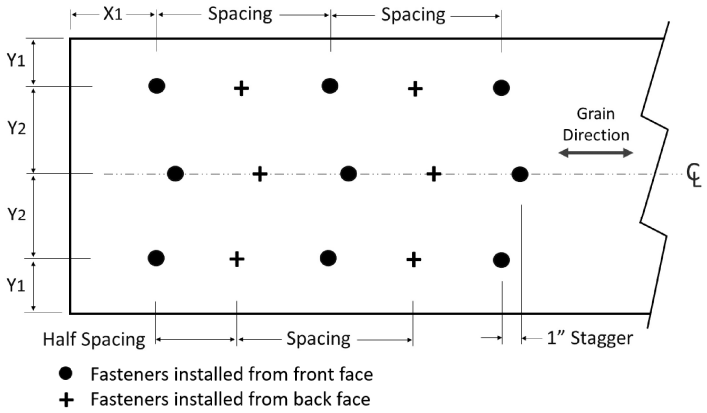
PLY TO PLY CONNECTION

- Zone A: Factored load = 0 plf. Use 12d (0.148"x3.25") nails. LDF = 1.00. Qty = 135. Row = 3, Spacing = 12"
  12d (0.148"x3.25") nails properties: D = 0.148" , L = 3.25". Fastener capacity = 128 lbs. X1 = 2.25" , Y1 = 0.75", Y2 = 1.5"
  Install fasteners from both faces.
  X1 = Minimum end distance, X2 = Minimum edge distance, Y2 = Minimum row spacing.

MiTek	Customer: Job Name: Adress: City/State:	Job Name: **24090120a 09.27.24 7281 NC H...** Level: **1ST FLOOR** Label: **DB3-3 - i551** Type: **Beam**	**3 Ply Member** **2.1 RigidLam SP LVL 1-3/4 x 16**	Status: **Design Passed**

PLY TO PLY CONNECTION

FASTENER INSTALLATION – 3 ROWS (FROM BOTH FACES)

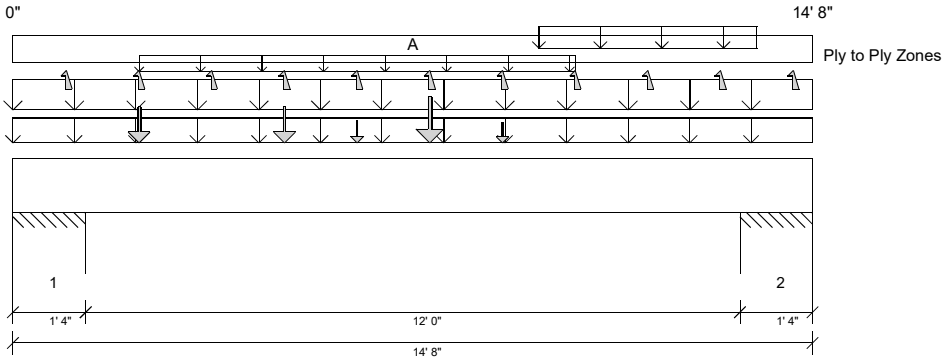


MiTek	Customer: Job Name: Adress: City/State:	Job Name: **24090120a 09.27.24 7281 NC H...** Level: **1ST FLOOR** Label: **DB2-3 - i2542** Type: **Beam**	**3 Ply Member** **2.1 RigidLam SP LVL 1-3/4 x 11-7/8**	Status: **Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.7.3.303.Update13.26

Report Version: 2023.09.18 09/27/2024 11:46



DESIGN INFORMATION a

Building Code:	IRC 2018
Design Methodology:	ASD
Risk Category:	II (General Construction) Residential
Service Condition:	Dry
System Spacing:	-
LL Deflection Limit:	L/480, 0.75" (absolute)
TL Deflection Limit:	L/240, 1.00" (absolute)

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 12'

Bearing Stress of Support Material:

- 725 psi Wall @ 1'- 3"
- 725 psi Wall @ 13'- 5"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	7'- 5 3/4"	D + L	1.00	28978 lb ft	31942 lb ft	Passed - 91%
Max Neg. Moment:	1'- 3"	D + 0.75(L + S)	1.15	983 lb ft	12166 lb ft	Passed - 8%
Max Shear:	2'- 3 7/8"	D + L	1.00	8306 lb	12053 lb	Passed - 69%
Live Load (LL) Pos. Defl.:	7'- 4"	0.75(L + S)		0.234"	L/480	Passed - L/615
Total Load (TL) Pos. Defl.:	7'- 4"	D + 0.75(L + S)		0.556"	L/240	Passed - L/258

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	1' 4"	D + L	1.00	10956 lb		63000 lb	60900 lb	Passed - 18%
2	1' 4"	D + L	1.00	11214 lb		63000 lb	60900 lb	Passed - 18%

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Self Weight	0'	14'- 8"	Self Weight	Top	16 lb/ft	-	-	-	-
Uniform	0'	14'- 8"	RIM1(i2548)	Top	362 lb/ft	204 lb/ft	220 lb/ft	-	-
Uniform	-0'	14'- 8"	User Load	Top	560 lb/ft	-	-	-	-
Uniform	2'- 3 3/4"	10'- 3 3/4"	Smoothed Load	Top	-	173 lb/ft	-	-	-
Uniform	9'- 7 3/4"	13'- 7 3/4"	Smoothed Load	Top	86 lb/ft	345 lb/ft	-	-	-
Point	0'- 11 3/4"	0'- 11 3/4"	RIM1(i2548)	Top	-	-135 lb	-	-	-
Point	2'- 3 3/4"	2'- 3 3/4"	-	Top	-	460/-135 lb	-	-	-
Point	3'- 7 3/4"	3'- 7 3/4"	RIM1(i2548)	Top	-	-135 lb	-	-	-
Point	4'- 11 3/4"	4'- 11 3/4"	-	Top	-	460/-135 lb	-	-	-
Point	6'- 3 3/4"	6'- 3 3/4"	-	Top	192 lb	-135 lb	-	-	-
Point	7'- 7 3/4"	7'- 7 3/4"	-	Top	193 lb	460/-135 lb	-	-	-
Point	8'- 11 3/4"	8'- 11 3/4"	-	Top	163 lb	-135 lb	-	-	-
Point	10'- 3 3/4"	10'- 3 3/4"	RIM1(i2548)	Top	-	-135 lb	-	-	-
Point	11'- 7 3/4"	11'- 7 3/4"	RIM1(i2548)	Top	-	-135 lb	-	-	-
Point	12'- 11 3/4"	12'- 11 3/4"	RIM1(i2548)	Top	-	-135 lb	-	-	-
Point	14'- 3 3/4"	14'- 3 3/4"	RIM1(i2548)	Top	-	-135 lb	-	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	1'- 4"	W1(i3)	7495 lb	4576/-2519 lb	1613 lb	-	-
==>	0'- 1 1/2"	0'- 1 1/2"	W1(i3)	-	1102/-706 lb	-	-	-
==>	1'- 2 1/2"	1'- 2 1/2"	W1(i3)	7495 lb	3474/-1813 lb	1613 lb	-	-
2	13'- 4"	14'- 8"	W67(i76)	7538 lb	5067/-2518 lb	1613 lb	-	-
==>	13'- 5 1/2"	13'- 5 1/2"	W67(i76)	7538 lb	3675/-1749 lb	1613 lb	-	-
==>	14'- 6 1/2"	14'- 6 1/2"	W67(i76)	-	1392/-769 lb	-	-	-

DESIGN NOTES

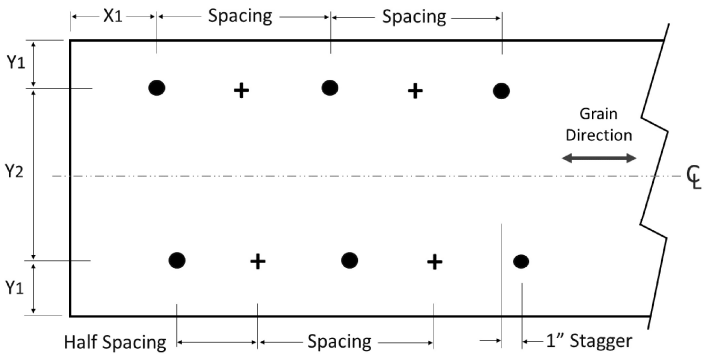
- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (CL) = 1.00
- The unbraced length used in this design was manually input by the user. Install lateral bracing to satisfy the unbraced lengths specified on this report.

MiTek	Customer: Job Name: Adress: City/State:	Job Name: **24090120a 09.27.24 7281 NC H...** Level: **1ST FLOOR** Label: **DB2-3 - i2542** Type: **Beam**	**3 Ply Member** **2.1 RigidLam SP LVL 1-3/4 x 11-7/8**	Status: **Design Passed**

PLY TO PLY CONNECTION

- Zone A: Factored load = 0 plf. Use 12d (0.148"x3.25") nails. LDF = 1.00. Qty = 60. Row = 2, Spacing = 12"
  12d (0.148"x3.25") nails properties: D = 0.148" , L = 3.25". Fastener capacity = 128 lbs. X1 = 2.25" , Y1 = 0.75", Y2 = 1.5"
  Install fasteners from both faces.
  X1 = Minimum end distance, X2 = Minimum edge distance, Y2 = Minimum row spacing.

FASTENER INSTALLATION – 2 ROWS (FROM BOTH FACES)

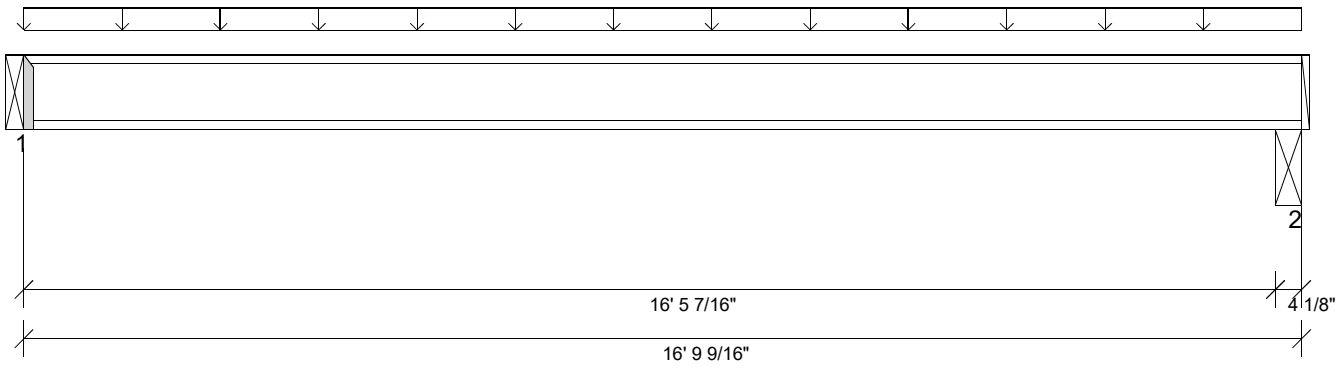


MiTek	Customer: Job Name: Adress: City/State:	Job Name: **24090120a 09.27.24 7281 NC H...** Level: **1ST FLOOR** Label: **J18 - i2551** Type: **FloorJoist**	**1 Ply Member** **11 7/8" PJI-40**	Status: **Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.7.3.303.Update13.26

Report Version: 2023.09.18 09/27/2024 11:46



DESIGN INFORMATION a

Building Code:	IRC 2018
Design Methodology:	ASD
Risk Category:	II (General Construction) Residential
Service Condition:	Dry
System Live Load:	40.0 psf
System Dead Load:	10.0 psf
System Spacing:	16" c.c
LL Deflection Limit:	L/480, 0.75" (absolute)
TL Deflection Limit:	L/240, 1.00" (absolute)

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 16'- 5 7/16"

Bearing Stress of Support Material:

- 425 psi Beam @ 0'
- 750 psi Beam @ 16'- 6 7/16"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	8'- 3 3/16"	D + L	1.00	2276 lb ft	3545 lb ft	Passed - 64%
Max Shear:	0'- 1/16"	D + L	1.00	551 lb	1620 lb	Passed - 34%
Live Load (LL) Pos. Defl.:	8'- 3 3/16"	L		0.248"	L/480	Passed - L/796
Total Load (TL) Pos. Defl.:	8'- 3 3/16"	D + L		0.310"	L/240	Passed - L/637

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	1 3/4"	D + L	1.00	573 lb		1200 lb	-	Passed - 48%
2	4 1/8"	D + L	1.00	575 lb		1430 lb	7734 lb	Passed - 40%

CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Nailing Requirements			Other Information or Requirement for Reinforcement Accessories
			Top	Face	Member	
1	IUS2.56/11.88	Simpson	-	10- 10d	2- Strong-Grip	Connector manually specified by the user.

* Connectors: Refer to manufacturer's specifications, fasteners requirements and installation instruction. Where header fasteners are longer than the width of the supporting member, install backer block or clinch header nails.

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Uniform	0'	16'- 9 9/16"	FC2 Floor Decking (Plan View Fill)	Top	13 lb/ft	53 lb/ft	-	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	0'	STEEL(i84)	115 lb	459 lb	-	-	-
2	16'- 5 7/16"	16'- 9 9/16"	DB2-3(i2542)	115 lb	460 lb	-	-	-

DESIGN NOTES

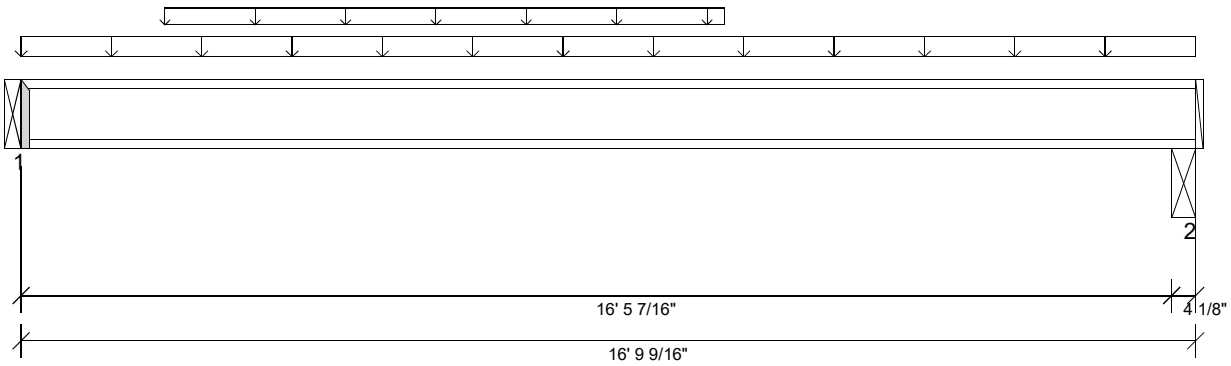
- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- A load bearing wall is supported by the I-joist at a location where the I-joist is supported by a member below. Please see manufacturer installation guidelines for requirements of blocking/squash blocks.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (CL) = 1.00

MiTek	Customer: Job Name: Adress: City/State:	Job Name: **24090120a 09.27.24 7281 NC H...** Level: **1ST FLOOR** Label: **J18-2 - i2550** Type: **FloorJoist**	**2 Ply Member** **11 7/8" PJI-40**	Status: **Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.7.3.303.Update13.26

Report Version: 2023.09.18 09/27/2024 11:46



DESIGN INFORMATION a

Building Code:	IRC 2018
Design Methodology:	ASD
Risk Category:	II (General Construction) Residential
Service Condition:	Dry
System Live Load:	40.0 psf
System Dead Load:	10.0 psf
System Spacing:	16" c.c
LL Deflection Limit:	L/480, 0.75" (absolute)
TL Deflection Limit:	L/240, 1.00" (absolute)

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 16'- 5 7/16"

Bearing Stress of Support Material:

- 425 psi Beam @ 0'
- 750 psi Beam @ 16'- 6 7/16"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	8'- 1 3/8"	D + L	1.00	2508 lb ft	7090 lb ft	Passed - 35%
Max Shear:	0'- 1/16"	D + L	1.00	602 lb	3240 lb	Passed - 19%
Live Load (LL) Pos. Defl.:	8'- 3 3/16"	L		0.133"	L/480	Passed - L/999
Total Load (TL) Pos. Defl.:	8'- 2 3/4"	D + L		0.183"	L/240	Passed - L/999

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	1 3/4"	D + L	1.00	625 lb		2400 lb	-	Passed - 26%
2	4 1/8"	D + L	1.00	605 lb		2860 lb	15469 lb	Passed - 21%

CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Nailing Requirements			Other Information or Requirement for Reinforcement Accessories
			Top	Face	Member	
1	MIU5.12/11	Simpson	-	-	-	Connector manually specified by the user.

* Connectors: Refer to manufacturer's specifications, fasteners requirements and installation instruction. Where header fasteners are longer than the width of the supporting member, install backer block or clinch header nails.

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Uniform	0'	16'- 9 9/16"	FC2 Floor Decking (Plan View Fill)	Top	13 lb/ft	53 lb/ft	-	-	-
Uniform	2'- 11/16"	10'- 11/16"	FC2 Floor Decking (Plan View Fill)	Top	10 lb/ft	-	-	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	0'	STEEL(i84)	166 lb	459 lb	-	-	-
2	16'- 5 7/16"	16'- 9 9/16"	DB2-3(i2542)	145 lb	460 lb	-	-	-

DESIGN NOTES

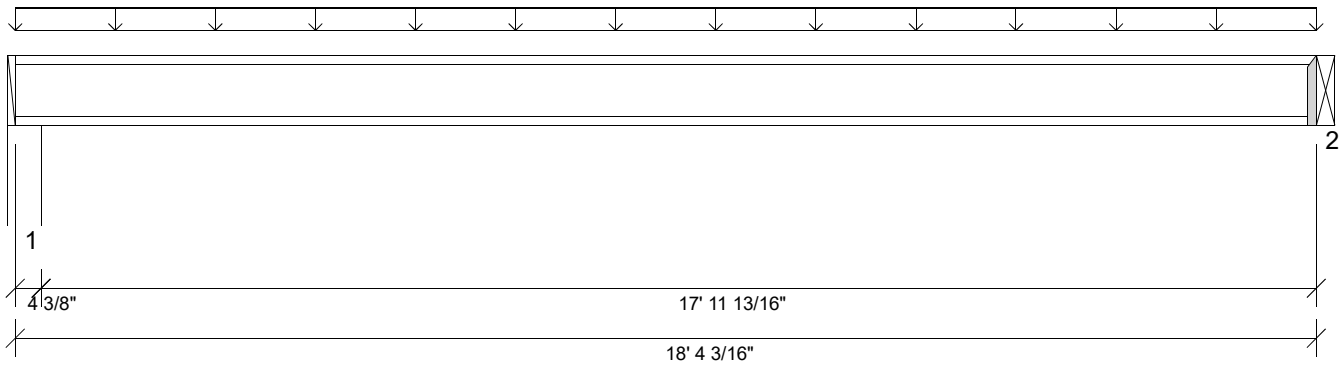
- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- A load bearing wall is supported by the I-joist at a location where the I-joist is supported by a member below. Please see manufacturer installation guidelines for requirements of blocking/squash blocks.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (CL) = 1.00

PLY TO PLY CONNECTION

- Member design assumed proper ply to ply connection by others. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.

MiTek	Customer: Job Name: Adress: City/State:	Job Name: **24090120a 09.27.24 7281 NC H...** Level: **1ST FLOOR** Label: **J20 - i2372** Type: **FloorJoist**	**1 Ply Member** **11 7/8" PJI-40**	Status: **Design Passed**

Illustration Not to Scale. Pitch: 0/12 | Designed by Single Member Design Engine in MiTek® Structure Version 8.7.3.303.Update13.26 | Report Version: 2023.09.18 09/27/2024 11:46



DESIGN INFORMATION a

Building Code:	IRC 2018
Design Methodology:	ASD
Risk Category:	II (General Construction) Residential
Service Condition:	Dry
System Live Load:	40.0 psf
System Dead Load:	10.0 psf
System Spacing:	16" c.c
LL Deflection Limit:	L/480, 0.75" (absolute)
TL Deflection Limit:	L/240, 1.00" (absolute)

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 17'- 11 13/16"

Bearing Stress of Support Material:

- 425 psi Wall @ 0'- 3 3/8"
- 425 psi Beam @ 18'- 4 3/16"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	9'- 3 13/16"	D + L	1.00	2718 lb ft	3545 lb ft	Passed - 77%
Max Shear:	18'- 4 1/8"	D + L	1.00	602 lb	1620 lb	Passed - 37%
Live Load (LL) Pos. Defl.:	9'- 3 13/16"	L		0.347"	L/480	Passed - L/622
Total Load (TL) Pos. Defl.:	9'- 3 13/16"	D + L		0.433"	L/240	Passed - L/497

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	4 3/8"	D + L	1.00	628 lb		1430 lb	4649 lb	Passed - 44%
2	1 3/4"	D + L	1.00	624 lb		1200 lb	-	Passed - 52%

CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Nailing Requirements			Other Information or Requirement for Reinforcement Accessories
			Top	Face	Member	
2	IUS2.56/11.88	Simpson	-	10- 10d	2- Strong-Grip	Connector manually specified by the user.

* Connectors: Refer to manufacturer's specifications, fasteners requirements and installation instruction. Where header fasteners are longer than the width of the supporting member, install backer block or clinch header nails.

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Uniform	0'	18'- 4 3/16"	FC2 Floor Decking (Plan View Fill)	Top	13 lb/ft	53 lb/ft	-	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	0'- 4 3/8"	W6(i6)	126 lb	502 lb	-	-	-
2	18'- 4 3/16"	18'- 4 3/16"	STEEL(i84)	125 lb	499 lb	-	-	-

DESIGN NOTES

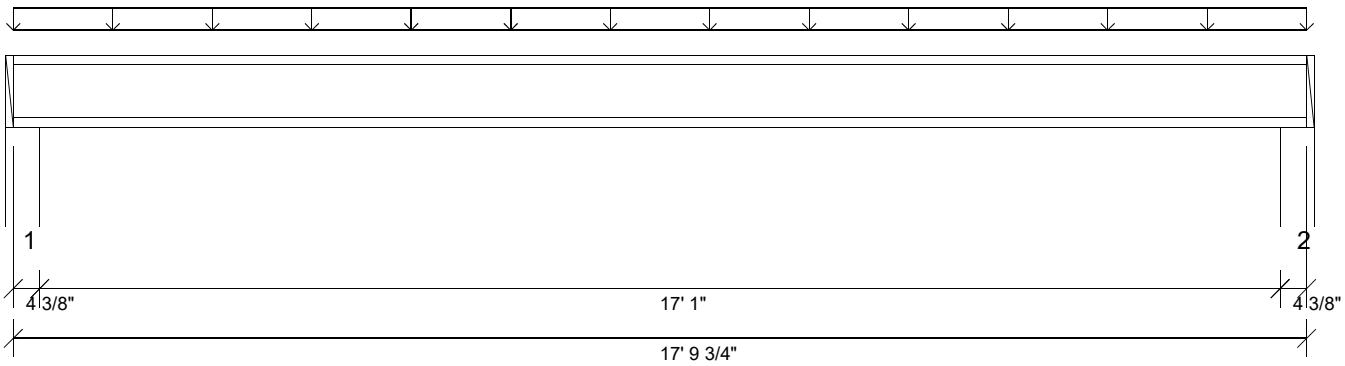
- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- A load bearing wall is supported by the I-joist at a location where the I-joist is supported by a member below. Please see manufacturer installation guidelines for requirements of blocking/squash blocks.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (CL) = 1.00
- Bearing length at support 1 was calculated based on the actual bearing area divided by the supported member width and may not match expected value when bearing is not rectangular or when the supported member is not supported by its full width.

Customer: Job Name: Adress: City/State:	Job Name: **24090120a 09.27.24 7281 NC H...** Level: **1ST FLOOR** Label: **J18 - i2487** Type: **FloorJoist**	**1 Ply Member** **11 7/8" PJI-40**	Status: **Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.7.3.303.Update13.26

Report Version: 2023.09.18 09/27/2024 11:46



DESIGN INFORMATION a

Building Code:	IRC 2018
Design Methodology:	ASD
Risk Category:	II (General Construction) Residential
Service Condition:	Dry
System Live Load:	40.0 psf
System Dead Load:	10.0 psf
System Spacing:	16" c.c
LL Deflection Limit:	L/480, 0.75" (absolute)
TL Deflection Limit:	L/240, 1.00" (absolute)

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 17'- 1"

Bearing Stress of Support Material:

- 425 psi Wall @ 0'- 3 3/8"
- 425 psi Wall @ 17'- 6 3/8"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	8'- 10 7/8"	D + L	1.00	2475 lb ft	3545 lb ft	Passed - 70%
Max Shear:	0'- 4 7/16"	D + L	1.00	569 lb	1620 lb	Passed - 35%
Live Load (LL) Pos. Defl.:	8'- 10 7/8"	L		0.290"	L/480	Passed - L/705
Total Load (TL) Pos. Defl.:	8'- 10 7/8"	D + L		0.363"	L/240	Passed - L/564

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	4 3/8"	D + L	1.00	600 lb		1430 lb	4648 lb	Passed - 42%
2	4 3/8"	D + L	1.00	600 lb		1430 lb	4648 lb	Passed - 42%

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Uniform	0'	17'- 9 3/4"	FC2 Floor Decking (Plan View Fill)	Top	13 lb/ft	53 lb/ft	-	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	0'- 4 3/8"	W2(i4)	120 lb	480 lb	-	-	-
2	17'- 5 3/8"	17'- 9 3/4"	W4(i1)	120 lb	480 lb	-	-	-

DESIGN NOTES

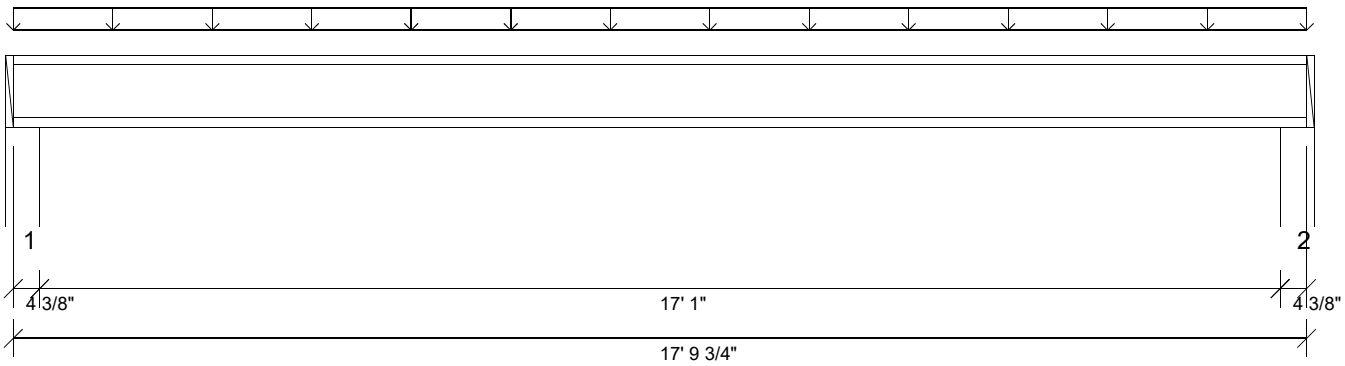
- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- A load bearing wall is supported by the I-joist at a location where the I-joist is supported by a member below. Please see manufacturer installation guidelines for requirements of blocking/squash blocks.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (CL) = 1.00
- Bearing length at support 1, 2 was calculated based on the actual bearing area divided by the supported member width and may not match expected value when bearing is not rectangular or when the supported member is not supported by its full width.

Customer: Job Name: Adress: City/State:	Job Name: **24090120a 09.27.24 7281 NC H...** Level: **1ST FLOOR** Label: **J18-2 - i2482** Type: **FloorJoist**	**2 Ply Member** **11 7/8" PJI-40**	Status: **Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.7.3.303.Update13.26

Report Version: 2023.09.18 09/27/2024 11:46



DESIGN INFORMATION a

Building Code:	IRC 2018
Design Methodology:	ASD
Risk Category:	II (General Construction) Residential
Service Condition:	Dry
System Live Load:	40.0 psf
System Dead Load:	10.0 psf
System Spacing:	16" c.c
LL Deflection Limit:	L/480, 0.75" (absolute)
TL Deflection Limit:	L/240, 1.00" (absolute)

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 17'- 1"

Bearing Stress of Support Material:

- 425 psi Wall @ 0'- 3 3/8"
- 425 psi Wall @ 17'- 6 3/8"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	8'- 10 7/8"	D + L	1.00	2475 lb ft	7090 lb ft	Passed - 35%
Max Shear:	0'- 4 7/16"	D + L	1.00	569 lb	3240 lb	Passed - 18%
Live Load (LL) Pos. Defl.:	8'- 10 7/8"	L		0.157"	L/480	Passed - L/999
Total Load (TL) Pos. Defl.:	8'- 10 7/8"	D + L		0.196"	L/240	Passed - L/999

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	4 3/8"	D + L	1.00	600 lb		2860 lb	9297 lb	Passed - 21%
2	4 3/8"	D + L	1.00	600 lb		2860 lb	9297 lb	Passed - 21%

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Uniform	0'	17'- 9 3/4"	FC2 Floor Decking (Plan View Fill)	Top	13 lb/ft	53 lb/ft	-	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	0'- 4 3/8"	W2(i4)	120 lb	480 lb	-	-	-
2	17'- 5 3/8"	17'- 9 3/4"	W4(i1)	120 lb	480 lb	-	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- A load bearing wall is supported by the I-joist at a location where the I-joist is supported by a member below. Please see manufacturer installation guidelines for requirements of blocking/squash blocks.
- A load bearing wall is supported by the I-joist at a location where the I-joist is supported by a member below. Please see manufacturer installation guidelines for requirements of blocking/squash blocks.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (CL) = 1.00
- Bearing length at support 1, 2 was calculated based on the actual bearing area divided by the supported member width and may not match expected value when bearing is not rectangular or when the supported member is not supported by its full width.

PLY TO PLY CONNECTION

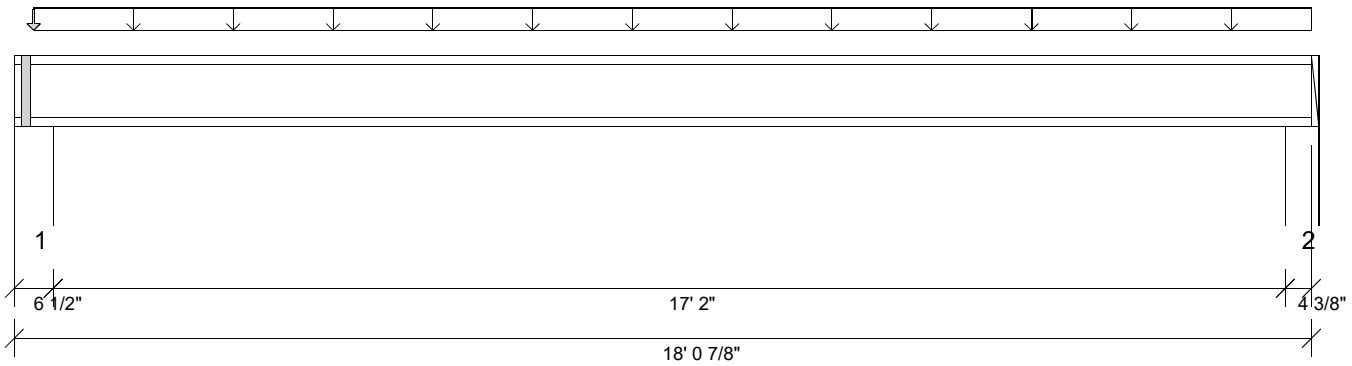
- Member design assumed proper ply to ply connection by others. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.

MiTek	Customer: Job Name: Adress: City/State:	Job Name: **24090120a 09.27.24 7281 NC H...** Level: **1ST FLOOR** Label: **J20 - i2436** Type: **FloorJoist**	**1 Ply Member** **11 7/8" PJI-40**	Status: **Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.7.3.303.Update13.26

Report Version: 2023.09.18 09/27/2024 11:46



DESIGN INFORMATION a

Building Code:	IRC 2018
Design Methodology:	ASD
Risk Category:	II (General Construction) Residential
Service Condition:	Dry
System Live Load:	40.0 psf
System Dead Load:	10.0 psf
System Spacing:	16" c.c
LL Deflection Limit:	L/480, 0.75" (absolute)
TL Deflection Limit:	L/240, 1.00" (absolute)

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 17'- 2"

Bearing Stress of Support Material:

- 725 psi Wall @ 0'- 5 1/2"
- 425 psi Wall @ 17'- 9 1/2"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	9'- 1 1/2"	D + L	1.00	2498 lb ft	3545 lb ft	Passed - 70%
Max Shear:	0'- 6 9/16"	D + L	1.00	572 lb	1620 lb	Passed - 35%
Live Load (LL) Pos. Defl.:	9'- 1 1/2"	L		0.296"	L/480	Passed - L/695
Total Load (TL) Pos. Defl.:	9'- 1 1/2"	D + L		0.370"	L/240	Passed - L/557

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	6 1/2"	D + L	1.00	617 lb		1430 lb	11781 lb	Passed - 43%
2	4 3/8"	D + L	1.00	603 lb		1430 lb	4648 lb	Passed - 42%

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Uniform	0'- 3 1/4"	18'- 7/8"	FC2 Floor Decking (Plan View Fill)	Top	13 lb/ft	53 lb/ft	-	-	-
Point	0'- 3 1/4"	0'- 3 1/4"	W62(i66)	Top	19 lb	-	-	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	0'- 6 1/2"	W71(i81)	138 lb	474 lb	-	-	-
2	17'- 8 1/2"	18'- 7/8"	W4(i1)	121 lb	487 lb	-	-	-

DESIGN NOTES

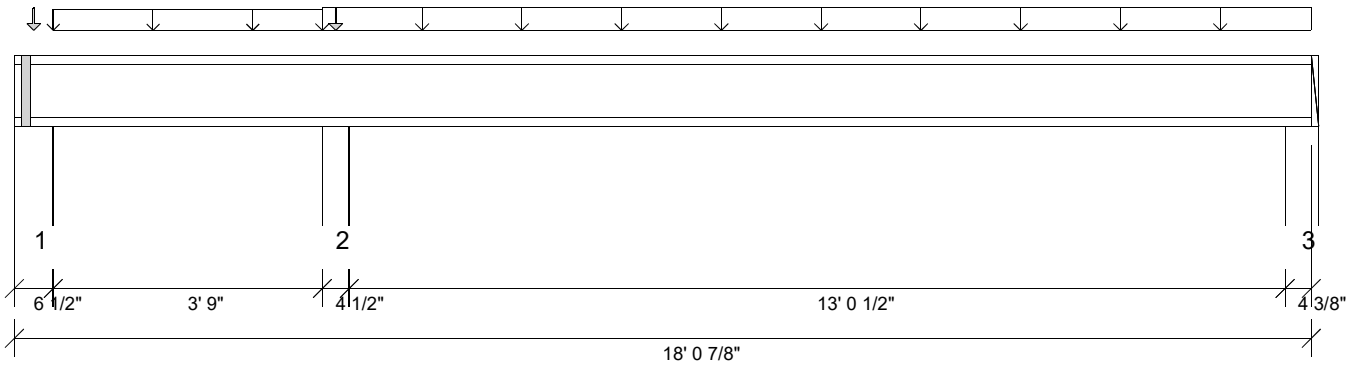
- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- A load bearing wall is supported by the I-joist at a location where the I-joist is supported by a member below. Please see manufacturer installation guidelines for requirements of blocking/squash blocks.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (CL) = 1.00
- Bearing length at support 2 was calculated based on the actual bearing area divided by the supported member width and may not match expected value when bearing is not rectangular or when the supported member is not supported by its full width.

MiTek	Customer: Job Name: Adress: City/State:	Job Name: **24090120a 09.27.24 7281 NC H...** Level: **1ST FLOOR** Label: **J20-2 - i2530** Type: **FloorJoist**	**2 Ply Member** **11 7/8" PJI-40**	Status: **Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.7.3.303.Update13.26

Report Version: 2023.09.18 09/27/2024 11:46



DESIGN INFORMATION a

Building Code:	IRC 2018
Design Methodology:	ASD
Risk Category:	II (General Construction) Residential
Service Condition:	Dry
System Live Load:	40.0 psf
System Dead Load:	10.0 psf
System Spacing:	16" c.c
LL Deflection Limit:	L/480, 0.75" (absolute)
TL Deflection Limit:	L/240, 1.00" (absolute)

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 13'- 1/2"

Bearing Stress of Support Material:

- 725 psi Wall @ 0'- 5 1/2"
- 725 psi Wall @ 4'- 5 3/4"
- 425 psi Wall @ 17'- 9 1/2"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	12'- 4 15/16"	D + L	1.00	961 lb ft	7090 lb ft	Passed - 14%
Max Neg. Moment:	4'- 5 3/4"	D + L	1.00	1150 lb ft	7090 lb ft	Passed - 16%
Max Shear:	4'- 8 1/16"	D + L	1.00	517 lb	3240 lb	Passed - 16%
Live Load (LL) Pos. Defl.:	11'- 9 7/8"	L		0.034"	L/480	Passed - L/999
Total Load (TL) Pos. Defl.:	11'- 9 11/16"	D + L		0.042"	L/240	Passed - L/999

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	6 1/2"	D + L	1.00	62 lb		2860 lb	23562 lb	Passed - 2%
1	6 1/2"	D + L	1.00		-226 lb	-	-	
2	4 1/2"	D + L	1.00	934 lb		6000 lb	16313 lb	Passed - 16%
3	4 3/8"	D + L	1.00	384 lb		2860 lb	9297 lb	Passed - 13%

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Uniform	0'- 6 1/2"	4'- 3 1/2"	FC2 Floor Decking (Plan View Fill)	Top	8 lb/ft	31 lb/ft	-	-	-
Uniform	4'- 3 1/2"	18'- 7/8"	FC2 Floor Decking (Plan View Fill)	Top	13 lb/ft	53 lb/ft	-	-	-
Point	0'- 3 1/4"	0'- 3 1/4"	W62(i66)	Top	38 lb	-	-	-	-
Point	4'- 5 3/4"	4'- 5 3/4"	W66(i70)	Top	38 lb	-	-	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	0'- 6 1/2"	W71(i81)	1 lb	61/-225 lb	-	-	-
2	4'- 3 1/2"	4'- 8"	W81(i92)	213 lb	719 lb	-	-	-
3	17'- 8 1/2"	18'- 7/8"	W4(i1)	78 lb	310/-1 lb	-	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- A load bearing wall is supported by the I-joist at a location where the I-joist is supported by a member below. Please see manufacturer installation guidelines for requirements of blocking/squash blocks.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (CL) = 1.00
- Bearing length at support 3 was calculated based on the actual bearing area divided by the supported member width and may not match expected value when bearing is not rectangular or when the supported member is not supported by its full width.

PLY TO PLY CONNECTION

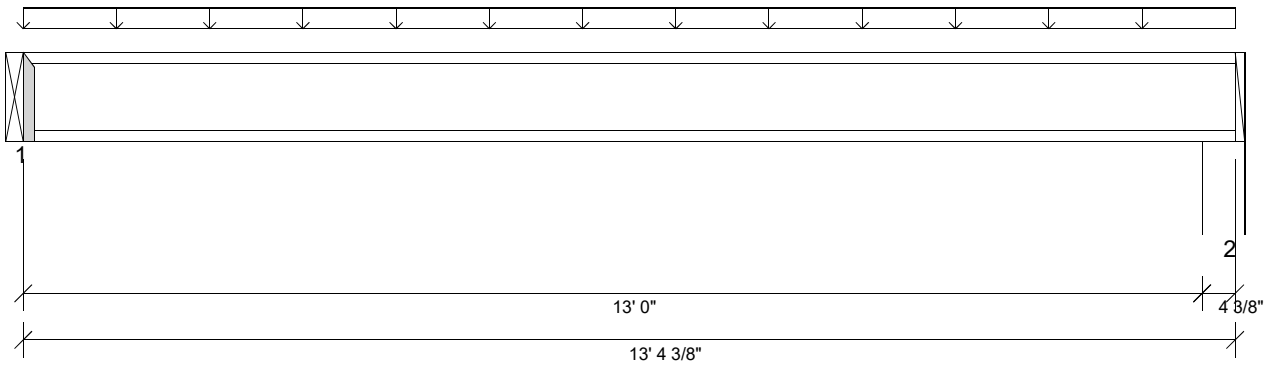
- Member design assumed proper ply to ply connection by others. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.

MiTek	Customer: Job Name: Adress: City/State:	Job Name: **24090120a 09.27.24 7281 NC H...** Level: **1ST FLOOR** Label: **J14 - i2462** Type: **FloorJoist**	**1 Ply Member** **11 7/8" PJI-40**	Status: **Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.7.3.303.Update13.26

Report Version: 2023.09.18 09/27/2024 11:46



DESIGN INFORMATION a

Building Code:	IRC 2018
Design Methodology:	ASD
Risk Category:	II (General Construction) Residential
Service Condition:	Dry
System Live Load:	40.0 psf
System Dead Load:	10.0 psf
System Spacing:	16" c.c
LL Deflection Limit:	L/480, 0.75" (absolute)
TL Deflection Limit:	L/240, 1.00" (absolute)

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 13'

Bearing Stress of Support Material:

- 425 psi Beam @ 0'
- 425 psi Wall @ 13'- 1"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	6'- 6 7/16"	D + L	1.00	1424 lb ft	3545 lb ft	Passed - 40%
Max Shear:	0'- 1/16"	D + L	1.00	435 lb	1620 lb	Passed - 27%
Live Load (LL) Pos. Defl.:	6'- 6 1/2"	L		0.104"	L/480	Passed - L/999
Total Load (TL) Pos. Defl.:	6'- 6 1/2"	D + L		0.130"	L/240	Passed - L/999

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	1 3/4"	D + L	1.00	464 lb		1200 lb	-	Passed - 39%
2	4 3/8"	D + L	1.00	461 lb		1430 lb	4648 lb	Passed - 32%

CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Nailing Requirements			Other Information or Requirement for Reinforcement Accessories
			Top	Face	Member	
1	IUS2.56/11.88	Simpson	-	10- 10d	2- Strong-Grip	Connector manually specified by the user.

* Connectors: Refer to manufacturer's specifications, fasteners requirements and installation instruction. Where header fasteners are longer than the width of the supporting member, install backer block or clinch header nails.

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Uniform	0'	13'- 4 3/8"	FC2 Floor Decking (Plan View Fill)	Top	13 lb/ft	53 lb/ft	-	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	0'	J4-2(i2444)	93 lb	371 lb	-	-	-
2	13'	13'- 4 3/8"	W4(i1)	92 lb	369 lb	-	-	-

DESIGN NOTES

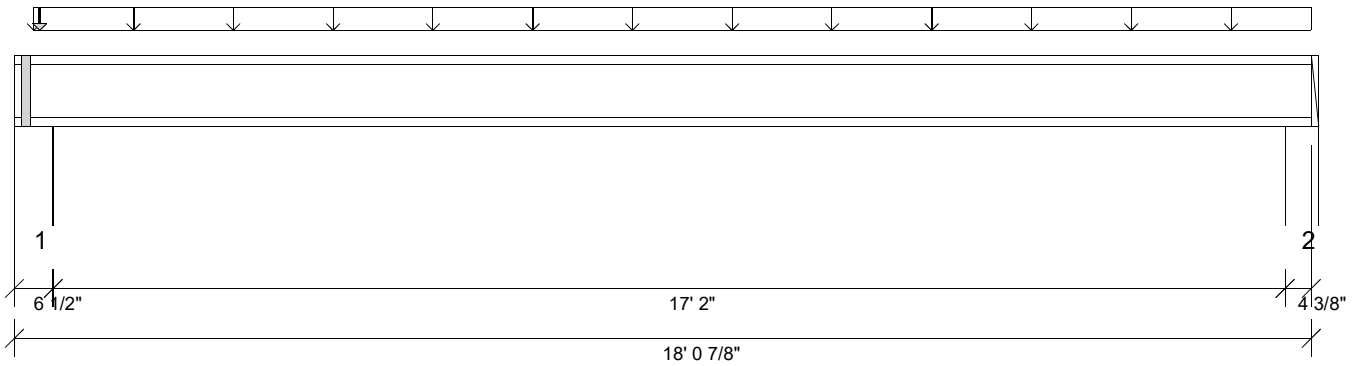
- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- A load bearing wall is supported by the I-joist at a location where the I-joist is supported by a member below. Please see manufacturer installation guidelines for requirements of blocking/squash blocks.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (CL) = 1.00
- Bearing length at support 2 was calculated based on the actual bearing area divided by the supported member width and may not match expected value when bearing is not rectangular or when the supported member is not supported by its full width.

Customer: Job Name: Adress: City/State:	Job Name: **24090120a 09.27.24 7281 NC H...** Level: **1ST FLOOR** Label: **J20-2 - i2399** Type: **FloorJoist**	**2 Ply Member** **11 7/8" PJI-40**	Status: **Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.7.3.303.Update13.26

Report Version: 2023.09.18 09/27/2024 11:46



DESIGN INFORMATION a

Building Code:	IRC 2018
Design Methodology:	ASD
Risk Category:	II (General Construction) Residential
Service Condition:	Dry
System Live Load:	40.0 psf
System Dead Load:	10.0 psf
System Spacing:	16" c.c
LL Deflection Limit:	L/480, 0.75" (absolute)
TL Deflection Limit:	L/240, 1.00" (absolute)

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 17'- 2"

Bearing Stress of Support Material:

- 725 psi Wall @ 0'- 5 1/2"
- 425 psi Wall @ 17'- 9 1/2"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	9'- 1 1/2"	D + L	1.00	2499 lb ft	7090 lb ft	Passed - 35%
Max Shear:	0'- 6 9/16"	D + L	1.00	572 lb	3240 lb	Passed - 18%
Live Load (LL) Pos. Defl.:	9'- 1 1/2"	L		0.160"	L/480	Passed - L/999
Total Load (TL) Pos. Defl.:	9'- 1 1/2"	D + L		0.199"	L/240	Passed - L/999

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	6 1/2"	D + L	1.00	628 lb		2860 lb	23563 lb	Passed - 22%
2	4 3/8"	D + L	1.00	603 lb		2860 lb	9297 lb	Passed - 21%

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Uniform	0'- 3 1/4"	18'- 7/8"	FC2 Floor Decking (Plan View Fill)	Top	13 lb/ft	53 lb/ft	-	-	-
Point	0'- 4 1/4"	0'- 4 1/4"	W63(i67)	Top	38 lb	-	-	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	0'- 6 1/2"	W71(i81)	155 lb	467 lb	-	-	-
2	17'- 8 1/2"	18'- 7/8"	W4(i1)	122 lb	487 lb	-	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- A load bearing wall is supported by the I-joist at a location where the I-joist is supported by a member below. Please see manufacturer installation guidelines for requirements of blocking/squash blocks.
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- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (CL) = 1.00
- Bearing length at support 2 was calculated based on the actual bearing area divided by the supported member width and may not match expected value when bearing is not rectangular or when the supported member is not supported by its full width.

PLY TO PLY CONNECTION

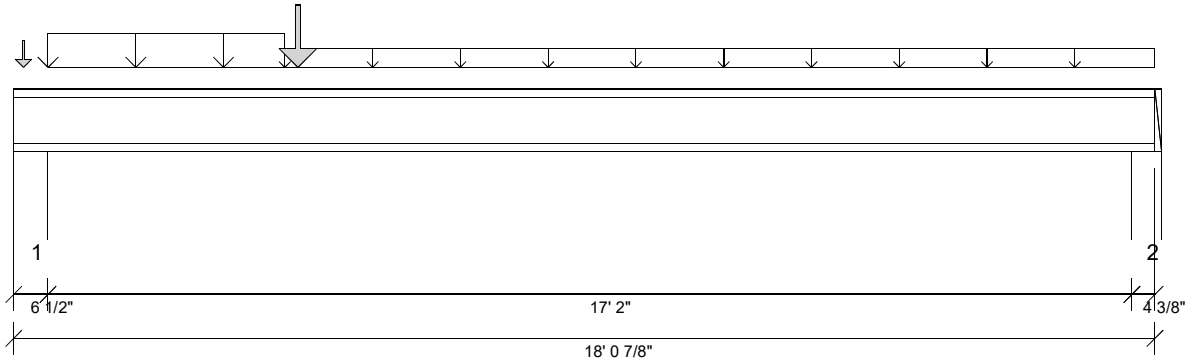
- Member design assumed proper ply to ply connection by others. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.

Customer: Job Name: Adress: City/State:	Job Name: **24090120a 09.27.24 7281 NC H...** Level: **1ST FLOOR** Label: **J20-2 - i2531** Type: **FloorJoist**	**2 Ply Member** **11 7/8" PJI-40**	Status: **Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.7.3.303.Update13.26

Report Version: 2023.09.18 09/27/2024 11:46



DESIGN INFORMATION a

Building Code:	IRC 2018
Design Methodology:	ASD
Risk Category:	II (General Construction) Residential
Service Condition:	Dry
System Live Load:	40.0 psf
System Dead Load:	10.0 psf
System Spacing:	16" c.c
LL Deflection Limit:	L/480, 0.75" (absolute)
TL Deflection Limit:	L/240, 1.00" (absolute)

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 13'

Bearing Stress of Support Material:

- 725 psi Wall @ 0'- 5 1/2"
- 425 psi Wall @ 17'- 9 1/2"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	4'- 8 7/16"	D + L	1.00	4281 lb ft	7090 lb ft	Passed - 60%
Max Neg. Moment:	0'- 5 1/2"	D + L	1.00	36 lb ft	7090 lb ft	Passed - 1%
Max Shear:	0'- 6 9/16"	D + L	1.00	1681 lb	3240 lb	Passed - 52%
Live Load (LL) Pos. Defl.:	8'- 6 1/4"	L		0.262"	L/480	Passed - L/786
Total Load (TL) Pos. Defl.:	8'- 6 1/4"	D + L		0.327"	L/240	Passed - L/630

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	6 1/2"	D + L	1.00	1805 lb		2860 lb	23563 lb	Passed - 63%
2	4 3/8"	D + L	1.00	673 lb		2860 lb	9297 lb	Passed - 24%

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Uniform	0'- 6 1/2"	4'- 3 1/2"	FC2 Floor Decking (Plan View Fill)	Top	64 lb/ft	254 lb/ft	-	-	-
Uniform	4'- 3 1/2"	18'- 7/8"	FC2 Floor Decking (Plan View Fill)	Top	10 lb/ft	40 lb/ft	-	-	-
Point	4'- 6"	4'- 6"	J4-2(i2444)	Back	94 lb	376 lb	-	-	-
Point	0'- 1 13/16"	0'- 1 13/16"	-	Top	55 lb	56 lb	-	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	0'- 6 1/2"	W71(i81)	394 lb	1421 lb	-	-	-
2	17'- 8 1/2"	18'- 7/8"	W4(i1)	132 lb	532 lb	-	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- A load bearing wall is supported by the I-joist at a location where the I-joist is supported by a member below. Please see manufacturer installation guidelines for requirements of blocking/squash blocks.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (CL) = 1.00
- Bearing length at support 2 was calculated based on the actual bearing area divided by the supported member width and may not match expected value when bearing is not rectangular or when the supported member is not supported by its full width.

PLY TO PLY CONNECTION

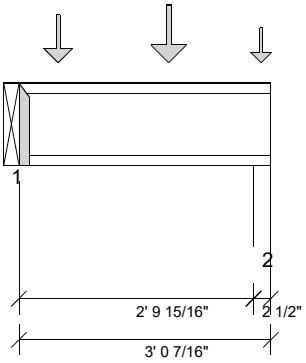
- Member design assumed proper ply to ply connection by others. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.

Customer: Job Name: Adress: City/State:	Job Name: **24090120a 09.27.24 7281 NC H...** Level: **1ST FLOOR** Label: **J4-2 - i2444** Type: **FloorJoist**	**2 Ply Member** **11 7/8" PJI-40**	Status: **Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.7.3.303.Update13.26

Report Version: 2023.09.18 09/27/2024 11:46



DESIGN INFORMATION a

Building Code:	IRC 2018
Design Methodology:	ASD
Risk Category:	II (General Construction) Residential
Service Condition:	Dry
System Live Load:	40.0 psf
System Dead Load:	10.0 psf
System Spacing:	16" c.c
LL Deflection Limit:	L/480, 0.75" (absolute)
TL Deflection Limit:	L/240, 1.00" (absolute)

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 1'- 1 1/2"

Bearing Stress of Support Material:

- 425 psi Beam @ 0'
- 725 psi Wall @ 2'- 10 15/16"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	1'- 9 11/16"	D + L	1.00	380 lb ft	7090 lb ft	Passed - 5%
Max Shear:	0'- 1/16"	D + L	1.00	469 lb	3240 lb	Passed - 14%

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	1 3/4"	D + L	1.00	469 lb		2400 lb	-	Passed - 20%
2	2 1/2"	D + L	1.00	514 lb		2548 lb	8967 lb	Passed - 20%

CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Nailing Requirements			Other Information or Requirement for Reinforcement Accessories
			Top	Face	Member	
1	MIU5.12/11	Simpson	-	-	-	Connector manually specified by the user.

* Connectors: Refer to manufacturer's specifications, fasteners requirements and installation instruction. Where header fasteners are longer than the width of the supporting member, install backer block or clinch header nails.

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Point	0'- 5 11/16"	0'- 5 11/16"	J14(i2448)	Front	70 lb	280 lb	-	-	-
Point	1'- 9 11/16"	1'- 9 11/16"	J14(i2462)	Front	93 lb	371 lb	-	-	-
Point	2'- 11"	2'- 11"	W66(i70)	Top	79 lb	90 lb	43 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	0'	J20-2(i2531)	94 lb	376 lb	-	-	-
2	2'- 9 15/16"	3'- 7/16"	W81(i92)	148 lb	365 lb	43 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- A load bearing wall is supported by the I-joist at a location where the I-joist is supported by a member below. Please see manufacturer installation guidelines for requirements of blocking/squash blocks.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (CL) = 1.00
- Bearing length at support 2 was calculated based on the actual bearing area divided by the supported member width and may not match expected value when bearing is not rectangular or when the supported member is not supported by its full width.

PLY TO PLY CONNECTION

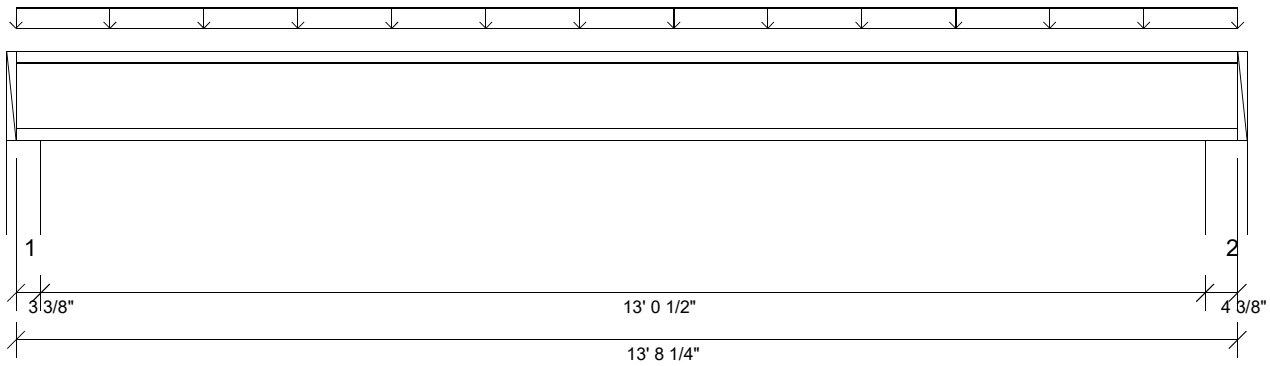
- Member design assumed proper ply to ply connection by others. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.

MiTek	Customer: Job Name: Adress: City/State:	Job Name: **24090120a 09.27.24 7281 NC H...** Level: **1ST FLOOR** Label: **J14 - i2534** Type: **FloorJoist**	**1 Ply Member** **11 7/8" PJI-40**	Status: **Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.7.3.303.Update13.26

Report Version: 2023.09.18 09/27/2024 11:46



DESIGN INFORMATION a

Building Code:	IRC 2018
Design Methodology:	ASD
Risk Category:	II (General Construction) Residential
Service Condition:	Dry
System Live Load:	40.0 psf
System Dead Load:	10.0 psf
System Spacing:	16" c.c
LL Deflection Limit:	L/480, 0.75" (absolute)
TL Deflection Limit:	L/240, 1.00" (absolute)

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 13'- 1/2"

Bearing Stress of Support Material:

- 725 psi Wall @ 0'- 2 3/8"
- 425 psi Wall @ 13'- 4 7/8"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	6'- 9 5/8"	D + L	1.00	1178 lb ft	3545 lb ft	Passed - 33%
Max Shear:	13'- 3 13/16"	D + L	1.00	353 lb	1620 lb	Passed - 22%
Live Load (LL) Pos. Defl.:	6'- 9 5/8"	L		0.087"	L/480	Passed - L/999
Total Load (TL) Pos. Defl.:	6'- 9 5/8"	D + L		0.109"	L/240	Passed - L/999

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	3 3/8"	D + L	1.00	373 lb		1366 lb	6115 lb	Passed - 27%
2	4 3/8"	D + L	1.00	378 lb		1430 lb	4648 lb	Passed - 26%

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Uniform	0'	13'- 8 1/4"	FC2 Floor Decking (Plan View Fill)	Top	11 lb/ft	43 lb/ft	-	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	0'- 3 3/8"	W81(i92)	75 lb	299 lb	-	-	-
2	13'- 3 7/8"	13'- 8 1/4"	W4(i1)	76 lb	302 lb	-	-	-

DESIGN NOTES

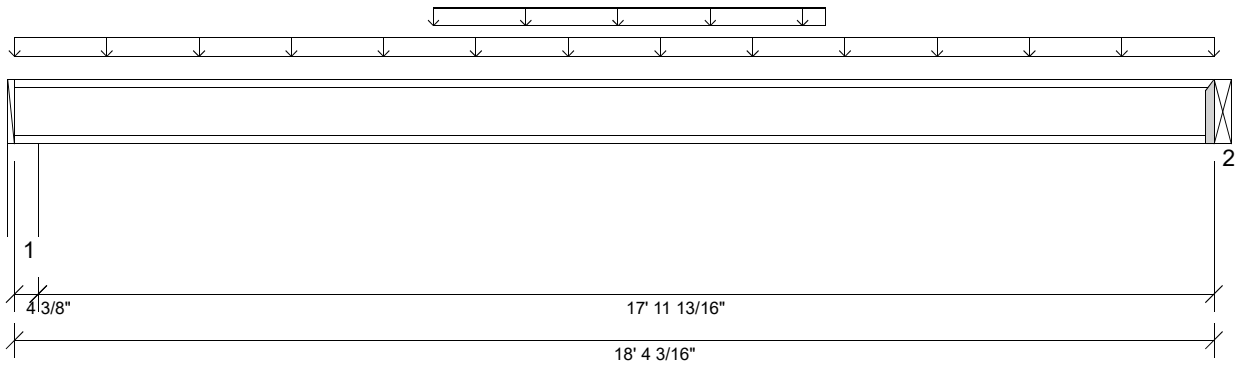
- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- A load bearing wall is supported by the I-joist at a location where the I-joist is supported by a member below. Please see manufacturer installation guidelines for requirements of blocking/squash blocks.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (CL) = 1.00
- Bearing length at support 2 was calculated based on the actual bearing area divided by the supported member width and may not match expected value when bearing is not rectangular or when the supported member is not supported by its full width.

MiTek	Customer: Job Name: Adress: City/State:	Job Name: **24090120a 09.27.24 7281 NC H...** Level: **1ST FLOOR** Label: **J20 - i2366** Type: **FloorJoist**	**1 Ply Member** **11 7/8" PJI-40**	Status: **Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.7.3.303.Update13.26

Report Version: 2023.09.18 09/27/2024 11:46



DESIGN INFORMATION a

Building Code:	IRC 2018
Design Methodology:	ASD
Risk Category:	II (General Construction) Residential
Service Condition:	Dry
System Live Load:	40.0 psf
System Dead Load:	10.0 psf
System Spacing:	16" c.c
LL Deflection Limit:	L/480, 0.75" (absolute)
TL Deflection Limit:	L/240, 1.00" (absolute)

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 17'- 11 13/16"

Bearing Stress of Support Material:

- 425 psi Wall @ 0'- 3 3/8"
- 425 psi Beam @ 18'- 4 3/16"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	9'- 4 1/16"	D + L	1.00	1722 lb ft	3545 lb ft	Passed - 49%
Max Shear:	18'- 4 1/8"	D + L	1.00	349 lb	1620 lb	Passed - 22%
Live Load (LL) Pos. Defl.:	9'- 3 13/16"	L		0.173"	L/480	Passed - L/999
Total Load (TL) Pos. Defl.:	9'- 3 7/8"	D + L		0.270"	L/240	Passed - L/799

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	4 3/8"	D + L	1.00	361 lb		1430 lb	4649 lb	Passed - 25%
2	1 3/4"	D + L	1.00	361 lb		1200 lb	-	Passed - 30%

CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Nailing Requirements			Other Information or Requirement for Reinforcement Accessories
			Top	Face	Member	
2	IUS2.56/11.88	Simpson	-	10- 10d	2- Strong-Grip	Connector manually specified by the user.

* Connectors: Refer to manufacturer's specifications, fasteners requirements and installation instruction. Where header fasteners are longer than the width of the supporting member, install backer block or clinch header nails.

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Uniform	0'	18'- 4 3/16"	FC2 Floor Decking (Plan View Fill)	Top	7 lb/ft	27 lb/ft	-	-	-
Uniform	6'- 4 15/16"	12'- 4 7/8"	FC2 Floor Decking (Plan View Fill)	Top	16 lb/ft	-	-	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	0'- 4 3/8"	W6(i6)	110 lb	251 lb	-	-	-
2	18'- 4 3/16"	18'- 4 3/16"	STEEL(i84)	111 lb	250 lb	-	-	-

DESIGN NOTES

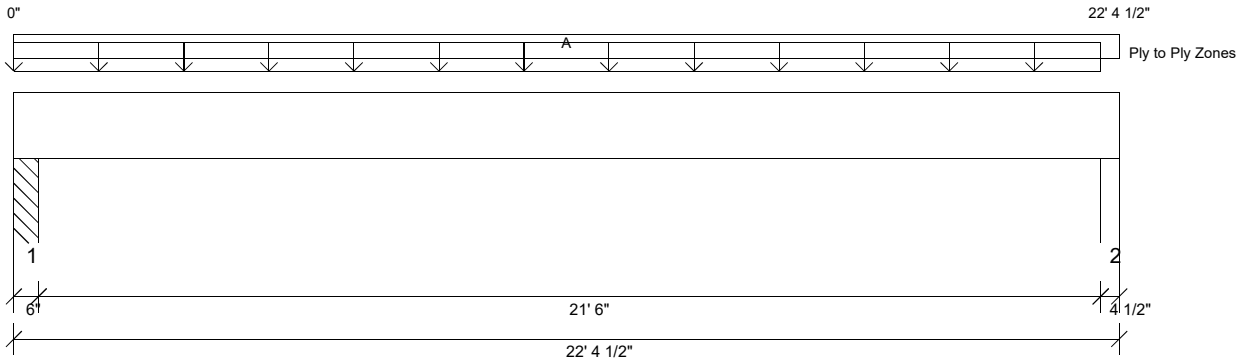
- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- A load bearing wall is supported by the I-joist at a location where the I-joist is supported by a member below. Please see manufacturer installation guidelines for requirements of blocking/squash blocks.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (CL) = 1.00
- Bearing length at support 1 was calculated based on the actual bearing area divided by the supported member width and may not match expected value when bearing is not rectangular or when the supported member is not supported by its full width.

MiTek	Customer: Job Name: Adress: City/State:	Job Name: **24090120a 09.27.24 7281 NC H...** Level: **2ND FLOOR** Label: **DB4-2 - i2488** Type: **Beam**	**2 Ply Member** **2.1 RigidLam SP LVL 1-3/4 x 16**	Status: **Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.7.3.303.Update13.26

Report Version: 2023.09.18 09/27/2024 11:46



DESIGN INFORMATION a

Building Code:	IRC 2018
Design Methodology:	ASD
Risk Category:	II (General Construction) Residential
Service Condition:	Dry
System Spacing:	-
LL Deflection Limit:	L/480, 0.75" (absolute)
TL Deflection Limit:	L/240, 1.00" (absolute)

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 21'- 6"

Bearing Stress of Support Material:

- 725 psi Column @ 0'- 5"
- 725 psi Wall @ 22'- 1"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	11'- 3 1/16"	D + S	1.15	14939 lb ft	41884 lb ft	Passed - 36%
Max Shear:	1'- 10"	D + S	1.15	2400 lb	12451 lb	Passed - 19%
Live Load (LL) Pos. Defl.:	11'- 3"	S		0.266"	L/480	Passed - L/969
Total Load (TL) Pos. Defl.:	11'- 3"	D + S		0.532"	L/240	Passed - L/484

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	6"	D + S	1.15	2867 lb		15750 lb	15225 lb	Passed - 19%
2	4 1/2"	D + S	1.15	2744 lb		11812 lb	11419 lb	Passed - 24%

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Self Weight	0'	22'- 4 1/2"	Self Weight	Top	15 lb/ft	-	-	-	-
Uniform	0'	22'	User Load	Top	120 lb/ft	-	120 lb/ft	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	0'- 6"	PBO1(i72)	1512 lb	-	1346 lb	-	-
2	22'	22'- 4 1/2"	W12(i14)	1459 lb	-	1294 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (CL) = 1.00
- The unbraced length used in this design was manually input by the user. Install lateral bracing to satisfy the unbraced lengths specified on this report.

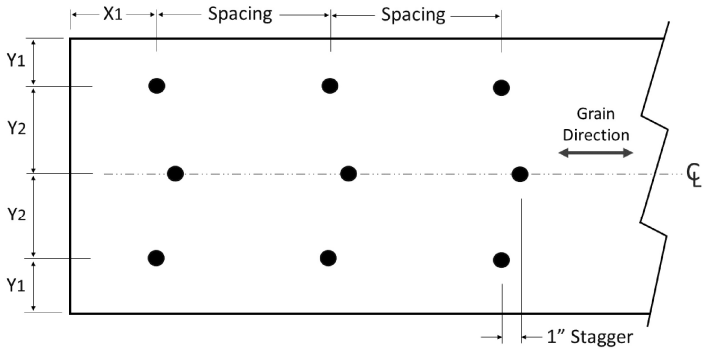
PLY TO PLY CONNECTION

- Zone A: Factored load = 0 plf. Use 12d (0.148"x3.25") nails. LDF = 1.00. Qty = 69. Row = 3, Spacing = 12"
  12d (0.148"x3.25") nails properties: D = 0.148" , L = 3.25". Fastener capacity = 128 lbs. X1 = 2.25" , Y1 = 0.75", Y2 = 1.5"
  Install fasteners from one face.
  X1 = Minimum end distance, X2 = Minimum edge distance, Y2 = Minimum row spacing.

MiTek	Customer: Job Name: Adress: City/State:	Job Name: **24090120a 09.27.24 7281 NC H...** Level: **2ND FLOOR** Label: **DB4-2 - i2488** Type: **Beam**	**2 Ply Member** **2.1 RigidLam SP LVL 1-3/4 x 16**	Status: **Design Passed**

PLY TO PLY CONNECTION

FASTENER INSTALLATION – 3 ROWS (FROM ONE FACE)

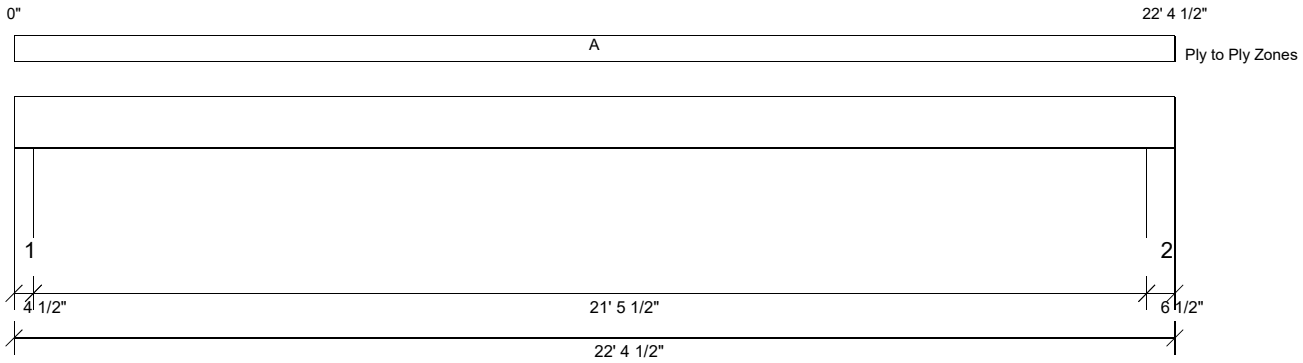


MiTek	Customer: Job Name: Adress: City/State:	Job Name: **24090120a 09.27.24 7281 NC H...** Level: **2ND FLOOR** Label: **FB13-2 NON LOAD BEARING -** Type: **Beam**	**2 Ply Member** **2.1 RigidLam SP LVL 1-3/4 x 11-7/8**	Status: **Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.7.3.303.Update13.26

Report Version: 2023.09.18 09/27/2024 11:46



DESIGN INFORMATION a

Building Code:	IRC 2018
Design Methodology:	ASD
Risk Category:	II (General Construction) Residential
Service Condition:	Dry
System Spacing:	-
LL Deflection Limit:	L/480, 0.75" (absolute)
TL Deflection Limit:	L/240, 1.00" (absolute)

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 21'- 5 1/2" Bottom: 21'- 5 1/2"

Bearing Stress of Support Material:

- 725 psi Wall @ 0'- 3 1/2"
- 725 psi Wall @ 21'- 11"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	11'- 1 3/16"	D	0.90	641 lb ft	4667 lb ft	Passed - 14%
Max Shear:	20'- 10 1/8"	D	0.90	107 lb	7232 lb	Passed - 1%
Total Load (TL) Pos. Defl.:	11'- 1 1/4"	D		0.054"	L/240	Passed - L/999

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	4 1/2"	D	0.90	122 lb		11813 lb	11419 lb	Passed - 1%
2	6 1/2"	D	0.90	124 lb		17063 lb	16494 lb	Passed - 1%

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Self Weight	0'	22'- 4 1/2"	Self Weight	Top	11 lb/ft	-	-	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	0'- 4 1/2"	W103(i627)	122 lb	-	-	-	-
2	21'- 10"	22'- 4 1/2"	W62(i66)	124 lb	-	-	-	-

DESIGN NOTES

- CAUTION: This member didn't transfer any live load reactions to any of its supports. Verify load transfer is occurring as expected for this member.
- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (CL) = 0.24

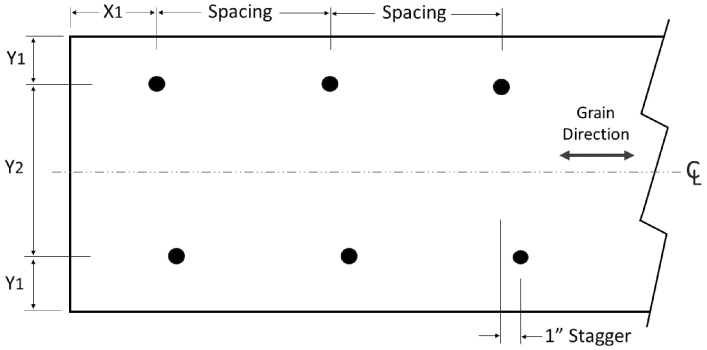
PLY TO PLY CONNECTION

- Zone A: Factored load = 0 plf. Use 12d (0.148"x3.25") nails. LDF = 1.00. Qty = 46. Row = 2, Spacing = 12"
  12d (0.148"x3.25") nails properties: D = 0.148" , L = 3.25". Fastener capacity = 128 lbs. X1 = 2.25" , Y1 = 0.75", Y2 = 1.5"
  Install fasteners from one face.
  X1 = Minimum end distance, X2 = Minimum edge distance, Y2 = Minimum row spacing.

MiTek	Customer: Job Name: Adress: City/State:	Job Name: **24090120a 09.27.24 7281 NC H...** Level: **2ND FLOOR** Label: **FB13-2 NON LOAD BEARING - Beam** Type:	**2 Ply Member** **2.1 RigidLam SP LVL 1-3/4 x 11-7/8**	Status: **Design Passed**

PLY TO PLY CONNECTION

FASTENER INSTALLATION – 2 ROWS (FROM ONE FACE)

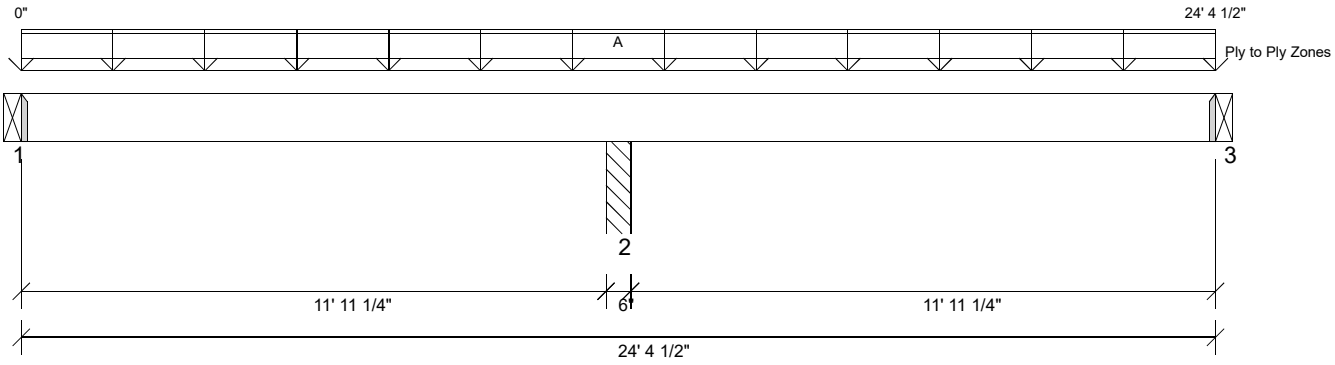


MiTek	Customer: Job Name: Adress: City/State:	Job Name: **24090120a 09.27.24 7281 NC H...** Level: **2ND FLOOR** Label: **DB11-2 - i2498** Type: **Beam**	**2 Ply Member** **2.1 RigidLam SP LVL 1-3/4 x 11-7/8**	Status: **Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.7.3.303.Update13.26

Report Version: 2023.09.18 09/27/2024 11:46



DESIGN INFORMATION a

Building Code:	IRC 2018
Design Methodology:	ASD
Risk Category:	II (General Construction) Residential
Service Condition:	Dry
System Spacing:	-
LL Deflection Limit:	L/480, 0.75" (absolute)
TL Deflection Limit:	L/240, 1.00" (absolute)

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 11'- 11 1/4"

Bearing Stress of Support Material:

- 425 psi Beam @ 0'
- 725 psi Column @ 12'- 2 1/4"
- 425 psi Beam @ 24'- 4 1/2"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	19'- 9 5/8"	D + S	1.15	4501 lb ft	24489 lb ft	Passed - 18%
Max Neg. Moment:	12'- 2 1/4"	D + S	1.15	8002 lb ft	8146 lb ft	Passed - 98%
Max Shear:	13'- 5 1/8"	D + S	1.15	2749 lb	9241 lb	Passed - 30%
Live Load (LL) Pos. Defl.:	19'- 2 7/8"	S		0.068"	L/480	Passed - L/999
Total Load (TL) Pos. Defl.:	19'- 2 7/8"	D + S		0.098"	L/240	Passed - L/999

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	1 1/2"	D + S	1.15	1970 lb		3937 lb	-	Passed - 50%
2	6"	D + S	1.15	6566 lb		15752 lb	15227 lb	Passed - 43%
3	1 1/2"	D + S	1.15	1970 lb		3937 lb	-	Passed - 50%

CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Nailing Requirements			Other Information or Requirement for Reinforcement Accessories
			Top	Face	Member	
1	HUCQ412-SDS		-	-	-	Connector manually specified by the user.
3	HUCQ412-SDS		-	-	-	Connector manually specified by the user.

* Connectors: Refer to manufacturer's specifications, fasteners requirements and installation instruction. Where header fasteners are longer than the width of the supporting member, install backer block or clinch header nails.

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Self Weight	0'	24'- 4 1/2"	Self Weight	Top	11 lb/ft	-	-	-	-
Uniform	0'	24'- 4 1/2"	User Load	Top	140 lb/ft	-	280 lb/ft	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	0'	DB10-2(i2502)	690 lb	-	1280 lb	-	-
2	11'- 11 1/4"	12'- 5 1/4"	PBO7(i617)	2300 lb	-	4266 lb	-	-
3	24'- 4 1/2"	24'- 4 1/2"	DB12-2(i2503)	690 lb	-	1280 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (CL) = 1.00
- Beam Stability Factor used in the calculation for Allowable Max Neg Moment (CL) = 0.33
- The unbraced length used in this design was manually input by the user. Install lateral bracing to satisfy the unbraced lengths specified on this report.

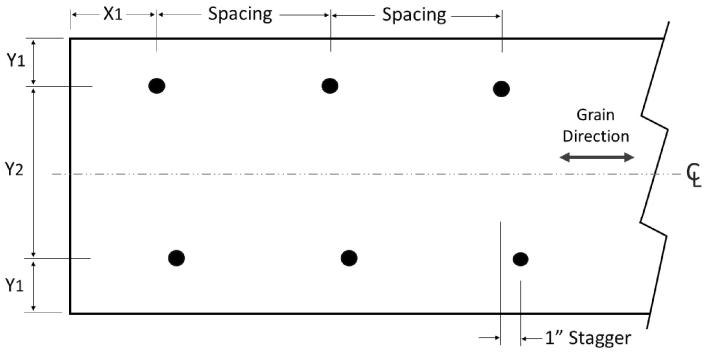
PLY TO PLY CONNECTION

- Zone A: Factored load = 0 plf. Use 12d (0.148"x3.25") nails. LDF = 1.00. Qty = 50. Row = 2, Spacing = 12"
  12d (0.148"x3.25") nails properties: D = 0.148" , L = 3.25". Fastener capacity = 128 lbs. X1 = 2.25" , Y1 = 0.75", Y2 = 1.5"
  Install fasteners from one face.
  X1 = Minimum end distance, X2 = Minimum edge distance, Y2 = Minimum row spacing.

MiTek	Customer: Job Name: Adress: City/State:	Job Name: **24090120a 09.27.24 7281 NC H...** Level: **2ND FLOOR** Label: **DB11-2 - i2498** Type: **Beam**	**2 Ply Member** **2.1 RigidLam SP LVL 1-3/4 x 11-7/8**	Status: **Design Passed**

PLY TO PLY CONNECTION

FASTENER INSTALLATION – 2 ROWS (FROM ONE FACE)



Customer: Job Name: Adress: City/State:	Job Name: **24090120a 09.27.24 7281 NC H...** Level: **2ND FLOOR** Label: **DB10-2 - i2502** Type: **Beam**	**2 Ply Member** **2.1 RigidLam SP LVL 1-3/4 x 14**	Status: **Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.7.3.303.Update13.26

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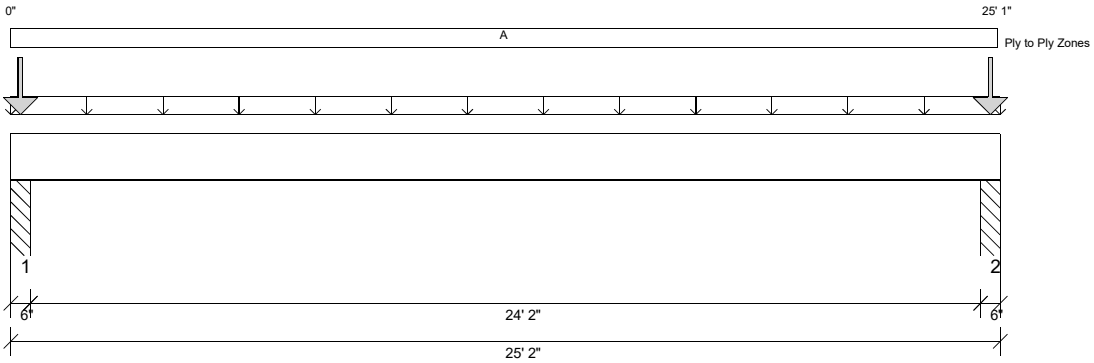


DESIGN INFORMATION a

Building Code:	IRC 2018
Design Methodology:	ASD
Risk Category:	II (General Construction) Residential
Service Condition:	Dry
System Spacing:	-
LL Deflection Limit:	L/480, 0.75" (absolute)
TL Deflection Limit:	L/240, 1.00" (absolute)

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 24'- 2"

Bearing Stress of Support Material:

- 725 psi Column @ 0'- 5"
- 725 psi Column @ 24'- 9"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	12'- 7"	D + S	1.15	6542 lb ft	32936 lb ft	Passed - 20%
Max Neg. Moment:	0'- 5"	D + S	1.15	336 lb ft	4913 lb ft	Passed - 7%
Max Shear:	1'- 8"	D + S	1.15	1015 lb	10894 lb	Passed - 9%
Live Load (LL) Pos. Defl.:	12'- 7"	S		0.186"	L/480	Passed - L/999
Total Load (TL) Pos. Defl.:	12'- 7"	D + S		0.425"	L/240	Passed - L/681

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	6"	D + S	1.15	3139 lb		15750 lb	15225 lb	Passed - 21%
2	6"	D + S	1.15	3139 lb		15750 lb	15225 lb	Passed - 21%

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Self Weight	0'	25'- 2"	Self Weight	Top	13 lb/ft	-	-	-	-
Uniform	-0'	25'- 2"	User Load	Top	40 lb/ft	-	40 lb/ft	-	-
Point	0'- 3"	0'- 3"	DB9-2(i2498)	Front	690 lb	-	1280 lb	-	-
Point	24'- 11"	24'- 11"	DB11-2(i2498)	Front	690 lb	-	1280 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	0'- 6"	PBO4(i614)	1368 lb	-	1805 lb	-	-
2	24'- 8"	25'- 2"	PBO3(i613)	1344 lb	-	1761 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (CL) = 1.00
- The unbraced length used in this design was manually input by the user. Install lateral bracing to satisfy the unbraced lengths specified on this report.

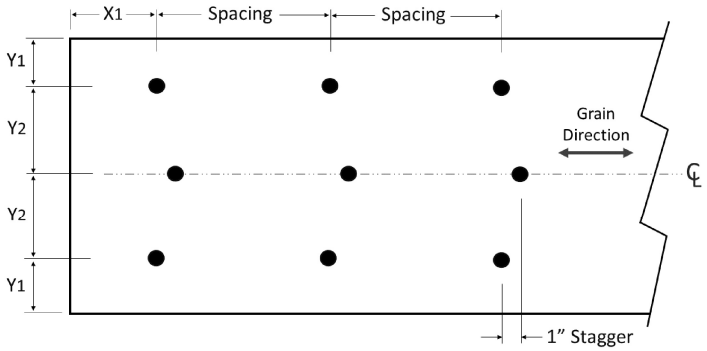
PLY TO PLY CONNECTION

- Zone A: Factored load = 1689 plf. Use 12d (0.148"x3.25") nails. LDF = 1.00. Qty = 183. Row = 3, Spacing = 5"
  12d (0.148"x3.25") nails properties: D = 0.148" , L = 3.25". Fastener capacity = 128 lbs. X1 = 2.25" , Y1 = 0.75", Y2 = 1.5"
  Install fasteners from one face.
  X1 = Minimum end distance, X2 = Minimum edge distance, Y2 = Minimum row spacing.

MiTek	Customer: Job Name: Adress: City/State:	Job Name: **24090120a 09.27.24 7281 NC H...** Level: **2ND FLOOR** Label: **DB10-2 - i2502** Type: **Beam**	**2 Ply Member** **2.1 RigidLam SP LVL 1-3/4 x 14**	Status: **Design Passed**

PLY TO PLY CONNECTION

FASTENER INSTALLATION – 3 ROWS (FROM ONE FACE)



MiTek	Customer: Job Name: Adress: City/State:	Job Name: **24090120a 09.27.24 7281 NC H...** Level: **2ND FLOOR** Label: **DB12-2 - i2503** Type: **Beam**	**2 Ply Member** **2.1 RigidLam SP LVL 1-3/4 x 14**	Status: **Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.7.3.303.Update13.26

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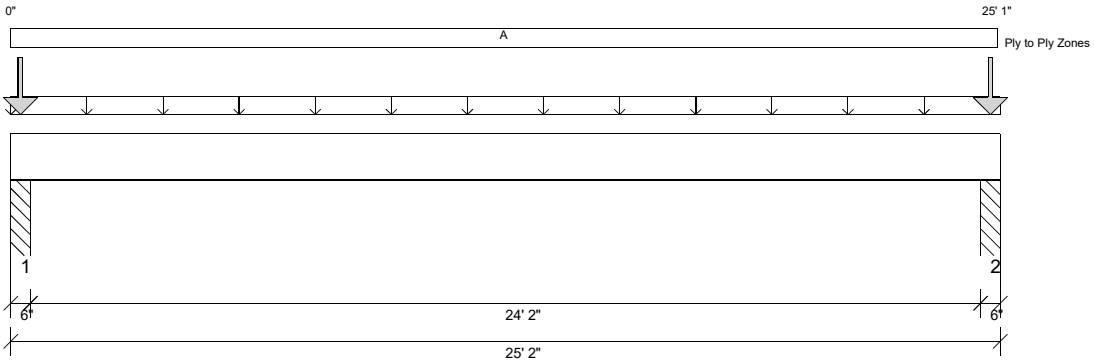


DESIGN INFORMATION a

Building Code:	IRC 2018
Design Methodology:	ASD
Risk Category:	II (General Construction) Residential
Service Condition:	Dry
System Spacing:	-
LL Deflection Limit:	L/480, 0.75" (absolute)
TL Deflection Limit:	L/240, 1.00" (absolute)

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 24'- 2"

Bearing Stress of Support Material:

- 725 psi Column @ 0'- 5"
- 725 psi Column @ 24'- 9"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	12'- 7"	D + S	1.15	6542 lb ft	32936 lb ft	Passed - 20%
Max Neg. Moment:	0'- 5"	D + S	1.15	336 lb ft	4913 lb ft	Passed - 7%
Max Shear:	1'- 8"	D + S	1.15	1015 lb	10894 lb	Passed - 9%
Live Load (LL) Pos. Defl.:	12'- 7"	S		0.186"	L/480	Passed - L/999
Total Load (TL) Pos. Defl.:	12'- 7"	D + S		0.425"	L/240	Passed - L/681

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	6"	D + S	1.15	3139 lb		15750 lb	15225 lb	Passed - 21%
2	6"	D + S	1.15	3139 lb		15750 lb	15225 lb	Passed - 21%

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Self Weight	0'	25'- 2"	Self Weight	Top	13 lb/ft	-	-	-	-
Uniform	0'	25'- 2"	User Load	Top	40 lb/ft	-	40 lb/ft	-	-
Point	0'- 3"	0'- 3"	DB9-2(i2498)	Back	690 lb	-	1280 lb	-	-
Point	24'- 11"	24'- 11"	DB11-2(i2498)	Back	690 lb	-	1280 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	0'- 6"	PBO5(i615)	1368 lb	-	1805 lb	-	-
2	24'- 8"	25'- 2"	PBO6(i616)	1344 lb	-	1761 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (CL) = 1.00
- The unbraced length used in this design was manually input by the user. Install lateral bracing to satisfy the unbraced lengths specified on this report.

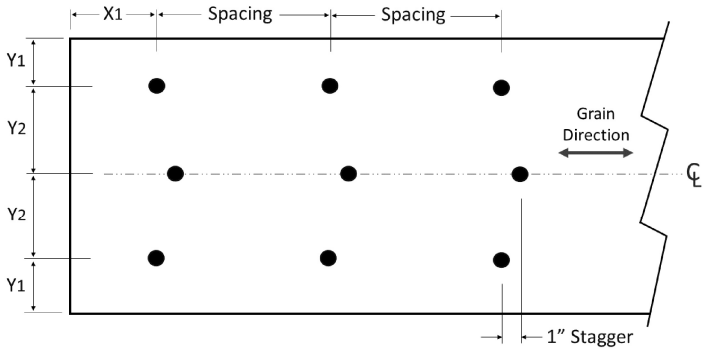
PLY TO PLY CONNECTION

- Zone A: Factored load = 1689 plf. Use 12d (0.148"x3.25") nails. LDF = 1.00. Qty = 183. Row = 3, Spacing = 5"
  12d (0.148"x3.25") nails properties: D = 0.148" , L = 3.25". Fastener capacity = 128 lbs. X1 = 2.25" , Y1 = 0.75", Y2 = 1.5"
  Install fasteners from one face.
  X1 = Minimum end distance, X2 = Minimum edge distance, Y2 = Minimum row spacing.

MiTek	Customer: Job Name: Adress: City/State:	Job Name: **24090120a 09.27.24 7281 NC H...** Level: **2ND FLOOR** Label: **DB12-2 - i2503** Type: **Beam**	**2 Ply Member** **2.1 RigidLam SP LVL 1-3/4 x 14**	Status: **Design Passed**

PLY TO PLY CONNECTION

FASTENER INSTALLATION – 3 ROWS (FROM ONE FACE)



MiTek	Customer: Job Name: Adress: City/State:	Job Name: **24090120a 09.27.24 7281 NC H...** Level: **2ND FLOOR** Label: **J18 - i2479** Type: **FloorJoist**	**1 Ply Member** **11 7/8" PJI-40**	Status: **Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.7.3.303.Update13.26

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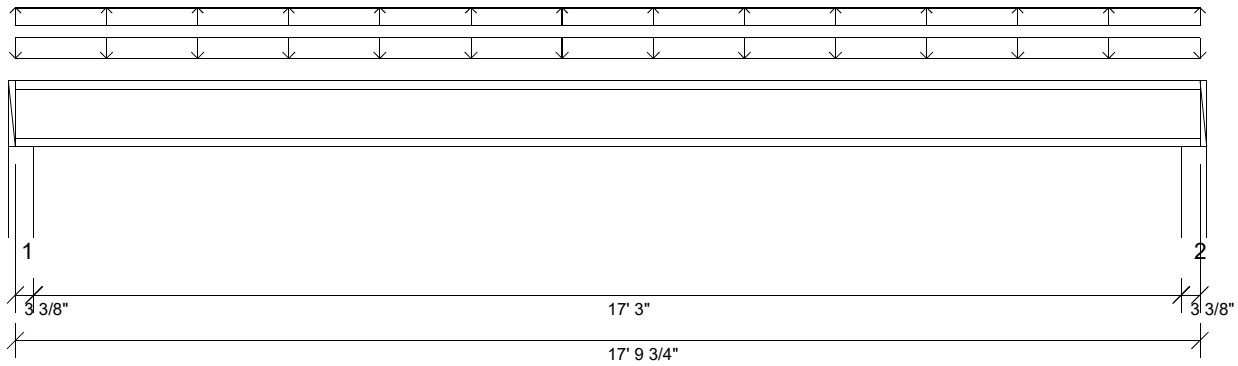


DESIGN INFORMATION a

Building Code:	IRC 2018
Design Methodology:	ASD
Risk Category:	II (General Construction) Residential
Service Condition:	Dry
System Live Load:	40.0 psf
System Dead Load:	10.0 psf
System Spacing:	16" c.c
LL Deflection Limit:	L/480, 0.75" (absolute)
TL Deflection Limit:	L/240, 1.00" (absolute)

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 17'- 3"

Bearing Stress of Support Material:

- 725 psi Wall @ 0'- 2 3/8"
- 725 psi Wall @ 17'- 7 3/8"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	8'- 10 7/8"	D + L	1.00	2525 lb ft	3545 lb ft	Passed - 71%
Max Neg. Moment:	8'- 10 7/8"	D + L	1.00	505 lb ft	3545 lb ft	Passed - 14%
Max Shear:	0'- 3 7/16"	D + L	1.00	575 lb	1620 lb	Passed - 35%
Live Load (LL) Pos. Defl.:	8'- 10 7/8"	L		0.302"	L/480	Passed - L/686
Total Load (TL) Pos. Defl.:	8'- 10 7/8"	D + L		0.377"	L/240	Passed - L/549

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	3 3/8"	D + L	1.00	600 lb		1366 lb	6117 lb	Passed - 44%
1	3 3/8"	D + L	1.00		-120 lb	-	-	
2	3 3/8"	D + L	1.00	600 lb		1366 lb	6117 lb	Passed - 44%
2	3 3/8"	D + L	1.00		-120 lb	-	-	

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Uniform	0'	17'- 9 3/4"	FC3 Floor Decking (Plan View Fill)	Top	13 lb/ft	53/-27 lb/ft	-	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	0'- 3 3/8"	W12(i14)	120 lb	480/-240 lb	-	-	-
2	17'- 6 3/8"	17'- 9 3/4"	W14(i16)	120 lb	480/-240 lb	-	-	-

DESIGN NOTES

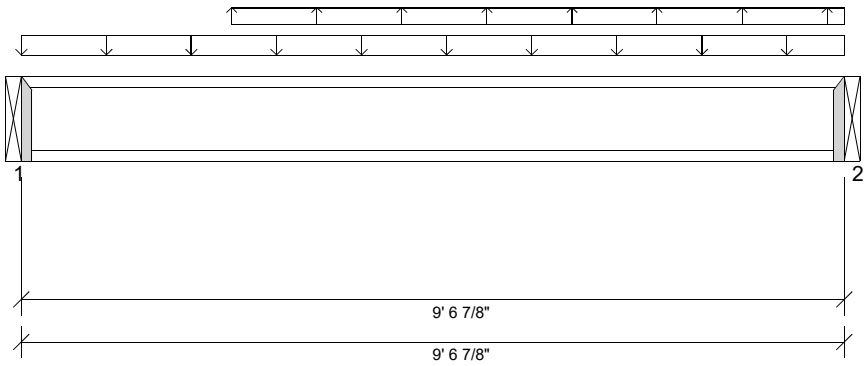
- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (CL) = 1.00

MiTek	Customer: Job Name: Adress: City/State:	Job Name: **24090120a 09.27.24 7281 NC H...** Level: **2ND FLOOR** Label: **J10 - i2438** Type: **FloorJoist**	**1 Ply Member** **11 7/8" PJI-40**	Status: **Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.7.3.303.Update13.26

Report Version: 2023.09.18 09/27/2024 11:46



DESIGN INFORMATION a

Building Code:	IRC 2018
Design Methodology:	ASD
Risk Category:	II (General Construction) Residential
Service Condition:	Dry
System Live Load:	40.0 psf
System Dead Load:	10.0 psf
System Spacing:	16" c.c
LL Deflection Limit:	L/480, 0.75" (absolute)
TL Deflection Limit:	L/240, 1.00" (absolute)

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 9'- 6 7/8"

Bearing Stress of Support Material:

- 425 psi Beam @ 0'
- 425 psi Beam @ 9'- 6 7/8"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	4'- 9 7/16"	D + L	1.00	764 lb ft	3545 lb ft	Passed - 22%
Max Neg. Moment:	5'- 4 15/16"	D + L	1.00	115 lb ft	3545 lb ft	Passed - 3%
Max Shear:	9'- 6 13/16"	D + L	1.00	319 lb	1620 lb	Passed - 20%
Live Load (LL) Pos. Defl.:	4'- 9 7/16"	L		0.034"	L/480	Passed - L/999
Total Load (TL) Pos. Defl.:	4'- 9 7/16"	D + L		0.043"	L/240	Passed - L/999

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	1 3/4"	D + L	1.00	335 lb		1200 lb	-	Passed - 28%
1	1 3/4"	D + L	1.00		-4 lb	-	-	
2	1 3/4"	D + L	1.00	334 lb		1200 lb	-	Passed - 28%
2	1 3/4"	D + L	1.00		-58 lb	-	-	

CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Nailing Requirements			Other Information or Requirement for Reinforcement Accessories
			Top	Face	Member	
1	IUS2.56/11.88	Simpson	-	10- 10d	2- Strong-Grip	Connector manually specified by the user.
2	IUS2.56/11.88	Simpson	-	10- 10d	2- Strong-Grip	-

* Connectors: Refer to manufacturer's specifications, fasteners requirements and installation instruction. Where header fasteners are longer than the width of the supporting member, install backer block or clinch header nails.

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Uniform	0'	9'- 6 7/8"	FC3 Floor Decking (Plan View Fill)	Top	13 lb/ft	53 lb/ft	-	-	-
Uniform	2'- 5 3/8"	9'- 6 7/8"	FC3 Floor Decking (Plan View Fill)	Top	-	-27 lb/ft	-	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	0'	STEEL(i624)	67 lb	268/-71 lb	-	-	-
2	9'- 6 7/8"	9'- 6 7/8"	FB14-3(i2460)	67 lb	267/-125 lb	-	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (CL) = 1.00

MiTek	Customer: Job Name: Adress: City/State:	Job Name: **24090120a 09.27.24 7281 NC H...** Level: **2ND FLOOR** Label: **J8 - i2468** Type: **FloorJoist**	**1 Ply Member** **11 7/8" PJI-40**	Status: **Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.7.3.303.Update13.26

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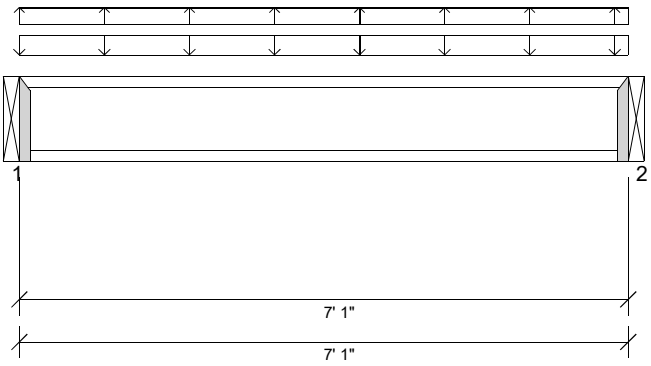

DESIGN INFORMATION a

Building Code:	IRC 2018
Design Methodology:	ASD
Risk Category:	II (General Construction) Residential
Service Condition:	Dry
System Live Load:	40.0 psf
System Dead Load:	10.0 psf
System Spacing:	16" c.c
LL Deflection Limit:	L/480, 0.75" (absolute)
TL Deflection Limit:	L/240, 1.00" (absolute)

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 7'- 1"

Bearing Stress of Support Material:

- 425 psi Beam @ 0'
- 425 psi Beam @ 7'- 1"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	3'- 6 1/2"	D + L	1.00	418 lb ft	3545 lb ft	Passed - 12%
Max Neg. Moment:	3'- 6 1/2"	D + L	1.00	84 lb ft	3545 lb ft	Passed - 2%
Max Shear:	0'- 1/16"	D + L	1.00	236 lb	1620 lb	Passed - 15%

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	1 3/4"	D + L	1.00	264 lb		1200 lb	-	Passed - 22%
1	1 3/4"	D + L	1.00		-43 lb	-	-	
2	1 3/4"	D + L	1.00	251 lb		1200 lb	-	Passed - 21%
2	1 3/4"	D + L	1.00		-50 lb	-	-	

CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Nailing Requirements			Other Information or Requirement for Reinforcement Accessories
			Top	Face	Member	
1	IUS2.56/11.88	Simpson	-	10- 10d	2- Strong-Grip	-
2	IUS2.56/11.88	Simpson	-	10- 10d	2- Strong-Grip	-

* Connectors: Refer to manufacturer's specifications, fasteners requirements and installation instruction. Where header fasteners are longer than the width of the supporting member, install backer block or clinch header nails.

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Uniform	0'	7'- 1"	FC3 Floor Decking (Plan View Fill)	Top	13 lb/ft	53/-27 lb/ft	-	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	0'	J6-2(i2431)	53 lb	211/-96 lb	-	-	-
2	7'- 1"	7'- 1"	FB14-3(i2460)	50 lb	201/-100 lb	-	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (CL) = 1.00

MiTek	Customer: Job Name: Adress: City/State:	Job Name: **24090120a 09.27.24 7281 NC H...** Level: **2ND FLOOR** Label: **J10 - i2320** Type: **FloorJoist**	**1 Ply Member** **11 7/8" PJI-40**	Status: **Design Passed**

Illustration Not to Scale. Pitch: 0/12

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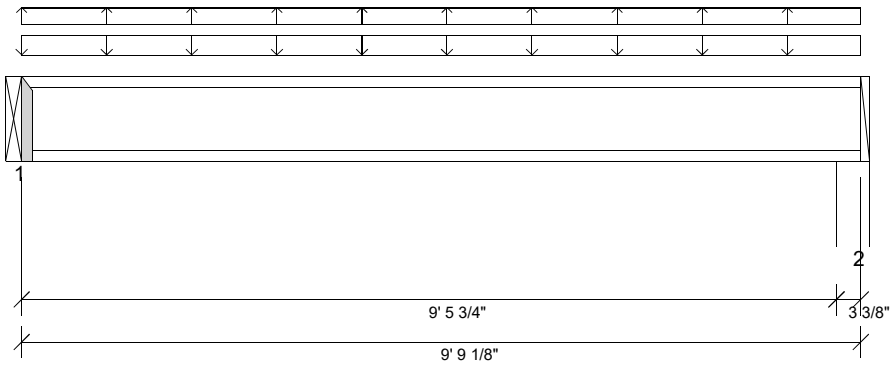

DESIGN INFORMATION a

Building Code:	IRC 2018
Design Methodology:	ASD
Risk Category:	II (General Construction) Residential
Service Condition:	Dry
System Live Load:	40.0 psf
System Dead Load:	10.0 psf
System Spacing:	16" c.c
LL Deflection Limit:	L/480, 0.75" (absolute)
TL Deflection Limit:	L/240, 1.00" (absolute)

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 9'- 5 3/4"

Bearing Stress of Support Material:

- 425 psi Beam @ 0'
- 725 psi Wall @ 9'- 6 3/4"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	4'- 9 5/16"	D + L	1.00	761 lb ft	3545 lb ft	Passed - 21%
Max Neg. Moment:	4'- 9 5/16"	D + L	1.00	152 lb ft	3545 lb ft	Passed - 4%
Max Shear:	0'- 1/16"	D + L	1.00	318 lb	1620 lb	Passed - 20%
Live Load (LL) Pos. Defl.:	4'- 9 3/8"	L		0.034"	L/480	Passed - L/999
Total Load (TL) Pos. Defl.:	4'- 9 3/8"	D + L		0.042"	L/240	Passed - L/999

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	1 3/4"	D + L	1.00	341 lb		1200 lb	-	Passed - 28%
1	1 3/4"	D + L	1.00		-63 lb	-	-	
2	3 3/8"	D + L	1.00	338 lb		1366 lb	6117 lb	Passed - 25%
2	3 3/8"	D + L	1.00		-68 lb	-	-	

CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Nailing Requirements			Other Information or Requirement for Reinforcement Accessories
			Top	Face	Member	
1	IUS2.56/11.88	Simpson	-	10- 10d	2- Strong-Grip	Connector manually specified by the user.

* Connectors: Refer to manufacturer's specifications, fasteners requirements and installation instruction. Where header fasteners are longer than the width of the supporting member, install backer block or clinch header nails.

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Uniform	0'	9'- 9 1/8"	FC3 Floor Decking (Plan View Fill)	Top	13 lb/ft	53/-27 lb/ft	-	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	0'	STEEL(i623)	68 lb	273/-131 lb	-	-	-
2	9'- 5 3/4"	9'- 9 1/8"	W11(i11)	68 lb	271/-135 lb	-	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (CL) = 1.00

MiTek	Customer: Job Name: Adress: City/State:	Job Name: **24090120a 09.27.24 7281 NC H...** Level: **2ND FLOOR** Label: **J16 - i2272** Type: **FloorJoist**	**1 Ply Member** **11 7/8" PJI-40**	Status: **Design Passed**

Illustration Not to Scale. Pitch: 0/12

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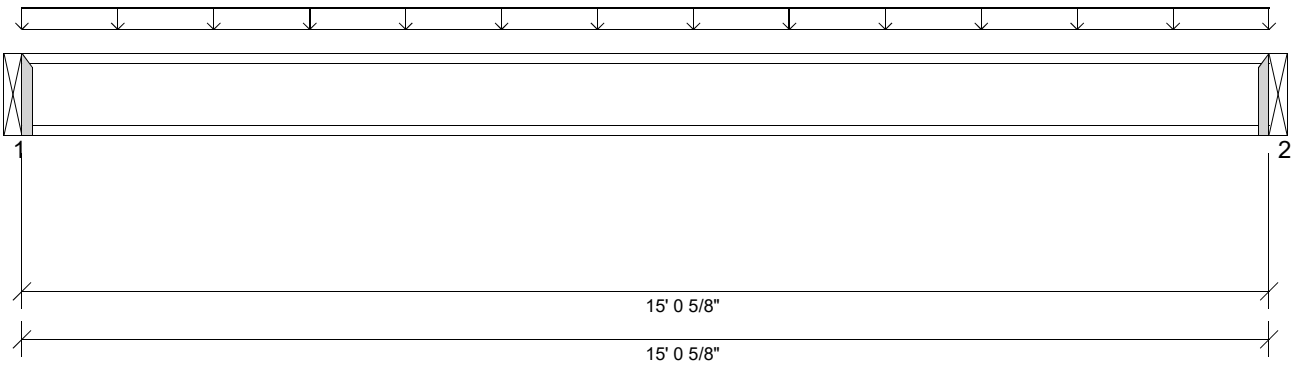

DESIGN INFORMATION a

Building Code:	IRC 2018
Design Methodology:	ASD
Risk Category:	II (General Construction) Residential
Service Condition:	Dry
System Live Load:	40.0 psf
System Dead Load:	10.0 psf
System Spacing:	16" c.c
LL Deflection Limit:	L/480, 0.75" (absolute)
TL Deflection Limit:	L/240, 1.00" (absolute)

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 15'- 5/8"

Bearing Stress of Support Material:

- 425 psi Beam @ 0'
- 425 psi Beam @ 15'- 5/8"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	7'- 6 5/16"	D + L	1.00	1888 lb ft	3545 lb ft	Passed - 53%
Max Shear:	0'- 1/16"	D + L	1.00	501 lb	1620 lb	Passed - 31%
Live Load (LL) Pos. Defl.:	7'- 6 5/16"	L		0.174"	L/480	Passed - L/999
Total Load (TL) Pos. Defl.:	7'- 6 5/16"	D + L		0.218"	L/240	Passed - L/828

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	1 3/4"	D + L	1.00	524 lb		1200 lb	-	Passed - 44%
2	1 3/4"	D + L	1.00	518 lb		1200 lb	-	Passed - 43%

CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Nailing Requirements			Other Information or Requirement for Reinforcement Accessories
			Top	Face	Member	
1	IUS2.56/11.88	Simpson	-	10- 10d	2- Strong-Grip	Connector manually specified by the user.
2	IUS2.56/11.88	Simpson	-	10- 10d	2- Strong-Grip	Connector manually specified by the user.

* Connectors: Refer to manufacturer's specifications, fasteners requirements and installation instruction. Where header fasteners are longer than the width of the supporting member, install backer block or clinch header nails.

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Uniform	0'	15'- 5/8"	FC3 Floor Decking (Plan View Fill)	Top	13 lb/ft	53 lb/ft	-	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	0'	STEEL(i625)	105 lb	419 lb	-	-	-
2	15'- 5/8"	15'- 5/8"	STEEL(i624)	104 lb	414 lb	-	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (CL) = 1.00

MiTek	Customer: Job Name: Adress: City/State:	Job Name: **24090120a 09.27.24 7281 NC H...** Level: **2ND FLOOR** Label: **J8 - i2285** Type: **FloorJoist**	**1 Ply Member** **11 7/8" PJI-40**	Status: **Design Passed**

Illustration Not to Scale. Pitch: 0/12

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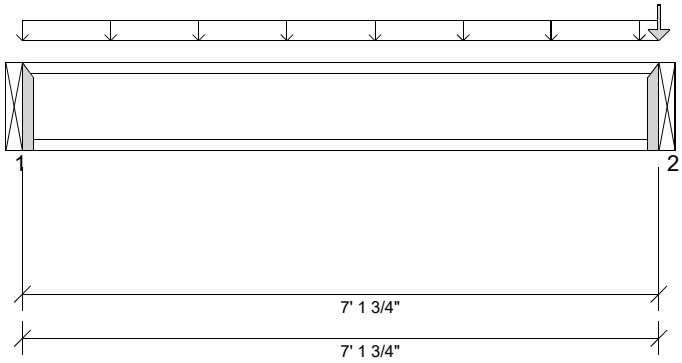

DESIGN INFORMATION a

Building Code:	IRC 2018
Design Methodology:	ASD
Risk Category:	II (General Construction) Residential
Service Condition:	Dry
System Live Load:	40.0 psf
System Dead Load:	10.0 psf
System Spacing:	16" c.c
LL Deflection Limit:	L/480, 0.75" (absolute)
TL Deflection Limit:	L/240, 1.00" (absolute)

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 7'- 1 3/4"

Bearing Stress of Support Material:

- 425 psi Beam @ 0'
- 425 psi Beam @ 7'- 1 3/4"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	3'- 6 7/8"	D + L	1.00	426 lb ft	3545 lb ft	Passed - 12%
Max Shear:	0'- 1/16"	D + L	1.00	238 lb	1620 lb	Passed - 15%
Total Load (TL) Pos. Defl.:	3'- 6 7/8"	D + L		0.016"	L/240	Passed - L/999

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	1 3/4"	D + L	1.00	260 lb		1200 lb	-	Passed - 22%
2	1 3/4"	D + 0.75(L + S)	1.15	366 lb		1200 lb	-	Passed - 30%

CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Nailing Requirements			Other Information or Requirement for Reinforcement Accessories
			Top	Face	Member	
1	IUS2.56/11.88	Simpson	-	10- 10d	2- Strong-Grip	Connector manually specified by the user.
2	IUS2.56/11.88	Simpson	-	10- 10d	2- Strong-Grip	-

* Connectors: Refer to manufacturer's specifications, fasteners requirements and installation instruction. Where header fasteners are longer than the width of the supporting member, install backer block or clinch header nails.

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Uniform	0'	7'- 1 3/4"	FC3 Floor Decking (Plan View Fill)	Top	13 lb/ft	53 lb/ft	-	-	-
Point	7'- 1 3/4"	7'- 1 3/4"	FC3 Floor Decking (Plan View Fill)	Top	40 lb	-	160 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	0'	STEEL(i625)	52 lb	208 lb	-	-	-
2	7'- 1 3/4"	7'- 1 3/4"	FB16-2(i2363)	91 lb	206 lb	160 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
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- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (CL) = 1.00

MiTek	Customer: Job Name: Adress: City/State:	Job Name: **24090120a 09.27.24 7281 NC H...** Level: **2ND FLOOR** Label: **J16 - i2346** Type: **FloorJoist**	**1 Ply Member** **11 7/8" PJI-40**	Status: **Design Passed**

Illustration Not to Scale. Pitch: 0/12

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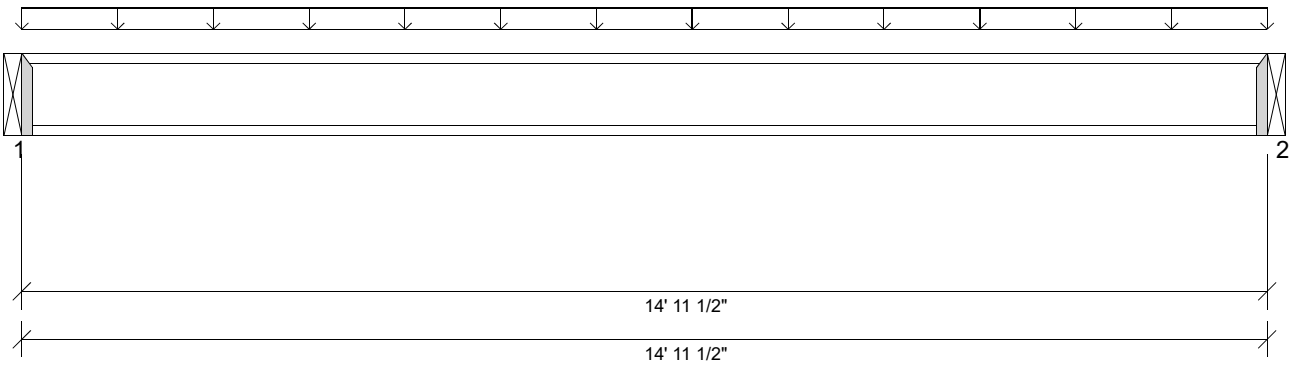


DESIGN INFORMATION a

Building Code:	IRC 2018
Design Methodology:	ASD
Risk Category:	II (General Construction) Residential
Service Condition:	Dry
System Live Load:	40.0 psf
System Dead Load:	10.0 psf
System Spacing:	16" c.c
LL Deflection Limit:	L/480, 0.75" (absolute)
TL Deflection Limit:	L/240, 1.00" (absolute)

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 14'- 11 1/2"

Bearing Stress of Support Material:

- 425 psi Beam @ 0'
- 425 psi Beam @ 14'- 11 1/2"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	7'- 5 3/4"	D + L	1.00	1865 lb ft	3545 lb ft	Passed - 53%
Max Shear:	14'- 11 7/16"	D + L	1.00	498 lb	1620 lb	Passed - 31%
Live Load (LL) Pos. Defl.:	7'- 5 3/4"	L		0.170"	L/480	Passed - L/999
Total Load (TL) Pos. Defl.:	7'- 5 3/4"	D + L		0.213"	L/240	Passed - L/842

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	1 3/4"	D + L	1.00	521 lb		1200 lb	-	Passed - 43%
2	1 3/4"	D + L	1.00	521 lb		1200 lb	-	Passed - 43%

CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Nailing Requirements			Other Information or Requirement for Reinforcement Accessories
			Top	Face	Member	
1	IUS2.56/11.88	Simpson	-	10- 10d	2- Strong-Grip	Connector manually specified by the user.
2	IUS2.56/11.88	Simpson	-	10- 10d	2- Strong-Grip	Connector manually specified by the user.

* Connectors: Refer to manufacturer's specifications, fasteners requirements and installation instruction. Where header fasteners are longer than the width of the supporting member, install backer block or clinch header nails.

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Uniform	0'	14'- 11 1/2"	FC3 Floor Decking (Plan View Fill)	Top	13 lb/ft	53 lb/ft	-	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	0'	STEEL(i625)	104 lb	417 lb	-	-	-
2	14'- 11 1/2"	14'- 11 1/2"	STEEL(i623)	104 lb	417 lb	-	-	-

DESIGN NOTES

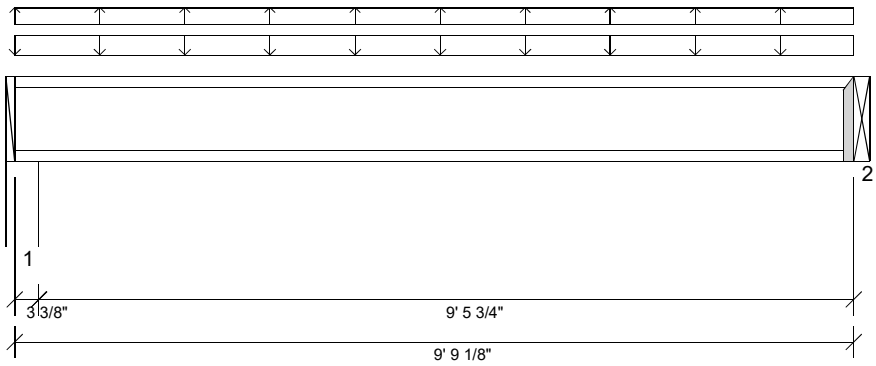
- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (CL) = 1.00

MiTek	Customer: Job Name: Adress: City/State:	Job Name: **24090120a 09.27.24 7281 NC H...** Level: **2ND FLOOR** Label: **J10 - i2334** Type: **FloorJoist**	**1 Ply Member** **11 7/8" PJI-40**	Status: **Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.7.3.303.Update13.26

Report Version: 2023.09.18 09/27/2024 11:46



DESIGN INFORMATION a

Building Code:	IRC 2018
Design Methodology:	ASD
Risk Category:	II (General Construction) Residential
Service Condition:	Dry
System Live Load:	40.0 psf
System Dead Load:	10.0 psf
System Spacing:	16" c.c
LL Deflection Limit:	L/480, 0.75" (absolute)
TL Deflection Limit:	L/240, 1.00" (absolute)

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 9'- 5 3/4"

Bearing Stress of Support Material:

- 725 psi Wall @ 0'- 2 3/8"
- 425 psi Beam @ 9'- 9 1/8"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	4'- 11 13/16"	D + L	1.00	761 lb ft	3545 lb ft	Passed - 21%
Max Neg. Moment:	4'- 11 13/16"	D + L	1.00	152 lb ft	3545 lb ft	Passed - 4%
Max Shear:	9'- 9 1/16"	D + L	1.00	318 lb	1620 lb	Passed - 20%
Live Load (LL) Pos. Defl.:	4'- 11 3/4"	L		0.034"	L/480	Passed - L/999
Total Load (TL) Pos. Defl.:	4'- 11 3/4"	D + L		0.042"	L/240	Passed - L/999

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	3 3/8"	D + L	1.00	338 lb		1366 lb	6117 lb	Passed - 25%
1	3 3/8"	D + L	1.00		-68 lb	-	-	
2	1 3/4"	D + L	1.00	341 lb		1200 lb	-	Passed - 28%
2	1 3/4"	D + L	1.00		-63 lb	-	-	

CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Nailing Requirements			Other Information or Requirement for Reinforcement Accessories
			Top	Face	Member	
2	IUS2.56/11.88	Simpson	-	10- 10d	2- Strong-Grip	Connector manually specified by the user.

* Connectors: Refer to manufacturer's specifications, fasteners requirements and installation instruction. Where header fasteners are longer than the width of the supporting member, install backer block or clinch header nails.

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Uniform	0'	9'- 9 1/8"	FC3 Floor Decking (Plan View Fill)	Top	13 lb/ft	53/-27 lb/ft	-	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	0'- 3 3/8"	W15(i13)	68 lb	271/-135 lb	-	-	-
2	9'- 9 1/8"	9'- 9 1/8"	STEEL(i625)	68 lb	273/-131 lb	-	-	-

DESIGN NOTES

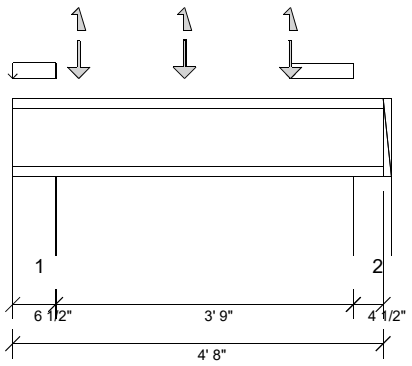
- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (CL) = 1.00

MiTek	Customer: Job Name: Adress: City/State:	Job Name: **24090120a 09.27.24 7281 NC H...** Level: **2ND FLOOR** Label: **J6-2 - i2431** Type: **FloorJoist**	**2 Ply Member** **11 7/8" PJI-40**	Status: **Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.7.3.303.Update13.26

Report Version: 2023.09.18 09/27/2024 11:46



DESIGN INFORMATION a

Building Code:	IRC 2018
Design Methodology:	ASD
Risk Category:	II (General Construction) Residential
Service Condition:	Dry
System Live Load:	40.0 psf
System Dead Load:	10.0 psf
System Spacing:	16" c.c
LL Deflection Limit:	L/480, 0.75" (absolute)
TL Deflection Limit:	L/240, 1.00" (absolute)

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 1'- 1 1/2"

Bearing Stress of Support Material:

- 725 psi Wall @ 0'- 5 1/2"
- 725 psi Wall @ 4'- 4 1/2"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	2'- 2"	D + L	1.00	407 lb ft	7090 lb ft	Passed - 6%
Max Neg. Moment:	2'- 2"	D + L	1.00	68 lb ft	7090 lb ft	Passed - 1%
Max Shear:	0'- 6 9/16"	D + L	1.00	442 lb	3240 lb	Passed - 14%

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	6 1/2"	D + L	1.00	453 lb		2860 lb	23562 lb	Passed - 16%
1	6 1/2"	D + L	1.00		-73 lb	-	-	
2	4 1/2"	D + L	1.00	352 lb		2860 lb	16313 lb	Passed - 12%
2	4 1/2"	D + L	1.00		-56 lb	-	-	

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Uniform	0'	0'- 6 1/2"	FC3 Floor Decking (Plan View Fill)	Top	4 lb/ft	16 lb/ft	-	-	-
Uniform	3'- 6"	4'- 3 1/2"	FC3 Floor Decking (Plan View Fill)	Top	2 lb/ft	8 lb/ft	-	-	-
Point	0'- 10"	0'- 10"	J8(i2402)	Back	51 lb	206/-96 lb	-	-	-
Point	2'- 2"	2'- 2"	J8(i2468)	Back	53 lb	211/-96 lb	-	-	-
Point	3'- 6"	3'- 6"	J8(i2467)	Back	51 lb	206/-96 lb	-	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	0'- 6 1/2"	W62(i66)	90 lb	364/-162 lb	-	-	-
2	4'- 3 1/2"	4'- 8"	W66(i70)	70 lb	282/-126 lb	-	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Reinforcement Accessories are required. Refer to current manufacturer's product literature for installation details.
- A load bearing wall is supported by the I-joist at a location where the I-joist is supported by a member below. Please see manufacturer installation guidelines for requirements of blocking/squash blocks.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (CL) = 1.00

PLY TO PLY CONNECTION

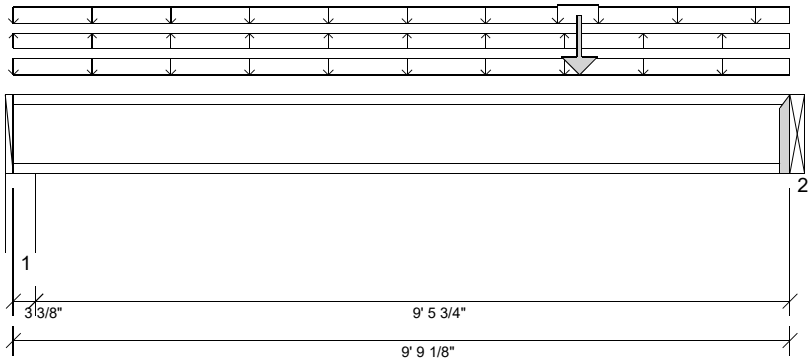
- Member design assumed proper ply to ply connection by others. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.

MiTek	Customer: Job Name: Adress: City/State:	Job Name: **24090120a 09.27.24 7281 NC H...** Level: **2ND FLOOR** Label: **J10-2 - i2384** Type: **FloorJoist**	**2 Ply Member** **11 7/8" PJI-40**	Status: **Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.7.3.303.Update13.26

Report Version: 2023.09.18 09/27/2024 11:46



DESIGN INFORMATION a

Building Code:	IRC 2018
Design Methodology:	ASD
Risk Category:	II (General Construction) Residential
Service Condition:	Dry
System Live Load:	40.0 psf
System Dead Load:	10.0 psf
System Spacing:	16" c.c
LL Deflection Limit:	L/480, 0.75" (absolute)
TL Deflection Limit:	L/240, 1.00" (absolute)

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 9'- 5 3/4"

Bearing Stress of Support Material:

- 725 psi Wall @ 0'- 2 3/8"
- 425 psi Beam @ 9'- 9 1/8"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	7'- 1 3/8"	D + S	1.15	3370 lb ft	8154 lb ft	Passed - 41%
Max Shear:	9'- 9 1/16"	D + S	1.15	1346 lb	3726 lb	Passed - 36%
Live Load (LL) Pos. Defl.:	5'- 6 1/16"	S		0.050"	L/480	Passed - L/999
Total Load (TL) Pos. Defl.:	5'- 4 11/16"	D + S		0.087"	L/240	Passed - L/999

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	3 3/8"	D + 0.75(L + S)	1.15	753 lb		3142 lb	12234 lb	Passed - 24%
2	1 3/4"	D + S	1.15	1348 lb		2400 lb	-	Passed - 56%

CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Nailing Requirements			Other Information or Requirement for Reinforcement Accessories
			Top	Face	Member	
2	MIU5.12/11	Simpson	-	-	-	Connector manually specified by the user.

* Connectors: Refer to manufacturer's specifications, fasteners requirements and installation instruction. Where header fasteners are longer than the width of the supporting member, install backer block or clinch header nails.

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Uniform	0'	9'- 9 1/8"	FC3 Floor Decking (Plan View Fill)	Top	8 lb/ft	32/-3 lb/ft	-	-	-
Uniform	-0'	6'- 10 1/8"	W111(i1481)	Top	46 lb/ft	-	-	-	-
Uniform	6'- 10 1/8"	7'- 4 1/4"	W106(i1476)	Top	91 lb/ft	-	-	-	-
Uniform	7'- 4 1/4"	9'- 9 1/8"	W108(i1480)	Top	46 lb/ft	-	-	-	-
Point	7'- 1 3/8"	7'- 1 3/8"	W106(i1476)	Top	742 lb	-	742 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	0'- 3 3/8"	W15(i13)	500 lb	161/-15 lb	226 lb	-	-
2	9'- 9 1/8"	9'- 9 1/8"	STEEL(i625)	790 lb	162/-14 lb	516 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- A load bearing wall is supported by the I-joist at a location where the I-joist is supported by a member below. Please see manufacturer installation guidelines for requirements of blocking/squash blocks.
- A load bearing wall is supported by the I-joist at a location where the I-joist is supported by a member below. Please see manufacturer installation guidelines for requirements of blocking/squash blocks.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (CL) = 1.00

PLY TO PLY CONNECTION

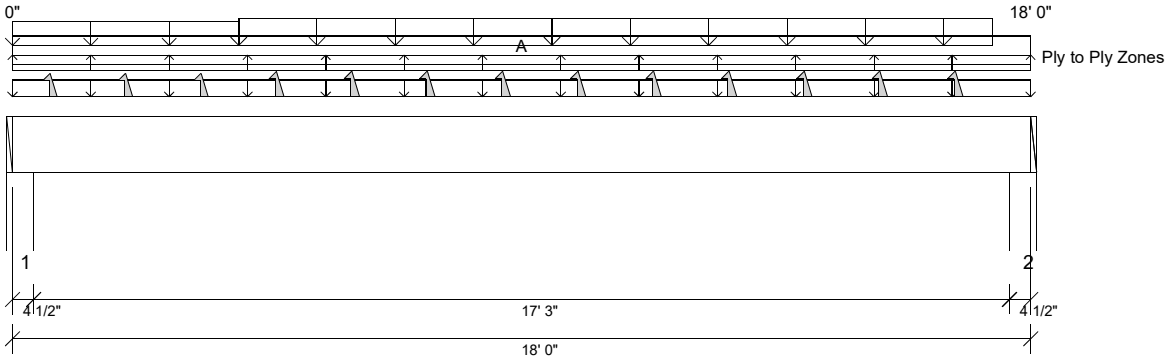
- Member design assumed proper ply to ply connection by others. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.

MiTek	Customer: Job Name: Adress: City/State:	Job Name: **24090120a 09.27.24 7281 NC H...** Level: **2ND FLOOR** Label: **FB14-3 - i2460** Type: **Beam**	**3 Ply Member** **2.1 RigidLam SP LVL 1-3/4 x 11-7/8**	Status: **Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.7.3.303.Update13.26

Report Version: 2023.09.18 09/27/2024 11:46



DESIGN INFORMATION a

Building Code:	IRC 2018
Design Methodology:	ASD
Risk Category:	II (General Construction) Residential
Service Condition:	Dry
System Spacing:	-
LL Deflection Limit:	L/480, 0.75" (absolute)
TL Deflection Limit:	L/240, 1.00" (absolute)

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 1'- 1 1/2"

Bearing Stress of Support Material:

- 725 psi Wall @ 0'- 3 1/2"
- 725 psi Wall @ 17'- 8 1/2"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	8'- 8"	D + L	1.00	11323 lb ft	31942 lb ft	Passed - 35%
Max Neg. Moment:	8'- 8"	D + L	1.00	1290 lb ft	31394 lb ft	Passed - 4%
Max Shear:	16'- 7 5/8"	D + L	1.00	2461 lb	12053 lb	Passed - 20%
Live Load (LL) Pos. Defl.:	9'- 5/16"	L		0.322"	L/480	Passed - L/642
Total Load (TL) Pos. Defl.:	9'- 5/16"	D + L		0.420"	L/240	Passed - L/492

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	4 1/2"	D + L	1.00	2508 lb		17719 lb	17128 lb	Passed - 15%
1	4 1/2"	D + L	1.00		-288 lb	-	-	
2	4 1/2"	D + L	1.00	2545 lb		17720 lb	17129 lb	Passed - 15%
2	4 1/2"	D + L	1.00		-279 lb	-	-	

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Self Weight	0'	18'	Self Weight	Top	16 lb/ft	-	-	-	-
Uniform	-0'	18'	FC3 Floor Decking (Plan View Fill)	Top	7 lb/ft	30/-15 lb/ft	-	-	-
Uniform	0'	4'	Smoothed Load	Front	38 lb/ft	151 lb/ft	-	-	-
Uniform	4'	17'- 4"	Smoothed Load	Front	50 lb/ft	200 lb/ft	-	-	-
Point	0'- 8"	0'- 8"	J8(i2402)	Front	-	-100 lb	-	-	-
Point	2'	2'	J8(i2468)	Front	-	-100 lb	-	-	-
Point	3'- 4"	3'- 4"	J8(i2467)	Front	-	-100 lb	-	-	-
Point	4'- 8"	4'- 8"	J10(i2463)	Front	-	-123 lb	-	-	-
Point	6'	6'	J10(i2446)	Front	-	-125 lb	-	-	-
Point	7'- 4"	7'- 4"	J10(i2456)	Front	-	-125 lb	-	-	-
Point	8'- 8"	8'- 8"	J10(i2415)	Front	-	-125 lb	-	-	-
Point	10'	10'	J10(i2469)	Front	-	-125 lb	-	-	-
Point	11'- 4"	11'- 4"	J10(i2459)	Front	-	-125 lb	-	-	-
Point	12'- 8"	12'- 8"	J10(i2416)	Front	-	-125 lb	-	-	-
Point	14'	14'	J10(i2422)	Front	-	-125 lb	-	-	-
Point	15'- 4"	15'- 4"	J10(i2438)	Front	-	-125 lb	-	-	-
Point	16'- 8"	16'- 8"	J10(i2461)	Front	-	-125 lb	-	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	0'- 4 1/2"	-	621 lb	1888/-909 lb	-	-	-
++>	0'- 5/16"	0'- 5/16"	W12(i14)	89 lb	270/-130 lb	-	-	-
++>	0'- 1 15/16"	0'- 1 15/16"	W11(i11)	532 lb	1618/-779 lb	-	-	-
2	17'- 7 1/2"	18'	W14(i16)	629 lb	1917/-908 lb	-	-	-

DESIGN NOTES

- CAUTION: One or more plies are not supported properly at 2-04. At least 75% of every ply must be contacting support.
- CAUTION: One or more plies are not supported properly at 2-04. At least 75% of every ply must be contacting support.
- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.

MiTek	Customer: Job Name: Adress: City/State:	Job Name: **24090120a 09.27.24 7281 NC H...** Level: **2ND FLOOR** Label: **FB14-3 - i2460** Type: **Beam**	**3 Ply Member** **2.1 RigidLam SP LVL 1-3/4 x 11-7/8**	Status: **Design Passed**

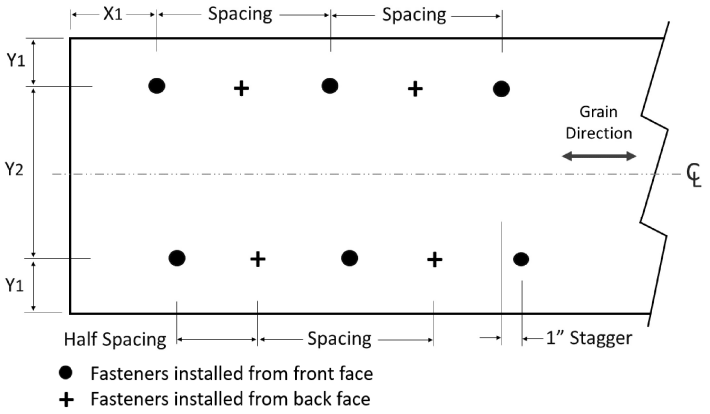
DESIGN NOTES

- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (CL) = 1.00
- Bearing length at support 1 was calculated based on the actual bearing area divided by the supported member width and may not match expected value when bearing is not rectangular or when the supported member is not supported by its full width.
- One or more plies are not properly supported at 1. Verify with structural engineer or EWP manufacturer if this condition is acceptable.

PLY TO PLY CONNECTION

- Zone A: Factored load = 501 plf. Use 12d (0.148"x3.25") nails. LDF = 1.00. Qty = 98. Row = 2, Spacing = 9"
  12d (0.148"x3.25") nails properties: D = 0.148" , L = 3.25". Fastener capacity = 128 lbs. X1 = 2.25" , Y1 = 0.75", Y2 = 1.5"
  Install fasteners from both faces.
  X1 = Minimum end distance, X2 = Minimum edge distance, Y2 = Minimum row spacing.

FASTENER INSTALLATION – 2 ROWS (FROM BOTH FACES)

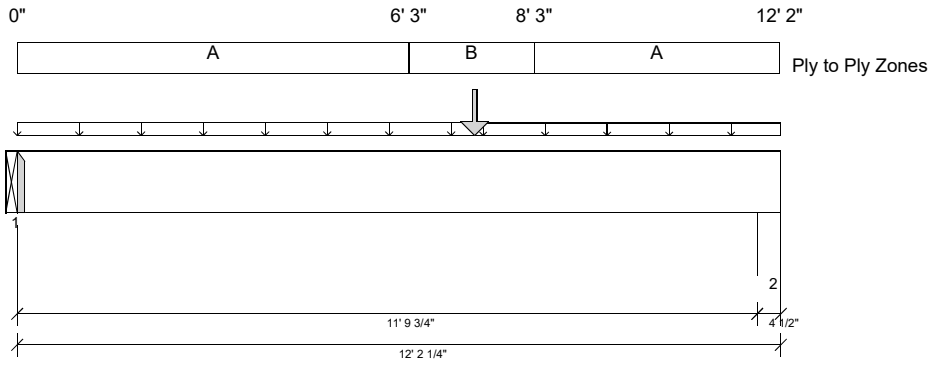


MiTek	Customer: Job Name: Adress: City/State:	Job Name: **24090120a 09.27.24 7281 NC H...** Level: **2ND FLOOR** Label: **FB15-2 - i2360** Type: **Beam**	**2 Ply Member** **2.1 RigidLam SP LVL 1-3/4 x 11-7/8**	Status: **Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.7.3.303.Update13.26

Report Version: 2023.09.18 09/27/2024 11:46



DESIGN INFORMATION a

Building Code:	IRC 2018
Design Methodology:	ASD
Risk Category:	II (General Construction) Residential
Service Condition:	Dry
System Spacing:	-
LL Deflection Limit:	L/480, 0.75" (absolute)
TL Deflection Limit:	L/240, 1.00" (absolute)

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 7'- 1 3/4"

Bearing Stress of Support Material:

- 425 psi Beam @ 0'
- 725 psi Wall @ 11'- 10 3/4"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	7'- 3 1/2"	D + L	1.00	1830 lb ft	21295 lb ft	Passed - 9%
Max Shear:	10'- 9 7/8"	D + L	1.00	436 lb	8035 lb	Passed - 5%
Live Load (LL) Pos. Defl.:	6'- 2 1/4"	0.75(L + S)		0.033"	L/480	Passed - L/999
Total Load (TL) Pos. Defl.:	6'- 2"	D + 0.75(L + S)		0.049"	L/240	Passed - L/999

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	1 1/2"	D + L	1.00	448 lb		3937 lb	-	Passed - 11%
2	4 1/2"	D + L	1.00	478 lb		11810 lb	11416 lb	Passed - 4%

CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Nailing Requirements			Other Information or Requirement for Reinforcement Accessories
			Top	Face	Member	
1	HUS410	MiTek	-	8- 16d	8- 16d	-

* Connectors: Refer to manufacturer's specifications, fasteners requirements and installation instruction. Where header fasteners are longer than the width of the supporting member, install backer block or clinch header nails.

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Self Weight	0'	12'- 2 1/4"	Self Weight	Top	11 lb/ft	-	-	-	-
Uniform	0'	7'- 5 1/4"	FC3 Floor Decking (Plan View Fill)	Top	8 lb/ft	32 lb/ft	-	-	-
Uniform	7'- 5 1/4"	12'- 2 1/4"	FC3 Floor Decking (Plan View Fill)	Top	4 lb/ft	16 lb/ft	-	-	-
Point	7'- 3 5/8"	7'- 3 5/8"	-	Back	140 lb	251 lb	226 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	0'	STEEL(i625)	164 lb	280 lb	85 lb	-	-
2	11'- 9 3/4"	12'- 2 1/4"	W66(i70)	190 lb	293 lb	141 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (CL) = 1.00

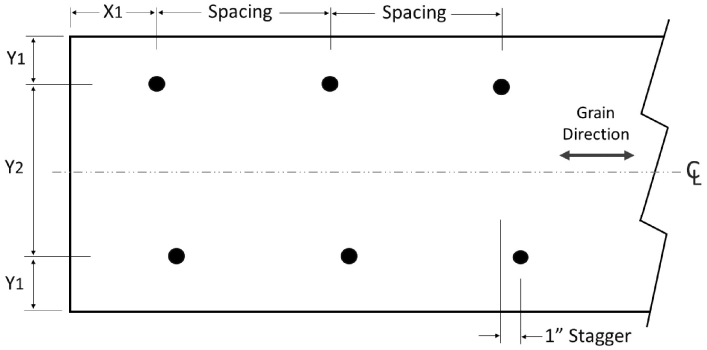
PLY TO PLY CONNECTION

- Zone A: Factored load = 0 plf. Use 12d (0.148"x3.25") nails. LDF = 1.00. Qty = 22. Row = 2, Spacing = 12"
  Zone B: Factored load = 229 plf. Use 12d (0.148"x3.25") nails. LDF = 1.00. Qty = 4. Row = 2, Spacing = 12"
  12d (0.148"x3.25") nails properties: D = 0.148" , L = 3.25". Fastener capacity = 128 lbs. X1 = 2.25" , Y1 = 0.75", Y2 = 1.5"
  Install fasteners from one face.
  X1 = Minimum end distance, X2 = Minimum edge distance, Y2 = Minimum row spacing.

MiTek	Customer: Job Name: Adress: City/State:	Job Name: **24090120a 09.27.24 7281 NC H...** Level: **2ND FLOOR** Label: **FB15-2 - i2360** Type: **Beam**	**2 Ply Member** **2.1 RigidLam SP LVL 1-3/4 x 11-7/8**	Status: **Design Passed**

PLY TO PLY CONNECTION

FASTENER INSTALLATION – 2 ROWS (FROM ONE FACE)

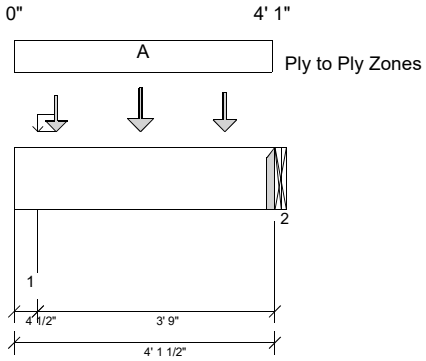


MiTek	Customer: Job Name: Adress: City/State:	Job Name: **24090120a 09.27.24 7281 NC H...** Level: **2ND FLOOR** Label: **FB16-2 - i2363** Type: **Beam**	**2 Ply Member** **2.1 RigidLam SP LVL 1-3/4 x 11-7/8**	Status: **Design Passed**

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.7.3.303.Update13.26

Report Version: 2023.09.18 09/27/2024 11:46



DESIGN INFORMATION a

Building Code:	IRC 2018
Design Methodology:	ASD
Risk Category:	II (General Construction) Residential
Service Condition:	Dry
System Spacing:	-
LL Deflection Limit:	L/480, 0.75" (absolute)
TL Deflection Limit:	L/240, 1.00" (absolute)

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 1'- 1 1/2"

Bearing Stress of Support Material:

- 725 psi Wall @ 0'- 3 1/2"
- 425 psi Beam @ 4'- 1 1/2"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	2'	D + 0.75(L + S)	1.15	539 lb ft	24489 lb ft	Passed - 2%
Max Shear:	1'- 4 3/8"	D + 0.75(L + S)	1.15	246 lb	9241 lb	Passed - 3%

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	4 1/2"	D + 0.75(L + S)	1.15	582 lb		11813 lb	11419 lb	Passed - 5%
2	1 1/2"	D + 0.75(L + S)	1.15	461 lb		3937 lb	-	Passed - 12%

CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Nailing Requirements			Other Information or Requirement for Reinforcement Accessories
			Top	Face	Member	
2	HUS410	MiTek	-	8- 16d	8- 16d	-

* Connectors: Refer to manufacturer's specifications, fasteners requirements and installation instruction. Where header fasteners are longer than the width of the supporting member, install backer block or clinch header nails.

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Self Weight	0'	4'- 1 1/2"	Self Weight	Top	11 lb/ft	-	-	-	-
Uniform	0'- 4 1/2"	0'- 8"	FC3 Floor Decking (Plan View Fill)	Top	30 lb/ft	-	120 lb/ft	-	-
Point	0'- 8"	0'- 8"	J8(i2290)	Front	71 lb	202 lb	80 lb	-	-
Point	2'	2'	J8(i2285)	Front	91 lb	206 lb	160 lb	-	-
Point	3'- 4"	3'- 4"	J8(i2318)	Front	78 lb	176 lb	135 lb	-	-

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	0'- 4 1/2"	W63(i67)	164 lb	337 lb	224 lb	-	-
2	4'- 1 1/2"	4'- 1 1/2"	FB15-2(i2360)	130 lb	251 lb	186 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (CL) = 1.00

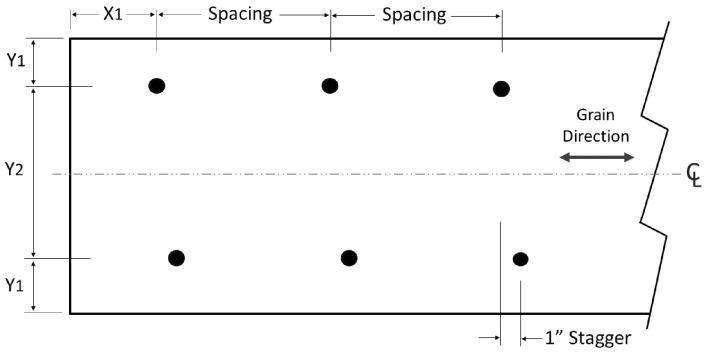
PLY TO PLY CONNECTION

- Zone A: Factored load = 274 plf. Use 12d (0.148"x3.25") nails. LDF = 1.00. Qty = 10. Row = 2, Spacing = 12"
  12d (0.148"x3.25") nails properties: D = 0.148" , L = 3.25". Fastener capacity = 128 lbs. X1 = 2.25" , Y1 = 0.75", Y2 = 1.5"
  Install fasteners from one face.
  X1 = Minimum end distance, X2 = Minimum edge distance, Y2 = Minimum row spacing.

MiTek	Customer: Job Name: Adress: City/State:	Job Name: **24090120a 09.27.24 7281 NC H...** Level: **2ND FLOOR** Label: **FB16-2 - i2363** Type: **Beam**	**2 Ply Member** **2.1 RigidLam SP LVL 1-3/4 x 11-7/8**	Status: **Design Passed**

PLY TO PLY CONNECTION

FASTENER INSTALLATION – 2 ROWS (FROM ONE FACE)



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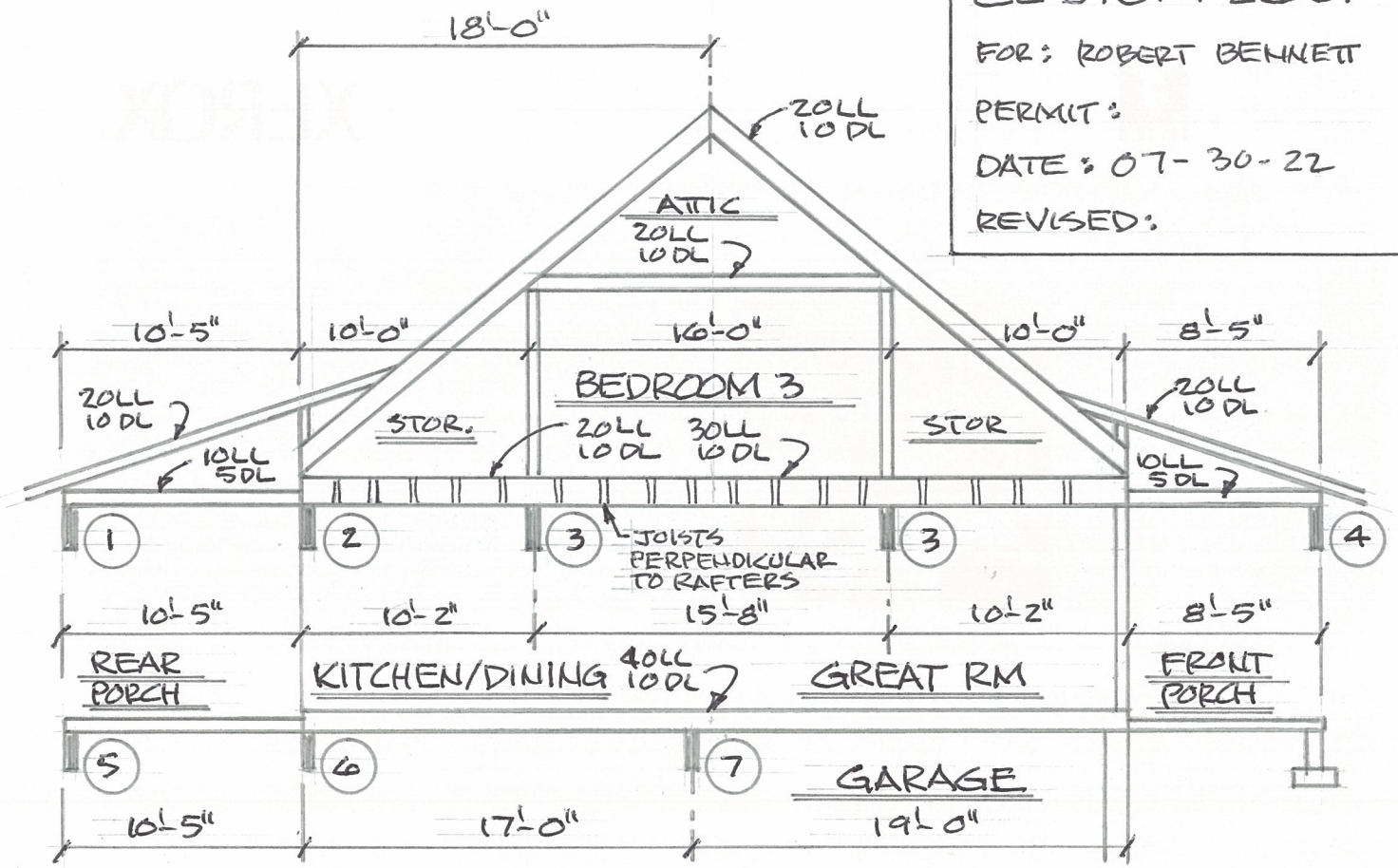

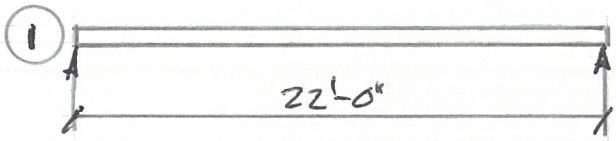

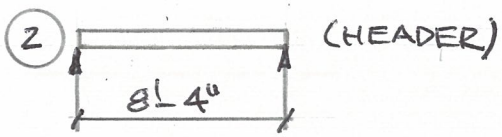

[ROOF] [CEIL]

(1) $w = (6'-3")(30\ PSF) + (5'-3")(15\ PSF)$

$w = 266\ PLF$

Choose: (2) 1 3/4" X 16" LVL (see attached)

[ROOF] [CEIL]

(2) $w = (10'-3")(30\ PSF) + (5'-3")(15\ PSF)$

$w = 386\ PLF$

Choose: (2) 2x12 #2 SPF per 2018 NCRC Appendix W

GANG LAM LVL BY LOUISIANA PACIFIC 2950Fb-2.0E

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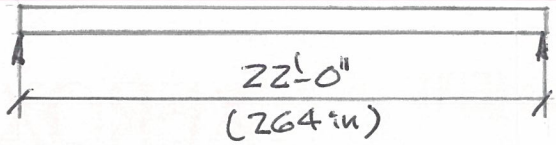
(3)



(3) $w = (13'\text{-}0")(30\ PSF) + (8'\text{-}0")(30\ PSF) + (8'\text{-}0")(8\ PSF)$

$w = 694\ PLF$

$M = \frac{WL}{8}$ where $W = 15268\ lb + 572\ lb$ (est. beam weight), $L = 22'\text{-}0"$

$M = \frac{(15840\ lb)(22'\text{-}0")}{8} = 43560\ lb\text{-}ft$

$S = \frac{M}{Fb}$ where S is section modulus (in^3), $Fb = 24{,}000\ PSI$ for steel,

bending moment $M = (43560\ lb\text{-}ft)(12\ in/ft) = 522{,}720\ lb\text{-}in$

$S = \frac{(522{,}720\ lb\text{-}in)}{24{,}000\ PSI} = \boxed{21.78\ in^3}$

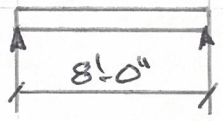
$I = \frac{5\,W\,l^3}{384\,\Delta E}$ where $W = 15{,}840\ lb$, $l = 264\ in$, $E = 2.9 \times 10^7\ PSI$,

$\Delta = l/360 = 264/360 = 0.73\ in$

$I = \frac{(5)(15840)(264)^3}{(384)(2.9 \times 10^7)(0.73)} = \boxed{179\ in^4}$

Choose W10 x 39 where $S = 42.1\ in^3$, $I = 209\ in^4$ [okay for $l/360$]

(4)



[ROOF] [CEIL]

(4) $w = (5'\text{-}3")(30\ PSF) + (4'\text{-}3")(15\ PSF)$

$w = 221\ PLF$

Choose (2) 2x10 # 2SPF per 2018 NCRC Appendix W

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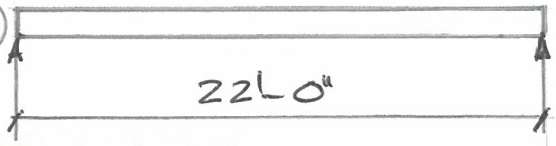


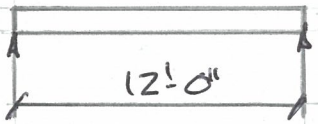
[FLOOR]

(5) $w = (5'\text{-}3")(50\ PSF)$

$w = 263\ PLF$

Choose (2) 1 3/4" X 16" LVL (see attached)

(6)



GARAGE DOOR HEADER

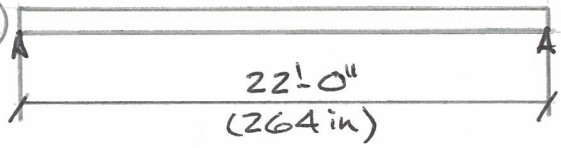
[FLOOR] [WALL]

(6) $w = (13'\text{-}9")(50\ PSF) + (9'\text{-}0")(11\ PSF)$

$w = 787\ PLF$

Choose: (2) 1 3/4" X 11 7/8" LVL (see attached)

(7)



(7) $w = (18'\text{-}0")(50\ PSF)$

$w = 900\ PLF$

$M = \frac{WL}{8}$ where M is induced bending moment, $L = 22'\text{-}0"$,

$W = (900\ PLF)(22'\text{-}0") + 990\ lb\ (est.\ bm.\ weight) = 20{,}790\ lb$

~~$S = \frac{M}{Fb}$ where S is section modulus (in^3), Fb = 24,000 PSI for steel,~~

~~bending moment M =~~

$M = \frac{(20{,}790\ lb)(22'\text{-}0")}{8} = 57{,}173\ lb\text{-}ft$

$S = \frac{M}{Fb}$ where S is section modulus (in^3), Fb = 24,000 PSI for steel,

bending moment $M = (57{,}173\ lb\text{-}ft)(12\ in/ft) = 686{,}076\ lb\text{-}in$

$S = \frac{686{,}076\ lb\text{-}in}{24{,}000\ PSI} = \boxed{28.59\ in^3}$

$I = \frac{5wl^3}{384\Delta E}$ where $W = 20790\ lb$, $l = 264\ in$, $E = 2.9 \times 10^7\ PSI$,

$\Delta = l/360 = 264/360 = 0.73"$

$I = \frac{(5)(20790)(264)^3}{(384)(2.9 \times 10^7)(0.73)} = \boxed{235.27\ in^4}$

Choose W10 x 45 where $S = 49.1\ in^3$, $I = 248\ in^4$ [okay for $l/360$]

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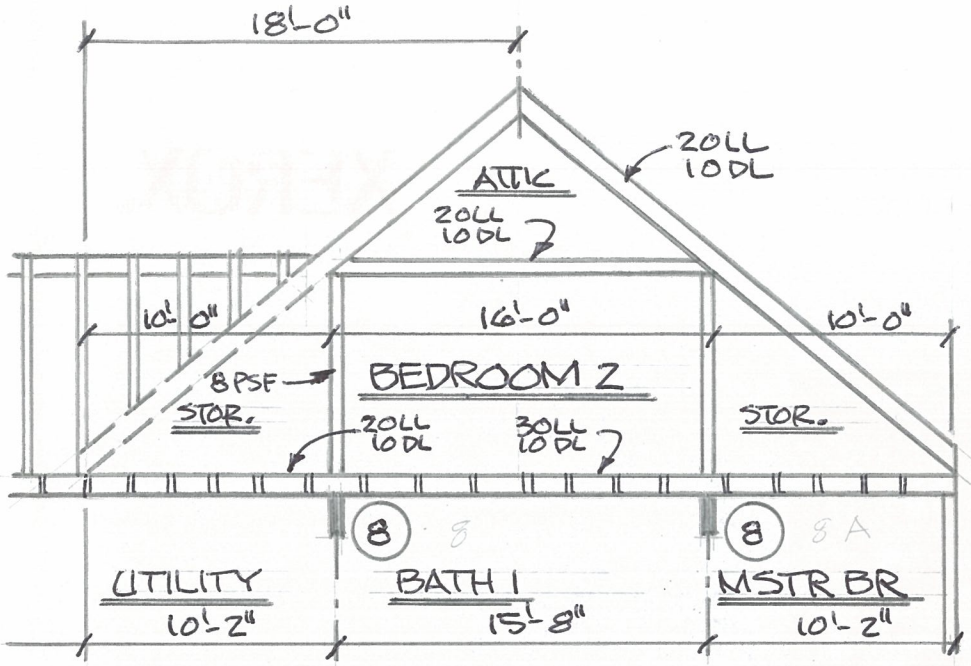

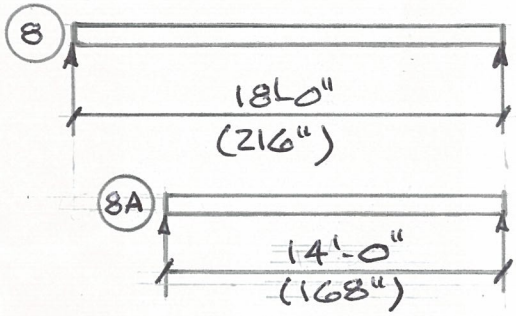

[ROOF] [CEIL]

8A 8 $w = (13'\text{-}0")(30\ PSF) + (8'\text{-}0")(30\ PSF) + (8'\text{-}0")(8\ PSF)$

$w = 694\ PLF$

$M = \frac{WL}{8}$ where $W = 12492\ lb + 468\ lb$ (est beam weight), $L = 18'\text{-}0"$

$M = \frac{(12960\ lb)(18'\text{-}0")}{8} = 29{,}160\ lb\text{-}ft.$

$S = \frac{M}{Fb}$ where S is section modulus (in^3), $Fb = 24{,}000\ PSI$ for steel,

bending moment $M = (29{,}160\ lb\text{-}ft)(12\ in/ft) = 349{,}920\ lb\text{-}in$

$S = \frac{349{,}920\ lb\text{-}in}{24{,}000\ PSI} = \boxed{14.58\ in^3}$

$I = \frac{5\,W\,\ell^3}{384\,\Delta E}$ where $W = 12{,}960\ lb$, $\ell = 216"$, $E = 2.9 \times 10^7\ PSI$ for steel,

$\Delta = \ell/360 = 216/360 = 0.60"$

$I = \frac{(5)(12960)(216)^3}{(384)(2.9 \times 10^7)(0.60)} = \boxed{98\ in^4}$

Choose W 10 x 26 where $S = 27.9\ in^3$, $I = 144\ in^4$ [okay for $\ell/360$]

CUSTOM 2601

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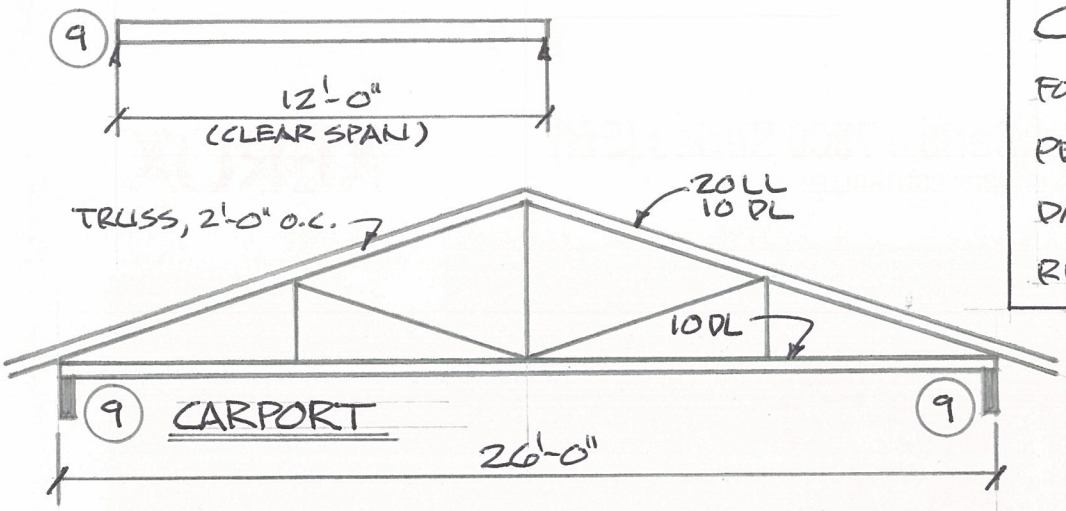
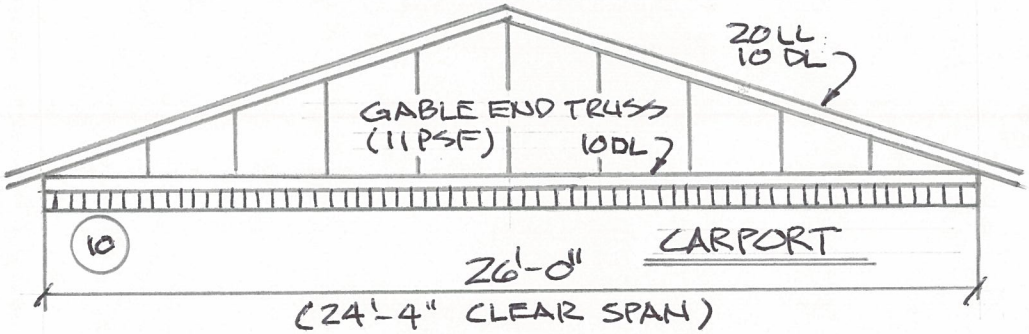


(9) w = (14'-0")(40 PSF) [ROOF/CEIL]

w = 560 PLF

Choose: (2) 1 3/4" x 11 1/4" LVL (see attached)



(10) W = (2'-0")(40 PSF) + (56 SF)(11 PSF) [ROOF/CEIL] [GABLE END]

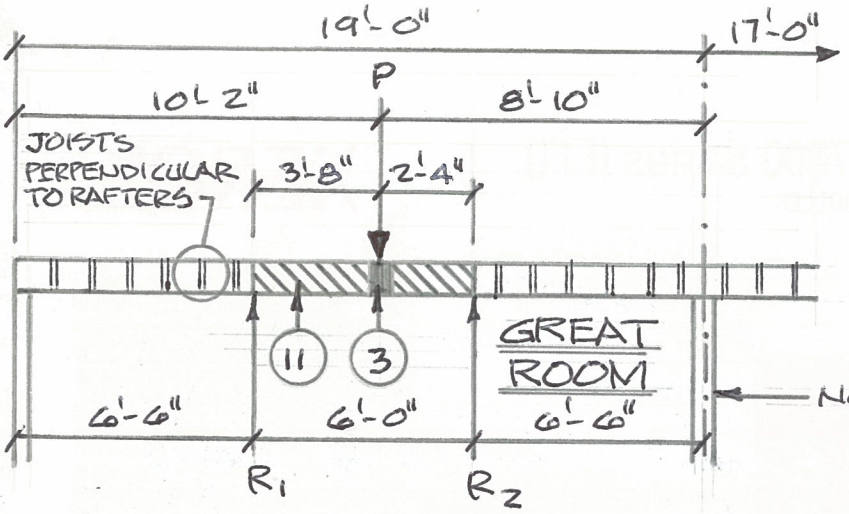
W = 696 LB (Total Load)

$w = \frac{696\ LB}{24'-4"}$

w = 29 PLF

Choose: (2) 1 3/4" x 14" LVL (see attached)

GANGLAM LVL BY LOUISIANA PACIFIC 2950Fb-2.0E



CUSTOM 2601

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DATE: 07-30-22

REVISED:

POINT LOAD "P" = $\frac{1}{2}$ TOTAL LOAD FOR BEAM (3) WHERE TOTAL LOAD "W" IS

(694 PLF)(22'-0") + (39 PLF)(22'-0") = 16126 LBS

$P = \frac{1}{2}(16126\ LB) = 8063\ LB$

CONVERT POINT LOAD "P" TO UNIFORMLY DISTRIBUTED LOAD EQUIVALENT "W"

8063 LB POINT LOAD WITH RESPECT TO R_2 IS $\frac{2'-4"}{6'-0"} = 0.39$ OF TOTAL SPAN.

LOAD FACTOR "f" MULTIPLIER AT THIS POINT IS 1.9.

USING LOAD FACTOR "f" TO CONVERT CONSENTRATED POINT LOAD "P" TO UNIFORMLY DISTRIBUTED LOAD EQUIVALENT, W = (8063 LB)(1.9) = 15320 LB.

THEREFORE BEAM (11) HAS AN EQUIVALENT UNIFORMLY DISTRIBUTED LOAD EQUAL TO 15,320 LB.

UNIFORM LOAD "w" IN POUNDS PER FOOT, $w = \frac{15,320\ LB}{6'-0"} = 2553\ PLF$.

CHOOSE (2)2X12 WITH 3/8" X 11" STEEL FLITCH PLATE PER 2018 NCRC, APPENDIX W, TABLE W-2.

GANG-LAM LVL 2950 Fb 2.0E MAXIMUM UNIFORM LOAD (PLF)

ALLOWABLE FLOOR LOADS (PLF) 100%

Beam Span (Ft)	1 Ply 1¾ x 7¼			1 Ply 1¾ x 9¼			1 Ply 1¾ x 9½			1 Ply 1¾ x 11¼			1 Ply 1¾ x 11⅞			1 Ply 1¾ x 14			1 Ply 1¾ x 16 * Refer To Note 4			1 Ply 1¾ x 18 * Refer To Note 4		
	Live Load Deflection		Total Load	Live Load Deflection		Total Load	Live Load Deflection		Total Load	Live Load Deflection		Total Load	Live Load Deflection		Total Load	Live Load Deflection		Total Load	Live Load Deflection		Total Load	Live Load Deflection		Total Load
	L/360	L/480	L/240	L/360	L/480	L/240	L/360	L/480	L/240	L/360	L/480	L/240	L/360	L/480	L/240	L/360	L/480	L/240	L/360	L/480	L/240	L/360	L/480	L/240
6	681	522	777	1046	1016	1046	1082	1082	1082	1348	1348	1348	1450	1450	1450	1827	1827	1827	2233	2233	2233	2698	2698	2698
7	443	337	639	864	669	864	893	720	893	1102	1102	1102	1181	1181	1181	1470	1470	1470	1772	1772	1772	2110	2110	2110
8	303	229	441	603	461	736	649	497	760	932	794	932	996	918	996	1229	1229	1229	1469	1469	1469	1732	1732	1732
9	215	163	315	434	330	607	467	356	637	748	574	807	861	667	861	1056	1041	1056	1254	1254	1254	1468	1468	1468
10	158	120	231	321	244	467	347	263	504	559	427	704	649	497	758	925	784	925	1094	1094	1094	1274	1274	1274
11	120	90	174	244	185	355	263	199	384	428	325	584	498	380	644	785	603	823	969	870	969	1125	1125	1125
12	93	70	134	189	143	276	205	155	298	334	253	484	389	296	543	618	473	732	870	686	870	1007	945	1007
13	73	55	105	150	113	218	162	122	235	265	201	385	310	235	449	495	377	625	717	550	790	911	761	911
14	59	44	84	121	91	175	130	96	189	214	162	310	250	189	363	401	305	541	584	446	689	807	621	832
15	48	36	68	98	74	142	106	80	154	175	132	253	205	155	297	329	250	472	481	367	601	668	512	744
16	40	-	55	81	61	117	88	66	126	145	109	209	170	128	245	274	207	396	401	305	529	559	427	656
17	33	-	46	68	51	97	74	55	105	121	91	174	142	107	205	230	174	332	337	256	469	472	359	582
18	-	-	38	58	43	81	62	47	88	102	77	147	120	91	172	194	147	281	286	217	413	401	305	520
19	-	-	32	49	37	68	53	40	74	87	66	124	102	77	146	166	125	239	245	185	353	344	261	467
20	-	-	-	42	32	58	46	34	63	75	57	106	88	66	125	143	108	205	211	160	304	297	225	421
21	-	-	-	37	-	50	39	-	54	65	49	91	76	57	108	124	93	177	183	138	263	258	195	371
22	-	-	-	32	-	43	34	-	47	57	43	79	66	50	93	108	81	154	160	121	229	225	170	324
23	-	-	-	-	-	37	-	-	40	50	37	68	58	44	81	95	71	134	140	106	200	198	150	284
24	-	-	-	-	-	32	-	-	35	44	33	60	51	39	71	84	63	117	124	93	176	175	132	250
25	-	-	-	-	-	-	-	-	-	39	-	52	46	34	62	74	56	103	110	83	155	155	117	221
26	-	-	-	-	-	-	-	-	-	35	-	46	41	31	55	66	50	91	98	74	138	138	104	196
27	-	-	-	-	-	-	-	-	-	31	-	41	36	-	48	59	45	81	88	66	122	124	93	175
28	-	-	-	-	-	-	-	-	-	-	-	36	33	-	43	53	40	72	79	59	109	111	84	156
29	-	-	-	-	-	-	-	-	-	-	-	32	-	-	38	48	36	64	71	53	98	100	76	140
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	34	43	33	57	64	48	88	91	68	126

How to use maximum uniform load tables:

1. Select the correct table for the beam application you need.
2. Choose the required beam span in the left column.
3. Select a beam depth from the tables that satisfies **BOTH** the live and total load PLF on the beam.
4. Check the bearing requirements as shown on page 8.

Example: Floor live load 480 PLF, L/360 deflection limit.
Floor total load 660 PLF, L/240 deflection limit.
Beam span 14' - 0"

Solution: Try 2 plies 1¾" x 11⅞", which can carry:
- Live load 2 x 250 = 500 > 480 PLF ✓OK
- Total load 2 x 363 = 726 > 660 PLF ✓OK

Notes (for page 6 and 7)

1. Beam spans are defined as follows: Simple span dimensions are measured from inside face of supports. Multiple span dimensions are measured from inside face of exterior supports to center line of interior supports.
2. These tables are for simple spans (with a support at each end) or for continuous (multiple span) beams if spans are equal.
3. PLF values are for a single ply of 1¾" Gang-Lam LVL.
   - Double the values for two plies or 3½" thickness.
   - Triple the values for three plies or 5¼" thickness.

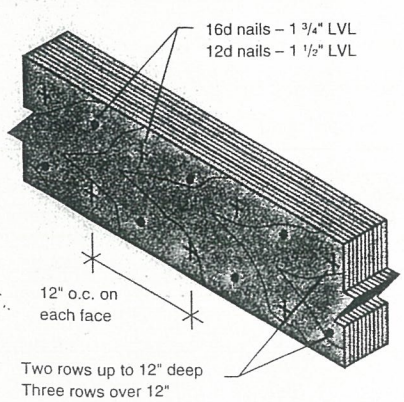
* 4. For 1¾" x 16" beams and deeper, two plies (minimum) are required.

5. More than three plies may require special design. Contact your L-P engineered products distributor.

CONNECTION OF MULTIPLE PLY BEAMS

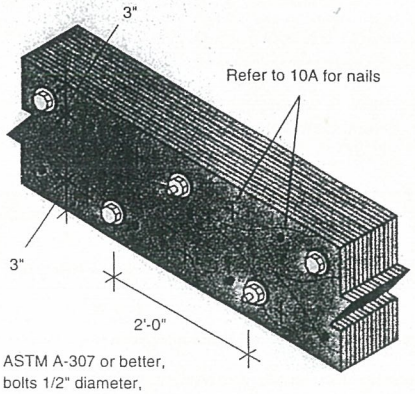
10A TOP LOADED (3 PLIES MAXIMUM)

Framing is applied on top of the beam so that each ply carries an equal load.



10B TOP LOADED 4 PLIES

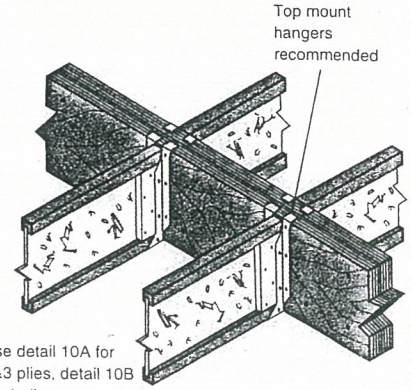
Framing is applied on top of the beam so that each ply carries an equal load.



ASTM A-307 or better, bolts 1/2" diameter, fenderwashers both faces.

10C SIDE LOADED

The same framing is used on each side of the beam so the same load is carried on each face.



Use detail 10A for 2&3 plies, detail 10B for 4 plies

GANG–LAM LVL 2950 Fb 2.0E DESIGN SPECIFICATIONS

GANG-LAM PS & W 2950 Fb 2.0E ALLOWABLE STRESSES (PSI) FOR BEAMS

GRADE	BENDING Fb	MOE (X 10^6)	TENSION Ft	COMPRESSION PARALLEL TO GRAIN Fc	COMPRESSION PERPENDICULAR TO GRAIN Fcp	SHEAR Fv
2950 Fb –2.0E	2950*	2.0	2300	3180	1020	290

* *Value is for 12" depth* For other depths adjust values by $(12/\text{depth})^{1/7}$. For depths less than 5.5", use the value for 5.5".

GANG-LAM LVL PS & W 2950 Fb 2.0E SECTION PROPERTIES

	MAXIMUM MOMENT (Ft – Lbs)			MAXIMUM SHEAR (Lbs)			MOMENT OF INERTIA (In^4)			WEIGHT * (Lbs / Ft) * Weight is for Gang-Lam PS Gang-Lam W weights may be reduced by 14%		
DEPTH (Inches)	1-1¾	2-1¾ 1-3½	3-1¾ 1-5¼	1-1¾	2-1¾ 1-3½	3-1¾ 1-5¼	1-1¾	2-1¾ 1-3½	3-1¾ 1-5¼	1-1¾	2-1¾ 1-3½	3-1¾ 1-5¼
7¼	4050	8100	12150	2452	4905	7358	55	111	166	3.63	7.26	10.89
9¼	6367	12734	19102	3129	6259	9388	115	230	346	4.63	9.26	13.89
9½	6690	13381	20072	3214	6428	9642	125	250	375	4.76	9.51	14.27
11¼	9158	18317	27476	3806	7612	11418	207	415	622	5.63	11.27	16.90
11⅞	10126	20252	30378	4017	8035	12053	244	488	732	5.95	11.90	17.84
14	13747	27494	41242	4736	9473	14210	400	800	1200	7.01	14.02	21.03
16	17616	35233	52849	5413	10826	16240	597	1194	1792	8.01	16.02	24.03
18	21923	43847	65771	6090	12180	18270	850	1701	2551	9.01	18.02	27.04

Modification Factors:
Allowable stresses listed above for bending (Fb), tension (Ft), compression parallel to grain (Fc), shear (Fv), also maximum moment and maximum shear values are for normal load duration. These may be increased where allowed by code for shorter load durations.

Fastener Values:
Allowable withdrawal loads for nails installed perpendicular and parallel to glue lines of the LVL are as provided in the code for sawn lumber having minimum specific gravities of 0.50 and 0.47, respectively. Allowable lateral loads for nails installed perpendicular and parallel to glue lines of the LVL are as provided in the code for solid-sawn lumber having minimum specific gravities of 0.46 and 0.39, respectively. Nails installed perpendicular to the wide face of veneers may be installed in accordance with the code. Nails installed parallel to the wide face of veneers must be spaced at least 3 inches on center for 8d common nails and 4 inches on center for 10d common nails.

Allowable loads for bolts installed perpendicular to the wide face of veneers with the loads applied parallel and perpendicular to the grain of the veneers are as provided in the code for solid-sawn lumber having a specific gravity of 0.47

GANG-LAM PS & W 2950 Fb 2.0E BEARING CHARTS

1 Ply 1¾"

Bearing Length (In)	1½	2	2½	3	3½	4	4½	5	5½	6	6½
Maximum Reaction	2677	3570	4462	5355	6247	7140	8032	8925	9817	10710	11602
Bearing Length (In)	7	7½	8	8½	9	9½	10	10½	11	11½	12
Maximum Reaction	12495	13387	14280	15172	16065	16957	17850	18742	19635	20527	21420

2 Ply 1¾" or 1 Ply 3½"

Bearing Length (In)	1½	2	2½	3	3½	4	4½	5	5½	6	6½
Maximum Reaction	5355	7140	8925	10710	12495	14280	16065	17850	19635	21420	23205
Bearing Length (In)	7	7½	8	8½	9	9½	10	10½	11	11½	12
Maximum Reaction	24990	26775	28560	30345	32130	33915	35700	37485	39270	41055	42840

3 Ply 1¾"

Bearing Length (In)	1½	2	2½	3	3½	4	4½	5	5½	6	6½
Maximum Reaction	8032	10710	13387	16065	18742	21420	24097	26775	29452	32130	34807
Bearing Length (In)	7	7½	8	8½	9	9½	10	10½	11	11½	12
Maximum Reaction	37485	40162	42840	45517	48195	50872	53550	56227	58905	61582	64260

How to use bearing charts:

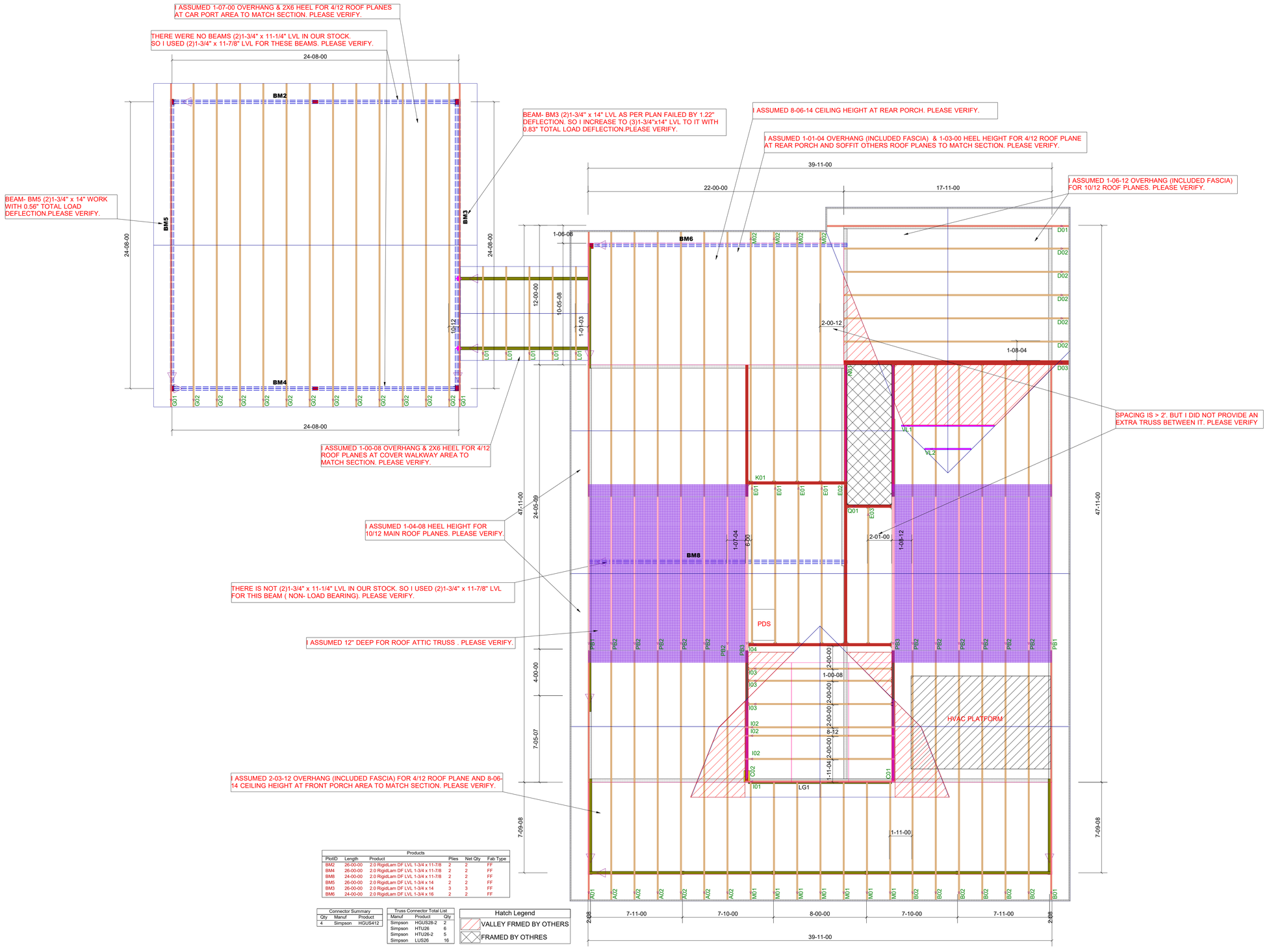
1. Determine the thickness required for the Gang-Lam LVL beam and calculate the maximum reaction.
2. Select the appropriate table for 1,2 or 3 plies.
3. Select a bearing length with a maximum reaction that meets or exceeds your calculated value.
4. Make sure the support is structurally adequate to carry the reaction.

Example: 3½" Gang-Lam LVL with a reaction of 9200 lb.

Solution: Select a 3" bearing length with a maximum reaction of 10710 Lbs.

Notes:

1. Tabulated values are based on a support with minimum allowable bearing strength of 1020 psi. This is suitable for beams bearing on steel or the end grain of studs.
2. Make sure the support is structurally adequate to carry the reaction. Compressive strength parallel-to-grain of studs may require more studs than the bearing length above indicates.
3. For beams bearing on wood plates, the required bearing length will increase based on the bearing strength (compression perpendicular-to-grain) of the species and grade used for the plate material.
4. Verify local code requirements concerning minimum bearing.



Products					
PlotID	Length	Product	Plies	Net Qty	Fab Type
BM2	26-00-00	2.0 RigidLam DF LVL 1-3/4 x 11-7/8	2	2	FF
BM4	26-00-00	2.0 RigidLam DF LVL 1-3/4 x 11-7/8	2	2	FF
BM8	24-00-00	2.0 RigidLam DF LVL 1-3/4 x 11-7/8	2	2	FF
BM5	26-00-00	2.0 RigidLam DF LVL 1-3/4 x 14	2	2	FF
BM3	26-00-00	2.0 RigidLam DF LVL 1-3/4 x 14	3	3	FF
BM6	24-00-00	2.0 RigidLam DF LVL 1-3/4 x 16	2	2	FF

Connector Summary		
Qty	Manuf	Product
4	Simpson	HGUS412

Truss Connector Total List		
Manuf	Product	Qty
Simpson	HGUS28-2	2
Simpson	HTU26	6
Simpson	HTU26-2	5
Simpson	LUS26	16

Hatch Legend
- VALLEY FRMED BY OTHERS
- FRAMED BY OTHRES

ALL DIMENSIONS ARE FROM OUT FACE OF STUD TO OUT FACE OF STUD.

PLEASE VERIFY THE LOCATIONS PDS AND 8X12 SIZE OF HVAC PLATFORM.

PRELIMINARY – NOT FOR CONSTRUCTION

ROOF TRUSS FRAMING

DRAWING SCALE : NTS

Kempsville Building Materials
A Division of the Carter Lumber Company

Walk In/Robert Bennett

Bennett Resident

ROOF TRUSS PLACEMENT PLAN

REVISIONS	
DATE	BY
09-26-24	NP

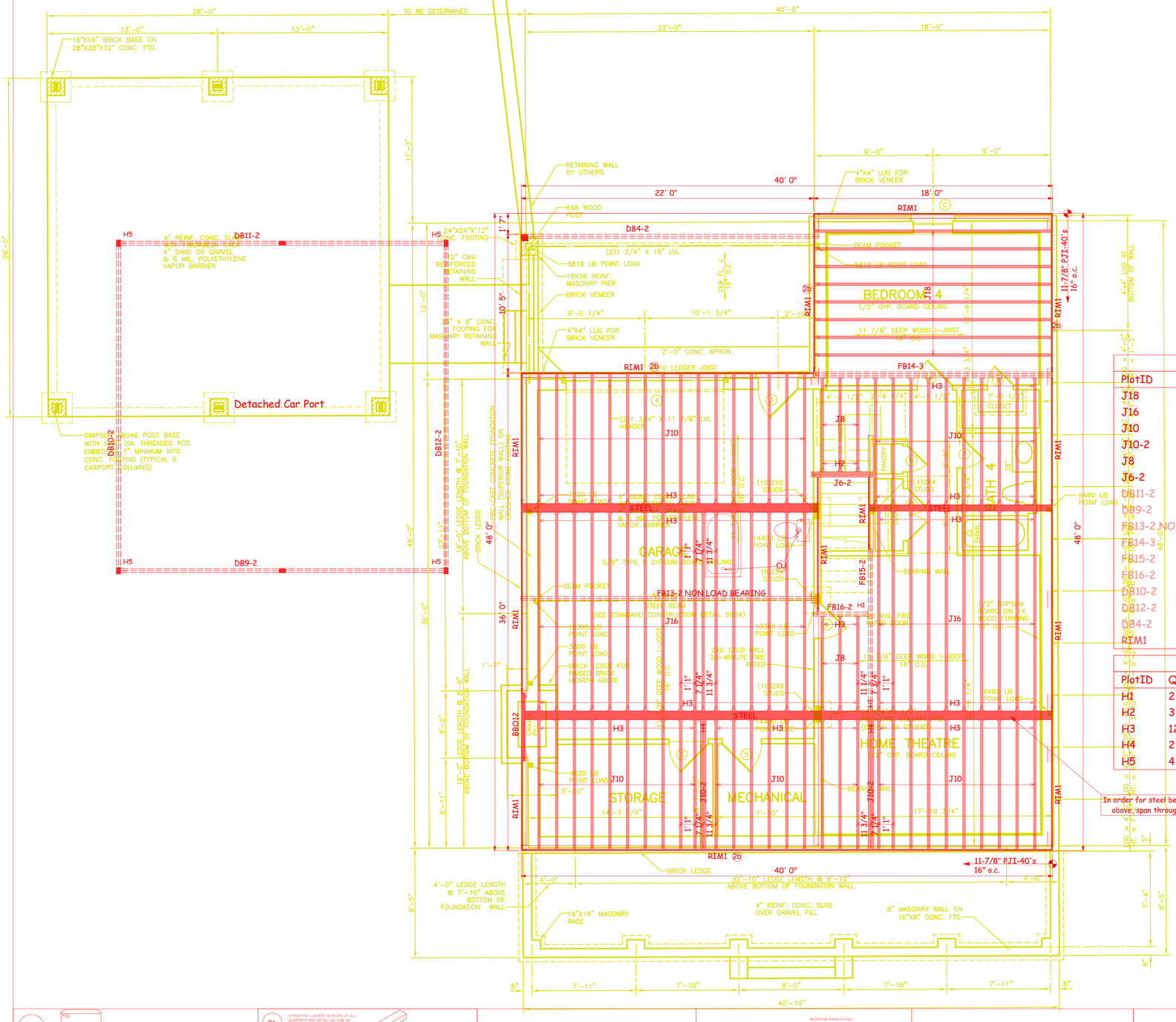
PROJECT NUMBER
24090120

SHEET NUMBER
2 / 2

General Notes:

** CUTTING OR DRILLING OF COMPONENTS SHOULD NOT BE DONE WITHOUT CONTACTING COMPONENT SUPPLIER FIRST. CUSTOMER TAKES FULL RESPONSIBILITY FOR COMPONENTS IF CUT BEFORE AUTHORIZATION.

** LVL AND JOISTS MUST BE FULLY CONNECTED TOGETHER PRIOR TO ADDING ANY LOADS.



Preliminary, not for construction.

Joists ran vertically into steel beams to reduce deflection below .70" if ran horizontally. Verify steel capacity with EOR.

NOTE: LOCATE AND INSTALL HOSE BIBS ACCORDING TO OWNER.

NOTE: INSTALL TANKLES WATER HEATER AS REQUIRED.

NOTE: INSTALL CRUSHED STONE FOOTING ACCORDING TO MANUFACTURERS SPECIFICATIONS.

NOTE: INSTALL AUXILIARY DRAIN PIPE TO SUMP OR DAYLIGHT.

Products

PlotID	Length	Product	Plies	Net Qty
J18	18' 0"	11 7/8" PJI-40	1	8
J16	16' 0"	11 7/8" PJI-40	1	27
J10	10' 0"	11 7/8" PJI-40	1	55
J10-2	10' 0"	11 7/8" PJI-40	2	4
J8	8' 0"	11 7/8" PJI-40	1	6
J6-2	6' 0"	11 7/8" PJI-40	2	2
DB11-2	26' 0"	2.1 RigidLam SP LVL 1-3/4 x 11-7/8	2	2
DB9-2	26' 0"	2.1 RigidLam SP LVL 1-3/4 x 11-7/8	2	2
FB13-2 NON LOAD BEARING	24' 0"	2.1 RigidLam SP LVL 1-3/4 x 11-7/8	2	2
FB14-3	18' 0"	2.1 RigidLam SP LVL 1-3/4 x 11-7/8	3	3
FB15-2	14' 0"	2.1 RigidLam SP LVL 1-3/4 x 11-7/8	2	2
FB16-2	6' 0"	2.1 RigidLam SP LVL 1-3/4 x 11-7/8	2	2
DB10-2	26' 0"	2.1 RigidLam SP LVL 1-3/4 x 14	2	2
DB12-2	26' 0"	2.1 RigidLam SP LVL 1-3/4 x 14	2	2
DB4-2	24' 0"	2.1 RigidLam SP LVL 1-3/4 x 16	2	2
RIM1	12' 0"	1 1/8" x 11 7/8" APA Rim Board	1	16

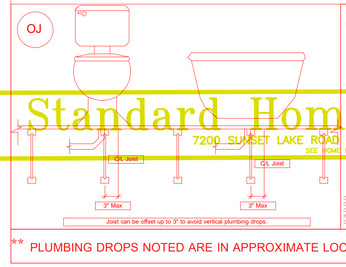
Connector Summary

PlotID	Qty	Manuf	Product	Backer Blocks	Web Stiff
H1	2	MiTek	HUS410	No	No
H2	3	Simpson	IUS2.56/11.88	2 and Filler	No
H3	128	Simpson	IUS2.56/11.88	No	No
H4	2	Simpson	MIU5.12/11	No	No
H5	4	Simpson	HUCQ412-SDS	No	No

In order for steel beam to pick up wall above, span through. Please verify.

BASEMENT/FOUNDATION PLAN
SCALE: 1/4" = 1'-0"

2ND FLOOR LAYOUT



LABEL LEGEND

BBO = Beam by Others
PBO = Post by Others
GBO = Girder by Others
J = I-Joist
FB = Flush Beam
DB = Dropped Beam
RB = Roof Beam
BP = Blocking Panels
SB = Squash Blocks

** PLUMBING DROPS NOTED ARE IN APPROXIMATE LOCATIONS PER PLAN. BUILDER MUST VERY LOCATIONS BEFORE SETTING JOISTS.

** ALL POINT LOADS FROM ABOVE MUST BE TRANSFERRED TO BEARING FROM UNDER SIDE OF SHEATHING.

** REFER TO INSTALLATION GUIDE FOR PLY TO PLY CONNECTIONS.

** FRAMER MUST REFER TO PLANS WHILE SETTING COMPONENTS.

** DIMENSIONS ARE READ AS: FOOT-INCH-SIXTEENTH.

** DAMAGED FLOOR JOISTS SHOULD NOT BE INSTALLED UNLESS APPROVED BY COMPONENT PLANT.

Revisions	
00/00/00	Name
00/00/00	Name
00/00/00	Name
00/00/00	Name
00/00/00	Name

This is an I-Joist Placement Plan Only. All designs of I-Joist follow the IBC/IRC Code Requirements along with Manufacturer's guidelines. This is NOT an engineered placement plan. This placement plan is created from plans provided by the customer using Manufactures guidelines. It is the responsibility of the EOR, or builder to review and approve all bearing conditions, connections, spans, loading, product usage, and quantities. Do not notch or drill holes in beams or flanges on joists without prior approval from the manufacturing Representative unless following hole guidelines in the installation guide of product. Builder takes full responsibility for doing so and NO Back charge will be accepted.

Kempsville Building Materials
A Division of the Carter Lumber Company

Robert Bennett
7281 NC HWY 42
FLOOR JOIST LAYOUT

Scale: 1/4" = 1'-0"
Date: // 09/26/24
Designer: DW
Project #: 24090120
Sheet Number:
2 / 2