



PERMIT #: BLD-25-168

ISSUE DATE: August 15, 2025

General Questions: 503.537.1240  
Email Address: building@newbergoregon.gov

# BUILDING PERMIT

## BUILDING DEPARTMENT

**SITE ADDRESS:** 2475 N VILLA RD Newberg, OR. 97132 **PARCEL #:** R3208 05100 **TYPE OF CONSTRUCTION:** VB

**TYPE OF WORK:** Residential New Construction **TOTAL SQ. FT.:** 2,573 **BUILDING USE:** R-3/U

**DETAILED DESCRIPTION OF WORK:** New single-family home

**ZONING:** SD/LDR **TOTAL VALUE OF WORK:** \$389,330.52

**PROJECT NAME (if applicable):** Collina at Springbrook Ph 1 **TOTAL PERMIT FEE'S PAID:** \$43,951.39

### AUTHORIZED PERMIT HOLDERS

**APPLICANT:** Jennifer Mercadante **PHONE:** 503-596-2208 ext. 201

**MAILING ADDRESS:** 210 SW Wilson Ave. Bend, Oregon. 97702

**CONTRACTOR:** PAHLISCH HOMES INC **PHONE:** 5413856762

**MAILING ADDRESS:** 210 SW WILSON AVE STE 100 **CCB #:** 42067

### ADDITIONAL INFORMATION/CONDITIONS OF APPROVAL/COMMENTS

ALL WORK IS TO CONFORM TO THE CURRENT EDITION OF THE ORSC & OSCC.

INSPECTIONS REQUESTED **PRIOR TO 7AM** WILL BE COMPLETED THE **SAME** BUSINESS DAY.

INSPECTION RECEIVED **AFTER 7AM** WILL BE SCHEDULED FOR THE **NEXT** BUSINESS DAY.

**Schedule or track inspections at [www.newbergor.portal.opengov.com](http://www.newbergor.portal.opengov.com) OR Call 503.554.7714 leave PERMIT # BLD-25-168, address & type of Insp.**

|  |   |
|--|---|
| <p><b>THIS PERMIT EXPIRES 6 MO FROM ISSUE DATE: February 11, 2026</b><br/> <b>IF WORK IS NOT STARTED OR IF WORK IS SUSPENDED OR ABANDONED FOR 180 DAYS OR LONGER AFTER WORK HAS COMMENCED.</b></p> | <p><b>8.15.150 UNNECESSARY NOISE--PERMITTED EXCEPTIONS. UNREASONABLE NOISE AND EXCEPTIONS.</b></p> <p>3. The following acts are declared to be per se violations of this section. This enumeration does not constitute an exclusive list:</p> <p>j. Construction or Repair of Buildings, or Excavation of Streets and Highways. The construction, demolition, alteration or repair of any building or the excavation of streets and highways other than between the hours of 7:00 a.m. and 7:00 p.m. on weekdays. In cases of emergency, construction or repair noises are exempt from this provision. In nonemergency situations, the city may issue a permit, upon application, if the city determines that the public health and safety, as affected by loud and raucous noise caused by construction or repair of buildings or excavation of streets and highways between the hours of 7:00 p.m. and 7:00 a.m. will not be impaired, and if the city further determines that loss or inconvenience would otherwise result. The permit shall grant permission in nonemergency cases for a period of not more than three days. The permit may be renewed once for a period of three days or less.</p> |
| <p>A copy of the building permit &amp; 1 set of approved construction documents are to be available for review at the work site.</p>   |   |
| <p>All persons or entities performing work under this permit are required to be licensed unless exempted by ORS 701.010 (Structural/Mechanical), and ORS 693.010-020 (Plumbing).</p>               |   |

**NEWBERG CITY HALL** **414 E FIRST ST** **Web address: [newbergoregon.gov](http://newbergoregon.gov)**



# Moisture Content Acknowledgement Form

Department of Consumer and Business Services

Building Codes Division • Pendleton Field Office

800 SE Emigrant Ave., Suite 360, Pendleton, Oregon 97801

Phone: 541-276-7814 • [building.department@dcbs.oregon.gov](mailto:building.department@dcbs.oregon.gov)

[www.oregon.gov/bcd](http://www.oregon.gov/bcd)

## INTRODUCTION

The Oregon Residential Specialty Code (ORSC) Section R318.2 requires that all moisture-sensitive wood framing members used in construction have a moisture content of not more than 19 percent of the weight of dry wood framing members.

Before the installation of interior finishes, the contractor, builder, or owner must provide written notification to the building official that the requirements of this code section have been complied with. This form must be used to provide notification to the building official.

This completed and signed form may either be delivered or mailed to the address on this form, or emailed to [Building.Department@dcbs.oregon.gov](mailto:Building.Department@dcbs.oregon.gov).

## INFORMATION

Permit number **BLD-25-**

Project address: **2475 N Villa Rd**

City: **Newberg**

County: **Yamhill**

Subdivision/lot:  
(If applicable) **Collina/18**

Map/tax lot:  
(If applicable) **5400**

## ACKNOWLEDGEMENT

I hereby acknowledge that I am the contractor, builder, or owner for the permit at the listed address. The moisture content requirement for all moisture sensitive wood framing members comply with ORSC Section R318.2. Failure to submit this form may delay final approval or issuance of a Certificate of Occupancy.

Signature:

A handwritten signature in blue ink that reads 'Mike Morse'. The signature is written in a cursive style and is positioned above a horizontal line.

*By signing electronically, I agree that this agreement may be electronically signed. I agree my electronic signature on this certification is the same as a handwritten signature for the purposes of validity, enforceability, and admissibility.*

Name (Printed): **Mike Morse**

Date: **5/9/2025**

## Rain Screen Acknowledgement Form

I, Pahlisch Homes at Collina, LP, am the general contractor  
or the owner-builder at the following address:

2475 N Villa Rd

*Street Address*

Newberg, OR 97132

*City, State & Zip*

BLD-25-

*Permit Number*

Collina/18

*Subdivision/Lot*

and/or

5400

*Map and Tax Lot*

To conform to the 2008 Oregon Residential specialty Code (ORSC), Section R703.1.1, I am notifying the Building Official that I am aware of the requirement of ORSC Section R703.1.1 and have taken steps to meet this code requirement. [Section R703 is provided for reference.]

**Section R703.1.1 Exterior Wall Envelope.** To promote building durability, the exterior wall envelope shall be installed in a manner that water that enters the assembly can drain to the exterior. The envelope shall consist of an exterior veneer, a water-resistive barrier as required in R703.2, a minimum 1/8 inch (3 mm) space between the water-resistive barrier and the exterior veneer, and integrated flashings as required in R703.8. The required space shall be formed by the use of any non-corrodible furring strip, drainage mat or drainage board. The envelope shall provide proper integration of flashings with the water-resistive barrier, the space provided and the exterior veneer. These components, in conjunction, shall provide a means of draining in water that enters the assembly to the exterior.

**This form must be completed at "Submittal".**

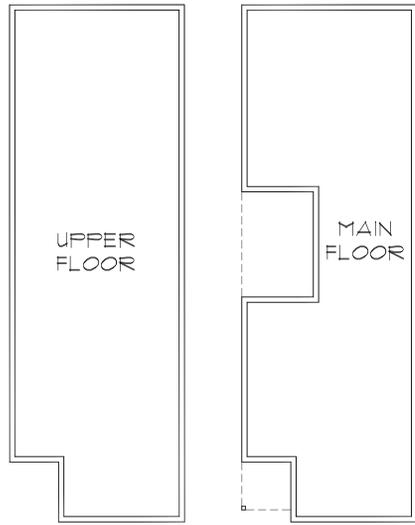


*Signature*

5.9.25

*Date*





LAP SIDING TYP. UNO.

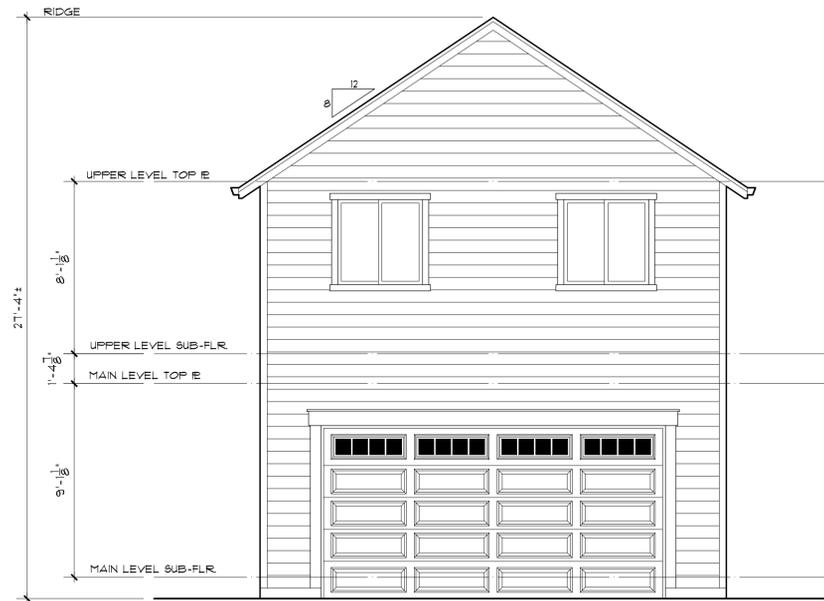
SIDING LEGEND

NTS



FRONT ELEVATION

1/4" = 1'-0"



REAR ELEVATION

1/4" = 1'-0"



CONIFER A

|               |             |
|---------------|-------------|
| MAIN LEVEL    | 775 SQ.FT.  |
| UPPER LEVEL   | 1313 SQ.FT. |
| TOTAL         | 2088 SQ.FT. |
| GARAGE        | 485 SQ.FT.  |
| COVERED PORCH | 37 SQ.FT.   |
| COVERED PATIO | 119 SQ.FT.  |

210 SW WILSON AVENUE  
SUITE 100  
BEND, OR 97702

(541) 385-6762

OR CCB# 42067  
WA LIC# PAHLH191513

**pahlisch**  
HOMES  
WWW.PAHLISCHHOMES.COM

RESERVED FOR CITY STAMP

PER CITY OF BEND REQUIREMENTS, PURSUANT TO THE 2021 OREGON RESIDENTIAL SPECIALTY CODE (ORSC), SECTION R108.3, PERMIT VALUATIONS SHALL BE BASED UPON OREGON STATEWIDE FEES. THE METHOD OF DETERMINING SQUARE FOOTAGE OF A DWELLING IS DETERMINED FROM OUTSIDE OF EXTERIOR WALL TO OUTSIDE OF EXTERIOR WALL FOR EACH LEVEL UNDER THIS RULE. GARAGE AREA IS DETERMINED TO BE XXX SF UPPER LEVEL XXX SF MAIN LEVEL XXX SF GARAGE XXX SF OUTDOOR COVERED AREA: XXX SF

PURSUANT TO THE FEDERAL COPYRIGHT ACT THESE PLANS, WHETHER A FULL CONSTRUCTION SET, EXTRA PRINTS, STUDY PRINTS OR REPRODUCIBLE VELLUM, CONTAIN THE REGISTERED AND PATENTED ARCHITECTURAL DESIGN WITH THE LIBRARY OF CONGRESS PROPERLY RESERVING ALL RIGHTS FOR PAHLISCH HOMES. NO PART OF THESE PLANS SHALL BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF PAHLISCH HOMES, INC. PERMISSION IS PROHIBITED WITHOUT THE WRITTEN PERMISSION FROM PAHLISCH HOMES, INC.



**FOUNDATION**

- INDICATES ATYPICAL FOOTING SIZE. SEE PLAN FOR SPECIFIC LOCATIONS AND SIZES. MATCH WILL VARY PER PLAN / LOCATION / CONDITION.
- INDICATES INTERIOR BEARING WALLS.
- ALL HARDWARE AND ANCHORS TO BE POURED IN PLACE - NO WET SETTING ALLOWED.
- REBAR:
  - USE ASTM A-615 GRADE 60 DEFORMED REINFORCING BARS UNLESS NOTED OTHERWISE. ALL REBAR SHALL BE PLACED IN ACCORDANCE W/ AC308. SET SETTING OF STEEL ANCHOR RODS IS NOT PERMITTED. REMOVE LOOSE MILL, F RUST SCALE, OIL DIRT AND COATINGS OF ANY MANNER THAT WILL REDUCE BOND. OVERLAP BAR AS FOLLOWS:
    - TOP BAR: ANY HORIZONTAL BAR W/ MORE THAN 12" OF CONCRETE CAST BELOW:
      - 4# BARS: 31" OVERLAP
      - 5# BARS: 41" OVERLAP
      - 6# BARS: 56" OVERLAP
    - BOTTOM BAR / COMMON CONDITIONS:
      - 4# BARS: 29" OVERLAP
      - 5# BARS: 34" OVERLAP
      - 6# BARS: 43" OVERLAP
- CONCRETE STRENGTH:
  - CONCRETE MIXES SHALL BE NORMAL WEIGHT & CONTAIN TYPE I OR TYPE 2 PORTLAND CEMENT:
    - A. FOOTINGS, STEM WALLS & RETAINING WALLS: 3000 PSI, 4-7% ENTRAINED AIR & 0.53 MAX WATER-CEMENT RATIO
    - B. EXTERIOR SLABS: 4000 PSI, 5-7% ENTRAINED AIR & 0.48 MAX WATER-CEMENT RATIO
    - C. INTERIOR SLABS: 4000 PSI, 2-4% ENTRAINED AIR & 0.48 MAX WATER-CEMENT RATIO
  - DO NOT BACKFILL FOUNDATION WALLS OR RETAINING WALLS UNLESS MAIN FLOOR AND WALL DIAPHRAGMS ARE IN PLACE AND FULLY CURED, OR THE FOUNDATION WALLS HAVE BEEN CAST & CURED FOR 28 DAYS.
  - IF APPLICABLE, FOOTINGS OUTSIDE OF THE FOOTPRINT WILL NEED TO BE INSPECTED PRIOR TO POUR (PER JURISDICTION).
  - ALL PIPING WITHIN THE FOUNDATION WILL NEED PROTECTION INSTALLED AGAINST PHYSICAL DAMAGE PER M3082 (2023 ORSC & 2021 IRC).
  - J-BOLTS AND WASHERS TO BE USED PER R4031.6.1 (2023 ORSC & 2021 IRC).
  - ALL LOCATIONS NOT INDICATED AS ENGINEERED SHEAR WALLS SHALL HAVE 1/2" SILL ANCHORS, W/ 1" OF EMBED (MIN.) & 12" O.C. W/ 1/4" STANDARD CUT WASHERS.
  - PRESCRIPTIVE BRACED WALLS:
    - 1/4" STANDARD CUT WASHERS PERMITTED IN SEISMIC C (MUST STILL MEET JURISDICTIONAL MINIMUMS): 3x3x2023" IE WASHER REQUIRED IN SEISMIC D & TOWNHOMES IN SEISMIC C.
  - ENGINEERED SHEAR WALLS:
    - REQUIRE 1" THICK IE WASHERS PER SHEAR WALL SCHEDULE.
    - DO NOT PLACE FOUNDATION VENTS UNDER SHEAR WALL HOLDINGS OR COLUMNS.
    - CENTER ALL FOOTINGS UNDER COLUMNS AS SHOWN ON PLAN.
    - FOOT WALL BANDER FLOOR BELOW JOIST:
      - A. FOOT WALLS SHALL BE FRAMED W/ 2x4 DF (UNO.) & SHALL HAVE (1) STUD ALIGNED W/ EA JOIST (MIN.) UNO.
      - B. FLOOR BEAMS WHICH BEAR ONPOCKET INTO FOOT WALLS SHALL HAVE (2) 2x4 DF (MIN.) UNO.
  - JOIST NOTES:
    - A. JOIST SERIES NOTED IS MIN. & SPACING NOTED IS MAX. (UNLESS OTHERWISE DIMENSIONED). INCREASING SERIES OR A TIGHTER ON-CENTER SPACING DOES NOT REQUIRE APPROVAL BY ENGINEER OR RECORD.
    - B. WHERE OCCURS, # SINGLE FDN. STEP: 1/4" (x JOIST DEPTH) USE L&L (OR EQUIV.) RIMBOARD IS REQUIRED W/ FULL DEPTH 1-JOIST BULKING # EXTERIOR PARALLEL CONDITION # 48" O.C. MIN. (1ST BAY ONLY).
    - C. OFFSET DISTANCES FROM HD. POST TO CENTERLINE OF AB, LOCATION:
      - 1-5/8" FOR HT4 & HD5 (5/8" AB.)
      - 1-3/8" FOR HD3 (7/8" AB.)
      - 1-1/4" FOR HD28 (1/8" AB.)
      - 1-9/8" FOR HD4 (1" AB.)

**FOUNDATION VENT CALCS**

VENTS REQUIRED = 8

176 SQFT. UNDER FLOOR AREA (1 SQFT. PER 150 SQFT. OF UNDER FLOOR SPACE NEEDED PER ORSC R408.1)

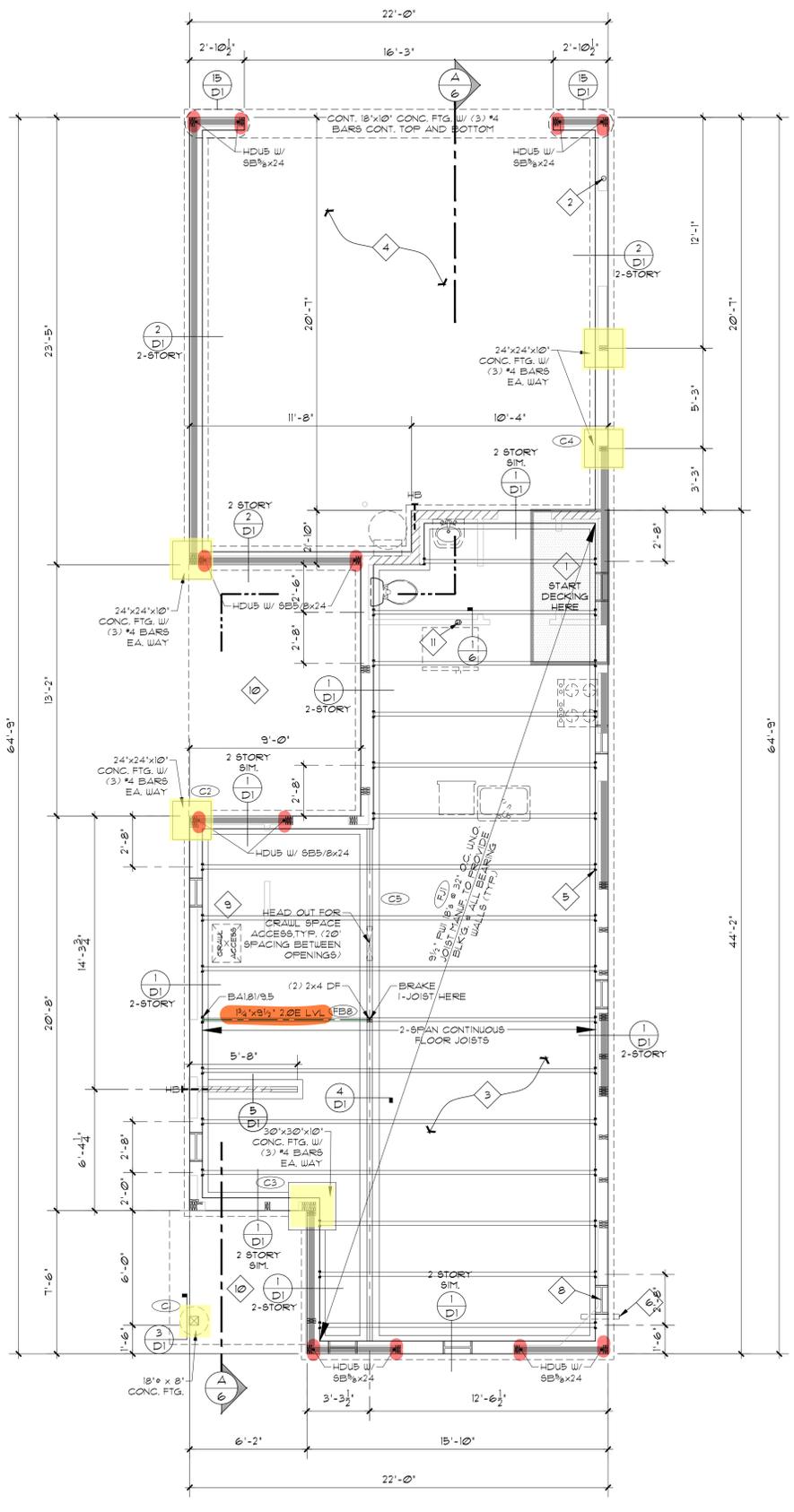
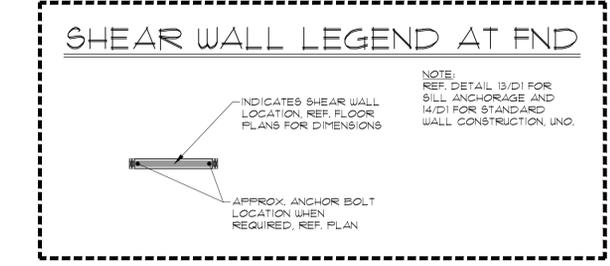
5.17 SQFT. VENTILATION REQUIRED ((17) VENT \* 0.65 SQFT.)

5.2 SQFT. VENTILATING & CROSS VENTILATION SHOWN

\*SEE FOUNDATION PLAN AND KEYNOTE #8 FOR VENT LOCATIONS/ REQUIREMENTS.

FLOOR JOIST LAYOUT BY MANUF. WILL BE PROVIDED ON SITE FOR INSPECTION.

- FOUNDATION PLAN KEYNOTES**
- FLOOR FRAMING (TYPICAL): 1 1/2" SUBFLOOR GLUED AND NAILED ON 3 1/2" ENGINEERED I-JOISTS @ SPACING PER PLAN. JOISTS TO HANG FROM TREATED SILL (PROVIDE FELT PAPER BETWEEN JOIST & STEM WALL) OR SIT ON WALL/FOOTWALL. MAINTAIN 18" MIN. BETWEEN JOISTS AND GROUND.
  - 3" DIA. PVC PIPE IN STEM WALL FOR ELECTRICAL SERVICE ENTRANCE.
  - 6 MIL BLACK POLYETHYLENE GROUND COVER PER R408.1 (2023 ORSC) & R408.3.2 (2021 IRC). LAP BEAMS MIN. 6" JOINTS SEALED (2021 IRC) OR MIN. 12" LOOSE OVERLAP (2023 ORSC). RUN VAPOR RETARDER UP ALL STEM WALLS AND FOOTINGS MIN. 12" (2023 ORSC).
  - 4" CONCRETE SLAB IN GARAGE ON MINIMUM 4" COMPACTED GRANULAR FILL. SLOPE 3" TO GARAGE DOOR(S) PER R309.1 (2023 ORSC & 2021 IRC). TOOL CONTROL JOINTS @ 11'-0" O.C. EA. WAY.
  - JOIST TO STEMWALL CONNECTION: TOP FLANGE HANGER PER JOIST MANUFACTURER.
  - PROVIDE A 3" (MIN.) DIAMETER PVC PIPE DRAIN AT LOW POINT OF CRAWLSPACE THROUGH BLOCK-OUT AT FOUNDATION WALL. LOCATION ON PLAN WILL VARY PER LOT.
  - N/A
  - 16"x8" SCREENED FOUNDATION VENTS. FOR NUMBER 4 LOCATION REFERENCE SEPARATE VENT NOTE ON THIS SHEET AND PLAN. VENTS TO BE PLACED WITHIN 3'-0" OF BUILDING CORNERS. DO NOT PLACE AT PLUMBING (WHEN APPLICABLE). VENTS PER R408.2 (2023 ORSC & 2021 IRC).
  - PROVIDE MIN. 18"x24" CRAWL SPACE ACCESS PER R408.4 (2023 ORSC & 2021 IRC).
  - 4" CONCRETE SLAB ON 4" MIN. CLEAN GRANULAR FILL.
  - IF APPLICABLE, RADON VENT, TYP. PER EA TYPE OF FND. AREA - LOCATIONS(S) TO BE VERIFIED ON SITE.
- \*\* NOTE: DEPENDENT ON PLAN AND JURISDICTION, NOT ALL NOTES MAY APPLY TO PLAN \*\*



FOUNDATION PLAN 1/4" = 1'-0"

210 SW WILSON AVENUE  
SUITE 100  
BEND, OR 97702  
(541) 385-6762  
OR CCB# 42067  
WA LIC# PAHLHP15153

**pahlisch**  
HOMES  
WWW.PAHLISCHHOMES.COM



**CONIFER A**

|               |             |
|---------------|-------------|
| MAIN LEVEL    | 775 SQ.FT.  |
| UPPER LEVEL   | 1313 SQ.FT. |
| TOTAL         | 2088 SQ.FT. |
| GARAGE        | 485 SQ.FT.  |
| COVERED PORCH | 37 SQ.FT.   |
| COVERED PATIO | 119 SQ.FT.  |

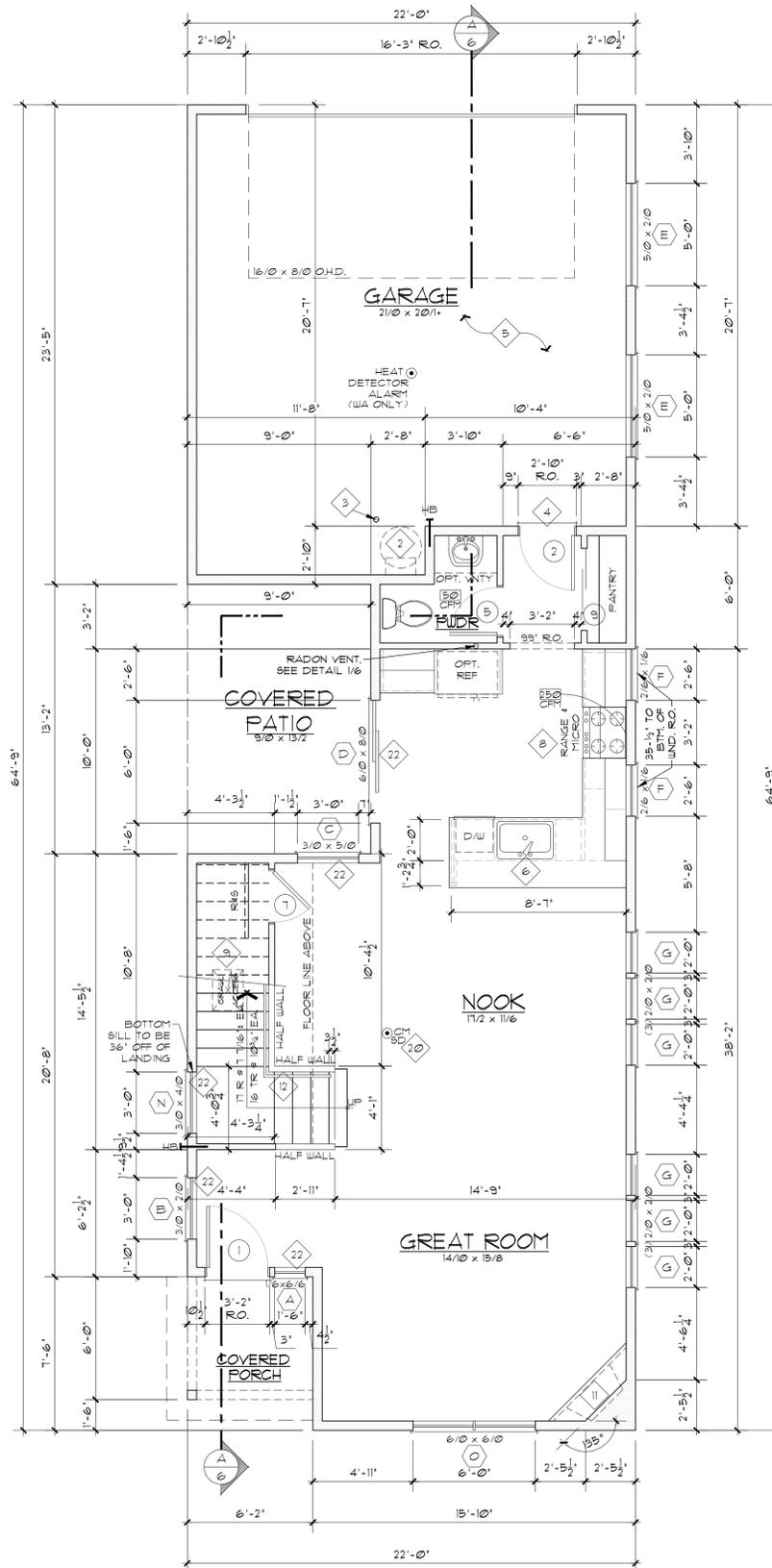
PURSUANT TO THE FEDERAL COPYRIGHT ACT, THESE PRINTS, STUDY PRINTS OR REPRODUCIBLE VOLUMES CONTAIN THE COPYRIGHT NOTICE AND ARE DULY REGISTERED WITH THE LIBRARY OF CONGRESS. ANY REPRODUCTION OF THESE PRINTS WITHOUT THE WRITTEN PERMISSION OF PAHLISCH HOMES, INC. ACCORDINGLY, THESE PRINTS MAY NOT BE USED BY ANYONE EXCEPT FOR THE INTENDED PROJECT OF ONE HOUSE ONLY. REPEATED USE OF THESE PRINTS FOR MULTIPLE PROJECTS IS NOT PERMITTED. REGISTERED PURCHASER WHO IS SOLELY AND LEGALLY LIABLE FOR ANY ALTERATIONS TO THE ORIGINAL PLAN AS PURCHASED FROM THIS OFFICE. ANY REWORKING, BY ANYONE IS PROHIBITED WITHOUT THE WRITTEN PERMISSION FROM PAHLISCH HOMES, INC.

| DOOR SCHEDULE  |                                 |                                   |        |      |                             |
|----------------|---------------------------------|-----------------------------------|--------|------|-----------------------------|
| ①              | SIZE (feet)<br>(width x height) | R.O. (inches)<br>(width x height) | TYPE   | QTY. | NOTES                       |
| EXTERIOR DOORS |                                 |                                   |        |      |                             |
| 1              | 3/0 x 8/0                       | 38" x 99"                         | SWING  | 1    | FRONT DOOR                  |
| 2              | 2/8 x 6/8                       | 34" x 83"                         | SWING  | 1    | 1-3/8" MIN. SOLID CORE DOOR |
| INTERIOR DOORS |                                 |                                   |        |      |                             |
| 3              | (2) 2/0 x 6/8                   | 51" x 83"                         | SWING  | 1    |                             |
| 4              | 1/8 x 6/8                       | 22" x 83"                         | SWING  | 1    |                             |
| 5              | 2/4 x 6/8                       | 30" x 83"                         | SWING  | 2    |                             |
| 6              | 2/4 x 6/8                       | 58" x 84"                         | POCKET | 1    |                             |
| 7              | 2/6 x 6/8                       | 32" x 83"                         | SWING  | 6    |                             |
| 8              | 2/8 x 6/8                       | 34" x 83"                         | SWING  | 2    |                             |
| 9              | 4/0 x 6/8                       | 49" x 84"                         | BYPASS | 1    |                             |
| 10             | 5/0 x 6/8                       | 61" x 84"                         | BYPASS | 2    |                             |

\*\*INCREASE ALL FIRST FLOOR INTERIOR DOORS TO 8'-0" AND R.O. HT. TO 99" WITH SIGNATURE SPECIFICATIONS.\*\*

| WINDOW SCHEDULE |                               |                    |          |         |      |   |
|-----------------|-------------------------------|--------------------|----------|---------|------|---|
| △               | SIZE/R.O.<br>(width x height) | TYPE               | TEMPERED | OBSURED | QTY. | NOTES                                     |
| A               | 1/6 x 6/6                     | FXD                | YES      | NO      | 1    | SIDE LITE                                 |
| B               | 3/0 x 2/0                     | FXD                | YES      | NO      | 1    | GRIDS PER ELEVATIONS                      |
| C               | 3/0 x 5/0                     | FXD                | YES      | NO      | 1    |   |
| D               | 6/0 x 8/0                     | PATIO SLIDING DOOR | YES      | NO      | 1    | SEE PLAN FOR ORIENTATION                  |
| E               | 5/0 x 2/0                     | FXD                | NO       | NO      | 3    |   |
| F               | 2/6 x 1/6<br>(2/6 x 1/1 R.O.) | FXD                | NO       | YES     | 2    | MEASURE HT. OF R.O. FROM TOP OF BTM. SILL |
| G               | 2/0 x 2/0                     | FXD                | NO       | NO      | 6    |   |
| H               | 5/0 x 4/0                     | XO                 | NO       | NO      | 2    | SEE PLAN FOR ORIENTATION                  |
| I               | 4/0 x 4/0                     | XO                 | NO       | NO      | 2    | SEE PLAN FOR ORIENTATION                  |
| J               | 2/0 x 3/6                     | SH                 | NO       | YES     | 1    |   |
| K               | 2/6 x 3/6                     | SH                 | NO       | NO      | 1    |   |
| L               | 4/0 x 1/0                     | XO                 | NO       | YES     | 1    | SEE PLAN FOR ORIENTATION                  |
| M               | 6/0 x 2/0                     | FXD                | NO       | NO      | 1    |   |
| N               | 3/0 x 4/0                     | FXD                | YES      | NO      | 1    | GRIDS PER ELEVATIONS                      |
| O               | 6/0 x 6/0                     | XO                 | NO       | NO      | 1    | GRIDS PER ELEVATIONS                      |
| P               | 6/0 x 5/0                     | XO                 | NO       | NO      | 1    | GRIDS PER ELEVATIONS                      |
| Q               | 3/6 x 4/0                     | FXD                | NO       | NO      | 2    | GRIDS PER ELEVATIONS                      |
| R               | -                             | -                  | -        | -       | -    | -   |

\*PAIRED XO WINDOWS TO HAVE OPERABLE PANELS OPPOSITE ONE ANOTHER AT OUTSIDE PANES



MAIN FLOOR PLAN

1/4" = 1'-0"

◇ TWO STORY KEYNOTES

- OREGON: INSTALL EFFICIENT GAS FURNACE WITH BACKDRAFT DAMPER, PREPARE SYSTEM FOR FUTURE AIR CONDITIONING. MEET REQUIRED HEATING PER R303.10 (2023 ORSC & 2021 IRC). WASHINGTON: INSTALL ELECTRICAL FURNACE, ASHP II HSPFF PER 2021 USEC-R. PREPARE SYSTEM FOR FUTURE AIR CONDITIONING. MEET REQUIRED HEATING PER R303.10 (2023 ORSC & 2021 IRC).
- OREGON: INSTALL TANKLESS WATER HEATER IN OREGON. ELEVATE FLAME 18" (MINIMUM) ABOVE SLAB. PROVIDE R-4 INSULATION AROUND WATER PIPES IN UNHEATED SPACES. WASHINGTON: INSTALL ELECTRIC WATER HEATER IN WASHINGTON. TIER III HPHU PER 2021 USEC-R. PROVIDE R-4 INSULATION AROUND WATER PIPES IN UNHEATED SPACES.
- EMBED 54" LONG 3" DIAMETER STEEL PIPE 18" INTO 12" DIAMETER X 24" CONCRETE FOOTING. FILL PIPE WITH CONCRETE OR USE OTHER APPROVED METHOD PER FIGURE M1301.31 (2023 ORSC & 2021 IRC).
- 1-3/8" MIN. THICKNESS, SOLID CORE DOOR (MINIMUM 20 MINUTE FIRE - RATED DOOR), MEET REQUIREMENTS PER R302.5.11 (2023 ORSC) / R302.5.1 (2021 IRC).
- APPLY 1/2" GYPSUM BOARD TO ALL WALLS AND CEILING IN GARAGE. FINISH GARAGE WALLS AND CEILING. PROVIDE 3/8" TYPE 'X' GYPSUM BOARD ON CEILINGS WITH HABITABLE SPACE ABOVE.
- ATTACHED EATING BAR. BRING PLUMBING FOR ISLAND UP FROM FLOOR INTO BOTTOM OF CABINETS.
- 2x4 HALF-WALL W/ EATING BAR - COUNTER HT. TO MATCH KITCHEN.
- INSTALL HOOD OR MICROWAVE/HOOD COMBO OVER RANGE. VENTED TO OUTSIDE PER M1305.2 (2023 ORSC/ 2021 IRC).
- PROVIDE MIN. 18"x24" CRAWL SPACE ACCESS PER R408.4 (2023 ORSC & 2021 IRC).
- PROVIDE 22"x34" ATTIC ACCESS W/ INSULATED 'LID' PER R307 (2023 ORSC & 2021 IRC). PROVIDE INSULATION Baffle ABOVE OPENING.
- FIREPLACE: INSTALL 36" PRE-FABRICATED GAS DIRECT VENT (ZERO CLEARANCE) UL LISTED METAL FIREPLACE TO MANUF. SPECS.
- CONTINUOUS HANDRAIL PER R311.8 (2023 ORSC & 2021 IRC).
- INSTALL RECESSED WASHER/DRYER HOOKUP IF APPLICABLE. WASHER ALWAYS TO BE ON THE LEFT.
- N/A
- INSTALL SLIDING TEMPERED GLASS DOOR AT FIBERGLASS SHOWER. SEE SITE SUPERVISOR FOR SPECS.
- INSTALL STANDARD 32"x60" FIBERGLASS TUB WITH SHOWER.
- INSTALL TEMPERED GLASS DOOR AT STANDARD 36"x48" SHOWER. CURBED SHOWERS TO MEET 408.5 (2023 ORSC). CURBLESS SHOWERS TO MEET 408.6(3) (2023 ORSC) OR 411.4 (2021 IRC).
- N/A
- INSTALL FREE-STANDING TUB PER SPECS. CONSULT SITE SUPERVISOR FOR SPECS ON TUB.
- SMOKE AND CARBON MONOXIDE DETECTORS PER R314.3 & R315.2 (2023 ORSC & 2021 IRC) TYP.
- PROVIDE EMERGENCY ESCAPE AND RESCUE OPENING (EGRESS) PER R310.2 (2023 ORSC OR 2021 IRC).
- PROVIDE TEMPERED GLASS AT ALL HAZARDOUS LOCATIONS PER THE FOLLOWING: DOORS - R308.4.1, R308.4.2, WINDOWS - R308.4.3, SHOWER/ BATHTUB - R308.4.5, STAIRWAYS - R308.4.6 & R308.4.1 (2023 ORSC & 2021 IRC).
- ALL EXTERIOR GUARDS/ HANDRAILS PER R312.1 & R312.1.1 (2023 ORSC & 2021 IRC).

\*\* NOTE: NOT ALL KEYNOTES WILL BE APPLICABLE ON THIS PLAN.\*\*

210 SW WILSON AVENUE  
SUITE 100  
BEND, OR 97702  
(541) 385-6762  
OR CCB# 42067  
WA LIC# PAHLH191513

**pahlisch**  
HOMES  
WWW.PAHLISCHHOMES.COM



CONIFER A

|               |             |
|---------------|-------------|
| MAIN LEVEL    | 775 SQ.FT.  |
| UPPER LEVEL   | 1313 SQ.FT. |
| TOTAL         | 2088 SQ.FT. |
| GARAGE        | 485 SQ.FT.  |
| COVERED PORCH | 37 SQ.FT.   |
| COVERED PATIO | 119 SQ.FT.  |

PURSUANT TO THE FEDERAL COPYRIGHT ACT, THESE PRINTS, STUDY PRINTS OR REPRODUCIBLE VELLUMS CONTAIN THE COPYRIGHT NOTICE AND ARE DULY REGISTERED WITH THE LIBRARY OF CONGRESS. ANY REPRODUCTION OF THESE PRINTS OR VELLUMS WITHOUT THE WRITTEN PERMISSION OF PAHLISCH HOMES, INC. ACCORDINGLY, THESE PRINTS MAY NOT BE USED BY ANYONE EXCEPT FOR THE INTENDED PROJECT OF ONE HOUSE ONLY. REPEAT USE OF THESE PRINTS OR VELLUMS WITHOUT THE WRITTEN PERMISSION OF PAHLISCH HOMES, INC. IS PROHIBITED. THESE PRINTS ARE THE PROPERTY OF PAHLISCH HOMES, INC. AND WILL BE RETURNED TO THE ORIGINAL PURCHASER UPON COMPLETION OF THE PROJECT. ANY ALTERATIONS TO THE ORIGINAL PLAN AS PURCHASED FROM THIS OFFICE, ANY REDRAWING, OR ANY OTHER USE OF THESE PRINTS OR VELLUMS WITHOUT THE WRITTEN PERMISSION OF PAHLISCH HOMES, INC.

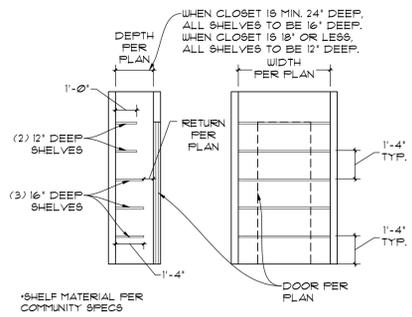


| DOOR SCHEDULE  |                                 |                                   |        |      |                             |
|----------------|---------------------------------|-----------------------------------|--------|------|-----------------------------|
| ①              | SIZE (feet)<br>(width x height) | R.O. (inches)<br>(width x height) | TYPE   | QTY. | NOTES                       |
| EXTERIOR DOORS |                                 |                                   |        |      |                             |
| 1              | 3/0 x 8/0                       | 38" x 99"                         | SWING  | 1    | FRONT DOOR                  |
| 2              | 2/8 x 6/8                       | 34" x 83"                         | SWING  | 1    | 1-3/8" MIN. SOLID CORE DOOR |
| INTERIOR DOORS |                                 |                                   |        |      |                             |
| 3              | (2) 2/0 x 6/8                   | 51" x 83"                         | SWING  | 1    |                             |
| 4              | 1/8 x 6/8                       | 22" x 83"                         | SWING  | 1    |                             |
| 5              | 2/4 x 6/8                       | 30" x 83"                         | SWING  | 2    |                             |
| 6              | 2/4 x 6/8                       | 58" x 84"                         | POCKET | 1    |                             |
| 7              | 2/6 x 6/8                       | 32" x 83"                         | SWING  | 6    |                             |
| 8              | 2/8 x 6/8                       | 34" x 83"                         | SWING  | 2    |                             |
| 9              | 4/0 x 6/8                       | 49" x 84"                         | BYPASS | 1    |                             |
| 10             | 5/0 x 6/8                       | 61" x 84"                         | BYPASS | 2    |                             |

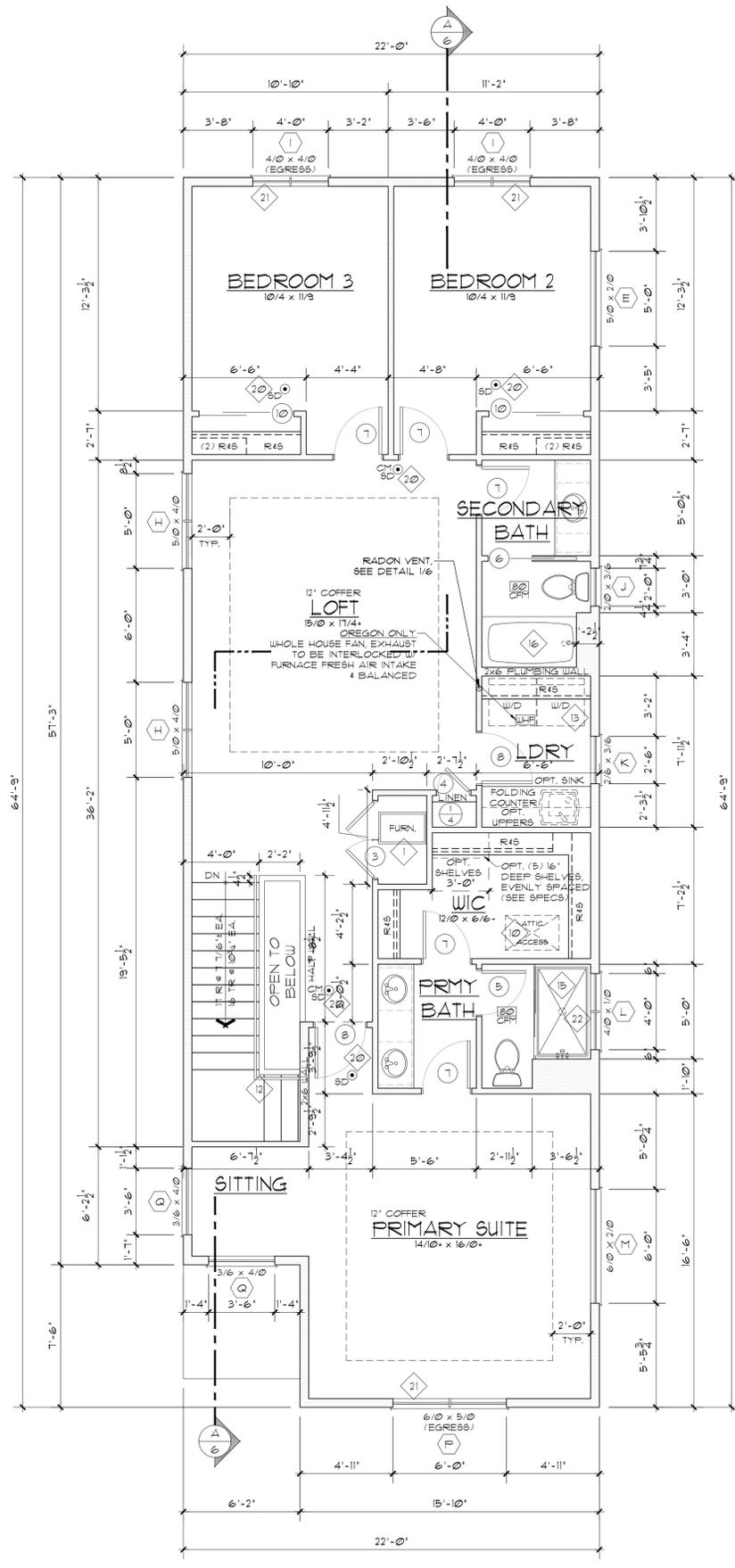
\*\*INCREASE ALL FIRST FLOOR INTERIOR DOORS TO 8'-0" AND R.O. HT. TO 99" WITH SIGNATURE SPECIFICATIONS.\*\*

| WINDOW SCHEDULE |                               |                    |          |         |      |   |
|-----------------|-------------------------------|--------------------|----------|---------|------|---|
| △               | SIZE/R.O.<br>(width x height) | TYPE               | TEMPERED | OBSURED | QTY. | NOTES                                     |
| A               | 1/6 x 6/6                     | FXD                | YES      | NO      | 1    | SIDE LITE                                 |
| B               | 3/0 x 2/0                     | FXD                | YES      | NO      | 1    | GRIDS PER ELEVATIONS                      |
| C               | 3/0 x 5/0                     | FXD                | YES      | NO      | 1    |   |
| D               | 6/0 x 8/0                     | PATIO SLIDING DOOR | YES      | NO      | 1    | SEE PLAN FOR ORIENTATION                  |
| E               | 5/0 x 2/0                     | FXD                | NO       | NO      | 3    |   |
| F               | 2/6 x 1/6<br>(2/6 x 1/1 R.O.) | FXD                | NO       | YES     | 2    | MEASURE HT. OF R.O. FROM TOP OF BTM. SILL |
| G               | 2/0 x 2/0                     | FXD                | NO       | NO      | 6    |   |
| H               | 5/0 x 4/0                     | XO                 | NO       | NO      | 2    | SEE PLAN FOR ORIENTATION                  |
| I               | 4/0 x 4/0                     | XO                 | NO       | NO      | 2    | SEE PLAN FOR ORIENTATION                  |
| J               | 2/0 x 3/6                     | SH                 | NO       | YES     | 1    |   |
| K               | 2/6 x 3/6                     | SH                 | NO       | NO      | 1    |   |
| L               | 4/0 x 1/0                     | XO                 | NO       | YES     | 1    | SEE PLAN FOR ORIENTATION                  |
| M               | 6/0 x 2/0                     | FXD                | NO       | NO      | 1    |   |
| N               | 3/0 x 4/0                     | FXD                | YES      | NO      | 1    | GRIDS PER ELEVATIONS                      |
| O               | 6/0 x 6/0                     | XO                 | NO       | NO      | 1    | GRIDS PER ELEVATIONS                      |
| P               | 6/0 x 5/0                     | XO                 | NO       | NO      | 1    | GRIDS PER ELEVATIONS                      |
| Q               | 3/6 x 4/0                     | FXD                | NO       | NO      | 2    | GRIDS PER ELEVATIONS                      |
| R               | -                             | -                  | -        | -       | -    | -   |

\*PAIRED XO WINDOWS TO HAVE OPERABLE PANELS OPPOSITE ONE ANOTHER AT OUTSIDE PANES



① SHELVING DETAIL N.T.S.



UPPER FLOOR PLAN 1/4" = 1'-0"

- ◇ TWO STORY KEYNOTES
- OREGON: INSTALL EFFICIENT GAS FURNACE WITH BACKDRAFT DAMPER. PREPARE SYSTEM FOR FUTURE AIR CONDITIONING. MEET REQUIRED HEATING PER R303.10 (2023 ORSC & 2021 IRC). WASHINGTON: INSTALL ELECTRICAL FURNACE ASHP II HSRFF PER 2021 USEC-R. PREPARE SYSTEM FOR FUTURE AIR CONDITIONING. MEET REQUIRED HEATING PER R303.10 (2023 ORSC & 2021 IRC).
  - OREGON: INSTALL TANKLESS WATER HEATER IN OREGON. ELEVATE FLAME 18" (MINIMUM) ABOVE SLAB. PROVIDE R-4 INSULATION AROUND WATER PIPES IN UNHEATED SPACES. WASHINGTON: INSTALL ELECTRIC WATER HEATER IN WASHINGTON. TIER III HRFH PER 2021 USEC-R. PROVIDE R-4 INSULATION AROUND WATER PIPES IN UNHEATED SPACES.
  - EMBED 54" LONG 3" DIAMETER STEEL PIPE 18" INTO 12" DIAMETER X 24" CONCRETE FOOTING. FILL PIPE WITH CONCRETE OR USE OTHER APPROVED METHOD PER FIGURE M1307.1.1 (2023 ORSC & 2021 IRC).
  - 1-3/8" MIN. THICKNESS, SOLID CORE DOOR (MINIMUM 20 MINUTE FIRE - RATED DOOR). MEET REQUIREMENTS PER R302.5.11 (2023 ORSC) / R302.5.1 (2021 IRC).
  - APPLY 1/2" GYPSUM BOARD TO ALL WALLS AND CEILING IN GARAGE. FINISH GARAGE WALLS AND CEILING. PROVIDE 3/8" TYPE 'X' GYPSUM BOARD ON CEILINGS WITH HABITABLE SPACE ABOVE.
  - ATTACHED EATING BAR. BRING PLUMBING FOR ISLAND UP FROM FLOOR INTO BOTTOM OF CABINETS.
  - 2x4 HALF-WALL W/ EATING BAR - COUNTER HT. TO MATCH KITCHEN.
  - INSTALL HOOD OR MICROWAVE/HOOD COMBO OVER RANGE. VENTED TO OUTSIDE PER M1505.2 (2023 ORSC) / 2021 IRC.
  - PROVIDE MIN. 18"x24" CRAWL SPACE ACCESS PER R408.4 (2023 ORSC & 2021 IRC).
  - PROVIDE 22"x34" ATTIC ACCESS W/ INSULATED 'LID' PER R807 (2023 ORSC & 2021 IRC). PROVIDE INSULATION Baffle AROUND OPENING.
  - FIREPLACE: INSTALL 36" PRE-FABRICATED GAS DIRECT VENT (ZERO CLEARANCE). UL LISTED METAL FIREPLACE TO MANUF. SPECS.
  - CONTINUOUS HANDRAIL PER R311.8 (2023 ORSC & 2021 IRC).
  - INSTALL RECESSED WASHER/DRYER HOOKUP IF APPLICABLE. WASHER ALWAYS TO BE ON THE LEFT.
  - N/A
  - INSTALL SLIDING TEMPERED GLASS DOOR AT FIBERGLASS SHOWER. SEE SITE SUPERVISOR FOR SPECS.
  - INSTALL STANDARD 32"x60" FIBERGLASS TUB WITH SHOWER.
  - INSTALL TEMPERED GLASS DOOR AT STANDARD 36"x48" SHOWER. CURBED SHOWERS TO MEET 408.5 (2023 ORSC). CURBLESS SHOWERS TO MEET 408.6(3) (2023 ORSC) OR 411.4 (2021 IRC).
  - N/A
  - INSTALL FREE-STANDING TUB PER SPECS. CONSULT SITE SUPERVISOR FOR SPECS ON TUB.
  - SMOKE AND CARBON MONOXIDE DETECTORS PER R314.3 & R315.2 (2023 ORSC & 2021 IRC) TYP.
  - PROVIDE EMERGENCY ESCAPE AND RESCUE OPENING (EGRESS) PER R310.2 (2023 ORSC OR 2021 IRC).
  - PROVIDE TEMPERED GLASS AT ALL HAZARDOUS LOCATIONS PER THE FOLLOWING: DOORS - R308.4.1, R308.4.2, WINDOWS - R308.4.3, SHOWER/ BATHTUB - R308.4.5, STAIRWAYS - R308.4.6 & R308.4.7 (2023 ORSC & 2021 IRC).
  - ALL EXTERIOR GUARDS/ HANDRAILS PER R312.1 & R312.1.1 (2023 ORSC & 2021 IRC).
- \*\* NOTE: NOT ALL KEYNOTES WILL BE APPLICABLE ON THIS PLAN.\*\*

PURSUANT TO THE FEDERAL COPYRIGHT ACT, THESE PRINTS OR REPRODUCTIONS CONTAIN THE COPYRIGHT NOTICE AND ARE DULY REGISTERED WITH THE LIBRARY OF CONGRESS. ANY REPRODUCTION OF THESE PRINTS WITHOUT THE WRITTEN PERMISSION OF PAHLISCH HOMES, INC. IS PROHIBITED. THESE PRINTS MAY NOT BE USED BY ANYONE EXCEPT FOR THE INTENDED PROJECT OF ONE HOUSE ONLY. REPEAT USE OF THESE PRINTS FOR OTHER PROJECTS WITHOUT THE WRITTEN PERMISSION OF PAHLISCH HOMES, INC. IS PROHIBITED. THESE PRINTS ARE THE PROPERTY OF PAHLISCH HOMES, INC. AND WILL BE RETURNED TO THE ORIGINAL PLAN PURCHASER FROM THIS OFFICE. ANY REDRAWING, REVISION, OR ALTERATION OF THESE PRINTS WITHOUT THE WRITTEN PERMISSION OF PAHLISCH HOMES, INC. IS PROHIBITED.

210 SW WILSON AVENUE  
SUITE 100  
BEND, OR 97702  
(541) 385-6762  
OR CCB# 42067  
WA LIC# PAHLH191513

**pahlisch**  
HOMES  
WWW.PAHLISCHHOMES.COM



**CONIFER A**  
MAIN LEVEL 775 SQ.FT.  
UPPER LEVEL 1313 SQ.FT.  
TOTAL 2088 SQ.FT.  
GARAGE 485 SQ.FT.  
COVERED PORCH 37 SQ.FT.  
COVERED PATIO 119 SQ.FT.

**MULTI-STORY FRAMING NOTES**

INDICATES INTERIOR BEARING WALLS.  
 INDICATES VARIABLE PLATE HEIGHT. SEE PLAN FOR SPECIFIC LOCATIONS AND HEIGHTS. HATCH WILL VARY PER PLAN / LOCATION.

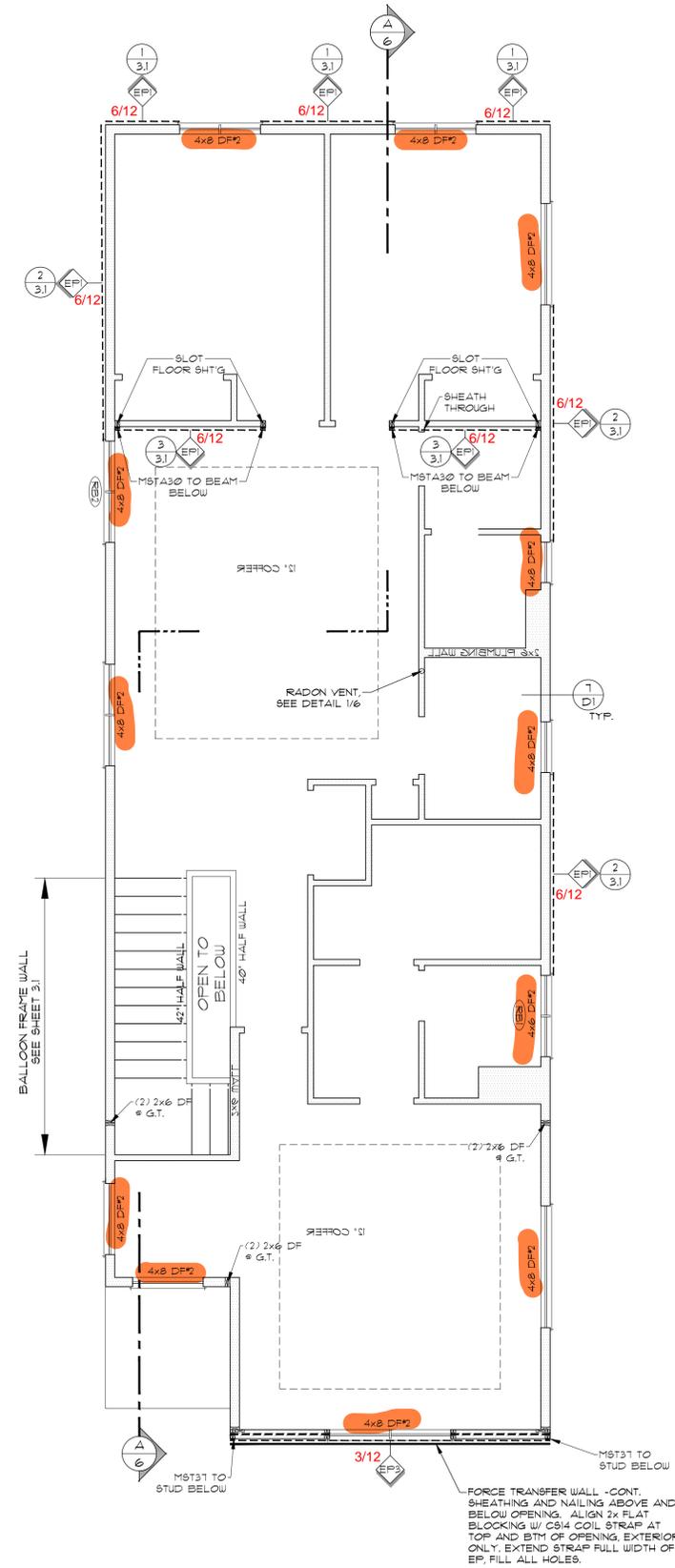
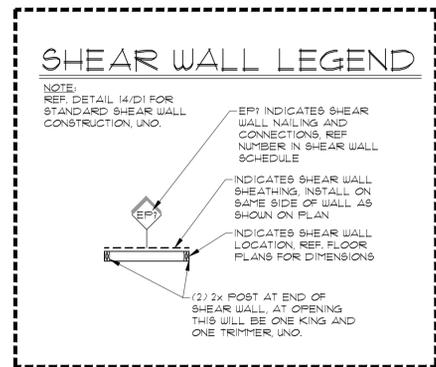
- PROVIDE 1" GAP AT EDGE CONDITIONS OF WALL SHTG. PER MANUF. SPEC.
- PROVIDE (1) 2x6 DF STUD TRIMMER AND (1) 2x6 KING STUDS @ EA. END OF HEADERS, UNO.
- PROVIDE (1) 2x6 DF STUDS BETWEEN GROUPS OF UNO'S UNO.
- PROVIDE (1) 2x6 DF STUD @ EA. GIRDER TRUSS BEARING POINT, UNO.
- PROVIDE VERTICAL GRAIN BLOCKING THROUGH FLOOR CAVITY TO MATCH COLUMN(S) ABOVE.
- BUILT UP STUDS SHALL BE LAMINATED PER GENERAL NOTES - WOOD WALLS, SECTION 3, SUBSECTION B.
- BEAM POCKETS SHALL BE CONSTRUCTED AS FOLLOWS:  
 PROVIDE STUDS SHOWN ON PLAN AS TRIMMER STUDS. ALIGN LONG DIMENSION OF STUD PARALLEL W/ SPAN OF BEAM, UNO ON PLANS. PROVIDE (2) FULL HEIGHT KING STUDS (1-EA. SIDE OF BEAM @ MID WIDTH CONDITION) @ 12 KING @ CORNER CONDITION. ATTACH STUDS PER GENERAL NOTES. NAIL KING STUD TO FACE OF BEAM W/ (3) 2x13x3' NAILS.
- EDGE NAIL ALL JOISTS OR BEAMS @ 6" O.C. WHICH ARE ALIGNED W/ SHEAR WALLS, ALIGNED OVER SHEAR WALLS, OR HAVE HORIZONTAL STRAPPING ATTACHED @ (1) OR BOTH ENDS, UNO.
- WEB STIFFENERS AND BRIDGING FOR ALL PRE-MANUFACTURED FLOOR JOISTS SHALL BE PROVIDED BY THE SUPPLIER AS REQUIRED.
- PROVIDE FULL BEARING, MINIMUM AT BEAM / HEADER SUPPORTS (UNLESS NOTED OTHERWISE).
- PROVIDE AT ALL EXTERIOR DOOR AND WINDOW HEADERS A MINIMUM 4x8 DFP (1ST FLOOR) OR 4x8 EPF (2ND FLOOR) W/ 2x6 TOP PLATES AND BLOCKING PER REGION (UNO). SEE SITE SUPERVISOR FOR DETAILS. INSTALL RIGID INSULATION IN CAVITY.
- PROVIDE 2x6 STUDS AT 16" O.C. AT ALL INTERIOR WALLS UNLESS NOTED OTHERWISE (EXCEPT AT GARAGE OR UNLESS NOTED OTHERWISE).
- PROVIDE 2x4 STUDS AT 16" O.C. AT ALL INTERIOR WALLS UNLESS NOTED OTHERWISE.
- ADJUST JOIST LOCATION UP TO 3" (EA. PER DIR. DIRECTION) TO AVOID PLUMBING CONFLICT PER MANUF. SPEC. VERIFY BAY OFFSET W/ SITE SUPERVISOR TO ENSURE EFFICIENT APPLICATION OF SHTG.
- TYPICAL HANGERS SHALL DEFAULT TO THE FOLLOWING UNO:  
 FLOOR JOIST: 175 (W/ 16) @ 148x1/2" OR EQ. DEPTH OF HANGER BASED UPON JOIST DEPTH. VERIFY IN FIELD.  
 1/4" FLOOR BEAM (LOWER FLOOR): 1818/133 OR 1400/133 OR EQ. EQUIVALENT  
 3/4" FLOOR BEAM (LOWER FLOOR): BA356/133 (W/ 10) @ 148x1/2" OR EQUIVALENT

| 2ND LEVEL FLOOR SHEATHING REQUIREMENTS |   |   |
|--|---|---|
| REQUIRED FLOOR SHEATHING               | JOIST / FLOOR TRUSS SPACING NOTED ON PLAN | NOTES:  |
| 3/4"                                   | 16" O.C. OR LESS                          | 1. WHEN VARIED CONDITIONS OCCUR, DEFAULT TO THE MAX DEPTH SHEATHING REQUIRED BY THIS CHART. |
| 1/2"                                   | 16" O.C. - 24" O.C.                       |   |
| 1/4"                                   | AS NOTED                                  |   |

**SHEAR WALL SCHEDULE**

| APA RATED WOOD STRUCTURAL PANEL SHEATHING | PANEL EDGE NAILING      | MUD SILL @ CONNECTION TO FOUNDATION                      | RIM TO MUD SILL IE (WHERE OCCURS)                  | EXTERIOR WALL: SOLE IE TO RIBBON (SEE NOTE 3) / TRUSS / RIM (SEE NOTE 12) | EXTERIOR WALL: RIM TRUSS / TRUSS BLK'G TO DBL TOP IE | INTERIOR WALL: SOLE IE TO TRUSS / TRUSS BLK'G TO DBL TOP IE | INTERIOR WALL: RIM TRUSS / TRUSS BLK'G TO DBL TOP IE |
|---|-------------------------|--|--|---|--|---|--|
| EP1                                       | 7/8"                    | 2x HF PT. SILL IE W/ 1/2" ANCHORS @ 6" O.C.              | Ø131"x3" TOE-NAILS @ 6" O.C.                       | Ø131"x3" NAILS @ 6" O.C.  | Ø131"x3" NAILS @ 6" O.C.                             | Ø220x4 SDWS @ 16" O.C.                                      | Ø220x4 SDWS @ 20" O.C.                               |
| EP2                                       | 7/8"                    | 2x HF PT. SILL IE W/ 1/2" ANCHORS @ 6" O.C.              | Ø131"x3" TOE-NAILS @ 6" O.C.                       | Ø131"x3" NAILS @ 6" O.C.  | Ø131"x3" NAILS @ 6" O.C.                             | Ø220x4 SDWS @ 16" O.C.                                      | Ø220x4 SDWS @ 10" O.C.                               |
| EP3                                       | 7/8"                    | 2x HF PT. SILL IE W/ 1/2" ANCHORS @ 6" O.C.              | Ø131"x3" TOE-NAILS @ 6" O.C.                       | Ø131"x3" NAILS @ 6" O.C.  | Ø131"x3" NAILS @ 6" O.C.                             | Ø220x4 SDWS @ 8" O.C.                                       | Ø220x4 SDWS @ 10" O.C.                               |
| EP4                                       | 7/8"                    | 2x HF PT. SILL IE W/ 1/2" ANCHORS @ 6" O.C.              | Ø131"x3" TOE-NAILS @ 6" O.C.                       | Ø131"x3" NAILS @ 6" O.C.  | Ø131"x3" NAILS @ 6" O.C.                             | Ø220x4 SDWS @ 6" O.C.                                       | Ø220x4 SDWS @ 8" O.C.                                |
| EP5                                       | 7/8" BOTH SIDES OF WALL | 3x HF PT. OR 2x DF PT. SILL IE W/ 1/2" ANCHORS @ 9" O.C. | Ø131"x3" TOE-NAILS @ 6" O.C. + A35 CLIP @ 10" O.C. | Ø131"x3" NAILS @ 6" O.C. + Ø220x5 SDWS @ 9" O.C.                          | Ø131"x3" NAILS @ 6" O.C.                             | (2) STAGGERED ROWS OF Ø220x4 SDWS @ 8" O.C.                 | (2) STAGGERED ROWS OF Ø220x4 SDWS @ 12" O.C.         |
| EP6                                       | 7/8" BOTH SIDES OF WALL | 3x HF PT. OR 2x DF PT. SILL IE W/ 1/2" ANCHORS @ 9" O.C. | Ø131"x3" TOE-NAILS @ 6" O.C. + A35 CLIP @ 8" O.C.  | Ø131"x3" NAILS @ 6" O.C. + Ø220x5 SDWS @ 9" O.C.                          | Ø131"x3" NAILS @ 6" O.C.                             | (2) STAGGERED ROWS OF Ø220x4 SDWS @ 8" O.C.                 | (2) STAGGERED ROWS OF Ø220x4 SDWS @ 9" O.C.          |

- Shear Wall General Notes**
- SHEAR WALL FRAMING IS TO BE 16" O.C. (UNLESS NOTED OR DETAILED OTHERWISE).
  - SHEAR WALLS ARE TO BE BLOCKED AT ALL EP1-EP4 WALL ADJOINING HORIZONTAL WALL EDGES 3x FLAT BLK'G MIN. (UNLESS NOTED OR DETAILED OTHERWISE). FOR EP5 & EP6 WALLS W/ SHTG ON BOTH SIDES BLOCK ADJOINING HORIZONTAL PANEL EDGES ON A FACE OF WALL WHERE OCCURS (UNLESS NOTED OR DETAILED OTHERWISE). SHARED 4x8 BLK'G IS ACCEPTABLE.
  - AT ADJOINING VERTICAL PANEL EDGES, PROVIDE DBL 2x STUDS FOR ALL EP2-EP6 WALLS (UNO) & LAMINATE TOGETHER PER WOOD WALL NOTES. FOR EP1 WALLS, A SINGLE VERTICAL 2x STUD IS ACCEPTABLE (UNO).
  - ALL SHEAR WALL SHEATHING AT INTERMEDIATE FRAMING (FIELD NAILS) SHALL BE NAILED @ 12" O.C. (UNO).
  - ALL SHEATHING NAILS STATED ARE Ø131"x2 1/2" (UNO). GALVANIZED NAILS SHALL BE SUBSTITUTED WHEN NAILING INTO P.T. MUD SILLS.
  - MUD SILL ANCHOR BOLTS SHALL BE GALVANIZED & SHALL HAVE A GALVANIZED IE WASHER AS DETAILED IN SHEAR WALL DETAIL 13/D1.
  - REFERENCE FLOOR TRUSS FRAMING DETAILS FOR SPECIFIC CONNECTIONS & REQUIRED FASTENER LOCATIONS.
  - AT EXTERIOR SHEAR WALLS W/ FLOOR TRUSSES PERPENDICULAR TO WALLS, A 2x12 DFP RIBBON OCCURS. EXTERIOR SHEATHING TO OVERLAP THE RIBBON - SEE FLOOR TRUSS FRAMING DETAILS. (NO CONNECTION IS REQUIRED FROM THE RIBBON TO THE DBL TOP IE.)
  - ALL SDWS SCREWS SHALL HAVE MIN. SPACING REQUIREMENTS OF:  
 - 1" END DISTANCE  
 - 1-1/8" EDGE DISTANCE  
 - 5/8" BETWEEN STAGGERED ROWS OF FASTENERS  
 AND ALL SDWS SCREWS IN A ROW SPACED CLOSER THAN 8" O.C. SHALL BE STAGGERED BY 5/8".
  - PENETRATIONS GREATER THAN 4" WIDE x 4" TALL IN THE SHEATHING OF SHEAR WALLS SHALL NOT OCCUR UNLESS APPROVED BY ENGINEER. PENETRATIONS SMALLER THAN 4" WIDE x 4" TALL SHALL BE BLOCKED ABOVE AND BELOW (STUD-STUD) AND EDGE-NAILED. ALL NAILS IN A ROW SPACED CLOSER THAN 3" O.C. SHALL BE STAGGERED BY 3/8".
  - TREATED 2x TIMBERSTRAND ACCEPTABLE AS SILL IE SUBSTITUTION. ALL NAILS IN A ROW SPACED CLOSER THAN 3" O.C. SHALL BE STAGGERED BY 3/8".
  - WHERE OCCURS @ SINGLE PDN. STEP: 1 1/2" (x JOIST DEPTH) 135E L6L (OR EQUIV.) RIMBOARD IS REQUIRED W/ FULL DEPTH 1" JOIST BLK'G @ EXTERIOR PARALLEL CONDITION @ 48" O.C. MIN. 181" BAY MAX.



**CONIFER A**

|               |              |
|---------------|--------------|
| MAIN LEVEL    | 775 SQ. FT.  |
| UPPER LEVEL   | 1313 SQ. FT. |
| TOTAL         | 2088 SQ. FT. |
| GARAGE        | 485 SQ. FT.  |
| COVERED PORCH | 37 SQ. FT.   |
| COVERED PATIO | 119 SQ. FT.  |

210 SW WILSON AVENUE  
 SUITE 100  
 BEND, OR 97702  
 (541) 385-6762  
 OR CCB# 42067  
 WA LIC# PAHLH191513

**pahlisch**  
 HOMES  
 WWW.PAHLISCHHOMES.COM

PURSUANT TO THE FEDERAL COPYRIGHT ACT, THESE PRINTS, STUDY PRINTS OR REPRODUCIBLE VOLUMES CONTAIN THE COPYRIGHT NOTICE AND ARE DULY REGISTERED WITH THE LIBRARY OF CONGRESS. ANY REPRODUCTION OR TRANSMISSION IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF PAHLISCH HOMES, INC. ACCORDINGLY, THESE PLANS MAY NOT BE USED BY ANYONE EXCEPT FOR THE INTENDED PROJECT OF ONE HOUSE ONLY. REPEAT USE OF THESE PLANS FOR ANY OTHER PROJECT IS STRICTLY PROHIBITED. PAHLISCH HOMES, INC. IS NOT RESPONSIBLE FOR ANY ALTERATIONS TO THE ORIGINAL PLAN AS PURCHASED FROM THIS OFFICE. ANY REPAIRING, MODIFYING, OR ALTERING OF THESE PLANS WITHOUT THE WRITTEN PERMISSION OF PAHLISCH HOMES, INC.

PURSUANT TO THE FEDERAL COPYRIGHT ACT, THESE PRINTS, DRAWINGS, AND SPECIFICATIONS CONTAIN THE COPYRIGHT NOTICE AND ARE DULY REGISTERED WITH THE LIBRARY OF CONGRESS. NO PART OF THESE PRINTS, DRAWINGS, OR SPECIFICATIONS MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF PAHLISCH HOMES, INC. ACCORDINGLY, THESE PRINTS MAY NOT BE USED BY ANYONE EXCEPT FOR THE INTENDED PROJECT OF ONE HOUSE ONLY. REPEATED USE OF THESE PRINTS, DRAWINGS, AND SPECIFICATIONS FOR REGISTERED PURCHASERS WHO IS SOLELY AND LEGALLY LIABLE FOR ANY ALTERATIONS TO THE ORIGINAL PLAN AS PURCHASED FROM THIS OFFICE, ANY REPAIRING, OR BY ANYONE IS PROHIBITED WITHOUT THE WRITTEN PERMISSION FROM PAHLISCH HOMES, INC.

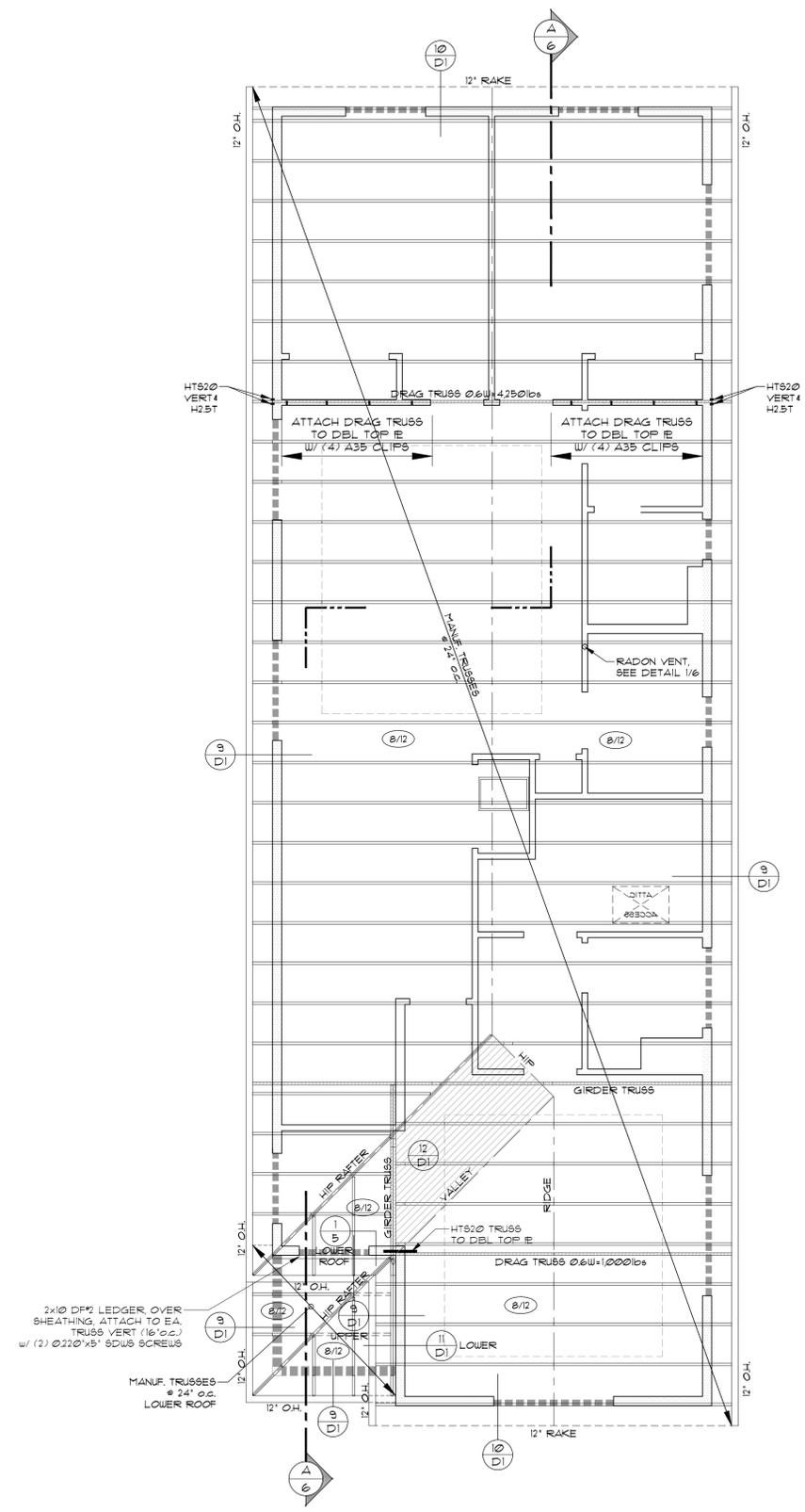
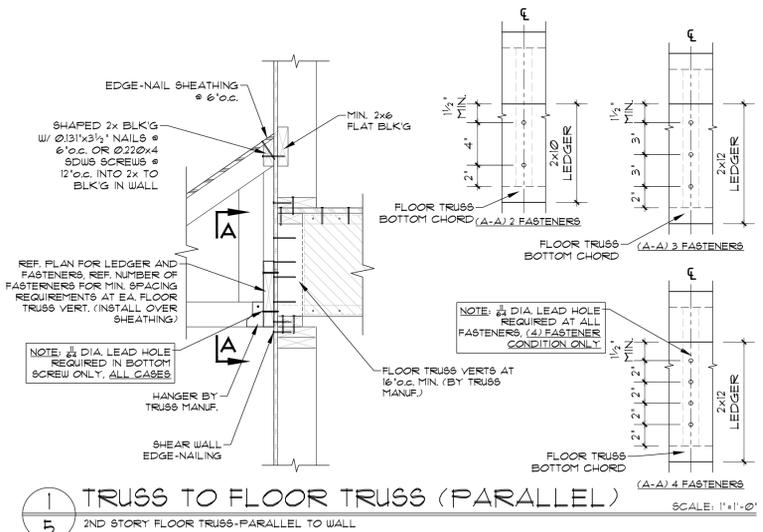
210 SW WILSON AVENUE  
SUITE 100  
BEND, OR 97702  
(541) 385-6762  
OR CCB# 42067  
WA LIC# PAHLHI91513

**pahlisch**  
HOMES  
WWW.PAHLISCHHOMES.COM



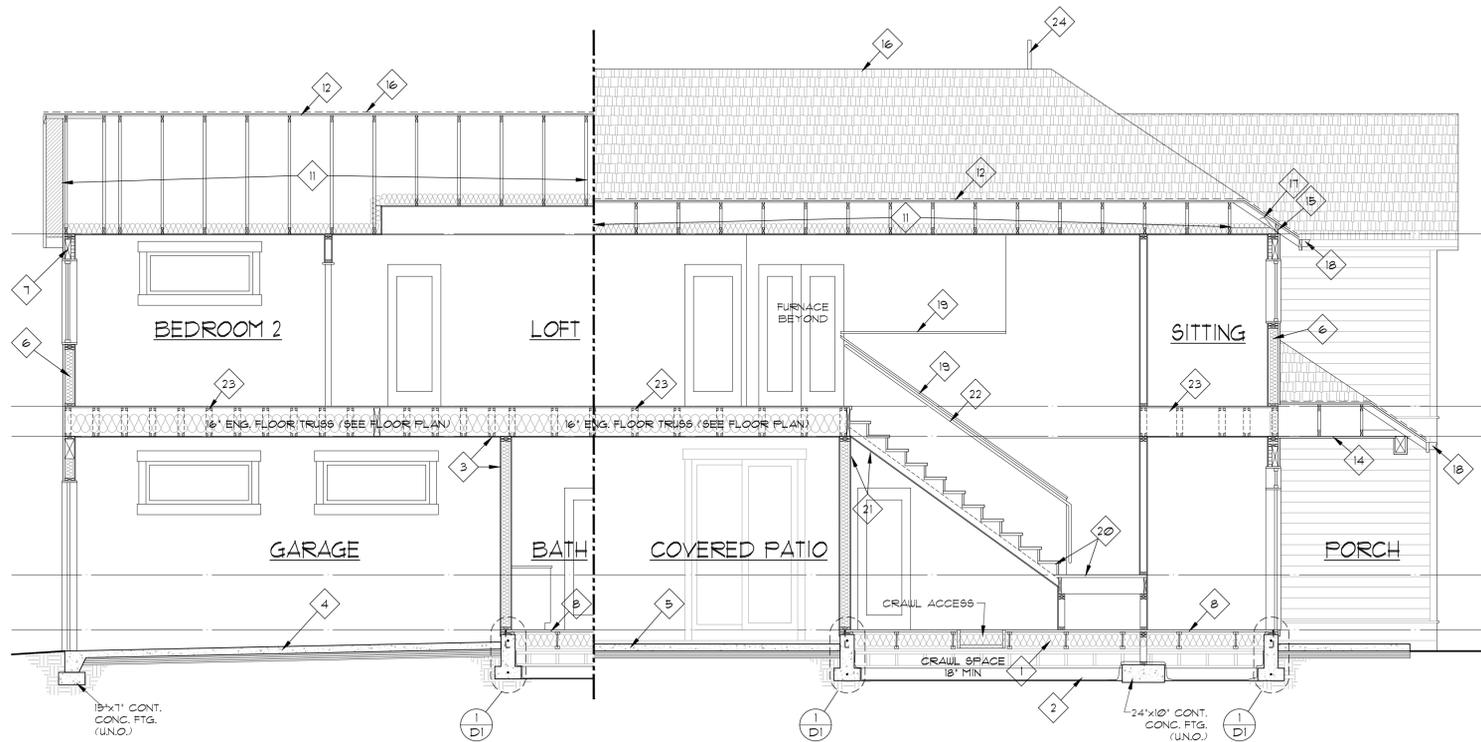
**CONIFER A**

|               |             |
|---------------|-------------|
| MAIN LEVEL    | 775 SQ.FT.  |
| UPPER LEVEL   | 1313 SQ.FT. |
| TOTAL         | 2088 SQ.FT. |
| GARAGE        | 485 SQ.FT.  |
| COVERED PORCH | 37 SQ.FT.   |
| COVERED PATIO | 119 SQ.FT.  |



ROOF PLAN

1/4" = 1'-0"

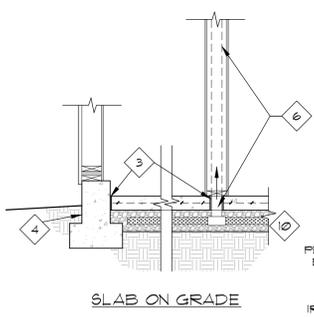
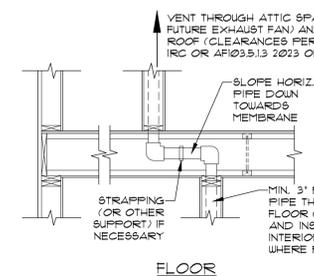


**A BUILDING SECTION**  
1/4" = 1'-0"

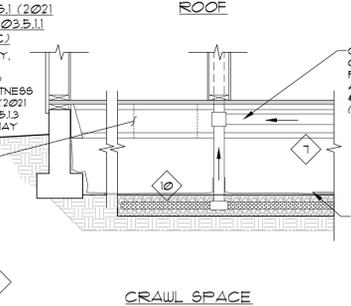
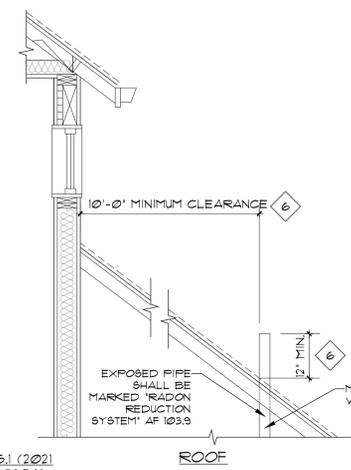
**BUILDING SECTION KEYNOTES**

- TYPICAL UNDER FLOOR INSULATION: R-38 FIBERGLASS BATTS, SECURE IN PLACE WITH TWINE.
- 6 MIL BLACK POLYETHYLENE GROUND COVER, LAP SEAMS 12".
- APPLY 1/2" GYPSUM BOARD TO ALL WALLS AND CEILING IN GARAGE. USE 5/8" TYPE 'X' ON GARAGE CEILING WITH LIVING SPACE ABOVE.
- 4" CONCRETE SLAB IN GARAGE ON MINIMUM 4" COMPACTED GRANULAR FILL. SLOPE 3' TO GARAGE DOOR. TOOL CONTROL JOINTS @ 11'-0" o.c. E.W.
- 4" CONCRETE SLAB ON 4" MIN. CLEAN GRANULAR FILL.
- EXTERIOR WALL (TYPICAL): LAP SIDING ON PLYWOOD SHEATHING (OR EQUIV. - MIN. APA RATING 32/16, UNO.) ON 2x6 STUDS @ 16" o.c. WITH R-23 INSULATION AND 1/2" GYPSUM BOARD INTERIOR FINISH. APPLY TYVEK IN CONTINUOUS ROLLS (IF REQUIRED) PER MANUFACTURER'S RECOMMENDATIONS.
- REFERENCE STRUCTURAL PLANS FOR HEADER SIZES, DOUBLE 2x6 TOP PLATES & BLOCKING @ BTM, UNLESS NOTED OTHERWISE ON PLANS. INSTALL RIGID INSULATION IN CAVITY.
- MAIN FLOOR (TYPICAL): 1/2" SUBFLOOR GLUED & NAILED ON 9/16" ENGINEERED I-JOISTS @ SPACING PER PLAN. JOIST TO HANG FROM TREATED SILL (PROVIDE FELT PAPER BETWEEN JOIST & STEM WALL/ FOOT WALL). MAINTAIN 18" MIN. BETWEEN JOISTS OR BEAMS AND GROUND; 12" BETWEEN GIRDERS AND GROUND.
- STANDARD EATING BAR REFERENCE DESIGN SHEETS FOR TYPE OF EATING BAR.
- PROVIDE 2x FIRESTOPS 10" MAXIMUM ABOVE BOTTOM IE AT ALL STUD WALLS OVER 10' HIGH AND IN CONCEALED SPACES BETWEEN STAIR STRINGERS AT THE TOP AND BOTTOM OF THE RUN AND BETWEEN STUDS ALONG AND IN LINE WITH THE RUN OF STAIRS IF THE WALLS UNDER THE STAIRS ARE UNFINISHED PER R302.11 (2023 ORSC & 2021 IRC). INSTALL 3/4" PLYWOOD FIRESTOPS (OR OTHER APPROVED MATERIAL) AT CONCEALED SPACES SUCH AS SOFFITS AND DROPPED CEILINGS.
- MANUFACTURED ROOF TRUSSES @ 24" ON CENTER WITH R-49 BLOWN INSULATION (R-10 IN U.S.) TRUSS MANUFACTURER TO SUPPLY DESIGNER AND BUILDING DEPARTMENT WITH TRUSS LAYOUT INCLUDING REQUIRED HANGERS AND ENGINEERED TRUSS DIAGRAMS PRIOR TO FABRICATION. SUPPORT TRUSSES LATERALLY IN ACCORDANCE WITH TRUSS MANUFACTURER'S REQUIREMENTS.
- ROOF SYSTEM (TYPICAL): FIBERGLASS COMPOSITION ROOFING ON 30# A.S. FELT ON MIN. 1/16" OSB (OR EQUIV.) APPROVED MATERIAL APA INDEX 24/16.
- OVERFRAMING - FRAME ROOF OVER ROOF BELOW WITH VALLEY RAFTER LAID FLAT OVER SOLID 2x BLOCKING BETWEEN LOWER RAFTERS - SEE DETAIL.
- SOFFITS @ PORCH: 1/2" SOFFIT BOARD ON TRUSS BOTTOM CHORDS OR STICK-FRAMED RAFTERS (PER PLAN).
- INSTALL SCREENED 2x VENT AND SPACE BLOCKS. PROVIDE CORROSION RESISTANT MESH WITH OPENINGS LESS THAN 1/4" AT VENT SPACES.
- INSTALL ATTIC VENTS OR RIDGE VENTS @ RIDGES (SEE ROOF PLAN). MINIMUM NET FREE VENTILATING AREA SHALL BE 1/50th OF VENTED SPACE. ROOF VENTS PER R302.6 (2023 ORSC & 2021 IRC).
- MOISTURE RESISTANT INSULATION Baffles WHERE REQUIRED.
- 5" FASCIA GUTTERS.
- 42"± HIGH HALF WALL W/ WOOD CAP OR RAILING PER PLAN.
- 2x TREADS & 1x RISERS ON (3) 2x12 OR L8L STRINGERS.
- APPLY 1/2" GYPSUM BOARD TO WALLS AND CEILING UNDER STAIRS PER R302.7 (2023 ORSC & 2021 IRC).
- CONTINUOUS HANDRAIL PER R311.7.8 (2023 ORSC & 2021 IRC).
- UPPER FLOOR (TYPICAL): 1/2" PLYWOOD SUBFLOOR GLUED AND NAILED ON ENG. I-JOIST OR ENG. FLOOR TRUSSES AT 12", 16" OR 24" o.c. (SEE MAIN FLOOR PLAN) WITH SOLID BLOCKING AT ALL BEARING POINTS.
- ALL EXHAUST OPENINGS WILL NEED TO BE INSTALLED IN A LOCATION PER M1604.3 (2023 ORSC/ 2021 IRC).
- NOTE: DUE TO ORIENTATION OF SECTION VIEW, NOT ALL KEYNOTES ABOVE MAY BE VISIBLE. ALSO, DUE TO PLAN VARIATION, NOT ALL NOTES MAY BE APPLICABLE TO CURRENT PLAN. \*\*

ALL COMPONENTS OF THE RADON VENT PIPE SYSTEM SHALL BE INSTALLED TO PROVIDE POSITIVE DRAINAGE TO THE GROUND BENEATH THE SLAB OR SOIL-GAS-RETARDER (AFI03.1.1 2023 ORSC & 2021 IRC)



**1 RADON MITIGATION**  
PER APPENDIX AF, 2021 IRC & 2023 ORSC



**2 CRAWL SPACE**  
SCALE: 1/2" = 1'-0"  
REV: 4/23/24

**RADON CONTROL KEYNOTES**

- SUB-FLOOR PREP-LIVING SPACE ONLY (AFI03.2.1 2021 IRC & 2023 ORSC): A UNIFORM LAYER OF CLEAN AGGREGATE, A MINIMUM OF 4" THICK, THE AGGREGATE SHALL CONSIST OF MATERIAL THAT WILL PASS THROUGH A 2" SIEVE AND BE RETAINED BY A 1/2" SIEVE.
- SOIL GAS RETARDER (AFI03.3.1 2021 IRC & 2023 ORSC): A MINIMUM 6 MIL POLYETHYLENE SHALL BE PLACED ON THE TOP OF THE GAS PERMEABLE LAYER PRIOR TO POURING SLAB. THE SHEETING SHALL COVER THE ENTIRE FLOOR AREA WITH SEPARATE SECTIONS LAPPED AT LEAST 12". FIT THE SHEETING CLOSELY AROUND ANY PENETRATIONS OF MATERIAL, ANY PUNCTURES OR TEARS IN THE MATERIAL SHALL BE SEALED.
- CONCRETE JOINTS (AFI03.4.2 2021 IRC & 2023 ORSC): ALL CONTROL JOINTS, ISOLATION JOINTS, CONSTRUCTION JOINTS AND ANY OTHER JOINTS IN CONCRETE SLABS OR BETWEEN SLABS AND FOUNDATION WALLS SHALL BE SEALED WITH A CAULK OR SEALANT.
- DAMP PROOFING (AFI03.4.6 2021 IRC & 2023 ORSC): THE EXTERIOR SURFACE OF CONCRETE BELOW THE GROUND SHALL BE DAMP PROOFED (R406, 2021 IRC & 2023 ORSC).
- DUCTS (AFI03.4.8 2021 IRC & 2023 ORSC): DUCTWORK PASSING THROUGH OR BENEATH A SLAB SHALL BE OF SEAMLESS MATERIAL. JOINTS IN SUCH DUCTWORK SHALL BE SEALED TO PREVENT AIR LEAKAGE AND SHALL BE PERFORMANCE TESTED TO DEMONSTRATE CONFORMANCE TO CODE DUCT PERFORMANCE STANDARDS.
- VENTING (AFI03.6 2021 IRC & 2023 ORSC): A MINIMUM 3" DIA SOIL-GAS COLLECTOR PERFORATED PIPE SHALL BE NOT LESS THAN 10' IN TOTAL LENGTH. PIPE SHALL BE PLACED IN TRENCH BACKFILLED WITH CLEAN AGGREGATE SURROUNDING PIPE WITH 4" OF AGGREGATE. A 1" FITTING OR EQUIVALENT METHOD SHALL BE USED TO ENSURE THAT THE PIPE OPENING REMAINS SUB-SLAB PERMEABLE MATERIAL. THE VENT PIPE SHALL BE EXTENDED UP THROUGH THE BUILDING FLOORS, TERMINATE AT LEAST 12" ABOVE THE ROOF IN A LOCATION AT LEAST 10' FROM ANY WINDOW OR OPENING INTO CONDITIONED SPACES OF THE BUILDING THAT IS LESS THAN 2' BELOW THE EXHAUST POINT, AND 10' FROM ANY WINDOW OR OTHER OPENING IN ADJOINING OR ADJACENT BUILDINGS.
- CRAWL SPACE MITIGATION SYSTEM (AFI03.5.1 2021 IRC OR AFI03.5.1 2023 ORSC): CRAWL SPACES SHALL BE PROVIDED WITH VENTS TO THE EXTERIOR OF THE BUILDING. SEE SECTION R408.1 (2023 ORSC & 2021 IRC) FOR MINIMUM AREA OF VENTILATION OPENINGS.
- VENT PIPE ACCESSIBILITY (AFI03.6 2021 IRC & 2023 ORSC): RADON VENT PIPES SHALL BE ACCESSIBLE FOR FUTURE FAN INSTALLATION THROUGH AN ATTIC OR OTHER AREA OUTSIDE THE HABITABLE SPACE. THE RADON VENT PIPE NEED NOT BE ACCESSIBLE IN AN ATTIC SPACE WHERE AN APPROVED ROOF TOP ELECTRICAL SUPPLY IS PROVIDED FOR FUTURE USE.
- CRAWL SPACE FLOORS/ACCESS (AFI03.4.9 & AFI03.4.10 2021 IRC & 2023 ORSC): OPENINGS AROUND ALL PENETRATIONS THROUGH FLOORS ABOVE CRAWL SPACES SHALL BE CAULKED OR OTHERWISE FILLED TO PREVENT AIR LEAKAGE. ACCESS DOORS OR OTHER OPENINGS BETWEEN BASEMENTS AND ADJOINING CRAWL SPACES SHALL BE CLOSED, GASKETED, OR OTHERWISE FILLED TO PREVENT AIR LEAKAGE.
- SOIL-GAS COLLECTOR (AFI03.5.1.1 & AFI03.5.1.1.1):  
11. PIPE SOIL-GAS COLLECTOR: THE SOIL-GAS COLLECTOR SHALL CONSIST OF NO LESS THAN A 3" DIAMETER PERFORATED PIPE. THE PIPE SHALL BE NOT LESS THAN 10' IN TOTAL LENGTH WITH NOT LESS THAN 9' OF PERFORATED PIPE EXTENDING FROM A THE POINT OF CONNECTION TO THE VERTICAL VENT PIPE. SUCH PIPE SHALL BE PLACED IN A TRENCH, BACKFILLED WITH CLEAN AGGREGATE SURROUNDING PIPE NOT LESS THAN 4".  
12. GEOTEXTILE SOIL-GAS COLLECTOR: THE SOIL-GAS COLLECTOR SHALL CONSIST OF A STRIP OF GEOTEXTILE DRAIN MATTING NOT LESS THAN 12" IN LENGTH AND HAVING CROSS-SECTIONAL AREA OF NOT LESS THAN 12 SQ. IN. THE STRIP OF MATTING SHALL BE PLACED ON TOP OF THE SOIL OR IN A TRENCH.  
13. GRAVEL SOIL-GAS COLLECTOR: THE SOIL-GAS COLLECTOR SHALL CONSIST OF A UNIFORM LAYER OF CLEAN AGGREGATE, NOT LESS THAN 4" IN DEPTH PLACED OVER THE SOIL.

**GENERAL NOTES**

- ALL COMPONENTS OF THE RADON VENT PIPE SYSTEM SHALL BE INSTALLED TO PROVIDE POSITIVE DRAINAGE TO THE GROUND BENEATH THE SLAB OR SOIL-GAS-RETARDER (AFI03.1.1 2021 IRC & 2023 ORSC).
- ALL EXPOSED AND VISIBLE INTERIOR RADON VENT PIPES SHALL BE IDENTIFIED WITH AT LEAST ONE LABEL ON EACH FLOOR AND IN ACCESSIBLE ATTICS. THE LABEL SHALL READ "RADON REDUCTION SYSTEM" (AFI03.9, 2021 IRC & 2023 ORSC).
- COMBINATION BASEMENT/CRAWL SPACE OR SLAB ON GRADE/CRAWL SPACE FOUNDATIONS SHALL HAVE SEPARATE RADON VENT PIPES INSTALLED. EACH TYPE OF FOUNDATION AREA, EACH RADON VENT PIPE SHALL TERMINATE ABOVE THE ROOF OR SHALL BE CONNECTED TO A SINGLE VENT THAT TERMINATES ABOVE THE ROOF (AFI03.10, 2021 IRC & 2023 ORSC).
- JOINTS IN AIR DUCTS AND PLENUMS IN UNCONDITIONED SPACES SHALL MEET THE REQUIREMENTS OF SECTION M1601 (2023 ORSC & 2021 IRC). THERMAL ENVELOPE AIR INFILTRATION REQUIREMENTS SHALL COMPLY WITH ENERGY CONSERVATION PROVISIONS IN CHAPTER 11 OF THE 2023 ORSC. FIREBLOCKING SHALL MEET THE REQUIREMENTS CONTAINED IN SECTION R302.11 (AFI03.11, 2021 IRC & 2023 ORSC).
- TO PROVIDE FOR FUTURE INSTALLATION OF AN ACTIVE SUB-MEMBRANE OR SUB-SLAB DEPRESSURIZATION SYSTEM, AN ELECTRICAL CIRCUIT TERMINATED IN AN APPROVED BOX SHALL BE INSTALLED DURING CONSTRUCTION IN THE ATTIC OR OTHER ANTICIPATED LOCATION OF VENT PIPE FANS. AN ELECTRICAL SUPPLY SHALL ALSO BE ACCESSIBLE IN ANTICIPATED LOCATIONS OF SYSTEM FAILURE ALARMS (AFI03.12, 2021 IRC & 2023 ORSC).

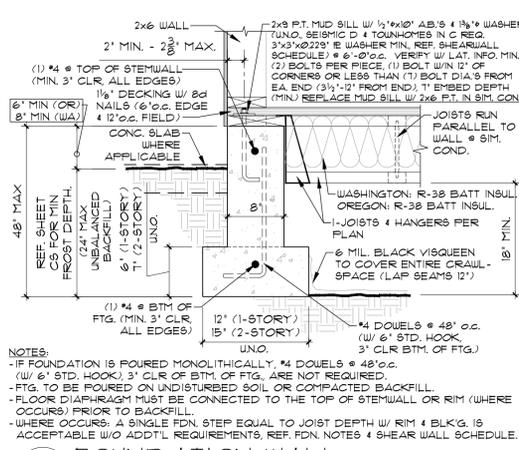


|               |             |
|---------------|-------------|
| MAIN LEVEL    | 775 SQ.FT.  |
| UPPER LEVEL   | 1313 SQ.FT. |
| TOTAL         | 2088 SQ.FT. |
| GARAGE        | 485 SQ.FT.  |
| COVERED PORCH | 37 SQ.FT.   |
| COVERED PATIO | 119 SQ.FT.  |

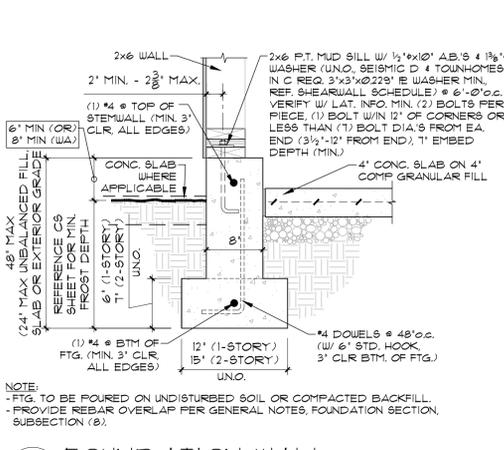
210 SW WILSON AVENUE  
SUITE 100  
BEND, OR 97702  
(541) 385-6762  
OR CCB# 42067  
WA LIC# PAHLH91513

**pahlisch**  
HOMES  
WWW.PAHLISCHHOMES.COM

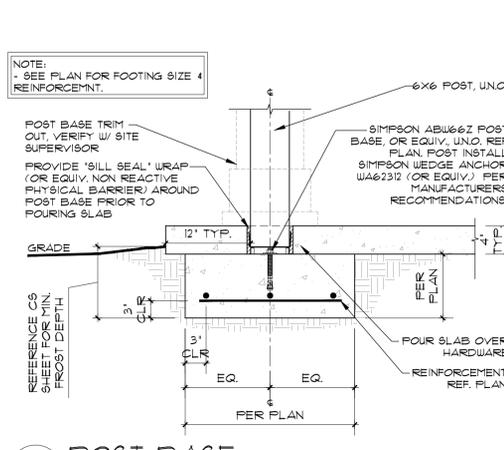
PURSUANT TO THE FEDERAL COPYRIGHT ACT, THESE PRINTS CONTAIN THE COPYRIGHT NOTICE AND ARE DULY REGISTERED WITH THE LIBRARY OF CONGRESS. THESE PRINTS ARE THE PROPERTY OF PAHLISCH HOMES, INC. ACCORDINGLY, THESE PRINTS MAY NOT BE USED BY ANYONE EXCEPT FOR THE INTENDED PROJECT OF ONE HOUSE ONLY. REPEAT USE OF THESE PRINTS FOR ANY OTHER PROJECT IS STRICTLY PROHIBITED. THE REGISTERED PURCHASER WHO IS SOLELY AND LEGALLY RESPONSIBLE FOR ANY ALTERATIONS TO THE ORIGINAL PLAN AS PURCHASED FROM THIS OFFICE. ANY RE-DRAWING, REVISION, OR ALTERATION TO THESE PRINTS WITHOUT THE WRITTEN PERMISSION FROM PAHLISCH HOMES, INC.



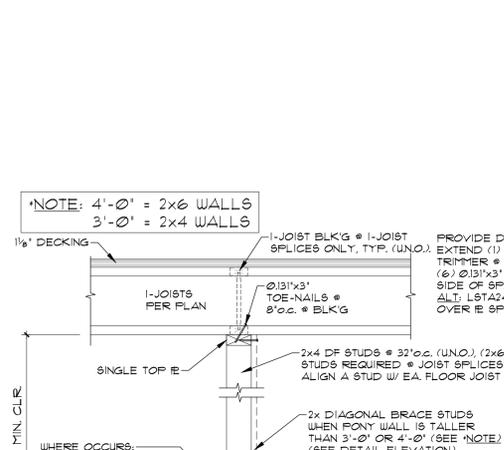
**1 FOUNDATION WALL** SCALE: 1/4"=1'-0"  
 D1 BOTH ENG. 1-JOIST, NO PONY-WALL



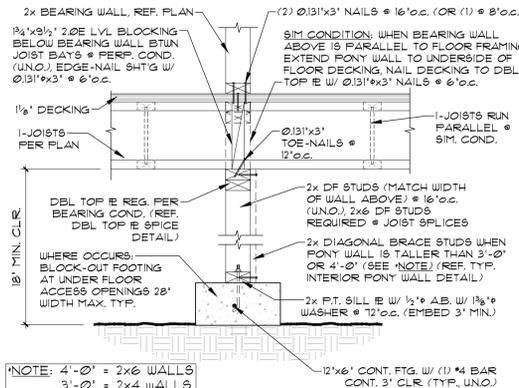
**2 FOUNDATION WALL** SCALE: 1/4"=1'-0"  
 D1 BOTH GARAGE SLAB



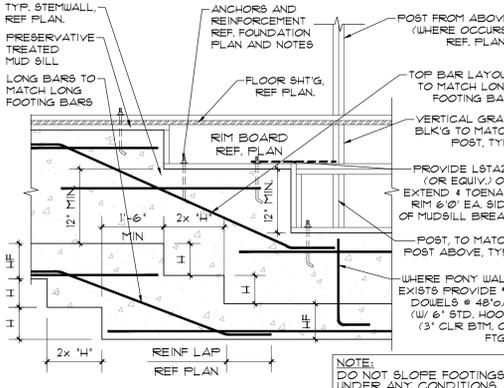
**3 POST BASE** SCALE: 1/4"=1'-0"  
 D1 PATIO/PORCH, SLAB ABWJ POST BASE W/ WEDGE ANCHOR



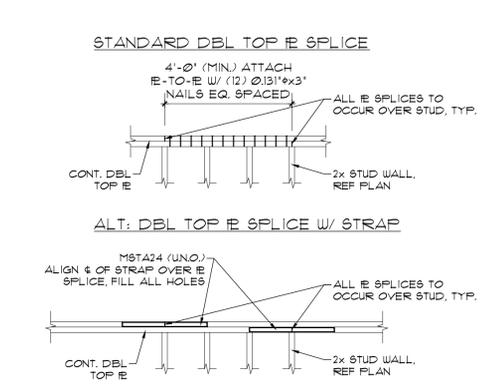
**4 TYP. INTERIOR PONY WALL** SCALE: NT5  
 D1 STUDS @ 32\"/>



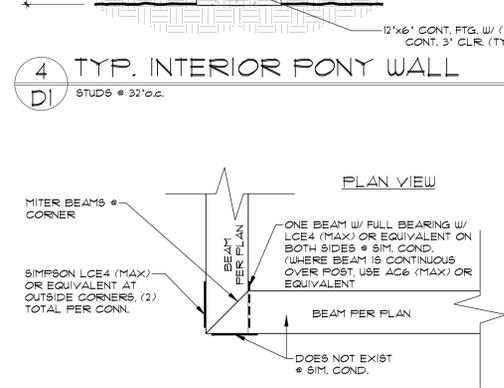
**5 INTERIOR PONY WALL** SCALE: 1/4"=1'-0"  
 D1 BEARING WALL



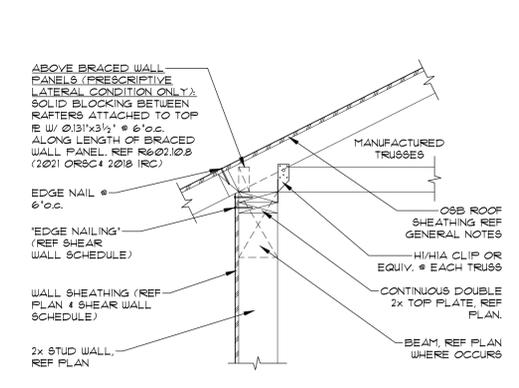
**6 STEPPED FOOTING** SCALE: NT5  
 D1 TYP. FTG. RATIOS AND FRAMING TRANSITION



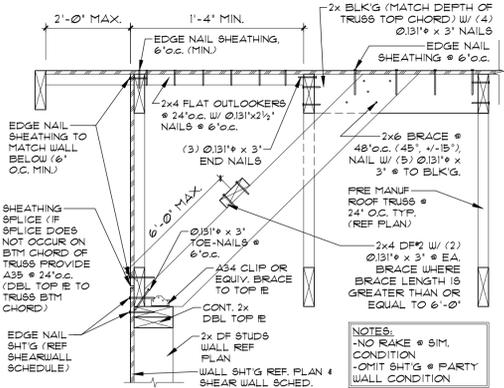
**7 DOUBLE TOP PLATE SPLICE** SCALE: 1/4"=1'-0"  
 D1 STANDARD & STRAPPED CONDITION



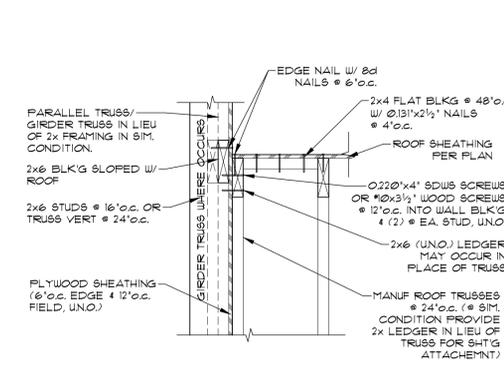
**8 BEAM TO POST (TYP.)** SCALE: NT5  
 D1



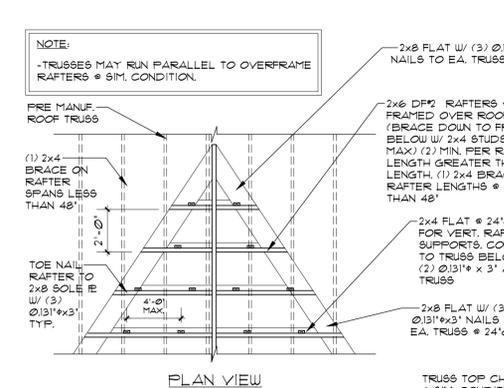
**9 TRUSS TO WALL (TYP.)** SCALE: 1/4"=1'-0"  
 D1 W/ HI CLIP



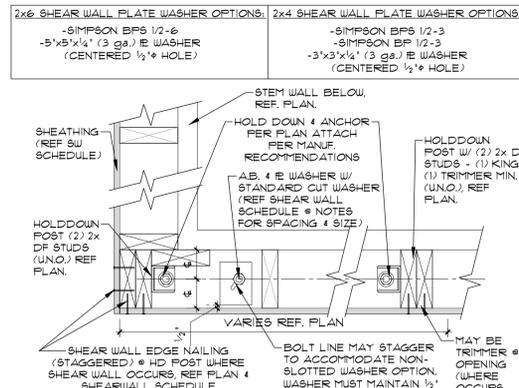
**10 WALL BRACING @ GABLE END** SCALE: 1/4"=1'-0"  
 D1



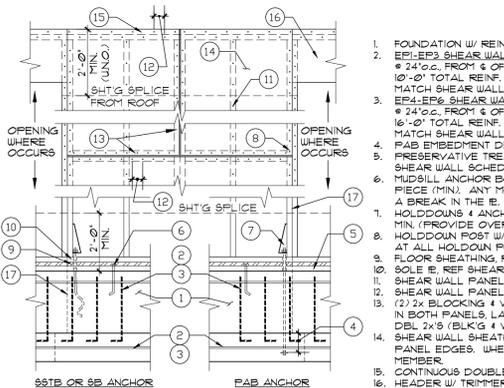
**11 TRUSS CONNECTION** SCALE: 1/4"=1'-0"  
 D1 PARALLEL ROOF SHTG TO WALL



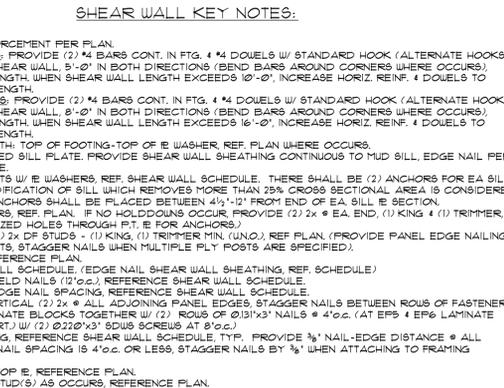
**12 ROOF OVERFRAME** SCALE: NT5  
 D1



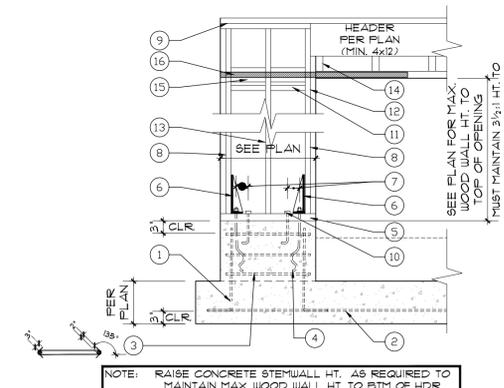
**13 SHEAR WALL** SCALE: 1/4"=1'-0"  
 D1 OUTSIDE CORNER OR MID WALL W/ HOLDDOWN SINGLE SIDE EFP



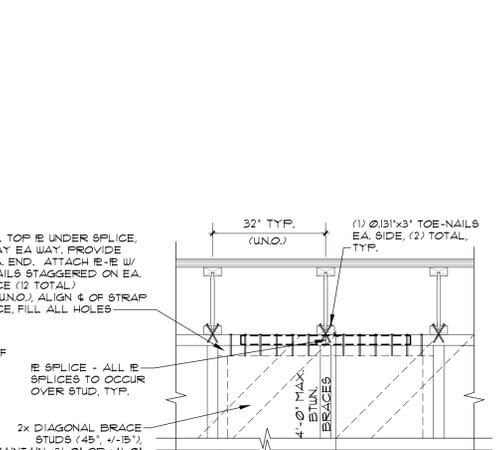
**14 ENGINEERED PANEL** SCALE: 1/4"=1'-0"  
 D1 COMBINED 1 & 2 STORY



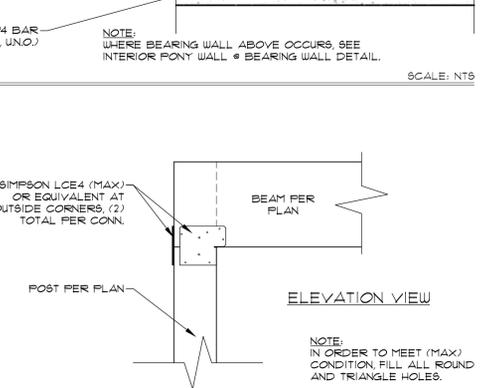
**15 ENGINEERED PANEL** SCALE: 1/4"=1'-0"  
 D1 FORCE TRANSFER RAISED PIER W/ HDU'S OR HTTB & SB OR 66TB



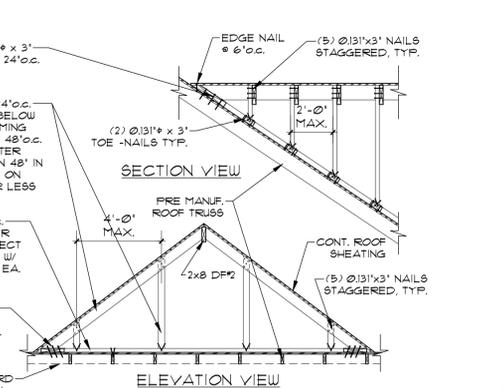
**15 ENGINEERED PANEL** SCALE: 1/4"=1'-0"  
 D1 FORCE TRANSFER RAISED PIER W/ HDU'S OR HTTB & SB OR 66TB



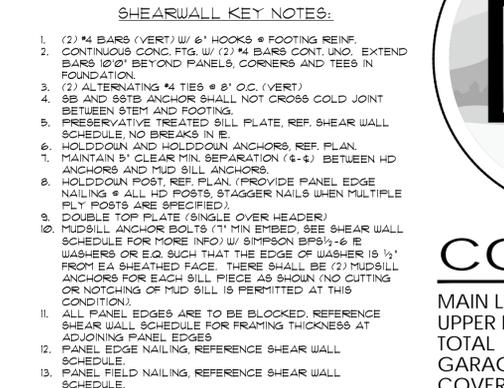
**12 ROOF OVERFRAME** SCALE: NT5  
 D1



**11 TRUSS CONNECTION** SCALE: 1/4"=1'-0"  
 D1 PARALLEL ROOF SHTG TO WALL



**12 ROOF OVERFRAME** SCALE: NT5  
 D1



**15 ENGINEERED PANEL** SCALE: 1/4"=1'-0"  
 D1 FORCE TRANSFER RAISED PIER W/ HDU'S OR HTTB & SB OR 66TB

PURSUANT TO THE FEDERAL COPYRIGHT ACT, THESE PRINTS, STUDY PRINTS OR REPRODUCIBLE VOLUMES CONTAIN THE COPYRIGHT NOTICE AND ARE DULY REGISTERED WITH THE LIBRARY OF CONGRESS. ANY REPRODUCTION OF THESE PRINTS WITHOUT THE WRITTEN PERMISSION OF PAHLISCH HOMES, INC. IS PROHIBITED. THESE PRINTS MAY NOT BE USED BY ANYONE EXCEPT FOR THE INTENDED PROJECT OF ONE HOUSE ONLY. REPEAT USE OF THESE PRINTS FOR OTHER PROJECTS IS PROHIBITED. REGISTERED PURCHASER WHOSE SOLE AND LEGAL LIABILITY FOR ANY ALTERATIONS TO THE ORIGINAL PLAN IS PURCHASED FROM THIS OFFICE. ANY REDRAWING, AS PURCHASED FROM THIS OFFICE, IS PROHIBITED. BY ANYONE IS PROHIBITED WITHOUT THE WRITTEN PERMISSION FROM PAHLISCH HOMES, INC.

210 SW WILSON AVENUE  
 SUITE 100  
 BEND, OR 97702  
 (541) 385-6762  
 OR CCB# 42067  
 WA LIC# PAHLH91513

**pahlisch**  
 HOMES  
 WWW.PAHLISCHHOMES.COM



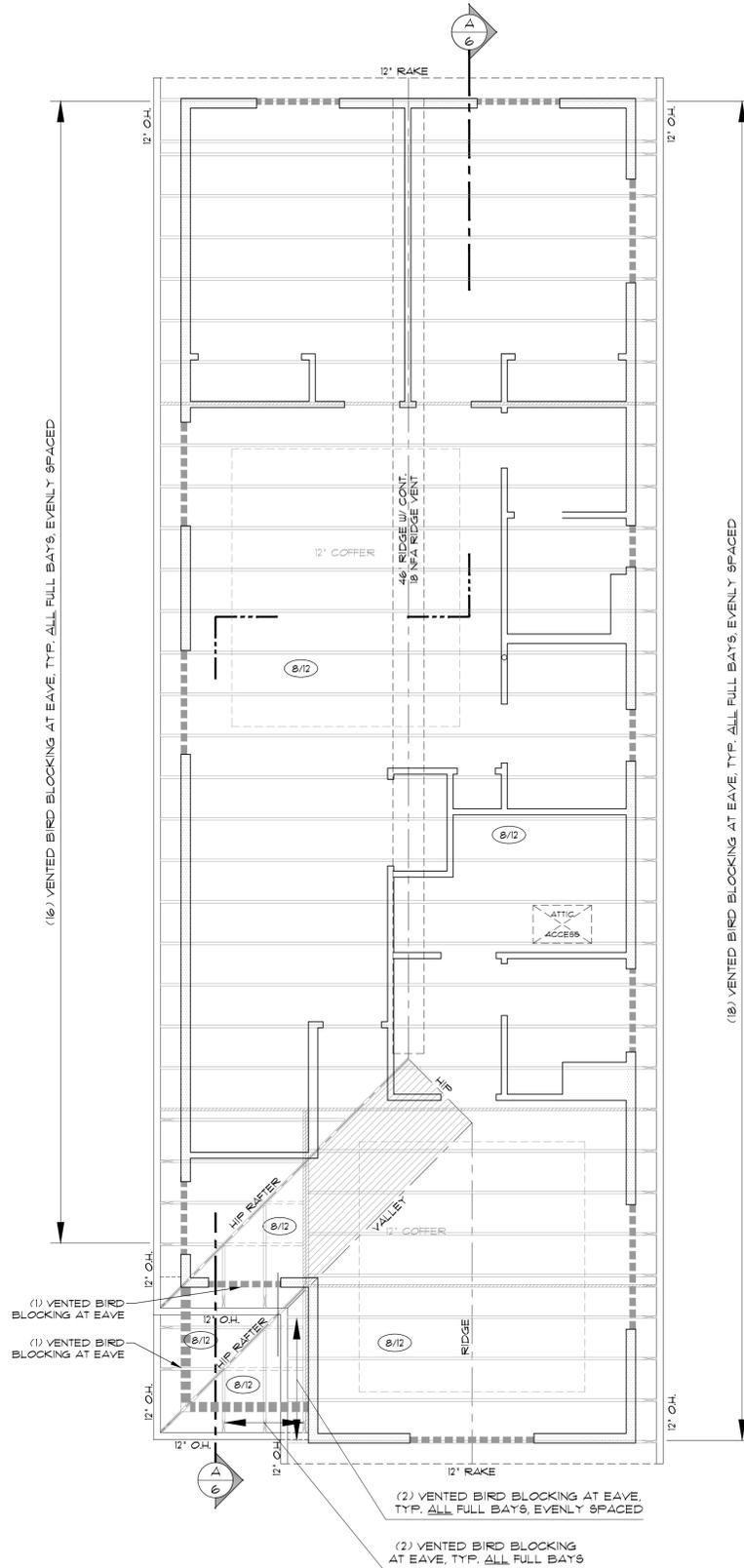
**CONIFER A**

|               |             |
|---------------|-------------|
| MAIN LEVEL    | 775 SQ.FT.  |
| UPPER LEVEL   | 1313 SQ.FT. |
| TOTAL         | 2088 SQ.FT. |
| GARAGE        | 485 SQ.FT.  |
| COVERED PORCH | 37 SQ.FT.   |
| COVERED PATIO | 119 SQ.FT.  |

| ROOF VENTING LEGEND |  |
|---------------------|--|
|                     | INDICATES ROOF SLOPE   |
|                     | INDICATES POWER VENT --- CFM PER PLAN                                    |
|                     | INDICATES RIDGE VENT --- 18 SQIN. NFA/FT.                                |
|                     | INDICATES SHEATHING GAP FOR OVER-FRAMING VENTILATION - SEE PLAN FOR SIZE |
|                     | INDICATES OFF WALL EDGE VENT --- 9 SQIN. NFA/FT.                         |
|                     | INDICATES 12X12 WALL VENT --- 60 SQIN. NFA                               |
|                     | INDICATES STEEL ROOFTOP VENT --- NFA PER PLAN (144 SQIN. MAX)            |
|                     | 15'X2' SLOTTED BIRD BLOCKS LABELED ON ROOF PLAN - 22.38 SQIN. NFA        |

| ROOF VENTING TABLE<br>LOCATION: UPPER ROOF   |  |
|--|--|
| ROOF VENTING CALCULATIONS:<br>1579 SQFT. / 150 @ 9.20 SQFT. ROOF VENTILATION REQUIRED. |  |
| VENTILATION PROVIDED:  |  |
| INTAKE<br>--VENTED BIRD BLOCKS:  | 31 BLKS x 22.38 IN. <sup>2</sup> /BLK / 144 = 5.75 SQFT.             |
| TOTAL INTAKE =   | 5.75 SQFT.   |
| EXHAUST<br>--RIDGE VENTS:  | 46' TOTAL RIDGE LENGTH<br>46' x 18 NFA/LINEAL FT. / 144 = 5.75 SQFT. |
| TOTAL EXHAUST =  | 5.75 SQFT.   |
| TOTAL VENTING =  | 5.75 SQFT. INTAKE + 5.75 SQFT. EXHAUST = 11.5 SQFT.                  |

| ROOF VENTING TABLE<br>LOCATION: FRONT PORCH ROOF   |   |
|--|---|
| ROOF VENTING CALCULATIONS:<br>31 SQFT. / 150 @ 9.20 SQFT. ROOF VENTILATION REQUIRED.<br>(NOT ABOVE LIVING SPACE + LESS THAN 30% OF AREA W/ 30' CLEAR)<br>(VENTING NOT REQUIRED ON THIS ROOF SECTION) |   |
| VENTILATION PROVIDED:  |   |
| INTAKE<br>--VENTED BIRD BLOCKS:  | 2 BLKS x 22.38 IN. <sup>2</sup> /BLK / 144 = 0.31 SQFT. |
| TOTAL INTAKE =   | 0.31 SQFT.  |
| EXHAUST<br>--VENTED BIRD BLOCKS:   | 1 BLKS x 22.38 IN. <sup>2</sup> /BLK / 144 = 0.15 SQFT. |
| TOTAL EXHAUST =  | 0.15 SQFT.  |
| TOTAL VENTING =  | 0.31 SQFT. INTAKE + 0.15 SQFT. EXHAUST = 0.46 SQFT.     |



ROOF VENTING PLAN

1/4" = 1'-0"



| CONIFER A     |             |
|---------------|-------------|
| MAIN LEVEL    | 775 SQ.FT.  |
| UPPER LEVEL   | 1313 SQ.FT. |
| TOTAL         | 2088 SQ.FT. |
| GARAGE        | 485 SQ.FT.  |
| COVERED PORCH | 37 SQ.FT.   |
| COVERED PATIO | 119 SQ.FT.  |

210 SW WILSON AVENUE  
SUITE 100  
BEND, OR 97702  
(541) 385-6762  
OR CCB# 42067  
WA LIC# PAHLIH91513

**pahlisch**  
HOMES  
WWW.PAHLISCHHOMES.COM

RESERVED FOR CITY STAMP

PER CITY OF BEND REQUIREMENTS, PURSUANT TO THE 2021 OREGON RESIDENTIAL SPECIALTY CODE (ORSC), SECTION R108.3, PERMIT VALUATIONS SHALL BE BASED UPON OREGON RESIDENTIAL VALUATION METHODOLOGIES FOR RESIDENTIAL AND COMMERCIAL PERMITS. SQUARE FOOTAGE OF A DWELLING, DETERMINED FROM OUTSIDE OF EXTERIOR WALL TO OUTSIDE OF EXTERIOR WALL FOR EACH LEVEL, UNDER THIS RULE, SHALL BE DETERMINED TO BE XXXX SF MAIN LEVEL, XXXX SF UPPER LEVEL, XXXX SF GARAGE, AND XXXX SF OUTDOOR COVERED AREA.

PER STATE OF OREGON, PURSUANT TO THE FEDERAL COPYRIGHT ACT, THESE PLANS, WHETHER A FULL CONSTRUCTION SET, EXTRA PRINTS, STUDY PRINTS OR REPRODUCIBLE VELLUM, DO NOT CONTAIN ANY ORIGINAL WORK OR INFORMATION RESERVED BY THE LIBRARY OF CONGRESS PROPERLY RESERVING ALL RIGHTS FOR PAHLISCH HOMES. ANYONE WHO REPRODUCES OR USES THESE PLANS WITHOUT THE WRITTEN PERMISSION FROM PAHLISCH HOMES, INC. IS PROHIBITED.

# SECURITY AND IMPROVEMENT AGREEMENT

This Security and Improvement Agreement (“Agreement”) dated July 21st, 2025 is between the City of Newberg, an Oregon municipal corporation (“City”), and Pahlisch Homes at Collina LP (“Owner”), 1317 E Mountain View Drive to provide for security and schedule of completion of final infrastructure improvements for **Phase 1 of a development known as Collina at Springbrook**, (“the Project”). City and Owner are each a “Party” and collectively referred to as the “Parties”.

## RECITALS

- A. Owners own real property identified as tax lot R3208 05100, and more particularly described in the attached Exhibit A (the “Property”).
- B. Owners received tentative subdivision development approval from City for the Project, pursuant to City File Order No.2023-44 and Ordinance 2023-2915 for SUB322-0002 as modified by MIMD223-0001/MIMD323-003/MISC323-0001, the “Development Approval”.
- C. As a condition of the Development Approval, final plat for the Project (the “Final Plat”) will not be granted until all required improvements have been completed, inspected, and accepted by the City. Pursuant to Newberg Development Code 15.235.060, Owners may provide financial security in lieu of completion of the required improvements and agree to a schedule by which the required improvements shall be completed.
- D. The required improvements for the Project, the “Required Improvements” are identified in the Collina at Springbrook Phase 1 infrastructure plans approved 7/29/2024 by City under Public Improvement Permit PIP-25-31 (EG24-0006) (the “Public Improvement Permit Plans”), and include local public streets, emergency vehicle access and utilities that must be constructed to the standards specified in the Development Approval and Public Improvement Permit Plans.
- E.  Owner desires City release of building permits for construction of houses in the Project prior to recorded plat and prior to completing all Required Improvements and conditions of the Development Approval.  
 Owner desires approval of the Final Plat and City release of building permits for construction of houses in the Project, prior to completing all Required Improvements and conditions of the Tentative Subdivision or Planned Unit Development Approval.

### **Security and Improvement Agreement**

File Number: FPSB24-0002  
Permit Number: EG24-0006  
Pahlisch Homes at Collina LP  
1317 E Mountain View Drive

Page 1 of 13

- F. Owner has provided the City with a financial security in a form acceptable to City guaranteeing the construction of the Required Improvements for the Project in the amount of 120% of the City's estimate of the costs of any of the Required Improvements not completed. This Agreement sets out the schedule for completion of the Required Improvements.
- G. This Agreement is not intended to be a development agreement but sets out the understanding of the Parties for the timing of construction of the Required Improvements and requirements necessary before Certificates of Occupancy will be granted for any residential structures in the Project.

In consideration the mutual obligations set forth herein, Developer and City agree as follows:

### **TERMS OF AGREEMENT**

- 1. City Acceptance of Partially Completed Infrastructure
  - 1.1  Upon completion of the wastewater infrastructure by Owner to the satisfaction of the City, City will partially accept wastewater system for operations. Partial City acceptance of the wastewater system must occur prior to the City issuing building permits for the Project. Final acceptance of the wastewater system must occur prior to the City approving the Final Plat and issuing any Certificates of Occupancy for the Project.  
  
 Upon completion of the wastewater infrastructure by Owner to the satisfaction of the City, City will partially accept wastewater system for operations. Partial City acceptance of the wastewater system must occur prior to the City approving the Final Plat and issuing building permits for the Project. Final acceptance of the wastewater system must occur prior to the City issuing any Certificates of Occupancy for the Project.
  - 1.2  Upon completion of the water infrastructure by Owner to the satisfaction of the City, City will partially accept water system for operations. Partial City acceptance of the water system must occur prior to the City issuing building permits for the Project. Final acceptance of the

water system must occur prior to the City approving the Final Plat and issuing any Certificates of Occupancy for the Project.

Upon completion of the water infrastructure by Owner to the satisfaction of the City, City will partially accept water system for operations. Partial City acceptance of the water system must occur prior to the City approving the Final Plat and issuing building permits for the Project. Final acceptance of the water system must occur prior to the City issuing any Certificates of Occupancy for the Project.

- 1.3  Upon completion of the stormwater infrastructure by Owner to the satisfaction of the City, City will partially accept the stormwater system for operations. Partial City acceptance of the stormwater system must occur prior to the City issuing building permits for the Project. Final acceptance of the stormwater system must occur prior to the City approving the Final Plat and issuing any Certificates of Occupancy for the Project.

Upon completion of the stormwater infrastructure by Owner to the satisfaction of the City, City will partially accept the storm water system for operations. Partial City acceptance of the stormwater system must occur prior to the City approving the Final Plat and issuing building permits for the Project. Final acceptance of the stormwater system must occur prior to the City issuing any Certificates of Occupancy for the Project.

- 1.4  Partial acceptance of wastewater, water, or stormwater systems must include public utility easements, or some other form of dedication acceptable to the City, for all off-site public utility lines being partially accepted.

- 1.5 Partial acceptance of any improvement under this Section 1 does not change Owners obligation to complete construction of the Required Improvements and obtain final acceptance as provided in Sections 2 and 3 of this Agreement.

## 2. Owner's Obligation to Construct Required Improvements

- 2.1 Owner agrees to construct and maintain partially improved streets so that emergency access is provided and maintained to a minimum standard acceptable to the City's Fire and Public Safety providers. At a minimum, the temporary streets must include: base course material installed and compacted and additional base course installed around any utility surface

- feature established at finished grade on the temporary street surface. Permanent or temporary street name signs must be installed prior to the issuance of any building permits. Any temporary street name signs must be approved by the City.
- 2.2 At its sole expense and in compliance with state law and City of Newberg Public Works Design & Construction Standards, Owner must furnish, construct, install, and warranty (in accordance with Section 4 below) the local public street and utility Improvements.
  - 2.3 Owner agrees to assume all risks associated with the construction of further improvements in the Project prior to completion of the Required Improvements. Owner shall, at its sole expense, replace or repair all existing and newly constructed public improvements, public utility facilities, and surveying or subdivision monuments that are destroyed or damaged as a result of any work under this Agreement. Any such replacement or repair shall be subject to the approval of the City Engineer. The City will not accept the Required Improvements until any and all damage to infrastructure is repaired. All repairs must be made to the satisfaction of the City. Failure to commence repair of any damaged infrastructure within 5 business days of a request by the City shall constitute a violation of this Agreement.
  - 2.4 Until all the Public Improvements are accepted by the City, Developer shall be responsible for the care and maintenance of the Required Improvements and other infrastructure on the Property and shall bear all risks of loss or damage to said improvements and infrastructure. Neither City, nor its officers, agents and employees, shall have any liability for any accident, loss or damage to the Improvements or other infrastructure installed on the Property prior to the completion of the Required Improvements and their acceptance by the City, except to the extent caused by the negligence or misconduct of one or more of them.
  - 2.5 Owner must, at no cost to the City, provide public utility easements or other dedications acceptable to the City, for any public wastewater and/or water and/or stormwater systems being partially accepted by the City to allow for the issuance of building permits within the Project. Owner also agrees to process, at Owner's expense, any release or vacation actions necessary for these public utility easements prior to the recording the Final Plat.

**Security and Improvement Agreement**

File Number: FPSB24-0002  
Permit Number: EG24-0006  
Pahlisch Homes at Collina LP  
1317 E Mountain View Drive

- 2.6 Owner is responsible for completion of final construction of the Required Improvements within 120 days of the date of this Agreement, unless a later date is agreed to by the Parties in writing. The Required Improvements are anticipated to be constructed no later than November 18<sup>th</sup>, 2025.
- 2.7 Owner is responsible for completion of the Required Improvements and may not assign or transfer this responsibility to any other party, unless Owner is transferring ownership of the entire parcel constituting the Project, in which case the purchaser shall be responsible for completion of the Required Improvements and any other unsatisfied condition of the Tentative Subdivision Approval, and Owner shall assign this Agreement to the purchaser. The City's consent to such assignment is required, which consent shall not be unreasonably withheld.

3. Inspection of Work and Final Acceptance.

- 3.1 Owner shall at all times maintain proper facilities and safe access for inspection of the Required Improvements by the City.

Upon completion of the Required Improvements, Owner may request final inspection and acceptance by the City. If the City determines that the Required Improvements have been completed in accordance with this Agreement and all applicable City Standards, then City shall certify the completion of the Required Improvements and accept the Required Improvements for the City. If the City determines that the Required Improvements have not been completed in accordance with this Agreement and all applicable City Standards, then Owner must correct any noted deficiencies and request a second final inspection and acceptance of the Required Improvements by the City. The City will not certify the completion of the Required Improvements or accept the Requirement Improvements until all deficiencies have been corrected by the Owner.

- 3.2 The City may enforce violations for failure to maintain or restore the site. Failure to complete the Improvements within the 120 day window, or any

written extension agreed to by the Parties will result in withholding issuance of new permits and/or Certificates of Occupancy.

3.3  Owner understands that:

- 1) SDC fees can be deferred to the time when a request for an insulation inspection is made on single-family residences and duplexes per NMC 13.090(A)(1).
- 2) SDC Credits cannot be redeemed for cash.
- 3) SDC credits can be transferred from one development to another within the same use district or subdistrict that is part of a council approved master plan or within a planned unit development authorized per NMC Chapter 15.240.

Owner has applied for SDC credits and has received preliminary approval for the following:

1. Transportation SDC credits – Villa Road Extension – Amount: \$144,309
2. Transportation SDC credits – Mountainview Dr / Villa Rd Intersection Improvement – Amount: \$998,931

Available SDC credits will be applied to residential building permits in the order permits are issued.

Owner has applied for SDC credits and has received final approval for the following:

1. Non-potable Water SDC credit – North non-potable water line and Otis springs pumping improvement Phase 1&2 – Amount: \$310,024

Available SDC credits will be applied to residential building permits in the order permits are issued.

Owner has not applied for SDC credits and does not intend to.

3.4  City will not approve the Final Plat or issue Certificates of Occupancy for any location in the Project until all Required Improvements within the Project have been completed, inspected, and accepted by the City including all required closeout documentation, outstanding receipts relating to SDC credits, if any, and warranty bonds.

**Security and Improvement Agreement**

File Number: FPSB24-0002  
Permit Number: EG24-0006  
Pahlisch Homes at Collina LP  
1317 E Mountain View Drive

- 3.5  City will not issue Certificates of Occupancy on any lot in the Project until an as-built survey is received and approved by the City for each lot that commenced construction prior to recorded plat. The as-built survey must be prepared by a licensed professional surveyor and include physical locations of any structures, final property corners and verify any required property line setbacks are met as defined in the Newberg Development Code.

4. Guarantee and Warranty of the Required Improvements

- 4.1 If Owner fails to carry out the provisions of this Agreement, and after notice and opportunity to cure as provided in Section 5, the City may call upon the financial security provided by Owner in lieu of construction, to finance any cost or expenses resulting from said failure. If the amount of the financial security exceeds the cost and expense incurred by completing the Required Improvements, the City shall release the remainder following construction. If the amount of the financial security is less than the cost and expense incurred by the City to complete the Required Improvements, Owner shall be liable to the City for the difference.
- 4.2 The security furnished for Owner's obligation to construct and install the Required Improvements described in this Agreement may not be reduced or removed unless and until a warranty bond in the amount of 15% of the Required Improvements is posted and accepted by the City for the Warranty Period (2 years). The warranty bond must cover all Required Improvements Owner has constructed as a condition of the Tentative Subdivision Approval for the Project, and the duration of the bond is two years measured from the City's last acceptance of any improvement constructed by Owner as a condition of the Tentative Subdivision Approval for the Project.

5. Default; Remedy

- 5.1 Default/Cure. The following shall constitute defaults by a Party:
- 5.1.1 A breach of a material provision of this Agreement, whether by action or inaction of a Party that continues and is not remedied within 60 days after the other Party has given notice specifying the breach; however, if the Party providing notice determines that such breach cannot with due diligence be cured within a period of 60 days, the Party providing notice may allow the breaching Party a longer period of time to cure

the breach and, in such event, the breach shall not constitute a default so long as the breaching Party diligently proceeds to effect a cure, and the cure is accomplished within the longer period of time granted by the nonbreaching Party; or

- 5.1.2 Any assignment by a Party for the benefit of creditors, or adjudication as a bankruptcy, or appointment of a receiver, trustee, or creditor's committee over a Party.
- 5.2 Remedies. Each Party shall have all available remedies at law or in equity to recover damages and compel the performance of the other Party under this Agreement. The rights and remedies afforded under this Agreement are not exclusive and shall be in addition to and cumulative with any and all rights otherwise available at law or in equity. The exercise by any Party of any one or more of such remedies shall not preclude the exercise by it, at the same or different time, of any other such remedy for the same default or breach or of any of its remedies for any other default or breach by any other Party, including without limitation the right to compel specific performance.
- 5.3 Mediation. Notwithstanding the forgoing, Owner and City agree that the Parties subject to the dispute may first try to resolve any dispute or issue arising under this Agreement amicably and at a project level. If the dispute is not settled, the Parties may participate in mediation as a next alternative step for dispute resolution before commencement of litigation. If the parties choose to mediate, such mediation will occur in Newberg, Oregon. The Parties shall seek a mediator with experience in land use, real estate, or development. The mediation must commence within 90 days of the date the mediator is retained. The mediator's fees and expenses will be shared equally by all the Parties. All Parties agree to exercise their best efforts in good faith to resolve all disputes in the mediation.
6. Indemnification. Owner shall defend, indemnify, and hold the City, its officers, agents, employees and volunteers harmless, for, from, and against all liability, claims, losses, demands, suits, fees and judgments (collectively known as 'claims') that may be based on, or arise out of, damage or injury (including death) to persons or property caused by or resulting from any act or omission sustained in connection with the performance of this Agreement or by conditions created thereby or based upon violation of any statute, ordinance or regulation. This indemnification required shall not apply to claims to the extent caused by the negligence or willful misconduct of the City, its officers, agents, employees and volunteers. Owner agrees that it is not an agent of the

City and is not entitled to indemnification and defense under ORS 30.285 and ORS 30.287.

7. Amendment or Termination of Agreement. This Agreement may only be amended by the mutual consent, in writing, of all the Parties or their successors. This Agreement will automatically terminate at the conclusion of the Warranty Period described in Section 4.2 and may be terminated early by the mutual consent, in writing, of all the Parties or their successors.

8. Miscellaneous Provisions.

8.1 All exhibits and recitals are incorporated into this Agreement.

8.2 Notice. A notice or communication under this Agreement by any Party shall be in writing and shall be dispatched by registered or certified mail, postage prepaid, return receipt requested, or delivered by either personal delivery or nationally-recognized overnight courier (such as UPS or FedEx), or by facsimile transmission, and

8.2.1 In the case of a notice or communication to the applicable Owner, addressed as follows:

To: Pahlisch Homes at Collina LP  
12585 SW 68<sup>th</sup> Ave  
Tigard, OR 97223  
Attn: Geff Halle

With copies to: Pahlisch Homes at Collina LP  
12585 SW 68<sup>th</sup> Ave  
Tigard OR, 97223  
Attn: Geff Halle

8.2.2 In the case of a notice or communication to the City, addressed as follows:

City of Newberg  
414 E First Street  
Newberg, OR 97132

With copies to: City Attorney  
City of Newberg  
414 E First Street  
Newberg, OR 97132

**Security and Improvement Agreement**

File Number: FPSB24-0002  
Permit Number: EG24-0006  
Pahlisch Homes at Collina LP  
1317 E Mountain View Drive

- 8.2.3 A Party may from time to time designate other or additional notice parties for the purpose of this Section in writing and dispatched as provided in this Section.
- 8.2.4 Owner shall comply with all applicable provisions of the Newberg Code.
- 8.3 Headings. Any titles of the sections of this Agreement are inserted for convenience of reference only and shall be disregarded in construing or interpreting any of its provisions.
- 8.4 Effect of Recitals. The Recitals set forth above are the assumptions of the Parties and are incorporated as part of this Agreement.
- 8.5 Counterparts. This Agreement may be executed in one or more counterparts, each of which shall be deemed to be an original, and such counterparts shall constitute one and the same instrument.
- 8.6 Waivers.
- 8.6.1 No waiver made by any Party with respect to the performance, or manner, or time thereof of any obligation of any other Party, or any condition inuring to its benefit under this Agreement, shall be considered a waiver of any other rights of the Party making the waiver. No waiver by the City or an Owner of any provision of this Agreement or any breach thereof shall be of any force or effect unless in writing, and no such waiver shall be construed to be a continuing waiver.
- 8.6.2 Parties know and understand their rights under *Dolan v. City of Tigard* and its progeny and by entering into this Agreement waive any requirement that the City demonstrate that the Required Improvements and other obligations of the Parties for the construction and financial responsibility set forth in this Agreement and related to the development of the Properties to master plan densities are roughly proportional to the burden and demands placed on the urban facilities and services by the development of the Property. The Parties further acknowledge that the requirements and obligations of the Parties, including but not limited to the Required Improvements, are roughly proportional to the burden and demands on urban facilities and services that will result from development of the Properties. This

waiver does not apply to public improvements or payments that are not governed by this Agreement.

- 8.7 Time of the Essence. Time is of the essence for this Agreement.
- 8.8 Choice of Law. This Agreement shall be governed, interpreted, and enforced in accordance with the laws of the State of Oregon, without regard to conflict of laws principles.
- 8.9 Calculation of Time. All periods of time referred to in this Agreement shall include Saturdays, Sundays, and legal holidays in the State of Oregon, except that if the last day of any period falls on any Saturday, Sunday, or legal holiday in the State of Oregon, the period shall be extended to include the next day that is not a Saturday, Sunday, or legal holiday.
- 8.10 Construction. In construing this Agreement, singular pronouns shall be taken to mean and include the plural, and the masculine pronoun shall be taken to mean and include the feminine and the neuter, as the context may require.
- 8.11 Severability. If any clause, sentence, or any other portion of the terms and conditions of this Agreement becomes illegal, null, or void for any reason, the remaining portions will remain in full force and effect to the fullest extent permitted by law.
- 8.12 Merger. This Agreement constitutes the entire agreement between all the Parties and supersedes all prior agreements except as such prior agreements are expressly incorporated by reference.
- 8.13 Place of Enforcement. Any action or suit to enforce or construe any provision of this Agreement by any of the Parties shall be brought in the Circuit Court of the State of Oregon for Yamhill County or in the United States District Court for the District of Oregon.
- 8.14 Good Faith and Reasonableness. The Parties intend that the obligations of good faith and fair dealing apply to this Agreement generally, and that no negative inferences be drawn by the absence of an explicit obligation to be reasonable in any portion of this Agreement. The obligation to be reasonable shall only be negated if arbitrariness is clearly and explicitly permitted as to the specific item in question, such as in the case of a Party being given "sole discretion" or being allowed to make a decision in its "sole judgment."

- 8.15 Condition of City Obligations. All City obligations under this Agreement that require the expenditure of funds are contingent on future appropriations by the City as part of the local budget process. Nothing in this Agreement implies an obligation on the City to appropriate any such monies.
- 8.16 Cooperation in the Event of Legal Challenge. In the event of any legal action instituted by a third party or other governmental entity or official challenging the validity of any provision of this Agreement, the Parties agree to cooperate in defending such action.
- 8.17 Enforced Delay, Extension of Times of Performance. In addition to the specific provisions of this Agreement, performance by any Party shall not be in default when delay or default is caused by war, insurrection, strikes, riots, floods, drought, earthquakes, fires, casualties, acts of God, governmental restrictions imposed or mandated by governmental entities other than the City, enactment of conflicting state or federal laws or regulations, new or supplementary environmental regulation or litigation, or similar bases for excused performance that are not within reasonable control of the Party to be excused.
- 8.18 Other Necessary Acts. Each Party shall execute and deliver to the other all such further instruments and documents and take such additional acts (which, in the case of the City, shall require adopting necessary ordinances and resolutions) as may be reasonably necessary to carry out this Agreement in order to provide and secure to the other Parties the full and complete enjoyment of rights and privileges hereunder.
- 8.19 No Partnership. This Agreement does not create a partnership or joint venture among the Owners. Each Owner is solely and independently responsible for its obligations under this Agreement, and no Owner is responsible for payment or performance by any other Owner.
9. Not an ORS Chapter 94 Agreement. This Agreement is not a statutory development agreement subject to ORS Chapter 94.

Signatures to follow on subsequent pages.

DATED this 21 day of July, 2025

**OWNER:**

*Michelle*

(Signature)

Pahlisch Homes at Collina LP  
Owner

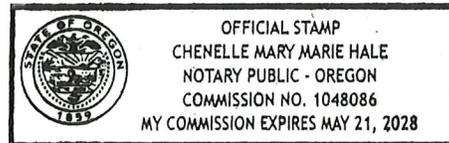
State of Oregon )

County of Deschutes )

This instrument was acknowledged before me on July 21, 2025, by

*Mike Morse* as Owner.

*Chenelle Mary Marie Hale*  
Notary Public for Oregon  
My commission expires May 21, 2028



**CITY OF NEWBERG**

*W E Worthey*  
(Signature)

City Manager

State of Oregon )

County of Yamhill )

This instrument was acknowledged before me on July 23, 2025, by

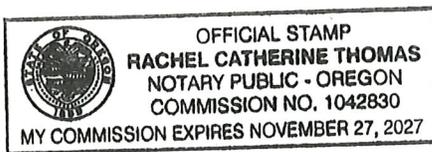
Will Worthey as City Manager of the City of  
Newberg.

(name)

*Rachel C. Thomas*

Notary Public for Oregon

My commission expires Nov. 27, 2027



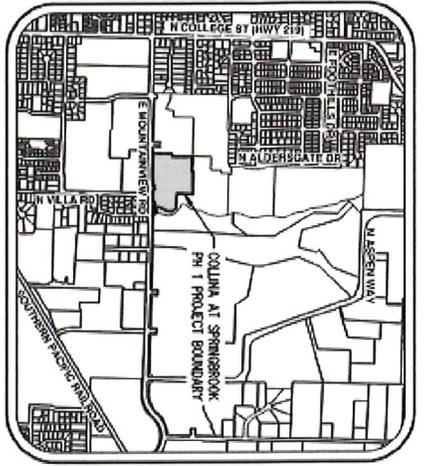
**Security and Improvement Agreement**

File Number: FPSB24-0002

Permit Number: EG24-0006

Pahlisch Homes at Collina LP

1317 E Mountain View Drive

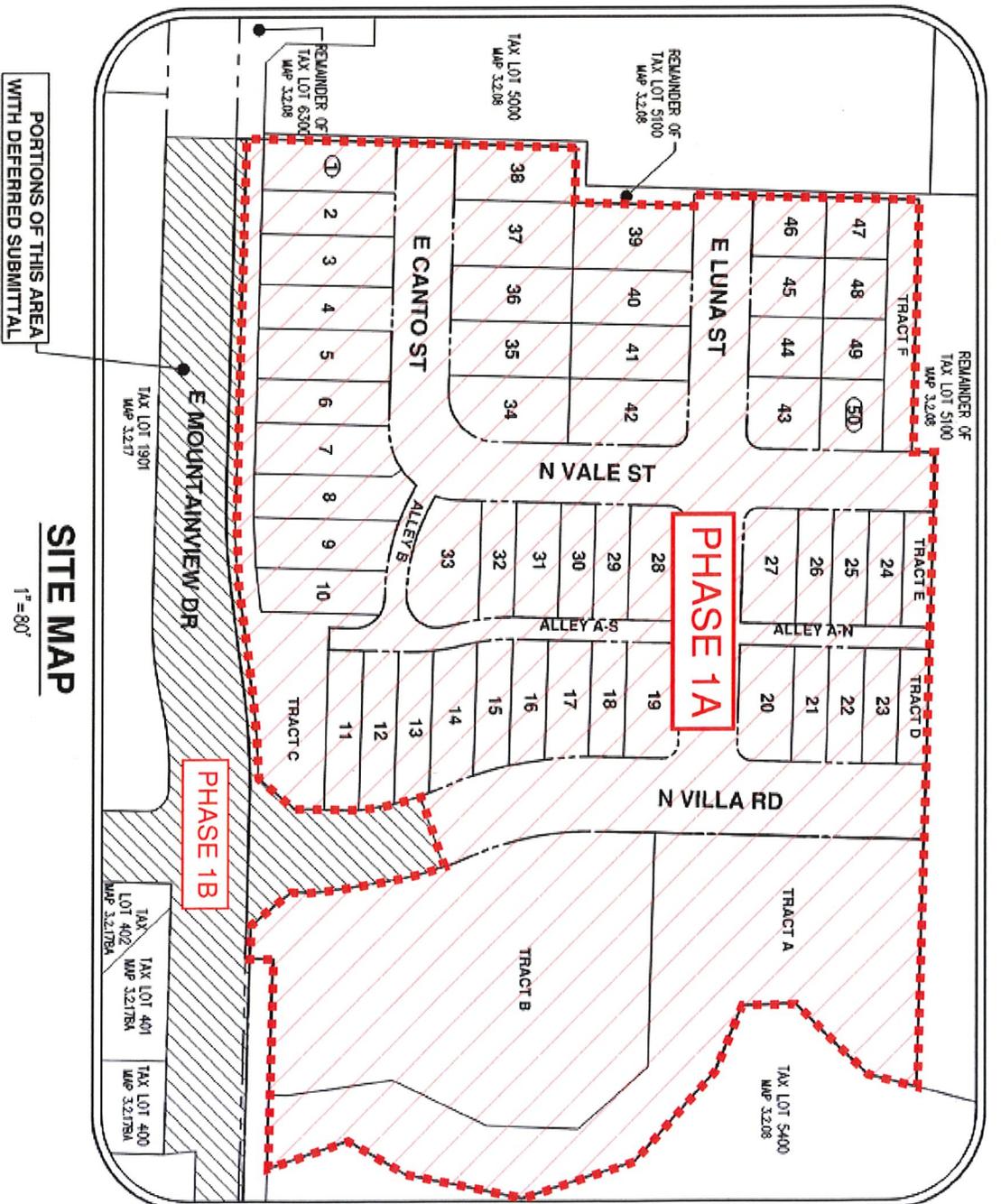


**VICINITY MAP**

1"=1500'



**Exhibit A**



**SITE MAP**

1"=80'

**PROPERTY DESCRIPTION**

TAX LOTS 4900, 5000, 5100, 5400, 6200, 6300, (YAMHILL COUNTY ASSESSOR'S MAPS 3.2.08) LOCATED IN SECTION 8, TOWNSHIP 3 SOUTH, RANGE 2 WEST, WILLAMETTE MERIDIAN, YAMHILL COUNTY, OREGON

**PROJECT LOCATION**

LOCATED WEST OF N ASPEN WAY, SOUTH OF E FOOTHILLS DR, EAST OF N COLLEGE ST, AND NORTH OF E MOUNTAINVIEW DR.

**EXISTING LAND USE**

FARM LAND AND FORESTED AREAS

**PROJECT PURPOSE**

50 LOT SINGLE FAMILY RESIDENTIAL SUBDIVISION IN THE SD/LDR

**VERTICAL DATUM**

ELEVATIONS ARE DERIVED FROM GPS OBSERVATIONS USING THE TRIMBLE WRS NOW NETWORK (NAVD 88)

**ENGINEER'S ESTIMATE DETAIL**

PROJECT NAME: Collina at Springbrook  
 AKS JOB NUMBER: 4487-01  
 ESTIMATED BY: CJH  
 DATE: 7/2/2025

**PHASE 1**

| ITEM  | SCHEDULE 1 - STREETS AND PATHS        | UNIT | UNIT PRICE | QTY   | COST      |
|-------|---------------------------------------|------|------------|-------|-----------|
| 2 - 1 | 2" AC Pavement - Level 2 - N Villa Rd | SY   | \$ 29.80   | 2,126 | \$ 63,358 |
| 2 - 2 | Striping                              | LS   | \$ 80,000  | 1     | \$ 80,000 |
| 2 - 3 | Street Trees by Contractor            | EA   | \$ 400     | 10    | \$ 4,000  |
| 2 - 4 | Street Barricades                     | EA   | \$ 3,025   | 4     | \$ 12,100 |
| 2 - 5 | Sidewalk Barricades                   | EA   | \$ 1,200   | 8     | \$ 9,600  |
| 2 - 6 | Storm Facility Access                 | SY   | \$ 25.00   | 108   | \$ 2,700  |

**SCHEDULE 1 - STREETS AND PATHS** \$ 171,758

| ITEM  | SCHEDULE 2 - STORM DRAINAGE                              | UNIT | UNIT PRICE | QTY   | COST      |
|-------|--|------|------------|-------|-----------|
| 3 - 1 | Detention Pond H, Grade and Prep (Includes 12" Top Soil) | LS   | \$ 98,000  | 1     | \$ 98,000 |
| 3 - 2 | Stormwater - Landscape and Irrigation                    | LS   | \$ 72,000  | 1     | \$ 72,000 |
| 3 - 3 | Install 4' Chainlink Fence                               | LF   | \$ 43.00   | 1,018 | \$ 43,774 |
| 3 - 4 | Install 12' Gate   | EA   | \$ 2,500   | 1     | \$ 2,500  |

**SCHEDULE 2 - STORM DRAINAGE** \$ 216,274

| ITEM  | SCHEDULE 3 - LANDSCAPING   | UNIT | UNIT PRICE | QTY   | COST      |
|-------|----------------------------|------|------------|-------|-----------|
| 7 - 1 | Fine Lawn Grass Seeding    | SF   | \$ 2.25    | 6,165 | \$ 13,871 |
| 7 - 2 | Street Trees by Contractor | EA   | \$ 350     | 48    | \$ 16,800 |

**SCHEDULE 3 - LANDSCAPING** \$ 30,671



PROJECT NAME: Collina at Springbrook  
 AKS JOB NUMBER: 4487-01  
 ESTIMATED BY: CJH  
 DATE: 7/2/2025

PHASE 1

**ENGINEER'S ESTIMATE SUMMARY**

|  | COST              |
|--|-------------------|
| <b>CONSTRUCTION (HARD) COSTS</b>         |                   |
| SCHEDULE 1 - STREETS AND PATHS           | \$ 171,758        |
| SCHEDULE 2 - STORM DRAINAGE              | \$ 216,274        |
| SCHEDULE 3 - LANDSCAPING                 | \$ 30,671         |
| <b>CONSTRUCTION (HARD) COSTS - TOTAL</b> | <b>\$ 418,703</b> |

**NOTE:**

- This estimate is based on the items necessary to construct the public improvements based on final construction plans by AKS Engineering & Forestry, LLC dated 06/18/2024
- This estimate does not include:  
 Engineering, Surveying, Land Use Planning Services  
 Geotechnical Engineering or Geotechnical Inspection  
 Compaction / Soil Testing for Construction  
 Wetland / Natural Resource Consulting Services  
 Natural Resource or Sensitive Area Improvements  
 Traffic Engineering Services  
 Jurisdictional Fees  
 Wet Weather Construction Measures  
 Hard Rock / Boulder Excavation
- Volumes and quantities listed here are approximate.  
 Bank Cubic Yard (BCY) quantities are calculated "in-place".
- This estimate does not include items not specifically listed.

**UNITED FIRE & CASUALTY COMPANY**  
118 Second Avenue SE Cedar Rapids, Iowa 52401 319-399-5700

**SUBDIVISION BOND FAITHFUL PERFORMANCE**

**Bond No. 54266991**

KNOW ALL BY THESE PRESENTS, that we **Pahlisch Homes, Inc.**, As principal and **UNITED FIRE & CASUALTY COMPANY**, an Iowa corporation, having its principal office and place of business in the City of Cedar Rapids, Iowa, and authorized to do business in the state of **Oregon**, as Surety, are held and firmly bound unto **the City of Newberg** as obligee, in the sum of **Five Hundred Two Thousand, Four Hundred Forty-Four and 00/100 Dollars (\$502,444.00)**, for the payment whereof, well and truly to be made, said Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THE OBLIGATION IS SUCH THAT:

WHEREAS, the Principal has entered into an agreement, dated 7/22/25, with the obligee to do and perform the following work, to wit: Collina at Springbrook Phase 1 - Street, Storm, and Landscaping Improvements Not Completed

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if the Principal shall faithfully perform the work referred to in such agreement, then this obligation shall be void; otherwise, it shall remain in full force and effect.

IN WITNESS WHEREOF, the seal and signature of said Principal is hereto affixed and the corporate seal and the name of the said Surety is hereto affixed and attested by its duly authorized Attorney-in-Fact at Portland, Oregon.

Signed, Sealed and Dated this 18th day of July, 20 25.

No claim, suit or action shall be brought hereunder after the expiration of one (1) year following the date on which principal ceased work on said contract. If this limitation is made void by any law controlling the construction hereof, such limitation shall be deemed to be amended to equal the minimum period of limitation permitted by such law

Witness:

[Handwritten Signature]

[Handwritten Signature]

(Seal)

(Principal)

UNITED FIRE & CASUALTY COMPANY

By: Lyndsay C. Murff  
Attorney-in-Fact, Lyndsay C. Murff





UNITED FIRE & CASUALTY COMPANY, CEDAR RAPIDS, IA  
 UNITED FIRE & INDEMNITY COMPANY, WEBSTER, TX  
 FINANCIAL PACIFIC INSURANCE COMPANY, LOS ANGELES, CA  
 CERTIFIED COPY OF POWER OF ATTORNEY

Inquiries: Surety Department  
 118 Second Ave SE  
 Cedar Rapids, IA 52401

(original on file at Home Office of Company – See Certification)

KNOW ALL PERSONS BY THESE PRESENTS, That United Fire & Casualty Company, a corporation duly organized and existing under the laws of the State of Iowa; United Fire & Indemnity Company, a corporation duly organized and existing under the laws of the State of Texas; and Financial Pacific Insurance Company, a corporation duly organized and existing under the laws of the State of California (herein collectively called the Companies), and having their corporate headquarters in Cedar Rapids, State of Iowa, does make, constitute and appoint

JENIFER MCCORMICK, JEANETTE PORTER, LYNSAY C. MURFF, MARC BAKER, EACH INDIVIDUALLY

their true and lawful Attorney(s)-in-Fact with power and authority hereby conferred to sign, seal and execute in its behalf all lawful bonds, undertakings and other obligatory instruments of similar nature provided that no single obligation shall exceed \$25,000,000.00 and to bind the Companies thereby as fully and to the same extent as if such instruments were signed by the duly authorized officers of the Companies and all of the acts of said Attorney, pursuant to the authority hereby given and hereby ratified and confirmed.

The Authority hereby granted shall expire the 20th day of May, 2027 unless sooner revoked by United Fire & Casualty Company, United Fire & Indemnity Company, and Financial Pacific Insurance Company.

This Power of Attorney is made and executed pursuant to and by authority of the following bylaw duly adopted by the Boards of Directors of United Fire & Casualty Company, United Fire & Indemnity Company, and Financial Pacific Insurance Company.

**“Article VI – Surety Bonds and Undertakings”**

Section 2, Appointment of Attorney-in-Fact. “The President or any Vice President, or any other officer of the Companies may, from time to time, appoint by written certificates attorneys-in-fact to act in behalf of the Companies in the execution of policies of insurance, bonds, undertakings and other obligatory instruments of like nature. The signature of any officer authorized hereby, and the Corporate seal, may be affixed by facsimile to any power of attorney or special power of attorney or certification of either authorized hereby; such signature and seal, when so used, being adopted by the Companies as the original signature of such officer and the original seal of the Companies, to be valid and binding upon the Companies with the same force and effect as though manually affixed. Such attorneys-in-fact, subject to the limitations set forth in their respective certificates of authority shall have full power to bind the Companies by their signature and execution of any such instruments and to attach the seal the Companies thereto. The President or any Vice President, the Board of Directors or any other officer of the Companies may at any time revoke all power and authority previously given to any attorney-in-fact.

IN WITNESS WHEREOF, the COMPANIES have each caused these presents to be signed by its vice president and its corporate seal to be hereto affixed this 20th day of May, 2025

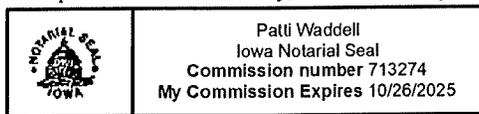
UNITED FIRE & CASUALTY COMPANY  
 UNITED FIRE & INDEMNITY COMPANY  
 FINANCIAL PACIFIC INSURANCE COMPANY

By: *Kyanna M. Saylor*  
 Vice President



State of Iowa, County of Linn, ss:

On 20th day of May, 2025, before me personally came Kyanna M. Saylor to me known, who being by me duly sworn, did depose and say; that she resides in Cedar Rapids, State of Iowa; that she is a Vice President of United Fire & Casualty Company, a Vice President of United Fire & Indemnity Company, and a Vice President of Financial Pacific Insurance Company the corporations described in and which executed the above instrument; that she knows the seal of said corporations; that the seal affixed to the said instrument is such corporate seal; that it was so affixed pursuant to authority given by the Board of Directors of said corporations and that she signed her name thereto pursuant to like authority, and acknowledges same to be the act and deed of said corporations.



*Patti Waddell*  
 Notary Public  
 My commission expires: 10/26/2025

I, Mary A. Bertsch, Assistant Secretary of United Fire & Casualty Company and Assistant Secretary of United Fire & Indemnity Company, and Assistant Secretary of Financial Pacific Insurance Company, do hereby certify that I have compared the foregoing copy of the Power of Attorney and affidavit, and the copy of the Section of the bylaws and resolutions of said Corporations as set forth in said Power of Attorney, with the ORIGINALS ON FILE IN THE HOME OFFICE OF SAID CORPORATIONS, and that the same are correct transcripts thereof, and of the whole of the said originals, and that the said Power of Attorney has not been revoked and is now in full force and effect.

In testimony whereof I have hereunto subscribed my name and affixed the corporate seal of the said Corporations this 18th day of July, 20 25.



By: *Mary A. Bertsch*  
 Assistant Secretary,  
 UF&C & UF&I & FPIC

R401.3 DRAINAGE- SURFACE DRAINAGE SHALL BE DIVERTED TO A STORM SEWER CONVEYANCE OR OTHER APPROVED POINT OF COLLECTION THAT DOES NOT CREATE A HAZARD. LOTS SHALL BE GRADED TO DRAIN SURFACE WATER AWAY FROM FOUNDATION WALLS. THE GRADE SHALL FALL A MINIMUM OF 6 INCHES WITHIN THE FIRST 10 FEET.

CONNECT DOWNSPOUTS TO STORMDRAIN LATERAL

↑ INDICATES DIRECTION OF DRAINAGE FLOW

**EROSION CONTROL NOTES:**

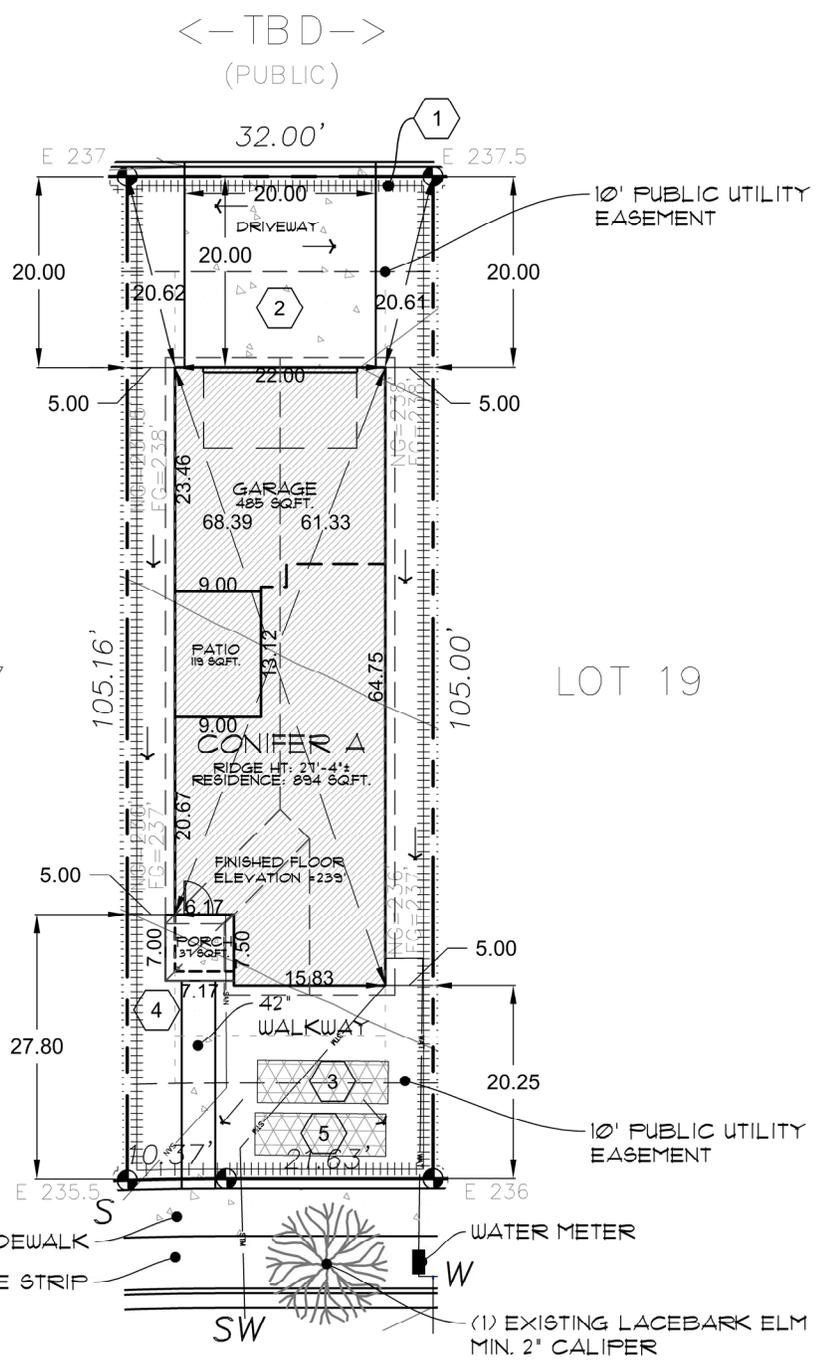
1. IF APPLICABLE - AREAS DELINEATED ON THE PLAN AS A 'BUFFER ZONE' SHALL BE CLEARLY MARKED IN THE FIELD WITH ORANGE CONSTRUCTION FENCING PRIOR TO THE START OF ANY GROUND DISTURBING ACTIVITIES.
2. A STABILIZED GRAVEL CONSTRUCTION ENTRANCE SHALL BE INSTALLED AS FIRST SITE ACTIVITY.
3. EROSION CONTROL MEASURES SHALL BE INSPECTED DAILY AND MAINTAINED AS NECESSARY TO ENSURE THEIR FUNCTION.
4. EROSION CONTROL MEASURES SHALL BE KEPT IN PLACE UNTIL PERMANENT GROUND COVER IS ESTABLISHED.

**WET WEATHER EROSION NOTES:**

1. DURING WET WEATHER SEASON (OCT 1-APRIL 30) ALL SOILS EXPOSED FOR MORE THAN 14 DAYS SHALL BE COVERED WITH PLASTIC SHEETING, OR A 2 INCH LAYER OF MULCH BARK, WOOD CHIPS, SAWDUST OR STRAW TO MINIMIZE EROSION POTENTIAL.

- ① SEDIMENT FENCE
- ② CONSTRUCTION GRAVEL ENTRANCE (USE WOODEN CURB JUMP)
- ③ STOCKPILE (COVERED WITH PLASTIC, STAKED & TIED DOWN)
- ④ CONCRETE WASH AREA
- ⑤ CONSTRUCTION DEBRIS AREA

U = POWER,PHONE,GAS,CABLE  
 S = SEWER  
 W = WATER  
 SW = STORM WATER



LOT 17

LOT 19

Lot SF = 3,361 SF  
 Foot Print SF = 1,416 SF  
 % Lot Coverage = 42.13%  
 Total Impervious Surface = 1,902 SF  
 % Impervious Surface = 56.59%

←-N. VILLA RD.->  
 (PUBLIC)

Rear /Side Patio Flatwork = 119 SF  
 Front Porch Flatwork = 51 SF  
 Stoop Flatwork = 0 SF  
 Driveway & Walkway Flatwork = 496 SF  
 City Sidewalk & Driveway Apron Flatwork = 160 SF

**pahlisch**  
 HOMES  
 210 SW WILSON AVE, SUITE 100  
 BEND, OREGON 97702  
 PH: (541) 385-6762  
 FAX: (541) 385-6742

Subdivision: Collina Phase 1  
 Lot#: 18  
 Address: 2475 N Villa Rd  
 Plan Name: CONIFER 2-A-2088-2-SPL  
 Date: 6/10/2025  
 Initials: LL

Scale: 1"=20'

\* DRIVEWAY, WALK, AND PATIO LAYOUTS ARE FOR REFERENCE ONLY AND NOT INTENDED TO BE THE EXACT DEPICTION OF THE FINAL PRODUCT  
 \* EXACT UTILITY CONNECTIONS AT RESIDENCE MAY VARY PER BUILDER'S DISCRETION



June 11, 2025

City of Newberg  
414 E. First Street  
Newberg, OR 97132

Re: Architectural Review Committee (ARC) Approval Documentation  
Lot #: 18

Dear Permits Team,

The design for the new home build in Collina, located on Lot 18, Phase 1, has been approved and is now ready to proceed with the permitting process through the City of Newberg.

Pahlisch Homes at Collina Limited Partnership, for which Pahlisch Homes is the sole member, is the Declarant for the Collina community. As the Declarant, Pahlisch Homes also serves as the Architectural Review Committee (ARC) and the Board, and therefore holds full authority over design approvals within the community. Any plans submitted by Pahlisch Homes for construction by Pahlisch Homes are automatically deemed approved under this authority.

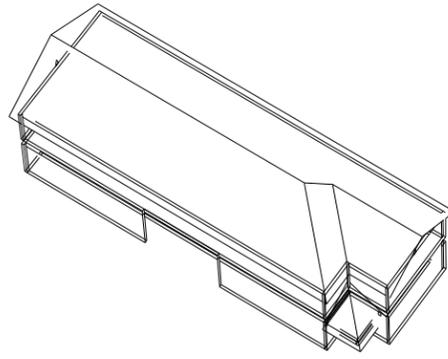
Please note that while Crystal Lake Community Management provides management services for Collina, it does not have any decision-making authority with respect to the ARC.

We believe this residence will be a valuable addition to the neighborhood and are eager to see construction move forward.

Sincerely,

*Jennifer Mercadante*

**Jennifer Mercadante**  
Pahlisch Homes  
Operations and Administrative Coordinator  
O: 503-596-2208 x201  
C: (971) 386-3068  
A: 12585 SW 68th Ave. Tigard OR 97223

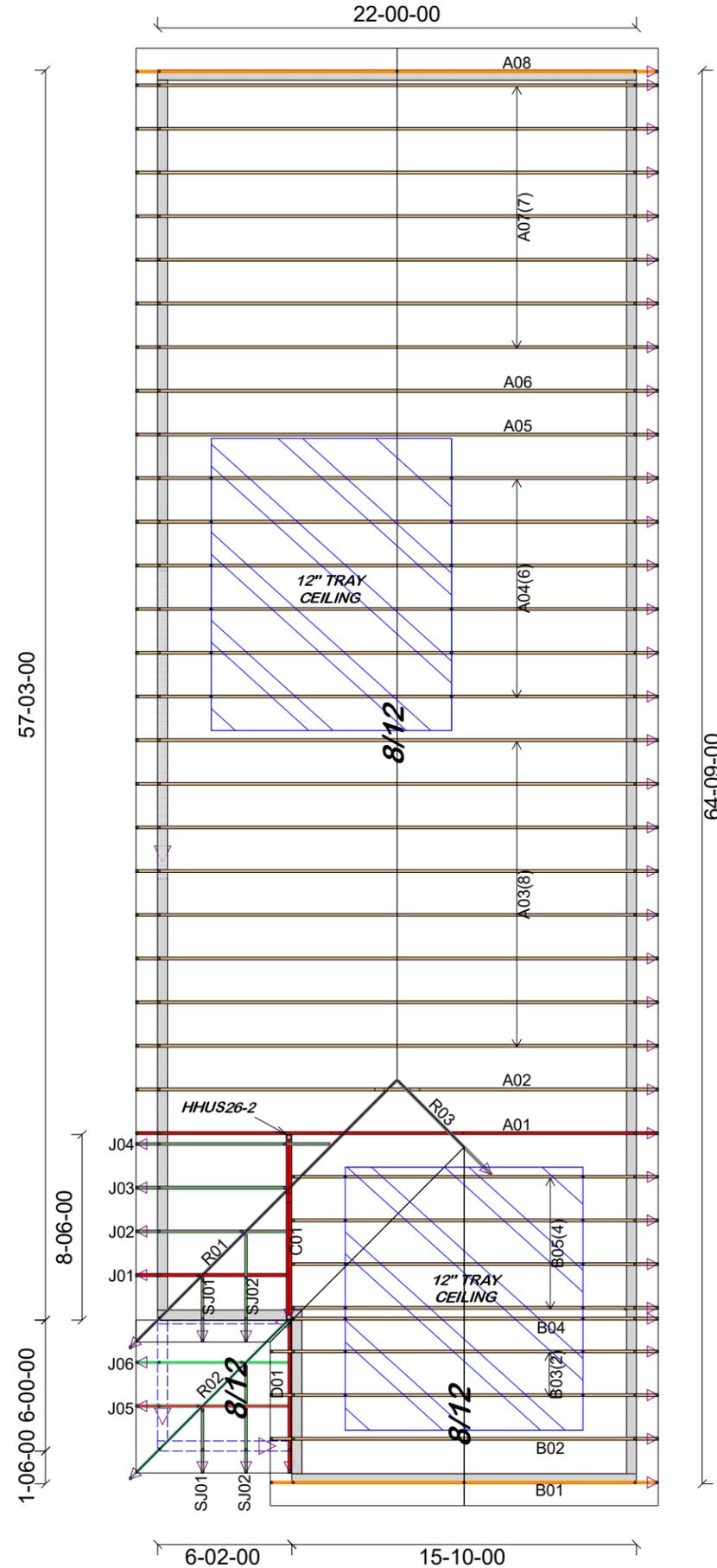


Use LUS24 Hangers UNO  
Entry Left

**TRIANGLE SHAPE ▲ INDICATES LEFT END ON LAYOUT AND TRUSS DRAWING ON STAMPED ENGINEERING PAGE**

H1 TYP.  
H2.5T SUPPLIED FOR  
GABLES & GIRDERS

TC LL = 25  
TC DL = 7  
BC LL = 0  
BC DL = 10  
Total Load = 42  
Wind Speed = 100 mph  
Exposure = C  
Roof Pitch = 8/12  
Overhang = 12"



THIS IS A TRUSS PLACEMENT DIAGRAM ONLY. These trusses are designed as individual building components to be incorporated into the building design at the specification of the building designer. See the individual design sheets for each truss design identified on the placement drawing. The building designer is responsible for temporary and permanent bracing of the roof and floor system and for the overall structure. The design of the truss support structure including headers, beams, walls, and columns is the responsibility of the building designer. For general guidance regarding bracing, consult "Bracing of wood trusses" available from the Truss Plate Institute, 583 D'Onifrio Drive, Madison, WI 53179

**DO NOT CUT, DRILL, NOTCH OR MODIFY TRUSS MEMBERS WITHOUT PRIOR APPROVAL FROM BUILDERS FIRSTSOURCE TRUSS**

|           |              |            |                |
|-----------|--------------|------------|----------------|
| DATE:     | 3/10/2025    | SCALE:     | NTS            |
| SALESMAN: | Vince Rogers | PROJECT #: | <b>4467209</b> |
| DESIGNER: | JDR          |            |                |

SW Washington and Oregon Components  
Woodland Office: 360-841-5900  
Beaverton Office: 971-371-5971

**Builders FirstSource**  
Pahlisch Homes  
PROJECT: Conifer 2-A-2088-2 Roof Entry Left  
ADDRESS: Newberg, OR

Jurisdiction Stamp



REVIEWED       REVISE AND RESUBMIT  
 REJECTED       FURNISH AS CORRECTED

Corrections or comments made on the shop drawings during this review do not relieve contractor from compliance with requirements of the drawings and specifications. This check is only for review of general conformance with the design concept of the project and general compliance with the information given in the contract documents. This contractor is responsible for confirming and correlating all quantities and dimensions; selecting fabrication processes and techniques of construction; coordinating his work with that of all other trades; and performing his work in a safe and satisfactory manner.

**FROELICH ENGINEERS, INC.**

DATE: 3/10/2025

BY: Hunter Anderson

Re: 4467209

Pahlisch - Conifer 2-A-2088-2 RF

The truss drawing(s) referenced below have been prepared by MiTek USA, Inc. under my direct supervision based on the parameters provided by Builders FirstSource (Beaverton, OR).

Pages or sheets covered by this seal: R87039098 thru R87039123

My license renewal date for the state of Oregon is December 31, 2026.



*Dustin Reinmuth*  
EXPIRES: 12/31/2026

March 7, 2025

Reinmuth, Dustin

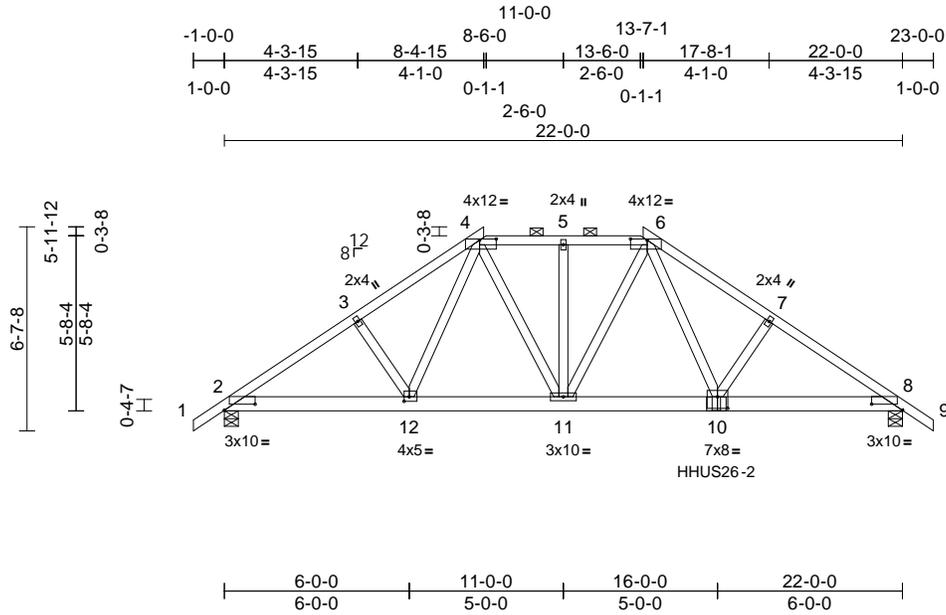
**IMPORTANT NOTE:** The seal on these truss component designs is a certification that the engineer named is licensed in the jurisdiction(s) identified and that the designs comply with ANSI/TPI 1. These designs are based upon parameters shown (e.g., loads, supports, dimensions, shapes and design codes), which were given to MiTek or TRENCO. Any project specific information included is for MiTek's or TRENCO's customers file reference purpose only, and was not taken into account in the preparation of these designs. MiTek or TRENCO has not independently verified the applicability of the design parameters or the designs for any particular building. Before use, the building designer should verify applicability of design parameters and properly incorporate these designs into the overall building design per ANSI/TPI 1, Chapter 2.

|                |              |                                 |          |          |  |           |
|----------------|--------------|---------------------------------|----------|----------|--|-----------|
| Job<br>4467209 | Truss<br>A01 | Truss Type<br>California Girder | Qty<br>1 | Ply<br>1 | Pahlisch - Conifer 2-A-2088-2 RF<br>Job Reference (optional) | R87039098 |
|----------------|--------------|---------------------------------|----------|----------|--|-----------|

Builders FirstSource (Beaverton, OR), Beaverton, OR - 97005,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Thu Mar 06 14:47:04  
ID:x\_oyNWbVel6AyQBSEpBLWPzibLL-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKwRCDoi7J4zJC7f

Page: 1



Scale = 1:74.4

Plate Offsets (X, Y): [2:1-0-0,0-2-6], [4:0-6-8,0-0-8], [6:0-6-8,0-0-8], [8:1-0-0,0-2-6], [10:0-4-0,0-4-8], [12:0-2-0,0-1-12]

| Loading     | (psf) | Spacing         | 2-0-0           | CSI       | DEFL | in       | (loc) | l/defl | L/d  | PLATES | GRIP           |          |
|-------------|-------|-----------------|-----------------|-----------|------|----------|-------|--------|------|--------|----------------|----------|
| TCLL (roof) | 25.0  | Plate Grip DOL  | 1.15            | TC        | 0.36 | Vert(LL) | -0.08 | 10-11  | >999 | 240    | MT20           | 220/195  |
| TCDL        | 7.0   | Lumber DOL      | 1.15            | BC        | 0.57 | Vert(CT) | -0.13 | 10-11  | >999 | 180    |                |          |
| BCLL        | 0.0*  | Rep Stress Incr | NO              | WB        | 0.40 | Horz(CT) | 0.04  | 8      | n/a  | n/a    |                |          |
| BCDL        | 10.0  | Code            | IRC2021/TPI2014 | Matrix-SH |      |          |       |        |      |        | Weight: 130 lb | FT = 10% |

**LUMBER**

TOP CHORD 2x4 DF No.1&Btr  
BOT CHORD 2x6 DF No.2  
WEBS 2x4 DF No.2

**BRACING**

TOP CHORD Structural wood sheathing directly applied or 3-3-7 oc purlins, except 2-0-0 oc purlins (4-8-1 max.): 4-6.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS**

(size) 2=0-5-8, 8=0-5-8  
Max Horiz 2=-119 (LC 6)  
Max Uplift 2=-242 (LC 8), 8=-417 (LC 9)  
Max Grav 2=1575 (LC 1), 8=2392 (LC 1)

**FORCES**

(lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/39, 2-3=-2377/373, 3-4=-2231/392, 4-5=-2051/390, 5-6=-2051/390, 6-7=-3628/692, 7-8=-3775/672, 8-9=0/39  
BOT CHORD 2-12=-317/1894, 11-12=-266/1768, 8-11=-482/3039  
WEBS 7-10=-81/218, 6-10=-409/2077, 5-11=-158/73, 6-11=-403/141, 3-12=-109/162, 4-12=-86/219, 4-11=-160/711

**NOTES**

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=100mph (3-second gust) Vasd=79mph; TC DL=4.2psf; BC DL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
- Provide adequate drainage to prevent water ponding.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.

- \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 417 lb uplift at joint 8 and 242 lb uplift at joint 2.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- Use Simpson Strong-Tie HHUS26-2 (14-10d Girder, 6-10d Truss, Single Ply Girder) or equivalent at 15-11-9 from the left end to connect truss(es) to front face of bottom chord.
- Fill all nail holes where hanger is in contact with lumber.
- Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 220 lb down and 119 lb up at 8-4-11, and 144 lb down and 105 lb up at 13-7-5 on top chord. The design/selection of such connection device(s) is the responsibility of others.
- In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

**LOAD CASE(S)** Standard

- Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15  
Uniform Loads (lb/ft)  
Vert: 1-4=-64, 4-6=-64, 6-9=-64, 2-8=-20  
Concentrated Loads (lb)  
Vert: 4=-152, 6=-20, 10=-1829 (F)



EXPIRES: 12/31/2026  
March 7, 2025

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpin.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcsccomponents.com)

**MiTek®**

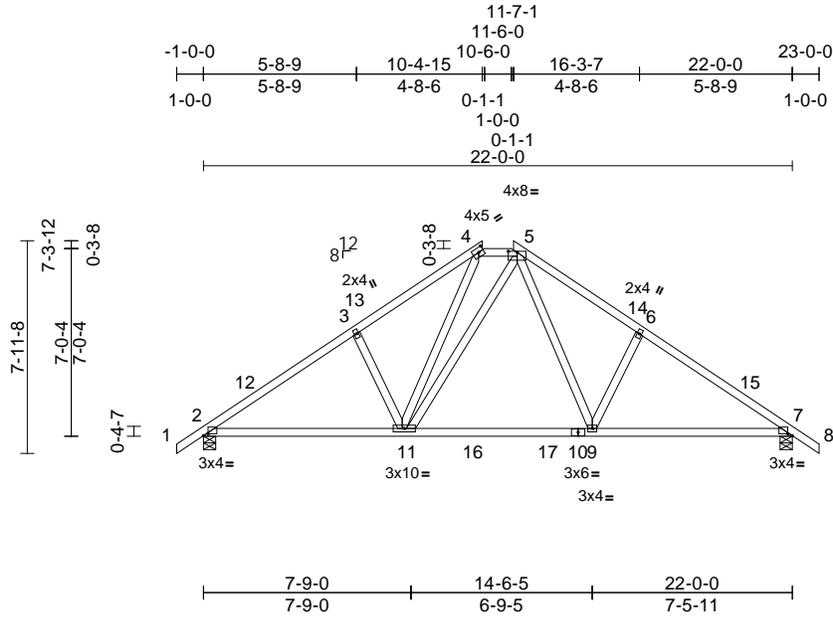
400 Sunrise Ave., Suite 270  
Roseville, CA 95661  
916.755.3571 / MiTek-US.com

|                |              |                          |          |          |  |           |
|----------------|--------------|--------------------------|----------|----------|--|-----------|
| Job<br>4467209 | Truss<br>A02 | Truss Type<br>California | Qty<br>1 | Ply<br>1 | Pahlisch - Conifer 2-A-2088-2 RF<br>Job Reference (optional) | R87039099 |
|----------------|--------------|--------------------------|----------|----------|--|-----------|

Builders FirstSource (Beaverton, OR), Beaverton, OR - 97005,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Thu Mar 06 14:47:06  
ID:FX2JTz8MXMvjGx436ygnRlzbQa-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCD0i7J4zJC?f

Page: 1



Scale = 1:85.7

Plate Offsets (X, Y): [2:0-2-0,0-0-14], [4:0-2-4,0-2-0], [5:0-4-0,0-0-8], [7:0-2-0,0-0-14]

| Loading     | (psf) | Spacing         | 2-0-0           | CSI       | DEFL | in       | (loc) | l/defl | L/d  | PLATES | GRIP           |          |
|-------------|-------|-----------------|-----------------|-----------|------|----------|-------|--------|------|--------|----------------|----------|
| TCLL (roof) | 25.0  | Plate Grip DOL  | 1.15            | TC        | 0.24 | Vert(LL) | -0.07 | 9-11   | >999 | 240    | MT20           | 220/195  |
| TCDL        | 7.0   | Lumber DOL      | 1.15            | BC        | 0.39 | Vert(CT) | -0.13 | 2-11   | >999 | 180    |                |          |
| BCLL        | 0.0*  | Rep Stress Incr | YES             | WB        | 0.24 | Horz(CT) | 0.03  | 7      | n/a  | n/a    |                |          |
| BCDL        | 10.0  | Code            | IRC2021/TPI2014 | Matrix-SH |      |          |       |        |      |        | Weight: 110 lb | FT = 10% |

**LUMBER**

TOP CHORD 2x4 DF No.1&Btr  
BOT CHORD 2x4 DF No.1&Btr  
WEBS 2x4 DF No.2

**BRACING**

TOP CHORD Structural wood sheathing directly applied or 5-5-9 oc purlins, except 2-0-0 oc purlins (6-0-0 max.): 4-5.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS**

(size) 2=0-5-8, 7=0-5-8  
Max Horiz 2=-149 (LC 10)  
Max Uplift 2=-101 (LC 12), 7=-104 (LC 13)  
Max Grav 2=1083 (LC 19), 7=1088 (LC 20)

**FORCES**

(lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/35, 2-3=-1392/127, 3-4=-1284/169, 4-5=-792/154, 5-6=-1294/173, 6-7=-1406/131, 7-8=0/35  
BOT CHORD 2-11=-118/1192, 9-11=-16/863, 7-9=-35/1106  
WEBS 3-11=-284/168, 5-11=-248/101, 6-9=-258/167, 4-11=-61/646, 5-9=-75/559

**NOTES**

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=100mph (3-second gust) Vasd=79mph; TCCL=4.2psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -1-0-0 to 2-0-0, Interior (1) 2-0-0 to 10-3-6, Exterior(2E) 10-3-6 to 11-7-5, Exterior(2R) 11-7-5 to 15-10-4, Interior (1) 15-10-4 to 23-0-0 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Provide adequate drainage to prevent water ponding.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.

- \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 104 lb uplift at joint 7 and 101 lb uplift at joint 2.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 60 lb down and 50 lb up at 10-3-6, and 109 lb down and 84 lb up at 11-7-5 on top chord. The design/selection of such connection device(s) is the responsibility of others.

**LOAD CASE(S)** Standard

- Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15  
Uniform Loads (lb/ft)  
Vert: 1-4=-64, 4-5=-64, 5-8=-64, 2-7=-20  
Concentrated Loads (lb)  
Vert: 5=-42



EXPIRES: 12/31/2026  
March 7, 2025

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcsccomponents.com)

**MiTek®**

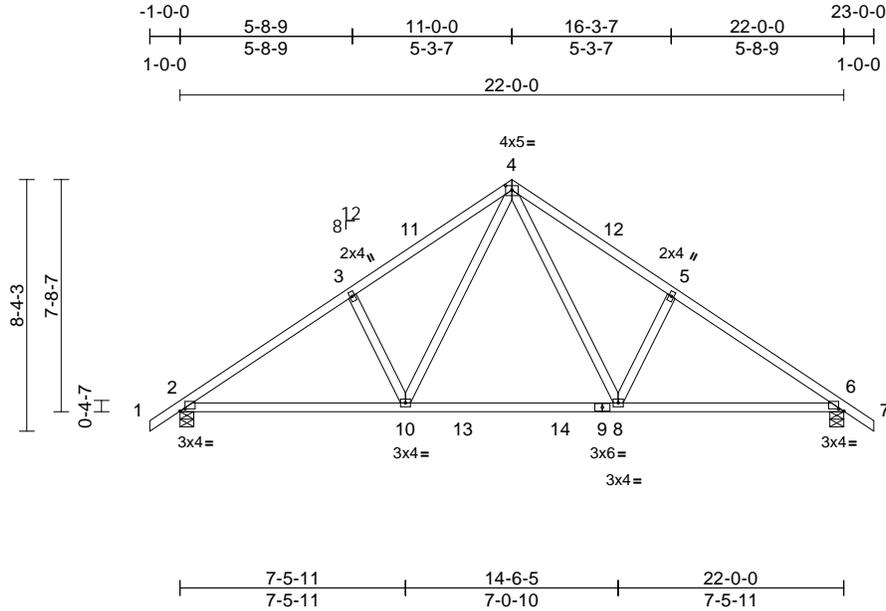
400 Sunrise Ave., Suite 270  
Roseville, CA 95661  
916.755.3571 / MiTek-US.com

|                |              |                      |          |          |  |           |
|----------------|--------------|----------------------|----------|----------|--|-----------|
| Job<br>4467209 | Truss<br>A03 | Truss Type<br>Common | Qty<br>8 | Ply<br>1 | Pahlisch - Conifer 2-A-2088-2 RF<br>Job Reference (optional) | R87039100 |
|----------------|--------------|----------------------|----------|----------|--|-----------|

Builders FirstSource (Beaverton, OR), Beaverton, OR - 97005,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Thu Mar 06 14:47:06  
ID:zHHFHByms3wepEC3ebBjdzlBkA-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:76

Plate Offsets (X, Y): [2:0-2-0,0-0-14], [4:0-2-8,0-1-12], [6:0-2-0,0-0-14]

| Loading     | (psf) | Spacing         | 2-0-0           | CSI       | DEFL | in       | (loc) | l/defl | L/d  | PLATES | GRIP           |          |
|-------------|-------|-----------------|-----------------|-----------|------|----------|-------|--------|------|--------|----------------|----------|
| TCLL (roof) | 25.0  | Plate Grip DOL  | 1.15            | TC        | 0.26 | Vert(LL) | -0.07 | 8-10   | >999 | 240    | MT20           | 220/195  |
| TCDL        | 7.0   | Lumber DOL      | 1.15            | BC        | 0.39 | Vert(CT) | -0.12 | 6-8    | >999 | 180    |                |          |
| BCLL        | 0.0*  | Rep Stress Incr | YES             | WB        | 0.11 | Horz(CT) | 0.03  | 6      | n/a  | n/a    |                |          |
| BCDL        | 10.0  | Code            | IRC2021/TPI2014 | Matrix-SH |      |          |       |        |      |        | Weight: 102 lb | FT = 10% |

**LUMBER**

TOP CHORD 2x4 DF No.1&Btr  
BOT CHORD 2x4 DF No.1&Btr  
WEBS 2x4 DF No.2

5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 83 lb uplift at joint 6 and 83 lb uplift at joint 2.

**LOAD CASE(S)** Standard

**BRACING**

TOP CHORD Structural wood sheathing directly applied or 5-6-7 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS**

(size) 2=0-5-8, 6=0-5-8  
Max Horiz 2=158 (LC 11)  
Max Uplift 2=-83 (LC 12), 6=-83 (LC 13)  
Max Grav 2=1057 (LC 19), 6=1057 (LC 20)

**FORCES**

(lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/35, 2-3=-1356/99, 3-4=-1258/148, 4-5=-1258/148, 5-6=-1356/99, 6-7=0/35  
BOT CHORD 2-10=-101/1171, 8-10=0/768, 6-8=-11/1071  
WEBS 4-8=-85/633, 5-8=-312/178, 4-10=-85/633, 3-10=-312/178

**NOTES**

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=100mph (3-second gust) Vasd=79mph; TC DL=4.2psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -1-0-0 to 2-0-0, Interior (1) 2-0-0 to 11-0-0, Exterior(2R) 11-0-0 to 14-0-0, Interior (1) 14-0-0 to 23-0-0 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.



EXPIRES: 12/31/2026  
March 7, 2025

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcsccomponents.com)

**MiTek®**

400 Sunrise Ave., Suite 270  
Roseville, CA 95661  
916.755.3571 / MiTek-US.com





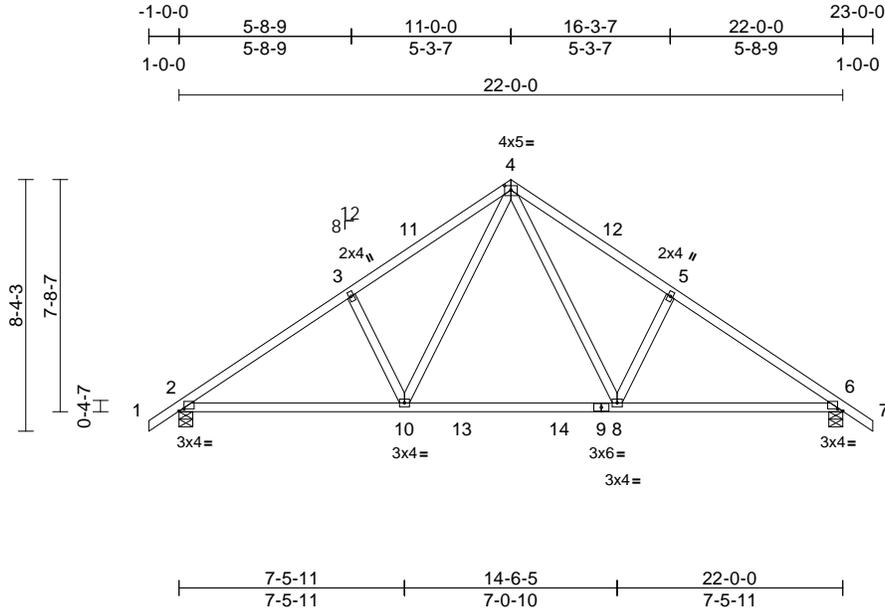


|                |              |                      |          |          |  |           |
|----------------|--------------|----------------------|----------|----------|--|-----------|
| Job<br>4467209 | Truss<br>A07 | Truss Type<br>Common | Qty<br>7 | Ply<br>1 | Pahlisch - Conifer 2-A-2088-2 RF<br>Job Reference (optional) | R87039104 |
|----------------|--------------|----------------------|----------|----------|--|-----------|

Builders FirstSource (Beaverton, OR), Beaverton, OR - 97005,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Thu Mar 06 14:47:07  
ID:zHHFHByms3wepEC3ebBjdJzlbkA-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:76

Plate Offsets (X, Y): [2:0-2-0,0-0-14], [4:0-2-8,0-1-12], [6:0-2-0,0-0-14]

| Loading     | (psf) | Spacing         | 2-0-0           | CSI       | DEFL | in       | (loc) | l/defl | L/d  | PLATES | GRIP           |          |
|-------------|-------|-----------------|-----------------|-----------|------|----------|-------|--------|------|--------|----------------|----------|
| TCLL (roof) | 25.0  | Plate Grip DOL  | 1.15            | TC        | 0.26 | Vert(LL) | -0.07 | 8-10   | >999 | 240    | MT20           | 220/195  |
| TCDL        | 7.0   | Lumber DOL      | 1.15            | BC        | 0.39 | Vert(CT) | -0.12 | 6-8    | >999 | 180    |                |          |
| BCLL        | 0.0*  | Rep Stress Incr | YES             | WB        | 0.11 | Horz(CT) | 0.03  | 6      | n/a  | n/a    |                |          |
| BCDL        | 10.0  | Code            | IRC2021/TPI2014 | Matrix-SH |      |          |       |        |      |        | Weight: 102 lb | FT = 10% |

**LUMBER**

TOP CHORD 2x4 DF No.1&Btr  
BOT CHORD 2x4 DF No.1&Btr  
WEBS 2x4 DF No.2

5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 83 lb uplift at joint 6 and 83 lb uplift at joint 2.

**LOAD CASE(S)** Standard

**BRACING**

TOP CHORD Structural wood sheathing directly applied or 5-6-7 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS**

(size) 2=0-5-8, 6=0-5-8  
Max Horiz 2=158 (LC 11)  
Max Uplift 2=83 (LC 12), 6=83 (LC 13)  
Max Grav 2=1057 (LC 19), 6=1057 (LC 20)

**FORCES**

(lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/35, 2-3=-1356/99, 3-4=-1258/148, 4-5=-1258/148, 5-6=-1356/99, 6-7=0/35  
BOT CHORD 2-10=-101/1171, 8-10=0/768, 6-8=-11/1071  
WEBS 4-8=-85/633, 5-8=-312/178, 4-10=-85/633, 3-10=-312/178

**NOTES**

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=100mph (3-second gust) Vasd=79mph; TC DL=4.2psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -1-0-0 to 2-0-0, Interior (1) 2-0-0 to 11-0-0, Exterior(2R) 11-0-0 to 14-0-0, Interior (1) 14-0-0 to 23-0-0 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.



EXPIRES: 12/31/2026  
March 7, 2025

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcsccomponents.com)

**MiTek®**

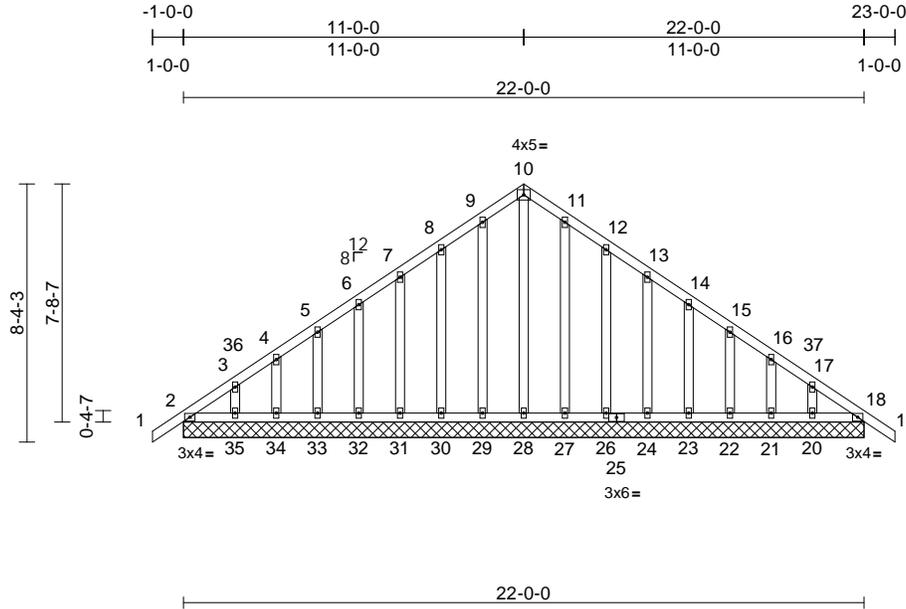
400 Sunrise Ave., Suite 270  
Roseville, CA 95661  
916.755.3571 / MiTek-US.com

|                |              |                                      |          |          |  |           |
|----------------|--------------|--------------------------------------|----------|----------|--|-----------|
| Job<br>4467209 | Truss<br>A08 | Truss Type<br>Common Supported Gable | Qty<br>1 | Ply<br>1 | Pahlisch - Conifer 2-A-2088-2 RF<br>Job Reference (optional) | R87039105 |
|----------------|--------------|--------------------------------------|----------|----------|--|-----------|

Builders FirstSource (Beaverton, OR), Beaverton, OR - 97005,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Thu Mar 06 14:47:07  
ID:?TPeIB4YMSOdjPsG3YvNrdzlbmb-RfC?PsB70Hq3NSgPqnL8w3uITxbGkWrCdoi7J4zJC?f

Page: 1



| Loading     | (psf) | Spacing         | 2-0-0           | CSI       | DEFL | in       | (loc) | l/defl | L/d | PLATES | GRIP           |          |
|-------------|-------|-----------------|-----------------|-----------|------|----------|-------|--------|-----|--------|----------------|----------|
| TCLL (roof) | 25.0  | Plate Grip DOL  | 1.15            | TC        | 0.04 | Vert(LL) | n/a   | -      | n/a | 999    | MT20           | 220/195  |
| TCDL        | 7.0   | Lumber DOL      | 1.15            | BC        | 0.02 | Vert(CT) | n/a   | -      | n/a | 999    |                |          |
| BCLL        | 0.0*  | Rep Stress Incr | YES             | WB        | 0.10 | Horz(CT) | 0.00  | 18     | n/a | n/a    |                |          |
| BCDL        | 10.0  | Code            | IRC2021/TPI2014 | Matrix-SH |      |          |       |        |     |        | Weight: 147 lb | FT = 10% |

**LUMBER**  
TOP CHORD 2x4 DF No.1&Btr  
BOT CHORD 2x4 DF No.1&Btr  
OTHERS 2x4 DF No.2

**BRACING**  
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 2=22-0-0, 18=22-0-0, 20=22-0-0, 21=22-0-0, 22=22-0-0, 23=22-0-0, 24=22-0-0, 26=22-0-0, 27=22-0-0, 28=22-0-0, 29=22-0-0, 30=22-0-0, 31=22-0-0, 32=22-0-0, 33=22-0-0, 34=22-0-0, 35=22-0-0

Max Horiz 2=-158 (LC 10)  
Max Uplift 2=-36 (LC 8), 18=-4 (LC 9), 20=-31 (LC 13), 21=-34 (LC 13), 22=-32 (LC 13), 23=-32 (LC 13), 24=-32 (LC 13), 26=-38 (LC 13), 27=-17 (LC 13), 29=-22 (LC 12), 30=-37 (LC 12), 31=-32 (LC 12), 32=-32 (LC 12), 33=-32 (LC 12), 34=-34 (LC 12), 35=-32 (LC 12)

Max Grav 2=154 (LC 1), 18=154 (LC 1), 20=118 (LC 20), 21=112 (LC 26), 22=112 (LC 26), 23=112 (LC 26), 24=112 (LC 1), 26=113 (LC 20), 27=115 (LC 26), 28=134 (LC 22), 29=116 (LC 19), 30=113 (LC 25), 31=112 (LC 1), 32=112 (LC 25), 33=112 (LC 25), 34=112 (LC 25), 35=119 (LC 19)

**FORCES** (lb) - Maximum Compression/Maximum Tension

**TOP CHORD** 1-2=0/34, 2-3=-143/118, 3-4=-111/101, 4-5=-94/90, 5-6=-87/82, 6-7=-80/88, 7-8=-73/107, 8-9=-75/133, 9-10=-89/157, 10-11=-89/157, 11-12=-75/133, 12-13=-56/97, 13-14=-38/64, 14-15=-44/31, 15-16=-51/33, 16-17=-67/44, 17-18=-104/60, 18-19=0/34

**BOT CHORD** 2-35=-55/120, 34-35=-55/120, 33-34=-55/120, 32-33=-55/120, 31-32=-55/120, 30-31=-55/120, 29-30=-55/120, 28-29=-55/120, 27-28=-55/120, 26-27=-55/120, 24-26=-55/120, 23-24=-55/120, 22-23=-55/120, 21-22=-55/120, 20-21=-55/120, 18-20=-55/120

**WEBS** 10-28=-124/49, 9-29=-89/38, 8-30=-86/55, 7-31=-85/48, 6-32=-85/48, 5-33=-86/48, 4-34=-84/49, 3-35=-93/54, 11-27=-88/33, 12-26=-86/55, 13-24=-85/48, 14-23=-85/48, 15-22=-86/48, 16-21=-84/49, 17-20=-92/54

**NOTES**

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-16; Vult=100mph (3-second gust) Vasd=79mph; TC DL=4.2psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -1-0-0 to 2-0-0, Exterior(2N) 2-0-0 to 11-0-0, Corner(3R) 11-0-0 to 14-0-0, Exterior(2N) 14-0-0 to 23-0-0 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- 4) All plates are 2x4 (||) MT20 unless otherwise indicated.
- 5) Gable requires continuous bottom chord bearing.
- 6) Gable studs spaced at 1-4-0 oc.

- 7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 8) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 4 lb uplift at joint 18, 22 lb uplift at joint 29, 37 lb uplift at joint 30, 32 lb uplift at joint 31, 32 lb uplift at joint 32, 32 lb uplift at joint 33, 34 lb uplift at joint 34, 32 lb uplift at joint 35, 17 lb uplift at joint 27, 38 lb uplift at joint 26, 32 lb uplift at joint 24, 32 lb uplift at joint 23, 32 lb uplift at joint 22, 34 lb uplift at joint 21, 31 lb uplift at joint 20 and 36 lb uplift at joint 2.

**LOAD CASE(S)** Standard



EXPIRES: 12/31/2026  
March 7, 2025

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbscomponents.com)

**MiTek®**

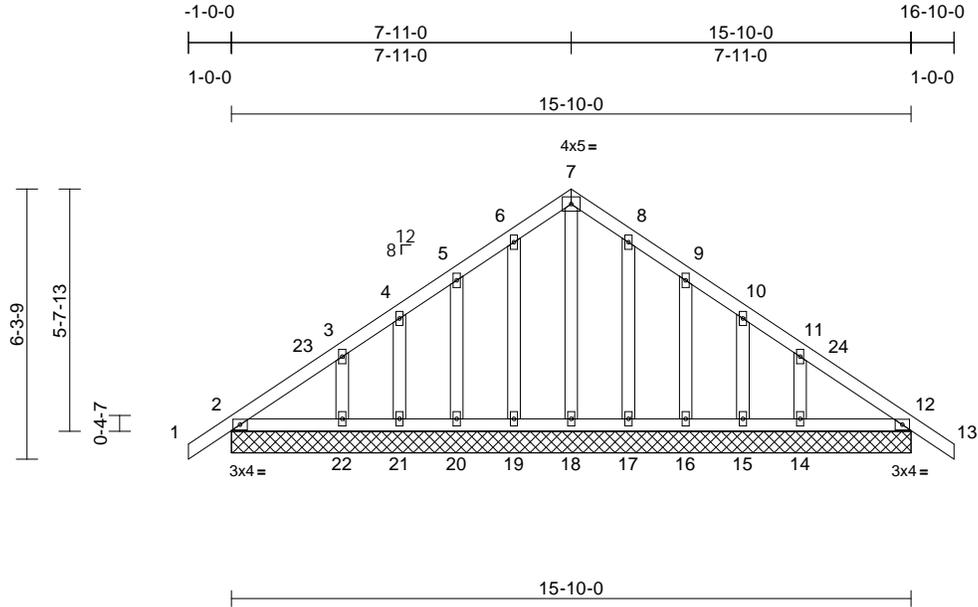
400 Sunrise Ave., Suite 270  
Roseville, CA 95661  
916.755.3571 / MiTek-US.com

|                |              |                                      |          |          |  |           |
|----------------|--------------|--------------------------------------|----------|----------|--|-----------|
| Job<br>4467209 | Truss<br>B01 | Truss Type<br>Common Supported Gable | Qty<br>1 | Ply<br>1 | Pahlisch - Conifer 2-A-2088-2 RF<br>Job Reference (optional) | R87039106 |
|----------------|--------------|--------------------------------------|----------|----------|--|-----------|

Builders FirstSource (Beaverton, OR), Beaverton, OR - 97005,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Thu Mar 06 14:47:08  
ID:Mu9hfGkMBXkly8isyZ9Wzbn2-RfC?PsB70Hq3NSgPqnL8w3uITxBGKwRcDoi7J4zJC?f

Page: 1



Scale = 1:53.4

| Loading     | (psf) | Spacing         | 2-0-0           | CSI       | DEFL | in       | (loc) | l/defl | L/d | PLATES | GRIP          |          |
|-------------|-------|-----------------|-----------------|-----------|------|----------|-------|--------|-----|--------|---------------|----------|
| TCLL (roof) | 25.0  | Plate Grip DOL  | 1.15            | TC        | 0.04 | Vert(LL) | n/a   | -      | n/a | 999    | MT20          | 220/195  |
| TCDL        | 7.0   | Lumber DOL      | 1.15            | BC        | 0.03 | Vert(CT) | n/a   | -      | n/a | 999    |               |          |
| BCLL        | 0.0*  | Rep Stress Incr | YES             | WB        | 0.04 | Horz(CT) | 0.00  | 12     | n/a | n/a    |               |          |
| BCDL        | 10.0  | Code            | IRC2021/TPI2014 | Matrix-SH |      |          |       |        |     |        | Weight: 89 lb | FT = 10% |

**LUMBER**  
TOP CHORD 2x4 DF No.1&Btr  
BOT CHORD 2x4 DF No.1&Btr  
OTHERS 2x4 DF No.2

**BRACING**  
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 2=15-10-0, 12=15-10-0, 14=15-10-0, 15=15-10-0, 16=15-10-0, 17=15-10-0, 18=15-10-0, 19=15-10-0, 20=15-10-0, 21=15-10-0, 22=15-10-0  
Max Horiz 2=-117 (LC 10)  
Max Uplift 2=-12 (LC 13), 12=-2 (LC 13), 14=-53 (LC 13), 15=-25 (LC 13), 16=-37 (LC 13), 17=-25 (LC 13), 19=-27 (LC 12), 20=-36 (LC 12), 21=-25 (LC 12), 22=-53 (LC 12)  
Max Grav 2=177 (LC 1), 12=177 (LC 1), 14=195 (LC 20), 15=81 (LC 1), 16=119 (LC 20), 17=115 (LC 26), 18=117 (LC 22), 19=115 (LC 25), 20=119 (LC 25), 21=81 (LC 1), 22=195 (LC 19)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/34, 2-3=-102/85, 3-4=-79/59, 4-5=-65/67, 5-6=-60/103, 6-7=-69/136, 7-8=-69/136, 8-9=-53/103, 9-10=-35/61, 10-11=-48/29, 11-12=-77/52, 12-13=0/34  
BOT CHORD 2-22=-40/109, 21-22=-40/109, 20-21=-40/109, 19-20=-40/109, 18-19=-40/109, 17-18=-40/109, 16-17=-40/109, 15-16=-40/109, 14-15=-40/109, 12-14=-40/109

**WEBS** 7-18=-100/29, 6-19=-89/48, 5-20=-89/66, 4-21=-66/46, 3-22=-141/98, 8-17=-89/48, 9-16=-89/66, 10-15=-66/46, 11-14=-141/97

- NOTES**
- Unbalanced roof live loads have been considered for this design.
  - Wind: ASCE 7-16; Vult=100mph (3-second gust) Vasd=79mph; TCDL=4.2psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -1-0-0 to 2-0-0, Exterior(2N) 2-0-0 to 7-11-0, Corner(3R) 7-11-0 to 10-11-0, Exterior(2N) 10-11-0 to 16-10-0 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
  - Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
  - All plates are 2x4 (||) MT20 unless otherwise indicated.
  - Gable requires continuous bottom chord bearing.
  - Gable studs spaced at 1-4-0 oc.
  - This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
  - \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
  - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 12 lb uplift at joint 2, 2 lb uplift at joint 12, 27 lb uplift at joint 19, 36 lb uplift at joint 20, 25 lb uplift at joint 21, 53 lb uplift at joint 22, 25 lb uplift at joint 17, 37 lb uplift at joint 16, 25 lb uplift at joint 15 and 53 lb uplift at joint 14.

**LOAD CASE(S)** Standard



EXPIRES: 12/31/2026  
March 7, 2025

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcsccomponents.com)

**MiTek®**

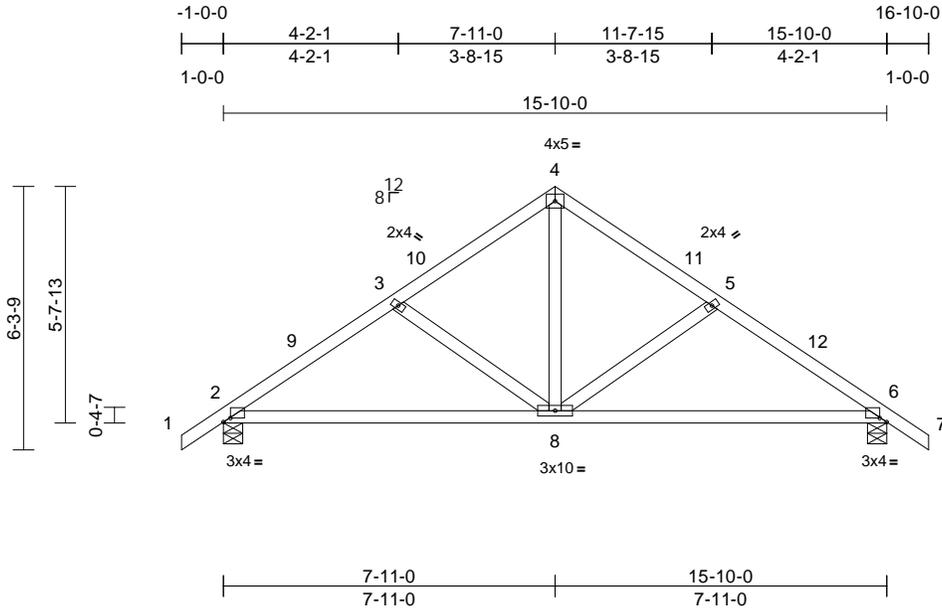
400 Sunrise Ave., Suite 270  
Roseville, CA 95661  
916.755.3571 / MiTek-US.com

|                |              |                      |          |          |  |           |
|----------------|--------------|----------------------|----------|----------|--|-----------|
| Job<br>4467209 | Truss<br>B02 | Truss Type<br>Common | Qty<br>1 | Ply<br>1 | Pahlisch - Conifer 2-A-2088-2 RF<br>Job Reference (optional) | R87039107 |
|----------------|--------------|----------------------|----------|----------|--|-----------|

Builders FirstSource (Beaverton, OR), Beaverton, OR - 97005,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Thu Mar 06 14:47:08  
ID:37PB?2GSOzv8e90xkHpOPzlbU5-RfC?PsB70Hq3NSgPqnL8w3uITxbGKwRCDoi7J4zJC?f

Page: 1



Scale = 1:54.7

Plate Offsets (X, Y): [2:0-2-0,0-1-2], [6:0-2-0,0-1-2]

| Loading     | (psf) | Spacing         | 2-0-0           | CSI       | DEFL | in       | (loc) | l/defl | L/d  | PLATES | GRIP          |          |
|-------------|-------|-----------------|-----------------|-----------|------|----------|-------|--------|------|--------|---------------|----------|
| TCLL (roof) | 25.0  | Plate Grip DOL  | 1.15            | TC        | 0.15 | Vert(LL) | -0.05 | 6-8    | >999 | 240    | MT20          | 220/195  |
| TCDL        | 7.0   | Lumber DOL      | 1.15            | BC        | 0.33 | Vert(CT) | -0.11 | 6-8    | >999 | 180    |               |          |
| BCLL        | 0.0*  | Rep Stress Incr | YES             | WB        | 0.08 | Horz(CT) | 0.01  | 6      | n/a  | n/a    |               |          |
| BCDL        | 10.0  | Code            | IRC2021/TPI2014 | Matrix-SH |      |          |       |        |      |        | Weight: 70 lb | FT = 10% |

**LUMBER**

TOP CHORD 2x4 DF No.1&Btr  
 BOT CHORD 2x4 DF No.1&Btr  
 WEBS 2x4 DF No.2

5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 65 lb uplift at joint 2 and 65 lb uplift at joint 6.

**LOAD CASE(S)** Standard

**BRACING**

TOP CHORD Structural wood sheathing directly applied or 6'-0" oc purlins.  
 BOT CHORD Rigid ceiling directly applied or 10'-0" oc bracing.

**REACTIONS**

(size) 2=0-5-8, 6=0-5-8  
 Max Horiz 2=-117 (LC 10)  
 Max Uplift 2=-65 (LC 12), 6=-65 (LC 13)  
 Max Grav 2=724 (LC 1), 6=724 (LC 1)

**FORCES**

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/35, 2-3=-866/102, 3-4=-662/89,  
 4-5=-662/89, 5-6=-866/102, 6-7=0/35  
 BOT CHORD 2-8=-75/668, 6-8=-23/668  
 WEBS 4-8=-13/429, 3-8=-235/125, 5-8=-235/126

**NOTES**

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-16; Vult=100mph (3-second gust) Vasd=79mph; TC DL=4.2psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -1-0-0 to 2-0-0, Interior (1) 2-0-0 to 7-11-0, Exterior(2R) 7-11-0 to 10-11-0, Interior (1) 10-11-0 to 16-10-0 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 4) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3'-0" tall by 2'-0" wide will fit between the bottom chord and any other members.



EXPIRES: 12/31/2026  
 March 7, 2025

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcsccomponents.com)

**MiTek®**

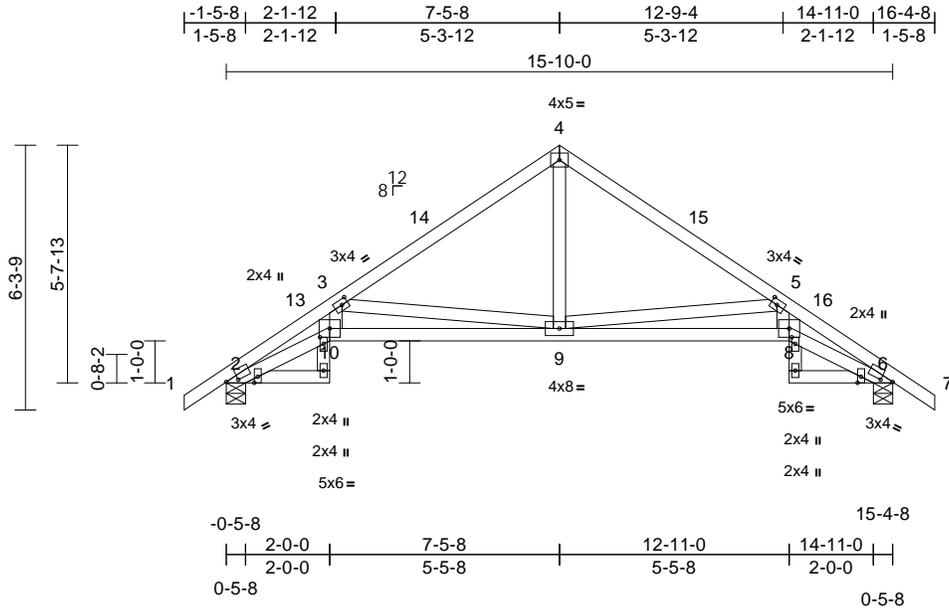
400 Sunrise Ave., Suite 270  
 Roseville, CA 95661  
 916.755.3571 / MiTek-US.com

|                |              |                            |          |          |  |           |
|----------------|--------------|----------------------------|----------|----------|--|-----------|
| Job<br>4467209 | Truss<br>B03 | Truss Type<br>Roof Special | Qty<br>2 | Ply<br>1 | Pahlisch - Conifer 2-A-2088-2 RF<br>Job Reference (optional) | R87039108 |
|----------------|--------------|----------------------------|----------|----------|--|-----------|

Builders FirstSource (Beaverton, OR), Beaverton, OR - 97005,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Thu Mar 06 14:47:08  
ID:e?gCEPqF6bF\_CyqvHS77Obzbug-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWRcDoi7J4zJC?

Page: 1



Scale = 1:54.5

Plate Offsets (X, Y): [2:0-3-6,0-0-15], [3:0-1-12,0-0-1-8], [5:0-1-12,0-1-8], [6:0-3-6,0-0-15], [8:0-1-14,0-1-0], [10:0-1-14,0-1-0]

| Loading     | (psf) | Spacing         | 2-0-0           | CSI       | DEFL | in       | (loc) | l/defl | L/d  | PLATES | GRIP          |          |
|-------------|-------|-----------------|-----------------|-----------|------|----------|-------|--------|------|--------|---------------|----------|
| TCLL (roof) | 25.0  | Plate Grip DOL  | 1.15            | TC        | 0.57 | Vert(LL) | -0.08 | 8-9    | >999 | 240    | MT20          | 220/195  |
| TCDL        | 7.0   | Lumber DOL      | 1.15            | BC        | 0.57 | Vert(CT) | -0.15 | 8-9    | >999 | 180    |               |          |
| BCLL        | 0.0*  | Rep Stress Incr | YES             | WB        | 0.43 | Horz(CT) | 0.15  | 6      | n/a  | n/a    |               |          |
| BCDL        | 10.0  | Code            | IRC2021/TPI2014 | Matrix-SH |      |          |       |        |      |        | Weight: 80 lb | FT = 10% |

**LUMBER**

TOP CHORD 2x4 DF No.1&Btr  
 BOT CHORD 2x4 DF No.2 \*Except\* 10-8,8-6,2-10:2x4 DF No.1&Btr  
 WEBS 2x4 DF No.2

**BRACING**

TOP CHORD Structural wood sheathing directly applied or 4-5-7 oc purlins.  
 BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS**

(size) 2=0-5-8, 6=0-5-8  
 Max Horiz 2=-117 (LC 10)  
 Max Uplift 2=-65 (LC 12), 6=-65 (LC 13)  
 Max Grav 2=724 (LC 1), 6=724 (LC 1)

**FORCES**

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/31, 2-3=-2253/242, 3-4=-823/75,  
 4-5=-823/75, 5-6=-2253/143, 6-7=0/31  
 BOT CHORD 9-10=-225/1581, 8-9=-87/1581,  
 6-8=-94/1936, 2-10=-261/1936  
 WEBS 4-9=0/448, 5-9=-979/175, 3-9=-1002/249,  
 5-8=0/885, 3-10=-57/885

**NOTES**

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=100mph (3-second gust) Vasd=79mph; TCCL=4.2psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -1-0-0 to 2-0-0, Interior (1) 2-0-0 to 7-11-0, Exterior(2R) 7-11-0 to 10-11-0, Interior (1) 10-11-0 to 16-10-0 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.

- \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Bearing at joint(s) 2, 6 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 65 lb uplift at joint 2 and 65 lb uplift at joint 6.

**LOAD CASE(S)** Standard



EXPIRES: 12/31/2026  
 March 7, 2025

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcsccomponents.com)

**MiTek®**

400 Sunrise Ave., Suite 270  
 Roseville, CA 95661  
 916.755.3571 / MiTek-US.com

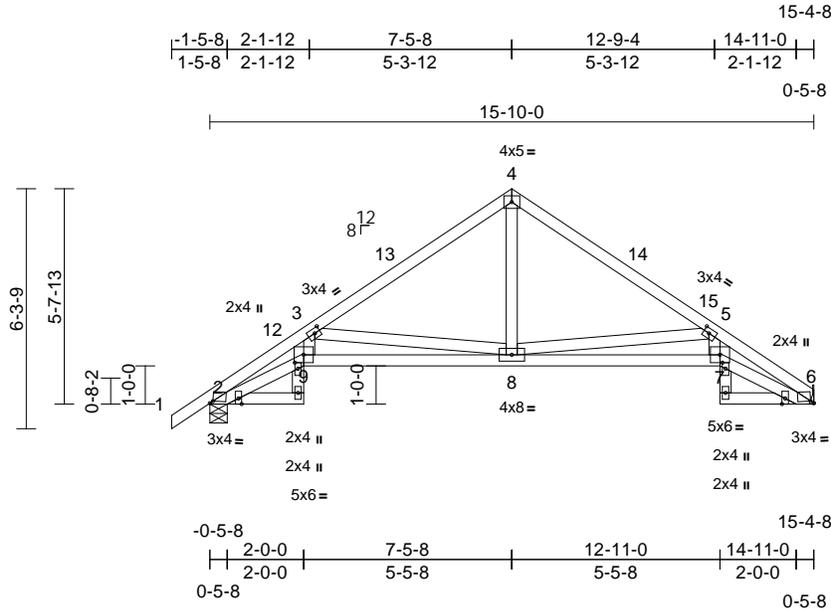


|                |              |                            |          |          |  |           |
|----------------|--------------|----------------------------|----------|----------|--|-----------|
| Job<br>4467209 | Truss<br>B05 | Truss Type<br>Roof Special | Qty<br>4 | Ply<br>1 | Pahlisch - Conifer 2-A-2088-2 RF<br>Job Reference (optional) | R87039110 |
|----------------|--------------|----------------------------|----------|----------|--|-----------|

Builders FirstSource (Beaverton, OR), Beaverton, OR - 97005,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Thu Mar 06 14:47:09  
ID: ?vHNxMYCufDKYmtX6n61yzlc\_C-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWRcDoiJ74zJC?

Page: 1



Scale = 1:60.1

Plate Offsets (X, Y): [2:0-0-15,Edge], [3:0-1-12,0-1-8], [5:0-1-12,0-1-8], [6:0-0-15,Edge], [7:0-1-14,0-1-0], [9:0-1-14,0-1-0]

| Loading     | (psf) | Spacing         | 2-0-0           | CSI       | DEFL | in       | (loc) | l/defl | L/d  | PLATES | GRIP          |          |
|-------------|-------|-----------------|-----------------|-----------|------|----------|-------|--------|------|--------|---------------|----------|
| TCLL (roof) | 25.0  | Plate Grip DOL  | 1.15            | TC        | 0.58 | Vert(LL) | -0.09 | 7-8    | >999 | 240    | MT20          | 220/195  |
| TCDL        | 7.0   | Lumber DOL      | 1.15            | BC        | 0.58 | Vert(CT) | -0.17 | 7-8    | >999 | 180    |               |          |
| BCLL        | 0.0*  | Rep Stress Incr | YES             | WB        | 0.49 | Horz(CT) | 0.17  | 6      | n/a  | n/a    |               |          |
| BCDL        | 10.0  | Code            | IRC2021/TPI2014 | Matrix-SH |      |          |       |        |      |        | Weight: 78 lb | FT = 10% |

**LUMBER**

TOP CHORD 2x4 DF No.1&Btr  
 BOT CHORD 2x4 DF No.2 \*Except\* 9-7,2-9,7-6:2x4 DF No.1&Btr  
 WEBS 2x4 DF No.2

**BRACING**

TOP CHORD Structural wood sheathing directly applied or 4-2-9 oc purlins.  
 BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 2=0-5-8, 6= Mechanical  
 Max Horiz 2=115 (LC 11)  
 Max Uplift 2=-65 (LC 12), 6=-43 (LC 13)  
 Max Grav 2=735 (LC 1), 6=650 (LC 1)

**FORCES**

(lb) - Maximum Compression/Maximum Tension  
 TOP CHORD 1-2=0/31, 2-3=-2291/254, 3-4=-845/81,  
 4-5=-844/86, 5-6=-2452/194  
 BOT CHORD 8-9=-238/1608, 7-8=-130/1736,  
 2-9=-277/1969, 6-7=-150/2137  
 WEBS 4-8=0/471, 5-8=-1116/208, 3-8=-1004/254,  
 3-9=-64/899, 5-7=-14/988

**NOTES**

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=100mph (3-second gust) Vasd=79mph; TCCL=4.2psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -1-0-0 to 2-0-0, Interior (1) 2-0-0 to 7-11-0, Exterior(2R) 7-11-0 to 10-11-0, Interior (1) 10-11-0 to 15-9-4 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.

- \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Refer to girder(s) for truss to truss connections.
- Bearing at joint(s) 2 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 43 lb uplift at joint 6 and 65 lb uplift at joint 2.

**LOAD CASE(S)** Standard



EXPIRES: 12/31/2026  
 March 7, 2025

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcsccomponents.com)

**MiTek®**

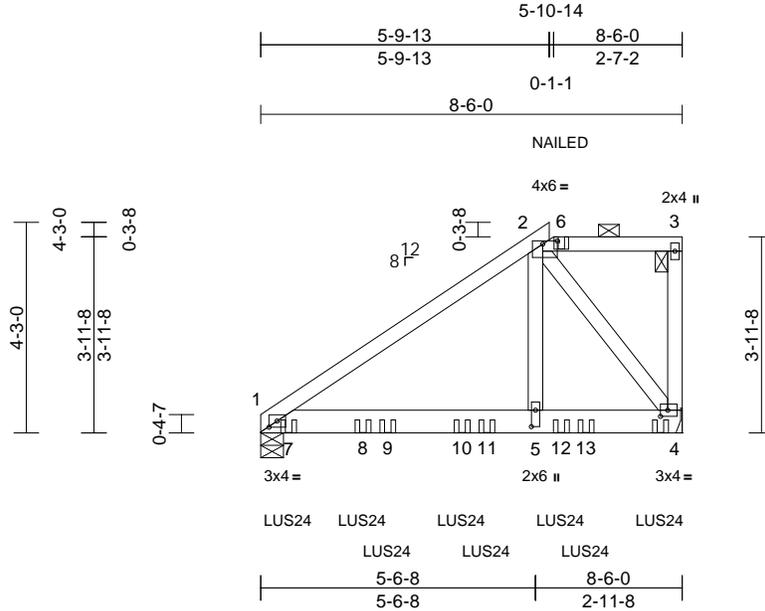
400 Sunrise Ave., Suite 270  
 Roseville, CA 95661  
 916.755.3571 / MiTek-US.com

|                |              |                                   |          |          |  |           |
|----------------|--------------|-----------------------------------|----------|----------|--|-----------|
| Job<br>4467209 | Truss<br>C01 | Truss Type<br>Roof Special Girder | Qty<br>1 | Ply<br>2 | Pahlisch - Conifer 2-A-2088-2 RF<br>Job Reference (optional) | R87039111 |
|----------------|--------------|-----------------------------------|----------|----------|--|-----------|

Builders FirstSource (Beaverton, OR), Beaverton, OR - 97005,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Thu Mar 06 14:47:09  
ID: Xs2z0skHMwSQ0ksLZY1gWbzLw-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKwRCdoi7J4zJC7f

Page: 1



Scale = 1:46.2

Plate Offsets (X, Y): [1:0-1-15,0-1-8], [2:0-3-8,0-0-12], [4:0-1-12,0-1-8], [5:0-4-0,0-1-0]

| Loading     | (psf) | Spacing         | 2-0-0           | CSI      | DEFL | in       | (loc) | l/defl | L/d  | PLATES | GRIP          |          |
|-------------|-------|-----------------|-----------------|----------|------|----------|-------|--------|------|--------|---------------|----------|
| TCLL (roof) | 25.0  | Plate Grip DOL  | 1.15            | TC       | 0.27 | Vert(LL) | -0.04 | 1-5    | >999 | 240    | MT20          | 220/195  |
| TCDL        | 7.0   | Lumber DOL      | 1.15            | BC       | 0.61 | Vert(CT) | -0.07 | 1-5    | >999 | 180    |               |          |
| BCLL        | 0.0*  | Rep Stress Incr | NO              | WB       | 0.18 | Horz(CT) | 0.00  | 4      | n/a  | n/a    |               |          |
| BCDL        | 10.0  | Code            | IRC2021/TPI2014 | Matrix-P |      |          |       |        |      |        | Weight: 92 lb | FT = 10% |

**LUMBER**  
TOP CHORD 2x4 DF No.1&Btr  
BOT CHORD 2x6 DF No.2  
WEBS 2x4 DF No.2

**BRACING**  
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except 2-0-0 oc purlins: 2-3.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS**  
(size) 1=0-5-8, 4= Mechanical  
Max Horiz 1=111 (LC 8)  
Max Uplift 1=-186 (LC 8), 4=-369 (LC 8)  
Max Grav 1=1993 (LC 1), 4=1849 (LC 1)

**FORCES**  
(lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=-1578/190, 2-3=0/0  
BOT CHORD 1-5=-191/1255, 4-5=-190/1180  
WEBS 3-4=-261/143, 2-5=-20/1844, 2-4=-1977/319

- 4) Wind: ASCE 7-16; Vult=100mph (3-second gust) Vasd=79mph; TC DL=4.2psf; BC DL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
- 5) Provide adequate drainage to prevent water ponding.
- 6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 7) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 8) Refer to girder(s) for truss to truss connections.
- 9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 186 lb uplift at joint 1 and 369 lb uplift at joint 4.
- 10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- 11) Use Simpson Strong-Tie LUS24 (4-10d Girder, 2-10d Truss) or equivalent spaced at 2-0-0 oc max. starting at 2-0-12 from the left end to 8-0-12 to connect truss(es) to front face of bottom chord.
- 12) Use Simpson Strong-Tie LUS24 (4-10d Girder, 2-10d Truss) or equivalent spaced at 2-0-0 oc max. starting at 0-6-12 from the left end to 6-6-12 to connect truss(es) to back face of bottom chord.
- 13) Fill all nail holes where hanger is in contact with lumber.
- 14) "NAILED" indicates 3-10d (0.148"x3") or 3-12d (0.148"x3.25") toe-nails per NDS guidelines.
- 15) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 279 lb down and 206 lb up at 5-8-4, and 195 lb down and 121 lb up at 8-4-4 on top chord, and 86 lb down at 8-4-4 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

Uniform Loads (lb/ft)  
Vert: 1-2=-64, 2-3=-64, 1-4=-20  
Concentrated Loads (lb)  
Vert: 2=-216, 3=-157, 4=-43 (F), 6=-107 (F), 7=-636 (B), 8=-39 (F), 9=-630 (B), 10=-36 (F), 11=-630 (B), 12=-36 (F), 13=-630 (B)

- NOTES**
- 1) 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:  
Top chords connected as follows: 2x4 - 1 row at 0-9-0 oc.  
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-6-0 oc.  
Web connected as follows: 2x4 - 1 row at 0-9-0 oc.
  - 2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
  - 3) Unbalanced roof live loads have been considered for this design.

**LOAD CASE(S)** Standard  
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15



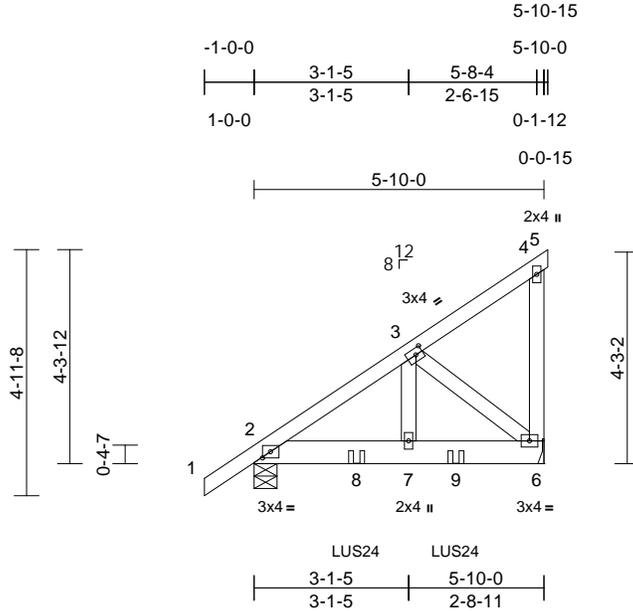
EXPIRES: 12/31/2026  
March 7, 2025

|                |              |                                |          |          |  |           |
|----------------|--------------|--------------------------------|----------|----------|--|-----------|
| Job<br>4467209 | Truss<br>D01 | Truss Type<br>Monopitch Girder | Qty<br>1 | Ply<br>1 | Pahlisch - Conifer 2-A-2088-2 RF<br>Job Reference (optional) | R87039112 |
|----------------|--------------|--------------------------------|----------|----------|--|-----------|

Builders FirstSource (Beaverton, OR), Beaverton, OR - 97005,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Thu Mar 06 14:47:09  
ID:R1xLeVTlofFFWWM3fmDYkOzlc2A-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC7f

Page: 1



Scale = 1:46.2

Plate Offsets (X, Y): [2:0-1-15,0-1-8], [3:0-1-12,0-1-8]

| Loading     | (psf) | Spacing         | 2-0-0           | CSI      | DEFL | in       | (loc) | l/defl | L/d  | PLATES | GRIP          |          |
|-------------|-------|-----------------|-----------------|----------|------|----------|-------|--------|------|--------|---------------|----------|
| TCLL (roof) | 25.0  | Plate Grip DOL  | 1.15            | TC       | 0.08 | Vert(LL) | 0.00  | 2-7    | >999 | 240    | MT20          | 220/195  |
| TCDL        | 7.0   | Lumber DOL      | 1.15            | BC       | 0.08 | Vert(CT) | 0.00  | 2-7    | >999 | 180    |               |          |
| BCLL        | 0.0*  | Rep Stress Incr | NO              | WB       | 0.05 | Horz(CT) | 0.00  | 6      | n/a  | n/a    |               |          |
| BCDL        | 10.0  | Code            | IRC2021/TPI2014 | Matrix-P |      |          |       |        |      |        | Weight: 35 lb | FT = 10% |

**LUMBER**

TOP CHORD 2x4 DF No.1&Btr  
BOT CHORD 2x6 DF No.2  
WEBS 2x4 DF No.2

**BRACING**

TOP CHORD Structural wood sheathing directly applied or 5-10-0 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS**

(size) 2=0-5-8, 6= Mechanical  
Max Horiz 2=138 (LC 8)  
Max Uplift 6=-48 (LC 8)  
Max Grav 2=354 (LC 1), 6=265 (LC 15)

**FORCES**

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/39, 2-3=-303/0, 3-4=-61/30, 4-5=-2/0  
BOT CHORD 2-7=-27/205, 6-7=-27/205  
WEBS 4-6=-70/42, 3-7=0/245, 3-6=-261/35

**NOTES**

- 1) Wind: ASCE 7-16; Vult=100mph (3-second gust)  
Vasd=79mph; TCCL=4.2psf; BCCL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
- 2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 3) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 4) Refer to girder(s) for truss to truss connections.
- 5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 48 lb uplift at joint 6.
- 6) Use Simpson Strong-Tie LUS24 (4-10dx1 1/2 Girder, 2-10d Truss, Single Ply Girder) or equivalent spaced at 2-0-0 oc max. starting at 2-0-12 from the left end to 4-0-12 to connect truss(es) to front face of bottom chord.

- 7) Fill all nail holes where hanger is in contact with lumber.
- 8) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

**LOAD CASE(S)** Standard

- 1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15  
Uniform Loads (lb/ft)  
Vert: 1-4=-64, 4-5=-14, 2-6=-20  
Concentrated Loads (lb)  
Vert: 8=-39 (F), 9=-37 (F)



EXPIRES: 12/31/2026  
March 7, 2025

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcsccomponents.com)

**MiTek®**

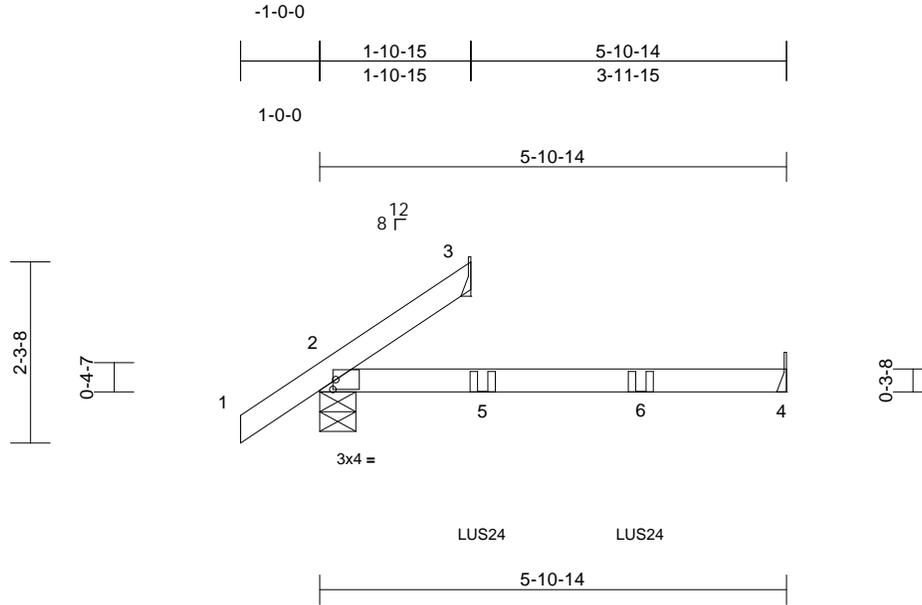
400 Sunrise Ave., Suite 270  
Roseville, CA 95661  
916.755.3571 / MiTek-US.com

|                |              |                                |          |          |  |           |
|----------------|--------------|--------------------------------|----------|----------|--|-----------|
| Job<br>4467209 | Truss<br>J01 | Truss Type<br>Jack-Open Girder | Qty<br>1 | Ply<br>1 | Pahlisch - Conifer 2-A-2088-2 RF<br>Job Reference (optional) | R87039113 |
|----------------|--------------|--------------------------------|----------|----------|--|-----------|

Builders FirstSource (Beaverton, OR), Beaverton, OR - 97005,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Thu Mar 06 14:47:10  
ID:38S30PMc4xEkIZ8HP3CRb5zlcCe-RfC?PsB70Hq3NSgPqnL8w3uTXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:29

Plate Offsets (X, Y): [2-0-0-7,0-1-8]

| Loading     | (psf) | Spacing         | 2-0-0           | CSI      | DEFL | in       | (loc) | l/defl | L/d  | PLATES | GRIP          |          |
|-------------|-------|-----------------|-----------------|----------|------|----------|-------|--------|------|--------|---------------|----------|
| TCLL (roof) | 25.0  | Plate Grip DOL  | 1.15            | TC       | 0.08 | Vert(LL) | -0.05 | 2-4    | >999 | 240    | MT20          | 220/195  |
| TCDL        | 7.0   | Lumber DOL      | 1.15            | BC       | 0.28 | Vert(CT) | -0.10 | 2-4    | >689 | 180    |               |          |
| BCLL        | 0.0*  | Rep Stress Incr | NO              | WB       | 0.00 | Horz(CT) | 0.00  | 3      | n/a  | n/a    |               |          |
| BCDL        | 10.0  | Code            | IRC2021/TPI2014 | Matrix-P |      |          |       |        |      |        | Weight: 13 lb | FT = 10% |

#### LUMBER

TOP CHORD 2x4 DF No.1&Btr  
BOT CHORD 2x4 DF No.1&Btr

#### BRACING

TOP CHORD Structural wood sheathing directly applied or 5-10-14 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 2=0-5-8, 3= Mechanical, 4= Mechanical  
Max Horiz 2=56 (LC 8)  
Max Uplift 2=-1 (LC 8), 3=-22 (LC 8)  
Max Grav 2=219 (LC 1), 3=26 (LC 15), 4=117 (LC 3)

**FORCES** (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/35, 2-3=-51/11  
BOT CHORD 2-4=0/0

#### NOTES

- 1) Wind: ASCE 7-16; Vult=100mph (3-second gust)  
Vasd=79mph; TCCL=4.2psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
- 2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 3) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 4) Refer to girder(s) for truss to truss connections.
- 5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 22 lb uplift at joint 3 and 1 lb uplift at joint 2.

- 6) Use Simpson Strong-Tie LUS24 (4-10dx1 1/2 Girder, 2-10d Truss, Single Ply Girder) or equivalent spaced at 2-0-0 oc max. starting at 2-0-12 from the left end to 4-0-12 to connect truss(es) to back face of bottom chord.

- 7) Fill all nail holes where hanger is in contact with lumber.
- 8) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

#### LOAD CASE(S) Standard

- 1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15  
Uniform Loads (lb/ft)  
Vert: 1-3=-64, 2-4=-20  
Concentrated Loads (lb)  
Vert: 5=-2 (B), 6=-2 (B)



EXPIRES: 12/31/2026  
March 7, 2025

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria and DSB-22** available from Truss Plate Institute ([www.tpinst.org](http://www.tpinst.org)) and **BCSI Building Component Safety Information** available from the Structural Building Component Association ([www.sbcsccomponents.com](http://www.sbcsccomponents.com))

**MiTek®**

400 Sunrise Ave., Suite 270  
Roseville, CA 95661  
916.755.3571 / MiTek-US.com

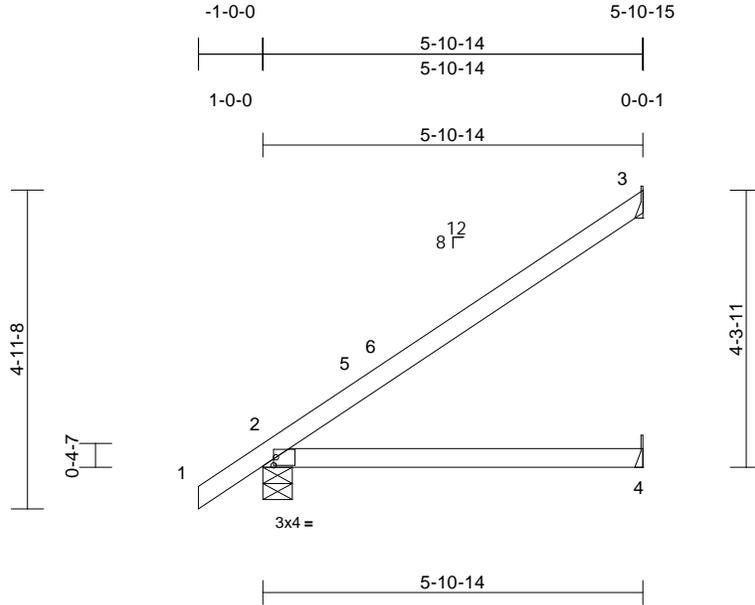


|                |              |                         |          |          |  |           |
|----------------|--------------|-------------------------|----------|----------|--|-----------|
| Job<br>4467209 | Truss<br>J03 | Truss Type<br>Jack-Open | Qty<br>1 | Ply<br>1 | Pahlisch - Conifer 2-A-2088-2 RF<br>Job Reference (optional) | R87039115 |
|----------------|--------------|-------------------------|----------|----------|--|-----------|

Builders FirstSource (Beaverton, OR), Beaverton, OR - 97005,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Thu Mar 06 14:47:10  
ID:0K958X?rbDvokihT0hesEHZlcBp-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?i

Page: 1



Scale = 1:35.6

Plate Offsets (X, Y): [2:0-0-7,0-1-8]

| Loading     | (psf) | Spacing         | 2-0-0           | CSI      | DEFL | in       | (loc) | l/defl | L/d  | PLATES | GRIP          |          |
|-------------|-------|-----------------|-----------------|----------|------|----------|-------|--------|------|--------|---------------|----------|
| TCLL (roof) | 25.0  | Plate Grip DOL  | 1.15            | TC       | 0.38 | Vert(LL) | -0.05 | 2-4    | >999 | 240    | MT20          | 220/195  |
| TCDL        | 7.0   | Lumber DOL      | 1.15            | BC       | 0.33 | Vert(CT) | -0.10 | 2-4    | >646 | 180    |               |          |
| BCLL        | 0.0*  | Rep Stress Incr | YES             | WB       | 0.00 | Horz(CT) | 0.00  | 3      | n/a  | n/a    |               |          |
| BCDL        | 10.0  | Code            | IRC2021/TPI2014 | Matrix-P |      |          |       |        |      |        | Weight: 20 lb | FT = 10% |

#### LUMBER

TOP CHORD 2x4 DF No.1&Btr  
BOT CHORD 2x4 DF No.2

#### BRACING

TOP CHORD Structural wood sheathing directly applied or 5-10-14 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 2=0-5-8, 3= Mechanical, 4= Mechanical  
Max Horiz 2=138 (LC 12)  
Max Uplift 2=-12 (LC 12), 3=-103 (LC 12)  
Max Grav 2=323 (LC 1), 3=172 (LC 19), 4=112 (LC 3)

**FORCES** (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/35, 2-3=-125/82  
BOT CHORD 2-4=0/0

#### NOTES

- 1) Wind: ASCE 7-16; Vult=100mph (3-second gust)  
Vasd=79mph; TC DL=4.2psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -1-0-0 to 2-0-0, Interior (1) 2-0-0 to 5-10-3 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 3) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 4) Refer to girder(s) for truss to truss connections.
- 5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 103 lb uplift at joint 3 and 12 lb uplift at joint 2.

**LOAD CASE(S)** Standard



EXPIRES: 12/31/2026  
March 7, 2025

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcsccomponents.com)

**MiTek®**

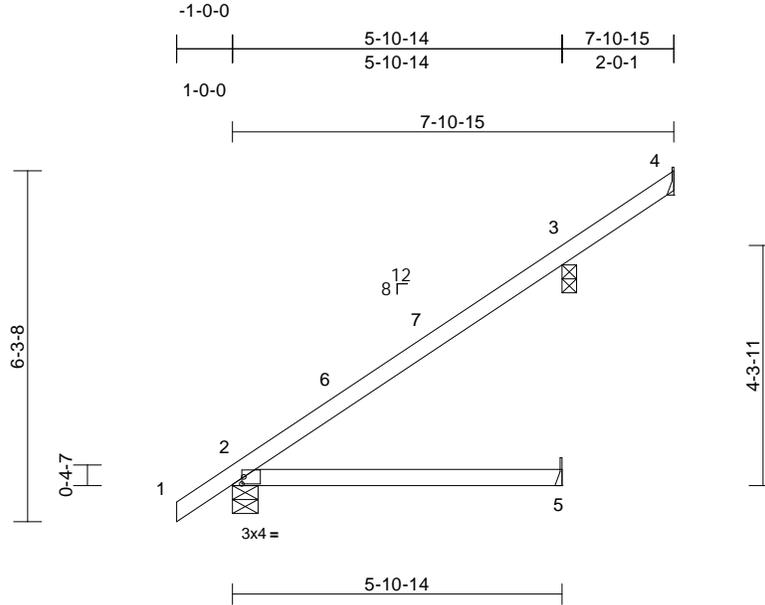
400 Sunrise Ave., Suite 270  
Roseville, CA 95661  
916.755.3571 / MiTek-US.com

|                |              |                         |          |          |  |           |
|----------------|--------------|-------------------------|----------|----------|--|-----------|
| Job<br>4467209 | Truss<br>J04 | Truss Type<br>Jack-Open | Qty<br>1 | Ply<br>1 | Pahlisch - Conifer 2-A-2088-2 RF<br>Job Reference (optional) | R87039116 |
|----------------|--------------|-------------------------|----------|----------|--|-----------|

Builders FirstSource (Beaverton, OR), Beaverton, OR - 97005,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Thu Mar 06 14:47:10  
ID:38S30PMc4xEkIZ8HP3CRb5zlcCe-RfC?PsB70Hq3NSgPqnL8w3uTXbGKwRCDoi7J4zJC?F

Page: 1



Scale = 1:41.1

Plate Offsets (X, Y): [2:0-0-7,0-1-8]

| Loading     | (psf) | Spacing         | 2-0-0           | CSI      | DEFL | in       | (loc) | l/defl | L/d  | PLATES | GRIP          |          |
|-------------|-------|-----------------|-----------------|----------|------|----------|-------|--------|------|--------|---------------|----------|
| TCLL (roof) | 25.0  | Plate Grip DOL  | 1.15            | TC       | 0.41 | Vert(LL) | -0.05 | 2-5    | >999 | 240    | MT20          | 220/195  |
| TCDL        | 7.0   | Lumber DOL      | 1.15            | BC       | 0.33 | Vert(CT) | -0.10 | 2-5    | >646 | 180    |               |          |
| BCLL        | 0.0*  | Rep Stress Incr | YES             | WB       | 0.00 | Horz(CT) | 0.00  | 4      | n/a  | n/a    |               |          |
| BCDL        | 10.0  | Code            | IRC2021/TPI2014 | Matrix-P |      |          |       |        |      |        | Weight: 23 lb | FT = 10% |

**LUMBER**

TOP CHORD 2x4 DF No.1&Btr  
BOT CHORD 2x4 DF No.2

6) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 3.

LOAD CASE(S) Standard

**BRACING**

TOP CHORD Structural wood sheathing directly applied or 5-10-14 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS**

(size) 2=0-5-8, 3=0-3-2, 4= Mechanical, 5= Mechanical  
Max Horiz 2=168 (LC 12)  
Max Uplift 3=-127 (LC 12), 4=-20 (LC 12)  
Max Grav 2=329 (LC 1), 3=236 (LC 19), 4=58 (LC 1), 5=112 (LC 3)

**FORCES**

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/35, 2-3=-172/98, 3-4=-34/27  
BOT CHORD 2-5=0/0

**NOTES**

- 1) Wind: ASCE 7-16; Vult=100mph (3-second gust) Vasd=79mph; TC DL=4.2psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -1-0-0 to 2-0-0, Interior (1) 2-0-0 to 7-10-3 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 3) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 4) Refer to girder(s) for truss to truss connections.
- 5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 20 lb uplift at joint 4 and 127 lb uplift at joint 3.



EXPIRES: 12/31/2026  
March 7, 2025

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcsccomponents.com)

**MiTek®**

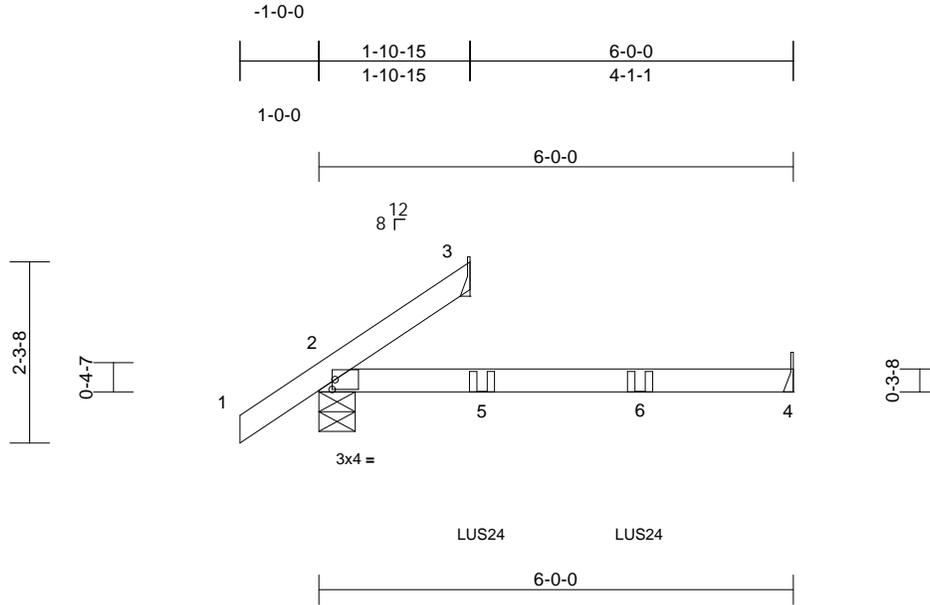
400 Sunrise Ave., Suite 270  
Roseville, CA 95661  
916.755.3571 / MiTek-US.com

|                |              |                                |          |          |  |           |
|----------------|--------------|--------------------------------|----------|----------|--|-----------|
| Job<br>4467209 | Truss<br>J05 | Truss Type<br>Jack-Open Girder | Qty<br>1 | Ply<br>1 | Pahlisch - Conifer 2-A-2088-2 RF<br>Job Reference (optional) | R87039117 |
|----------------|--------------|--------------------------------|----------|----------|--|-----------|

Builders FirstSource (Beaverton, OR), Beaverton, OR - 97005,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Thu Mar 06 14:47:10  
ID:WFvkyVYasLoqKGWP\_UVjNzzlcDh-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWRCdoi7J4zJC?f

Page: 1



Scale = 1:29  
Plate Offsets (X, Y): [2:0-0-7,0-1-8]

| Loading     | (psf) | Spacing         | 2-0-0           | CSI      | DEFL | in       | (loc) | l/defl | L/d  | PLATES | GRIP          |          |
|-------------|-------|-----------------|-----------------|----------|------|----------|-------|--------|------|--------|---------------|----------|
| TCLL (roof) | 25.0  | Plate Grip DOL  | 1.15            | TC       | 0.08 | Vert(LL) | -0.05 | 2-4    | >999 | 240    | MT20          | 220/195  |
| TCDL        | 7.0   | Lumber DOL      | 1.15            | BC       | 0.29 | Vert(CT) | -0.10 | 2-4    | >656 | 180    |               |          |
| BCLL        | 0.0*  | Rep Stress Incr | NO              | WB       | 0.00 | Horz(CT) | 0.00  | 3      | n/a  | n/a    |               |          |
| BCDL        | 10.0  | Code            | IRC2021/TPI2014 | Matrix-P |      |          |       |        |      |        | Weight: 13 lb | FT = 10% |

**LUMBER**  
TOP CHORD 2x4 DF No.1&Btr  
BOT CHORD 2x4 DF No.1&Btr

**BRACING**  
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 2=0-5-8, 3= Mechanical, 4= Mechanical  
Max Horiz 2=56 (LC 8)  
Max Uplift 3=22 (LC 8)  
Max Grav 2=220 (LC 1), 3=26 (LC 15), 4=119 (LC 3)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/35, 2-3=-51/11  
BOT CHORD 2-4=0/0

- 6) Use Simpson Strong-Tie LUS24 (4-10dx1 1/2 Girder, 2-10d Truss, Single Ply Girder) or equivalent spaced at 2-0-0 oc max. starting at 2-0-12 from the left end to 4-0-12 to connect truss(es) to back face of bottom chord.
- 7) Fill all nail holes where hanger is in contact with lumber.  
8) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).
- LOAD CASE(S)** Standard  
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15  
Uniform Loads (lb/ft)  
Vert: 1-3=-64, 2-4=-20  
Concentrated Loads (lb)  
Vert: 5=-2 (B), 6=-2 (B)

- NOTES**
- 1) Wind: ASCE 7-16; Vult=100mph (3-second gust) Vasd=79mph; TCCL=4.2psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
  - 2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
  - 3) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
  - 4) Refer to girder(s) for truss to truss connections.
  - 5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 22 lb uplift at joint 3.



EXPIRES: 12/31/2026  
March 7, 2025

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria and DSB-22** available from Truss Plate Institute ([www.tpinst.org](http://www.tpinst.org)) and **BCSI Building Component Safety Information** available from the Structural Building Component Association ([www.sbcsccomponents.com](http://www.sbcsccomponents.com))

**MiTek®**

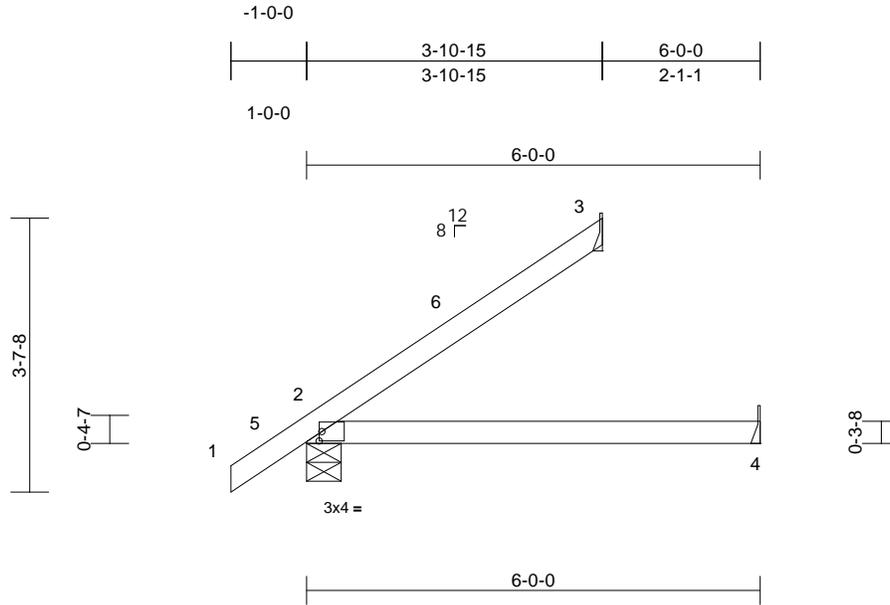
400 Sunrise Ave., Suite 270  
Roseville, CA 95661  
916.755.3571 / MiTek-US.com

|                |              |                         |          |          |  |           |
|----------------|--------------|-------------------------|----------|----------|--|-----------|
| Job<br>4467209 | Truss<br>J06 | Truss Type<br>Jack-Open | Qty<br>1 | Ply<br>1 | Pahlisch - Conifer 2-A-2088-2 RF<br>Job Reference (optional) | R87039118 |
|----------------|--------------|-------------------------|----------|----------|--|-----------|

Builders FirstSource (Beaverton, OR), Beaverton, OR - 97005,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Thu Mar 06 14:47:10  
ID:asn\_XpWKKkY65yM1s3SF1YzlcDj-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:30.3

Plate Offsets (X, Y): [2:0-0-7,0-1-8]

| Loading     | (psf) | Spacing         | 2-0-0           | CSI      | DEFL | in       | (loc) | l/defl | L/d  | PLATES | GRIP          |          |
|-------------|-------|-----------------|-----------------|----------|------|----------|-------|--------|------|--------|---------------|----------|
| TCLL (roof) | 25.0  | Plate Grip DOL  | 1.15            | TC       | 0.13 | Vert(LL) | -0.06 | 2-4    | >999 | 240    | MT20          | 220/195  |
| TCDL        | 7.0   | Lumber DOL      | 1.15            | BC       | 0.34 | Vert(CT) | -0.11 | 2-4    | >615 | 180    |               |          |
| BCLL        | 0.0*  | Rep Stress Incr | YES             | WB       | 0.00 | Horz(CT) | 0.00  | 3      | n/a  | n/a    |               |          |
| BCDL        | 10.0  | Code            | IRC2021/TPI2014 | Matrix-P |      |          |       |        |      |        | Weight: 16 lb | FT = 10% |

**LUMBER**

TOP CHORD 2x4 DF No.1&Btr  
BOT CHORD 2x4 DF No.2

**BRACING**

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 2=0-5-8, 3= Mechanical, 4= Mechanical  
Max Horiz 2=97 (LC 12)  
Max Uplift 2=-5 (LC 12), 3=-65 (LC 12)  
Max Grav 2=265 (LC 1), 3=104 (LC 19), 4=114 (LC 3)

**FORCES** (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/35, 2-3=-84/50  
BOT CHORD 2-4=0/0

**NOTES**

- 1) Wind: ASCE 7-16; Vult=100mph (3-second gust)  
Vasd=79mph; TC DL=4.2psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -1-0-0 to 2-0-0, Interior (1) 2-0-0 to 3-10-3 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 3) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 4) Refer to girder(s) for truss to truss connections.
- 5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 65 lb uplift at joint 3 and 5 lb uplift at joint 2.

**LOAD CASE(S)** Standard



EXPIRES: 12/31/2026  
March 7, 2025

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcsccomponents.com)

**MiTek®**

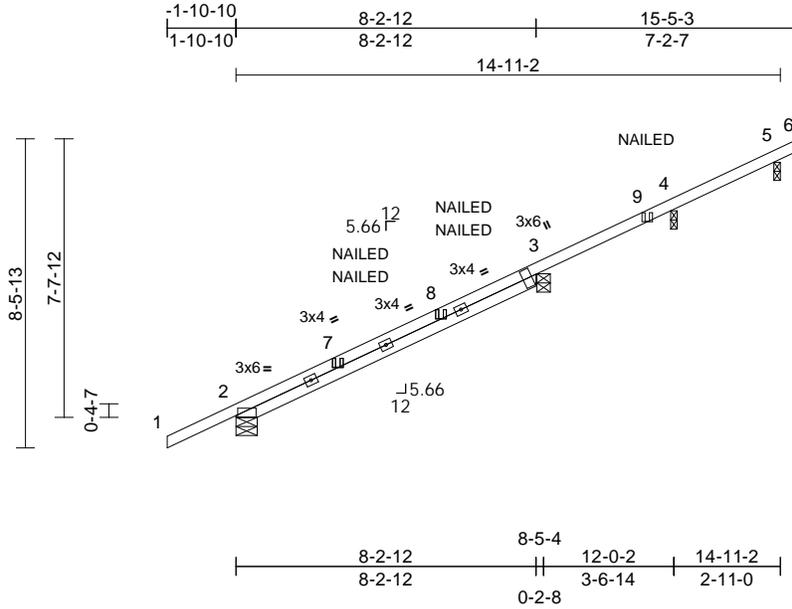
400 Sunrise Ave., Suite 270  
Roseville, CA 95661  
916.755.3571 / MiTek-US.com

|                |              |                             |          |          |  |           |
|----------------|--------------|-----------------------------|----------|----------|--|-----------|
| Job<br>4467209 | Truss<br>R01 | Truss Type<br>Corner Rafter | Qty<br>1 | Ply<br>1 | Pahlisch - Conifer 2-A-2088-2 RF<br>Job Reference (optional) | R87039119 |
|----------------|--------------|-----------------------------|----------|----------|--|-----------|

Builders FirstSource (Beaverton, OR), Beaverton, OR - 97005,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Thu Mar 06 14:47:11  
ID:38S30PMc4xEkIZ8HP3CRb5zlcCe-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?F

Page: 1



Scale = 1:62.9  
Plate Offsets (X, Y): [2:0-0-9,Edge], [2:2-1-9,0-1-0], [2:4-4-13,0-1-0], [3:0-2-8,8-8-12], [3:6-8-2,0-1-0]

| Loading     | (psf) | Spacing         | 2-0-0           | CSI      | DEFL | in       | (loc) | l/defl | L/d  | PLATES | GRIP          |          |
|-------------|-------|-----------------|-----------------|----------|------|----------|-------|--------|------|--------|---------------|----------|
| TCLL (roof) | 25.0  | Plate Grip DOL  | 1.15            | TC       | 0.33 | Vert(LL) | -0.12 | 2-3    | >863 | 240    | MT20          | 220/195  |
| TCDL        | 7.0   | Lumber DOL      | 1.15            | BC       | 0.00 | Vert(CT) | -0.15 | 2-3    | >674 | 180    |               |          |
| BCLL        | 0.0*  | Rep Stress Incr | NO              | WB       | 0.00 | Horz(CT) | 0.00  | 5      | n/a  | n/a    |               |          |
| BCDL        | 10.0  | Code            | IRC2021/TPI2014 | Matrix-P |      |          |       |        |      |        | Weight: 38 lb | FT = 10% |

**LUMBER**  
TOP CHORD 2x4 DF No.1&Btr

**BRACING**  
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 2=0-7-0, 3=0-4-7, 4=0-2-2, 5=0-2-2  
Max Horiz 2=247 (LC 8)  
Max Uplift 2=-78 (LC 8), 3=-218 (LC 8), 4=-94 (LC 8), 5=-57 (LC 8)  
Max Grav 2=412 (LC 1), 3=397 (LC 1), 4=201 (LC 1), 5=133 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/49, 2-3=-250/97, 3-4=-92/39, 4-5=-42/33, 5-6=-16/0

7) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 3, 4, 5.  
8) "NAILED" indicates 3-10d (0.148"x3") or 2-12d (0.148"x3.25") toe-nails per NDS guidelines.  
9) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

**LOAD CASE(S)** Standard  
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15  
Uniform Loads (lb/ft)  
Vert: 1-6=-64  
Concentrated Loads (lb)  
Vert: 8=-34 (F=-12, B=-22)

- NOTES**
- 1) Wind: ASCE 7-16; Vult=100mph (3-second gust) Vasd=79mph; TC DL=4.2psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
  - 2) Plates checked for a plus or minus 0 degree rotation about its center.
  - 3) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
  - 4) Bearing at joint(s) 2 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
  - 5) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 4, 5.
  - 6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 78 lb uplift at joint 2, 218 lb uplift at joint 3, 94 lb uplift at joint 4 and 57 lb uplift at joint 5.



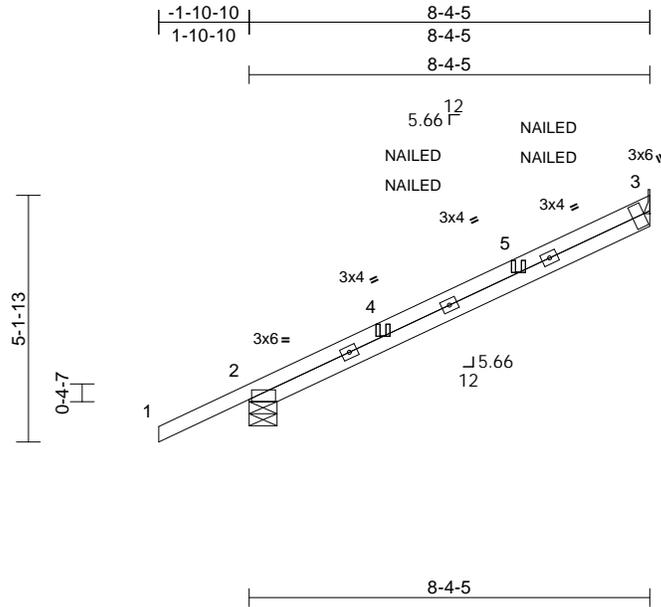
EXPIRES: 12/31/2026  
March 7, 2025

|                |              |                      |          |          |  |           |
|----------------|--------------|----------------------|----------|----------|--|-----------|
| Job<br>4467209 | Truss<br>R02 | Truss Type<br>Rafter | Qty<br>1 | Ply<br>1 | Pahlisch - Conifer 2-A-2088-2 RF<br>Job Reference (optional) | R87039120 |
|----------------|--------------|----------------------|----------|----------|--|-----------|

Builders FirstSource (Beaverton, OR), Beaverton, OR - 97005,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Thu Mar 06 14:47:11  
ID:WfVkyVYasLoqKGWP\_UVjNzzlcDh-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWRCdoi7J4zJC?f

Page: 1



Scale = 1:47.9

Plate Offsets (X, Y): [2:0-0-9,Edge], [2:2-2-0,0-1-0], [3:0-2-8,8-10-8], [3:4-5-11,0-1-0], [3:6-9-7,0-1-0]

| Loading     | (psf) | Spacing         | 2-0-0           | CSI      | DEFL | in       | (loc) | l/defl | L/d  | PLATES | GRIP          |          |
|-------------|-------|-----------------|-----------------|----------|------|----------|-------|--------|------|--------|---------------|----------|
| TCLL (roof) | 25.0  | Plate Grip DOL  | 1.15            | TC       | 0.32 | Vert(LL) | -0.11 | 2-3    | >895 | 240    | MT20          | 220/195  |
| TCDL        | 7.0   | Lumber DOL      | 1.15            | BC       | 0.00 | Vert(CT) | -0.14 | 2-3    | >699 | 180    |               |          |
| BCLL        | 0.0*  | Rep Stress Incr | NO              | WB       | 0.00 | Horz(CT) | 0.00  | 3      | n/a  | n/a    |               |          |
| BCDL        | 10.0  | Code            | IRC2021/TPI2014 | Matrix-P |      |          |       |        |      |        | Weight: 28 lb | FT = 10% |

**LUMBER**  
TOP CHORD 2x4 DF No.1&Btr

**BRACING**  
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 2=0-7-0, 3= Mechanical  
Max Horiz 2=140 (LC 8)  
Max Uplift 2=-127 (LC 8), 3=-163 (LC 8)  
Max Grav 2=409 (LC 1), 3=281 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/49, 2-3=-145/93

1) Dead + Roof Live (balanced): Lumber Increase=1.15,  
Plate Increase=1.15  
Uniform Loads (lb/ft)  
Vert: 1-3=-64  
Concentrated Loads (lb)  
Vert: 5=-34 (F=-12, B=-22)

- NOTES**
- 1) Wind: ASCE 7-16; Vult=100mph (3-second gust)  
Vasd=79mph; TC DL=4.2psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
  - 2) Plates checked for a plus or minus 0 degree rotation about its center.
  - 3) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
  - 4) Refer to girder(s) for truss to truss connections.
  - 5) Bearing at joint(s) 2 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
  - 6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 163 lb uplift at joint 3 and 127 lb uplift at joint 2.
  - 7) "NAILED" indicates 3-10d (0.148"x3") or 2-12d (0.148"x3.25") toe-nails per NDS guidelines.
  - 8) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

**LOAD CASE(S)** Standard



EXPIRES: 12/31/2026  
March 7, 2025

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria and DSB-22** available from Truss Plate Institute ([www.tpinst.org](http://www.tpinst.org)) and **BCSI Building Component Safety Information** available from the Structural Building Component Association ([www.sbcsccomponents.com](http://www.sbcsccomponents.com))

**MiTek®**

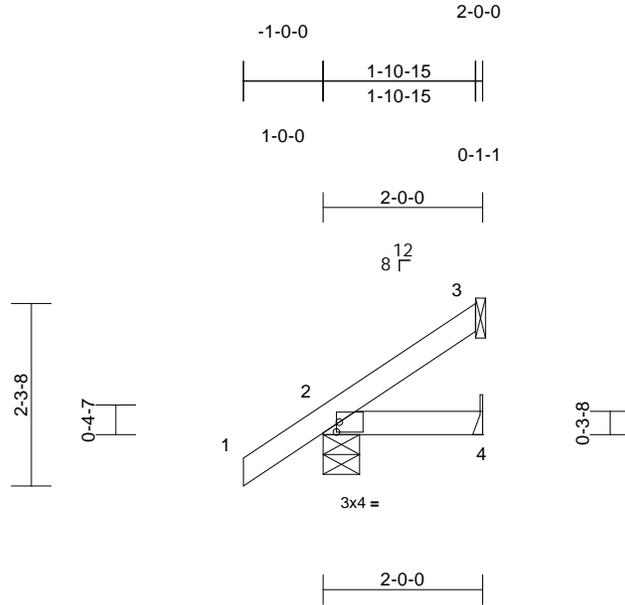
400 Sunrise Ave., Suite 270  
Roseville, CA 95661  
916.755.3571 / MiTek-US.com

|                |               |                         |          |          |  |           |
|----------------|---------------|-------------------------|----------|----------|--|-----------|
| Job<br>4467209 | Truss<br>SJ01 | Truss Type<br>Jack-Open | Qty<br>2 | Ply<br>1 | Pahlisch - Conifer 2-A-2088-2 RF<br>Job Reference (optional) | R87039122 |
|----------------|---------------|-------------------------|----------|----------|--|-----------|

Builders FirstSource (Beaverton, OR), Beaverton, OR - 97005,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Thu Mar 06 14:47:11  
ID:angGGZigLrzmXV9yunEJXCzlcEn-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:28.8

Plate Offsets (X, Y): [2:0-0-7,0-1-8]

| Loading     | (psf) | Spacing         | 2-0-0           | CSI      | DEFL | in       | (loc) | l/defl | L/d  | PLATES | GRIP         |          |
|-------------|-------|-----------------|-----------------|----------|------|----------|-------|--------|------|--------|--------------|----------|
| TCLL (roof) | 25.0  | Plate Grip DOL  | 1.15            | TC       | 0.05 | Vert(LL) | 0.00  | 2-4    | >999 | 240    | MT20         | 220/195  |
| TCDL        | 7.0   | Lumber DOL      | 1.15            | BC       | 0.03 | Vert(CT) | 0.00  | 2-4    | >999 | 180    |              |          |
| BCLL        | 0.0*  | Rep Stress Incr | YES             | WB       | 0.00 | Horz(CT) | 0.00  | 3      | n/a  | n/a    |              |          |
| BCDL        | 10.0  | Code            | IRC2021/TPI2014 | Matrix-P |      |          |       |        |      |        | Weight: 8 lb | FT = 10% |

**LUMBER**

TOP CHORD 2x4 DF No.1&Btr  
BOT CHORD 2x4 DF No.2

**BRACING**

TOP CHORD Structural wood sheathing directly applied or 2-0-0 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS**

(size) 2=0-5-8, 3= Mechanical, 4= Mechanical  
Max Horiz 2=57 (LC 12)  
Max Uplift 2=-22 (LC 12), 3=-27 (LC 12)  
Max Grav 2=165 (LC 1), 3=42 (LC 19), 4=39 (LC 3)

**FORCES**

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/34, 2-3=-45/28  
BOT CHORD 2-4=0/0

**NOTES**

- 1) Wind: ASCE 7-16; Vult=100mph (3-second gust)  
Vasd=79mph; TC DL=4.2psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 3) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 4) Bearings are assumed to be: , Joint 2 User Defined , Joint 4 User Defined .
- 5) Refer to girder(s) for truss to truss connections.
- 6) Refer to girder(s) for truss to truss connections.

- 7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 22 lb uplift at joint 2 and 27 lb uplift at joint 3.
- LOAD CASE(S)** Standard



EXPIRES: 12/31/2026  
March 7, 2025

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcsccomponents.com)

**MiTek®**

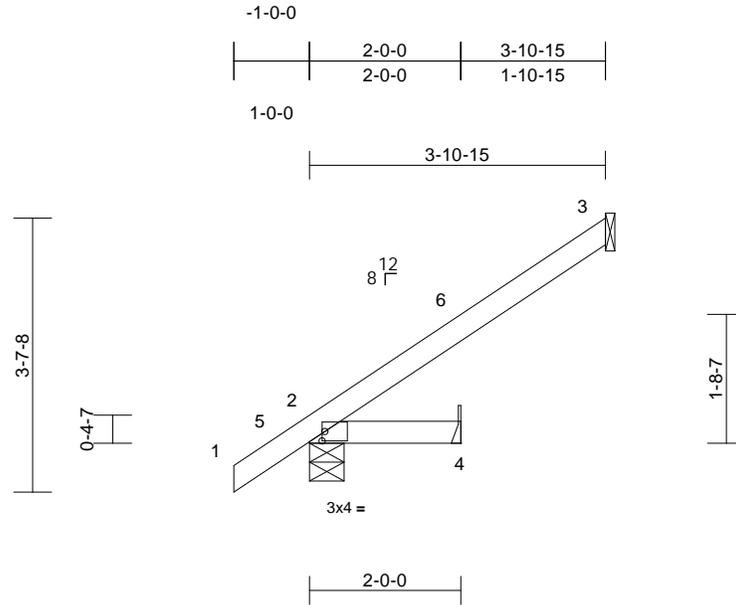
400 Sunrise Ave., Suite 270  
Roseville, CA 95661  
916.755.3571 / MiTek-US.com

|                |               |                         |          |          |  |           |
|----------------|---------------|-------------------------|----------|----------|--|-----------|
| Job<br>4467209 | Truss<br>SJ02 | Truss Type<br>Jack-Open | Qty<br>2 | Ply<br>1 | Pahlisch - Conifer 2-A-2088-2 RF<br>Job Reference (optional) | R87039123 |
|----------------|---------------|-------------------------|----------|----------|--|-----------|

Builders FirstSource (Beaverton, OR), Beaverton, OR - 97005,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Thu Mar 06 14:47:11  
ID:N2LYwKny7kot80EmYjpSNzlcGY-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:30.3

Plate Offsets (X, Y): [2:0-0-7,0-1-8]

| Loading     | (psf) | Spacing         | 2-0-0           | CSI      | DEFL | in       | (loc) | l/defl | L/d  | PLATES | GRIP          |          |
|-------------|-------|-----------------|-----------------|----------|------|----------|-------|--------|------|--------|---------------|----------|
| TCLL (roof) | 25.0  | Plate Grip DOL  | 1.15            | TC       | 0.15 | Vert(LL) | 0.00  | 2-4    | >999 | 240    | MT20          | 220/195  |
| TCDL        | 7.0   | Lumber DOL      | 1.15            | BC       | 0.03 | Vert(CT) | 0.00  | 2-4    | >999 | 180    |               |          |
| BCLL        | 0.0*  | Rep Stress Incr | YES             | WB       | 0.00 | Horz(CT) | 0.00  | 3      | n/a  | n/a    |               |          |
| BCDL        | 10.0  | Code            | IRC2021/TPI2014 | Matrix-P |      |          |       |        |      |        | Weight: 11 lb | FT = 10% |

**LUMBER**

TOP CHORD 2x4 DF No.1&Btr  
BOT CHORD 2x4 DF No.2

**BRACING**

TOP CHORD Structural wood sheathing directly applied or 2-0-0 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS**

(size) 2=0-5-8, 3= Mechanical, 4= Mechanical  
Max Horiz 2=97 (LC 12)  
Max Uplift 2=-26 (LC 12), 3=-67 (LC 12)  
Max Grav 2=217 (LC 1), 3=113 (LC 19), 4=39 (LC 3)

**FORCES**

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/34, 2-3=-84/53  
BOT CHORD 2-4=0/0

**NOTES**

- 1) Wind: ASCE 7-16; Vult=100mph (3-second gust) Vasd=79mph; TC DL=4.2psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -1-0-0 to 2-0-0, Interior (1) 2-0-0 to 3-10-3 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 3) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 4) Bearings are assumed to be: , Joint 2 User Defined , Joint 4 User Defined .
- 5) Refer to girder(s) for truss to truss connections.
- 6) Refer to girder(s) for truss to truss connections.

- 7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 67 lb uplift at joint 3 and 26 lb uplift at joint 2.

**LOAD CASE(S)** Standard



EXPIRES: 12/31/2026  
March 7, 2025

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

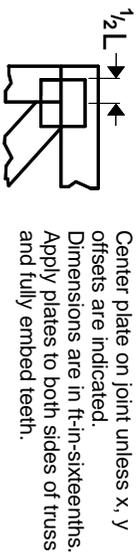
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcsccomponents.com)

**MiTek®**

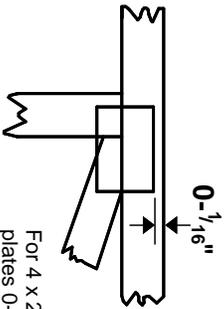
400 Sunrise Ave., Suite 270  
Roseville, CA 95661  
916.755.3571 / MiTek-US.com

# Symbols

## PLATE LOCATION AND ORIENTATION



Center plate on joint unless x, y offsets are indicated. Dimensions are in ft-in-sixteenths. Apply plates to both sides of truss and fully embed teeth.



For 4 x 2 orientation, locate plates 0- 1/16\" from outside edge of truss.



This symbol indicates the required direction of slots in connector plates.

\* Plate location details available in MITtek software or upon request.

## PLATE SIZE

4 X 4

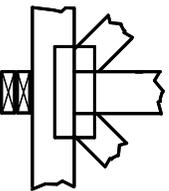
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

## LATERAL BRACING LOCATION



Indicated by symbol shown and/or by text in the bracing section of the output. Use T or I bracing if indicated.

## BEARING

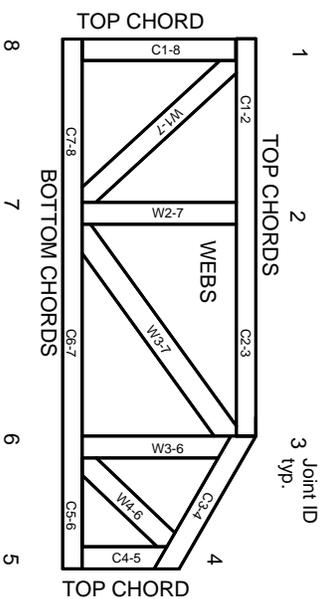


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

## Industry Standards:

ANSI/TFP1: National Design Specification for Metal Plate Connected Wood Truss Construction.  
DSB-22: Design Standard for Bracing.  
BCSI: Building Component Safety Information, Guide to Good Practice for Handling, Installing, Restraining & Bracing of Metal Plate Connected Wood Trusses.

# Numbering System



JOINTS ARE GENERALLY NUMBERED/LETTERED CLOCKWISE AROUND THE TRUSS STARTING AT THE JOINT FARTHEST TO THE LEFT.

CHORDS AND WEBS ARE IDENTIFIED BY END JOINT NUMBERS/LETTERS.

## Product Code Approvals

ICC-ES Reports:

ESR-1-1988, ESR-2362, ESR-2685, ESR-3282  
ESR-4722, ESL-1388

## Design General Notes

Trusses are designed for wind loads in the plane of the truss unless otherwise shown.

Lumber design values are in accordance with ANSI/TFP 1 section 6.3. These truss designs rely on Lumber values established by others.

© 2023 MITtek® All Rights Reserved

# General Safety Notes

## Failure to Follow Could Cause Property Damage or Personal Injury

1. Additional stability/bracing for truss system, e.g. diagonal or X-bracing, is always required. See BCSI.
2. Truss bracing must be designed by an engineer. For wide truss spacing, individual lateral braces themselves may require bracing, or alternative Tor I bracing should be considered.
3. Never exceed the design loading shown and never stack materials on inadequately braced trusses.
4. Provide copies of this truss design to the building designer, erection supervisor, property owner and all other interested parties.
5. Cut members to bear tightly against each other.
6. Place plates on each face of truss at each joint and embed fully. Knots and wane at joint locations are regulated by ANSI/TFP 1.
7. Design assumes trusses will be suitably protected from the environment in accord with ANSI/TFP 1.
8. Unless otherwise noted, moisture content of lumber shall not exceed 19% at time of fabrication.
9. Unless expressly noted, this design is not applicable for use with fire retardant, preservative treated, or green lumber.
10. Camber is a non-structural consideration and is the responsibility of truss fabricator. General practice is to camber for dead load deflection.
11. Plate type, size, orientation and location dimensions indicated are minimum plating requirements.
12. Lumber used shall be of the species and size, and in all respects, equal to or better than that specified.
13. Top chords must be sheathed or purlins provided at spacing indicated on design.
14. Bottom chords require lateral bracing at 10 ft. spacing, or less, if no ceiling is installed, unless otherwise noted.
15. Connections not shown are the responsibility of others.
16. Do not cut or alter truss member or plate without prior approval of an engineer.
17. Install and load vertically unless indicated otherwise.
18. Use of green or treated lumber may pose unacceptable environmental, health or performance risks. Consult with project engineer before use.
19. Review all portions of this design (front, back, words and pictures) before use. Reviewing pictures alone is not sufficient.
20. Design assumes manufacture in accordance with ANSI/TFP 1 Quality Criteria.
21. The design does not take into account any dynamic or other loads other than those expressly stated.

# MITek®

MITtek Engineering Reference Sheet: Mill-7473 rev. 1/2/2023

MiTek, Inc.  
400 Sunrise Ave., Suite 270  
Roseville, CA 95661  
916.755.3571

Re: 4467228  
Pahlisch - Conifer 2-A-2088-2 FL

The truss drawing(s) referenced below have been prepared by MiTek USA, Inc. under my direct supervision based on the parameters provided by Builders FirstSource (Beaverton, OR).

Pages or sheets covered by this seal: R86933763 thru R86933776

My license renewal date for the state of Oregon is December 31, 2026.



*Dustin Reinmuth*  
EXPIRES: 12/31/2026

Reinmuth, Dustin

REVIEWED       REVISE AND RESUBMIT  
 REJECTED       FURNISH AS CORRECTED

Corrections or comments made on the shop drawings during this review do not relieve contractor from compliance with requirements of the drawings and specifications. This check is only for review of general conformance with the design concept of the project and general compliance with the information given in the contract documents. This contractor is responsible for confirming and correlating all quantities and dimensions; selecting fabrication processes and techniques of construction; coordinating his work with that of all other trades; and performing his work in a safe and satisfactory manner.

FROELICH ENGINEERS, INC.

DATE: 3/6/2025

BY: HNI

March 3, 2025

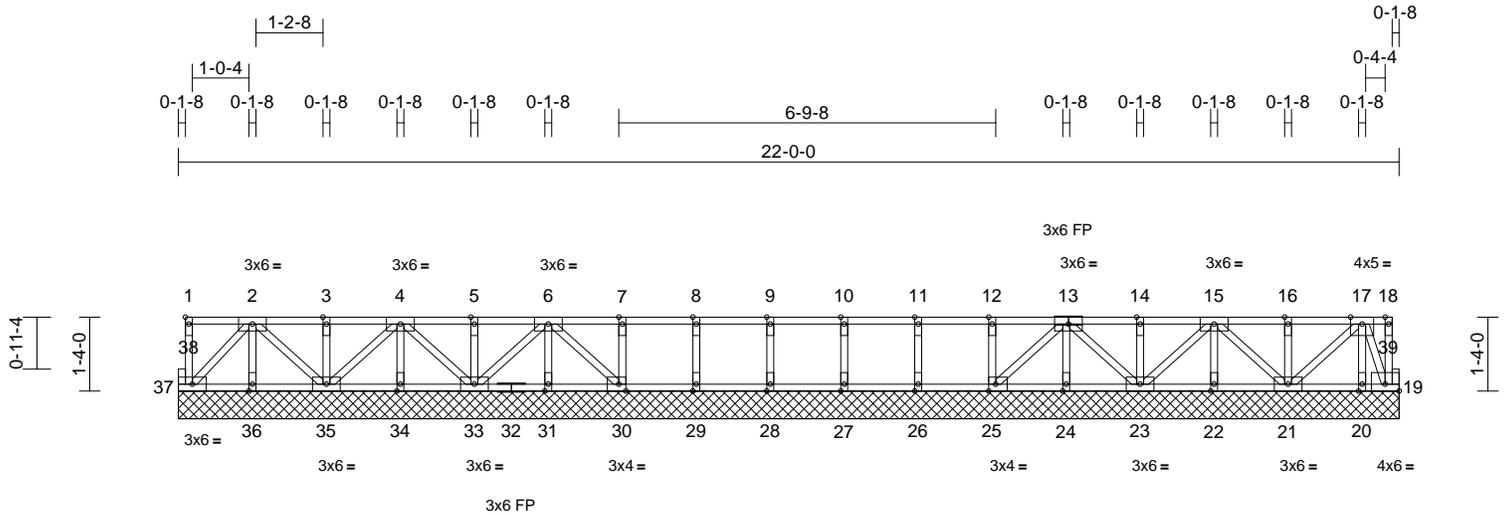
**IMPORTANT NOTE:** The seal on these truss component designs is a certification that the engineer named is licensed in the jurisdiction(s) identified and that the designs comply with ANSI/TPI 1. These designs are based upon parameters shown (e.g., loads, supports, dimensions, shapes and design codes), which were given to MiTek or TRENCO. Any project specific information included is for MiTek's or TRENCO's customers file reference purpose only, and was not taken into account in the preparation of these designs. MiTek or TRENCO has not independently verified the applicability of the design parameters or the designs for any particular building. Before use, the building designer should verify applicability of design parameters and properly incorporate these designs into the overall building design per ANSI/TPI 1, Chapter 2.

|                |               |                                     |          |          |  |           |
|----------------|---------------|-------------------------------------|----------|----------|--|-----------|
| Job<br>4467228 | Truss<br>FT01 | Truss Type<br>Floor Supported Gable | Qty<br>1 | Ply<br>1 | Pahlisch - Conifer 2-A-2088-2 FL<br>Job Reference (optional) | R86933763 |
|----------------|---------------|-------------------------------------|----------|----------|--|-----------|

Builders FirstSource (Beaverton, OR), Beaverton, OR - 97005,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Fri Feb 28 08:29:12  
ID:CnOBMMW\_zO5NrxotFM1CtziWxS-RfC?PsB70Hq3NSgPqnL8w3uITXbGKwRCoI7J4zJC7f

Page: 1



Scale = 1:41.3

Plate Offsets (X, Y): [1:Edge,0-0-12], [19:Edge,0-1-8], [25:0-1-8,Edge], [30:0-1-8,Edge]

| Loading | (psf) | Spacing         | 1-4-0           | CSI       | DEFL | in        | (loc) | l/defl | L/d | PLATES | GRIP           |                 |
|---------|-------|-----------------|-----------------|-----------|------|-----------|-------|--------|-----|--------|----------------|-----------------|
| TCLL    | 40.0  | Plate Grip DOL  | 1.00            | TC        | 0.09 | Vert(LL)  | n/a   | -      | n/a | 999    | MT20           | 220/195         |
| TCDL    | 10.0  | Lumber DOL      | 1.00            | BC        | 0.06 | Vert(TL)  | n/a   | -      | n/a | 999    |                |                 |
| BCLL    | 0.0   | Rep Stress Incr | NO              | WB        | 0.10 | Horiz(TL) | 0.00  | 27     | n/a | n/a    |                |                 |
| BCDL    | 5.0   | Code            | IRC2021/TPI2014 | Matrix-SH |      |           |       |        |     |        | Weight: 112 lb | FT = 20%F, 11%E |

**LUMBER**  
TOP CHORD 2x4 DF No.1&Btr(flat)  
BOT CHORD 2x4 DF No.1&Btr(flat)  
WEBS 2x4 DF No.2(flat)  
OTHERS 2x4 DF No.2(flat)

**BRACING**  
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

**REACTIONS** (size)  
19=22-0-0, 20=22-0-0, 21=22-0-0, 22=22-0-0, 23=22-0-0, 24=22-0-0, 25=22-0-0, 26=22-0-0, 27=22-0-0, 28=22-0-0, 29=22-0-0, 30=22-0-0, 31=22-0-0, 33=22-0-0, 34=22-0-0, 35=22-0-0, 36=22-0-0, 37=22-0-0  
Max Horiz 37=23 (LC 6)  
Max Uplift 19=240 (LC 8), 20=7 (LC 7), 21=1 (LC 8), 22=7 (LC 8), 23=114 (LC 8), 24=73 (LC 8), 25=469 (LC 7), 30=487 (LC 8), 31=108 (LC 7), 33=95 (LC 7), 34=12 (LC 7), 35=2 (LC 7), 37=218 (LC 7)  
Max Grav 19=248 (LC 5), 20=50 (LC 4), 21=127 (LC 1), 22=72 (LC 3), 23=205 (LC 3), 24=121 (LC 3), 25=516 (LC 6), 26=97 (LC 1), 27=98 (LC 1), 28=98 (LC 1), 29=98 (LC 1), 30=534 (LC 5), 31=148 (LC 4), 33=191 (LC 4), 34=75 (LC 4), 35=129 (LC 1), 36=71 (LC 1), 37=237 (LC 6)

**FORCES** (lb) - Maximum Compression/Maximum Tension

**TOP CHORD** 1-37=-29/0, 18-19=0/0, 1-2=-209/208, 2-3=-263/265, 3-4=-220/222, 4-5=-347/350, 5-6=-136/138, 6-7=-845/845, 7-8=-602/603, 8-9=-360/361, 9-10=-124/125, 10-11=-367/368, 11-12=-609/610, 12-14=-859/860, 14-15=-356/358, 15-16=-212/213, 16-17=-272/273, 17-18=-87/87  
**BOT CHORD** 36-37=-224/229, 35-36=-213/217, 34-35=-302/305, 33-34=-180/183, 31-33=-539/543, 30-31=-297/300, 29-30=-614/613, 28-29=-372/371, 27-28=-130/129, 26-27=-356/356, 25-26=-599/598, 24-25=-284/287, 23-24=-529/533, 22-23=-192/195, 21-22=-290/294, 20-21=-231/234, 19-20=-98/101  
**WEBS** 2-36=-61/0, 3-35=-88/0, 4-34=-66/17, 5-33=-88/0, 6-31=-139/114, 7-30=-89/0, 8-29=-89/0, 9-28=-89/0, 10-27=-89/0, 11-26=-88/0, 12-25=-91/0, 13-24=-113/79, 14-23=-86/0, 15-22=-63/13, 16-21=-91/0, 17-20=-43/12, 2-37=-322/316, 2-35=-339/330, 4-35=-369/363, 4-33=-407/400, 17-19=-271/263, 17-21=-342/336, 15-21=-373/366, 15-23=-404/396, 6-33=-576/568, 13-23=-591/583, 6-30=-757/751, 13-25=-743/737

**NOTES**  
1) Unbalanced floor live loads have been considered for this design.  
2) All plates are 1.5x4 (||) MT20 unless otherwise indicated.  
3) Gable requires continuous bottom chord bearing.  
4) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).  
5) Gable studs spaced at 1-4-0 oc.

6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 218 lb uplift at joint 37, 2 lb uplift at joint 35, 12 lb uplift at joint 34, 95 lb uplift at joint 33, 108 lb uplift at joint 31, 487 lb uplift at joint 30, 469 lb uplift at joint 25, 73 lb uplift at joint 24, 114 lb uplift at joint 23, 7 lb uplift at joint 22, 1 lb uplift at joint 21, 7 lb uplift at joint 20 and 240 lb uplift at joint 19.  
7) This truss has been designed for a total drag load of 4000 lb. Lumber DOL=(1.60) Plate grip DOL=(1.60) Connect truss to resist drag loads along bottom chord from 0-0-0 to 22-0-0 for 181.8 plf.  
8) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.

**LOAD CASE(S)** Standard



EXPIRES: 12/31/2026  
March 3, 2025

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcsc.com).

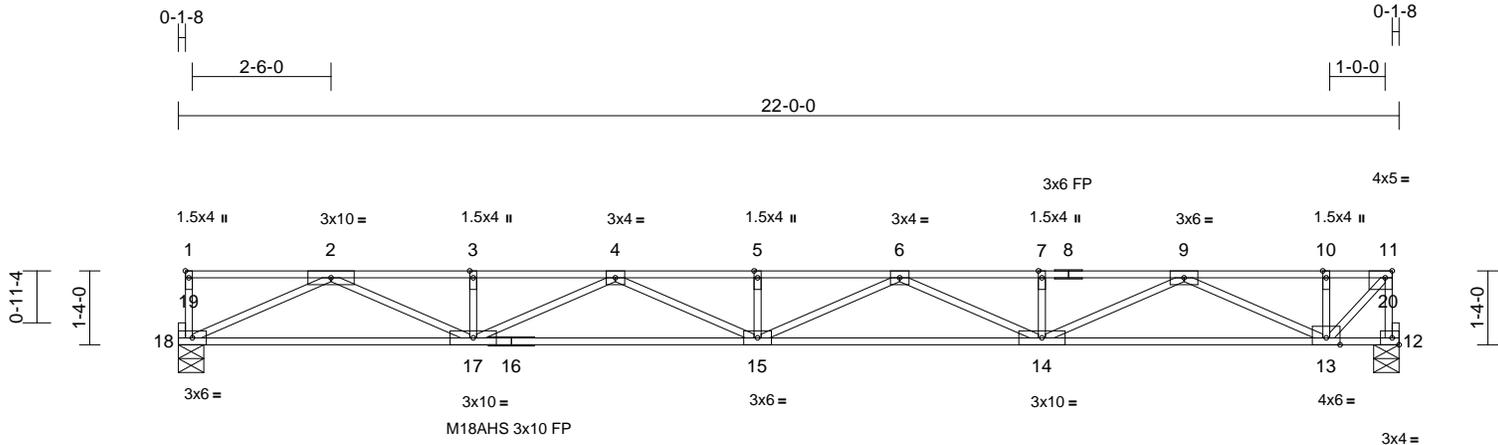
**MiTek®**  
400 Sunrise Ave., Suite 270  
Roseville, CA 95661  
916.755.3571 / MiTek-US.com

|                |               |                     |           |          |  |           |
|----------------|---------------|---------------------|-----------|----------|--|-----------|
| Job<br>4467228 | Truss<br>FT02 | Truss Type<br>Floor | Qty<br>15 | Ply<br>1 | Pahlisch - Conifer 2-A-2088-2 FL<br>Job Reference (optional) | R86933764 |
|----------------|---------------|---------------------|-----------|----------|--|-----------|

Builders FirstSource (Beaverton, OR), Beaverton, OR - 97005,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Fri Feb 28 08:29:13  
ID:n114ae2ShvjhDBYLrDAQG9zIWzM-RfC?PsB70Hq3NSgPqnL8w3uITXbGKwrcDoi7J4zJC?

Page: 1



Scale = 1:41.3

Plate Offsets (X, Y): [1:Edge,0-0-12], [11:0-1-8,Edge]

| Loading | (psf) | Spacing         | 1-4-0           | CSI       | DEFL | in       | (loc) | l/defl | L/d  | PLATES | GRIP           |                 |
|---------|-------|-----------------|-----------------|-----------|------|----------|-------|--------|------|--------|----------------|-----------------|
| TCLL    | 40.0  | Plate Grip DOL  | 1.00            | TC        | 0.31 | Vert(LL) | -0.30 | 14-15  | >866 | 480    | M18AHS         | 169/162         |
| TCDL    | 10.0  | Lumber DOL      | 1.00            | BC        | 0.58 | Vert(CT) | -0.42 | 14-15  | >622 | 360    | MT20           | 220/195         |
| BCLL    | 0.0   | Rep Stress Incr | YES             | WB        | 0.30 | Horz(CT) | 0.07  | 12     | n/a  | n/a    |                |                 |
| BCDL    | 5.0   | Code            | IRC2021/TPI2014 | Matrix-SH |      |          |       |        |      |        |                |                 |
|         |       |                 |                 |           |      |          |       |        |      |        | Weight: 100 lb | FT = 20%F, 11%E |

**LUMBER**

TOP CHORD 2x4 DF No.1&Btr(flat)  
 BOT CHORD 2x4 DF No.1&Btr(flat)  
 WEBS 2x4 DF No.2(flat)  
 OTHERS 2x4 DF No.2(flat)

**BRACING**

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.  
 BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 12=0-5-8, 18=0-5-8

Max Grav 12=793 (LC 1), 18=793 (LC 1)

**FORCES**

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-18=-69/0, 11-12=-798/0, 1-2=-4/0,  
 2-3=-2639/0, 3-4=-2639/0, 4-5=-3606/0,  
 5-6=-3606/0, 6-7=-2987/0, 7-9=-2987/0,  
 9-10=-774/0, 10-11=-774/0  
 BOT CHORD 17-18=0/1544, 15-17=0/3306, 14-15=0/3478,  
 13-14=0/2065, 12-13=0/41  
 WEBS 2-18=-1696/0, 2-17=0/1211, 3-17=-164/0,  
 4-17=-737/0, 4-15=0/332, 5-15=-169/0,  
 6-15=0/141, 6-14=-543/0, 7-14=-169/0,  
 9-14=0/1019, 9-13=-1428/0, 10-13=-147/0,  
 11-13=0/1075

**NOTES**

- All plates are MT20 plates unless otherwise indicated.
- Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.

**LOAD CASE(S)** Standard



EXPIRES: 12/31/2026  
 March 3, 2025

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcsccomponents.com)

**MiTek®**

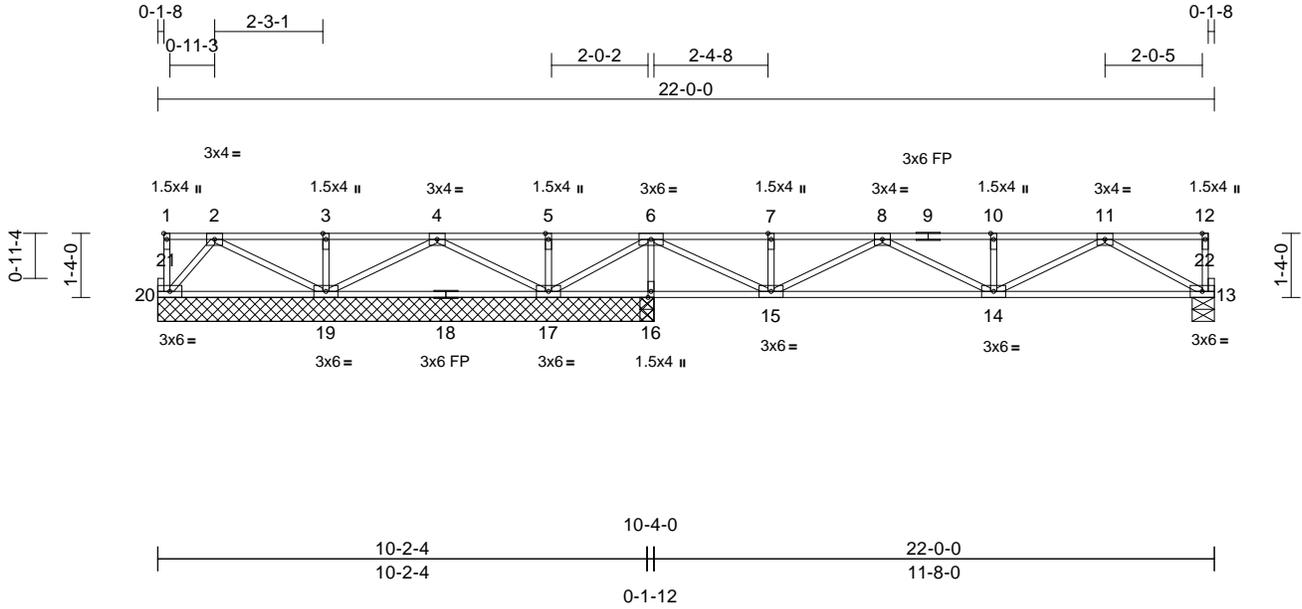
400 Sunrise Ave., Suite 270  
 Roseville, CA 95661  
 916.755.3571 / MiTek-US.com

|                |               |                     |          |          |  |           |
|----------------|---------------|---------------------|----------|----------|--|-----------|
| Job<br>4467228 | Truss<br>FT03 | Truss Type<br>Floor | Qty<br>1 | Ply<br>1 | Pahlisch - Conifer 2-A-2088-2 FL<br>Job Reference (optional) | R86933765 |
|----------------|---------------|---------------------|----------|----------|--|-----------|

Builders FirstSource (Beaverton, OR), Beaverton, OR - 97005,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Fri Feb 28 08:29:14  
ID:Ee0mVrcq2ndFib\_oXSTf6TzIX6g-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKwRCDoi7J4zJC?f

Page: 1



Scale = 1:47.7

Plate Offsets (X, Y): [1:Edge,0-0-12]

| Loading | (psf) | Spacing         | 1-4-0           | CSI       | DEFL | in       | (loc) | l/defl | L/d  | PLATES | GRIP           |                 |
|---------|-------|-----------------|-----------------|-----------|------|----------|-------|--------|------|--------|----------------|-----------------|
| TCLL    | 40.0  | Plate Grip DOL  | 1.00            | TC        | 0.15 | Vert(LL) | -0.02 | 14-15  | >999 | 480    | MT20           | 220/195         |
| TCDL    | 10.0  | Lumber DOL      | 1.00            | BC        | 0.14 | Vert(CT) | -0.04 | 14-15  | >999 | 360    |                |                 |
| BCLL    | 0.0   | Rep Stress Incr | YES             | WB        | 0.20 | Horz(CT) | 0.00  | 13     | n/a  | n/a    |                |                 |
| BCDL    | 5.0   | Code            | IRC2021/TPI2014 | Matrix-SH |      |          |       |        |      |        | Weight: 102 lb | FT = 20%F, 11%E |

**LUMBER**

- TOP CHORD 2x4 DF No.1&Btr(flat)
- BOT CHORD 2x4 DF No.1&Btr(flat)
- WEBS 2x4 DF No.2(flat)
- OTHERS 2x4 DF No.2(flat)

- 4) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
- 5) CAUTION, Do not erect truss backwards.

**BRACING**

- TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
- BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

**LOAD CASE(S)** Standard

**REACTIONS**

- (size) 13=0-5-8, 16=10-4-0, 17=10-4-0, 19=10-4-0, 20=10-4-0
- Max Uplift 17=-65 (LC 4)
- Max Grav 13=363 (LC 4), 16=725 (LC 1), 17=243 (LC 3), 19=306 (LC 3), 20=93 (LC 3)

**FORCES**

(lb) - Maximum Compression/Maximum Tension

- TOP CHORD 1-20=-11/0, 12-13=-55/0, 1-2=-1/0, 2-3=0/50, 3-4=0/50, 4-5=0/260, 5-6=0/260, 6-7=-279/0, 7-8=-279/0, 8-10=-782/0, 10-11=-782/0, 11-12=-3/0
- BOT CHORD 19-20=0/65, 17-19=-94/77, 16-17=-539/0, 15-16=-539/0, 14-15=0/677, 13-14=0/530
- WEBS 6-15=0/906, 8-15=-453/0, 8-14=0/120, 11-14=0/285, 6-16=-711/0, 2-20=-98/0, 2-19=-126/0, 3-19=-162/0, 4-19=-130/79, 4-17=-286/0, 5-17=-156/0, 6-17=0/351, 7-15=-165/0, 10-14=-152/0, 11-13=-604/0

**NOTES**

- 1) Unbalanced floor live loads have been considered for this design.
- 2) Bearings are assumed to be: , Joint 16 User Defined .
- 3) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 65 lb uplift at joint 17.



EXPIRES: 12/31/2026  
March 3, 2025

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcsccomponents.com)

**MiTek®**

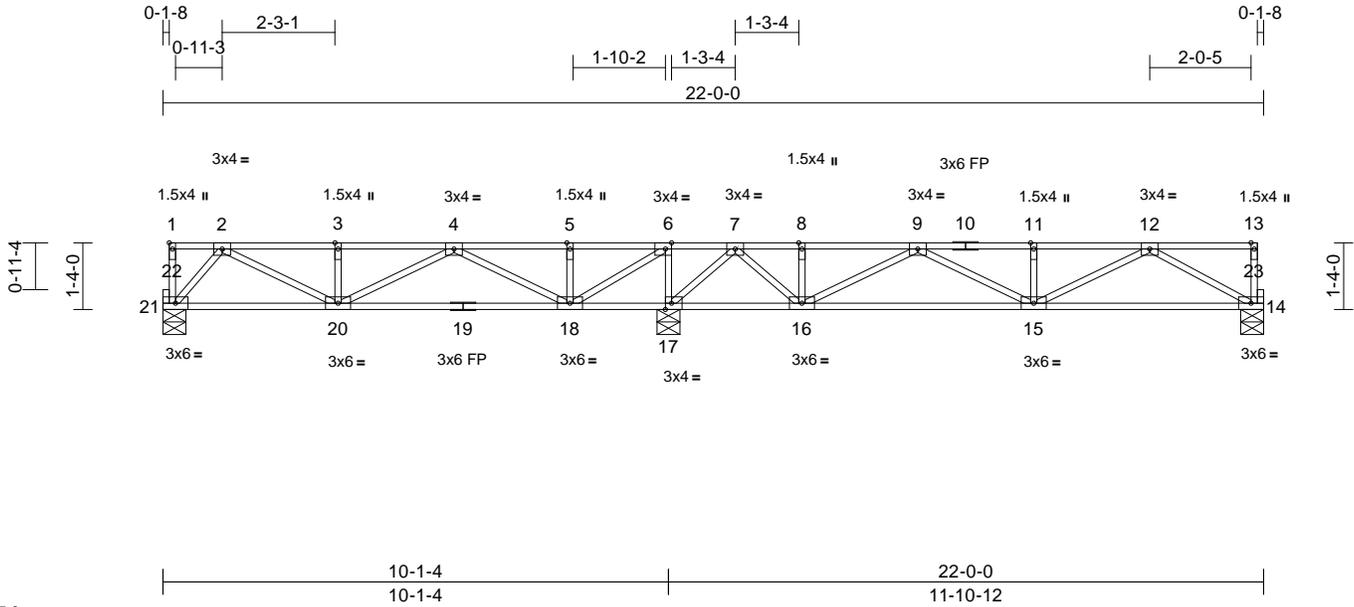
400 Sunrise Ave., Suite 270  
Roseville, CA 95661  
916.755.3571 / MiTek-US.com

|                |               |                     |          |          |  |           |
|----------------|---------------|---------------------|----------|----------|--|-----------|
| Job<br>4467228 | Truss<br>FT04 | Truss Type<br>Floor | Qty<br>1 | Ply<br>1 | Pahlisch - Conifer 2-A-2088-2 FL<br>Job Reference (optional) | R86933766 |
|----------------|---------------|---------------------|----------|----------|--|-----------|

Builders FirstSource (Beaverton, OR), Beaverton, OR - 97005,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Fri Feb 28 08:29:14  
ID:vMPjS3i4Jzb5Kce9JQ3tmzIXHA-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:45.8  
Plate Offsets (X, Y): [1:Edge,0-0-12], [6:0-1-8,Edge], [17:0-1-8,Edge]

| Loading | (psf) | Spacing         | 1-4-0           | CSI       | DEFL | in       | (loc) | l/defl | L/d  | PLATES | GRIP           |                 |
|---------|-------|-----------------|-----------------|-----------|------|----------|-------|--------|------|--------|----------------|-----------------|
| TCLL    | 40.0  | Plate Grip DOL  | 1.00            | TC        | 0.19 | Vert(LL) | -0.02 | 15-16  | >999 | 480    | MT20           | 220/195         |
| TCDL    | 10.0  | Lumber DOL      | 1.00            | BC        | 0.14 | Vert(CT) | -0.04 | 15-16  | >999 | 360    |                |                 |
| BCLL    | 0.0   | Rep Stress Incr | YES             | WB        | 0.17 | Horz(CT) | 0.01  | 14     | n/a  | n/a    |                |                 |
| BCDL    | 5.0   | Code            | IRC2021/TPI2014 | Matrix-SH |      |          |       |        |      |        | Weight: 103 lb | FT = 20%F, 11%E |

**LUMBER**  
TOP CHORD 2x4 DF No.1&Btr(flat)  
BOT CHORD 2x4 DF No.1&Btr(flat)  
WEBS 2x4 DF No.2(flat)  
OTHERS 2x4 DF No.2(flat)

**BRACING**  
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

**REACTIONS** (size) 14=0-5-8, 17=0-5-8, 21=0-5-8  
Max Grav 14=365 (LC 4), 17=982 (LC 1), 21=308 (LC 3)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-21=-10/0, 13-14=-54/0, 1-2=-1/0, 2-3=-557/6, 3-4=-557/6, 4-5=-149/345, 5-6=-149/345, 6-7=0/803, 7-8=-292/133, 8-9=-292/133, 9-11=-791/0, 11-12=-791/0, 12-13=-3/0  
BOT CHORD 20-21=0/254, 18-20=-145/502, 17-18=-803/0, 16-17=-306/0, 15-16=0/695, 14-15=0/534  
WEBS 6-17=-518/0, 2-21=-384/0, 2-20=-23/343, 3-20=-157/0, 4-20=0/162, 4-18=-500/0, 7-17=-671/0, 7-16=0/578, 8-16=-132/0, 9-16=-503/0, 9-15=0/158, 11-15=-150/0, 12-15=0/290, 5-18=-147/0, 6-18=0/758, 12-14=-610/0

**NOTES**  
1) Unbalanced floor live loads have been considered for this design.  
2) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.  
3) CAUTION, Do not erect truss backwards.

**LOAD CASE(S)** Standard



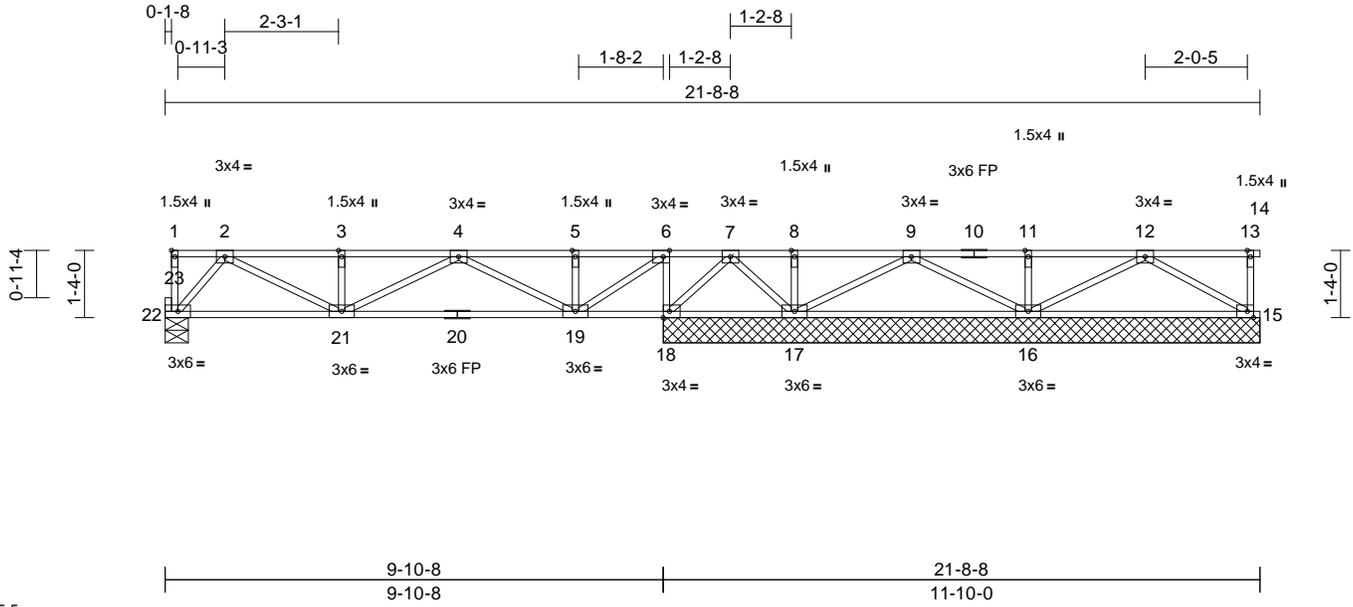
EXPIRES: 12/31/2026  
March 3, 2025

|                |               |                     |          |          |  |           |
|----------------|---------------|---------------------|----------|----------|--|-----------|
| Job<br>4467228 | Truss<br>FT05 | Truss Type<br>Floor | Qty<br>1 | Ply<br>1 | Pahlisch - Conifer 2-A-2088-2 FL<br>Job Reference (optional) | R86933767 |
|----------------|---------------|---------------------|----------|----------|--|-----------|

Builders FirstSource (Beaverton, OR), Beaverton, OR - 97005,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Fri Feb 28 08:29:14  
ID:mcohvt4zPedOZ\_XxyF1Aa?zIXKZ-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:45.5  
Plate Offsets (X, Y): [1:Edge,0-0-12], [6:0-1-8,Edge], [15:0-1-8,Edge], [18:0-1-8,Edge]

| Loading | (psf) | Spacing         | 1-4-0           | CSI       | DEFL | in       | (loc) | l/defl | L/d  | PLATES | GRIP           |                 |
|---------|-------|-----------------|-----------------|-----------|------|----------|-------|--------|------|--------|----------------|-----------------|
| TCLL    | 40.0  | Plate Grip DOL  | 1.00            | TC        | 0.15 | Vert(LL) | -0.01 | 19-21  | >999 | 480    | MT20           | 220/195         |
| TCDL    | 10.0  | Lumber DOL      | 1.00            | BC        | 0.19 | Vert(CT) | -0.03 | 19-21  | >999 | 360    |                |                 |
| BCLL    | 0.0   | Rep Stress Incr | NO              | WB        | 0.14 | Horz(CT) | 0.02  | 15     | n/a  | n/a    |                |                 |
| BCDL    | 5.0   | Code            | IRC2021/TPI2014 | Matrix-SH |      |          |       |        |      |        |                |                 |
|         |       |                 |                 |           |      |          |       |        |      |        | Weight: 102 lb | FT = 20%F, 11%E |

**LUMBER**  
TOP CHORD 2x4 DF No.1&Btr(flat)  
BOT CHORD 2x4 DF No.1&Btr(flat)  
WEBS 2x4 DF No.2(flat)  
OTHERS 2x4 DF No.2(flat)

**BRACING**  
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

**REACTIONS** (size) 14=11-10-0, 15=11-10-0, 16=11-10-0, 17=11-10-0, 18=11-10-0, 22=0-5-8  
Max Horiz 22=62 (LC 6)  
Max Uplift 14=99 (LC 1), 15=356 (LC 8), 16=12 (LC 7), 17=112 (LC 8), 18=205 (LC 7), 22=104 (LC 7)  
Max Grav 14=2 (LC 7), 15=495 (LC 3), 16=348 (LC 1), 17=202 (LC 3), 18=766 (LC 4), 22=362 (LC 4)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-22=-10/0, 1-2=-229/229, 2-3=-694/242, 3-4=-1095/722, 4-5=-846/791, 5-6=-1261/1207, 6-7=-1226/1383, 7-8=-591/632, 8-9=-1125/1165, 9-11=-391/417, 11-12=-930/951, 12-13=-524/524, 13-14=-43/43, 13-15=-177/0  
BOT CHORD 21-22=-33/256, 19-21=-582/880, 18-19=-1296/1112, 17-18=-1728/1519, 16-17=-1710/1727, 15-16=-1152/1186  
WEBS 2-22=-459/145, 2-21=-273/523, 3-21=-157/0, 4-21=-307/359, 4-19=-589/277, 6-18=-487/74, 7-18=-738/625, 7-17=-655/739, 8-17=-131/0, 9-17=-749/684, 9-16=-752/708, 11-16=-157/0, 12-16=-901/840, 5-19=-139/0, 6-19=-163/724, 12-15=-829/791

- NOTES**
- 1) Unbalanced floor live loads have been considered for this design.
  - 2) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 104 lb uplift at joint 22, 99 lb uplift at joint 14, 356 lb uplift at joint 15, 205 lb uplift at joint 18, 112 lb uplift at joint 17 and 12 lb uplift at joint 16.
  - 3) This truss has been designed for a total drag load of 5000 lb. Lumber DOL=(1.60) Plate grip DOL=(1.60) Connect truss to resist drag loads along bottom chord from 9-10-8 to 21-8-8 for 422.5 plf.
  - 4) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
  - 5) CAUTION, Do not erect truss backwards.
- LOAD CASE(S)** Standard



EXPIRES: 12/31/2026  
March 3, 2025

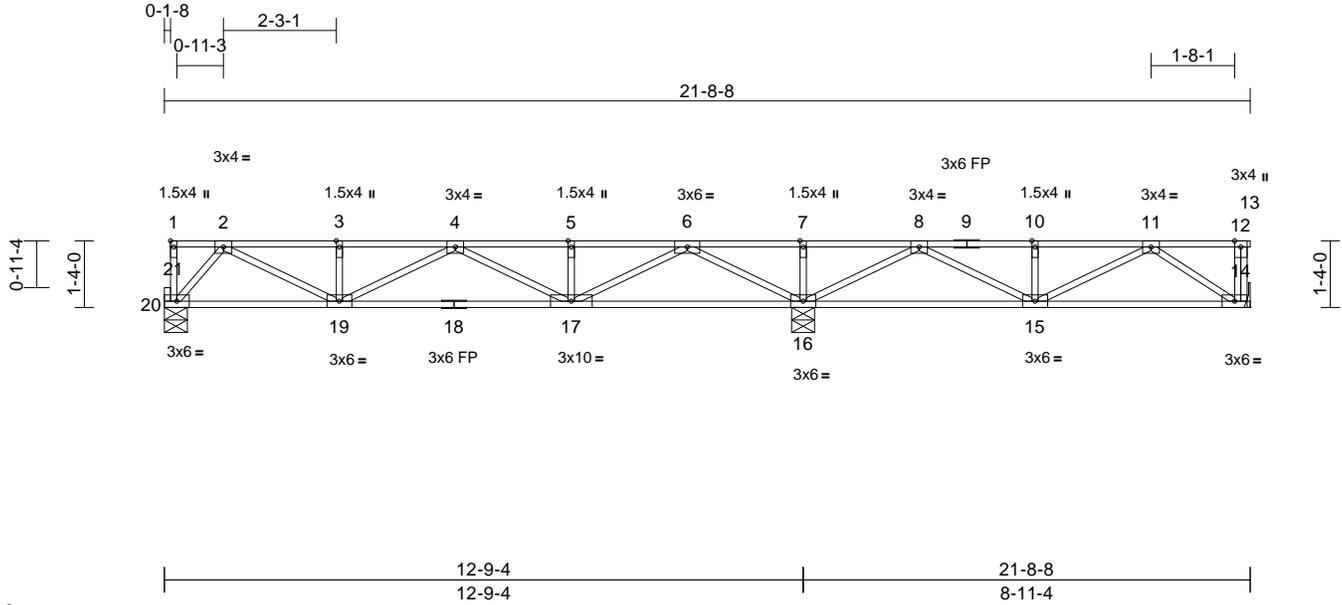
|                |               |                     |          |          |  |           |
|----------------|---------------|---------------------|----------|----------|--|-----------|
| Job<br>4467228 | Truss<br>FT06 | Truss Type<br>Floor | Qty<br>6 | Ply<br>1 | Pahlisch - Conifer 2-A-2088-2 FL<br>Job Reference (optional) | R86933768 |
|----------------|---------------|---------------------|----------|----------|--|-----------|

Builders FirstSource (Beaverton, OR), Beaverton, OR - 97005,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Fri Feb 28 08:29:15

Page: 1

ID:SyMCHzAQeVpGANyOZxoWUozlXTT-RfC?PsB70Hq3NSgPqnL8w3uTXbGKWrCDoi7J4zJC?f



Scale = 1:45.8

Plate Offsets (X, Y): [1:Edge,0-0-12]

| Loading | (psf) | Spacing         | 2-0-0           | CSI       | DEFL | in       | (loc) | l/defl | L/d  | PLATES | GRIP           |                 |
|---------|-------|-----------------|-----------------|-----------|------|----------|-------|--------|------|--------|----------------|-----------------|
| TCLL    | 40.0  | Plate Grip DOL  | 1.00            | TC        | 0.34 | Vert(LL) | -0.05 | 17-19  | >999 | 480    | MT20           | 220/195         |
| TCDL    | 10.0  | Lumber DOL      | 1.00            | BC        | 0.26 | Vert(CT) | -0.07 | 17-19  | >999 | 360    |                |                 |
| BCLL    | 0.0   | Rep Stress Incr | YES             | WB        | 0.24 | Horz(CT) | 0.01  | 16     | n/a  | n/a    |                |                 |
| BCDL    | 5.0   | Code            | IRC2021/TPI2014 | Matrix-SH |      |          |       |        |      |        | Weight: 101 lb | FT = 20%F, 11%E |

**LUMBER**

TOP CHORD 2x4 DF No.1&Btr(flat)  
 BOT CHORD 2x4 DF No.1&Btr(flat)  
 WEBS 2x4 DF No.2(flat)  
 OTHERS 2x4 DF No.2(flat)

- Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
- CAUTION, Do not erect truss backwards.

**BRACING**

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.  
 BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

**LOAD CASE(S)** Standard

**REACTIONS**

(size) 14= Mechanical, 16=0-5-8, 20=0-5-8  
 Max Uplift 14=-6 (LC 3)  
 Max Grav 14=408 (LC 4), 16=1467 (LC 1), 20=592 (LC 3)

**FORCES**

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-20=-15/0, 12-14=-87/0, 1-2=-1/0, 2-3=-1198/0, 3-4=-1198/0, 4-5=-1088/0, 5-6=-1088/0, 6-7=0/1176, 7-8=0/1176, 8-10=-651/219, 10-11=-651/219, 11-12=0/0, 12-13=0/0  
 BOT CHORD 19-20=0/494, 17-19=0/1365, 16-17=-165/287, 15-16=-567/297, 14-15=-59/476  
 WEBS 7-16=-244/0, 2-20=-749/0, 2-19=0/793, 3-19=-236/0, 4-19=-189/24, 4-17=-356/0, 5-17=-232/0, 6-17=0/955, 8-16=-1094/0, 8-15=0/607, 10-15=-234/0, 11-15=-181/198, 11-14=-574/71, 6-16=-1442/0

**NOTES**

- Unbalanced floor live loads have been considered for this design.
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 6 lb uplift at joint 14.



EXPIRES: 12/31/2026  
 March 3, 2025

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcsccomponents.com)

**MiTek®**

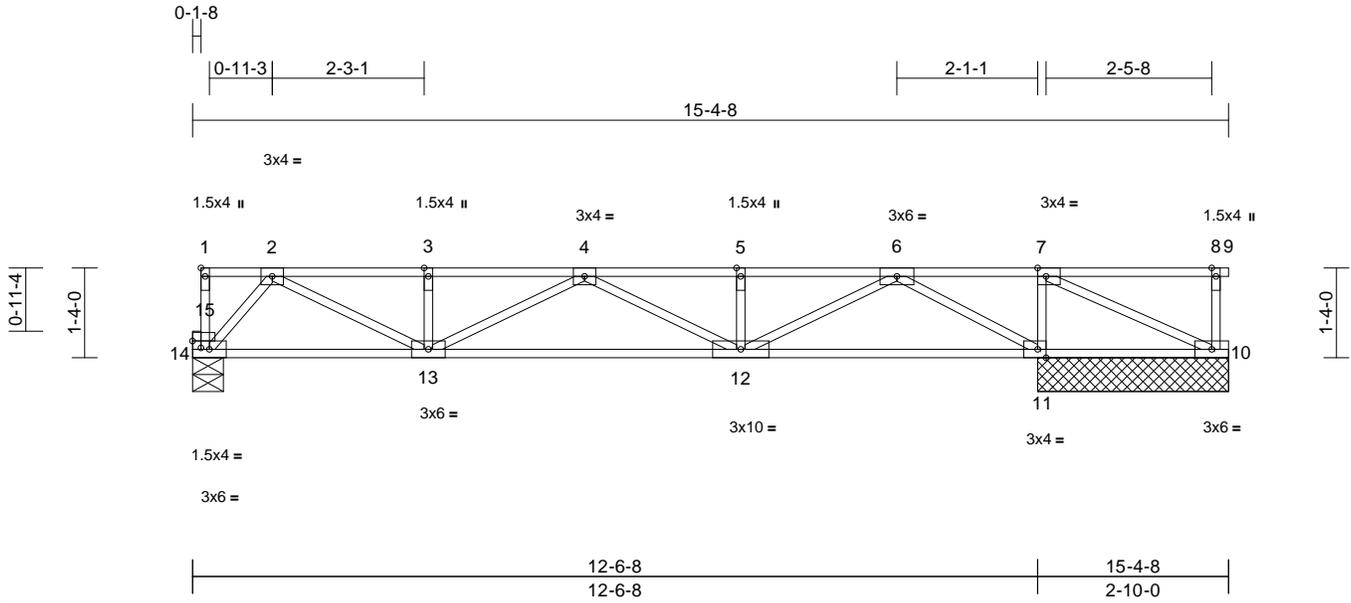
400 Sunrise Ave., Suite 270  
 Roseville, CA 95661  
 916.755.3571 / MiTek-US.com

|                |               |                     |          |          |  |           |
|----------------|---------------|---------------------|----------|----------|--|-----------|
| Job<br>4467228 | Truss<br>FT07 | Truss Type<br>Floor | Qty<br>1 | Ply<br>1 | Pahlisch - Conifer 2-A-2088-2 FL<br>Job Reference (optional) | R86933769 |
|----------------|---------------|---------------------|----------|----------|--|-----------|

Builders FirstSource (Beaverton, OR), Beaverton, OR - 97005,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Fri Feb 28 08:29:15  
ID:O94q5k9dE66BDYvC1j\_EvzXaV-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:34  
Plate Offsets (X, Y): [1:Edge,0-0-12], [7:0-1-8,Edge], [11:0-1-8,Edge], [15:0-1-8,0-1-4]

| Loading | (psf) | Spacing         | 2-0-0           | CSI       | DEFL | in       | (loc) | l/defl | L/d  | PLATES | GRIP          |                 |
|---------|-------|-----------------|-----------------|-----------|------|----------|-------|--------|------|--------|---------------|-----------------|
| TCLL    | 40.0  | Plate Grip DOL  | 1.00            | TC        | 0.35 | Vert(LL) | -0.04 | 12-13  | >999 | 480    | MT20          | 220/195         |
| TCDL    | 10.0  | Lumber DOL      | 1.00            | BC        | 0.28 | Vert(CT) | -0.07 | 12-13  | >999 | 360    |               |                 |
| BCLL    | 0.0   | Rep Stress Incr | NO              | WB        | 0.21 | Horz(CT) | 0.01  | 11     | n/a  | n/a    |               |                 |
| BCDL    | 5.0   | Code            | IRC2021/TPI2014 | Matrix-SH |      |          |       |        |      |        | Weight: 72 lb | FT = 20%F, 11%E |

**LUMBER**  
TOP CHORD 2x4 DF No.1&Btr(flat)  
BOT CHORD 2x4 DF No.1&Btr(flat)  
WEBS 2x4 DF No.2(flat)  
OTHERS 2x4 DF No.2(flat)

**BRACING**  
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing, Except:  
10-0-0 oc bracing: 13-14.

**REACTIONS** (size)  
9=2-10-0, 10=2-10-0, 11=2-10-0, 14=0-5-8  
Max Horiz 14=152 (LC 5)  
Max Uplift 9=240 (LC 1), 10=405 (LC 6), 11=37 (LC 7), 14=18 (LC 7)  
Max Grav 9=23 (LC 8), 10=360 (LC 7), 11=1339 (LC 1), 14=589 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-14=-15/0, 1-2=-130/129, 2-3=-1191/0, 3-4=-1286/214, 4-5=-1087/95, 5-6=-1313/366, 6-7=-290/1037, 7-8=-360/360, 8-9=-24/24, 8-10=-384/0  
BOT CHORD 13-14=0/492, 12-13=-169/1393, 11-12=-785/883, 10-11=-1486/890  
WEBS 7-11=-816/278, 2-14=-746/36, 2-13=-110/835, 3-13=-236/0, 4-13=-328/225, 4-12=-441/210, 5-12=-236/0, 6-12=-81/939, 7-10=-719/1443, 6-11=-1297/36

**NOTES**  
1) Unbalanced floor live loads have been considered for this design.  
2) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 18 lb uplift at joint 14, 240 lb uplift at joint 9, 37 lb uplift at joint 11 and 405 lb uplift at joint 10.

- This truss has been designed for a total drag load of 2000 lb. Lumber DOL=(1.60) Plate grip DOL=(1.60) Connect truss to resist drag loads along bottom chord from 12-6-8 to 15-4-8 for 705.9 plf.
- Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
- CAUTION, Do not erect truss backwards.

**LOAD CASE(S)** Standard



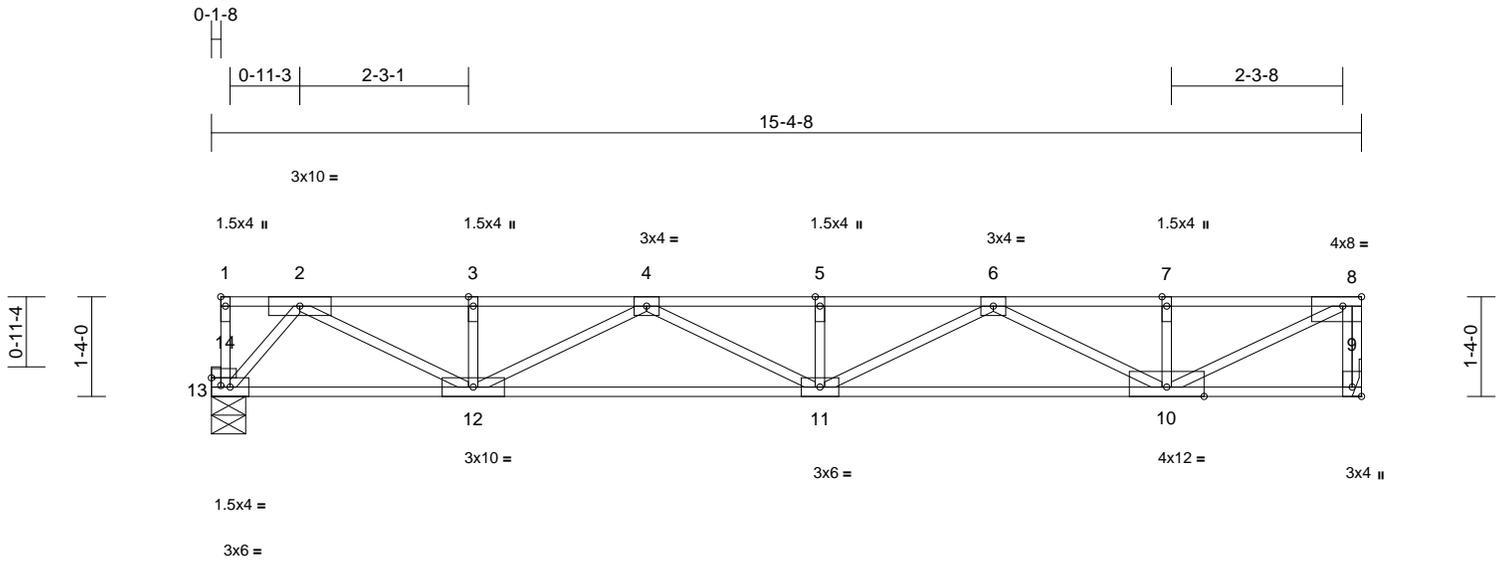
EXPIRES: 12/31/2026  
March 3, 2025

|                |               |                     |           |          |  |           |
|----------------|---------------|---------------------|-----------|----------|--|-----------|
| Job<br>4467228 | Truss<br>FT08 | Truss Type<br>Floor | Qty<br>11 | Ply<br>1 | Pahlisch - Conifer 2-A-2088-2 FL<br>Job Reference (optional) | R86933770 |
|----------------|---------------|---------------------|-----------|----------|--|-----------|

Builders FirstSource (Beaverton, OR), Beaverton, OR - 97005,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Fri Feb 28 08:29:15  
ID:iZ0AUxbhdfUscQF7X7aFFHzlXeY-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:30.7

Plate Offsets (X, Y): [1:Edge,0-0-12], [8:0-3-0,Edge], [9:Edge,0-1-8], [14:0-1-8,0-1-4]

| Loading | (psf) | Spacing         | 2-0-0           | CSI       | DEFL | in       | (loc) | l/defl | L/d  | PLATES | GRIP          |                 |
|---------|-------|-----------------|-----------------|-----------|------|----------|-------|--------|------|--------|---------------|-----------------|
| TCLL    | 40.0  | Plate Grip DOL  | 1.00            | TC        | 0.24 | Vert(LL) | -0.11 | 11-12  | >999 | 480    | MT20          | 220/195         |
| TCDL    | 10.0  | Lumber DOL      | 1.00            | BC        | 0.42 | Vert(CT) | -0.16 | 11-12  | >999 | 360    |               |                 |
| BCLL    | 0.0   | Rep Stress Incr | YES             | WB        | 0.36 | Horz(CT) | 0.03  | 9      | n/a  | n/a    |               |                 |
| BCDL    | 5.0   | Code            | IRC2021/TPI2014 | Matrix-SH |      |          |       |        |      |        | Weight: 73 lb | FT = 20%F, 11%E |

**LUMBER**

TOP CHORD 2x4 DF No.1&Btr(flat)  
 BOT CHORD 2x4 DF No.1&Btr(flat)  
 WEBS 2x4 DF No.2(flat)  
 OTHERS 2x4 DF No.2(flat)

**BRACING**

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.  
 BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 9= Mechanical, 13=0-5-8

Max Grav 9=832 (LC 1), 13=826 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-13=-14/0, 8-9=-823/0, 1-2=-1/0,  
 2-3=-1848/0, 3-4=-1848/0, 4-5=-2637/0,  
 5-6=-2637/0, 6-7=-1482/0, 7-8=-1482/0  
 BOT CHORD 12-13=0/699, 11-12=0/2463, 10-11=0/2271,  
 9-10=0/0  
 WEBS 2-13=-1060/0, 2-12=0/1296, 3-12=-235/0,  
 4-12=-694/0, 4-11=0/195, 5-11=-233/0,  
 6-11=0/412, 6-10=-890/0, 7-10=-272/0,  
 8-10=0/1648

**NOTES**

- 1) Refer to girder(s) for truss to truss connections.
- 2) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
- 3) CAUTION, Do not erect truss backwards.

**LOAD CASE(S)** Standard



EXPIRES: 12/31/2026  
 March 3, 2025

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcsccomponents.com)

**MiTek®**

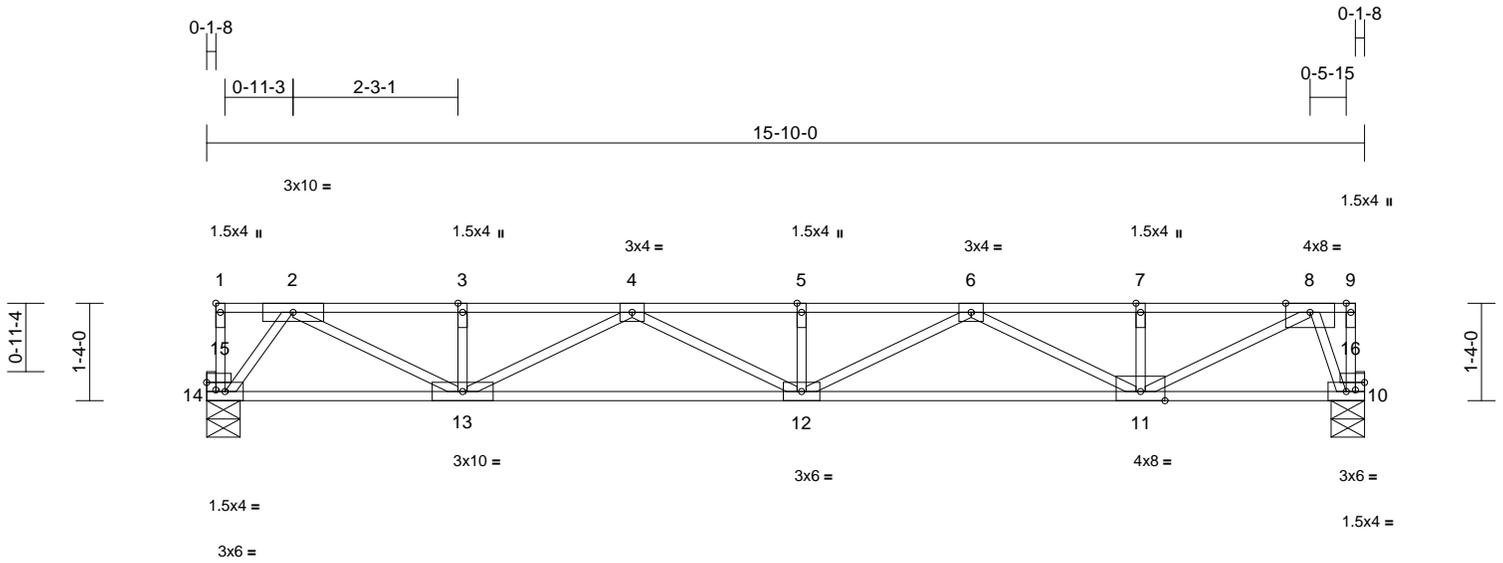
400 Sunrise Ave., Suite 270  
 Roseville, CA 95661  
 916.755.3571 / MiTek-US.com

|                |               |                     |          |          |  |           |
|----------------|---------------|---------------------|----------|----------|--|-----------|
| Job<br>4467228 | Truss<br>FT09 | Truss Type<br>Floor | Qty<br>3 | Ply<br>1 | Pahlisch - Conifer 2-A-2088-2 FL<br>Job Reference (optional) | R86933771 |
|----------------|---------------|---------------------|----------|----------|--|-----------|

Builders FirstSource (Beaverton, OR), Beaverton, OR - 97005,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Fri Feb 28 08:29:15  
ID:oGw6FbtZcX8n7rYtrN2UdqzIXi3-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:31.4

Plate Offsets (X, Y): [1:Edge,0-0-12], [15:0-1-8,0-1-4], [16:0-1-8,0-1-4]

| Loading | (psf) | Spacing         | 2-0-0           | CSI       | DEFL | in       | (loc) | l/defl | L/d  | PLATES | GRIP          |                 |
|---------|-------|-----------------|-----------------|-----------|------|----------|-------|--------|------|--------|---------------|-----------------|
| TCLL    | 40.0  | Plate Grip DOL  | 1.00            | TC        | 0.21 | Vert(LL) | -0.13 | 12     | >999 | 480    | MT20          | 220/195         |
| TCDL    | 10.0  | Lumber DOL      | 1.00            | BC        | 0.44 | Vert(CT) | -0.18 | 12-13  | >999 | 360    |               |                 |
| BCLL    | 0.0   | Rep Stress Incr | YES             | WB        | 0.32 | Horz(CT) | 0.03  | 10     | n/a  | n/a    |               |                 |
| BCDL    | 5.0   | Code            | IRC2021/TPI2014 | Matrix-SH |      |          |       |        |      |        | Weight: 74 lb | FT = 20%F, 11%E |

**LUMBER**

TOP CHORD 2x4 DF No.1&Btr(flat)  
 BOT CHORD 2x4 DF No.1&Btr(flat)  
 WEBS 2x4 DF No.2(flat)  
 OTHERS 2x4 DF No.2(flat)

**BRACING**

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.  
 BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 10=0-5-8, 14=0-5-8  
 Max Grav 10=851 (LC 1), 14=851 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
 TOP CHORD 1-14=-13/0, 9-10=0/39, 1-2=-1/0, 2-3=-1918/0, 3-4=-1918/0, 4-5=-2802/0, 5-6=-2802/0, 6-7=-1733/0, 7-8=-1733/0, 8-9=0/2  
 BOT CHORD 13-14=0/718, 12-13=0/2582, 11-12=0/2489, 10-11=0/453  
 WEBS 2-14=-1092/0, 2-13=0/1353, 3-13=-235/0, 4-13=-748/0, 4-12=0/248, 5-12=-231/0, 6-12=0/352, 6-11=-853/0, 7-11=-233/0, 8-11=0/1444, 8-10=-990/0

**NOTES**

- 1) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.

**LOAD CASE(S)** Standard



EXPIRES: 12/31/2026  
 March 3, 2025

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcsccomponents.com)

**MiTek®**

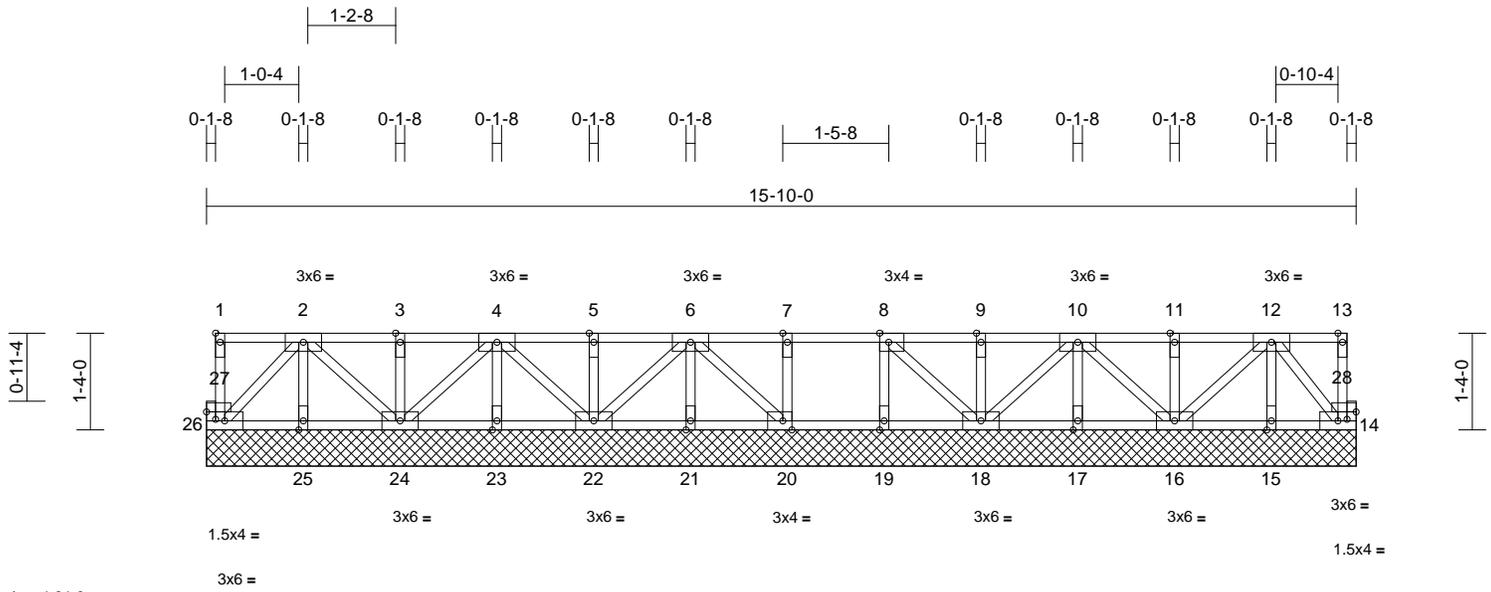
400 Sunrise Ave., Suite 270  
 Roseville, CA 95661  
 916.755.3571 / MiTek-US.com

|                |               |                                     |          |          |  |           |
|----------------|---------------|-------------------------------------|----------|----------|--|-----------|
| Job<br>4467228 | Truss<br>FT10 | Truss Type<br>Floor Supported Gable | Qty<br>1 | Ply<br>1 | Pahlisch - Conifer 2-A-2088-2 FL<br>Job Reference (optional) | R86933772 |
|----------------|---------------|-------------------------------------|----------|----------|--|-----------|

Builders FirstSource (Beaverton, OR), Beaverton, OR - 97005,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Fri Feb 28 08:29:16  
ID:bD4YNSHxpqzi0ytyFPwyDHZlXsdRfC?PsB70Hq3NSgPqnL8w3uITXbGKwRcDoi7J4zJC?

Page: 1



Scale = 1:31.6

Plate Offsets (X, Y): [1:Edge,0-0-12], [8:0-1-8,Edge], [20:0-1-8,Edge], [27:0-1-8,0-1-4], [28:0-1-8,0-1-4]

| Loading | (psf) | Spacing         | 2-0-0           | CSI       | DEFL | in        | (loc) | l/defl | L/d | PLATES | GRIP          |                 |
|---------|-------|-----------------|-----------------|-----------|------|-----------|-------|--------|-----|--------|---------------|-----------------|
| TCLL    | 40.0  | Plate Grip DOL  | 1.00            | TC        | 0.08 | Vert(LL)  | n/a   | -      | n/a | 999    | MT20          | 220/195         |
| TCDL    | 10.0  | Lumber DOL      | 1.00            | BC        | 0.06 | Vert(TL)  | n/a   | -      | n/a | 999    |               |                 |
| BCLL    | 0.0   | Rep Stress Incr | NO              | WB        | 0.10 | Horiz(TL) | 0.00  | 21     | n/a | n/a    |               |                 |
| BCDL    | 5.0   | Code            | IRC2021/TPI2014 | Matrix-SH |      |           |       |        |     |        | Weight: 86 lb | FT = 20%F, 11%E |

**LUMBER**  
TOP CHORD 2x4 DF No.1&Btr(flat)  
BOT CHORD 2x4 DF No.1&Btr(flat)  
WEBS 2x4 DF No.2(flat)  
OTHERS 2x4 DF No.2(flat)

**BRACING**  
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

**REACTIONS** (size)  
14=15-10-0, 15=15-10-0,  
16=15-10-0, 17=15-10-0,  
18=15-10-0, 19=15-10-0,  
20=15-10-0, 21=15-10-0,  
22=15-10-0, 23=15-10-0,  
24=15-10-0, 25=15-10-0,  
26=15-10-0  
Max Horiz 26=39 (LC 5)  
Max Uplift 14=406 (LC 8), 15=15 (LC 7),  
16=1 (LC 8), 17=9 (LC 8),  
19=394 (LC 7), 20=465 (LC 8),  
21=30 (LC 7), 22=14 (LC 7),  
26=370 (LC 7)  
Max Grav 14=430 (LC 5), 15=103 (LC 4),  
16=193 (LC 1), 17=104 (LC 3),  
18=194 (LC 1), 19=452 (LC 6),  
20=534 (LC 5), 21=124 (LC 4),  
22=195 (LC 1), 23=103 (LC 1),  
24=194 (LC 1), 25=106 (LC 1),  
26=398 (LC 6)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-26=44/0, 13-14=35/0, 1-2=362/362,  
2-3=432/435, 3-4=408/411, 4-5=456/459,  
5-6=384/387, 6-7=650/650, 7-8=229/229,  
8-9=268/276, 9-10=568/575,  
10-11=370/373, 11-12=470/473,  
12-13=310/309

**BOT CHORD** 25-26=379/386, 24-25=380/387,  
23-24=455/460, 22-23=384/389,  
21-22=543/549, 20-21=295/301,  
19-20=248/249, 18-19=593/594,  
17-18=354/358, 16-17=485/489,  
15-16=390/396, 14-15=323/329  
**WEBS** 2-25=92/0, 3-24=132/0, 4-23=90/3,  
5-22=133/0, 6-21=110/38, 7-20=133/0,  
8-19=439/402, 9-18=133/0, 10-17=91/17,  
11-16=134/0, 12-15=89/23, 2-26=544/535,  
2-24=567/554, 4-24=580/570,  
4-22=602/592, 10-18=663/650,  
10-16=621/613, 12-16=578/565,  
12-14=553/545, 6-22=668/655,  
8-18=632/622, 6-20=741/733

**NOTES**  
1) Unbalanced floor live loads have been considered for this design.  
2) All plates are 1.5x4 (||) MT20 unless otherwise indicated.  
3) Gable requires continuous bottom chord bearing.  
4) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).  
5) Gable studs spaced at 1-4-0 oc.  
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 370 lb uplift at joint 26, 406 lb uplift at joint 14, 14 lb uplift at joint 22, 30 lb uplift at joint 21, 465 lb uplift at joint 20, 394 lb uplift at joint 19, 9 lb uplift at joint 17, 1 lb uplift at joint 16 and 15 lb uplift at joint 15.  
7) This truss has been designed for a total drag load of 5000 lb. Lumber DOL=(1.60) Plate grip DOL=(1.60) Connect truss to resist drag loads along bottom chord from 0-0-0 to 15-10-0 for 315.8 plf.  
8) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.

**LOAD CASE(S)** Standard



EXPIRES: 12/31/2026  
March 3, 2025

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcscomponents.com)

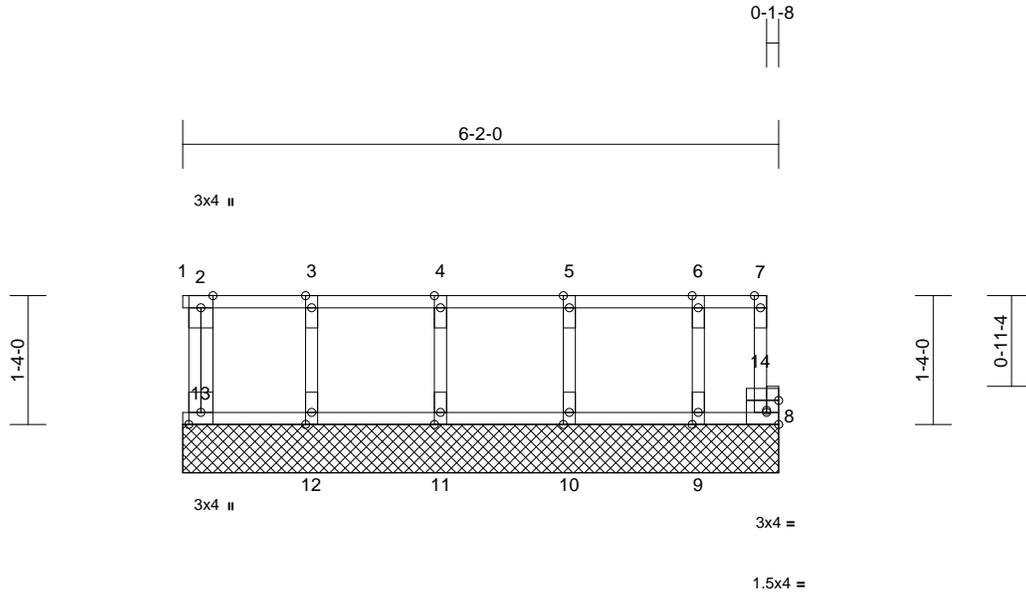
**MiTek®**  
400 Sunrise Ave., Suite 270  
Roseville, CA 95661  
916.755.3571 / MiTek-US.com

|                |               |                                     |          |          |  |           |
|----------------|---------------|-------------------------------------|----------|----------|--|-----------|
| Job<br>4467228 | Truss<br>FT11 | Truss Type<br>Floor Supported Gable | Qty<br>1 | Ply<br>1 | Pahlisch - Conifer 2-A-2088-2 FL<br>Job Reference (optional) | R86933773 |
|----------------|---------------|-------------------------------------|----------|----------|--|-----------|

Builders FirstSource (Beaverton, OR), Beaverton, OR - 97005,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Fri Feb 28 08:29:16  
ID:SM9VpxV3ujdcGuN7Vq9\_FczIXu9-RfC?PsB70Hq3NSgPqnL8w3uITxbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:23.7

Plate Offsets (X, Y): [14:0-1-8,0-1-4]

| Loading | (psf) | Spacing         | 2-0-0           | CSI      | DEFL | in        | (loc) | l/defl | L/d | PLATES | GRIP          |                 |
|---------|-------|-----------------|-----------------|----------|------|-----------|-------|--------|-----|--------|---------------|-----------------|
| TCLL    | 40.0  | Plate Grip DOL  | 1.00            | TC       | 0.05 | Vert(LL)  | n/a   | -      | n/a | 999    | MT20          | 220/195         |
| TCDL    | 10.0  | Lumber DOL      | 1.00            | BC       | 0.01 | Vert(TL)  | n/a   | -      | n/a | 999    |               |                 |
| BCLL    | 0.0   | Rep Stress Incr | YES             | WB       | 0.02 | Horiz(TL) | 0.00  | 13     | n/a | n/a    |               |                 |
| BCDL    | 5.0   | Code            | IRC2021/TPI2014 | Matrix-R |      |           |       |        |     |        | Weight: 27 lb | FT = 20%F, 11%E |

**LUMBER**

TOP CHORD 2x4 DF No.1&Btr(flat)  
BOT CHORD 2x4 DF No.1&Btr(flat)  
WEBS 2x4 DF No.2(flat)  
OTHERS 2x4 DF No.2(flat)

- 6) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.  
7) CAUTION, Do not erect truss backwards.

**BRACING**

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**LOAD CASE(S)** Standard

**REACTIONS**

(size) 1=6-2-0, 8=6-2-0, 9=6-2-0,  
10=6-2-0, 11=6-2-0, 12=6-2-0,  
13=6-2-0  
Max Uplift 1=-16 (LC 1)  
Max Grav 1=-16 (LC 1), 8=21 (LC 1), 9=119 (LC 1), 10=152 (LC 1), 11=147 (LC 1), 12=141 (LC 1), 13=93 (LC 1)

**FORCES**

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 2-13=-88/0, 7-8=-18/0, 1-2=0/0, 2-3=-3/0,  
3-4=-3/0, 4-5=-3/0, 5-6=-3/0, 6-7=-3/0  
BOT CHORD 12-13=0/3, 11-12=0/3, 10-11=0/3, 9-10=0/3,  
8-9=0/3  
WEBS 3-12=-128/0, 4-11=-134/0, 5-10=-138/0,  
6-9=-109/0

**NOTES**

- All plates are 1.5x4 (||) MT20 unless otherwise indicated.
- Gable requires continuous bottom chord bearing.
- Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
- Gable studs spaced at 1-4-0 oc.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 16 lb uplift at joint 1.



EXPIRES: 12/31/2026  
March 3, 2025

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria and DSB-22** available from Truss Plate Institute ([www.tpinst.org](http://www.tpinst.org)) and **BCSI Building Component Safety Information** available from the Structural Building Component Association ([www.sbcsccomponents.com](http://www.sbcsccomponents.com))

**MiTek®**

400 Sunrise Ave., Suite 270  
Roseville, CA 95661  
916.755.3571 / MiTek-US.com

|                |               |                     |          |          |  |           |
|----------------|---------------|---------------------|----------|----------|--|-----------|
| Job<br>4467228 | Truss<br>FT12 | Truss Type<br>Floor | Qty<br>2 | Ply<br>1 | Pahlisch - Conifer 2-A-2088-2 FL<br>Job Reference (optional) | R86933774 |
|----------------|---------------|---------------------|----------|----------|--|-----------|

Builders FirstSource (Beaverton, OR), Beaverton, OR - 97005,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Fri Feb 28 08:29:16  
ID:D52FnE\_40WCiclbsUluu0YzIXuq-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrcDoi7J4zJC?f

Page: 1

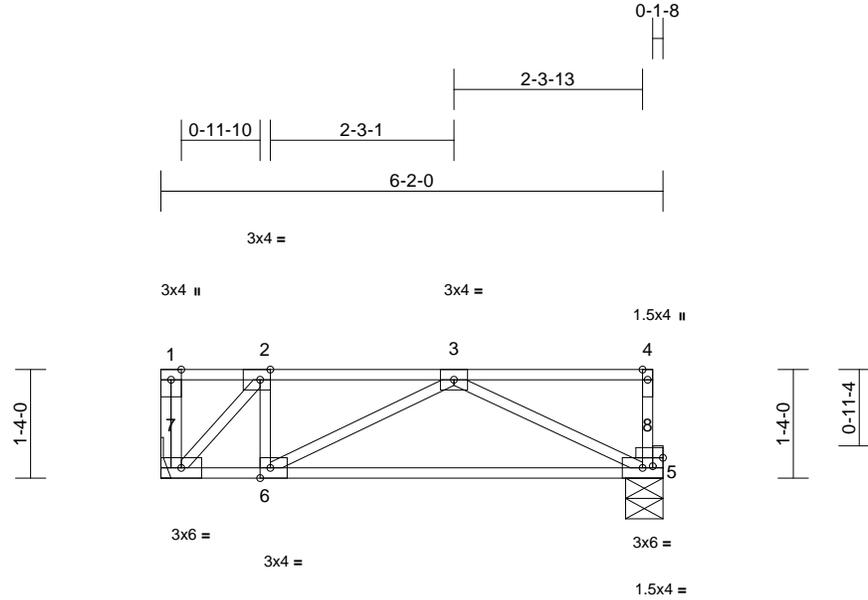


Plate Offsets (X, Y): [2:0-1-8,Edge], [6:0-1-8,Edge], [8:0-1-8,0-1-4]

| Loading | (psf) | Spacing         | 2-0-0           | CSI      | DEFL     | in    | (loc) | l/defl | L/d | PLATES        | GRIP            |
|---------|-------|-----------------|-----------------|----------|----------|-------|-------|--------|-----|---------------|-----------------|
| TCLL    | 40.0  | Plate Grip DOL  | 1.00            | TC       | Vert(LL) | 0.00  | 5-6   | >999   | 480 | MT20          | 220/195         |
| TCDL    | 10.0  | Lumber DOL      | 1.00            | BC       | Vert(CT) | -0.04 | 5-6   | >999   | 360 |               |                 |
| BCLL    | 0.0   | Rep Stress Incr | YES             | WB       | Horz(CT) | 0.00  | 5     | n/a    | n/a |               |                 |
| BCDL    | 5.0   | Code            | IRC2021/TPI2014 | Matrix-P |          |       |       |        |     | Weight: 32 lb | FT = 20%F, 11%E |

**LUMBER**

TOP CHORD 2x4 DF No.1&Btr(flat)  
 BOT CHORD 2x4 DF No.1&Btr(flat)  
 WEBS 2x4 DF No.2(flat)  
 OTHERS 2x4 DF No.2(flat)

**BRACING**

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.  
 BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 5=0-5-8, 7= Mechanical  
 Max Grav 5=319 (LC 1), 7=325 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
 TOP CHORD 1-7=-33/0, 4-5=-94/0, 1-2=0/0, 2-3=-292/0, 3-4=-5/0  
 BOT CHORD 6-7=0/292, 5-6=0/420  
 WEBS 2-7=-422/0, 3-6=-145/0, 2-6=0/119, 3-5=-463/0

**NOTES**

- 1) Refer to girder(s) for truss to truss connections.
- 2) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
- 3) CAUTION, Do not erect truss backwards.

**LOAD CASE(S)** Standard



EXPIRES: 12/31/2026  
 March 3, 2025

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcsccomponents.com)

**MiTek®**

400 Sunrise Ave., Suite 270  
 Roseville, CA 95661  
 916.755.3571 / MiTek-US.com

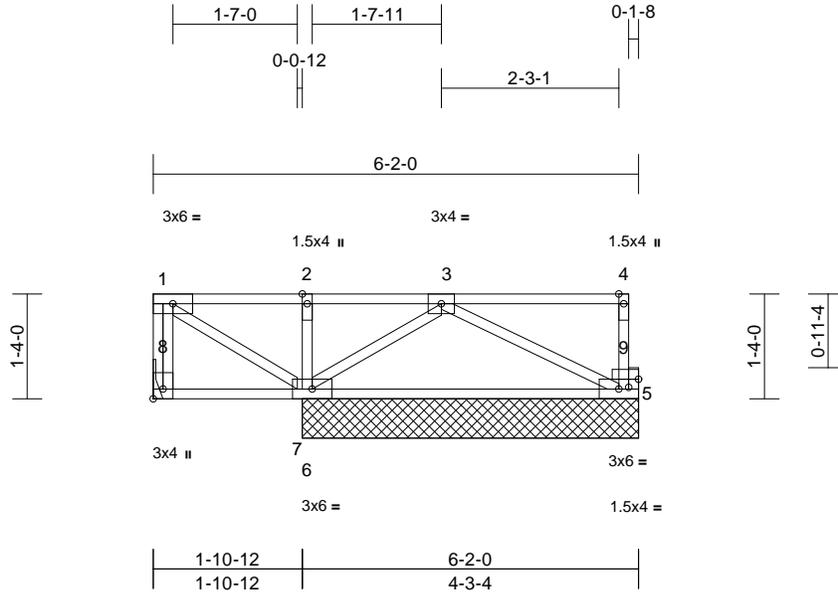
|                |               |                     |          |          |  |           |
|----------------|---------------|---------------------|----------|----------|--|-----------|
| Job<br>4467228 | Truss<br>FT13 | Truss Type<br>Floor | Qty<br>1 | Ply<br>1 | Pahlisch - Conifer 2-A-2088-2 FL<br>Job Reference (optional) | R86933775 |
|----------------|---------------|---------------------|----------|----------|--|-----------|

Builders FirstSource (Beaverton, OR), Beaverton, OR - 97005,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Fri Feb 28 08:29:16

Page: 1

ID:FB4x\_HCX?6LL02?wyObTWzIxyJ-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWRCDoi7J4zJC?f



Scale = 1:29.1

Plate Offsets (X, Y): [8:Edge,0-1-8], [9:0-1-8,0-1-4]

| Loading | (psf) | Spacing         | 2-0-0           | CSI      | DEFL | in       | (loc) | l/defl | L/d  | PLATES | GRIP          |                 |
|---------|-------|-----------------|-----------------|----------|------|----------|-------|--------|------|--------|---------------|-----------------|
| TCLL    | 40.0  | Plate Grip DOL  | 1.00            | TC       | 0.16 | Vert(LL) | 0.00  | 5-6    | >999 | 480    | MT20          | 220/195         |
| TCDL    | 10.0  | Lumber DOL      | 1.00            | BC       | 0.08 | Vert(CT) | -0.02 | 5-6    | >999 | 360    |               |                 |
| BCLL    | 0.0   | Rep Stress Incr | YES             | WB       | 0.04 | Horz(CT) | 0.00  | 5      | n/a  | n/a    |               |                 |
| BCDL    | 5.0   | Code            | IRC2021/TPI2014 | Matrix-P |      |          |       |        |      |        | Weight: 31 lb | FT = 20%F, 11%E |

**LUMBER**

- TOP CHORD 2x4 DF No.1&Btr(flat)
- BOT CHORD 2x4 DF No.1&Btr(flat)
- WEBS 2x4 DF No.2(flat)
- OTHERS 2x4 DF No.2(flat)

**BRACING**

- TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
- BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

**REACTIONS**

- (size) 5=4-3-4, 6=4-3-4, 8= Mechanical
- Max Grav 5=184 (LC 1), 6=436 (LC 1), 8=24 (LC 1)

**FORCES**

(lb) - Maximum Compression/Maximum Tension

- TOP CHORD 1-8=-21/0, 4-5=-92/0, 1-2=0/76, 2-3=0/76, 3-4=-5/0
- BOT CHORD 7-8=0/0, 6-7=-76/0, 5-6=0/149
- WEBS 2-6=-189/0, 1-7=-93/0, 3-6=-272/0, 3-5=-163/0

**NOTES**

- Unbalanced floor live loads have been considered for this design.
- Refer to girder(s) for truss to truss connections.
- Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
- CAUTION, Do not erect truss backwards.

**LOAD CASE(S)** Standard



EXPIRES: 12/31/2026  
March 3, 2025

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria and DSB-22** available from Truss Plate Institute ([www.tpinst.org](http://www.tpinst.org)) and **BCSI Building Component Safety Information** available from the Structural Building Component Association ([www.sbcsccomponents.com](http://www.sbcsccomponents.com))

**MiTek®**

400 Sunrise Ave., Suite 270  
Roseville, CA 95661  
916.755.3571 / MiTek-US.com

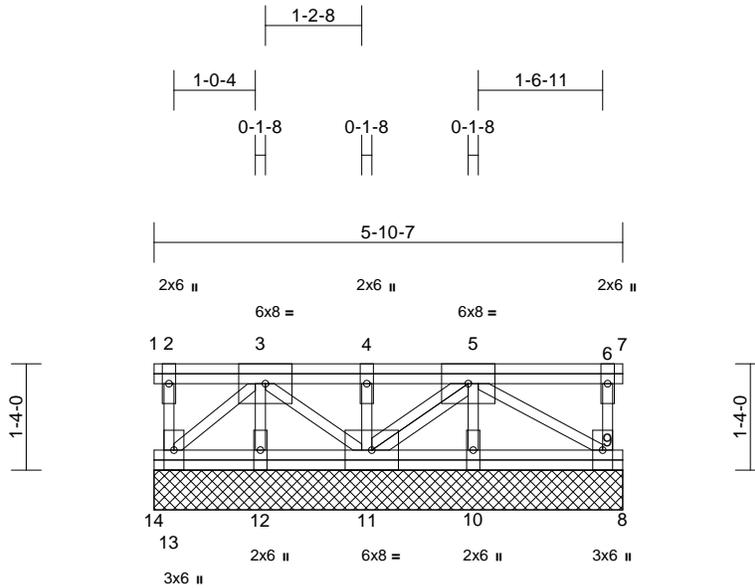
|                |               |                                     |          |          |  |           |
|----------------|---------------|-------------------------------------|----------|----------|--|-----------|
| Job<br>4467228 | Truss<br>FT14 | Truss Type<br>Floor Supported Gable | Qty<br>1 | Ply<br>1 | Pahlisch - Conifer 2-A-2088-2 FL<br>Job Reference (optional) | R86933776 |
|----------------|---------------|-------------------------------------|----------|----------|--|-----------|

Builders FirstSource (Beaverton, OR), Beaverton, OR - 97005,

Run: 8.83 S Feb 18 2025 Print: 8.830 S Feb 18 2025 MiTek Industries, Inc. Fri Feb 28 08:29:16

Page: 1

ID:JldtuW?sR01dj4KUHKlexzIY3m-RfC?PsB70Hq3NSgPqnL8w3uTXbGKWrCDoi7J4zJC?f



Scale = 1:28.7

| Loading | (psf) | Spacing         | 2-0-0           | CSI      | DEFL | in       | (loc) | l/defl | L/d | PLATES | GRIP          |                 |
|---------|-------|-----------------|-----------------|----------|------|----------|-------|--------|-----|--------|---------------|-----------------|
| TCLL    | 40.0  | Plate Grip DOL  | 1.00            | TC       | 0.05 | Vert(LL) | n/a   | -      | n/a | 999    | MT20          | 220/195         |
| TCDL    | 10.0  | Lumber DOL      | 1.00            | BC       | 0.04 | Vert(CT) | n/a   | -      | n/a | 999    |               |                 |
| BCLL    | 0.0   | Rep Stress Incr | NO              | WB       | 0.11 | Horz(CT) | 0.00  | 10     | n/a | n/a    |               |                 |
| BCDL    | 5.0   | Code            | IRC2021/TPI2014 | Matrix-P |      |          |       |        |     |        | Weight: 48 lb | FT = 20%F, 11%E |

**LUMBER**

TOP CHORD 2x4 DF No.1&Btr(flat)  
 BOT CHORD 2x4 DF No.1&Btr(flat)  
 WEBS 2x4 DF No.2(flat)  
 OTHERS 2x4 DF No.2(flat)

**BRACING**

TOP CHORD Structural wood sheathing directly applied or 5-10-8 oc purlins, except end verticals.  
 BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

**REACTIONS** (size) 9=5-10-7, 10=5-10-7, 11=5-10-7, 12=5-10-7, 13=5-10-7  
 Max Horiz 13=176 (LC 5)  
 Max Uplift 9=-402 (LC 8), 10=-246 (LC 8), 11=-205 (LC 7), 12=-6 (LC 8), 13=-468 (LC 7)  
 Max Grav 9=450 (LC 5), 10=317 (LC 3), 11=336 (LC 4), 12=107 (LC 3), 13=504 (LC 6)

**FORCES** (lb) - Maximum Compression/Maximum Tension

TOP CHORD 6-9=-88/0, 1-2=0/0, 2-3=-537/537, 3-4=-530/535, 4-5=-714/721, 5-6=-789/789, 6-7=0/0  
 BOT CHORD 13-14=-88/88, 12-13=-542/548, 11-12=-561/567, 10-11=-847/857, 9-10=-480/489, 8-9=-88/88  
 WEBS 3-12=-93/14, 4-11=-119/0, 5-10=-299/256, 3-13=-707/699, 3-11=-728/713, 5-11=-1115/1096, 5-9=-780/769, 2-13=-64/0

**NOTES**

- 1) Unbalanced floor live loads have been considered for this design.
- 2) Gable requires continuous bottom chord bearing.
- 3) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
- 4) Gable studs spaced at 1-4-0 oc.

- 5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 402 lb uplift at joint 9, 6 lb uplift at joint 12, 205 lb uplift at joint 11, 246 lb uplift at joint 10 and 468 lb uplift at joint 13.
- 6) This truss has been designed for a total drag load of 2750 lb. Lumber DOL=(1.60) Plate grip DOL=(1.60) Connect truss to resist drag loads along bottom chord from 0-0-0 to 5-10-7 for 468.3 plf.
- 7) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.

**LOAD CASE(S)** Standard



EXPIRES: 12/31/2026  
 March 3, 2025

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

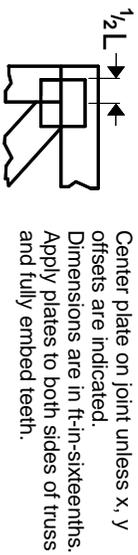
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcsccomponents.com)

**MiTek®**

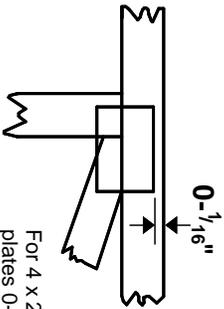
400 Sunrise Ave., Suite 270  
 Roseville, CA 95661  
 916.755.3571 / MiTek-US.com

# Symbols

## PLATE LOCATION AND ORIENTATION



Center plate on joint unless x, y offsets are indicated. Dimensions are in ft-in-sixteenths. Apply plates to both sides of truss and fully embed teeth.



For 4 x 2 orientation, locate plates 0- 1/16\" from outside edge of truss.



This symbol indicates the required direction of slots in connector plates.

\* Plate location details available in MITtek software or upon request.

## PLATE SIZE

4 X 4

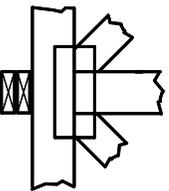
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

## LATERAL BRACING LOCATION



Indicated by symbol shown and/or by text in the bracing section of the output. Use T or I bracing if indicated.

## BEARING

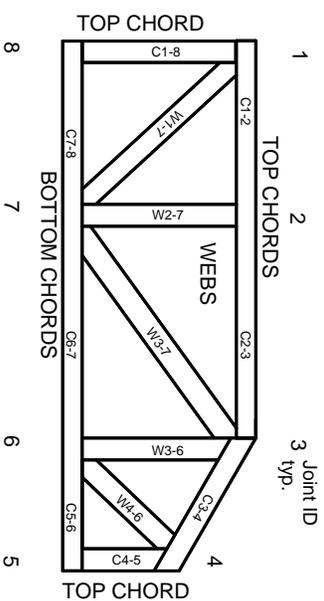


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

## Industry Standards:

ANSI/TFP1: National Design Specification for Metal Plate Connected Wood Truss Construction.  
DSB-22: Design Standard for Bracing.  
BCSI: Building Component Safety Information, Guide to Good Practice for Handling, Installing, Restraining & Bracing of Metal Plate Connected Wood Trusses.

# Numbering System



JOINTS ARE GENERALLY NUMBERED/LETTERED CLOCKWISE AROUND THE TRUSS STARTING AT THE JOINT FARTHEST TO THE LEFT.

CHORDS AND WEBS ARE IDENTIFIED BY END JOINT NUMBERS/LETTERS.

## Product Code Approvals

ICC-ES Reports:

ESR-1-1988, ESR-2-362, ESR-2-685, ESR-3-282  
ESR-4-722, ESL-1-388

## Design General Notes

Trusses are designed for wind loads in the plane of the truss unless otherwise shown.

Lumber design values are in accordance with ANSI/TFP 1 section 6.3. These truss designs rely on Lumber values established by others.

© 2023 MITtek® All Rights Reserved

# General Safety Notes

## Failure to Follow Could Cause Property Damage or Personal Injury

1. Additional stability/bracing for truss system, e.g. diagonal or X-bracing, is always required. See BCSI.
2. Truss bracing must be designed by an engineer. For wide truss spacing, individual lateral braces themselves may require bracing, or alternative Tor I bracing should be considered.
3. Never exceed the design loading shown and never stack materials on inadequately braced trusses.
4. Provide copies of this truss design to the building designer, erection supervisor, property owner and all other interested parties.
5. Cut members to bear tightly against each other.
6. Place plates on each face of truss at each joint and embed fully. Knots and wane at joint locations are regulated by ANSI/TFP 1.
7. Design assumes trusses will be suitably protected from the environment in accord with ANSI/TFP 1.
8. Unless otherwise noted, moisture content of lumber shall not exceed 19% at time of fabrication.
9. Unless expressly noted, this design is not applicable for use with fire retardant, preservative treated, or green lumber.
10. Camber is a non-structural consideration and is the responsibility of truss fabricator. General practice is to camber for dead load deflection.
11. Plate type, size, orientation and location dimensions indicated are minimum plating requirements.
12. Lumber used shall be of the species and size, and in all respects, equal to or better than that specified.
13. Top chords must be sheathed or purlins provided at spacing indicated on design.
14. Bottom chords require lateral bracing at 10 ft. spacing, or less, if no ceiling is installed, unless otherwise noted.
15. Connections not shown are the responsibility of others.
16. Do not cut or alter truss member or plate without prior approval of an engineer.
17. Install and load vertically unless indicated otherwise.
18. Use of green or treated lumber may pose unacceptable environmental, health or performance risks. Consult with project engineer before use.
19. Review all portions of this design (front, back, words and pictures) before use. Reviewing pictures alone is not sufficient.
20. Design assumes manufacture in accordance with ANSI/TFP 1 Quality Criteria.
21. The design does not take into account any dynamic or other loads other than those expressly stated.

# MITek®

MITtek Engineering Reference Sheet: Mill-7473 rev. 1/2/2023

**PAINTED END OF FLOOR TRUSS IS THE TOP LEFT END OF TRUSS INDICATED BY THE TRIANGLE ▲  
SHOWN ON LAYOUT AND THE TOP LEFT END OF TRUSS DRAWING ON STAMPED ENGINEERING PAGE**

Jurisdiction Stamp

Entry Left

2x12 TOP RIM TYP.

**FLOOR NOTES**

ALL BEAMS, RIM, OR ANYTHING ELSE NEEDED TO COMPLETE FLOOR SYSTEM TO BE SUPPLIED AND SIZED BY OTHERS. BUILDERS FIRSTSOURCE TRUSS TO SUPPLY OPEN WEB AND TRUSS TO TRUSS CONNECTION ONLY.

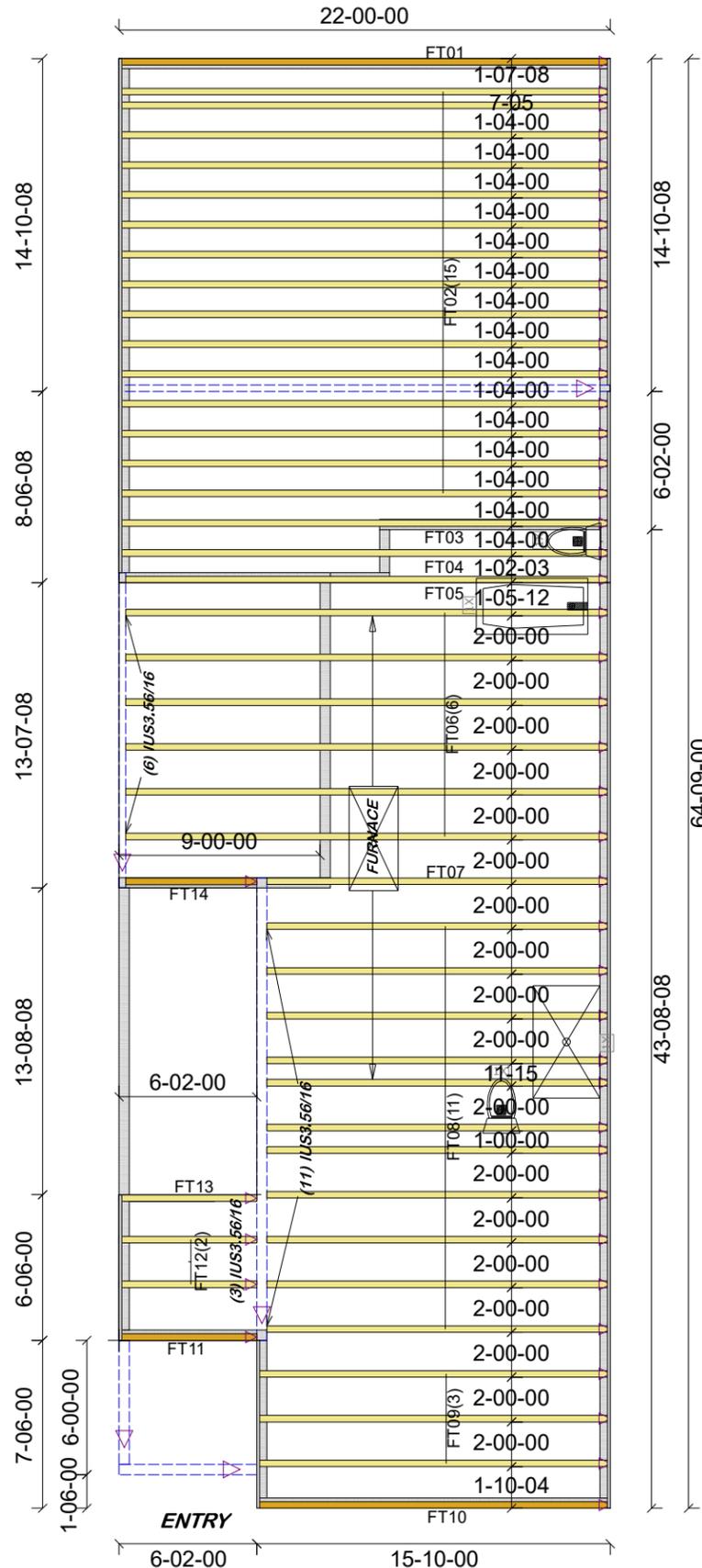
ALL CONCENTRATED LOADS BEING TRANSFERED DOWN FROM ABOVE TO BE SQUASHED BLOCKED AS TO NOT IMPOSE ANY ADDITIONAL LOADS ON TOP OF FLOOR TRUSSES.

CAUTION:  
NEVER CUT, SAW, DRILL, OR MODIFY FLOOR TRUSS WITHOUT THE APPROVAL OF BUILDERS FIRSTSOURCE TRUSS DEPT.

ALL 2X6 STRONGBACKING MUST BE INSTALLED ON EDGE AT 10' ON CENTER AND FASTENED WITH 3-10d NAILS. STRONGBACKS TO BE ATTACHED TO WALLS AT THEIR ENDS OR RESTRAINED BY OTHER MEANS.

WARNING:  
DO NOT INSTALL TRUSSES BACKWARDS OR UPSIDE DOWN. FOLLOW LAYOUT

TC LL = 40  
TC DL = 10  
BC LL = 0  
BC DL = 5  
Total Load = 55  
Truss Depth = 16"  
LL l/d >= 480  
TL l/d >= 360



**DO NOT CUT, DRILL, NOTCH OR MODIFY TRUSS MEMBERS WITHOUT PRIOR APPROVAL FROM BUILDERS FIRSTSOURCE TRUSS**

|           |              |            |         |
|-----------|--------------|------------|---------|
| DATE:     | 2/13/2025    | SCALE:     | NTS     |
| SALESMAN: | Vince Rogers | PROJECT #: | 4467228 |
| DESIGNER: | JDR          |            |         |

SW Washington and Oregon Components  
Woodland Office: 360-841-5900  
Beaverton Office: 971-371-5971

**Builders FirstSource**

BUILDER: Pahlisch Homes  
PROJECT: Conifer 2-A-2088-2 - Floor - Entry Left  
ADDRESS: Newberg, OR

THIS IS A TRUSS PLACEMENT DIAGRAM ONLY. These trusses are designed as individual building components to be incorporated into the building design at the specification of the building designer. See the individual design sheets for each truss design identified on the placement drawing. The building designer is responsible for temporary and permanent bracing of the roof and floor system and for the overall structure. The design of the truss support structure including headers, beams, walls, and columns is the responsibility of the building designer. For general guidance regarding bracing, consult "Bracing of wood trusses" available from the Truss Plate Institute, 583 D'Onifrio Drive, Madison, WI 53179



# Residential Certificate of Lighting Fixtures

Department of Consumer and Business Services

Building Codes Division • Pendleton Field Office

800 SE Emigrant Ave., Suite 360, Pendleton, Oregon 97801

Phone: 541-276-7814 • [building.department@dcbs.oregon.gov](mailto:building.department@dcbs.oregon.gov)

[www.oregon.gov/bcd](http://www.oregon.gov/bcd)

## INTRODUCTION

The Oregon Residential Specialty Code (ORSC) Section N1107 requires that all permanently installed lighting fixtures of a dwelling unit and guest rooms within residential buildings be “high efficiency light sources.”

ORSC Section N1102 defines “high efficiency light source” as compact fluorescent lamps, T-8 or smaller diameter linear fluorescent lamps, LED lamps, fixture-integrated illumination devices, or other lamp types with an efficacy not less than 65 lumens per watt for each lamp or luminaires with an efficacy not less than 45 lumens per watt for each luminaire.

ORSC Sections N1107 and N1101.4 require a contractor, builder, or owner to notify the building official that the requirements for high efficiency light sources have been complied with. Notification must be submitted no later than the final inspection. This form must be used to provide notification to the building official.

This completed and signed form may either be delivered or mailed to the address on this form, or emailed to [Building.Department@dcbs.oregon.gov](mailto:Building.Department@dcbs.oregon.gov).

## INFORMATION

Permit number: BLD-25-

Project address: 2475 N Villa Rd

City: Newberg

County: Yamhill

Subdivision/lot:  
(If applicable) Collina/18

Map/tax lot:  
(If applicable) 5400

## EXCEPTIONS (if applicable)

Exception: Two interior and two exterior permanently installed light fixtures are not required to be high efficiency light sources when controlled by a dimmer or automatic control.

Interior fixtures (maximum of 2)

Exterior fixtures (maximum of 2)

Location: \_\_\_\_\_

Location: \_\_\_\_\_

Description: \_\_\_\_\_

Description: \_\_\_\_\_

Location: \_\_\_\_\_

Location: \_\_\_\_\_

Description: \_\_\_\_\_

Description: \_\_\_\_\_

I certify that the exceptions listed above are controlled by a dimmer or automatic control.

## ACKNOWLEDGEMENT

I hereby acknowledge that I am the contractor, builder, or owner for the permit at the listed address. All permanently installed lighting fixtures comply with the requirements of ORSC Sections N1107.2 and N1107.3. Failure to submit this \_\_\_\_\_ approval or issuance of a Certificate of Occupancy.

Signature: \_\_\_\_\_

*By signing electronically, I agree that this agreement may be electronically signed. I agree my electronic signature on this certification is the same as a handwritten signature for the purposes of validity, enforceability, and admissibility.*

Name (Printed): Mike Morse

Date: 5/9/2025



# Residential Energy Additional Measure Selection

Jurisdiction:

## RESIDENTIAL INFORMATION

Date: **5.9.25**

Building permit number: **BLD-25-**

Owner's name: **Pahlisch Homes at Collina, LP**

Job address: **2475 N Villa Rd**

City: **Newberg**

State: **OR**

ZIP: **97132**

## INSTRUCTIONS

Select the type of construction. If the project is an addition, select the applicable addition type and check the selected measures from the Tables N1101.1(2) and N1101.3.2 on Page 2 accordingly; print and sign your name. Submit this form with your permit application or your project will be placed on hold until the required information is provided.

**New construction.** All conditioned spaces within residential buildings shall comply with Table N1101.1(1), and one additional measure from Table N1101.1(2).

**Note:** If using Exception 3 of Section N1105.3 for the installation of ducts and air handling equipment, two additional measures shall be selected for compliance from Table N1101.1(2).

*Check the selected measure(s) on Page 2. Depending on the additional measure you have selected, there may be sub-options that you will have to specify. Check the appropriate box if provided.*

**Additions.** Additions to existing buildings or structures may be made without making the entire building or structure comply if the new additions comply with the requirements of this chapter. Read ORSC Section N1101.3.

*Check the appropriate boxes below and the selected measures on Page 2. Depending on the additional measure you have selected, there may be sub-options that you will have to specify. Check the appropriate box if provided.*

**Large additions.** Additions that are more than or equal to 600 square feet in area are required to select one measure from Table N1101.1(2).

**Small additions.** Additions that are less than 600 square feet in area are required to select one measure from Table N1101.1(2) **or** select one measure from Table N1101.3.

Selected Table N1101.1(2) additional measure

**or**

Selected Table N1101.3 additional measure

**Exception:** Additions that are less than 225 square feet in area are not required to comply with Table N1101.1(2) or Table N1101.3.

Applicant's printed name: **Mike Morse**

Applicant's signature:

**TABLE N1101.1(2) – ADDITIONAL MEASURES**

| MEASURE NO. | MEASURE DESCRIPTION   |
|-------------|---|
| 1           | <b>HIGH-EFFICIENCY HVAC SYSTEM<sup>a</sup></b><br>a. Gas-fired furnace or boiler AFUE 94 percent, or<br>b. Air source heat pump HSPF 10.0/16.0 SEER cooling or 8.5 HSPF2 / 15.0 SEER2, or<br>c. Ground-source heat pump COP 3.5 or ENERGY STAR rated  |
| 2           | <b>HIGH-EFFICIENCY WATER HEATING SYSTEM</b><br>a. Natural gas/propane water heater with minimum 0.90 UEF, or<br>b. Electric heat pump water heater with minimum 3.45 UEF, or<br>c. Natural gas/propane tankless/instantaneous heater with minimum 0.80 UEF and drain water heat recovery unit installed on minimum of one shower/tub-shower   |
| 3           | <b>WALL INSULATION UPGRADE</b><br>Exterior walls – U-0.045/R-21 conventional framing with R-5.0 continuous insulation   |
| 4           | <b>ADVANCED ENVELOPE</b><br>Windows – U-0.21 (Area-weighted average), and<br>Flat ceiling <sup>b</sup> – U-0.017/R-60, and<br>Framed floors – U-0.026/R-38 or slab edge insulation to F-0.48 or less (R-10 for 48"; R-15 for 36" or R-5 fully insulated slab)   |
| 5           | <b>DUCTLESS HEAT PUMP (Dwelling units with all-electric heat)</b><br>a. Provide ductless heat pump of minimum HSPF 10.0 or HSPF2 9.0 in primary zone replaces zonal electric heat sources, and<br>b. Provide programmable thermostat for all heaters in bedrooms  |
| 6           | <b>HIGH-EFFICIENCY THERMAL ENVELOPE UA<sup>c</sup></b><br>Proposed UA is 8 percent lower than the code UA   |
| 7           | <b>2.75 ACH AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION</b><br>Achieve a maximum of ACH50 whole-house air leakage when third-party tested and provide a whole-house ventilation system, including 2.75 heat recovery with a minimum sensible heat recovery efficiency of not less than 66 percent and total fan efficacy of 1.6 CFM/Watt (combined input for supply and exhaust). |

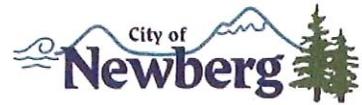
*For SI: 1 square foot = 0.093 m<sup>2</sup>, 1 watt per square foot = 10.8 W/m<sup>2</sup>.*

- Appliances located within the building thermal envelope shall have sealed combustion air installed. Combustion air shall be ducted directly from the outdoors.
- The maximum vaulted ceiling surface area shall not be greater than 50 percent of the total heated space floor area unless vaulted area has a U-factor not greater than U-0.026.
- In accordance with Table N1104.1(1), the Proposed UA total of the Proposed Alternative Design shall be a minimum 8 percent less than the Code UA total of the Standard Base Case.

**TABLE N1101.3.2 – SMALL ADDITION ADDITIONAL MEASURES**

| MEASURE NO. | MEASURE DESCRIPTION  |
|-------------|--|
| 1           | Increase the ceiling insulation of the existing portion of the home as specified in Table N1101.2.   |
| 2           | Replace all existing single-pane wood or aluminum windows to the U-factor as specified in Table N1101.2  |
| 3           | Insulate the existing floor, crawl space or basement wall systems as specified in Table N1101.2 and install 100 percent of permanently installed lighting fixtures as CFL, LED or linear fluorescent, or a minimum efficacy of 40 lumens per watt as specified in Section N1107.2. |
| 4           | Test the entire dwelling with a blower door and exhibit not more than 4.5 air changes per hour @ 50 Pascals.   |
| 5           | Seal and performance test the duct system.   |
| 6           | Replace existing 80 percent AFUE or less gas furnace with a 94 percent AFUE or greater system.   |
| 7           | Replace existing electric radiant space heaters with a ductless mini split system with a minimum HSPF of 10.0 or HSPF2 of 9.0.   |
| 8           | Replace existing electric forced-air furnace with an air source heat pump with a minimum HSPF of 9.5 or HSPF2 of 8.1.  |
| 9           | Replace existing water heater with one of the following:<br>a. Natural gas/propane water heater with minimum UEF 0.90, or<br>b. Electric heat pump water heater with minimum 3.45 UEF.   |

# City of Newberg PUBLIC WORKS — ENGINEERING Erosion Control & Sedimentation Permit Application



**DESCRIPTION OF WORK (check one of the following options):**

- Sing Family Residence     Erosion Control (Disturbing under 1 acre)
- 1200CN (Disturbing between 1-5 acres)
- 1200C (Disturbing over 5 acres, DEQ required)

Project Name: Collina at Springbrook  
 Project Address: 2475 N Villa Rd  
 Project Tax Map & Lot Number: 5400 | 18  
 Project Site Size: 3361 acres    Disturbed Work Area: 3361 acres  
 Project Site Runoff Drains to (check one):  
 Catch Basin     Ditch     Pipe     Creek     Other: \_\_\_\_\_  
 Project is on (check one):  Private Property     Public Property

**PERMIT INFORMATION**

PW Permit No: \_\_\_\_\_

Bldg Permit No: \_\_\_\_\_

Date Received: \_\_\_\_\_

Date Paid: \_\_\_\_\_

Receipt: \_\_\_\_\_

Date Issued: \_\_\_\_\_ By: \_\_\_\_\_

**Property Owner Name:** PAHLISCH HOMES AT COLLINA, LP  
 Address: 210 SW WILSON AVE STE 100  
 City/state: BEND, OR    Zip: 97702

Phone: 541-385-6762    Email: pdxpermits@pahlisch.com  
 Signature: 

**Applicant Name:** PAHLISCH HOMES INC  
 Address: 210 SW WILSON AVE STE 100  
 City/state: BEND, OR    Zip: 97702

Phone: 541-385-6762    Email: pdxpermits@pahlisch.com  
 Signature: 

**General/Excavation Contractor Name:** Strauss Excavating, Inc.  
 Address: 23483 SW Rosedale Rd.  
 City/state: Beaverton OR    Zip: 97078

24hr Phone: 5037931482    Email: office@straussexcavating.com  
 CCB#: 32575

Contact name & Title: Deanna Strauss, Owner

**FOR STAFF USE ONLY**

PERMIT FEE: \_\_\_\_\_

Application submittal fee: \$ \_\_\_\_\_

Additional fees: \$ \_\_\_\_\_

Application accepted:  
 By: \_\_\_\_\_ Date: \_\_\_\_\_

Application reviewed:  
 By: \_\_\_\_\_ Date: \_\_\_\_\_

Applicant notified:  
 By: \_\_\_\_\_ Date: \_\_\_\_\_

**ADDITIONAL INFORMATION**

Meter Size (Circle what applies):

¾"  1"  1.5"  2"  3"  4"  6"  8"  10"

Number of backflow devices: 1

Wastewater Lateral Size (Circle what applies): 4"  6"  8"

Wastewater Class (check what applies):

- Residential;
- Multi-residential (BOD or 55 > 1 ½ lbs/100 cf);
- Nonstandard Discharge Strength. All nonresidential users with discharge strengths (ROD or 55) in excess of one and one-half pounds per 100 cubic feet (240 mg/liter) of discharge flow;
- Industrial (BOD or 55 > 1 ½ lbs/100 cf);
- Commercial 1 Discharge Strength (BOD or 55 > 1 ½ lbs/100 cf);
- Commercial 2 Discharge Strength;
- George Fox University; and
- Public agencies.

|  |                          |                |
|--|--------------------------|----------------|
| Applicant/Authorized Agent's signature | Mike Morse<br>Print name | 5/9/25<br>Date |
|--|--------------------------|----------------|

**NOTE:** Person specified as "Applicant" shall be designated "Permittee" and shall provide financial assurance for work, if required by the city pursuant to Design and Construction Standards.

**\* BY SIGNING ABOVE, THE APPLICANT(S) SHALL CERTIFY THAT:**

- The above request does not violate any recorded deed restrictions that may be attached to or imposed upon the subject property.
- *If the application is granted, the applicant will exercise the rights granted in accordance with the terms and subject to all the conditions and limitations of the approval.*
- *All of the above statements and the statements in any plan, attachments, and exhibits transmitted, are true; and the applicants so acknowledge that any permit issued, based on this application, may be revoked if it is found that any such statements are false.*
- *The applicant has read the entire contents of the application, including the policies and criteria, and understands the requirements for approving or denying the application.*

## ENGINEERING FEES

### Public Improvement Application (PIA):

#### PLAN REVIEW FEE

**Part 1:** Required submittal fee 25% cost of public improvements

#### PERMIT FEE

**Part 2:** 33% cost of public improvements

#### REQUIREMENTS FOR ISSUANCE OF A PERMIT:

1. At the time of submittal of this application, the applicant shall submit a preliminary engineer's estimate.
2. A Public Improvement Development Permit will not be issued without an appropriate ESC Permit or any other required permit.
3. Contractor must be prequalified by the City and acquire a City of Newberg Business License prior to issuance of a Public Improvement Permit.
4. The contractor and any subcontractor shall not commence work until the contractor has obtained all insurance requirements including general liability insurance.
5. Applicant shall deliver to the City assurance such as a bond, bank credit or cash for the purpose of assuring full and faithful completion of all required improvements to existing public facilities within the public right-of-way, easements and of repair work to such public facilities which are damaged as a result of the development. All assurance shall be equivalent to the value of the improvements or repair work.
6. Applicant is to assure that all work performed in the public right-of-way results in the public right-of-way being restored to its original or better condition.

FOR STAFF USE ONLY

## DETAILED SUBMITTAL REQUIREMENTS

### FRANCHISE UTILITY AND SIDEWALK/ DRIVEWAY AND UTILITY CONNECTIONS, ETC.

(work in the right of way)

#### Plans

(including information below)

- Dimensions
- Street Name
- Site Address

### FULL SCALE DEVELOPMENT

(Subdivisions/Partitions and Street Improvements)

#### Design Plans

(3 sets, 24x36 or 22x34)

- Cover – Site, Vicinity, Abbreviation, Legend
- General Notes (City, Water, Sewer, etc.)
- Street (Plan, Profile)
- Water, Storm and Sanitary (Plan Profile)
- Stormwater Facilities
- Grading
- Landscaping/Tree Plan
- Composite Utility Plan (Electrical, Phone, Gas, Storm, Sanitary, Water, Signage, Street Lights, etc)
- Details
- Sight Distance Certification
- Signing and Striping
- Street Light Plan and Photometric
- Engineers seal/signature

#### Additional Submittals

- Traffic Report
- Storm water Drainage Calculations
- Geotechnical Report
- Preliminary Access Report (Sight Distance)
- Proposed Plat
- Pavement Section Design Report
- Water System Evaluation Report
- Wastewater Conveyance Report

# Structural Calculations

for the

## Conifer 2-A-2088-2

Collina, Lot 18  
Newberg, Oregon  
for

Pahlisch Homes, Inc.

April 24, 2025

FE Job Number – 25-B031B



**These Calculations Are Void If Seal And Signature Are Not Original**



**FROELICH**  
ENGINEERS

\*\*\* LIMITATIONS \*\*\*

ENGINEERING DESIGN IS BASED UPON INFORMATION PROVIDED BY THE CLIENT, WHO IS SOLELY RESPONSIBLE FOR ACCURACY OF SAME. NO RESPONSIBILITY AND / OR LIABILITY IS ASSUMED BY, OR IS TO BE ASSIGNED TO THE ENGINEER FOR ITEMS BEYOND THAT SHOWN ON THESE SHEETS.

[www.froelich-engineers.com](http://www.froelich-engineers.com)

**FROELICH CONSULTING ENGINEERS, INC.**

client: Pahlisch  
 project: Conifer 2-A  
 job number: 25-B031  
 date: 1/30/2025  
 by: JDB



**FROELICH**  
 ENGINEERS

**Design Criteria:****General:**

|                     |                       |
|---------------------|-----------------------|
| Building Department | City of Newberg, OR   |
| Building Code       | 2022 OSSC / 2023 ORSC |
| Building Occupancy  | Group R-3             |
| Risk Category       | II                    |

**Roof Loads:**

|                            |          |
|----------------------------|----------|
| Roof Snow Load ( $p_f$ )   | 25.0 psf |
| Roof Deflection Limitation | L/240    |

**Floor Loads:**

|                             |        |
|-----------------------------|--------|
| Live Load                   | 40 psf |
| Floor Deflection Limitation | L/360  |

**Wind Load:**

|                      |         |                     |
|----------------------|---------|---------------------|
| Basic Wind Speed (V) | 100 mph | (OSSC Table 1609.3) |
| Exposure             | C       |                     |
| Elevation            | 250     | ft                  |

**Seismic Load:**

|   |       |            |
|---|-------|------------|
| Default Soil Site Class                         | D     | (1613.2.2) |
| Mapped Spectral Response Acceleration ( $S_s$ ) | 0.877 | g          |
| Mapped Spectral Response Acceleration ( $S_1$ ) | 0.416 | g          |
| Short-Period Site Coefficient ( $F_a$ )         | 1.200 |            |
| Long-Period Site Coefficient ( $F_v$ )          | 1.884 |            |
| Spectral Response Coefficient ( $S_{DS}$ )      | 0.701 | g          |
| Spectral Response Coefficient ( $S_{D1}$ )      | 0.522 | g          |
| Seismic Design Category                         | D     |            |

**Soils Data:**

|                            |          |           |
|----------------------------|----------|-----------|
| Allowable Bearing Pressure | 1500 psf | (assumed) |
| Footing (Frost) Depth      | 12"      |           |

**Scope of Work:**

**Gravity Design:** - Major Joists, Beams, Bearing Walls, Columns, & Foundation

**Lateral Design:** - Diaphragms, Chords, & Collectors, Shear Walls, Anchorage & Foundation



**FROELICH**  
ENGINEERS

### **Scope of Work:**

Froelich Engineers is not responsible for any building elements that are not part of this structural engineering package, including but not limited to: hand rails, guard rails, cladding, chimneys, faux beam connections, special inspections, temporary shoring, or bracing as related to construction means, methods, sequence or procedures. Froelich Engineers has provided details only to the areas pertaining to our design.

The roof trusses are designed and stamped by others. We provide a 3rd party review of truss shop drawings with a review stamp.

The floor joists have been recommended based upon deflection and performance only. Joist design and installation requirements are the responsibility of others.

### Gravity Design:

Froelich Engineers has provided full gravity design based on truss shop drawings and appropriate roof, floor and wall tributary areas to loaded members. Minimum loading for building members is per the 2022 OSSC chapter 16 and supporting code. The gravity design includes beam, column and wall, stress and deflection calculations per 2022 OSSC chapter 23 and supporting code. Fasteners and connections used to carry and transfer gravity loads to the foundation or pad footing are per 2018 NDS. Pre-manufactured collectors and fasteners shall be installed per the manufacturer's requirements.

### Engineered Lateral and Foundation: (Pertains to Engineered Lateral Wall Lines Only)

Froelich Engineers has provided structural lateral design of walls, diaphragms, chords, anchorage and foundations to adequately resist the appropriate lateral loads on the structure per the 2022 OSSC and supporting code. Wall and diaphragm assembly and fastener requirements are per 2018 NDS. Structural chord collectors and anchorage are to be installed per manufacturer's requirements and requirements of applicable code sections. Foundations supporting lateral engineered wall lines must resist lateral soil loads per 2022 OSSC 1807.1.1, have a minimum footing size per table 1809.7 and a minimum of 7-1/2 inch stem, per 1905.1.7 to meet the requirements of structural plain concrete. Structural plain concrete must meet the requirements of 2022 OSSC 1905.1.7. Foundations supporting lateral engineered wall lines are designed to resist in plane loads through flexure and soil bearing. All round pad footings meet the requirements of 2023 ORSC 403 and all square pad footing meet the requirements of ACI 318-19 chapter 13.



**FROELICH**  
ENGINEERS

### **Engineered Foundation Design Criteria:**

#### Out-of-Plane Engineered Foundation (Supported By Top and Bottom):

Froelich Engineers has provided structural out-of-plane foundation design for foundation walls supported at the top and bottom to meet ACI 318-19 requirements. The top support must be provided by direct connection to the floor diaphragm. The bottom support requires the footing be poured monolithically with the stem, with no cold joints. This assembly meets sliding, overturning, and bearing requirements of retaining walls per OSSC 1807.2.2. Assuming the wall is built to meet these conditions, the wall is designed with no vertical dowels per the requirements of ACI 318-19 and the requirements of structural plain concrete per OSSC 1905.1.7. This design meets the requirements for the foundation to resist lateral soil loads per OSSC 1807.1.1. This condition occurs only when the perimeter of the entire house is supported by the floor diaphragm per the provided details. In no case shall the stem wall without dowels have pony walls built on top of the sill plate.

#### Out-of-Plane Engineered Foundation (Unsupported):

Froelich Engineers has provided structural out-of-plane foundation design for foundation walls unsupported at the top, when required by grade changes. This assembly meets sliding, overturning, and bearing requirements of retaining walls per OSSC 1807.2.2. Vertical dowels at 48" o.c. (max) are required between the footing and the stem wall for the assembly to resist lateral soil loads per OSSC 1807.1.1. Foundation walls, as designed, meet the requirements of structural plain concrete per OSSC 1905.1.7. For one and two family dwellings, three stories or less, the stem is permitted to be under reinforced (structural plain concrete) and is designed to meet fundamental strength requirements without minimum reinforcing per ACI 318-19. This condition occurs when foundation is stepped and pony walls are required to frame to the floor diaphragm.

#### In Plane Engineered Foundation (Foundation Supporting Shear Walls):

Foundations supporting lateral engineered wall panels are designed to resist in plane loads through flexure and soil bearing. Horizontal reinforcement is required per OSSC 1905.1.7(c). Additional horizontal reinforcement is added as needed for bending of the foundation on an elastic support. Additional dowels are added as needed for transfer of loads from hold downs to the footing. This condition applies only at engineered shear walls.

#### Froelich Engineers Recommendations:

Pahlisch Homes has asked Froelich Engineers to design foundations for one and two family dwellings, three stories or less, with light framed construction, with minimal rebar. We have provided Pahlisch Homes with minimum reinforcement per current code, and provided the calculations in this package. The design and calculations in this package meet all current code requirements, as we have interpreted, for stability and reinforcing.



**-Statement of Code Compliance-**

All engineering calculations in this packet that reference outdated codes, including but not limited to: hand written calculations, computer outputs, and spreadsheets, have been reviewed by FCE and meet or exceed the minimum requirements for the following code standards as referenced in Ch. 35 of the 2022 OSSC;

- 2022 OSSC
- 2023 ORSC
- 2018 NDS
- 2021 AF&PA SDPWS
- ASCE 7-16
- ACI 318-19

**FROELICH CONSULTING ENGINEERS, INC.**

client: Pahlisch  
 project: Conifer A  
 job number: 21-B345  
 date: 11/16/2021  
 by: CHA

**Dead Load Estimates:**

| <b>Roof:</b>              | <u>DL (psf)</u> |  |
|---------------------------|-----------------|--|
| Comp. Shingles (3-layers) | 6.0             |  |
| Trusses                   | 3.0             |  |
| Insulation (Batt)         | 1.2             |  |
| 1/2" Gyp. Ceiling         | 2.0             |  |
| 1/2" Plywood (Max)        | 1.6             |  |
| Misc.                     | 1.5             |  |
| Total:                    | <u>15.3 psf</u> |  |
| Use:                      | <b>18.0 psf</b> |  |

| <b>Roof Pitch</b> |
|-------------------|
| rise= 8           |
| run= 12           |

| <b>Slope Corrected</b>          |
|---------------------------------|
| DL= total/cos(-tan(roof slope)) |
| DL= 2.1                         |

| <b>2nd Floor (Floor Truss):</b> | <u>DL (psf)</u> |                     |
|---------------------------------|-----------------|---------------------|
| <b>Top Chord:</b>               |                 |                     |
| 3/4" or 7/8" Plywood            | 2.8             |                     |
| Floor Truss @ 24" OC            | 4.0             |                     |
| Flooring (Carpet)               | 1.7             |                     |
| Carpet Pad                      | 1.0             |                     |
| Misc.                           | 0.5             | (10psf Top Chord)   |
| <b>Bottom Chord:</b>            |                 |                     |
| Insulation (Batt)               | 2.0             |                     |
| 1/2" Gyp. Ceiling               | 2.25            |                     |
| Misc.                           | 0.8             | (5psf Bottom Chord) |
| Total:                          | <u>15 psf</u>   |                     |
| Use:                            | <b>15.0 psf</b> |                     |

| <b>1st Floor (I-Joist):</b> | <u>DL (psf)</u> |
|-----------------------------|-----------------|
| 1 1/8" T&G Plywood          | 3.8             |
| 9-1/2" LPI's @ 32" o.c.     | 2.6             |
| Insulation (Batt)           | 1.2             |
| Carpet                      | 2.0             |
| Misc.                       | 0.5             |
| Total:                      | <u>10.0 psf</u> |
| Use:                        | <b>10.0 psf</b> |

| <b>Exterior Walls:</b>  | <u>DL (psf)</u> |
|-------------------------|-----------------|
| 1/2" Plywood (Max)      | 1.6             |
| 2x6 DF Studs @ 16" o.c. | 1.5             |
| Insulation (Batt)       | 1.2             |
| 1/2" Gyp.               | 2.0             |
| Misc.                   | 1.0             |
| Total:                  | <u>7.3 psf</u>  |
| Use:                    | <b>8.0 psf</b>  |

**FROELICH CONSULTING ENGINEERS**

client: Pahlisch  
 project: Conifer 2-A  
 job number: 24-B169  
 date: 6/24/2024  
 by: CHA

**ROOF BEAMS**

|                  |  |            |
|------------------|--|------------|
| Roof Beam<br>RB1 | Location: Upper Bath Window<br>Span: 4'-0" (clr)<br>Loads:<br>Loading Trib.<br>Roof DL: <input type="text" value="18"/> psf x <input type="text" value="12.00"/> ft = 216 plf<br>SL: <input type="text" value="25"/> psf x <input type="text" value="12.00"/> ft = 300 plf | 4x6 DF #2  |
| Roof Beam<br>RB2 | Location: Loft<br>Span: 5'-0" (clr)<br>Loads:<br>Loading Trib.<br>Roof DL: <input type="text" value="18"/> psf x <input type="text" value="12.00"/> ft = 216 plf<br>SL: <input type="text" value="25"/> psf x <input type="text" value="12.00"/> ft = 300 plf              | 4x8 DF #2  |
| Roof Beam<br>RB3 | Location: Front Porch<br>Span: 5'-6" (clr)<br>Loads:<br>Loading Trib.<br>Roof DL: <input type="text" value="18"/> psf x <input type="text" value="4.00"/> ft = 72 plf<br>SL: <input type="text" value="25"/> psf x <input type="text" value="4.00"/> ft = 100 plf          | 6x10 DF #2 |
| Roof Beam<br>RB4 | Location: Stair Landing<br>Span: 3'-3"<br>Loads:<br>Loading Load Ratio<br>GT DL: <input type="text" value="2800"/> lbs x 17 / 42 = 1133 lbs<br>SL: <input type="text" value="2800"/> lbs x 25 / 42 = 1667 lbs <input type="text" value="@ 1'-8"/>                          | 4x12 DF #2 |

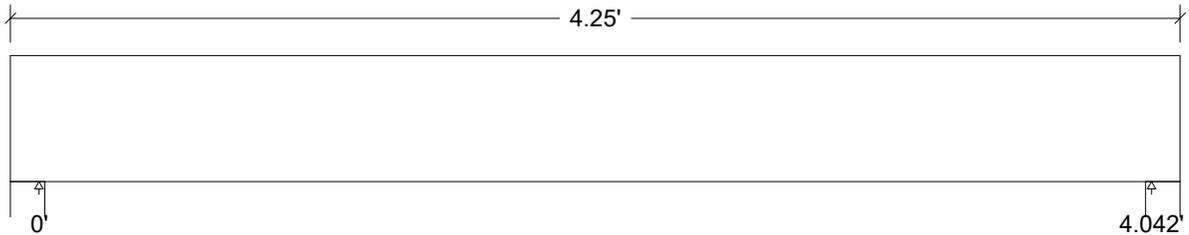


**Design Check Calculation Sheet**  
WoodWorks Sizer 11.1

**Loads:**

| Load        | Type | Distribution | Pat-tern | Location [ft] |     | Magnitude |     | Unit |
|-------------|------|--------------|----------|---------------|-----|-----------|-----|------|
|             |      |              |          | Start         | End | Start     | End |      |
| Dead        | Dead | Full UDL     |          |               |     | 216.0     |     | plf  |
| Snow        | Snow | Full UDL     |          |               |     | 300.0     |     | plf  |
| Self-weight | Dead | Full UDL     |          |               |     | 4.6       |     | plf  |

**Maximum Reactions (lbs) and Bearing Lengths (in) :**



|             |      |  |      |
|-------------|------|--|------|
| Unfactored: |      |  |      |
| Dead        | 468  |  | 468  |
| Snow        | 638  |  | 638  |
| Factored:   |      |  |      |
| Total       | 1106 |  | 1106 |
| Bearing:    |      |  |      |
| Length      | 1.50 |  | 1.50 |
| Min req'd   | 0.51 |  | 0.51 |

**RB1**

**Lumber-soft, D.Fir-L, No.2, 4x6 (3-1/2"x5-1/2")**

Supports: All - Timber-soft Column, D.Fir-L No.2  
Total length: 4.25'; Clear span: 4.248'; volume = 0.6 cu.ft.  
Lateral support: top= at supports, bottom= at supports;

**Analysis vs. Allowable Stress and Deflection using NDS 2015 :**

| Criterion    | Analysis Value  | Design Value   | Unit | Analysis/Design   |
|--------------|-----------------|----------------|------|-------------------|
| Shear        | $f_v = 63$      | $F_v' = 207$   | psi  | $f_v/F_v' = 0.30$ |
| Bending(+)   | $f_b = 723$     | $F_b' = 1345$  | psi  | $f_b/F_b' = 0.54$ |
| Dead Defl'n  | $0.02 = <L/999$ |                |      |                   |
| Live Defl'n  | $0.02 = <L/999$ | $0.14 = L/360$ | in   | 0.16              |
| Total Defl'n | $0.05 = <L/999$ | $0.21 = L/240$ | in   | 0.23              |

**Design Notes:**

- WoodWorks analysis and design are in accordance with the ICC International Building Code (IBC 2015), the National Design Specification (NDS 2015), and NDS Design Supplement.
- Please verify that the default deflection limits are appropriate for your application.
- Sawn lumber bending members shall be laterally supported according to the provisions of NDS Clause 4.4.1.

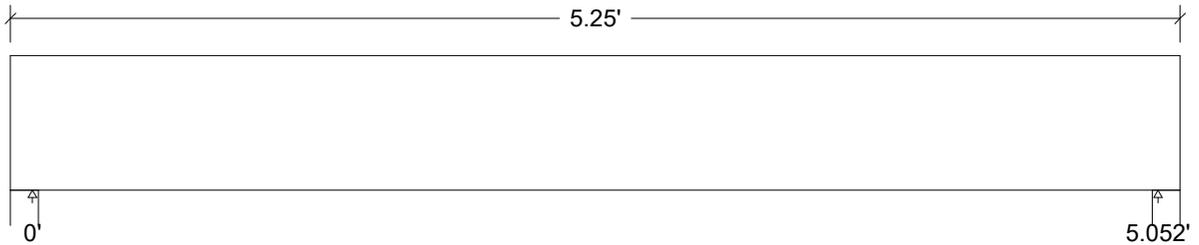


**Design Check Calculation Sheet**  
WoodWorks Sizer 11.1

**Loads:**

| Load        | Type | Distribution | Pat-tern | Location [ft] |     | Magnitude |     | Unit |
|-------------|------|--------------|----------|---------------|-----|-----------|-----|------|
|             |      |              |          | Start         | End | Start     | End |      |
| Dead        | Dead | Full UDL     |          |               |     | 216.0     |     | plf  |
| Snow        | Snow | Full UDL     |          |               |     | 300.0     |     | plf  |
| Self-weight | Dead | Full UDL     |          |               |     | 6.0       |     | plf  |

**Maximum Reactions (lbs) and Bearing Lengths (in) :**



|             |      |  |      |
|-------------|------|--|------|
| Unfactored: |      |  |      |
| Dead        | 582  |  | 582  |
| Snow        | 787  |  | 788  |
| Factored:   |      |  |      |
| Total       | 1370 |  | 1370 |
| Bearing:    |      |  |      |
| Length      | 1.50 |  | 1.50 |
| Min req'd   | 0.63 |  | 0.63 |

**RB2**

**Lumber-soft, D.Fir-L, No.2, 4x8 (3-1/2"x7-1/4")**

Supports: All - Timber-soft Column, D.Fir-L No.2  
Total length: 5.25'; Clear span: 5.248'; volume = 0.9 cu.ft.  
Lateral support: top= at supports, bottom= at supports;

**Analysis vs. Allowable Stress and Deflection using NDS 2015 :**

| Criterion    | Analysis Value  | Design Value   | Unit | Analysis/Design   |
|--------------|-----------------|----------------|------|-------------------|
| Shear        | $f_v = 59$      | $F_v' = 207$   | psi  | $f_v/F_v' = 0.28$ |
| Bending(+)   | $f_b = 652$     | $F_b' = 1335$  | psi  | $f_b/F_b' = 0.49$ |
| Dead Defl'n  | $0.02 = <L/999$ |                |      |                   |
| Live Defl'n  | $0.02 = <L/999$ | $0.17 = L/360$ | in   | 0.14              |
| Total Defl'n | $0.05 = <L/999$ | $0.26 = L/240$ | in   | 0.20              |

**Design Notes:**

1. WoodWorks analysis and design are in accordance with the ICC International Building Code (IBC 2015), the National Design Specification (NDS 2015), and NDS Design Supplement.
2. Please verify that the default deflection limits are appropriate for your application.
3. Sawn lumber bending members shall be laterally supported according to the provisions of NDS Clause 4.4.1.

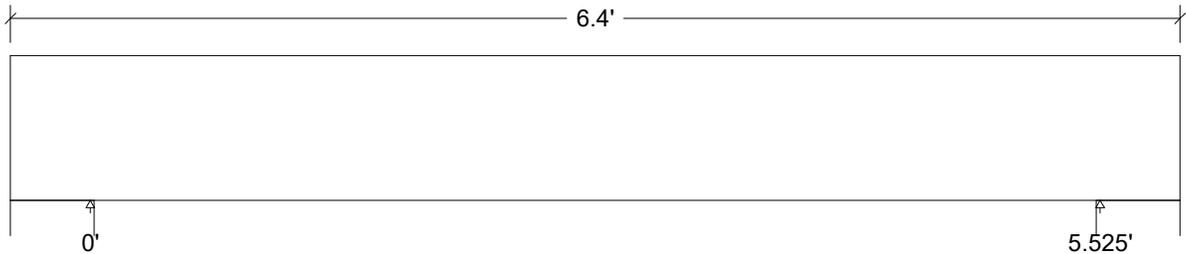


**Design Check Calculation Sheet**  
WoodWorks Sizer 11.1

**Loads:**

| Load        | Type | Distribution | Pat-tern | Location [ft] |     | Magnitude |     | Unit |
|-------------|------|--------------|----------|---------------|-----|-----------|-----|------|
|             |      |              |          | Start         | End | Start     | End |      |
| DEAD        | Dead | Full UDL     |          |               |     | 72.0      |     | plf  |
| SNOW        | Snow | Full UDL     |          |               |     | 100.0     |     | plf  |
| Self-weight | Dead | Full UDL     |          |               |     | 12.4      |     | plf  |

**Maximum Reactions (lbs) and Bearing Lengths (in) :**



|             |       |  |       |
|-------------|-------|--|-------|
| Unfactored: |       |  |       |
| Dead        | 265   |  | 265   |
| Snow        | 320   |  | 320   |
| Factored:   |       |  |       |
| Total       | 585   |  | 585   |
| Bearing:    |       |  |       |
| Length      | 5.50  |  | 5.50  |
| Min req'd   | 0.50* |  | 0.50* |

\*Minimum bearing length setting used: 1/2" for end supports

**RB3**

**Timber-soft, D.Fir-L, No.2, 6x10 (5-1/2"x9-1/2")**

Supports: All - Timber-soft Column, D.Fir-L No.2

Total length: 6.4'; Clear span: 6.394'; volume = 2.3 cu.ft.; Beam and stringer

Lateral support: top= at supports, bottom= at supports;

**Analysis vs. Allowable Stress and Deflection using NDS 2015 :**

| Criterion    | Analysis Value  | Design Value   | Unit | Analysis/Design   |
|--------------|-----------------|----------------|------|-------------------|
| Shear        | $f_v = 10$      | $F_v' = 195$   | psi  | $f_v/F_v' = 0.05$ |
| Bending(+)   | $f_b = 102$     | $F_b' = 1006$  | psi  | $f_b/F_b' = 0.10$ |
| Dead Defl'n  | $0.00 = <L/999$ |                |      |                   |
| Live Defl'n  | $0.00 = <L/999$ | $0.21 = L/360$ | in   | 0.02              |
| Total Defl'n | $0.01 = <L/999$ | $0.32 = L/240$ | in   | 0.03              |

**Design Notes:**

1. WoodWorks analysis and design are in accordance with the ICC International Building Code (IBC 2015), the National Design Specification (NDS 2015), and NDS Design Supplement.
2. Please verify that the default deflection limits are appropriate for your application.
3. Sawn lumber bending members shall be laterally supported according to the provisions of NDS Clause 4.4.1.

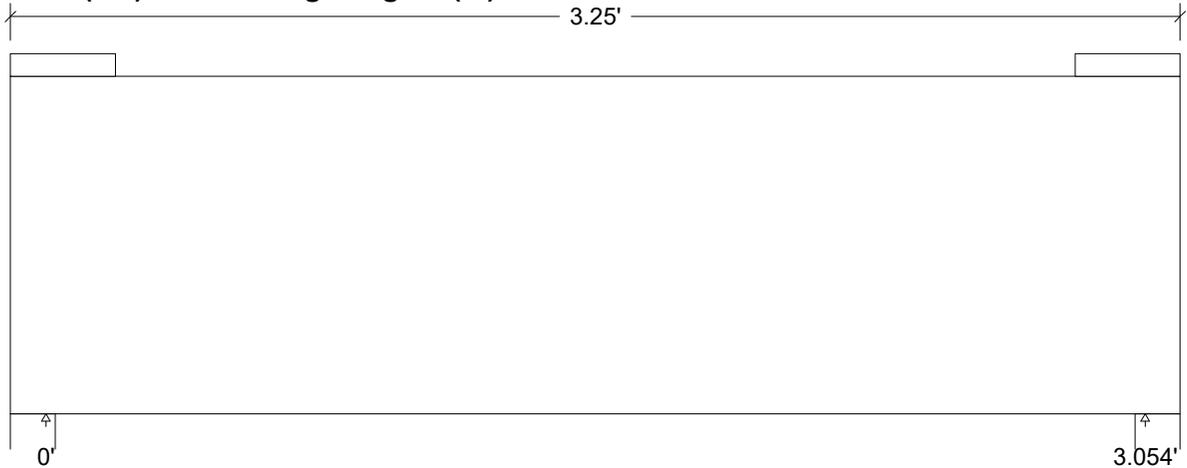


**Design Check Calculation Sheet**  
WoodWorks Sizer 2019 (Update 4)

**Loads:**

| Load        | Type | Distribution | Pat-tern | Location [ft] |     | Magnitude |     | Unit |
|-------------|------|--------------|----------|---------------|-----|-----------|-----|------|
|             |      |              |          | Start         | End | Start     | End |      |
| Load1       | Dead | Point        |          | 1.67          |     | 1133      |     | lbs  |
| Load2       | Snow | Point        |          | 1.67          |     | 1667      |     | lbs  |
| Self-weight | Dead | Full UDL     |          |               |     | 9.4       |     | plf  |

**Maximum Reactions (lbs) and Bearing Lengths (in) :**



|             |      |  |      |
|-------------|------|--|------|
| Unfactored: |      |  |      |
| Dead        | 566  |  | 596  |
| Snow        | 811  |  | 856  |
| Factored:   |      |  |      |
| Total       | 1377 |  | 1452 |
| Bearing:    |      |  |      |
| Length      | 1.50 |  | 1.50 |
| Min req'd   | 0.63 |  | 0.66 |

**Lumber-soft, D.Fir-L, No.2, 4x12 (3-1/2"x11-1/4")**

Supports: All - Lumber n-ply Column, D.Fir-L Stud  
Total length: 3.25'; Clear span: 3.0'; Volume = 0.9 cu.ft.  
Lateral support: top = at supports, bottom = at supports;  
**This section PASSES the design code check.**

**Analysis vs. Allowable Stress and Deflection using NDS 2018 :**

| Criterion    | Analysis Value   | Design Value   | Unit | Analysis/Design   |
|--------------|------------------|----------------|------|-------------------|
| Shear        | $f_v = 55$       | $F_v' = 207$   | psi  | $f_v/F_v' = 0.27$ |
| Bending (+)  | $f_b = 349$      | $F_b' = 1131$  | psi  | $f_b/F_b' = 0.31$ |
| Dead Defl'n  | $0.00 = < L/999$ |                |      |                   |
| Live Defl'n  | $0.00 = < L/999$ | $0.10 = L/360$ | in   | 0.03              |
| Total Defl'n | $0.01 = < L/999$ | $0.15 = L/240$ | in   | 0.03              |

**Design Notes:**

1. Analysis and design are in accordance with the ICC International Building Code (IBC 2018) and the National Design Specification (NDS 2018), using Allowable Stress Design (ASD). Design values are from the NDS Supplement.
2. Please verify that the default deflection limits are appropriate for your application.
3. Sawn lumber bending members shall be laterally supported according to the provisions of NDS Clause 4.4.1.

**FROELICH CONSULTING ENGINEERS**

client: Pahlisch  
 project: Conifer  
 job number: 24-B169  
 date: 6/24/2024  
 by: CHA

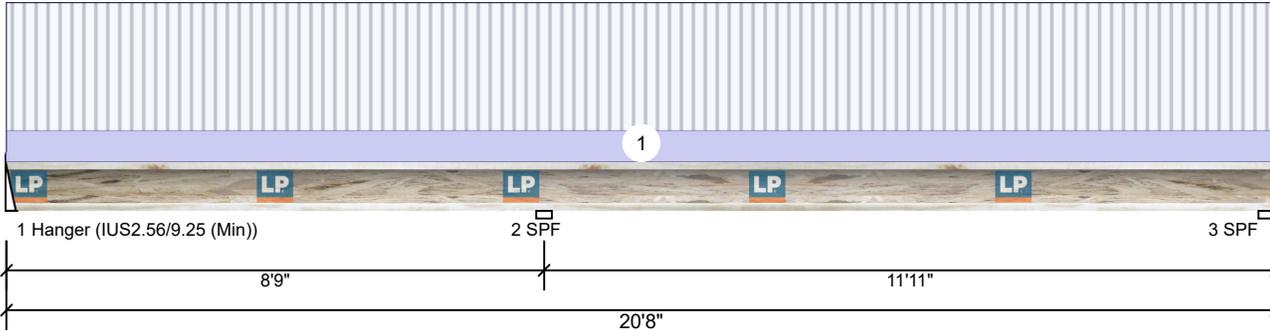
**Floor Joist**

LL: L/600

| Floor Joist<br>FJ1 | Location: Typical 1st Floor<br>Span: 8'-6", 11'-8"<br>Loads:<br><table border="1" style="margin-left: 20px;"> <thead> <tr> <th colspan="2">Loading</th> </tr> </thead> <tbody> <tr> <td>Floor DL :</td> <td style="text-align: center;">10</td> </tr> <tr> <td>Floor LL :</td> <td style="text-align: center;">40</td> </tr> </tbody> </table> psf<br>psf | Loading |  | Floor DL : | 10 | Floor LL : | 40 | 9-1/2" PWI18's @ 32" OC |
|--------------------|---|---------|--|------------|----|------------|----|-------------------------|
| Loading            |   |         |  |            |    |            |    |                         |
| Floor DL :         | 10  |         |  |            |    |            |    |                         |
| Floor LL :         | 40  |         |  |            |    |            |    |                         |

# FJ1 LPI 18 9.500" - PASSED

Level: Level



## Member Information

|                     |               |
|---------------------|---------------|
| Type:               | Joist         |
| Spacing:            | 32" o.c.      |
| Moisture Condition: | Dry           |
| Deflection LL:      | 480           |
| Deflection TL:      | 240           |
| Importance:         | Normal - II   |
| Temperature:        | Temp <= 100°F |

|                |  |
|----------------|--|
| Application:   | Floor  |
| Design Method: | ASD  |
| Building Code: | IBC/IRC 2015   |
| Load Sharing:  | No   |
| Deck:          | 1-1/8 APA Rated Sturd-I-Floor Plywood Nailed and Glued |

## Reactions PATTERNED lb (Uplift)

| Brg | Direction | Live       | Dead | Snow | Wind | Const |
|-----|-----------|------------|------|------|------|-------|
| 1   | Vertical  | 426 (-104) | 78   | 0    | 0    | 0     |
| 2   | Vertical  | 1365       | 341  | 0    | 0    | 0     |
| 3   | Vertical  | 563 (-10)  | 132  | 0    | 0    | 0     |

## Bearings

| Bearing    | Length | Dir. | Cap. React | D/L lb     | Total     | Ld. Case | Ld. Comb. |
|------------|--------|------|------------|------------|-----------|----------|-----------|
| 1 - Hanger | 2.000" | Vert | 56%        | 76 / 423   | 499 (-34) | L_       | D+(D+L)   |
| 2 - SPF    | 3.000" | Vert | 90%        | 345 / 1380 | 1725      | LL       | D+L       |
| 3 - SPF    | 3.500" | Vert | 71%        | 130 / 558  | 689       | _L       | D+L       |

## Analysis Results

| Analysis     | Actual        | Location     | Allowed       | Capacity    | Comb. | Case |
|--------------|---------------|--------------|---------------|-------------|-------|------|
| Neg Moment   | -1838 ft-lb   | 8'9"         | 2365 ft-lb    | 0.777 (78%) | D+L   | LL   |
| Pos Moment   | 1624 ft-lb    | 15'6"        | 2365 ft-lb    | 0.687 (69%) | D+L   | _L   |
| Shear        | 936 lb        | 8'9"         | 1130 lb       | 0.829 (83%) | D+L   | LL   |
| LL Defl inch | 0.254 (L/552) | 14'10 15/16" | 0.292 (L/480) | 0.870 (87%) | L     | _L   |
| TL Defl inch | 0.308 (L/456) | 14'11 5/16"  | 0.584 (L/240) | 0.526 (53%) | D+L   | _L   |

## Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Dead Load Deflection: Instant = 0.053", Long Term = 0.080".
- 3 Fill all hanger nailing holes.
- 4 Tie-down connection required at bearing 1 for uplift 34 lb (Combination D+L, Load Case \_L).
- 5 Bottom flange must be laterally braced at a maximum of 4'3" o.c.

| ID | Load Type | Location | Trib Width | Dead 0.9 | Live 1 | Snow 1.15 | Wind 1.6 | Const. 1.25 | Comments |
|----|-----------|----------|------------|----------|--------|-----------|----------|-------------|----------|
| 1  | Uniform   |          | 2-8-0      | 10 PSF   | 40 PSF | 0 PSF     | 0 PSF    | 0 PSF       |          |

## Notes

This component analysis is based on the loads, geometry and other conditions as entered by the user and listed in this report. The user is responsible to ensure the accuracy of the input and the applicability to the actual conditions of the structure for which this component is intended. This analysis is valid only for the product listed.  
Copyright 2021 All rights reserved by Louisiana Pacific Corp. 414 Union St Suite 2000, Nashville, TN 37219

## Manufacturer Info

Louisiana-Pacific Corp  
414 Union Street, Suite 2000  
Nashville, TN 37219  
(888) 820-0325  
www.lpcorp.com  
APA: PR-L238, ICC-ES: ESR-1305,  
LADBS: RR-25099, Florida: FL15401

This design is valid until 7/7/2023

## Recommended Joist Spans (Based solely on Deflection)

### Simple Span Joist with Standard 10 psf DL and 40 psf LL (1-1/8" Sht'g)

| Span:  | 9 1/2" Joist in order of cost preference | Width   | Spacing | Deflection From LL | Total Deflection | Floor Joist Hanger |
|--------|--|---------|---------|--------------------|------------------|--------------------|
| 11'-6" | PWI 18S                                  | 2'-1/2" | 32" oc  | 612                | 489              | ITS Hanger         |
| 12'-0" | PWI 20S                                  | 2'-1/2" | 32" oc  | 604                | 483              | ITS Hanger         |
| 12'-6" | PWI 32S                                  | 2'-1/2" | 32" oc  | 595                | 476              | ITS Hanger         |

### Simple Span Joist with Tile Floor 30 psf DL and 40 psf LL (1-1/8" Sht'g)

| Span:  | 9 1/2" Joist in order of cost preference | Width   | Spacing | Deflection From LL | Total Deflection | Floor Joist Hanger |
|--------|--|---------|---------|--------------------|------------------|--------------------|
| 9'-9"  | PWI 18S                                  | 2'-1/2" | 32" oc  | 940                | 537              | ITS Hanger         |
| 10'-6" | PWI 20S                                  | 2'-1/2" | 32" oc  | 899                | 514              | ITS Hanger         |
| 10'-9" | PWI 32S                                  | 2'-1/2" | 32" oc  | 843                | 508              | ITS Hanger         |

#### Notes:

- 1.) Froelich Engineers, (FE), has provided these recommended span tables based solely on deflection. FE has not checked the joists for other limit states including: reactions, bearing, web stiffness, shear, or moment. Composite EI values were conservatively computed based on 24" spacing and used in the deflection calculations above.
- 2.) FE has based this table on floor performance with a target of L/600 live load deflection which is above and beyond code deflection requirements.
- 3.) +/- 3" span length is within the IBC and IRC L/ limit.

**FROELICH CONSULTING ENGINEERS**

client: Pahlisch  
 project: Conifer  
 job number: 25-B031  
 date: 1/30/2025  
 by: JDB

**WALLS**

Wall  
 W1

Location: Side of Stair  
 Height: 18'-0"  
 Loads:

|            | Loading |     | Trib. |       |              |
|------------|---------|-----|-------|-------|--------------|
| Roof DL:   | 18      | psf | x     | 12.00 | ft = 216 plf |
| Roof SL:   | 25      | psf | x     | 12.00 | ft = 300 plf |
| Wall DL :  | 8       | psf | x     | 0.00  | ft = 0 plf   |
| Floor DL : | 12      | psf | x     | 2.00  | ft = 24 plf  |
| Floor LL : | 40      | psf | x     | 2.00  | ft = 80 plf  |

2x6 DF Studs  
 at 16" OC

Out of Plane Wall Loading

|         |    |     |          |   |    |     |               |
|---------|----|-----|----------|---|----|-----|---------------|
| OOP WL: | 22 | psf | Controls | = | 22 | psf | Wind Controls |
| OOP LL: | 5  | psf |          |   |    |     |               |

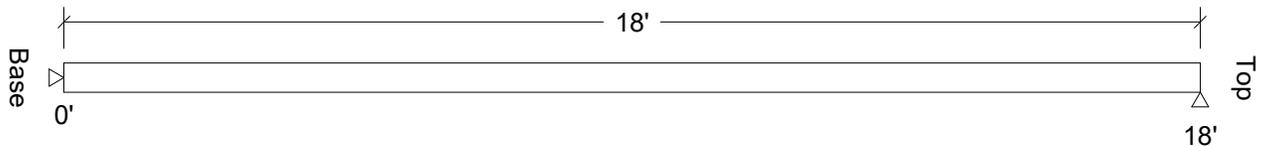


**Design Check Calculation Sheet**  
WoodWorks Sizer 13.2.1

**Loads:**

| Load        | Type     | Distribution | Location [ft]  |     | Magnitude     |     | Unit |
|-------------|----------|--------------|----------------|-----|---------------|-----|------|
|             |          |              | Start          | End | Start         | End |      |
| Load1       | Dead     | Axial UDL    | (Ecc. = 0.25") |     | 216           |     | plf  |
| Load2       | Snow     | Axial UDL    | (Ecc. = 0.25") |     | 300           |     | plf  |
| Load4       | Dead     | Axial UDL    | (Ecc. = 0.25") |     | 24            |     | plf  |
| Load5       | Live     | Axial UDL    | (Ecc. = 0.25") |     | 80            |     | plf  |
| Load6       | Wind C&C | Full Area    |                |     | 22.00 (16.0") |     | psf  |
| Self-weight | Dead     | Axial UDL    |                |     | 26            |     | plf  |

**Reactions (lbs):**



|             |     |  |     |
|-------------|-----|--|-----|
| Unfactored: |     |  |     |
| Lateral:    |     |  |     |
| Dead        | 0   |  | -0  |
| Live        | 0   |  | -0  |
| Snow        | 0   |  | -0  |
| Wind        | 264 |  | 264 |
| Axial:      |     |  |     |
| Dead        | 355 |  | 355 |
| Live        | 107 |  | 107 |
| Snow        | 400 |  | 400 |
| Factored:   |     |  |     |
| R->L        |     |  | -1  |
| Load comb   |     |  | #6  |
| L->R        | 159 |  | 158 |

**Lumber Stud, D.Fir-L, Stud, 2x6 (1-1/2"x5-1/2")**

Support: Lumber Stud Bottom plate, D.Fir-L Stud; Bearing length = stud thickness; continuous lower support  
Spaced at 16.0" c/c; Total length: 18.0'; Volume = 1.0 cu.ft.

Pinned base; Load face = width(b); Ke x Lb: 1.0 x 0.0 = 0.0 ft; Ke x Ld: 1.0 x 18.0 = 18.0 ft; Repetitive factor: applied where permitted (refer to online help);

**This section PASSES the design code check.**

**Analysis vs. Allowable Stress and Deflection using NDS 2018 :**

| Criterion      | Analysis Value                          | Design Value   | Unit | Analysis/Design        |
|----------------|---|----------------|------|------------------------|
| Shear          | $f_v = 29$                              | $F_v' = 288$   | psi  | $f_v/F_v' = 0.10$      |
| Bending (+)    | $f_b = 1136$                            | $F_b' = 1512$  | psi  | $f_b/F_b' = 0.75$      |
| Axial          | $f_c = 92$                              | $F_c' = 254$   | psi  | $f_c/F_c' = 0.36$      |
| Combined       | (axial + eccentric + side load bending) |                |      | Eq. 15.4-1 = 0.98      |
| Axial Bearing  | $f_c = 92$                              | $F_c^* = 977$  | psi  | $f_c/F_c^* = 0.09$     |
| Support Bearin | $f_{cp} = 92$                           | $F_{cp} = 781$ | psi  | $f_{cp}/F_{cp} = 0.12$ |
| Dead Defl'n    | $0.01 = < L/999$                        |                |      |                        |
| Live Defl'n    | $0.74 = L/291$                          | $1.80 = L/120$ | in   | 0.41                   |
| Total Defl'n   | $0.75 = L/288$                          | $1.80 = L/120$ | in   | 0.42                   |

**Design Notes:**

1. Analysis and design are in accordance with the ICC International Building Code (IBC 2021) and the National Design Specification (NDS 2018), using Allowable Stress Design (ASD). Design values are from the NDS Supplement.
2. Please verify that the default deflection limits are appropriate for your application.
3. Wall must be covered with at least ½" gypsum wallboard on one side and 3/8" wood sheathing on the other, blocked and fastened with a minimum of 8d nails, spaced at most at 6" at the edge and 12" interior, as per AWC Special Design Provisions for Wind and Seismic (SDPWS) 3.1.1.1.

**FROELICH CONSULTING ENGINEERS**

client: Pahlsch  
 project: Conifer  
 job number: 25-B031  
 date: 2/17/2025  
 by: JDB

**Floor Beams**

LL: L/480

| Floor Beam<br>FB1 | Location: Garage Header<br>Span: 16'-3"<br>Loads:          | <table border="0"> <thead> <tr> <th></th> <th>Loading</th> <th></th> <th>Trib.</th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>Roof DL:</td> <td>18</td> <td>psf</td> <td>x</td> <td>3.00</td> <td>ft</td> <td>= 54 plf</td> </tr> <tr> <td>Roof SL:</td> <td>25</td> <td>psf</td> <td>x</td> <td>3.00</td> <td>ft</td> <td>= 75 plf</td> </tr> <tr> <td>Wall DL:</td> <td>8</td> <td>psf</td> <td>x</td> <td>8.00</td> <td>ft</td> <td>= 64 plf</td> </tr> <tr> <td>Floor DL:</td> <td>15</td> <td>psf</td> <td>x</td> <td>1.00</td> <td>ft</td> <td>= 15 plf</td> </tr> <tr> <td>Floor LL:</td> <td>40</td> <td>psf</td> <td>x</td> <td>1.00</td> <td>ft</td> <td>= 40 plf</td> </tr> </tbody> </table>   |       | Loading |    | Trib.     |  |  |  | Roof DL:  | 18 | psf | x | 3.00  | ft | = 54 plf  | Roof SL:  | 25 | psf | x | 3.00  | ft | = 75 plf  | Wall DL:                | 8 | psf | x | 8.00 | ft | = 64 plf | Floor DL: | 15 | psf | x | 1.00 | ft | = 15 plf | Floor LL: | 40 | psf | x | 1.00 | ft | = 40 plf  | 6x12 DF#2            |
|-------------------|--|--|-------|---------|----|-----------|--|--|--|-----------|----|-----|---|-------|----|-----------|-----------|----|-----|---|-------|----|-----------|-------------------------|---|-----|---|------|----|----------|-----------|----|-----|---|------|----|----------|-----------|----|-----|---|------|----|-----------|----------------------|
|                   | Loading  |  | Trib. |         |    |           |  |  |  |           |    |     |   |       |    |           |           |    |     |   |       |    |           |                         |   |     |   |      |    |          |           |    |     |   |      |    |          |           |    |     |   |      |    |           |                      |
| Roof DL:          | 18   | psf  | x     | 3.00    | ft | = 54 plf  |  |  |  |           |    |     |   |       |    |           |           |    |     |   |       |    |           |                         |   |     |   |      |    |          |           |    |     |   |      |    |          |           |    |     |   |      |    |           |                      |
| Roof SL:          | 25   | psf  | x     | 3.00    | ft | = 75 plf  |  |  |  |           |    |     |   |       |    |           |           |    |     |   |       |    |           |                         |   |     |   |      |    |          |           |    |     |   |      |    |          |           |    |     |   |      |    |           |                      |
| Wall DL:          | 8  | psf  | x     | 8.00    | ft | = 64 plf  |  |  |  |           |    |     |   |       |    |           |           |    |     |   |       |    |           |                         |   |     |   |      |    |          |           |    |     |   |      |    |          |           |    |     |   |      |    |           |                      |
| Floor DL:         | 15   | psf  | x     | 1.00    | ft | = 15 plf  |  |  |  |           |    |     |   |       |    |           |           |    |     |   |       |    |           |                         |   |     |   |      |    |          |           |    |     |   |      |    |          |           |    |     |   |      |    |           |                      |
| Floor LL:         | 40   | psf  | x     | 1.00    | ft | = 40 plf  |  |  |  |           |    |     |   |       |    |           |           |    |     |   |       |    |           |                         |   |     |   |      |    |          |           |    |     |   |      |    |          |           |    |     |   |      |    |           |                      |
| Floor Beam<br>FB2 | Location: Beam Under Shear Walls<br>Span: 22'-0"<br>Loads: | <table border="0"> <thead> <tr> <th></th> <th>Loading</th> <th></th> <th>Trib.</th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>Roof DL:</td> <td>18</td> <td>psf</td> <td>x</td> <td>2.00</td> <td>ft</td> <td>= 36 plf</td> </tr> <tr> <td>Roof SL:</td> <td>25</td> <td>psf</td> <td>x</td> <td>2.00</td> <td>ft</td> <td>= 50 plf</td> </tr> <tr> <td>Wall DL:</td> <td>8</td> <td>psf</td> <td>x</td> <td>8.00</td> <td>ft</td> <td>= 64 plf</td> </tr> <tr> <td>Floor DL:</td> <td>15</td> <td>psf</td> <td>x</td> <td>2.00</td> <td>ft</td> <td>= 30 plf</td> </tr> <tr> <td>Floor LL:</td> <td>40</td> <td>psf</td> <td>x</td> <td>2.00</td> <td>ft</td> <td>= 80 plf</td> </tr> </tbody> </table> <p>Shear Wall Reactions*:<br/>                     Unfactored<br/>                     EQ: 3649 lbs = 3649 plf @ 0'-3", 8'-10", 14'<br/>                     Wind: 3659 lbs = 3659 plf @ 2", &amp; 21'-9"</p> <p>* Horizontal Irregularity Type 4 (ASCE 7-16: 12.3.3.3)</p> |       | Loading |    | Trib.     |  |  |  | Roof DL:  | 18 | psf | x | 2.00  | ft | = 36 plf  | Roof SL:  | 25 | psf | x | 2.00  | ft | = 50 plf  | Wall DL:                | 8 | psf | x | 8.00 | ft | = 64 plf | Floor DL: | 15 | psf | x | 2.00 | ft | = 30 plf | Floor LL: | 40 | psf | x | 2.00 | ft | = 80 plf  | 3-1/2"x16" 2.1E LVL  |
|                   | Loading  |  | Trib. |         |    |           |  |  |  |           |    |     |   |       |    |           |           |    |     |   |       |    |           |                         |   |     |   |      |    |          |           |    |     |   |      |    |          |           |    |     |   |      |    |           |                      |
| Roof DL:          | 18   | psf  | x     | 2.00    | ft | = 36 plf  |  |  |  |           |    |     |   |       |    |           |           |    |     |   |       |    |           |                         |   |     |   |      |    |          |           |    |     |   |      |    |          |           |    |     |   |      |    |           |                      |
| Roof SL:          | 25   | psf  | x     | 2.00    | ft | = 50 plf  |  |  |  |           |    |     |   |       |    |           |           |    |     |   |       |    |           |                         |   |     |   |      |    |          |           |    |     |   |      |    |          |           |    |     |   |      |    |           |                      |
| Wall DL:          | 8  | psf  | x     | 8.00    | ft | = 64 plf  |  |  |  |           |    |     |   |       |    |           |           |    |     |   |       |    |           |                         |   |     |   |      |    |          |           |    |     |   |      |    |          |           |    |     |   |      |    |           |                      |
| Floor DL:         | 15   | psf  | x     | 2.00    | ft | = 30 plf  |  |  |  |           |    |     |   |       |    |           |           |    |     |   |       |    |           |                         |   |     |   |      |    |          |           |    |     |   |      |    |          |           |    |     |   |      |    |           |                      |
| Floor LL:         | 40   | psf  | x     | 2.00    | ft | = 80 plf  |  |  |  |           |    |     |   |       |    |           |           |    |     |   |       |    |           |                         |   |     |   |      |    |          |           |    |     |   |      |    |          |           |    |     |   |      |    |           |                      |
| Floor Beam<br>FB3 | Location: Patio Slider<br>Span: 6'-0"<br>Loads:            | <table border="0"> <thead> <tr> <th></th> <th>Loading</th> <th></th> <th>Trib.</th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>Floor DL:</td> <td>15</td> <td>psf</td> <td>x</td> <td>13.28</td> <td>ft</td> <td>= 199 plf</td> </tr> <tr> <td>Floor LL:</td> <td>40</td> <td>psf</td> <td>x</td> <td>13.28</td> <td>ft</td> <td>= 531 plf</td> </tr> </tbody> </table>   |       | Loading |    | Trib.     |  |  |  | Floor DL: | 15 | psf | x | 13.28 | ft | = 199 plf | Floor LL: | 40 | psf | x | 13.28 | ft | = 531 plf | 5-1/2"x7-1/2" 24F-V4 GL |   |     |   |      |    |          |           |    |     |   |      |    |          |           |    |     |   |      |    |           |                      |
|                   | Loading  |  | Trib. |         |    |           |  |  |  |           |    |     |   |       |    |           |           |    |     |   |       |    |           |                         |   |     |   |      |    |          |           |    |     |   |      |    |          |           |    |     |   |      |    |           |                      |
| Floor DL:         | 15   | psf  | x     | 13.28   | ft | = 199 plf |  |  |  |           |    |     |   |       |    |           |           |    |     |   |       |    |           |                         |   |     |   |      |    |          |           |    |     |   |      |    |          |           |    |     |   |      |    |           |                      |
| Floor LL:         | 40   | psf  | x     | 13.28   | ft | = 531 plf |  |  |  |           |    |     |   |       |    |           |           |    |     |   |       |    |           |                         |   |     |   |      |    |          |           |    |     |   |      |    |          |           |    |     |   |      |    |           |                      |
| Floor Beam<br>FB4 | Location: Covered Patio<br>Span: 13'-2"<br>Loads:          | <table border="0"> <thead> <tr> <th></th> <th>Loading</th> <th></th> <th>Trib.</th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>Roof DL:</td> <td>18</td> <td>psf</td> <td>x</td> <td>12.00</td> <td>ft</td> <td>= 216 plf</td> </tr> <tr> <td>Roof SL:</td> <td>25</td> <td>psf</td> <td>x</td> <td>12.00</td> <td>ft</td> <td>= 300 plf</td> </tr> <tr> <td>Wall DL:</td> <td>8</td> <td>psf</td> <td>x</td> <td>8.00</td> <td>ft</td> <td>= 64 plf</td> </tr> <tr> <td>Floor DL:</td> <td>15</td> <td>psf</td> <td>x</td> <td>4.50</td> <td>ft</td> <td>= 68 plf</td> </tr> <tr> <td>Floor LL:</td> <td>40</td> <td>psf</td> <td>x</td> <td>4.50</td> <td>ft</td> <td>= 180 plf</td> </tr> </tbody> </table>  |       | Loading |    | Trib.     |  |  |  | Roof DL:  | 18 | psf | x | 12.00 | ft | = 216 plf | Roof SL:  | 25 | psf | x | 12.00 | ft | = 300 plf | Wall DL:                | 8 | psf | x | 8.00 | ft | = 64 plf | Floor DL: | 15 | psf | x | 4.50 | ft | = 68 plf | Floor LL: | 40 | psf | x | 4.50 | ft | = 180 plf | 3-1/2"x16" 24F-V4 GL |
|                   | Loading  |  | Trib. |         |    |           |  |  |  |           |    |     |   |       |    |           |           |    |     |   |       |    |           |                         |   |     |   |      |    |          |           |    |     |   |      |    |          |           |    |     |   |      |    |           |                      |
| Roof DL:          | 18   | psf  | x     | 12.00   | ft | = 216 plf |  |  |  |           |    |     |   |       |    |           |           |    |     |   |       |    |           |                         |   |     |   |      |    |          |           |    |     |   |      |    |          |           |    |     |   |      |    |           |                      |
| Roof SL:          | 25   | psf  | x     | 12.00   | ft | = 300 plf |  |  |  |           |    |     |   |       |    |           |           |    |     |   |       |    |           |                         |   |     |   |      |    |          |           |    |     |   |      |    |          |           |    |     |   |      |    |           |                      |
| Wall DL:          | 8  | psf  | x     | 8.00    | ft | = 64 plf  |  |  |  |           |    |     |   |       |    |           |           |    |     |   |       |    |           |                         |   |     |   |      |    |          |           |    |     |   |      |    |          |           |    |     |   |      |    |           |                      |
| Floor DL:         | 15   | psf  | x     | 4.50    | ft | = 68 plf  |  |  |  |           |    |     |   |       |    |           |           |    |     |   |       |    |           |                         |   |     |   |      |    |          |           |    |     |   |      |    |          |           |    |     |   |      |    |           |                      |
| Floor LL:         | 40   | psf  | x     | 4.50    | ft | = 180 plf |  |  |  |           |    |     |   |       |    |           |           |    |     |   |       |    |           |                         |   |     |   |      |    |          |           |    |     |   |      |    |          |           |    |     |   |      |    |           |                      |

| <p>Floor Beam<br/>FB5</p> | <p>Location: Stair Box Out<br/>Span: 19'-9"<br/>Loads:</p> <table border="0"> <thead> <tr> <th></th> <th>Loading</th> <th></th> <th>Trib.</th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>Floor DL:</td> <td>15</td> <td>psf</td> <td>x</td> <td>10.50</td> <td>ft</td> <td>= 158 plf</td> </tr> <tr> <td>Floor LL:</td> <td>40</td> <td>psf</td> <td>x</td> <td>10.50</td> <td>ft</td> <td>= 420 plf</td> </tr> <tr> <td colspan="7"> </td> </tr> <tr> <td>Floor DL:</td> <td>15</td> <td>psf</td> <td>x</td> <td>8.00</td> <td>ft</td> <td>= 120 plf</td> </tr> <tr> <td>Floor LL:</td> <td>40</td> <td>psf</td> <td>x</td> <td>8.00</td> <td>ft</td> <td>= 320 plf</td> </tr> </tbody> </table>   |     | Loading |       | Trib. |           |  |  | Floor DL: | 15 | psf | x | 10.50 | ft | = 158 plf | Floor LL: | 40 | psf | x | 10.50 | ft | = 420 plf |                  |    |     |   |      |    |          | Floor DL: | 15 | psf | x | 8.00  | ft | = 120 plf | Floor LL:                     | 40 | psf | x | 8.00  | ft | = 320 plf | <p>5-1/2"x16" 24F-V4 GL</p> |
|---------------------------|---|-----|---------|-------|-------|-----------|--|--|-----------|----|-----|---|-------|----|-----------|-----------|----|-----|---|-------|----|-----------|------------------|----|-----|---|------|----|----------|-----------|----|-----|---|-------|----|-----------|-------------------------------|----|-----|---|-------|----|-----------|-----------------------------|
|                           | Loading   |     | Trib.   |       |       |           |  |  |           |    |     |   |       |    |           |           |    |     |   |       |    |           |                  |    |     |   |      |    |          |           |    |     |   |       |    |           |                               |    |     |   |       |    |           |                             |
| Floor DL:                 | 15  | psf | x       | 10.50 | ft    | = 158 plf |  |  |           |    |     |   |       |    |           |           |    |     |   |       |    |           |                  |    |     |   |      |    |          |           |    |     |   |       |    |           |                               |    |     |   |       |    |           |                             |
| Floor LL:                 | 40  | psf | x       | 10.50 | ft    | = 420 plf |  |  |           |    |     |   |       |    |           |           |    |     |   |       |    |           |                  |    |     |   |      |    |          |           |    |     |   |       |    |           |                               |    |     |   |       |    |           |                             |
|                           |   |     |         |       |       |           |  |  |           |    |     |   |       |    |           |           |    |     |   |       |    |           |                  |    |     |   |      |    |          |           |    |     |   |       |    |           |                               |    |     |   |       |    |           |                             |
| Floor DL:                 | 15  | psf | x       | 8.00  | ft    | = 120 plf |  |  |           |    |     |   |       |    |           |           |    |     |   |       |    |           |                  |    |     |   |      |    |          |           |    |     |   |       |    |           |                               |    |     |   |       |    |           |                             |
| Floor LL:                 | 40  | psf | x       | 8.00  | ft    | = 320 plf |  |  |           |    |     |   |       |    |           |           |    |     |   |       |    |           |                  |    |     |   |      |    |          |           |    |     |   |       |    |           |                               |    |     |   |       |    |           |                             |
| <p>Floor Beam<br/>FB6</p> | <p>Location: Patio / Stair<br/>Span: 3'-0"<br/>Loads:</p> <table border="0"> <thead> <tr> <th></th> <th>Loading</th> <th></th> <th>Trib.</th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>Floor DL:</td> <td>15</td> <td>psf</td> <td>x</td> <td>2.00</td> <td>ft</td> <td>= 30 plf</td> </tr> <tr> <td>Floor LL:</td> <td>40</td> <td>psf</td> <td>x</td> <td>2.00</td> <td>ft</td> <td>= 80 plf</td> </tr> </tbody> </table> <p>FB5 DL : 1477 lbs<br/>LL : 3402 lbs</p>   |     | Loading |       | Trib. |           |  |  | Floor DL: | 15 | psf | x | 2.00  | ft | = 30 plf  | Floor LL: | 40 | psf | x | 2.00  | ft | = 80 plf  | <p>4x12 DF#2</p> |    |     |   |      |    |          |           |    |     |   |       |    |           |                               |    |     |   |       |    |           |                             |
|                           | Loading   |     | Trib.   |       |       |           |  |  |           |    |     |   |       |    |           |           |    |     |   |       |    |           |                  |    |     |   |      |    |          |           |    |     |   |       |    |           |                               |    |     |   |       |    |           |                             |
| Floor DL:                 | 15  | psf | x       | 2.00  | ft    | = 30 plf  |  |  |           |    |     |   |       |    |           |           |    |     |   |       |    |           |                  |    |     |   |      |    |          |           |    |     |   |       |    |           |                               |    |     |   |       |    |           |                             |
| Floor LL:                 | 40  | psf | x       | 2.00  | ft    | = 80 plf  |  |  |           |    |     |   |       |    |           |           |    |     |   |       |    |           |                  |    |     |   |      |    |          |           |    |     |   |       |    |           |                               |    |     |   |       |    |           |                             |
| <p>Floor Beam<br/>FB7</p> | <p>Location: Garage Window<br/>Span: 5'-0"<br/>Loads:</p> <table border="0"> <thead> <tr> <th></th> <th>Loading</th> <th></th> <th>Trib.</th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>Roof DL:</td> <td>18</td> <td>psf</td> <td>x</td> <td>12.00</td> <td>ft</td> <td>= 216 plf</td> </tr> <tr> <td>Roof SL:</td> <td>25</td> <td>psf</td> <td>x</td> <td>12.00</td> <td>ft</td> <td>= 300 plf</td> </tr> <tr> <td>Wall DL:</td> <td>8</td> <td>psf</td> <td>x</td> <td>8.00</td> <td>ft</td> <td>= 64 plf</td> </tr> <tr> <td>Floor DL:</td> <td>15</td> <td>psf</td> <td>x</td> <td>10.50</td> <td>ft</td> <td>= 158 plf</td> </tr> <tr> <td>Floor LL:</td> <td>40</td> <td>psf</td> <td>x</td> <td>10.50</td> <td>ft</td> <td>= 420 plf</td> </tr> </tbody> </table> <p>FB2 DL : 1302 lbs<br/>LL : 879 lbs<br/>SL : 400 lbs<br/>WL: +/- 2008 lbs<br/>EL: +/- 2874 lbs</p> |     | Loading |       | Trib. |           |  |  | Roof DL:  | 18 | psf | x | 12.00 | ft | = 216 plf | Roof SL:  | 25 | psf | x | 12.00 | ft | = 300 plf | Wall DL:         | 8  | psf | x | 8.00 | ft | = 64 plf | Floor DL: | 15 | psf | x | 10.50 | ft | = 158 plf | Floor LL:                     | 40 | psf | x | 10.50 | ft | = 420 plf | <p>4x12 DF#2</p>            |
|                           | Loading   |     | Trib.   |       |       |           |  |  |           |    |     |   |       |    |           |           |    |     |   |       |    |           |                  |    |     |   |      |    |          |           |    |     |   |       |    |           |                               |    |     |   |       |    |           |                             |
| Roof DL:                  | 18  | psf | x       | 12.00 | ft    | = 216 plf |  |  |           |    |     |   |       |    |           |           |    |     |   |       |    |           |                  |    |     |   |      |    |          |           |    |     |   |       |    |           |                               |    |     |   |       |    |           |                             |
| Roof SL:                  | 25  | psf | x       | 12.00 | ft    | = 300 plf |  |  |           |    |     |   |       |    |           |           |    |     |   |       |    |           |                  |    |     |   |      |    |          |           |    |     |   |       |    |           |                               |    |     |   |       |    |           |                             |
| Wall DL:                  | 8   | psf | x       | 8.00  | ft    | = 64 plf  |  |  |           |    |     |   |       |    |           |           |    |     |   |       |    |           |                  |    |     |   |      |    |          |           |    |     |   |       |    |           |                               |    |     |   |       |    |           |                             |
| Floor DL:                 | 15  | psf | x       | 10.50 | ft    | = 158 plf |  |  |           |    |     |   |       |    |           |           |    |     |   |       |    |           |                  |    |     |   |      |    |          |           |    |     |   |       |    |           |                               |    |     |   |       |    |           |                             |
| Floor LL:                 | 40  | psf | x       | 10.50 | ft    | = 420 plf |  |  |           |    |     |   |       |    |           |           |    |     |   |       |    |           |                  |    |     |   |      |    |          |           |    |     |   |       |    |           |                               |    |     |   |       |    |           |                             |
| <p>Floor Beam<br/>FB8</p> | <p>Location: Below Stairs<br/>Span: 8'-9"<br/>Loads:</p> <table border="0"> <thead> <tr> <th></th> <th>Loading</th> <th></th> <th>Trib.</th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>Floor DL:</td> <td>15</td> <td>psf</td> <td>x</td> <td>4.00</td> <td>ft</td> <td>= 60 plf</td> </tr> <tr> <td>Floor LL:</td> <td>40</td> <td>psf</td> <td>x</td> <td>4.00</td> <td>ft</td> <td>= 160 plf</td> </tr> <tr> <td>Floor DL:</td> <td>15</td> <td>psf</td> <td>x</td> <td>3.50</td> <td>ft</td> <td>= 53 plf</td> </tr> <tr> <td>Floor LL:</td> <td>40</td> <td>psf</td> <td>x</td> <td>3.50</td> <td>ft</td> <td>= 140 plf</td> </tr> </tbody> </table>   |     | Loading |       | Trib. |           |  |  | Floor DL: | 15 | psf | x | 4.00  | ft | = 60 plf  | Floor LL: | 40 | psf | x | 4.00  | ft | = 160 plf | Floor DL:        | 15 | psf | x | 3.50 | ft | = 53 plf | Floor LL: | 40 | psf | x | 3.50  | ft | = 140 plf | <p>1-3/4"x9-1/2" 2.0E LVL</p> |    |     |   |       |    |           |                             |
|                           | Loading   |     | Trib.   |       |       |           |  |  |           |    |     |   |       |    |           |           |    |     |   |       |    |           |                  |    |     |   |      |    |          |           |    |     |   |       |    |           |                               |    |     |   |       |    |           |                             |
| Floor DL:                 | 15  | psf | x       | 4.00  | ft    | = 60 plf  |  |  |           |    |     |   |       |    |           |           |    |     |   |       |    |           |                  |    |     |   |      |    |          |           |    |     |   |       |    |           |                               |    |     |   |       |    |           |                             |
| Floor LL:                 | 40  | psf | x       | 4.00  | ft    | = 160 plf |  |  |           |    |     |   |       |    |           |           |    |     |   |       |    |           |                  |    |     |   |      |    |          |           |    |     |   |       |    |           |                               |    |     |   |       |    |           |                             |
| Floor DL:                 | 15  | psf | x       | 3.50  | ft    | = 53 plf  |  |  |           |    |     |   |       |    |           |           |    |     |   |       |    |           |                  |    |     |   |      |    |          |           |    |     |   |       |    |           |                               |    |     |   |       |    |           |                             |
| Floor LL:                 | 40  | psf | x       | 3.50  | ft    | = 140 plf |  |  |           |    |     |   |       |    |           |           |    |     |   |       |    |           |                  |    |     |   |      |    |          |           |    |     |   |       |    |           |                               |    |     |   |       |    |           |                             |



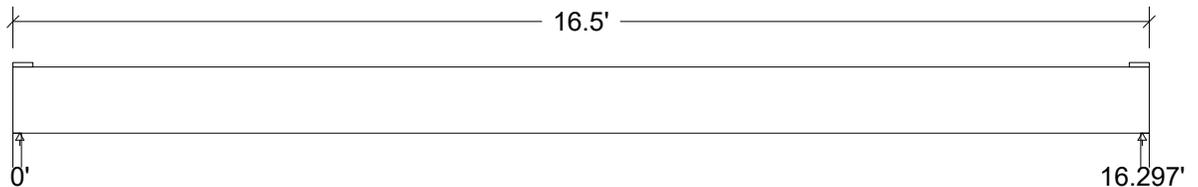
**Design Check Calculation Sheet**

WoodWorks Sizer 2019 (Update 3)

**Loads:**

| Load        | Type | Distribution | Pat-tern | Location [ft] |     | Magnitude |     | Unit |
|-------------|------|--------------|----------|---------------|-----|-----------|-----|------|
|             |      |              |          | Start         | End | Start     | End |      |
| DEAD        | Dead | Full UDL     |          |               |     | 54.0      |     | plf  |
| LIVE        | Live | Full UDL     |          |               |     | 40.0      |     | plf  |
| SNOW        | Snow | Full UDL     |          |               |     | 75.0      |     | plf  |
| Load4       | Dead | Full UDL     |          |               |     | 64.0      |     | plf  |
| Load5       | Dead | Full UDL     |          |               |     | 15.0      |     | plf  |
| Self-weight | Dead | Full UDL     |          |               |     | 15.0      |     | plf  |

**Maximum Reactions (lbs) and Bearing Lengths (in) :**



|             |      |  |      |
|-------------|------|--|------|
| Unfactored: |      |  |      |
| Dead        | 1220 |  | 1220 |
| Live        | 330  |  | 330  |
| Snow        | 619  |  | 619  |
| Factored:   |      |  |      |
| Total       | 1931 |  | 1931 |
| Bearing:    |      |  |      |
| Length      | 1.50 |  | 1.50 |
| Min req'd   | 0.56 |  | 0.56 |

**FB1**

**Timber-soft, D.Fir-L, No.2, 6x12 (5-1/2"x11-1/2")**

Supports: All - Timber-soft Column, D.Fir-L No.2

Total length: 16.5'; Clear span: 16.25'; Volume = 7.2 cu.ft.; Beam or stringer

Lateral support: top = at supports, bottom = at supports;

**This section PASSES the design code check.**

**Analysis vs. Allowable Stress and Deflection using NDS 2018 :**

| Criterion    | Analysis Value   | Design Value   | Unit | Analysis/Design   |
|--------------|------------------|----------------|------|-------------------|
| Shear        | $f_v = 40$       | $F_v' = 195$   | psi  | $f_v/F_v' = 0.20$ |
| Bending (+)  | $f_b = 770$      | $F_b' = 991$   | psi  | $f_b/F_b' = 0.78$ |
| Dead Defl'n  | $0.26 = L/754$   |                |      |                   |
| Live Defl'n  | $0.15 = < L/999$ | $0.41 = L/480$ | in   | 0.37              |
| Total Defl'n | $0.54 = L/362$   | $0.81 = L/240$ | in   | 0.66              |

**Design Notes:**

1. Analysis and design are in accordance with the ICC International Building Code (IBC 2018) and the National Design Specification (NDS 2018), using Allowable Stress Design (ASD). Design values are from the NDS Supplement.
2. Please verify that the default deflection limits are appropriate for your application.
3. Sawn lumber bending members shall be laterally supported according to the provisions of NDS Clause 4.4.1.



**WoodWorks**  
SOFTWARE FOR WOOD DESIGN

COMPANY

PROJECT

21 of 77

Feb. 17, 2025 14:39

FB2 Case 1

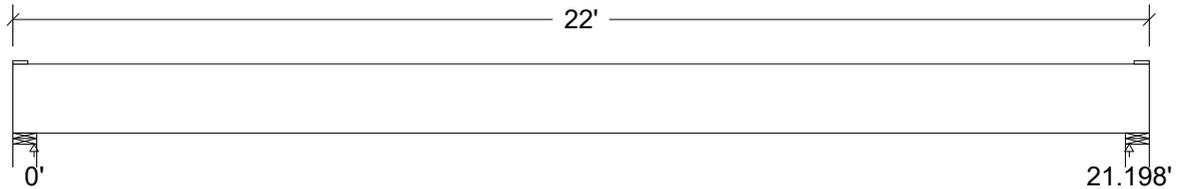
**Design Check Calculation Sheet**

WoodWorks Sizer 13.2.1

**Loads:**

| Load        | Type       | Distribution | Pat-tern | Location [ft] |     | Magnitude |     | Unit |
|-------------|------------|--------------|----------|---------------|-----|-----------|-----|------|
|             |            |              |          | Start         | End | Start     | End |      |
| Load1       | Dead       | Full UDL     |          |               |     | 36.0      |     | plf  |
| Load2       | Snow       | Full UDL     |          |               |     | 50.0      |     | plf  |
| Load3       | Dead       | Full UDL     |          |               |     | 64.0      |     | plf  |
| Load4       | Dead       | Full UDL     |          |               |     | 30.0      |     | plf  |
| Load5       | Live       | Full UDL     |          |               |     | 80.0      |     | plf  |
| Load6       | Earthquake | Point        |          | 0.25          |     | -3649     |     | lbs  |
| Load7       | Wind       | Point        |          | 0.25          |     | -3659     |     | lbs  |
| Load8       | Earthquake | Point        |          | 8.88          |     | 3649      |     | lbs  |
| Load9       | Wind       | Point        |          | 8.88          |     | 3659      |     | lbs  |
| Load10      | Earthquake | Point        |          | 14.12         |     | -3949     |     | lbs  |
| Load11      | Wind       | Point        |          | 14.12         |     | -3659     |     | lbs  |
| Load12      | Earthquake | Point        |          | 21.75         |     | 3649      |     | lbs  |
| Load13      | Wind       | Point        |          | 21.75         |     | 3659      |     | lbs  |
| Self-weight | Dead       | Full UDL     |          |               |     | 16.3      |     | plf  |

**Maximum Reactions (lbs) and Bearing Lengths (in) :**



|             |        |  |        |
|-------------|--------|--|--------|
| Unfactored: |        |  |        |
| Dead        | 1605   |  | 1602   |
| Live        | 881    |  | 879    |
| Snow        | 551    |  | 549    |
| Wind        | -2755  |  | 2755   |
| Earthquake  | -2853  |  | 2553   |
| Factored:   |        |  |        |
| Uplift      | -1034  |  |        |
| Total       | 2678   |  | 4013   |
| Bearing:    |        |  |        |
| Length      | 5.50   |  | 5.50   |
| Min req'd   | 1.11** |  | 1.66** |

\*\*Minimum bearing length governed by the required width of the supporting member.

**LVL, PacificWoodTech, 2.0E 2900Fb, 3-1/2"x16"**

Supports: All - Lumber Stud Wall, D.Fir-L Stud  
 Total length: 22.0'; Clear span: 21.083'; Volume = 8.6 cu.ft.  
 Lateral support: top = at supports, bottom = at supports;  
**This section PASSES the design code check.**

**Analysis vs. Allowable Stress and Deflection using NDS 2018 :**

| Criterion    | Analysis Value   | Design Value   | Unit | Analysis/Design   |
|--------------|------------------|----------------|------|-------------------|
| Shear        | $f_v = 56$       | $F_v' = 285$   | psi  | $f_v/F_v' = 0.20$ |
| Bending (+)  | $f_b = 1340$     | $F_b' = 1909$  | psi  | $f_b/F_b' = 0.70$ |
| Dead Defl'n  | $0.29 = L/876$   |                |      |                   |
| Live Defl'n  | $0.22 = < L/999$ | $0.71 = L/360$ | in   | 0.30              |
| Total Defl'n | $0.65 = L/390$   | $1.06 = L/240$ | in   | 0.61              |

**Design Notes:**

1. Analysis and design are in accordance with the ICC International Building Code (IBC 2021) and the National Design Specification (NDS 2018), using Allowable Stress Design (ASD). Design values are from the NDS Supplement.
2. Please verify that the default deflection limits are appropriate for your application.
3. FIRE RATING: LVL, PSL and LSL are not rated for fire endurance.
4. SCL: Structural composite lumber design has assumed: - dry service conditions - no preservative or fire-retardant treatment - no notches
5. SCL: Deflection is calculated using an apparent modulus of elasticity E that incorporates the effect of shear deflection.



**WoodWorks**<sup>®</sup>  
SOFTWARE FOR WOOD DESIGN

COMPANY

PROJECT

23 of 77

Feb. 17, 2025 14:42

FB2 Case 2

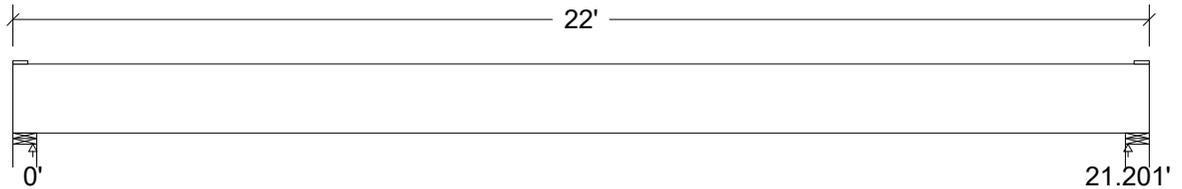
**Design Check Calculation Sheet**

WoodWorks Sizer 13.2.1

**Loads:**

| Load        | Type       | Distribution | Pat-tern | Location [ft] |     | Magnitude |     | Unit |
|-------------|------------|--------------|----------|---------------|-----|-----------|-----|------|
|             |            |              |          | Start         | End | Start     | End |      |
| Load1       | Dead       | Full UDL     |          |               |     | 36.0      |     | plf  |
| Load2       | Snow       | Full UDL     |          |               |     | 50.0      |     | plf  |
| Load3       | Dead       | Full UDL     |          |               |     | 64.0      |     | plf  |
| Load4       | Dead       | Full UDL     |          |               |     | 30.0      |     | plf  |
| Load5       | Live       | Full UDL     |          |               |     | 80.0      |     | plf  |
| Load6       | Earthquake | Point        |          | 0.25          |     | 3649      |     | lbs  |
| Load7       | Wind       | Point        |          | 0.25          |     | 3659      |     | lbs  |
| Load8       | Earthquake | Point        |          | 8.88          |     | -3649     |     | lbs  |
| Load9       | Wind       | Point        |          | 8.88          |     | -3659     |     | lbs  |
| Load10      | Earthquake | Point        |          | 14.12         |     | 3949      |     | lbs  |
| Load11      | Wind       | Point        |          | 14.12         |     | 3659      |     | lbs  |
| Load12      | Earthquake | Point        |          | 21.75         |     | -3649     |     | lbs  |
| Load13      | Wind       | Point        |          | 21.75         |     | -3659     |     | lbs  |
| Self-weight | Dead       | Full UDL     |          |               |     | 16.3      |     | plf  |

**Maximum Reactions (lbs) and Bearing Lengths (in) :**



|             |        |  |        |
|-------------|--------|--|--------|
| Unfactored: |        |  |        |
| Dead        | 1601   |  | 1605   |
| Live        | 879    |  | 881    |
| Snow        | 549    |  | 551    |
| Wind        | 2755   |  | -2755  |
| Earthquake  | 2853   |  | -2553  |
| Factored:   |        |  |        |
| Uplift      |        |  | -824   |
| Total       | 4170   |  | 2679   |
| Bearing:    |        |  |        |
| Length      | 5.50   |  | 5.50   |
| Min req'd   | 1.72** |  | 1.11** |

\*\*Minimum bearing length governed by the required width of the supporting member.

**LVL, PacificWoodTech, 2.0E 2900Fb, 3-1/2"x16"**

Supports: All - Lumber Stud Wall, D.Fir-L Stud  
 Total length: 22.0'; Clear span: 21.083'; Volume = 8.6 cu.ft.  
 Lateral support: top = at supports, bottom = at supports;  
**This section PASSES the design code check.**

**Analysis vs. Allowable Stress and Deflection using NDS 2018 :**

| Criterion    | Analysis Value   | Design Value   | Unit | Analysis/Design   |
|--------------|------------------|----------------|------|-------------------|
| Shear        | $f_v = 56$       | $F_v' = 285$   | psi  | $f_v/F_v' = 0.20$ |
| Bending (+)  | $f_b = 1350$     | $F_b' = 1909$  | psi  | $f_b/F_b' = 0.71$ |
| Dead Defl'n  | $0.29 = L/880$   |                |      |                   |
| Live Defl'n  | $0.21 = < L/999$ | $0.71 = L/360$ | in   | 0.29              |
| Total Defl'n | $0.64 = L/397$   | $1.06 = L/240$ | in   | 0.60              |

**Design Notes:**

1. Analysis and design are in accordance with the ICC International Building Code (IBC 2021) and the National Design Specification (NDS 2018), using Allowable Stress Design (ASD). Design values are from the NDS Supplement.
2. Please verify that the default deflection limits are appropriate for your application.
3. FIRE RATING: LVL, PSL and LSL are not rated for fire endurance.
4. SCL: Structural composite lumber design has assumed: - dry service conditions - no preservative or fire-retardant treatment - no notches
5. SCL: Deflection is calculated using an apparent modulus of elasticity E that incorporates the effect of shear deflection.



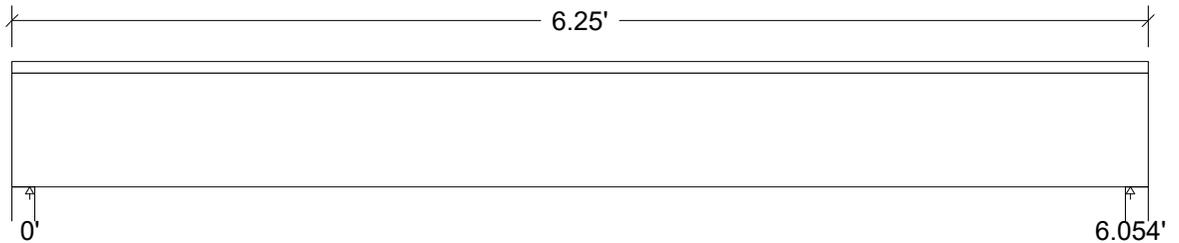
**Design Check Calculation Sheet**

WoodWorks Sizer 2019 (Update 3)

**Loads:**

| Load        | Type | Distribution | Pat-tern | Location [ft] |     | Magnitude |     | Unit |
|-------------|------|--------------|----------|---------------|-----|-----------|-----|------|
|             |      |              |          | Start         | End | Start     | End |      |
| Load1       | Dead | Full UDL     |          |               |     | 199.0     |     | plf  |
| Load2       | Live | Full UDL     |          |               |     | 531.0     |     | plf  |
| Self-weight | Dead | Full UDL     |          |               |     | 9.5       |     | plf  |

**Maximum Reactions (lbs) and Bearing Lengths (in) :**



|             |      |  |      |
|-------------|------|--|------|
| Unfactored: |      |  |      |
| Dead        | 651  |  | 651  |
| Live        | 1659 |  | 1659 |
| Factored:   |      |  |      |
| Total       | 2310 |  | 2310 |
| Bearing:    |      |  |      |
| Length      | 1.50 |  | 1.50 |
| Min req'd   | 0.65 |  | 0.65 |

**Glulam-Unbalan., West Species, 24F-V4 DF, 5-1/2"x7-1/2"**

Supports: All - Lumber n-ply Column, D.Fir-L Stud

Total length: 6.25'; Clear span: 6'; Volume = 1.8 cu.ft.; 5 laminations, 5-1/2" maximum width,

Lateral support: top = continuous, bottom = at supports;

**This section PASSES the design code check.**

**Analysis vs. Allowable Stress and Deflection using NDS 2018 :**

| Criterion    | Analysis Value   | Design Value   | Unit | Analysis/Design   |
|--------------|------------------|----------------|------|-------------------|
| Shear        | $f_v = 64$       | $F_v' = 265$   | psi  | $f_v/F_v' = 0.24$ |
| Bending (+)  | $f_b = 788$      | $F_b' = 2400$  | psi  | $f_b/F_b' = 0.33$ |
| Dead Defl'n  | $0.02 = < L/999$ |                |      |                   |
| Live Defl'n  | $0.05 = < L/999$ | $0.20 = L/360$ | in   | 0.23              |
| Total Defl'n | $0.07 = L/991$   | $0.30 = L/240$ | in   | 0.24              |

**Design Notes:**

1. Analysis and design are in accordance with the ICC International Building Code (IBC 2018) and the National Design Specification (NDS 2018), using Allowable Stress Design (ASD). Design values are from the NDS Supplement.
2. Please verify that the default deflection limits are appropriate for your application.
3. Glulam design values are for materials conforming to ANSI 117-2015 and manufactured in accordance with ANSI A190.1-2012
4. GLULAM: bxd = actual breadth x actual depth.
5. Glulam Beams shall be laterally supported according to the provisions of NDS Clause 3.3.3.
6. GLULAM: bearing length based on smaller of  $F_{cp}$ (tension),  $F_{cp}$ (comp'n).

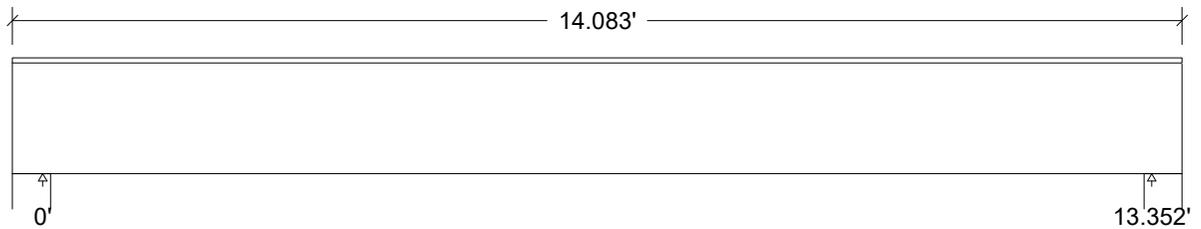


**Design Check Calculation Sheet**  
WoodWorks Sizer 2019 (Update 3)

**Loads:**

| Load        | Type | Distribution | Pat-tern | Location [ft] |     | Magnitude |     | Unit |
|-------------|------|--------------|----------|---------------|-----|-----------|-----|------|
|             |      |              |          | Start         | End | Start     | End |      |
| Load1       | Dead | Full UDL     |          |               |     | 216.0     |     | plf  |
| Load2       | Snow | Full UDL     |          |               |     | 300.0     |     | plf  |
| Load3       | Dead | Full UDL     |          |               |     | 64.0      |     | plf  |
| Load4       | Dead | Full UDL     |          |               |     | 68.0      |     | plf  |
| Load5       | Live | Full UDL     |          |               |     | 180.0     |     | plf  |
| Self-weight | Dead | Full UDL     |          |               |     | 12.9      |     | plf  |

**Maximum Reactions (lbs) and Bearing Lengths (in) :**



|             |      |  |      |
|-------------|------|--|------|
| Unfactored: |      |  |      |
| Dead        | 2537 |  | 2537 |
| Live        | 1268 |  | 1268 |
| Snow        | 2113 |  | 2113 |
| Factored:   |      |  |      |
| Total       | 5072 |  | 5072 |
| Bearing:    |      |  |      |
| Length      | 5.50 |  | 5.50 |
| Min req'd   | 2.23 |  | 2.23 |

**Glulam-Unbalan., West Species, 24F-V4 DF, 3-1/2"x16"**

Supports: All - Timber-soft Column, D.Fir-L No.2

Total length: 14.06'; Clear span: 13.188'; Volume = 5.5 cu.ft.; 11 laminations, 3-1/2" maximum width,

Lateral support: top = continuous, bottom = at supports;

**This section PASSES the design code check.**

**Analysis vs. Allowable Stress and Deflection using NDS 2018 :**

| Criterion    | Analysis Value   | Design Value   | Unit | Analysis/Design   |
|--------------|------------------|----------------|------|-------------------|
| Shear        | $f_v = 101$      | $F_v' = 305$   | psi  | $f_v/F_v' = 0.33$ |
| Bending (+)  | $f_b = 1291$     | $F_b' = 2760$  | psi  | $f_b/F_b' = 0.47$ |
| Dead Defl'n  | $0.12 = < L/999$ |                |      |                   |
| Live Defl'n  | $0.12 = < L/999$ | $0.45 = L/360$ | in   | 0.27              |
| Total Defl'n | $0.30 = L/534$   | $0.67 = L/240$ | in   | 0.45              |

**Design Notes:**

1. Analysis and design are in accordance with the ICC International Building Code (IBC 2018) and the National Design Specification (NDS 2018), using Allowable Stress Design (ASD). Design values are from the NDS Supplement.
2. Please verify that the default deflection limits are appropriate for your application.
3. Glulam design values are for materials conforming to ANSI 117-2015 and manufactured in accordance with ANSI A190.1-2012
4. GLULAM: bxd = actual breadth x actual depth.
5. Glulam Beams shall be laterally supported according to the provisions of NDS Clause 3.3.3.
6. GLULAM: bearing length based on smaller of  $F_{cp}(\text{tension})$ ,  $F_{cp}(\text{comp'n})$ .



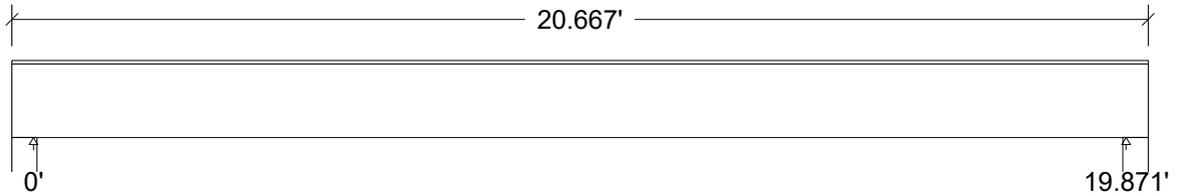
**Design Check Calculation Sheet**

WoodWorks Sizer 2019 (Update 3)

**Loads:**

| Load        | Type | Distribution | Pat-tern | Location [ft] |       | Magnitude |       | Unit |
|-------------|------|--------------|----------|---------------|-------|-----------|-------|------|
|             |      |              |          | Start         | End   | Start     | End   |      |
| Load1       | Dead | Partial UDL  |          | 0.00          | 6.50  | 158.0     | 158.0 | plf  |
| Load2       | Live | Partial UDL  |          | 0.00          | 6.50  | 420.0     | 420.0 | plf  |
| Load3       | Dead | Partial UDL  |          | 6.50          | 20.67 | 120.0     | 120.0 | plf  |
| Load4       | Live | Partial UDL  |          | 6.50          | 20.67 | 320.0     | 320.0 | plf  |
| Self-weight | Dead | Full UDL     |          |               |       | 20.3      |       | plf  |

**Maximum Reactions (lbs) and Bearing Lengths (in) :**



|             |      |  |      |
|-------------|------|--|------|
| Unfactored: |      |  |      |
| Dead        | 1652 |  | 1477 |
| Live        | 3862 |  | 3402 |
| Factored:   |      |  |      |
| Total       | 5514 |  | 4879 |
| Bearing:    |      |  |      |
| Length      | 5.50 |  | 5.50 |
| Min req'd   | 1.54 |  | 1.36 |

**Glulam-Unbalan., West Species, 24F-V4 DF, 5-1/2"x16"**

Supports: All - Lumber n-ply Column, D.Fir-L Stud

Total length: 20.69'; Clear span: 19.75'; Volume = 12.6 cu.ft.; 11 laminations, 5-1/2" maximum width,

Lateral support: top = continuous, bottom = at supports;

**This section PASSES the design code check.**

**Analysis vs. Allowable Stress and Deflection using NDS 2018 :**

| Criterion    | Analysis Value   | Design Value   | Unit | Analysis/Design   |
|--------------|------------------|----------------|------|-------------------|
| Shear        | $f_v = 76$       | $F_v' = 265$   | psi  | $f_v/F_v' = 0.29$ |
| Bending (+)  | $f_b = 1228$     | $F_b' = 2328$  | psi  | $f_b/F_b' = 0.53$ |
| Dead Defl'n  | $0.15 = < L/999$ |                |      |                   |
| Live Defl'n  | $0.35 = L/673$   | $0.66 = L/360$ | in   | 0.53              |
| Total Defl'n | $0.59 = L/407$   | $0.99 = L/240$ | in   | 0.59              |

**Design Notes:**

1. Analysis and design are in accordance with the ICC International Building Code (IBC 2018) and the National Design Specification (NDS 2018), using Allowable Stress Design (ASD). Design values are from the NDS Supplement.
2. Please verify that the default deflection limits are appropriate for your application.
3. Glulam design values are for materials conforming to ANSI 117-2015 and manufactured in accordance with ANSI A190.1-2012
4. GLULAM: bxd = actual breadth x actual depth.
5. Glulam Beams shall be laterally supported according to the provisions of NDS Clause 3.3.3.
6. GLULAM: bearing length based on smaller of  $F_{cp}$ (tension),  $F_{cp}$ (comp'n).

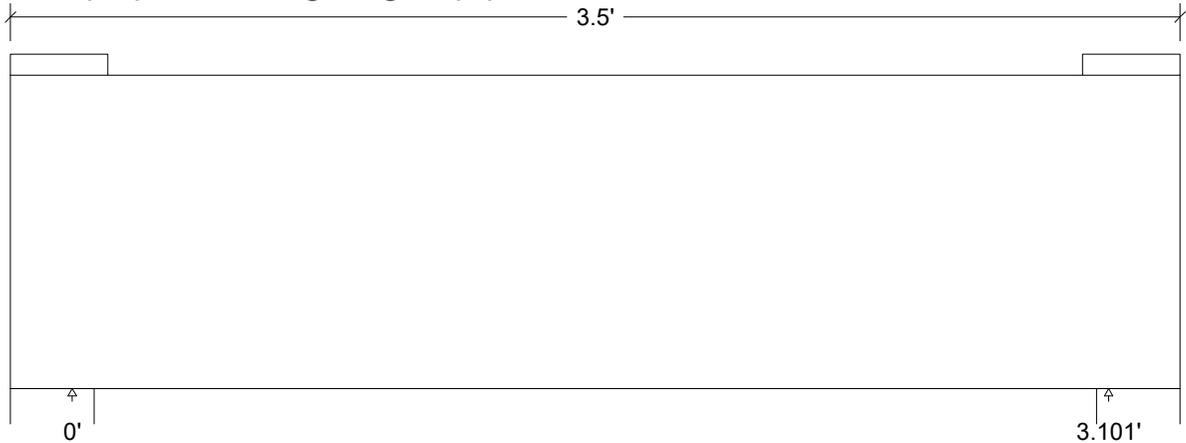


**Design Check Calculation Sheet**  
WoodWorks Sizer 2019 (Update 3)

**Loads:**

| Load        | Type | Distribution | Pat-tern | Location [ft] |     | Magnitude |     | Unit |
|-------------|------|--------------|----------|---------------|-----|-----------|-----|------|
|             |      |              |          | Start         | End | Start     | End |      |
| Load1       | Dead | Full UDL     |          |               |     | 30.0      |     | plf  |
| Load2       | Live | Full UDL     |          |               |     | 80.0      |     | plf  |
| Load3       | Dead | Point        |          | 1.25          |     | 1477      |     | lbs  |
| Load4       | Live | Point        |          | 1.25          |     | 3402      |     | lbs  |
| Self-weight | Dead | Full UDL     |          |               |     | 9.4       |     | plf  |

**Maximum Reactions (lbs) and Bearing Lengths (in) :**



|             |      |  |      |
|-------------|------|--|------|
| Unfactored: |      |  |      |
| Dead        | 1036 |  | 575  |
| Live        | 2373 |  | 1309 |
| Factored:   |      |  |      |
| Total       | 3409 |  | 1884 |
| Bearing:    |      |  |      |
| Length      | 3.00 |  | 3.00 |
| Min req'd   | 1.56 |  | 0.86 |

**Lumber-soft, D.Fir-L, No.2, 4x12 (3-1/2"x11-1/4")**

Supports: All - Lumber n-ply Column, D.Fir-L Stud  
 Total length: 3.5'; Clear span: 3.0'; Volume = 1.0 cu.ft.  
 Lateral support: top = at supports, bottom = at supports;  
**This section PASSES the design code check.**

**Analysis vs. Allowable Stress and Deflection using NDS 2018 :**

| Criterion    | Analysis Value | Design Value | Unit | Analysis/Design |
|--------------|----------------|--------------|------|-----------------|
| Shear        | fv = 125       | Fv' = 180    | psi  | fv/Fv' = 0.69   |
| Bending(+)   | fb = 575       | Fb' = 985    | psi  | fb/Fb' = 0.58   |
| Dead Defl'n  | 0.00 = < L/999 |              |      |                 |
| Live Defl'n  | 0.01 = < L/999 | 0.10 = L/360 | in   | 0.05            |
| Total Defl'n | 0.01 = < L/999 | 0.16 = L/240 | in   | 0.05            |

**Design Notes:**

1. Analysis and design are in accordance with the ICC International Building Code (IBC 2018) and the National Design Specification (NDS 2018), using Allowable Stress Design (ASD). Design values are from the NDS Supplement.
2. Please verify that the default deflection limits are appropriate for your application.
3. Sawn lumber bending members shall be laterally supported according to the provisions of NDS Clause 4.4.1.

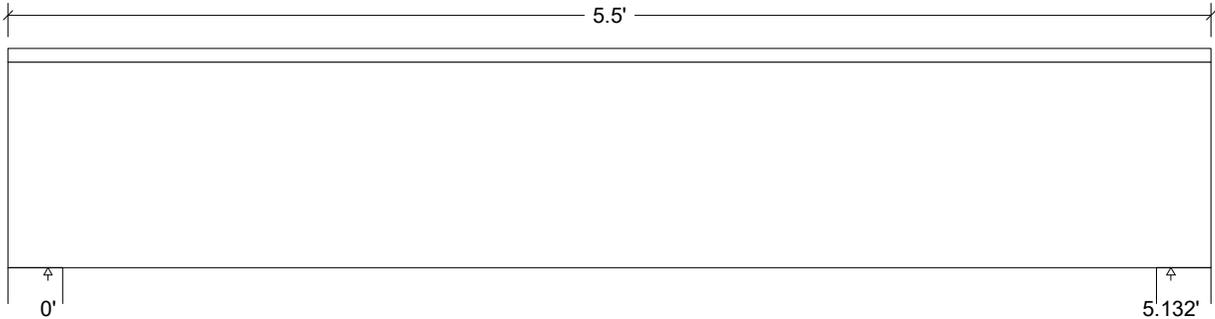


**Design Check Calculation Sheet**  
WoodWorks Sizer 2023

**Loads:**

| Load        | Type       | Distribution | Pat-tern | Location [ft] |     | Magnitude |     | Unit |
|-------------|------------|--------------|----------|---------------|-----|-----------|-----|------|
|             |            |              |          | Start         | End | Start     | End |      |
| Load1       | Dead       | Full UDL     |          |               |     | 216.0     |     | plf  |
| Load2       | Snow       | Full UDL     |          |               |     | 300.0     |     | plf  |
| Load3       | Dead       | Full UDL     |          |               |     | 64.0      |     | plf  |
| Load4       | Dead       | Full UDL     |          |               |     | 158.0     |     | plf  |
| Load5       | Live       | Full UDL     |          |               |     | 420.0     |     | plf  |
| Load6       | Dead       | Point        |          | 2.75          |     | 1302      |     | lbs  |
| Load7       | Live       | Point        |          | 2.75          |     | 879       |     | lbs  |
| Load8       | Snow       | Point        |          | 2.75          |     | 400       |     | lbs  |
| Load9       | Wind       | Point        |          | 2.75          |     | 2008      |     | lbs  |
| Load10      | Earthquake | Point        |          | 2.75          |     | 2874      |     | lbs  |
| Self-weight | Dead       | Full UDL     |          |               |     | 9.4       |     | plf  |

**Maximum Reactions (lbs) and Bearing Lengths (in) :**



|             |      |      |
|-------------|------|------|
| Unfactored: |      |      |
| Dead        | 1880 | 1880 |
| Live        | 1594 | 1594 |
| Snow        | 1025 | 1025 |
| Wind        | 1004 | 1004 |
| Earthquake  | 1437 | 1437 |
| Factored:   |      |      |
| Total       | 4599 | 4599 |
| Bearing:    |      |      |
| Length      | 3.00 | 3.00 |
| Min req'd   | 1.59 | 1.59 |

**Lumber-soft, D.Fir-L, No.2, 4x12 (3-1/2"x11-1/4")**

Supports: All - Lumber n-ply Column, D.Fir-L Stud  
 Total length: 5.5'; Clear span: 5.0'; Volume = 1.5 cu.ft.  
 Lateral support: top = continuous, bottom = at supports;  
**This section PASSES the design code check.**

**Analysis vs. Allowable Stress and Deflection using NDS 2018 :**

| Criterion    | Analysis Value | Design Value | Unit | Analysis/Design |
|--------------|----------------|--------------|------|-----------------|
| Shear        | fv = 93        | Fv' = 180    | psi  | fv/Fv' = 0.52   |
| Bending(+)   | fb = 919       | Fb' = 990    | psi  | fb/Fb' = 0.93   |
| Dead Defl'n  | 0.02 = < L/999 |              |      |                 |
| Live Defl'n  | 0.03 = < L/999 | 0.17 = L/360 | in   | 0.18            |
| Total Defl'n | 0.06 = < L/999 | 0.26 = L/240 | in   | 0.24            |

**Design Notes:**

1. Analysis and design are in accordance with the ICC International Building Code (IBC 2021) and the National Design Specification (NDS 2018), using Allowable Stress Design (ASD). Design values are from the NDS Supplement.
2. Please verify that the default deflection limits are appropriate for your application.
3. Sawn lumber bending members shall be laterally supported according to the provisions of NDS Clause 4.4.1.

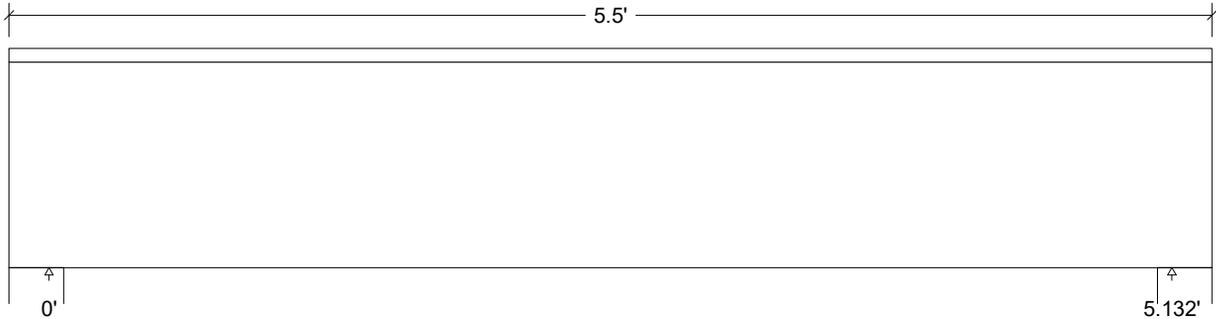


**Design Check Calculation Sheet**  
WoodWorks Sizer 2023

**Loads:**

| Load        | Type       | Distribution | Pat-tern | Location [ft] |     | Magnitude |     | Unit |
|-------------|------------|--------------|----------|---------------|-----|-----------|-----|------|
|             |            |              |          | Start         | End | Start     | End |      |
| Load1       | Dead       | Full UDL     |          |               |     | 216.0     |     | plf  |
| Load2       | Snow       | Full UDL     |          |               |     | 300.0     |     | plf  |
| Load3       | Dead       | Full UDL     |          |               |     | 64.0      |     | plf  |
| Load4       | Dead       | Full UDL     |          |               |     | 158.0     |     | plf  |
| Load5       | Live       | Full UDL     |          |               |     | 420.0     |     | plf  |
| Load6       | Dead       | Point        |          | 2.75          |     | 1302      |     | lbs  |
| Load7       | Live       | Point        |          | 2.75          |     | 879       |     | lbs  |
| Load8       | Snow       | Point        |          | 2.75          |     | 400       |     | lbs  |
| Load9       | Wind       | Point        |          | 2.75          |     | -2008     |     | lbs  |
| Load10      | Earthquake | Point        |          | 2.75          |     | -2874     |     | lbs  |
| Self-weight | Dead       | Full UDL     |          |               |     | 9.4       |     | plf  |

**Maximum Reactions (lbs) and Bearing Lengths (in) :**



|             |       |  |       |
|-------------|-------|--|-------|
| Unfactored: |       |  |       |
| Dead        | 1880  |  | 1880  |
| Live        | 1594  |  | 1594  |
| Snow        | 1025  |  | 1025  |
| Wind        | -1004 |  | -1004 |
| Earthquake  | -1437 |  | -1437 |
| Factored:   |       |  |       |
| Total       | 3844  |  | 3844  |
| Bearing:    |       |  |       |
| Length      | 3.00  |  | 3.00  |
| Min req'd   | 1.59  |  | 1.59  |

**Lumber-soft, D.Fir-L, No.2, 4x12 (3-1/2"x11-1/4")**

Supports: All - Lumber n-ply Column, D.Fir-L Stud  
 Total length: 5.5'; Clear span: 5.0'; Volume = 1.5 cu.ft.  
 Lateral support: top = continuous, bottom = at supports;  
**This section PASSES the design code check.**

**Analysis vs. Allowable Stress and Deflection using NDS 2018 :**

| Criterion    | Analysis Value | Design Value | Unit | Analysis/Design |
|--------------|----------------|--------------|------|-----------------|
| Shear        | fv = 93        | Fv' = 180    | psi  | fv/Fv' = 0.52   |
| Bending(+)   | fb = 919       | Fb' = 990    | psi  | fb/Fb' = 0.93   |
| Bending(-)   | fb = 93        | Fb' = 1562   | psi  | fb/Fb' = 0.06   |
| Dead Defl'n  | 0.02 = < L/999 |              |      |                 |
| Live Defl'n  | 0.02 = < L/999 | 0.17 = L/360 | in   | 0.12            |
| Total Defl'n | 0.05 = < L/999 | 0.26 = L/240 | in   | 0.19            |

**Design Notes:**

1. Analysis and design are in accordance with the ICC International Building Code (IBC 2021) and the National Design Specification (NDS 2018), using Allowable Stress Design (ASD). Design values are from the NDS Supplement.
2. Please verify that the default deflection limits are appropriate for your application.
3. Sawn lumber bending members shall be laterally supported according to the provisions of NDS Clause 4.4.1.



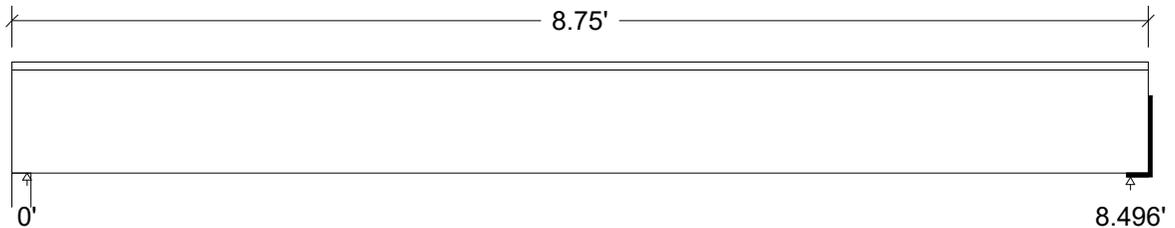
**Design Check Calculation Sheet**

WoodWorks Sizer 13.2.1

**Loads:**

| Load        | Type | Distribution | Pat-tern | Location [ft] |     | Magnitude |     | Unit |
|-------------|------|--------------|----------|---------------|-----|-----------|-----|------|
|             |      |              |          | Start         | End | Start     | End |      |
| Load1       | Dead | Full UDL     |          |               |     | 60.0      |     | plf  |
| Load2       | Live | Full UDL     |          |               |     | 160.0     |     | plf  |
| Load3       | Dead | Full UDL     |          |               |     | 53.0      |     | plf  |
| Load4       | Live | Full UDL     |          |               |     | 140.0     |     | plf  |
| Self-weight | Dead | Full UDL     |          |               |     | 9.7       |     | plf  |

**Maximum Reactions (lbs) and Bearing Lengths (in) :**



|             |      |  |      |
|-------------|------|--|------|
| Unfactored: |      |  |      |
| Dead        | 534  |  | 537  |
| Live        | 1309 |  | 1316 |
| Factored:   |      |  |      |
| Total       | 1844 |  | 1852 |
| Bearing:    |      |  |      |
| Length      | 1.75 |  | 2.00 |
| Min req'd   | 0.70 |  | 0.71 |

**LVL, PacificWoodTech, 2.1E 3100Fb, 3-1/2"x9-1/2"**

Supports: 1 - Lumber n-ply Column, D.Fir-L Stud; 2 - Hanger;

Total length: 8.75'; Clear span: 8.438'; Volume = 2.0 cu.ft.

Lateral support: top = continuous, bottom = at supports;

**This section PASSES the design code check.**

**Analysis vs. Allowable Stress and Deflection using NDS 2018 :**

| Criterion    | Analysis Value   | Design Value   | Unit | Analysis/Design   |
|--------------|------------------|----------------|------|-------------------|
| Shear        | $f_v = 65$       | $F_v' = 290$   | psi  | $f_v/F_v' = 0.23$ |
| Bending (+)  | $f_b = 869$      | $F_b' = 3193$  | psi  | $f_b/F_b' = 0.27$ |
| Dead Defl'n  | $0.03 = < L/999$ |                |      |                   |
| Live Defl'n  | $0.07 = < L/999$ | $0.28 = L/360$ | in   | 0.25              |
| Total Defl'n | $0.11 = L/898$   | $0.42 = L/240$ | in   | 0.27              |

**Design Notes:**

1. Analysis and design are in accordance with the ICC International Building Code (IBC 2021) and the National Design Specification (NDS 2018), using Allowable Stress Design (ASD). Design values are from the NDS Supplement.
2. Please verify that the default deflection limits are appropriate for your application.
3. FIRE RATING: LVL, PSL and LSL are not rated for fire endurance.
4. SCL: Structural composite lumber design has assumed: - dry service conditions - no preservative or fire-retardant treatment - no notches
5. SCL: Deflection is calculated using an apparent modulus of elasticity E that incorporates the effect of shear deflection.

**FROELICH CONSULTING ENGINEERS**

client: Pahlisch  
 project: Conifer A  
 job number: 25-B031  
 date: 2/24/2025  
 by: JDB

**Columns & Footings**

| Column<br>C1 | Location: Covered Porch<br>Height: 9'-0"<br>Loads: <table border="0" style="margin-left: 20px;"> <thead> <tr> <th></th> <th>Loading</th> <th></th> <th></th> <th>Load Ratio</th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>RB3 DL:</td> <td>265</td> <td>lbs</td> <td>x</td> <td>2</td> <td>=</td> <td>530</td> <td>lbs</td> </tr> <tr> <td>LL:</td> <td>0</td> <td>lbs</td> <td>x</td> <td>1</td> <td>=</td> <td>0</td> <td>lbs</td> </tr> <tr> <td>SL:</td> <td>320</td> <td>lbs</td> <td>x</td> <td>2</td> <td>=</td> <td>640</td> <td>lbs</td> </tr> <tr> <td colspan="7"></td> <td><b>Controlling Load Case: DL+SL</b></td> <td>= 1170 lbs</td> </tr> </tbody> </table>  |     | Loading |            |   | Load Ratio |  |            |  | RB3 DL:      | 265  | lbs | x | 2  | = | 530  | lbs       | LL: | 0    | lbs | x | 1  | = | 0    | lbs        | SL:          | 320  | lbs | x | 2  | = | 640  | lbs       |     |      |     |   |    |   |      | <b>Controlling Load Case: DL+SL</b>           | = 1170 lbs | <b>Column:</b><br>6x6 HF #2<br><br><b>Footings:</b><br>18" dia x 8"<br>Conc FTG                   |     |   |   |   |      |     |     |      |     |   |   |   |      |  |            |   |     |   |   |   |   |     |  |  |  |  |  |  |  |   |            |   |
|--------------|---|-----|---------|------------|---|------------|--|------------|--|--------------|------|-----|---|----|---|------|-----------|-----|------|-----|---|----|---|------|------------|--------------|------|-----|---|----|---|------|-----------|-----|------|-----|---|----|---|------|---|------------|---|-----|---|---|---|------|-----|-----|------|-----|---|---|---|------|--|------------|---|-----|---|---|---|---|-----|--|--|--|--|--|--|--|---|------------|---|
|              | Loading   |     |         | Load Ratio |   |            |  |            |  |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |            |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |   |            |   |     |   |   |   |      |     |     |      |     |   |   |   |      |  |            |   |     |   |   |   |   |     |  |  |  |  |  |  |  |   |            |   |
| RB3 DL:      | 265   | lbs | x       | 2          | = | 530        | lbs  |            |  |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |            |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |   |            |   |     |   |   |   |      |     |     |      |     |   |   |   |      |  |            |   |     |   |   |   |   |     |  |  |  |  |  |  |  |   |            |   |
| LL:          | 0   | lbs | x       | 1          | = | 0          | lbs  |            |  |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |            |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |   |            |   |     |   |   |   |      |     |     |      |     |   |   |   |      |  |            |   |     |   |   |   |   |     |  |  |  |  |  |  |  |   |            |   |
| SL:          | 320   | lbs | x       | 2          | = | 640        | lbs  |            |  |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |            |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |   |            |   |     |   |   |   |      |     |     |      |     |   |   |   |      |  |            |   |     |   |   |   |   |     |  |  |  |  |  |  |  |   |            |   |
|              |   |     |         |            |   |            | <b>Controlling Load Case: DL+SL</b>                        | = 1170 lbs |  |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |            |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |   |            |   |     |   |   |   |      |     |     |      |     |   |   |   |      |  |            |   |     |   |   |   |   |     |  |  |  |  |  |  |  |   |            |   |
| Column<br>C2 | Location: Covered Patio<br>Height: 9'-0"<br>Loads: <table border="0" style="margin-left: 20px;"> <thead> <tr> <th></th> <th>Loading</th> <th></th> <th></th> <th>Load Ratio</th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>FB4 DL:</td> <td>2537</td> <td>lbs</td> <td>x</td> <td>1</td> <td>=</td> <td>2537</td> <td>lbs</td> </tr> <tr> <td>LL:</td> <td>1268</td> <td>lbs</td> <td>x</td> <td>1</td> <td>=</td> <td>1268</td> <td>lbs</td> </tr> <tr> <td>SL:</td> <td>2113</td> <td>lbs</td> <td>x</td> <td>1</td> <td>=</td> <td>2113</td> <td>lbs</td> </tr> <tr> <td colspan="7"></td> <td><b>Controlling Load Case: D+0.75LL+0.75SL</b></td> <td>= 5073 lbs</td> </tr> </tbody> </table>  |     | Loading |            |   | Load Ratio |  |            |  | FB4 DL:      | 2537 | lbs | x | 1  | = | 2537 | lbs       | LL: | 1268 | lbs | x | 1  | = | 1268 | lbs        | SL:          | 2113 | lbs | x | 1  | = | 2113 | lbs       |     |      |     |   |    |   |      | <b>Controlling Load Case: D+0.75LL+0.75SL</b> | = 5073 lbs | <b>Column:</b><br>(2) 2x6 DF<br><br><b>Footings:</b><br>24"x24"x10" Conc FTG<br>w/ (3) #4 Bars EW |     |   |   |   |      |     |     |      |     |   |   |   |      |  |            |   |     |   |   |   |   |     |  |  |  |  |  |  |  |   |            |   |
|              | Loading   |     |         | Load Ratio |   |            |  |            |  |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |            |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |   |            |   |     |   |   |   |      |     |     |      |     |   |   |   |      |  |            |   |     |   |   |   |   |     |  |  |  |  |  |  |  |   |            |   |
| FB4 DL:      | 2537  | lbs | x       | 1          | = | 2537       | lbs  |            |  |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |            |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |   |            |   |     |   |   |   |      |     |     |      |     |   |   |   |      |  |            |   |     |   |   |   |   |     |  |  |  |  |  |  |  |   |            |   |
| LL:          | 1268  | lbs | x       | 1          | = | 1268       | lbs  |            |  |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |            |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |   |            |   |     |   |   |   |      |     |     |      |     |   |   |   |      |  |            |   |     |   |   |   |   |     |  |  |  |  |  |  |  |   |            |   |
| SL:          | 2113  | lbs | x       | 1          | = | 2113       | lbs  |            |  |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |            |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |   |            |   |     |   |   |   |      |     |     |      |     |   |   |   |      |  |            |   |     |   |   |   |   |     |  |  |  |  |  |  |  |   |            |   |
|              |   |     |         |            |   |            | <b>Controlling Load Case: D+0.75LL+0.75SL</b>              | = 5073 lbs |  |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |            |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |   |            |   |     |   |   |   |      |     |     |      |     |   |   |   |      |  |            |   |     |   |   |   |   |     |  |  |  |  |  |  |  |   |            |   |
| Column<br>C3 | Location: Entry<br>Height: 9'-0"<br>Loads: <table border="0" style="margin-left: 20px;"> <thead> <tr> <th></th> <th>Loading</th> <th></th> <th></th> <th>Load Ratio</th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>Upper GT DL:</td> <td>2400</td> <td>lbs</td> <td>x</td> <td>17</td> <td>/</td> <td>42</td> <td>= 971 lbs</td> </tr> <tr> <td>SL:</td> <td>2400</td> <td>lbs</td> <td>x</td> <td>25</td> <td>/</td> <td>42</td> <td>= 1429 lbs</td> </tr> <tr> <td>Lower GT DL:</td> <td>1000</td> <td>lbs</td> <td>x</td> <td>17</td> <td>/</td> <td>42</td> <td>= 405 lbs</td> </tr> <tr> <td>SL:</td> <td>1000</td> <td>lbs</td> <td>x</td> <td>25</td> <td>/</td> <td>42</td> <td>= 595 lbs</td> </tr> <tr> <td>FB5 DL:</td> <td>1652</td> <td>lbs</td> <td>x</td> <td>1</td> <td>=</td> <td>1652</td> <td>lbs</td> </tr> <tr> <td>LL:</td> <td>3862</td> <td>lbs</td> <td>x</td> <td>1</td> <td>=</td> <td>3862</td> <td>lbs</td> </tr> <tr> <td>SL:</td> <td>0</td> <td>lbs</td> <td>x</td> <td>1</td> <td>=</td> <td>0</td> <td>lbs</td> </tr> <tr> <td colspan="7"></td> <td><b>Controlling Load Case: D+0.75LL+0.75SL</b></td> <td>= 7443 lbs</td> </tr> </tbody> </table> |     | Loading |            |   | Load Ratio |  |            |  | Upper GT DL: | 2400 | lbs | x | 17 | / | 42   | = 971 lbs | SL: | 2400 | lbs | x | 25 | / | 42   | = 1429 lbs | Lower GT DL: | 1000 | lbs | x | 17 | / | 42   | = 405 lbs | SL: | 1000 | lbs | x | 25 | / | 42   | = 595 lbs                                     | FB5 DL:    | 1652  | lbs | x | 1 | = | 1652 | lbs | LL: | 3862 | lbs | x | 1 | = | 3862 | lbs  | SL:        | 0   | lbs | x | 1 | = | 0 | lbs |  |  |  |  |  |  |  | <b>Controlling Load Case: D+0.75LL+0.75SL</b> | = 7443 lbs | <b>Column:</b><br>(2) 2x6 DF<br><br><b>Footings:</b><br>30"x30"x10" Conc FTG<br>w/ (3) #4 Bars EW |
|              | Loading   |     |         | Load Ratio |   |            |  |            |  |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |            |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |   |            |   |     |   |   |   |      |     |     |      |     |   |   |   |      |  |            |   |     |   |   |   |   |     |  |  |  |  |  |  |  |   |            |   |
| Upper GT DL: | 2400  | lbs | x       | 17         | / | 42         | = 971 lbs  |            |  |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |            |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |   |            |   |     |   |   |   |      |     |     |      |     |   |   |   |      |  |            |   |     |   |   |   |   |     |  |  |  |  |  |  |  |   |            |   |
| SL:          | 2400  | lbs | x       | 25         | / | 42         | = 1429 lbs   |            |  |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |            |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |   |            |   |     |   |   |   |      |     |     |      |     |   |   |   |      |  |            |   |     |   |   |   |   |     |  |  |  |  |  |  |  |   |            |   |
| Lower GT DL: | 1000  | lbs | x       | 17         | / | 42         | = 405 lbs  |            |  |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |            |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |   |            |   |     |   |   |   |      |     |     |      |     |   |   |   |      |  |            |   |     |   |   |   |   |     |  |  |  |  |  |  |  |   |            |   |
| SL:          | 1000  | lbs | x       | 25         | / | 42         | = 595 lbs  |            |  |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |            |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |   |            |   |     |   |   |   |      |     |     |      |     |   |   |   |      |  |            |   |     |   |   |   |   |     |  |  |  |  |  |  |  |   |            |   |
| FB5 DL:      | 1652  | lbs | x       | 1          | = | 1652       | lbs  |            |  |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |            |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |   |            |   |     |   |   |   |      |     |     |      |     |   |   |   |      |  |            |   |     |   |   |   |   |     |  |  |  |  |  |  |  |   |            |   |
| LL:          | 3862  | lbs | x       | 1          | = | 3862       | lbs  |            |  |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |            |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |   |            |   |     |   |   |   |      |     |     |      |     |   |   |   |      |  |            |   |     |   |   |   |   |     |  |  |  |  |  |  |  |   |            |   |
| SL:          | 0   | lbs | x       | 1          | = | 0          | lbs  |            |  |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |            |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |   |            |   |     |   |   |   |      |     |     |      |     |   |   |   |      |  |            |   |     |   |   |   |   |     |  |  |  |  |  |  |  |   |            |   |
|              |   |     |         |            |   |            | <b>Controlling Load Case: D+0.75LL+0.75SL</b>              | = 7443 lbs |  |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |            |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |   |            |   |     |   |   |   |      |     |     |      |     |   |   |   |      |  |            |   |     |   |   |   |   |     |  |  |  |  |  |  |  |   |            |   |
| Column<br>C4 | Location: Side of Garage<br>Height: 9'-0"<br>Loads: <table border="0" style="margin-left: 20px;"> <thead> <tr> <th></th> <th>Loading</th> <th></th> <th></th> <th>Load Ratio</th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>FB7 DL:</td> <td>1880</td> <td>lbs</td> <td>x</td> <td>1</td> <td>=</td> <td>1880</td> <td>lbs</td> </tr> <tr> <td>LL:</td> <td>1595</td> <td>lbs</td> <td>x</td> <td>1</td> <td>=</td> <td>1595</td> <td>lbs</td> </tr> <tr> <td>SL:</td> <td>1025</td> <td>lbs</td> <td>x</td> <td>1</td> <td>=</td> <td>1025</td> <td>lbs</td> </tr> <tr> <td>WL:</td> <td>1004</td> <td>lbs</td> <td>x</td> <td>1</td> <td>=</td> <td>1004</td> <td>lbs</td> </tr> <tr> <td>EQ:</td> <td>1437</td> <td>lbs</td> <td>x</td> <td>1</td> <td>=</td> <td>1437</td> <td>lbs</td> </tr> <tr> <td colspan="7"></td> <td><b>Controlling Load Case: DL+0.75LL+0.75SL+0.75(0.7EQ)</b></td> <td>= 4599 lbs</td> </tr> </tbody> </table>  |     | Loading |            |   | Load Ratio |  |            |  | FB7 DL:      | 1880 | lbs | x | 1  | = | 1880 | lbs       | LL: | 1595 | lbs | x | 1  | = | 1595 | lbs        | SL:          | 1025 | lbs | x | 1  | = | 1025 | lbs       | WL: | 1004 | lbs | x | 1  | = | 1004 | lbs   | EQ:        | 1437  | lbs | x | 1 | = | 1437 | lbs |     |      |     |   |   |   |      | <b>Controlling Load Case: DL+0.75LL+0.75SL+0.75(0.7EQ)</b> | = 4599 lbs | <b>Column:</b><br>(2) 2x6 DF<br><br><b>Footings:</b><br>24"x24"x10" Conc FTG<br>w/ (3) #4 Bars EW |     |   |   |   |   |     |  |  |  |  |  |  |  |   |            |   |
|              | Loading   |     |         | Load Ratio |   |            |  |            |  |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |            |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |   |            |   |     |   |   |   |      |     |     |      |     |   |   |   |      |  |            |   |     |   |   |   |   |     |  |  |  |  |  |  |  |   |            |   |
| FB7 DL:      | 1880  | lbs | x       | 1          | = | 1880       | lbs  |            |  |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |            |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |   |            |   |     |   |   |   |      |     |     |      |     |   |   |   |      |  |            |   |     |   |   |   |   |     |  |  |  |  |  |  |  |   |            |   |
| LL:          | 1595  | lbs | x       | 1          | = | 1595       | lbs  |            |  |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |            |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |   |            |   |     |   |   |   |      |     |     |      |     |   |   |   |      |  |            |   |     |   |   |   |   |     |  |  |  |  |  |  |  |   |            |   |
| SL:          | 1025  | lbs | x       | 1          | = | 1025       | lbs  |            |  |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |            |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |   |            |   |     |   |   |   |      |     |     |      |     |   |   |   |      |  |            |   |     |   |   |   |   |     |  |  |  |  |  |  |  |   |            |   |
| WL:          | 1004  | lbs | x       | 1          | = | 1004       | lbs  |            |  |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |            |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |   |            |   |     |   |   |   |      |     |     |      |     |   |   |   |      |  |            |   |     |   |   |   |   |     |  |  |  |  |  |  |  |   |            |   |
| EQ:          | 1437  | lbs | x       | 1          | = | 1437       | lbs  |            |  |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |            |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |   |            |   |     |   |   |   |      |     |     |      |     |   |   |   |      |  |            |   |     |   |   |   |   |     |  |  |  |  |  |  |  |   |            |   |
|              |   |     |         |            |   |            | <b>Controlling Load Case: DL+0.75LL+0.75SL+0.75(0.7EQ)</b> | = 4599 lbs |  |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |            |              |      |     |   |    |   |      |           |     |      |     |   |    |   |      |   |            |   |     |   |   |   |      |     |     |      |     |   |   |   |      |  |            |   |     |   |   |   |   |     |  |  |  |  |  |  |  |   |            |   |

Strip FTG  
C5

Location: Typical Strip FTG

Height:

Loads:

|                                     | Loading |         | Trib. |       |         |                    |
|-------------------------------------|---------|---------|-------|-------|---------|--------------------|
| Roof DL:                            | 18      | psf     | x     | 0.00  | ft      | = 0 plf            |
| Roof SL:                            | 25      | psf     | x     | 0.00  | ft      | = 0 plf            |
| Wall DL:                            | 8       | psf     | x     | 18.00 | ft      | = 144 plf          |
| Floor DL:                           | 12      | psf     | x     | 11.00 | ft      | = 132 plf          |
| Floor LL:                           | 40      | psf     | x     | 11.00 | ft      | = 440 plf          |
|                                     | 12      | in/12in | x     | 6     | in/12in | x 150 psf = 75 plf |
| <b>Controlling Load Case: DL+LL</b> |         |         |       |       |         | = 791 plf          |

**Bearing Capacity:**

| Allowable Bearing | Actual Bearing | DCR  |
|-------------------|----------------|------|
| 1500              | 791            | 0.53 |

**Pony Wall:**

2x4 DF Studs Aligned  
w/ Floor Joist Above

**Strip Footing:**

12"x6" CONT CONC  
FTG W/ (1) #4 BAR

## FROELICH CONSULTING ENGINEERS INC.,

Client:  
Project:  
Project #:  
By:

### Columns Foundation/Crawl Space

| Reference    | Column Size      | Maximum Allowable Load | HF PL Perp to Grain, $P_{c\perp}$ (lbs) | DF PL Perp to Grain, $P_{c\perp}$ (lbs) |
|--------------|------------------|------------------------|---|---|
| 4-Inch Wall  | *2x4s @ 32" O.C. | 900**                  | 797**                                   | 1230**                                  |
|              | *2x4s @ 24" O.C. | 1225**                 | 1063**                                  | 1640**                                  |
|              | *2x4s @ 16" O.C. | 1838**                 | 1595**                                  | 2460**                                  |
|              | *2x4s @ 12" O.C. | 2450**                 | 2126**                                  | 3281**                                  |
|              | (1) - 2x4 DF     | 1650                   | 2126                                    | 3281                                    |
|              | (2) - 2x4 DF     | 4000                   | 4253                                    | 6563                                    |
|              | (3) - 2x4 DF     | 6700                   | 6379                                    | 9844                                    |
|              | (4) - 2x4 DF     | 9200                   | 8505                                    | 13125                                   |
|              | (1) - 2x4 DF#2   | 2050                   | 2126                                    | 3281                                    |
|              | (2) - 2x4 DF#2   | 6200                   | 4253                                    | 6563                                    |
|              | (3) - 2x4 DF#2   | 11000                  | 6379                                    | 9844                                    |
|              | (4) - 2x4 DF#2   | 15000                  | 8505                                    | 13125                                   |
| 6-Inch Wall  | *2x6s @ 32" O.C. | 1010*                  | 1253**                                  | 1933**                                  |
|              | *2x6s @ 24" O.C. | 1350*                  | 1670**                                  | 2578**                                  |
|              | *2x6s @ 16" O.C. | 2050*                  | 2506**                                  | 3867**                                  |
|              | *2x6s @ 12" O.C. | 2750*                  | 3341**                                  | 5156**                                  |
|              | (1) - 2x6 DF     | 2700                   | 3341                                    | 5156                                    |
|              | (2) - 2x6 DF     | 6500                   | 6683                                    | 10313                                   |
|              | (3) - 2x6 DF     | 10800                  | 10024                                   | 15469                                   |
|              | (4) - 2x6 DF     | 14800                  | 13365                                   | 20625                                   |
|              | (1) - 2x6 DF#2   | 3300                   | 3341                                    | 5156                                    |
|              | (2) - 2x6 DF#2   | 10000                  | 6683                                    | 10313                                   |
|              | (3) - 2x6 DF#2   | 18000                  | 10024                                   | 15469                                   |
|              | (4) - 2x6 DF#2   | 25000                  | 13365                                   | 20625                                   |
| Post         | 4x4 DF #2        | 11000                  | 4961                                    | 7656                                    |
|              | 4x6 DF #2        | 20000                  | 7796                                    | 12031                                   |
|              | 4x8 DF #2        | 27000                  | 10277                                   | 15859                                   |
|              | 6x6 DF #2        | 17500                  | 12251                                   | 18906                                   |
|              | 6x8 DF #2        | 25000                  | 16706                                   | 25781                                   |
|              | PT 4x4 HF #2     | 8000                   | 4961                                    | 7656                                    |
|              | PT 4x6 HF #2     | 14500                  | 7796                                    | 12031                                   |
|              | PT 4x8 HF #2     | 19500                  | 10277                                   | 15859                                   |
|              | PT 6x6 HF #2     | 11500                  | 12251                                   | 18906                                   |
| PT 6x8 HF #2 | 16500            | 16706                  | 25781                                   |   |

#### Notes:

- a.) If uplift reaction > 2000 lbs, consider adding hold downs.  
 \* Indicates pony wall: per detail, max unbraced length is 3' (2x4) and 4' (2x6)  
 \*\* Indicates allowable load is per linear foot

The following assumptions have been made:

- 1.) Max Column Ht= 4'-0"
- 2.) Fully braced weak axis (4-Inch/6-Inch Wall)
  - "Post" indicates column is not in wall, no bracing
- 3.) Evenly distributed Live Load(40 psf) and Dead Load (17 psf)
- 4.) An Eccentricity of 0.25" is used.
- 5.) DF  $F_{c\perp}$  = 625 psi & HF  $F_{c\perp}$  = 405 psi
- 6.) The perpendicular to grain allowable loads do not include the NDS Bearing Area Factor ( $C_b$ ) per NDS 3.10.4
- 7.) Shaded cells indicate controlling capacity (Bending/Bearing)

## FROELICH CONSULTING ENGINEERS INC.,

Client:  
Project:  
Project #:  
By:

### Columns 9'-0" Height

| Reference   | Column Size      | Maximum Allowable Load | DF PL Perp to Grain, $P_{c\perp}$ (lbs) | HF PL Perp to Grain, $P_{c\perp}$ (lbs) |
|-------------|------------------|------------------------|---|---|
| 4-Inch Wall | (1) - 2x4 DF     | 1400                   | 3281                                    | 2126                                    |
|             | (2) - 2x4 DF     | 2850                   | 6563                                    | 4253                                    |
|             | (3) - 2x4 DF     | 4450                   | 9844                                    | 6379                                    |
|             | (4) - 2x4 DF     | 5750                   | 13125                                   | 8505                                    |
|             | (1) - 2x4 DF#2   | 1800                   | 3281                                    | 2126                                    |
|             | (2) - 2x4 DF#2   | 3650                   | 6563                                    | 4253                                    |
|             | (3) - 2x4 DF#2   | 5600                   | 9844                                    | 6379                                    |
|             | (4) - 2x4 DF#2   | 7300                   | 13125                                   | 8505                                    |
|             | 4x4 DF#2         | 4250                   | 7656                                    | 4961                                    |
|             | (2) - 2x6 DF**   | 2700                   | 10313                                   | 6683                                    |
|             | (2) - 2x6 DF#2** | 3300                   | 10313                                   | 6683                                    |
| 4x6 DF #2** | 8000             | 12031                  | 7796                                    |   |
| 6-Inch Wall | (1) - 2x6 DF     | 4100                   | 5156                                    | 3341                                    |
|             | (2) - 2x6 DF     | 8300                   | 10313                                   | 6683                                    |
|             | (3) - 2x6 DF     | 12750                  | 15469                                   | 10024                                   |
|             | (4) - 2x6 DF     | 15900                  | 20625                                   | 13365                                   |
|             | (1) - 2x6 DF#2   | 5750                   | 5156                                    | 3341                                    |
|             | (2) - 2x6 DF#2   | 11500                  | 10313                                   | 6683                                    |
|             | (3) - 2x6 DF#2   | 17750                  | 15469                                   | 10024                                   |
|             | (4) - 2x6 DF#2   | 22700                  | 20625                                   | 13365                                   |
|             | 4x6 DF #2        | 13500                  | 12031                                   | 7796                                    |
|             | 4x6 DF #1        | 14500                  | 12031                                   | 7796                                    |
|             | 6x6 DF #2        | 13700                  | 18906                                   | 12251                                   |
|             | 6x6 DF #1        | 18800                  | 18906                                   | 12251                                   |
|             | 6x6 DF #2**      | 12800                  | 18906                                   | 12251                                   |
| Post        | 6x6 DF #1**      | 17700                  | 18906                                   | 12251                                   |
|             | PT 4x4 HF #2**   | 2850                   | 7656                                    | 4961                                    |
|             | PT 4x4 HF #1**   | 3250                   | 7656                                    | 4961                                    |
|             | PT 6x6 HF #2**   | 9000                   | 18906                                   | 12251                                   |
|             | PT 6x6 HF #1**   | 12450                  | 18906                                   | 12251                                   |

#### Notes:

a.) If uplift reaction > 2000 lbs, consider adding hold downs.

\*\* Indicates column is unbraced

The following assumptions have been made:

- 1.) Column Ht= 9'-0"
- 2.) Fully braced weak axis
  - If uniform only braced on once axis
- 3.) Evenly distributed Live Load(40 psf) and Dead Load (17 psf)
- 4.) An Eccentricity of 0.25" is used.
- 5.) DF  $F_{c\perp}$  = 625 psi & HF  $F_{c\perp}$  = 405 psi
- 6.) The perpendicular to grain allowable loads do not include the NDS Bearing Area Factor ( $C_b$ ) per NDS 3.10.4
- 7.) Shaded values are limited to the plate perpendicular to grain allowable bearing loads

## FROELICH CONSULTING ENGINEERS INC.,

Client:  
Project:  
Project #:  
By:

### Columns 10'-0" Height

| Reference   | Column Size      | Maximum Allowable Load | DF PL Perp to Grain, $P_{c\perp}$ (lbs) | HF PL Perp to Grain, $P_{c\perp}$ (lbs) |
|-------------|------------------|------------------------|---|---|
| 4-Inch Wall | (1) - 2x4 DF     | 1200                   | 3281                                    | 2126                                    |
|             | (2) - 2x4 DF     | 2450                   | 6563                                    | 4253                                    |
|             | (3) - 2x4 DF     | 3750                   | 9844                                    | 6379                                    |
|             | (4) - 2x4 DF     | 4900                   | 13125                                   | 8505                                    |
|             | (1) - 2x4 DF#2   | 1500                   | 3281                                    | 2126                                    |
|             | (2) - 2x4 DF#2   | 3050                   | 6563                                    | 4253                                    |
|             | (3) - 2x4 DF#2   | 4700                   | 9844                                    | 6379                                    |
|             | (4) - 2x4 DF#2   | 6150                   | 13125                                   | 8505                                    |
|             | 4x4 DF#2         | 3600                   | 7656                                    | 4961                                    |
|             | (2) - 2x6 DF**   | 2250                   | 10313                                   | 6683                                    |
|             | (2) - 2x6 DF#2** | 2700                   | 10313                                   | 6683                                    |
| 4x6 DF #2** | 6750             | 12031                  | 7796                                    |   |
| 6-Inch Wall | (1) - 2x6 DF     | 3750                   | 5156                                    | 3341                                    |
|             | (2) - 2x6 DF     | 7500                   | 10313                                   | 6683                                    |
|             | (3) - 2x6 DF     | 11500                  | 15469                                   | 10024                                   |
|             | (4) - 2x6 DF     | 14600                  | 20625                                   | 13365                                   |
|             | (1) - 2x6 DF#2   | 5050                   | 5156                                    | 3341                                    |
|             | (2) - 2x6 DF#2   | 10100                  | 10313                                   | 6683                                    |
|             | (3) - 2x6 DF#2   | 15500                  | 15469                                   | 10024                                   |
|             | (4) - 2x6 DF#2   | 20000                  | 20625                                   | 13365                                   |
|             | 4x6 DF #2        | 11800                  | 12031                                   | 7796                                    |
|             | 4x6 DF #1        | 12750                  | 12031                                   | 7796                                    |
|             | 6x6 DF #2        | 12500                  | 18906                                   | 12251                                   |
|             | 6x6 DF #1        | 17000                  | 18906                                   | 12251                                   |
|             | 6x6 DF #2**      | 11800                  | 18906                                   | 12251                                   |
| Post        | 6x6 DF #1**      | 16000                  | 18906                                   | 12251                                   |
|             | PT 4x4 HF #2**   | 2400                   | 7656                                    | 4961                                    |
|             | PT 4x4 HF #1**   | 2750                   | 7656                                    | 4961                                    |
|             | PT 6x6 HF #2**   | 8250                   | 18906                                   | 12251                                   |
|             | PT 6x6 HF #1**   | 11200                  | 18906                                   | 12251                                   |

#### Notes:

a.) If uplift reaction > 2000 lbs, consider adding hold downs.

\*\* Indicates column is unbraced

The following assumptions have been made:

- 1.) Column Ht= 10'-0"
- 2.) Fully braced weak axis
  - If uniform only braced on once axis
- 3.) Evenly distributed Live Load(40 psf) and Dead Load (17 psf)
- 4.) An Eccentricity of 0.25" is used.
- 5.) DF  $F_{c\perp}$  = 625 psi & HF  $F_{c\perp}$  = 405 psi
- 6.) The perpendicular to grain allowable loads do not include the NDS Bearing Area Factor ( $C_b$ ) per NDS 3.10.4
- 7.) Shaded values are limited to the plate perpendicular to grain allowable bearing loads

## Froelich Engineers, Inc.

Client:

Project:

Project #:

By:

## Footings

| Footing Size      | Reinforcement      | Max Allowable Load<br>$P_{tot}$ (lbs) |     | $q_{allow}$ (psf) | Bearing Pressure |
|-------------------|--------------------|---------------------------------------|-----|-------------------|------------------|
| 18" dia x 12"     | Not Req'd          | 2651                                  | (a) | 1500              | 1471             |
| 24" dia x 12"     | Not Req'd          | 4712                                  | (a) | 1500              | 1496             |
| 18" x 18" x 10"   | (2) - #4 Bars EW   | 3000                                  |     | 1500              | 1333             |
| 21" x 21" x 10"   | (2) - #4 Bars EW   | 4000                                  |     | 1500              | 1306             |
| 24" x 24" x 10"   | (3) - #4 Bars EW   | 5500                                  |     | 1500              | 1375             |
| 27" x 27" x 10"   | (3) - #4 Bars EW   | 6750                                  |     | 1500              | 1333             |
| 30" x 30" x 10"   | (3) - #4 Bars EW   | 8500                                  |     | 1500              | 1360             |
| 33" x 33" x 10"   | (3) - #4 Bars EW   | 10000                                 |     | 1500              | 1443             |
| 36" x 36" x 10"   | (4) - #4 Bars EW   | 12000                                 |     | 1500              | 1454             |
| 39" x 39" x 10"   | (4) - #4 Bars EW   | 14250                                 |     | 1500              | 1470             |
| 42" x 42" x 10"   | (4) - #4 Bars EW   | 16500                                 |     | 1500              | 1468             |
| 45" x 45" x 10"   | (5) - #4 Bars EW   | 19000                                 |     | 1500              | 1472             |
| 48" x 48" x 10"   | (5) - #4 Bars EW   | 22000                                 |     | 1500              | 1496             |
| 12" x 6" x Cont.  | (1) - #4 Bar Cont. | 1600lbs                               | 4.) | 1500              | -                |
| 15" x 7" x Cont.  | (1) - #4 Bar Cont. | 2200lbs                               | 4.) | 1500              | -                |
| 12" x 10" x Cont. | (1) - #4 Bar Cont. | 6000lbs                               | 4.) | 1500              | -                |
| 15" x 10" x Cont. | (1) - #4 Bar Cont. | 7500lbs                               | 4.) | 1500              | -                |
| 18" x 10" x Cont. | (2) - #4 Bar Cont. | 9000lbs                               | 4.) | 1500              | -                |

### Notes:

1.) Patio & floor beam mid-span always get footing.

(a) Prototypes Only - Round Footing : Based on area, ( $\pi r^2 \times 1500$  psi)

2.) Perimeter/Bearing Walls w/ stem walls - light uniform load or between windows

• 1-Story: 4500 lbs

• 2-Story: 5500 lbs

3.) Footing at end of stem wall:

• 1-Story: 2000 lbs

• 2-Story: 3000 lbs

4.) Light uniform load with listed point load @ strip ftg w/ pony wall

5.) APA Portal Frame

• 1-Story: 12x12 w/ (1) #4 Bar Top & Bottom

• 2-Story: 15x12 w/ (1) #4 Bar Top & Bottom

6.) Garage Force Transfer - HDs  $\leq$  HDU5

• 1-Story: 12x10 w/ (2) #4 Bar Top & Bottom

• 2-Story: 15x10 w/ (2) #4 Bar Top & Bottom

| <b>FROELICH CONSULTING ENGINEERS</b><br><br><b>ROOF TRUSS UPLIFT</b>  | <b>NAILING</b>                       |
|---|--------------------------------------|
| USE (1) - SIMPSON H1 CLIP AT ALL TRUSS BEARING POINTS<br><br>CAPACITY = 455 lbs<br>@ ALL EXTERIOR BEARING LOCATIONS (PER PLAN NOTES)            | 0.131" x 2-1/2"<br><br>*Discontinued |
| USE (1) - SIMPSON H1A CLIP AT ALL TRUSS BEARING POINTS<br><br>CAPACITY = 545 lbs<br>@ ALL EXTERIOR BEARING LOCATIONS (PER PLAN NOTES)           | 0.131" x 2-1/2"                      |
| USE (1) - SIMPSON H2.5T CLIP WHERE NOTED<br><br>CAPACITY = 590 lbs<br>@ ALL INTERIOR BEARING LOCATIONS (PER PLAN NOTES)                         | 0.131" x 2-1/2"                      |
| USE (2) - SIMPSON H2.5T CLIPS WHERE NOTED<br><br>CAPACITY = 2 (590#) = 1180 lbs<br>@ ALL GIRDER & DRAG TRUSS BEARING LOCATIONS (PER PLAN NOTES) | SEE ABOVE                            |
| USE (1) - SIMPSON HTS20 WHERE NOTED<br><br>CAPACITY = 1415 lbs  | 0.148" x 1-1/2"<br>0.148" x 3"       |
| USE (1) - SIMPSON H2.5T & (1) SIMPSON HTS20 WHERE NOTED<br><br>CAPACITY = (480# + 1415#) = 1895 lbs   | SEE ABOVE                            |
| USE (2) - SIMPSON HTS20 WHERE NOTED<br><br>CAPACITY = 2 (1415#) = 2830 lbs  | SEE ABOVE                            |
| USE (1) - SIMPSON SDWC 15600 TRUSS SCREW WHERE NOTED<br><br>CAPACITY = 615 lbs  | -                                    |

**Notes:**

- 1.) Froelich Engineers reviews truss shops for general conformance with design concept and provided uplift hardware to resist truss manufacturer vertical reactions.
- 2.) Pahlisch Homes is responsible for determining the acceptable deflection tolerance above code minimum to ensure performance of architectural components/finishes/nonbearing walls.
- 3.) Pahlisch Homes is responsible for determining the means of connection and determination of necessary standoff at all non-bearing walls to avoid cosmetic issues in architectural components/finishes/nonbearing walls due to truss deflection.



**Client:** Pahlisch  
**Project:** Conifer A  
**Project #:** 25-B031  
**Date:** 1/30/2025  
**By:** JDB

**FROELICH**  
 ENGINEERS

**WIND FORCE CALCULATION - MWFRS**

**ASCE 7-16 SECTION 27.2**  
**DIRECTIONAL PROCEDURE**

**Basic Wind Speeds**

|                                    |         |                          |
|------------------------------------|---------|--------------------------|
| Design Wind Speed $V_{ult}$ =      | 100 mph |                          |
| Wind Directionality Factor $K_d$ = | 0.85    | Table 26.13-1 (page 271) |
| Wind Exposure Category =           | C       |                          |

**Building Parameters**

|  |          |                                       |
|--|----------|---------------------------------------|
| Horizontal Dimension of Bldg =         | 64.75 ft | Long Dimension of Building            |
| Horizontal Dimension of Bldg =         | 22 ft    | Short Dimension of Building           |
| Mean Roof Height $h$ =                 | 21 ft    | Ref. Figure 27.3-1 (page 275)         |
| Highest Roof Level $h_n$ =             | 27 ft    |                                       |
| Ground Elevation, $z_g$ =              | 250 ft   | Ground elevation above sea level (ft) |
| Approximate Fundamental Period $T_a$ = | 0.24 sec | Eq. 12.8-7 (page 102)                 |
| Fundamental Frequency $f$ =            | 4.2      | Hz > 1 Hz Therefore Rigid             |

**Topographic Effects**

|                                     |         |                          |
|-------------------------------------|---------|--------------------------|
| Hill Height $H$ =                   | 0 ft    | Figure 26.8-1 (page 267) |
| Length of 1/2 hill height $L_h$ =   | 1000 ft | Figure 26.8-1 (page 267) |
| Dist. From Crest to Bldg. $x$ =     | 100 ft  | Figure 26.8-1 (page 267) |
| Height Above Local Grade $z$ =      | 15 ft   | Figure 26.8-1 (page 267) |
| Horizontal Attenuation Factor $m$ = | 1.5     | Figure 26.8-1 (page 267) |
| Height Attenuation Factor $g$ =     | 3       | Figure 26.8-1 (page 267) |
| Shape Factor $K_1/(H/L_h)$ =        | 1.3     | Figure 26.8-1 (page 267) |

**Output - Topographic Multipliers**  $K_1$  = 0.00  
 $K_2$  = 0.93  
 $K_3$  = 0.96  
 Topographic Factor  $K_{zt}$  = 1.00

**Gust Effects**Integral Length Scale Factor  $\ell =$  500 ft Table 26.11-1 (page 269)**Integral Length Scale**nominal height of boundary  $z_g =$  900 Table 26.11-1 (page 269)3-s gust exponent  $\alpha =$  9.50 Table 26.11-1 (page 269)Turbulence Intensity Factor  $c =$  0.20 Table 26.11-1 (page 269)Power Law Exponent  $\epsilon =$  0.20 Table 26.11-1 (page 269)Minimum Height  $z_{\min} =$  15 ft Table 26.11-1 (page 269)Integral Length Scale of Turbulence  $L_z =$  427 ft**Output** - Background Response Factor  $Q =$  0.90Intensity of Turbulence  $I_z =$  0.23Gust Effect Factor  $G =$  0.87**Ground Elevation Factor**Ground Elevation Factor,  $K_e =$  0.99 Table 26.9-1 (page 268)**Velocity Pressure**

$$q_z = 0.00256K_zK_{zt}K_dK_eV^2 \quad (\text{lb/ft}^2)$$

**Pressure Coefficients**Length to Width Ratio  $L/B =$  0.34 (Worst Case  $L/B$ )Height to Length Ratio  $h/L =$  0.32 ( $h/L$  Worst case roof ratio)

Roof Pitch = 8 : 12 = 33.69 deg

Velocity Pressure Exposure Coefficients  $K_h$  (see below) Table 26.10-1 (page 268)External Pressure Coefficients  $C_p$  (see below) Figure 27.3-1 (page 275)

| Direction     | $C_p$ | Height (ft) | $K_h$ | $q_z$ (psf) | Velocity Pressure |
|---------------|-------|-------------|-------|-------------|-------------------|
| Windward      | 0.80  | 15          | 0.85  | 18.3        | Output $q_z$      |
| Leeward       | -0.50 | 20          | 0.90  | 19.4        |                   |
| Roof Windward | 0.34  | 25          | 0.95  | 20.4        |                   |
| Roof Leeward  | -0.60 | 30          | 0.98  | 21.2        |                   |
|               |       | 40          | 1.04  | 22.5        |                   |
|               |       | 50          | 1.09  | 23.6        |                   |
|               |       | 60          | 1.14  | 24.5        |                   |
|               |       | 70          | 1.17  | 25.3        |                   |
|               |       | 80          | 1.21  | 26.0        |                   |
|               |       | 90          | 1.24  | 26.7        |                   |
|               |       | 100         | 1.27  | 27.3        |                   |
|               |       | 120         | 1.32  | 28.4        |                   |

|                        |    |      |      |       |
|------------------------|----|------|------|-------|
| $h =$                  | 21 | 0.91 | 19.6 | $q_h$ |
| $h_{\text{parapet}} =$ | 0  | 0.85 | 18.3 | $q_h$ |

**UNFACTORED WIND PRESSURE**

16 psf min per Section 27.1.5 (Walls)

**Design Wind Pressures  $p$  (psf) -  $GC_{pi} = (-)$** 

8 psf min per Section 27.1.5 (Roof)

Internal Pressure Coefficient  $GC_{pi} = -0.18$  Table 26.13-1 (page 271) **Wall** **Roof Horiz**

|              |             | Roof Effects (normal to Roof Surface) |         |         |         |       |         |
|--------------|-------------|---------------------------------------|---------|---------|---------|-------|---------|
|              | Direction - | Windward                              | Leeward | Roof WW | Roof LW | WW+LW | RWW+RLW |
| Height<br>ft | 15          | 16.3                                  | -5.0    |         |         | 21.4  |         |
|              | 20          | 17.1                                  | -5.0    |         |         | 22.2  |         |
|              | 25          | 17.8                                  | -5.0    |         |         | 22.8  |         |
|              | 30          | 18.3                                  | -5.0    |         |         | 23.4  |         |
|              | 40          | 19.3                                  | -5.0    |         |         | 24.3  |         |
|              | 50          | 20.0                                  | -5.0    |         |         | 25.1  |         |
|              | 60          | 20.7                                  | -5.0    |         |         | 25.7  |         |
|              | 70          | 21.2                                  | -5.0    |         |         | 26.3  |         |
|              | 80          | 21.7                                  | -5.0    |         |         | 26.8  |         |
|              | 90          | 22.2                                  | -5.0    |         |         | 27.2  |         |
|              | 100         | 22.6                                  | -5.0    |         |         | 27.7  |         |
|              | 120         | 23.4                                  | -5.0    |         |         | 28.4  |         |
| Parapet      | 21          | 17.3                                  | -5.0    | 9.4     | -6.8    | 22.3  | 16.20   |
|              | 0           | 27.5                                  | -18.3   |         |         | 45.8  |         |

Design Load Case 1 Controls - By Inspection  
Parapet LoadingFigure 27.3-8 (page 283)  
Section 27.5.2 (page 284)**UNFACTORED WIND PRESSURE**

16 psf min per Section 27.1.5 (Walls)

**Design Wind Pressures  $p$  (psf) -  $GC_{pi} = (+)$** 

8 psf min per Section 27.1.5 (Roof)

Internal Pressure Coefficient  $GC_{pi} = 0.18$  Table 26.13-1 (page 271) **Wall** **Roof Horiz**

|              |             | Roof Effects (normal to Roof Surface) |         |         |         |       |         |
|--------------|-------------|---------------------------------------|---------|---------|---------|-------|---------|
|              | Direction - | Windward                              | Leeward | Roof WW | Roof LW | WW+LW | RWW+RLW |
| Height<br>ft | 15          | 9.3                                   | -12.1   |         |         | 21.4  |         |
|              | 20          | 10.1                                  | -12.1   |         |         | 22.2  |         |
|              | 25          | 10.7                                  | -12.1   |         |         | 22.8  |         |
|              | 30          | 11.3                                  | -12.1   |         |         | 23.4  |         |
|              | 40          | 12.2                                  | -12.1   |         |         | 24.3  |         |
|              | 50          | 12.9                                  | -12.1   |         |         | 25.1  |         |
|              | 60          | 13.6                                  | -12.1   |         |         | 25.7  |         |
|              | 70          | 14.2                                  | -12.1   |         |         | 26.3  |         |
|              | 80          | 14.7                                  | -12.1   |         |         | 26.8  |         |
|              | 90          | 15.1                                  | -12.1   |         |         | 27.2  |         |
|              | 100         | 15.5                                  | -12.1   |         |         | 27.7  |         |
|              | 120         | 16.3                                  | -12.1   |         |         | 28.4  |         |
| Parapet      | 21          | 10.2                                  | -12.1   | 2.4     | -13.8   | 22.3  | 16.20   |
|              | 0           | 27.5                                  | -18.3   |         |         | 45.8  |         |

Design Load Case 1 Controls - By Inspection  
Parapet LoadingFigure 27.3-8 (page 283)  
Section 27.5.2 (page 284)

**FROELICH CONSULTING ENGINEERS, INC.**

client: Pahlisch  
 project: Conifer A  
 job number: 21-B345  
 date: 11/16/2021  
 by: CHA

**SEISMIC WEIGHTS:****Roof:**

$$\text{Roof Area: } \boxed{1553} \text{ ft}^2$$

$$\begin{array}{l} \text{Roof Weight: } \boxed{1553} \text{ ft}^2 \times \boxed{18} \text{ psf} = \boxed{27954} \text{ lbs} \\ \text{Partition Wall DL: } \boxed{1553} \text{ ft}^2 \times \boxed{2.5} \text{ psf} = \boxed{3883} \text{ lbs} \end{array}$$

$$\begin{array}{l} \text{Bearing Wall Area: } \boxed{22.0} \text{ ft} \times \boxed{4} \text{ ft} \times \boxed{2.5} = \boxed{220} \text{ ft}^2 \\ \quad \quad \quad \boxed{64.8} \text{ ft} \times \boxed{4} \text{ ft} \times \boxed{2} = \boxed{518} \text{ ft}^2 \\ \text{Total Wall Area} = \boxed{738} \text{ ft}^2 \end{array}$$

$$\begin{array}{l} \text{Bearing Wall Weight: } \boxed{738} \text{ ft}^2 \times \boxed{8} \text{ psf} = \boxed{5904} \text{ lbs} \\ \text{Total Roof Weight} = \boxed{37741} \text{ lbs} \end{array}$$

**2nd Floor:**

$$\text{Lower Roof Area: } \boxed{50} \text{ ft}^2$$

$$\begin{array}{l} \text{Lower Roof Weight: } \boxed{50} \text{ ft}^2 \times \boxed{18} \text{ psf} = \boxed{900} \text{ lbs} \\ \text{Partition Wall DL: } \boxed{50} \text{ ft}^2 \times \boxed{2.5} \text{ psf} = \boxed{125} \text{ lbs} \end{array}$$

$$\text{Floor Area: } \boxed{1377} \text{ ft}^2$$

$$\begin{array}{l} \text{Floor Weight: } \boxed{1377} \text{ ft}^2 \times \boxed{15} \text{ psf} = \boxed{20655} \text{ lbs} \\ \text{Partition Wall DL: } \boxed{1377} \text{ ft}^2 \times \boxed{5} \text{ psf} = \boxed{6885} \text{ lbs} \end{array}$$

$$\begin{array}{l} \text{Wall Area: } \boxed{22.0} \text{ ft} \times \boxed{4} \text{ ft} \times \boxed{2.5} = \boxed{220} \text{ ft}^2 \\ \quad \quad \quad \boxed{64.8} \text{ ft} \times \boxed{4} \text{ ft} \times \boxed{2} = \boxed{518} \text{ ft}^2 \\ \quad \quad \quad \boxed{22.0} \text{ ft} \times \boxed{5} \text{ ft} \times \boxed{3} = \boxed{330} \text{ ft}^2 \\ \quad \quad \quad \boxed{64.8} \text{ ft} \times \boxed{5} \text{ ft} \times \boxed{2} = \boxed{648} \text{ ft}^2 \\ \text{Total Wall Area} = \boxed{1716} \text{ ft}^2 \end{array}$$

$$\begin{array}{l} \text{Wall Weight: } \boxed{1716} \text{ ft}^2 \times \boxed{8} \text{ psf} = \boxed{13724} \text{ lbs} \\ \text{Total Floor Weight} = \boxed{42289} \text{ lbs} \end{array}$$

**FROELICH CONSULTING ENGINEERS, INC.**

client: Pahlisch  
 project: Conifer A  
 job number: 22-B112  
 date: 1/30/2025  
 by: JDB

**SEISMIC FORCE CALCULATION (ASCE7-16)****Building Parameters:**

|  |       |                         |
|--|-------|-------------------------|
| Risk Category =                        | II    |                         |
| Importance I =                         | 1.00  |                         |
| Soil Site Class =                      | D     | Default ASCE7-16 11.4.3 |
| Response Modification Coefficient, R = | 6.50  |                         |
| Height of Structure, $h_n$ =           | 27.00 | ft                      |

**Spectral Acceleration Parameters:**

|  |       |   |                                   |
|--|-------|---|-----------------------------------|
| Site Class B Short-Period Spectral Response Acceleration, $S_s$ =                | 0.877 | g | (OSHPD Maps)                      |
| Site Class B 1-Second Spectral Response Acceleration, $S_1$ =                    | 0.416 | g | (OSHPD Maps)                      |
| Short-Period Site Coefficient, $F_a$ =   | 1.200 |   | (OSHPD Maps)                      |
| Minimum Short-Period Site Coefficient Site Class D (Default), $F_a$ =            | 1.200 |   | ASCE7-16 11.4.4                   |
| Long-Period Site Coefficient, $F_v$ =  | 1.844 |   |                                   |
| $(S_{MS}=F_a*S_s)$ Long-Period, Calculated $S_{MS}$ to Determine SDC, $S_{MS}$ = | 1.052 | g |                                   |
| $(S_{MS} \geq S_{M1})$ Therefore Controlling, $S_{MS}$ =                         | 1.052 | g | Section 1613.2.3                  |
| $(S_{M1}=F_v*S_1)$ Short-Period, $S_{M1}$ =                                      | 0.767 | g |                                   |
| $(S_{DS}=(2/3)S_{MS})$ Design Spectral Acceleration Short-Period, $S_{DS}$ =     | 0.702 | g |                                   |
| $(S_{D1}=(2/3)S_{M1})$ Design Spectral Acceleration Long-Period, $S_{D1}$ =      | 0.511 | g |                                   |
| Seismic Design Category =  | D     |   | (Controlling From Table 11.6-1&2) |

**Approximate Fundamental Period & Building Periods:**

|   |       |     |
|---|-------|-----|
| Approximate Fundamental Period Parameters, $C_t$ =        | 0.02  |     |
| Approximate Fundamental Period Parameters, $x$ =          | 0.75  |     |
| $(T_a = C_t \times h_n^x)$ Approximate Period, $T_a$ =    | 0.237 | sec |
| Coefficient for upper limit on calculated period, $C_u$ = | 1.400 |     |
| $(T = T_a \times C_u)$ Upper Limit Period, $T$ =          | 0.332 | sec |
| Fundamental Period, $T$ =                                 | 0.237 | sec |
| $(T_s = S_{D1}/S_{DS})$ $T_s$ =                           | 0.729 | sec |
| Long-Period Transition Periods, $T_L$ =                   | 16    | sec |

**Verify Exception(s) SDC D-F Only:**

|   |       |         |
|---|-------|---------|
| 1. Structures on Site Class E, $S_s \geq 1.0$ :       | NA    |         |
| 2. Table values are applicable for, $T \leq 1.5T_s$ : | 0.237 | < 1.093 |
| 3. Structures on Site Class E, $S_1 \geq 0.2$ :       | NA    |         |

Use Eq. 12.8-2 For  $C_s$

**Seismic Response Coefficient,  $C_s$ :**

|  |       |                   |            |
|--|-------|-------------------|------------|
| $(C_s = S_{DS}/(R/I))$ Seismic Response Coefficient, $C_s$ = | 0.108 | $(T \leq 1.5T_s)$ | Eq. 12.8-2 |
| $(C_s = S_{D1}/(T^*(R/I)))$ Upper Limit, $C_s$ =             | 0.332 | $(T \leq T_L)$    |            |
| $(C_s = 0.0044S_{DS}I_e \geq 0.01)$ Lower Limit $C_s$ =      | 0.031 | $\geq 0.01$       |            |

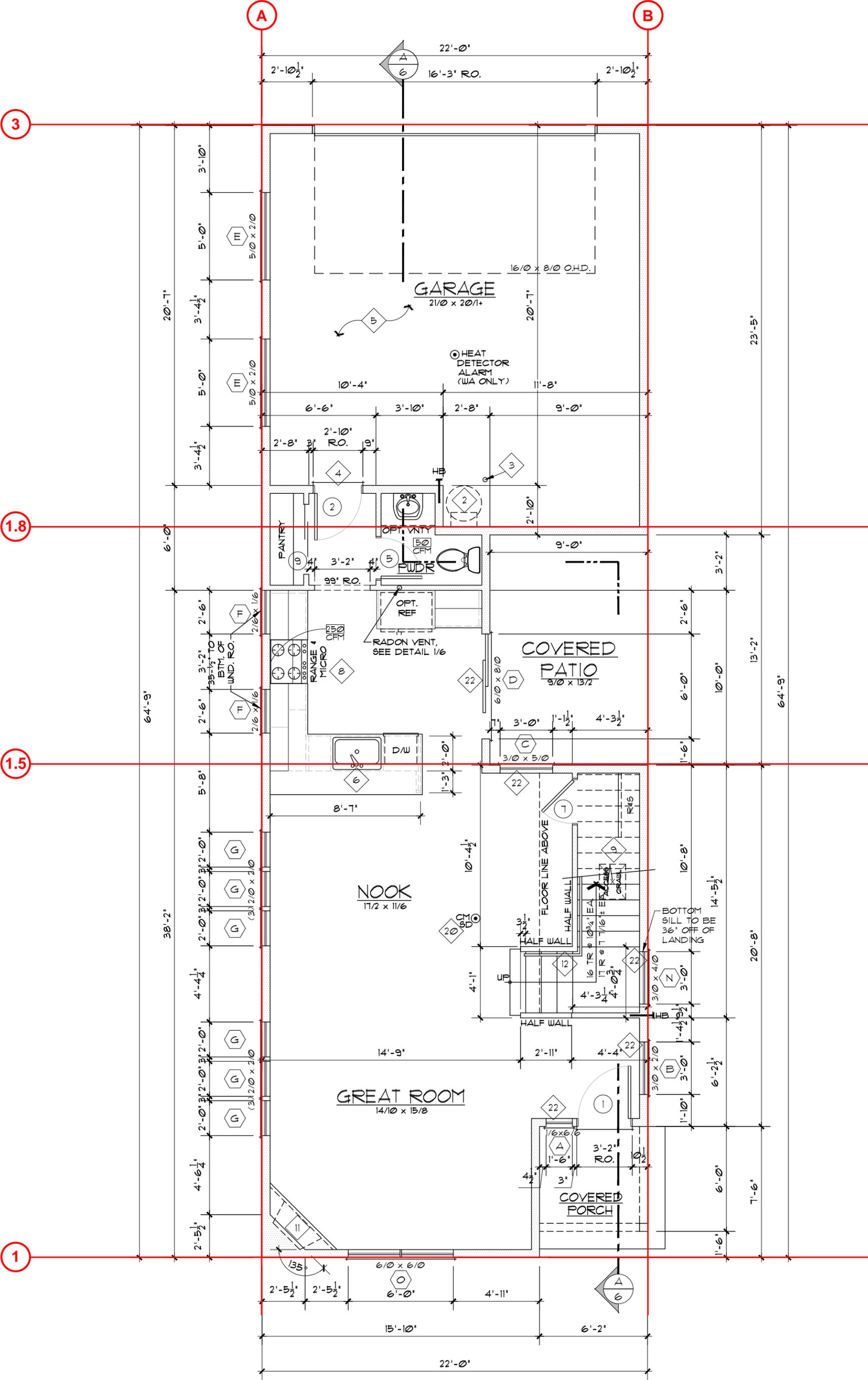
**Base Shear,  $V$ :**

|  |       |     |
|--|-------|-----|
| Weight, $W$ =  | 80030 | lbs |
| $(V = C_s * W)$ Unfactored Seismic Base Shear, $V$ = | 8638  | lbs |

**Vertical Distribution of Seismic Force:**

| level x  | $h_x$ | $W_x$ | $h_x W_x$ | $h_x W_x / \sum h_x W_x$ | $F_x$ |
|----------|-------|-------|-----------|--------------------------|-------|
| Roof     | 18.00 | 37741 | 679338    | 0.641                    | 5536  |
| 2nd Flr. | 9.00  | 42289 | 380601    | 0.359                    | 3102  |
| Totals:  |       | 80030 | 1059939   |                          | 8638  |





**FOR LATERAL LAYOUT REFERENCE ONLY**

**FROELICH CONSULTING ENGINEERS, INC.**

client: Pahlisch  
 project: Conifer  
 job number: 25-B031  
 date: 2/4/2025  
 by: JDB

**Upper Line 1**

$$\text{Wind on Wall: } \begin{array}{c} \text{Pressure} \\ 22.3 \end{array} \text{ psf} \times \begin{array}{c} \text{Length} \\ 25 \end{array} \text{ ft} \times \begin{array}{c} \text{Height} \\ 4 \end{array} \text{ ft} = \begin{array}{c} 2230 \end{array} \text{ lbs}$$

$$\begin{array}{l} \text{Wind on Roof: } \begin{array}{c} \text{Pressure} \\ 16.2 \end{array} \text{ psf} \times \begin{array}{c} \text{Area} \\ 164 \end{array} \text{ sf} = \begin{array}{c} 2657 \end{array} \\ \text{Wind on Gable End: } \begin{array}{c} \text{Pressure} \\ 22.3 \end{array} \text{ psf} \times \begin{array}{c} \text{Area} \\ 0 \end{array} \text{ sf} = \begin{array}{c} 0 \end{array} \end{array} \text{ lbs}$$

**Wind Force = 4887 lbs**

$$\text{Seismic Force: } \begin{array}{c} \text{Force} \\ 5536 \end{array} \text{ lbs} \times \begin{array}{c} \text{Trib.} \\ 575 \end{array} \text{ sf} / \begin{array}{c} \text{Total} \\ 1555 \end{array} \text{ sf} = \begin{array}{c} 2047 \end{array} \text{ lbs}$$

**Upper Line 2**

$$\text{Wind on Wall: } \begin{array}{c} \text{Pressure} \\ 22.3 \end{array} \text{ psf} \times \begin{array}{c} \text{Length} \\ 32.33 \end{array} \text{ ft} \times \begin{array}{c} \text{Height} \\ 4 \end{array} \text{ ft} = \begin{array}{c} 2884 \end{array} \text{ lbs}$$

$$\begin{array}{l} \text{Wind on Roof: } \begin{array}{c} \text{Pressure} \\ 16.2 \end{array} \text{ psf} \times \begin{array}{c} \text{Area} \\ 250 \end{array} \text{ sf} = \begin{array}{c} 4050 \end{array} \\ \text{Wind on Gable End: } \begin{array}{c} \text{Pressure} \\ 22.3 \end{array} \text{ psf} \times \begin{array}{c} \text{Area} \\ 0 \end{array} \text{ sf} = \begin{array}{c} 0 \end{array} \end{array} \text{ lbs}$$

**Wind Force = 6934 lbs**

$$\text{Seismic Force: } \begin{array}{c} \text{Force} \\ 5536 \end{array} \text{ lbs} \times \begin{array}{c} \text{Trib.} \\ 777 \end{array} \text{ sf} / \begin{array}{c} \text{Total} \\ 1555 \end{array} \text{ sf} = \begin{array}{c} 2766 \end{array} \text{ lbs}$$

**Upper Line 3**

$$\text{Wind on Wall: } \begin{array}{c} \text{Pressure} \\ 22.3 \end{array} \text{ psf} \times \begin{array}{c} \text{Length} \\ 7.33 \end{array} \text{ ft} \times \begin{array}{c} \text{Height} \\ 4 \end{array} \text{ ft} = \begin{array}{c} 654 \end{array} \text{ lbs}$$

$$\begin{array}{l} \text{Wind on Roof: } \begin{array}{c} \text{Pressure} \\ 16.2 \end{array} \text{ psf} \times \begin{array}{c} \text{Area} \\ 64 \end{array} \text{ sf} = \begin{array}{c} 1037 \end{array} \\ \text{Wind on Gable End: } \begin{array}{c} \text{Pressure} \\ 22.3 \end{array} \text{ psf} \times \begin{array}{c} \text{Area} \\ 0 \end{array} \text{ sf} = \begin{array}{c} 0 \end{array} \end{array} \text{ lbs}$$

**Wind Force = 1691 lbs**

$$\text{Seismic Force: } \begin{array}{c} \text{Force} \\ 5536 \end{array} \text{ lbs} \times \begin{array}{c} \text{Trib.} \\ 203 \end{array} \text{ sf} / \begin{array}{c} \text{Total} \\ 1555 \end{array} \text{ sf} = \begin{array}{c} 723 \end{array} \text{ lbs}$$

**Upper Line A**

$$\text{Wind on Wall: } \begin{array}{c} \text{Pressure} \\ 22.3 \end{array} \text{ psf} \times \begin{array}{c} \text{Length} \\ 11 \end{array} \text{ ft} \times \begin{array}{c} \text{Height} \\ 4 \end{array} \text{ ft} = \begin{array}{c} 981 \end{array} \text{ lbs}$$

$$\begin{array}{l} \text{Wind on Roof: } \begin{array}{c} \text{Pressure} \\ 16.2 \end{array} \text{ psf} \times \begin{array}{c} \text{Area} \\ 0 \end{array} \text{ sf} = \begin{array}{c} 0 \end{array} \\ \text{Wind on Gable End: } \begin{array}{c} \text{Pressure} \\ 22.3 \end{array} \text{ psf} \times \begin{array}{c} \text{Area} \\ 45 \end{array} \text{ sf} = \begin{array}{c} 1004 \end{array} \end{array} \text{ lbs}$$

**Wind Force = 1985 lbs**

$$\text{Seismic Force: } \begin{array}{c} \text{Force} \\ 5536 \end{array} \text{ lbs} \times \begin{array}{c} \text{Trib.} \\ 799 \end{array} \text{ sf} / \begin{array}{c} \text{Total} \\ 1553 \end{array} \text{ sf} = \begin{array}{c} 2848 \end{array} \text{ lbs}$$

**Upper Line B**

|                    |          |        |         |              |          |
|--------------------|----------|--------|---------|--------------|----------|
| Wind on Wall:      | Pressure | Length | Height  |              |          |
|                    | 22.3 psf | 11 ft  | 4 ft    | =            | 981 lbs  |
| Wind on Roof:      | Pressure | Area   |         | =            | 0        |
|                    | 15.2 psf | 0      |         |              |          |
| Wind on Gable End: | 22.3 psf | 45 sf  |         | =            | 1004 lbs |
|                    |          |        |         | Wind Force = | 1985 lbs |
| Seismic Force:     | Force    | Trib.  | Total   |              |          |
|                    | 5536 lbs | 754 sf | 1553 sf | =            | 2688 lbs |

**Lower Line 1**

|                     |          |        |         |              |          |
|---------------------|----------|--------|---------|--------------|----------|
| Wind on Upper Wall: | Pressure | Length | Height  |              |          |
|                     | 22.3 psf | 14 ft  | 4 ft    | =            | 1249 lbs |
| Wind on Lower Wall: | 22.3 psf | 14 ft  | 4.5 ft  | =            | 1405 lbs |
| Wind on Roof:       | Pressure | Area   |         | =            | 0        |
|                     | 16.2 psf | 0      |         |              |          |
| Wind on Gable End:  | 22.3 psf | 0      |         | =            | 0        |
|                     |          |        |         | Wind Force = | 2654 lbs |
| Seismic Force:      | Force    | Trib.  | Total   |              |          |
|                     | 3102 lbs | 299 sf | 1329 sf | =            | 698 lbs  |

**Upper Line 1**

4887 lbs

2047 lbs

**Lower Line 1.5**

|                     |          |          |         |              |          |
|---------------------|----------|----------|---------|--------------|----------|
| Wind on Upper Wall: | Pressure | Length   | Height  |              |          |
|                     | 22.3 psf | 20.67 ft | 4 ft    | =            | 1844 lbs |
| Wind on Lower Wall: | 22.3 psf | 20.67 ft | 4.5 ft  | =            | 2074 lbs |
| Wind on Roof:       | Pressure | Area     |         | =            | 0        |
|                     | 16.2 psf | 0        |         |              |          |
| Wind on Gable End:  | 22.3 psf | 0        |         | =            | 0        |
|                     |          |          |         | Wind Force = | 3918 lbs |
| Seismic Force:      | Force    | Trib.    | Total   |              |          |
|                     | 3102 lbs | 373 sf   | 1329 sf | =            | 871 lbs  |

**No Upper**

0 lbs

0 lbs

**Lower Line 1.8**

|                     |          |          |         |              |          |
|---------------------|----------|----------|---------|--------------|----------|
| Wind on Upper Wall: | Pressure | Length   | Height  |              |          |
|                     | 22.3 psf | 18.33 ft | 4 ft    | =            | 1635 lbs |
| Wind on Lower Wall: | 22.3 psf | 18.33 ft | 4.5 ft  | =            | 1839 lbs |
| Wind on Roof:       | Pressure | Area     |         | =            | 0        |
|                     | 16.2 psf | 0        |         |              |          |
| Wind on Gable End:  | 22.3 psf | 0        |         | =            | 0        |
|                     |          |          |         | Wind Force = | 3474 lbs |
| Seismic Force:      | Force    | Trib.    | Total   |              |          |
|                     | 3102 lbs | 403 sf   | 1329 sf | =            | 941 lbs  |

**Upper Line 2**

#2\*(14.75/23.42)

4367 lbs

1742 lbs

**Lower Line 3**

Wind on Upper Wall:  $\frac{22.3}{\text{psf}} \times \frac{11.75}{\text{ft}} \times \frac{4}{\text{ft}} = 1048 \text{ lbs}$   
 Wind on Lower Wall:  $\frac{22.3}{\text{psf}} \times \frac{11.75}{\text{ft}} \times \frac{4.5}{\text{ft}} = 1179 \text{ lbs}$

Wind on Roof:  $\frac{16.2}{\text{psf}} \times \frac{0}{\text{sf}} = 0 \text{ lbs}$   
 Wind on Gable End:  $\frac{22.3}{\text{psf}} \times \frac{0}{\text{sf}} = 0 \text{ lbs}$   
**Wind Force = 2227 lbs**

**Upper Lines 3 and 2**

$\#3 + \#2 * (8.67 / 23.42)$

$4258 \text{ lbs}$

Seismic Force:  $\frac{3102}{\text{lbs}} \times \frac{258}{\text{sf}} / \frac{1329}{\text{sf}} = 602 \text{ lbs}$

$1747 \text{ lbs}$

**Lower Line A**

Wind on Upper Wall:  $\frac{22.3}{\text{psf}} \times \frac{11}{\text{ft}} \times \frac{4}{\text{ft}} = 981 \text{ lbs}$   
 Wind on Lower Wall:  $\frac{22.3}{\text{psf}} \times \frac{11}{\text{ft}} \times \frac{4.5}{\text{ft}} = 1104 \text{ lbs}$

Wind on Roof:  $\frac{16.2}{\text{psf}} \times \frac{0}{\text{sf}} = 0 \text{ lbs}$   
 Wind on Gable End:  $\frac{22.3}{\text{psf}} \times \frac{0}{\text{sf}} = 0 \text{ lbs}$   
**Wind Force = 2085 lbs**

**Upper Line A**

$1985 \text{ lbs}$

Seismic Force:  $\frac{3102}{\text{lbs}} \times \frac{714}{\text{sf}} / \frac{1329}{\text{sf}} = 1667 \text{ lbs}$

$2848 \text{ lbs}$

**Lower Line B**

Wind on Upper Wall:  $\frac{22.3}{\text{psf}} \times \frac{11}{\text{ft}} \times \frac{4}{\text{ft}} = 981 \text{ lbs}$   
 Wind on Lower Wall:  $\frac{22.3}{\text{psf}} \times \frac{11}{\text{ft}} \times \frac{4.5}{\text{ft}} = 1104 \text{ lbs}$

Wind on Roof:  $\frac{16.2}{\text{psf}} \times \frac{0}{\text{sf}} = 0 \text{ lbs}$   
 Wind on Gable End:  $\frac{22.3}{\text{psf}} \times \frac{0}{\text{sf}} = 0 \text{ lbs}$   
**Wind Force = 2085 lbs**

**Upper Line B**

$1985 \text{ lbs}$

Seismic Force:  $\frac{3102}{\text{lbs}} \times \frac{610}{\text{sf}} / \frac{1329}{\text{sf}} = 1424 \text{ lbs}$

$2688 \text{ lbs}$

Client: Pahlisch  
 Project: Conifer  
 Proj. #: 25-B031  
 Date: 2/18/25  
 By: JDB

**Roof Level**

| Resisting Dead load |    |     |
|---------------------|----|-----|
| Roof DL:            | 18 | psf |
| Wall DL:            | 8  | psf |
| Floor DL:           | 15 | psf |

| Wind Overturning Load Combinations |             |
|------------------------------------|-------------|
| Unfactored w/o DL:                 | W           |
| ASD:                               | 0.6D + 0.6W |
| LRFD:                              | 0.9D + W    |

| Seismic Overturning Load Combinations |                                 |
|---------------------------------------|---------------------------------|
| Unfactored w/ ρ - no DL:              | ρE                              |
| Unfactored w/ Ω - no DL:              | ΩE                              |
| ASD w/ ρ :                            | (0.6 - 0.14SDS)D + 0.7ρE        |
| ASD w/ Ω :                            | (0.6 - 0.14SDS)D + 0.7ΩE        |
| ASD w/ Ω / 0.75 :                     | ((0.6 - 0.14SDS)D + 0.7ΩE)/0.75 |
| LRFD w/ ρ :                           | (0.9 - 0.2SDS)D + 1.0ρE         |
| LRFD w/ Ω :                           | (0.9 - 0.2SDS)D + 1.0ΩE         |
| S <sub>DS</sub> :                     | 0.702 g                         |

\*Reference ASCE7-16 Table 12.2-1 for value of the overstrength factor, Ω. \*\*Footnote b: Where the tabulated value of the overstrength factor, Ω, is greater than or equal to 2.5, Ω is permitted to be reduced by subtracting the value of 0.5 for structures with flexible diaphragms.

| Segment Geometry         |         |         |     |                     | Loading                   |               | DL Trib. Length     |            |            |         | Wind Design Output  |                         |                  |                 | Seismic Design Output  |                           |                  |                  | Redundancy Factor |                        |   |       |
|--------------------------|---------|---------|-----|---------------------|---------------------------|---------------|---------------------|------------|------------|---------|---------------------|-------------------------|------------------|-----------------|------------------------|---------------------------|------------------|------------------|-------------------|------------------------|---|-------|
| L (ft)                   | Lt (ft) | hu (ft) | h/L | Ratio Factor (2L/h) | Wind (lbs)                | Seismic (lbs) | Rtrib (ft)          | Wtrib (ft) | Ftrib (ft) | Lo (in) | Load Combination    | Uplift (lbs)            | ASD Uplift (lbs) | Unit Load (plf) | Sheathing Design (plf) | Load Combination          | Uplift (lbs)     | ASD Uplift (lbs) | Unit Load (plf)   | Sheathing Design (plf) | ρ :                                       | **Ω : |
|                          |         |         |     |                     | <i>(Unfactored w/o ρ)</i> |               | <i>(Unfactored)</i> |            |            |         |                     | <i>(Ref Load Comb.)</i> | <i>(ASD)</i>     | <i>(ASD)</i>    |                        | <i>(Ref Load Comb.)</i>   | <i>(ASD w/ρ)</i> | <i>(ASD)</i>     | Hardware Used     |                        |   |       |
| <b>Upper Wall Line 1</b> |         |         |     |                     |                           |               |                     |            |            |         |                     |                         |                  |                 |                        |                           |                  |                  |                   |                        |   |       |
| 4.92                     | 9.84    | 8.00    | 1.6 | 1.00                | 4887                      | 2047          | 4.0                 | 8.0        | 0.0        | 3.00    | (Unfactored w/o DL) | 4186                    | 2300             | 298             | 298                    | (Unfactored w/ ρ - no DL) | 2279             | 1419             | 189               | 189                    | 1.3                                       | 2.5   |
| 4.92                     | 9.84    | 8.00    | 1.6 | 1.00                | 4887                      | 2047          | 4.0                 | 8.0        | 0.0        | 3.00    | (Unfactored w/o DL) | 4186                    | 2300             | 298             | 298                    | (Unfactored w/ ρ - no DL) | 2279             | 1419             | 189               | 189                    |   |       |
|                          |         |         |     |                     |                           |               |                     |            |            |         |                     |                         |                  |                 |                        |                           |                  |                  |                   |                        | Force Transfer, CS14, MST37, 3/12 Nailing |       |

| Segment Geometry         |         |         |     |                     | Loading                   |               | DL Trib. Length     |            |            |         | Wind Design Output  |                         |                  |                 | Seismic Design Output  |                           |                  |                  | Redundancy Factor |                        |             |       |
|--------------------------|---------|---------|-----|---------------------|---------------------------|---------------|---------------------|------------|------------|---------|---------------------|-------------------------|------------------|-----------------|------------------------|---------------------------|------------------|------------------|-------------------|------------------------|-------------|-------|
| L (ft)                   | Lt (ft) | hu (ft) | h/L | Ratio Factor (2L/h) | Wind (lbs)                | Seismic (lbs) | Rtrib (ft)          | Wtrib (ft) | Ftrib (ft) | Lo (in) | Load Combination    | Uplift (lbs)            | ASD Uplift (lbs) | Unit Load (plf) | Sheathing Design (plf) | Load Combination          | Uplift (lbs)     | ASD Uplift (lbs) | Unit Load (plf)   | Sheathing Design (plf) | ρ :         | **Ω : |
|                          |         |         |     |                     | <i>(Unfactored w/o ρ)</i> |               | <i>(Unfactored)</i> |            |            |         |                     | <i>(Ref Load Comb.)</i> | <i>(ASD)</i>     | <i>(ASD)</i>    |                        | <i>(Ref Load Comb.)</i>   | <i>(ASD w/ρ)</i> | <i>(ASD)</i>     | Hardware Used     |                        |             |       |
| <b>Upper Wall Line 2</b> |         |         |     |                     |                           |               |                     |            |            |         |                     |                         |                  |                 |                        |                           |                  |                  |                   |                        |             |       |
| 7.58                     | 15.16   | 8.00    | 1.1 | 1.00                | 6934                      | 2766          | 2.0                 | 8.0        | 0.0        | 0.00    | (Unfactored w/o DL) | 3659                    | 1968             | 274             | 274                    | (Unfactored w/ Ω - no DL) | 3649             | 1138             | 166               | 166                    | 1.3         | 2.5   |
| 7.58                     | 15.16   | 8.00    | 1.1 | 1.00                | 6934                      | 2766          | 2.0                 | 8.0        | 0.0        | 0.00    | (Unfactored w/o DL) | 3659                    | 1968             | 274             | 274                    | (Unfactored w/ Ω - no DL) | 3649             | 1138             | 166               | 166                    |             |       |
|                          |         |         |     |                     |                           |               |                     |            |            |         |                     |                         |                  |                 |                        |                           |                  |                  |                   |                        | MSTA30 6/12 |       |

| Segment Geometry         |         |         |     |                     | Loading                   |               | DL Trib. Length     |            |            |         | Wind Design Output  |                         |                  |                 | Seismic Design Output  |                           |                  |                  | Redundancy Factor |                        |                   |       |
|--------------------------|---------|---------|-----|---------------------|---------------------------|---------------|---------------------|------------|------------|---------|---------------------|-------------------------|------------------|-----------------|------------------------|---------------------------|------------------|------------------|-------------------|------------------------|-------------------|-------|
| L (ft)                   | Lt (ft) | hu (ft) | h/L | Ratio Factor (2L/h) | Wind (lbs)                | Seismic (lbs) | Rtrib (ft)          | Wtrib (ft) | Ftrib (ft) | Lo (in) | Load Combination    | Uplift (lbs)            | ASD Uplift (lbs) | Unit Load (plf) | Sheathing Design (plf) | Load Combination          | Uplift (lbs)     | ASD Uplift (lbs) | Unit Load (plf)   | Sheathing Design (plf) | ρ :               | **Ω : |
|                          |         |         |     |                     | <i>(Unfactored w/o ρ)</i> |               | <i>(Unfactored)</i> |            |            |         |                     | <i>(Ref Load Comb.)</i> | <i>(ASD)</i>     | <i>(ASD)</i>    |                        | <i>(Ref Load Comb.)</i>   | <i>(ASD w/ρ)</i> | <i>(ASD)</i>     | Hardware Used     |                        |                   |       |
| <b>Upper Wall Line 3</b> |         |         |     |                     |                           |               |                     |            |            |         |                     |                         |                  |                 |                        |                           |                  |                  |                   |                        |                   |       |
| 3.67                     | 14.01   | 8.00    | 2.2 | 0.92                | 1691                      | 723           | 4.0                 | 8.0        | 0.0        | 0.00    | (Unfactored w/o DL) | 966                     | 430              | 72              | 79                     | (Unfactored w/ ρ - no DL) | 537              | 250              | 47                | 51                     | 1.3               | 2.5   |
| 6.67                     | 14.01   | 8.00    | 1.2 | 1.00                | 1691                      | 723           | 4.0                 | 8.0        | 0.0        | 0.00    | (Unfactored w/o DL) | 966                     | 307              | 72              | 72                     | (Unfactored w/ ρ - no DL) | 537              | 148              | 47                | 47                     |                   |       |
| 3.67                     | 14.01   | 8.00    | 2.2 | 0.92                | 1691                      | 723           | 4.0                 | 8.0        | 0.0        | 0.00    | (Unfactored w/o DL) | 966                     | 430              | 72              | 79                     | (Unfactored w/ ρ - no DL) | 537              | 250              | 47                | 51                     |                   |       |
|                          |         |         |     |                     |                           |               |                     |            |            |         |                     |                         |                  |                 |                        |                           |                  |                  |                   |                        | HD Not Req'd 6/12 |       |

| Segment Geometry         |         |         |     |                     | Loading                   |               | DL Trib. Length     |            |            |         | Wind Design Output  |                         |                  |                 | Seismic Design Output  |                           |                  |                  | Redundancy Factor |                        |                   |       |
|--------------------------|---------|---------|-----|---------------------|---------------------------|---------------|---------------------|------------|------------|---------|---------------------|-------------------------|------------------|-----------------|------------------------|---------------------------|------------------|------------------|-------------------|------------------------|-------------------|-------|
| L (ft)                   | Lt (ft) | hu (ft) | h/L | Ratio Factor (2L/h) | Wind (lbs)                | Seismic (lbs) | Rtrib (ft)          | Wtrib (ft) | Ftrib (ft) | Lo (in) | Load Combination    | Uplift (lbs)            | ASD Uplift (lbs) | Unit Load (plf) | Sheathing Design (plf) | Load Combination          | Uplift (lbs)     | ASD Uplift (lbs) | Unit Load (plf)   | Sheathing Design (plf) | ρ :               | **Ω : |
|                          |         |         |     |                     | <i>(Unfactored w/o ρ)</i> |               | <i>(Unfactored)</i> |            |            |         |                     | <i>(Ref Load Comb.)</i> | <i>(ASD)</i>     | <i>(ASD)</i>    |                        | <i>(Ref Load Comb.)</i>   | <i>(ASD w/ρ)</i> | <i>(ASD)</i>     | Hardware Used     |                        |                   |       |
| <b>Upper Wall Line A</b> |         |         |     |                     |                           |               |                     |            |            |         |                     |                         |                  |                 |                        |                           |                  |                  |                   |                        |                   |       |
| 11.67                    | 21.67   | 8.00    | 0.7 | 1.00                | 1985                      | 2848          | 12.0                | 8.0        | 0.0        | 0.00    | (Unfactored w/o DL) | 733                     | -541             | 55              | 55                     | (Unfactored w/ ρ - no DL) | 1367             | 137              | 120               | 120                    | 1.3               | 2.5   |
| 10.00                    | 21.67   | 8.00    | 0.8 | 1.00                | 1985                      | 2848          | 12.0                | 8.0        | 0.0        | 0.00    | (Unfactored w/o DL) | 733                     | -400             | 55              | 55                     | (Unfactored w/ ρ - no DL) | 1367             | 254              | 120               | 120                    |                   |       |
|                          |         |         |     |                     |                           |               |                     |            |            |         |                     |                         |                  |                 |                        |                           |                  |                  |                   |                        | HD Not Req'd 6/12 |       |

| Segment Geometry         |         |         |     |                     | Loading                   |               | DL Trib. Length     |            |            |         | Wind Design Output  |                         |                  |                 | Seismic Design Output  |                           |                  |                  | Redundancy Factor |                        |                   |       |
|--------------------------|---------|---------|-----|---------------------|---------------------------|---------------|---------------------|------------|------------|---------|---------------------|-------------------------|------------------|-----------------|------------------------|---------------------------|------------------|------------------|-------------------|------------------------|-------------------|-------|
| L (ft)                   | Lt (ft) | hu (ft) | h/L | Ratio Factor (2L/h) | Wind (lbs)                | Seismic (lbs) | Rtrib (ft)          | Wtrib (ft) | Ftrib (ft) | Lo (in) | Load Combination    | Uplift (lbs)            | ASD Uplift (lbs) | Unit Load (plf) | Sheathing Design (plf) | Load Combination          | Uplift (lbs)     | ASD Uplift (lbs) | Unit Load (plf)   | Sheathing Design (plf) | ρ :               | **Ω : |
|                          |         |         |     |                     | <i>(Unfactored w/o ρ)</i> |               | <i>(Unfactored)</i> |            |            |         |                     | <i>(Ref Load Comb.)</i> | <i>(ASD)</i>     | <i>(ASD)</i>    |                        | <i>(Ref Load Comb.)</i>   | <i>(ASD w/ρ)</i> | <i>(ASD)</i>     | Hardware Used     |                        |                   |       |
| <b>Upper Wall Line B</b> |         |         |     |                     |                           |               |                     |            |            |         |                     |                         |                  |                 |                        |                           |                  |                  |                   |                        |                   |       |
| 15.50                    | 15.50   | 8.00    | 0.5 | 1.00                | 1985                      | 2688          | 12.0                | 8.0        | 0.0        | 0.00    | (Unfactored w/o DL) | 1025                    | -687             | 77              | 77                     | (Unfactored w/ ρ - no DL) | 1804             | 174              | 158               | 158                    | 1.3               | 2.5   |
|                          |         |         |     |                     |                           |               |                     |            |            |         |                     |                         |                  |                 |                        |                           |                  |                  |                   |                        | HD Not Req'd 6/12 |       |



Client: Pahlisch  
 Project: Conifer  
 Proj. #: 25-B031  
 Date: 2/10/25  
 By: JDB  
 Wall: Upper Wall Line 1

### Force Transfer Around Opening

SDPWS 2021 SEC. 4.3.2.2 (SEAOC/Thompson Method)

#### Forces on Force Transfer Wall:

| Upper Shear Wall Reactions (Stacked)      |   |     |
|---|---|-----|
| P <sub>w</sub> = Wind O.T. Force (ASD)    | 0 | lbs |
| P <sub>s</sub> = Seismic O.T. Force (ASD) | 0 | lbs |

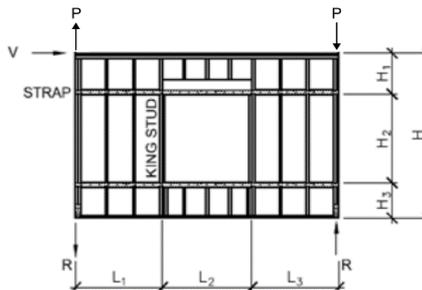
Note: P = 0, If unstacked or no shear wall above.

#### Seismic Parameter:

|                   |       |   |
|-------------------|-------|---|
| S <sub>DS</sub> = | 0.701 | g |
|-------------------|-------|---|

#### Floor Cavity Depth:

|                  |      |    |
|------------------|------|----|
| H <sub>c</sub> = | 1.25 | ft |
|------------------|------|----|



#### Segment Dimensions:

|      |      |    |
|------|------|----|
| L1 = | 4.92 | ft |
| H1 = | 1.00 | ft |
| L2 = | 6.00 | ft |
| H2 = | 5.00 | ft |
| L3 = | 4.92 | ft |
| H3 = | 2.00 | ft |

Total Height: 8.0 ft

Total Length: 15.84 ft

Hold down offset: 3.0 in

|                |         |        |
|----------------|---------|--------|
| Ratio, H2/L1 = | 1.0 : 1 | ∴ O.K. |
| Ratio, H2/L3 = | 1.0 : 1 | ∴ O.K. |

| Ratio Factor (2L/H) | Minimum Pier Length (L1 and L3) |
|---------------------|---------------------------------|
| 1.00                | 4.9 > 2 ∴ O.K.                  |
| 1.00                | 4.9 > 2 ∴ O.K.                  |

#### Lower Shear Wall Forces

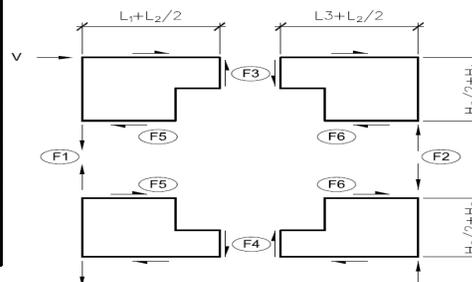
|   |      |          |
|---|------|----------|
| v <sub>w</sub> = Unit Wind Force (ASD)    | 298  | plf      |
| v <sub>s</sub> = Unit Seismic Force (ASD) | 189  | plf      |
| V <sub>w</sub> = Wind force (ASD)         | 2932 | lbs      |
| V <sub>s</sub> = Seismic Force (ASD)      | 1860 | lbs      |
| H = Height of Lower Wall                  | 8.0  | ft       |
| W <sub>roof</sub> = Roof DL/Trib          | 17   | 4 psf/ft |
| W <sub>wall</sub> = Wall DL/Trib          | 8    | 8 psf/ft |
| W <sub>floor</sub> = Floor DL/Trib        | 15   | 0 psf/ft |

#### Internal Stability of 4 Corners:

|                     | Wind     | Seismic  |
|---------------------|----------|----------|
| Shear at Wall (VL): | 185 plf  | 117 plf  |
| Shear Reaction (R): | 1740 lbs | 1103 lbs |
| F1 =                | 648 lbs  | 411 lbs  |
| F2 =                | 648 lbs  | 411 lbs  |
| F3 =                | 648 lbs  | 411 lbs  |
| F4 =                | 1092 lbs | 693 lbs  |
| F5 =                | 1466 lbs | 930 lbs  |
| F6 =                | 1466 lbs | 930 lbs  |

| Segment | Shear Stress (plf)(w) | Shear Stress (plf)(s) |
|---------|-----------------------|-----------------------|
| 1       | 97                    | 62                    |
| 2,3     | 648                   | 411                   |
| 4       | 97                    | 62                    |
| 5,7     | 298                   | 189                   |
| 6,8     | 298                   | 189                   |
| 9       | 173                   | 110                   |
| 10,11   | 546                   | 346                   |
| 12      | 173                   | 110                   |

\*abs of max stress



#### Internal Stability of 12 Segments:

|       | Wind     | Seismic  |
|-------|----------|----------|
| F7 =  | 1944 lbs | 1233 lbs |
| F8 =  | 745 lbs  | 473 lbs  |
| F9 =  | -97 lbs  | -62 lbs  |
| F10 = | -478 lbs | -303 lbs |
| F11 = | 1944 lbs | 1233 lbs |
| F12 = | 745 lbs  | 473 lbs  |
| F13 = | -97 lbs  | -62 lbs  |
| F14 = | -478 lbs | -303 lbs |
| F15 = | 1638 lbs | 1039 lbs |
| F16 = | 745 lbs  | 473 lbs  |
| F17 = | 1393 lbs | 883 lbs  |
| F18 = | -172 lbs | -109 lbs |
| F19 = | 1638 lbs | 1039 lbs |
| F20 = | 745 lbs  | 473 lbs  |
| F21 = | 1393 lbs | 883 lbs  |
| F22 = | -172 lbs | -109 lbs |
| F23 = | 1944 lbs | 1233 lbs |
| F24 = | 1638 lbs | 1039 lbs |

#### Force Transfer Wall Construction:

|  |      |     |
|--|------|-----|
| Design Strap Force:                    | 1944 | lbs |
| Design King Force (Compression):       | 745  | lbs |
| Design Sheathing Shear (Wind):         | 648  | plf |
| Design Sheathing Shear (Seismic w/ ρ): | 411  | plf |
| Global Anchorage Force (Wind):         | 1103 | lbs |
| Global Anchorage Force (Seismic w/ ρ): | 570  | lbs |

|  |       |                    |
|--|-------|--------------------|
| 2x flat block at top and bottom of opening w/: | CS14  | Simpson Coil Strap |
| King Stud:                                     | 2x6   | DF                 |
| 12" o.c. Field nails w/:                       | 3"    | Edge Nails         |
|  | Wind  | Controls           |
| Global Anchorage of Force Transfer Wall:       | MST37 | With               |
|  | Wind  | Controls           |

Client: Pahlisch  
 Project: Conifer  
 Proj. #: 25-B031  
 Date: 2/18/2025  
 By: JDB

**1st Level**

| Resisting Dead load |    |     |
|---------------------|----|-----|
| Roof DL:            | 18 | psf |
| Wall DL:            | 8  | psf |
| Floor DL:           | 15 | psf |

| Floor cavity depth for stacked overturning |         |
|--|---------|
| 2nd Floor Cavity Depth:                    | 1.25 ft |

| Wind Overturning Load Combinations |             |
|------------------------------------|-------------|
| Unfactored w/o DL:                 | W           |
| ASD:                               | 0.6D + 0.6W |
| LRFD:                              | 0.9D + W    |

\*Reference ASCE7-16 Table 12.2-1 for value of the overstrength factor, Ω. \*\*Footnote b: Where the tabulated value of the overstrength factor, Ω, is greater than or equal to 2.5, Ω is permitted to be reduced by subtracting the value of 0.5 for structures with flexible diaphragms.

| Seismic Overturning Load Combinations |                                 |
|---------------------------------------|---------------------------------|
| Unfactored w/ ρ - no DL:              | ρE                              |
| Unfactored w/ Ω - no DL:              | ΩE                              |
| ASD w/ ρ :                            | (0.6 - 0.14SDS)D + 0.7ρE        |
| ASD w/ Ω :                            | (0.6 - 0.14SDS)D + 0.7ΩE        |
| ASD w/ Ω/0.75 :                       | ((0.6 - 0.14SDS)D + 0.7ΩE)/0.75 |
| LRFD w/ ρ :                           | (0.9 - 0.2SDS)D + 1.0ρE         |
| LRFD w/ Ω :                           | (0.9 - 0.2SDS)D + 1.0ΩE         |
| S <sub>DS</sub> : 0.702 g             |                                 |

| Segment Geometry                                 |      |      |      |      |                     | Loading      |            |               |               | DL Trib. Length |       |       |                  | Wind Design Output                              |                   |                            |                          |           | Seismic Design Output |                                      |                        |                            |                          | Redundancy Factor |                  |                  |           |
|--|------|------|------|------|---------------------|--------------|------------|---------------|---------------|-----------------|-------|-------|------------------|---|-------------------|----------------------------|--------------------------|-----------|-----------------------|--------------------------------------|------------------------|----------------------------|--------------------------|-------------------|------------------|------------------|-----------|
| L  | Lt   | hl   | hu   | hl/L | Ratio Factor (2L/h) | Lower Wind   | Upper Wind | Lower Seismic | Upper Seismic | Rtrib           | Wtrib | Ftrib | Lo               | Load Combination                                | Uplift (lbs)      | ASD Unstacked Uplift (lbs) | ASD Stacked Uplift (lbs) | Unit Load | Sheathing Design      | Load Combination                     | Uplift (lbs)           | ASD Unstacked Uplift (lbs) | ASD Stacked Uplift (lbs) | Unit Load         | Sheathing Design | ρ : 1.3          | **Ω : 2.5 |
| (ft)   | (ft) | (ft) | (ft) |      | (lb)                | (lb)         | (lb)       | (lb)          | (ft)          | (ft)            | (ft)  | (in)  | (Ref Load Comb.) |   | (Unstacked - ASD) | (Stacked - ASD)            | (plf)                    | (plf)     | (Ref Load Comb.)      |                                      | (Unstacked - ASD w/ ρ) | (Stacked - ASD w/ ρ)       | (plf)                    | (plf)             | Hardware Used    |                  |           |
| (Unfactored w/o ρ)                               |      |      |      |      |                     | (Unfactored) |            |               |               |                 |       | (ASD) |                  |   |                   |                            | (ASD)                    |           | Hold Downs            |                                      | Nailing                |                            |                          |                   |                  |                  |           |
| <b>Lower Wall Line 1</b>                         |      |      |      |      |                     |              |            |               |               |                 |       |       |                  |   |                   |                            |                          |           |                       |                                      |                        |                            |                          |                   |                  |                  |           |
| 4.92   | 9.84 | 9.00 | 8.00 | 1.8  | 1.00                | 2654         | 4877       | 698           | 2047          | 4.0             | 18.0  | 2.0   | 6.00             | Un-stacked (Unfactored w/o DL)                  | 7667              | 4196                       | 7258                     | 459       | 459                   | Un-stacked (Unfactored w/ ρ - no DL) | 3633                   | 2205                       | 4154                     | 254               | 254              | HDU5 w/ SB5/8x24 | 4/12      |
| 4.92   | 9.84 | 9.00 | 8.00 | 1.8  | 1.00                | 2654         | 4877       | 698           | 2047          | 4.0             | 18.0  | 2.0   | 6.00             | Un-stacked (Unfactored w/o DL)                  | 7667              | 4196                       | 7258                     | 459       | 459                   | Un-stacked (Unfactored w/ ρ - no DL) | 3633                   | 2205                       | 4154                     | 254               | 254              | HDU5 w/ SB5/8x24 | 4/12      |
| For outside HD's, add Uplift from FT above: 1103 |      |      |      |      |                     |              |            |               |               |                 |       |       |                  | For outside HD's, add Uplift from FT above: 570 |                   |                            |                          |           |                       |                                      |                        |                            |                          |                   |                  |                  |           |
| Total uplift at outside HD: 5299                 |      |      |      |      |                     |              |            |               |               |                 |       |       |                  | Total uplift at outside HD: 4724                |                   |                            |                          |           |                       |                                      |                        |                            |                          |                   |                  |                  |           |

| Segment Geometry           |      |      |      |      |                     | Loading      |            |               |               | DL Trib. Length |       |       |                  | Wind Design Output             |                   |                            |                          |           | Seismic Design Output |                                      |                        |                            |                          | Redundancy Factor |                  |                  |           |
|----------------------------|------|------|------|------|---------------------|--------------|------------|---------------|---------------|-----------------|-------|-------|------------------|--------------------------------|-------------------|----------------------------|--------------------------|-----------|-----------------------|--------------------------------------|------------------------|----------------------------|--------------------------|-------------------|------------------|------------------|-----------|
| L                          | Lt   | hl   | hu   | hl/L | Ratio Factor (2L/h) | Lower Wind   | Upper Wind | Lower Seismic | Upper Seismic | Rtrib           | Wtrib | Ftrib | Lo               | Load Combination               | Uplift (lbs)      | ASD Unstacked Uplift (lbs) | ASD Stacked Uplift (lbs) | Unit Load | Sheathing Design      | Load Combination                     | Uplift (lbs)           | ASD Unstacked Uplift (lbs) | ASD Stacked Uplift (lbs) | Unit Load         | Sheathing Design | ρ : 1.3          | **Ω : 2.5 |
| (ft)                       | (ft) | (ft) | (ft) |      | (lb)                | (lb)         | (lb)       | (lb)          | (ft)          | (ft)            | (ft)  | (in)  | (Ref Load Comb.) |                                | (Unstacked - ASD) | (Stacked - ASD)            | (plf)                    | (plf)     | (Ref Load Comb.)      |                                      | (Unstacked - ASD w/ ρ) | (Stacked - ASD w/ ρ)       | (plf)                    | (plf)             | Hardware Used    |                  |           |
| (Unfactored w/o ρ)         |      |      |      |      |                     | (Unfactored) |            |               |               |                 |       | (ASD) |                  |                                |                   |                            | (ASD)                    |           | Hold Downs            |                                      | Nailing                |                            |                          |                   |                  |                  |           |
| <b>Lower Wall Line 1.5</b> |      |      |      |      |                     |              |            |               |               |                 |       |       |                  |                                |                   |                            |                          |           |                       |                                      |                        |                            |                          |                   |                  |                  |           |
| 5.42                       | 5.42 | 9.00 | 8.00 | 1.7  | 1.00                | 3918         | 0          | 871           | 0             | 2.0             | 18.0  | 2.0   | 6.00             | Un-stacked (Unfactored w/o DL) | 7167              | 3924                       | 3924                     | 434       | 434                   | Un-stacked (Unfactored w/ ρ - no DL) | 2071                   | 1135                       | 1135                     | 146               | 146              | HDU5 w/ SB5/8x24 | 4/12      |

| Segment Geometry           |      |      |      |      |                     | Loading      |            |               |               | DL Trib. Length |       |       |                  | Wind Design Output             |                   |                            |                          |           | Seismic Design Output |                                      |                        |                            |                          | Redundancy Factor |                  |                  |           |
|----------------------------|------|------|------|------|---------------------|--------------|------------|---------------|---------------|-----------------|-------|-------|------------------|--------------------------------|-------------------|----------------------------|--------------------------|-----------|-----------------------|--------------------------------------|------------------------|----------------------------|--------------------------|-------------------|------------------|------------------|-----------|
| L                          | Lt   | hl   | hu   | hl/L | Ratio Factor (2L/h) | Lower Wind   | Upper Wind | Lower Seismic | Upper Seismic | Rtrib           | Wtrib | Ftrib | Lo               | Load Combination               | Uplift (lbs)      | ASD Unstacked Uplift (lbs) | ASD Stacked Uplift (lbs) | Unit Load | Sheathing Design      | Load Combination                     | Uplift (lbs)           | ASD Unstacked Uplift (lbs) | ASD Stacked Uplift (lbs) | Unit Load         | Sheathing Design | ρ : 1.3          | **Ω : 2.5 |
| (ft)                       | (ft) | (ft) | (ft) |      | (lb)                | (lb)         | (lb)       | (lb)          | (ft)          | (ft)            | (ft)  | (in)  | (Ref Load Comb.) |                                | (Unstacked - ASD) | (Stacked - ASD)            | (plf)                    | (plf)     | (Ref Load Comb.)      |                                      | (Unstacked - ASD w/ ρ) | (Stacked - ASD w/ ρ)       | (plf)                    | (plf)             | Hardware Used    |                  |           |
| (Unfactored w/o ρ)         |      |      |      |      |                     | (Unfactored) |            |               |               |                 |       | (ASD) |                  |                                |                   |                            | (ASD)                    |           | Hold Downs            |                                      | Nailing                |                            |                          |                   |                  |                  |           |
| <b>Lower Wall Line 1.8</b> |      |      |      |      |                     |              |            |               |               |                 |       |       |                  |                                |                   |                            |                          |           |                       |                                      |                        |                            |                          |                   |                  |                  |           |
| 9.00                       | 9.00 | 9.00 | 8.00 | 1.0  | 1.00                | 3474         | 4367       | 941           | 1742          | 2.0             | 18.0  | 2.0   | 6.00             | Un-stacked (Unfactored w/o DL) | 8302              | 4381                       | 7232                     | 523       | 523                   | Un-stacked (Unfactored w/ ρ - no DL) | 3693                   | 2083                       | 3808                     | 271               | 271              | HDU5 w/ SB5/8x24 | 3/12      |

| Segment Geometry         |      |      |      |      |                     | Loading      |            |               |               | DL Trib. Length |       |       |                  | Wind Design Output             |                   |                            |                          |           | Seismic Design Output |                                      |                        |                            |                          | Redundancy Factor |                  |                                 |           |
|--------------------------|------|------|------|------|---------------------|--------------|------------|---------------|---------------|-----------------|-------|-------|------------------|--------------------------------|-------------------|----------------------------|--------------------------|-----------|-----------------------|--------------------------------------|------------------------|----------------------------|--------------------------|-------------------|------------------|---------------------------------|-----------|
| L                        | Lt   | hl   | hu   | hl/L | Ratio Factor (2L/h) | Lower Wind   | Upper Wind | Lower Seismic | Upper Seismic | Rtrib           | Wtrib | Ftrib | Lo               | Load Combination               | Uplift (lbs)      | ASD Unstacked Uplift (lbs) | ASD Stacked Uplift (lbs) | Unit Load | Sheathing Design      | Load Combination                     | Uplift (lbs)           | ASD Unstacked Uplift (lbs) | ASD Stacked Uplift (lbs) | Unit Load         | Sheathing Design | ρ : 1.3                         | **Ω : 2.5 |
| (ft)                     | (ft) | (ft) | (ft) |      | (lb)                | (lb)         | (lb)       | (lb)          | (ft)          | (ft)            | (ft)  | (in)  | (Ref Load Comb.) |                                | (Unstacked - ASD) | (Stacked - ASD)            | (plf)                    | (plf)     | (Ref Load Comb.)      |                                      | (Unstacked - ASD w/ ρ) | (Stacked - ASD w/ ρ)       | (plf)                    | (plf)             | Hardware Used    |                                 |           |
| (Unfactored w/o ρ)       |      |      |      |      |                     | (Unfactored) |            |               |               |                 |       | (ASD) |                  |                                |                   |                            | (ASD)                    |           | Hold Downs            |                                      | Nailing                |                            |                          |                   |                  |                                 |           |
| <b>Lower Wall Line 3</b> |      |      |      |      |                     |              |            |               |               |                 |       |       |                  |                                |                   |                            |                          |           |                       |                                      |                        |                            |                          |                   |                  |                                 |           |
| 2.88                     | 5.76 | 9.00 | 8.00 | 3.1  | 0.64                | 2227         | 4258       | 602           | 1747          | 4.0             | 18.0  | 2.0   | 6.50             | Un-stacked (Unfactored w/o DL) | 12480             | 7226                       | 12279                    | 676       | 1056                  | Un-stacked (Unfactored w/ ρ - no DL) | 5877                   | 3895                       | 7039                     | 371               | 580              | Force Transfer Wall             |           |
| 2.88                     | 5.76 | 9.00 | 8.00 | 3.1  | 0.64                | 2227         | 4258       | 602           | 1747          | 4.0             | 18.0  | 2.0   | 6.50             | Un-stacked (Unfactored w/o DL) | 12480             | 7226                       | 12279                    | 676       | 1056                  | Un-stacked (Unfactored w/ ρ - no DL) | 5877                   | 3895                       | 7039                     | 371               | 580              | HDU5 w/ SB5/8x24, 3/12" Nailing |           |

| Segment Geometry         |       |      |      |      |                     | Loading      |            |               |               | DL Trib. Length |       |       |                  | Wind Design Output             |                   |                            |                          |           | Seismic Design Output |                                      |                        |                            |                          | Redundancy Factor |                  |                                      |           |
|--------------------------|-------|------|------|------|---------------------|--------------|------------|---------------|---------------|-----------------|-------|-------|------------------|--------------------------------|-------------------|----------------------------|--------------------------|-----------|-----------------------|--------------------------------------|------------------------|----------------------------|--------------------------|-------------------|------------------|--------------------------------------|-----------|
| L                        | Lt    | hl   | hu   | hl/L | Ratio Factor (2L/h) | Lower Wind   | Upper Wind | Lower Seismic | Upper Seismic | Rtrib           | Wtrib | Ftrib | Lo               | Load Combination               | Uplift (lbs)      | ASD Unstacked Uplift (lbs) | ASD Stacked Uplift (lbs) | Unit Load | Sheathing Design      | Load Combination                     | Uplift (lbs)           | ASD Unstacked Uplift (lbs) | ASD Stacked Uplift (lbs) | Unit Load         | Sheathing Design | ρ : 1.3                              | **Ω : 2.5 |
| (ft)                     | (ft)  | (ft) | (ft) |      | (lb)                | (lb)         | (lb)       | (lb)          | (ft)          | (ft)            | (ft)  | (in)  | (Ref Load Comb.) |                                | (Unstacked - ASD) | (Stacked - ASD)            | (plf)                    | (plf)     | (Ref Load Comb.)      |                                      | (Unstacked - ASD w/ ρ) | (Stacked - ASD w/ ρ)       | (plf)                    | (plf)             | Hardware Used    |                                      |           |
| (Unfactored w/o ρ)       |       |      |      |      |                     | (Unfactored) |            |               |               |                 |       | (ASD) |                  |                                |                   |                            | (ASD)                    |           | Hold Downs            |                                      | Nailing                |                            |                          |                   |                  |                                      |           |
| <b>Lower Wall Line A</b> |       |      |      |      |                     |              |            |               |               |                 |       |       |                  |                                |                   |                            |                          |           |                       |                                      |                        |                            |                          |                   |                  |                                      |           |
| 9.33                     | 22.50 | 9.00 | 8.00 | 1.0  | 1.00                | 2085         | 1985       | 1667          | 2848          | 12.0            | 18.0  | 8.0   | 0.00             | Un-stacked (Unfactored w/o DL) | 1628              | -367                       | 123                      | 109       | 109                   | Un-stacked (Unfactored w/ ρ - no DL) | 2348                   | 520                        | 1585                     | 183               | 183              | Perforated Shear Wall, 3/12" Nailing |           |
| 3.17                     | 22.50 | 9.00 | 8.00 | 2.8  | 0.70                | 2085         | 1985       | 1667          | 2848          | 12.0            | 18.0  | 8.0   | 0.00             | Un-stacked (Unfactored w/o DL) | 1628              | 520                        | 1010                     | 109       | 154                   | Un-stacked (Unfactored w/ ρ - no DL) | 2348                   | 1262                       | 2327                     | 183               | 259              |                                      |           |
| 5.67                     | 22.50 | 9.00 | 8.00 | 1.6  | 1.00                | 2085         | 1985       | 1667          | 2848          | 12.0            | 18.0  | 7.5   | 0.00             | Un-stacked (Unfactored w/o DL) | 1628              | 173                        | 663                      | 109       | 109                   | Un-stacked (Unfactored w/ ρ - no DL) | 2348                   | 971                        | 2037                     | 183               | 183              |                                      |           |
| 4.33                     | 22.50 | 9.00 | 8.00 | 2.1  | 0.96                | 2085         | 1985       | 1667          | 2848          | 12.0            | 18.0  | 7.5   | 6.00             | Un-stacked (Unfactored w/o DL) | 1841              | 410                        | 964                      | 109       | 113                   | Un-stacked (Unfactored w/ ρ - no DL) | 2654                   | 1278                       | 2482                     | 183               | 190              |                                      |           |

| Segment Geometry         |         |         |         |     |                     | Loading                  |                 |                    |                    | DL Trib. Length |            |            |         | Wind Design Output             |                  |                            |                          |                 | Seismic Design Output  |   |              |                            |                              | Redundancy Factor          |                        |                |            |         |
|--------------------------|---------|---------|---------|-----|---------------------|--------------------------|-----------------|--------------------|--------------------|-----------------|------------|------------|---------|--------------------------------|------------------|----------------------------|--------------------------|-----------------|------------------------|---|--------------|----------------------------|------------------------------|----------------------------|------------------------|----------------|------------|---------|
| L (ft)                   | Lt (ft) | hl (ft) | hu (ft) | h/L | Ratio Factor (2L/h) | Lower Wind (lb)          | Upper Wind (lb) | Lower Seismic (lb) | Upper Seismic (lb) | Rtrib (ft)      | Wtrib (ft) | Ftrib (ft) | Lo (in) | Load Combination               | Uplift (lbs)     | ASD Unstacked Uplift (lbs) | ASD Stacked Uplift (lbs) | Unit Load (plf) | Sheathing Design (plf) | Load Combination                          | Uplift (lbs) | ASD Unstacked Uplift (lbs) | ASD Stacked Uplift (lbs)     | Unit Load (plf)            | Sheathing Design (plf) | $\rho$ :       | $\Omega$ : |         |
|                          |         |         |         |     |                     |                          |                 |                    |                    |                 |            |            |         |                                | (Ref Load Comb.) | (Unstacked - ASD)          | (Stacked - ASD)          |                 |                        |   |              | (Ref Load Comb.)           | (Unstacked - ASD w/ $\rho$ ) | (Stacked - ASD w/ $\rho$ ) |                        |                | Hold Downs | Nailing |
|                          |         |         |         |     |                     | (Unfactored w/o $\rho$ ) |                 |                    |                    | (Unfactored)    |            |            |         |                                |                  |                            |                          |                 |                        |   |              |                            |                              |                            |                        |                |            |         |
| <b>Lower Wall Line B</b> |         |         |         |     |                     |                          |                 |                    |                    |                 |            |            |         |                                |                  |                            |                          |                 |                        |   |              |                            |                              |                            |                        |                |            |         |
| 7.50                     | 30.92   | 9.00    | 8.00    | 1.2 | 1.00                | 2085                     | 1985            | 1424               | 2688               | 9.0             | 18.0       | 8.0        | 0.00    | Un-stacked (Unfactored w/o DL) | 1185             | -248                       | 109                      | 79              | 79                     | Un-stacked (Unfactored w/ $\rho$ - no DL) | 1556         | 288                        | 1019                         | 121                        | 121                    | HD's Not Req'd | 6/12       |         |
| 23.42                    | 30.92   | 9.00    | 8.00    | 0.4 | 1.00                | 2085                     | 1985            | 1424               | 2688               | 12.0            | 18.0       | 10.0       | 0.00    | Un-stacked (Unfactored w/o DL) | 1185             | -2872                      | -2516                    | 79              | 79                     | Un-stacked (Unfactored w/ $\rho$ - no DL) | 1556         | -1907                      | -1175                        | 121                        | 121                    | HD's Not Req'd | 6/12       |         |



Client: Pahlisch  
 Project: Conifer - A  
 Proj. #: 25-B031  
 Date: 2/18/2025  
 By: JDB  
 Wall : Lower WL4 - Garage

**Force Transfer Wall**

**Door Opening**

**Forces acting on Force transfer wall:**

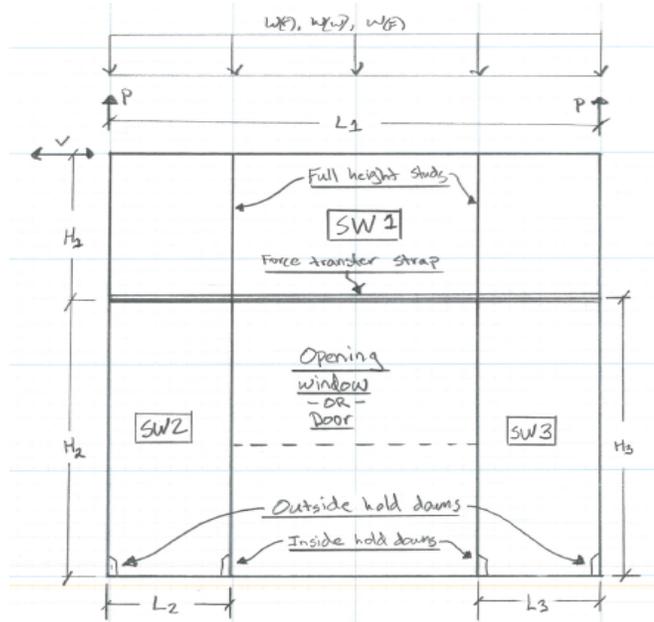
|         |                                 |        |     |
|---------|---------------------------------|--------|-----|
| v (w) = | Unit Wind Force (Factored)      | 459    | plf |
| v (s) = | Unit EQ Force (Factored)        | 254    | plf |
| V (w) = | Wind force top of wall          | 2570.4 | lbs |
| V (s) = | Seismic force top of wall       | 1422.4 | lbs |
| P (w) = | Uplift from SW above (Factored) | 0      | lbs |
| P (s) = | Uplift from SW above (Factored) | 0      | lbs |
| W(r) =  | Roof DL                         | 17     | psf |
| W(w) =  | Wall DL                         | 8      | psf |
| W(f) =  | Floor DL                        | 12     | psf |

Shear Load distributed based on stiffness? **No**

**Shear Wall Segment Dimensions:**

|     |      |      |    |            |
|-----|------|------|----|------------|
| SW1 | L1 = | 22.0 | ft |            |
|     | H1 = | 2.50 | ft |            |
| SW2 | L2 = | 2.8  | ft | > 2.0 O.K. |
|     | H2 = | 7.0  | ft |            |
| SW3 | L3 = | 2.8  | ft | > 2.0 O.K. |
|     | H3 = | 7.0  | ft |            |

SDS: 0.702



**Force Transfer Shear Wall Segments:**

|     | L(x)<br>(ft) | H(x)<br>(ft) | h/L | Ratio<br>Factor | Wind<br>(lb) | Seismic<br>(lb) | Mu (w)<br>(lb-ft) | Mu (s)<br>(lb-ft) | Rtrib<br>(ft) | Wtrib<br>(ft) | Ftrib<br>(ft) | Mr<br>(lb*ft) | Lr<br>(in) |
|-----|--------------|--------------|-----|-----------------|--------------|-----------------|-------------------|-------------------|---------------|---------------|---------------|---------------|------------|
| SW1 | 22.0         | 2.50         | 0.1 | 1.00            | 2570.4       | 1422.4          | 6426              | 3556              | 12.0          | 2.50          | 0.0           | 32525         | 0.00       |
| SW2 | 2.8          | 7.0          | 2.5 | 0.80            | 1285         | 711             | 8996              | 4978              | 12.0          | 7.00          | 0.0           | 612           | 6.00       |
| SW3 | 2.8          | 7.0          | 2.5 | 0.80            | 1285         | 711             | 8996              | 4978              | 12.0          | 7.00          | 0.0           | 612           | 6.00       |

\* Lr = Length from outside of wall pier to center of holddown (each side).

**Force Transfer Wall Construction:**

|                        |     |     |
|------------------------|-----|-----|
| SW1 Nailing (Wind):    | 117 | plf |
| SW1 Nailing (Seismic): | 65  | plf |
| Uplift (Wind):         | 0   | lbs |
| Uplift (Seismic):      | 0   | lbs |

Max Strap Force (SW2, SW3): 1285 lbs

|                               |      |     |
|-------------------------------|------|-----|
| SW2 Nailing (Wind):           | 574  | plf |
| SW2 Nailing (Seismic):        | 318  | plf |
| Inside hold downs (Wind):     | 3646 | lbs |
| Inside hold downs (Seismic):  | 1942 | lbs |
| Outside hold downs (Wind):    | 3646 | lbs |
| Outside hold downs (Seismic): | 1942 | lbs |

|                               |      |     |
|-------------------------------|------|-----|
| SW3 Nailing (Wind):           | 574  | plf |
| SW3 Nailing (Seismic):        | 318  | plf |
| Inside hold downs (Wind):     | 3646 | lbs |
| Inside hold downs (Seismic):  | 1942 | lbs |
| Outside hold downs (Wind):    | 3646 | lbs |
| Outside hold downs (Seismic): | 1942 | lbs |

|                          |         |            |
|--------------------------|---------|------------|
| 12" o.c. Field Nails w/: | 6"      | Edge Nails |
|                          | Seismic | Controls   |
| SW1 End uplift:          | 2x6     | King Stud  |
|                          | NA      | Controls   |

2x flat blocking at top of opening w/: CS16 Simpson Strap

|                                  |      |               |
|----------------------------------|------|---------------|
| 12" o.c. Field Nails w/:         | 3"   | Edge Nails    |
|                                  | Wind | Controls      |
| SW2 Inside Condition Anchorage:  | HDU5 | with SB5/8x24 |
|                                  | Wind | Controls      |
| SW2 Outside Condition Anchorage: | HDU5 | with SB5/8x24 |
|                                  | Wind | Controls      |

|                                  |      |               |
|----------------------------------|------|---------------|
| 12" o.c. Field Nails w/:         | 3"   | Edge Nails    |
|                                  | Wind | Controls      |
| SW3 Inside Condition Anchorage:  | HDU5 | with SB5/8x24 |
|                                  | Wind | Controls      |
| SW3 Outside Condition Anchorage: | HDU5 | with SB5/8x24 |
|                                  | Wind | Controls      |



Client: Pahlisch  
 Project: Conifer - A  
 Proj. #: 25-B031  
 Date: 2/18/2025  
 By: JDB  
 Wall: Lower WLA

### Perforated Shear Wall Design

2021 NDS 4.3.5.6

#### Perforated Wall Assumptions:

- 1) Sill plate must be attached directly to the rim board per the shear wall schedule.

#### Forces on Perforated Shear Wall:

|            |   |           |           |
|------------|---|-----------|-----------|
| $V_u$ =    | Unit Wind shear force in perforated shear Wall        | 109 plf   | (Service) |
| $V_u$ =    | Unit Seismic shear force in perforated shear Wall     | 183 plf   | (Service) |
| $V$ =      | Wind shear force in perforated shear wall             | 2453 lbs  |           |
| $V$ =      | Seismic shear force in perforated shear Wall          | 4118 lbs  |           |
| $S_{DS}$ = | Short period spectral response acceleration parameter | 0.702 % g |           |
| $H$ =      | Shear wall height (20ft maximum wall height)          | 9.00 ft   |           |

|       | DL (psf) | Trib (feet) |
|-------|----------|-------------|
| Roof  | 17       | 12          |
| Wall  | 8        | 18          |
| Floor | 15       | 6           |

#### Perforated Shear Wall Geometry and Ratio Factor (2L/H):

|         | Opening location | Opening Height (ft) | Opening Width (ft) |
|---------|------------------|---------------------|--------------------|
| $H_1$ = | $L_1 - L_2$      | 1.50                | $W_1$ = 2.50       |
| $H_2$ = | $L_2 - L_3$      | 1.50                | $W_2$ = 2.50       |
| $H_3$ = | $L_3 - L_4$      | 2.00                | $W_3$ = 6.50       |
| $H_4$ = | $L_4 - L_5$      | 0.00                | $W_4$ = 0.00       |
| $H_5$ = | $L_5 - L_6$      | 0.00                | $W_5$ = 0.00       |

|              | Segment Length (ft) | Aspect Ratio | Ratio Factor | Reduced Length (ft) |
|--------------|---------------------|--------------|--------------|---------------------|
| $L_1$ =      | 9.33                | 1.0          | 1.00         | 9.33                |
| $L_2$ =      | 3.17                | 2.8          | 0.70         | 2.23                |
| $L_3$ =      | 5.67                | 1.6          | 1.00         | 5.67                |
| $L_4$ =      | 4.33                | 2.1          | 0.96         | 4.17                |
| $L_5$ =      | 0.00                | 0.0          | 0.00         | 0.00                |
| $L_6$ =      | 0.00                | 0.0          | 0.00         | 0.00                |
| $\sum L_i$ = | 22.50               | N.A          | N.A.         | 21.40               |

#### Shear Capacity of Perforated Shear wall ( $C_0$ ):

$$C_0 = \frac{A_{wall}}{3A_0 + Af_{hs}} \leq 1.0$$

$$A_{wall} = \frac{V}{C_0 \sum b_i}$$

|               |   |       |                 |
|---------------|---|-------|-----------------|
| $\sum b_i$ =  | Sum of wall segment lengths                     | 21.40 | ft              |
| $A_{wall}$ =  | Total area (length x width of wall)             | 306   | ft <sup>2</sup> |
| $A_0$ =       | Total area of openings in wall (w/ min. height) | 20.5  | ft <sup>2</sup> |
| $A_{ms}$ =    | Total area sheathed (w/ full height sheathing)  | 202.5 | ft <sup>2</sup> |
| $C_0$ =       | Shear capacity adjustment factor                | 1.000 |                 |
| $V_{max,h}$ = | Unit shear force induced by design load, Horiz. | 115   | plf             |
| $V_{max,v}$ = | Unit shear force induced by design load, Vert.  | 192   | plf             |

#### Perforated Shear Wall Design Shear:

|         |  | Wind    | Seismic |
|---------|--|---------|---------|
| $V_h$ = | Horizontal shear in wall, $[V/(C_0 \sum L_i)] =$           | 115 plf | 192 plf |
| $V_v$ = | Uplift at full height wall segments $[V/(C_0 \sum L_i)] =$ | 115 plf | 192 plf |

#### Dowel Bearing Strength at an Angle to Grain:

$F_e$  (perpendicular) =  $F_e$  (parallel) =  $F_e$  (theta) [equation (12.3-11) NDS-21 12.3.4]

#### Unit Shear Check:

|                   |   |     |   |      |        |
|-------------------|---|-----|---|------|--------|
| $V_u$ (Wind) =    | Unit shear in un-adjusted wall segments (plf) | 115 | < | 1218 | ∴ O.K. |
| $V_u$ (Seismic) = | Unit shear in un-adjusted wall segments (plf) | 192 | < | 870  | ∴ O.K. |

#### Sill Anchorage at Full Height Wall Segments:

|                 |   |     |   |     |        |
|-----------------|---|-----|---|-----|--------|
| T,V (Wind) =    | Combine shear and tension in sill anchors (lbs) | 115 | < | 233 | ∴ O.K. |
| T,V (Seismic) = | Combine shear and tension in sill anchors (lbs) | 192 | < | 233 | ∴ O.K. |

#### Note:

Max shear wall value for DF is (432/2)x1.08 = 233 plf.

Max shear wall value for HF is (432/2) = 216 plf

#### Shear wall Overturning:

|               |   | Wind | Seismic |
|---------------|---|------|---------|
| Wall uplift = | $VH/(C_0 \sum L_i)$ (Global wall uplift)  | 1031 | 1732    |
| Resistanc =   | Global resistance from tributary deadload | 2560 | 2072    |
| Anchorage =   | Global force for required wall anchorage  | 0    | 0       |

#### Perforated Wall Construction:

|                                   |     |     |
|-----------------------------------|-----|-----|
| Design Sheathing shear (Wind):    | 115 | plf |
| Design Sheathing shear (Seismic): | 192 | plf |
| Global Anchorage Force (Wind):    | 0   | lbs |
| Global Anchorage Force (Seismic): | 0   | lbs |
| Sill Anchorage Force (T,V Wind):  | 115 | lbs |
| Sill Anchorage Force (T,V Wind):  | 192 | lbs |

|   |  |                            |
|---|--|----------------------------|
| Sill Plate or Mud Sill Plate (HF or DF)   | DF                                       | SG = (HF=0.42) or (DF=0.5) |
| 12" O.C. Field nails w/:                  | 3 in                                     | Edge Nails                 |
|   | Seismic                                  | Controls Nailing           |
| Global Anchorage of Perforated Shear Wall | No                                       | HD's Req'd                 |
|   | Seismic                                  | Controls Anchorage         |
| Sill Anchorage at Rim                     | Sheathing is nailed to rim to match edge |                            |
| Mud Sill Anchorage                        | 233 plf x (16/12) = 311 lbs < 633 lbs    |                            |



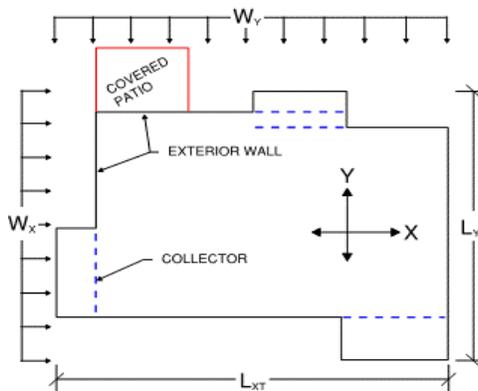
**Average Uniform Diaphragm Loads ( $W_x$  &  $W_y$ ):**

**Overall Projected Wall Width ( $L_{XT}$  &  $L_{YT}$ ):**

Length ( $L_{XT}$ ) = 22 ft  
 Length ( $L_{YT}$ ) = 64.75 ft

**Factored Uniform Distributed Diaphragm Design Loads:**

Uniform Wind ( $W_x$ ) = 125 plf  
 Uniform Seismic ( $W_x$ ) = 78 plf *p Controls*  
 Uniform Wind ( $W_y$ ) = 108 plf  
 Uniform Seismic ( $W_y$ ) = 229 plf *p Controls*



**Double Top Plate Splice Capacity & Unit Shear Capacity:**

**Double Top Plate Splice Capacity:**

(2) - 2x6 DF with min over lap 4 feet total w/ (12) - 0.131"x3" face nails each side of splice  
 0.131"x3" nail into 1.5" side plate 97 lbs, Per NDS 2018 Table 12N  
 Over Strength Factor,  $\Omega = 1.0$  (Sec. 12.10.1.1 Exception for single family residential)  
 Double top plate splice = 97lbs(1.6)(12nails) = 1862 lbs

**Diaphragm Unit Shear Capacity:**

Unblocked wood structural panel diaphragm, 7/16 sheathing, 0.131"x2.5" nails, nominal unit shear = 475 plf SDPWS 2021 T4.2c  
 Max Unblocked Diaphragm Shear, Wind = 475 / 2 = 238 plf  
 Max Unblocked Diaphragm Shear, Seismic = 475 / 2.8 = 170 plf

**Diaphragm Design:**

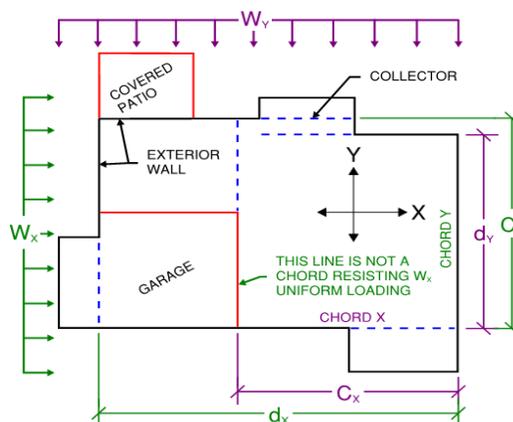
**Worst Case (Chord X From  $W_y$  Loading)**

Chord Length, ( $C_x$ ) = 22 ft  
 Diaphragm Depth, ( $d_y$ ) = 57.75 ft

**Worst Case (Chord Y From  $W_x$  Loading)**

Diaphragm Depth, ( $d_x$ ) = 22 ft  
 Chord Length, ( $C_y$ ) = 49.83 ft

|                                  |   |             |
|----------------------------------|---|-------------|
| Worst Chord force (X) = 240 lbs  | < | 1862 lbs    |
| Worst Chord force (Y) = 1766 lbs | < | 1862 lbs    |
| Max Unit Shear (Wind) = 189 plf  | < | 238 plf     |
| Max Unit Shear (Eq) = 116 plf    | < | 170 plf     |
| Max Aspect Ratio = 2.27          | < | 3 Unblocked |



**Diaphragm Chord & Drag Forces at Locations of Interest:**

| Symbols & Equations                                |  | Uniform Diaphragm Loads (Factored ASD)   |  |
|--|--|--|--|
| (V) Wall Line Load (unfactored)                    | ( $A_d$ ) Location of Interest (Drag)  | Uniform Wind ( $W_x$ ) = 125 plf   |  |
| ( $L_w$ ) Total Length of Wall Line                | (W) Uniform Diaphragm Load             | Uniform Seismic ( $W_x$ ) = 78 plf   |  |
| ( $L_{sw}$ ) Total length of Shear wall            | ( $L_c$ ) Length of Chord              | Uniform Wind ( $W_y$ ) = 108 plf   |  |
| (v) Shear Wall PLF                                 | ( $d_d$ ) Depth of Diaphragm           | Uniform Seismic ( $W_y$ ) = 229 plf  |  |
| ( $L_v$ ) Length of Shear Wall up to Said Location | ( $A_c$ ) Location of Interest (Chord) | Note: Uniform seismic loads include p or ratio factor only if diaphragm distribution forces are smaller than MFRS times p. |  |
| $Drag Load = \left(\frac{V}{L_w}\right)x_d - vxd$  |  | $Chord Force = \left(\frac{Wx_c}{(2dc)}\right) * (L_c - xc)$   |  |

| Upper Wall Line 1   |                       | $\rho =$ 1.3                       |                    | $\Omega =$ 1.0    |            | ASCE7-16 12.10.1.1 |         |                  |           |                 |     |             |     |
|---|-----------------------|------------------------------------|--------------------|-------------------|------------|--------------------|---------|------------------|-----------|-----------------|-----|-------------|-----|
|   |                       | Force Ratio = 1.00                 |                    |                   |            |                    |         |                  |           |                 |     |             |     |
|   |                       | Max ( $\rho$ , Force Ratio) = 1.30 |                    |                   |            |                    |         |                  |           |                 |     |             |     |
| <b>Wall Line Loading and Dimensions:</b>                              |                       |                                    |                    | Chord: X (X or Y) |            |                    |         |                  |           |                 |     |             |     |
| $V_{wind}$ (unfactored):  | 4887 lbs              | $v_w$ :                            | 298 plf (Factored) | $L_w$ :           | 22.00 ft   | $W_w$ :            | 108 plf |                  |           |                 |     |             |     |
| $V_{Seismic}$ (unfactored):   | 2047 lbs              | $v_s$ :                            | 146 plf (Factored) | $L_{sw}$ :        | 9.84 ft    | $W_{Eq}$ :         | 229 plf |                  |           |                 |     |             |     |
| Out of Plane Offset Irregularity                                      | No                    | (ASCE 7-16 - Table 12.3-1 Type 4)  |                    |                   |            |                    |         |                  |           |                 |     |             |     |
| Other Structural Irregularity   | Yes                   | (ASCE 7-16 - 12.3.3.4)             |                    |                   |            |                    |         |                  |           |                 |     |             |     |
| Location:   | $A_d$ (ft)            | $L_v$ (ft)                         | $A_c$ (ft)         | $L_c$ (ft)        | $d_d$ (ft) | Factored SW above  |         | Lower Drag (lbs) | W/S       | Total Drag (lb) | W/S | Chord (lbs) | W/S |
|   |                       |                                    |                    |                   |            | Wind               | Seismic |                  |           |                 |     |             |     |
| Primary Suite   | 16.00                 | 9.84                               | 11.00              | 22.00             | 57.25      |                    |         | 800              | W         | 800             | W   | 242         | S   |
| <b>Diaphragm Boundary and Shear wall Connection (Factored loads):</b> |                       |                                    |                    |                   |            |                    |         |                  |           |                 |     |             |     |
| Sheathing Conn. length:   | 16                    | ft                                 | Unit Shear (w):    | 183               | plf        | <                  | 238     | plf              | Unblocked |                 |     |             |     |
| Factored SW Above, W:   |                       | lbs                                | Unit Shear (s):    | 116               | plf        | <                  | 170     | plf              | Unblocked |                 |     |             |     |
| Factored SW Above, E:   |                       | lbs                                |                    |                   |            |                    |         |                  |           |                 |     |             |     |
| <b>Design Notes:</b>  |                       |                                    |                    |                   |            |                    |         |                  |           |                 |     |             |     |
| Primary Suite   | Drag Truss = 1000 lbs |                                    |                    |                   |            |                    |         |                  |           |                 |     |             |     |

| Upper Wall Line 2   |  | $\rho =$ 1.3                       |                    | $\Omega =$ 1.0    |            | ASCE7-16 12.10.1.1 |         |                  |           |                 |     |             |     |
|---|--|------------------------------------|--------------------|-------------------|------------|--------------------|---------|------------------|-----------|-----------------|-----|-------------|-----|
|   |  | Force Ratio = 1.00                 |                    |                   |            |                    |         |                  |           |                 |     |             |     |
|   |  | Max ( $\rho$ , Force Ratio) = 1.30 |                    |                   |            |                    |         |                  |           |                 |     |             |     |
| <b>Wall Line Loading and Dimensions:</b>                              |  |                                    |                    | Chord: X (X or Y) |            |                    |         |                  |           |                 |     |             |     |
| $V_{wind}$ (unfactored):  | 6934 lbs   | $v_w$ :                            | 274 plf (Factored) | $L_w$ :           | 22.00 ft   | $W_w$ :            | 108 plf |                  |           |                 |     |             |     |
| $V_{Seismic}$ (unfactored):   | 2766 lbs   | $v_s$ :                            | 128 plf (Factored) | $L_{sw}$ :        | 15.16 ft   | $W_{Eq}$ :         | 229 plf |                  |           |                 |     |             |     |
| Out of Plane Offset Irregularity                                      | No   | (ASCE 7-16 - Table 12.3-1 Type 4)  |                    |                   |            |                    |         |                  |           |                 |     |             |     |
| Other Structural Irregularity   | Yes  | (ASCE 7-16 - 12.3.3.4)             |                    |                   |            |                    |         |                  |           |                 |     |             |     |
| Location:   | $A_d$ (ft)   | $L_v$ (ft)                         | $A_c$ (ft)         | $L_c$ (ft)        | $d_d$ (ft) | Factored SW above  |         | Lower Drag (lbs) | W/S       | Total Drag (lb) | W/S | Chord (lbs) | W/S |
|   |  |                                    |                    |                   |            | Wind               | Seismic |                  |           |                 |     |             |     |
| Drag Truss  |  | 15.16                              |                    |                   |            |                    |         | 4160             | W         | 4160            | W   | NA          | S   |
| <b>Diaphragm Boundary and Shear wall Connection (Factored loads):</b> |  |                                    |                    |                   |            |                    |         |                  |           |                 |     |             |     |
| Sheathing Conn. length:   | 22   | ft                                 | Unit Shear (w):    | 189               | plf        | <                  | 238     | plf              | Unblocked |                 |     |             |     |
| Factored SW Above, W:   | 0  | lbs                                | Unit Shear (s):    | 114               | plf        | <                  | 170     | plf              | Unblocked |                 |     |             |     |
| Factored SW Above, E:   | 0  | lbs                                |                    |                   |            |                    |         |                  |           |                 |     |             |     |
| <b>Design Notes:</b>  |  |                                    |                    |                   |            |                    |         |                  |           |                 |     |             |     |
| Drag Truss  | Drag Truss = 4500lb / 650lb per A35 clip --> 8 Clips |                                    |                    |                   |            |                    |         |                  |           |                 |     |             |     |

**1st Floor Wall Line Shear Loads & Roof Diaphragm Unit shear:**

| Shear Wall Lines 1-n & Diaphragm Unit Shear   |                        |                               |                                  |                               |                          |                               |   | $\rho = 1.3$          |                          |
|---|------------------------|-------------------------------|----------------------------------|-------------------------------|--------------------------|-------------------------------|---|-----------------------|--------------------------|
|   | Shear Wall Loads (1-n) | Wind Shear In Wall Line (lbs) | Seismic Shear In Wall Line (lbs) | Wind Shear In Wall Line (lbs) | Seismic MFRS Shear (lbs) | Seismic Diaphragm Shear (lbs) | Diaphragm Connection Length, $L_{1-n}$ (ft) | Wind Unit Shear (plf) | Seismic Unit Shear (plf) |
|   |                        | Unfactored                    |                                  | Factored (ASD)                |                          |                               |   | Factored (ASD)        |                          |
| Shear Walls Supporting Uniform Load ( $W_x$ ) | 1                      | 2654                          | 698                              | 1592                          | 635                      | 935                           | 16  | 100                   | 58                       |
|   | 1.5                    | 3918                          | 871                              | 2351                          | 793                      | 1167                          | 22  | 107                   | 53                       |
|   | 1.8                    | 3474                          | 941                              | 2084                          | 856                      | 1261                          | 22  | 95                    | 57                       |
|   | 3                      | 2227                          | 602                              | 1336                          | 548                      | 807                           | 22  | 61                    | 37                       |
|   |                        |                               |                                  |                               |                          |                               |   |                       |                          |

| Shear Wall Lines A-n & Diaphragm Unit Shear   |                        |                               |                                  |                               |                          |                                    |   | $\rho = 1.3$          |                          |  |
|---|------------------------|-------------------------------|----------------------------------|-------------------------------|--------------------------|------------------------------------|---|-----------------------|--------------------------|--|
|   | Shear Wall Loads (A-n) | Wind Shear In Wall Line (lbs) | Seismic Shear In Wall Line (lbs) | Wind Shear In Wall Line (lbs) | Seismic MFRS Shear (lbs) | Seismic Diaphragm Shear Dist. (lb) | Diaphragm Connection Length, $L_{A-n}$ (ft) | Wind Unit Shear (plf) | Seismic Unit Shear (plf) |  |
|   |                        | Unfactored                    |                                  | Factored (ASD)                |                          |                                    |   | Factored (ASD)        |                          |  |
| Shear Walls Supporting Uniform Load ( $W_y$ ) | A                      | 2085                          | 1667                             | 1251                          | 1516.97                  | 2234                               | 64.75                                       | 19                    | 34                       |  |
|   | B                      | 2085                          | 1424                             | 1251                          | 1295.84                  | 1908                               | 57.25                                       | 22                    | 33                       |  |
|   |                        |                               |                                  |                               |                          |                                    |   |                       |                          |  |
|   |                        |                               |                                  |                               |                          |                                    |   |                       |                          |  |
|   |                        |                               |                                  |                               |                          |                                    |   |                       |                          |  |

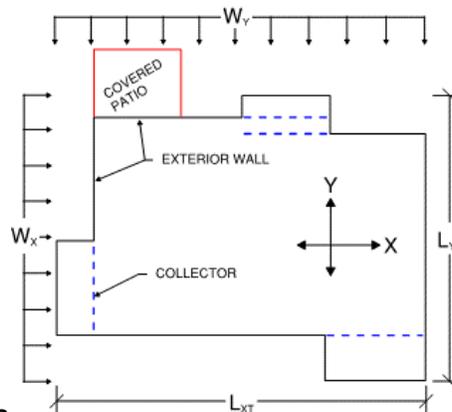
**Average Uniform Diaphragm Loads ( $W_x$  &  $W_y$ ):**

**Overall Projected Wall Width ( $L_{XT}$  &  $L_{YT}$ ):**

Length ( $L_{XT}$ ) = 22 ft  
 Length ( $L_{YT}$ ) = 64.75 ft

**Factored Uniform Distributed Diaphragm Design Loads:**

Uniform Wind ( $W_x$ ) = 114 plf  
 Uniform Seismic ( $W_x$ ) = 64 plf *Force Ratio Controls*  
 Uniform Wind ( $W_y$ ) = 114 plf  
 Uniform Seismic ( $W_y$ ) = 188 plf *Force Ratio Controls*



**Double Top Plate Splice Capacity & Unit Shear Capacity:**

**Double Top Plate Splice Capacity:**

(2) - 2x6 DF with min over lap 4 feet total w/ (12) - 0.131"x3" face nails each side of splice  
 0.131"x3" nail into 1.5" side plate 97 lbs, Per NDS 2018 Table 12N  
 Over Strength Factor,  $\Omega = 1.0$  (Sec. 12.10.1.1 Exception for single family residential)  
 Double top plate splice =  $97\text{lbs}(1.6)(12\text{nails}) = 1862$  lbs

**Diaphragm Unit Shear Capacity:**

Unblocked wood structural panel diaphragm, 7/16 sheathing, 0.131"x2.5" nails, nominal unit shear = 475 plf SDPWS 2021 T4.2c  
 Max Unblocked Diaphragm Shear, Wind = 475 / 2 = 238 plf  
 Max Unblocked Diaphragm Shear, Seismic = 475 / 2.8 = 170 plf

**Diaphragm Design:**

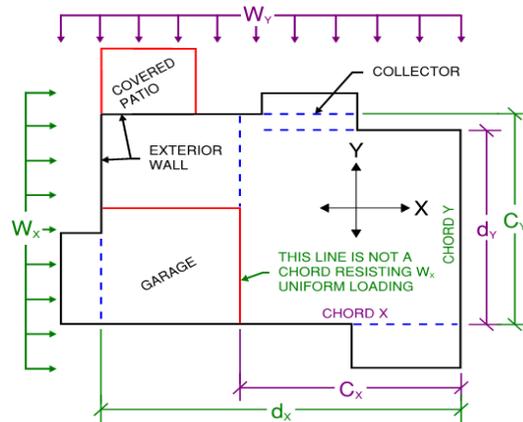
**Worst Case (Chord X From W<sub>y</sub> Loading)**

Chord Length, (C<sub>x</sub>) = 22 ft  
 Diaphragm Depth, (d<sub>y</sub>) = 57.25 ft

**Worst Case (Chord Y From W<sub>x</sub> Loading)**

Diaphragm Depth, (d<sub>x</sub>) = 16 ft  
 Chord Length, (C<sub>y</sub>) = 27.83 ft

|                         |         |   |             |
|-------------------------|---------|---|-------------|
| Worst Chord force (X) = | 199 lbs | < | 1862 lbs    |
| Worst Chord force (Y) = | 688 lbs | < | 1862 lbs    |
| Max Unit Shear (Wind) = | 107 plf | < | 238 plf     |
| Max Unit Shear (Eq) =   | 58 plf  | < | 170 plf     |
| Max Aspect Ratio =      | 1.74    | < | 3 Unblocked |



**Diaphragm Chord & Drag Forces at Locations of Interest:**

| Symbols & Equations  |  | Uniform Diaphragm Loads (Factored ASD)   |         |
|--|--|--|---------|
| (V) Wall Line Load (unfactored)                            | (A <sub>d</sub> ) Location of Interest (Drag)  | Uniform Wind (W <sub>x</sub> ) =   | 114 plf |
| (L <sub>w</sub> ) Total Length of Wall Line                | (W) Uniform Diaphragm Load                     | Uniform Seismic (W <sub>x</sub> ) =  | 64 plf  |
| (L <sub>sw</sub> ) Total length of Shear wall              | (L <sub>c</sub> ) Length of Chord              | Uniform Wind (W <sub>y</sub> ) =   | 114 plf |
| (v) Shear Wall PLF   | (d <sub>d</sub> ) Depth of Diaphragm           | Uniform Seismic (W <sub>y</sub> ) =  | 188 plf |
| (L <sub>v</sub> ) Length of Shear Wall up to Said Location | (A <sub>c</sub> ) Location of Interest (Chord) | Note: Uniform seismic loads include p or ratio factor only if diaphragm distribution forces are smaller than MFRS times p. |         |
| $Drag Load = \left(\frac{V}{L_w}\right) x_d - v_x d$       |  | $Chord Force = \left(\frac{W x_c}{(2dc)}\right) * (L_c - x_c)$   |         |

| Lower Wall Line 1                        |                                      | Force Ratio =          |                    | Ω = 1.0 ASCE7-16 12.10.1.1 |          |
|--|--------------------------------------|------------------------|--------------------|----------------------------|----------|
| <b>Wall Line Loading and Dimensions:</b> |                                      | ρ =                    | 1.3                | Chord: X (X or Y)          |          |
| V <sub>wind</sub> (unfactored):          | 2654 lbs                             | v <sub>w</sub> :       | 162 plf (Factored) | L <sub>w</sub> :           | 22.00 ft |
| V <sub>seismic</sub> (unfactored):       | 698 lbs                              | v <sub>s</sub> :       | 50 plf (Factored)  | L <sub>sw</sub> :          | 9.84 ft  |
| Out of Plane Offset Irregularity         | No (ASCE 7-16 - Table 12.3-1 Type 4) | Max (ρ, Force Ratio) = | 2.39               | W <sub>w</sub> :           | 114 plf  |
| Other Structural Irregularity            | Yes (ASCE 7-16 - 12.3.3.4)           |                        |                    | W <sub>Eq</sub> :          | 188 plf  |

| Location:        | A <sub>d</sub> (ft) | L <sub>v</sub> (ft) | A <sub>c</sub> (ft) | L <sub>c</sub> (ft) | d <sub>d</sub> (ft) | Factored SW above |         | Lower Drag (lbs) | W/S | Total Drag (lb) | W/S | Chord (lbs) | W/S |
|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|-------------------|---------|------------------|-----|-----------------|-----|-------------|-----|
|                  |                     |                     |                     |                     |                     | Wind              | Seismic |                  |     |                 |     |             |     |
| Entry/Great Room | 6.67                | 0.00                | 11.00               | 22.00               | 57.25               |                   |         | 483              | W   | 483             | W   | 199         | S   |
| Drag Truss       |                     | 9.84                |                     |                     |                     | 2932              | 1433    | 1592             | W   | 4525            | W   | NA          | S   |

**Diaphragm Boundary and Shear wall Connection (Factored loads):**

|                         |       |                 |         |   |         |           |
|-------------------------|-------|-----------------|---------|---|---------|-----------|
| Sheathing Conn. length: | 16 ft | Unit Shear (w): | 100 plf | < | 238 plf | Unblocked |
| Factored SW Above, W:   |       | Unit Shear (s): | 73 plf  | < | 170 plf | Unblocked |
| Factored SW Above, E:   |       |                 |         |   |         |           |

**Design Notes:**

|                  |                            |
|------------------|----------------------------|
| Entry/Great Room | Force Low, ok in sheathing |
| Drag Truss       | Drag Truss = 5000 lbs      |

|   |                       |                                   |                |            |                 |   |                          |                    |     |                 |     |             |     |
|---|-----------------------|-----------------------------------|----------------|------------|-----------------|---|--------------------------|--------------------|-----|-----------------|-----|-------------|-----|
| <b>Lower Wall Line 1.5</b>  |                       |                                   |                |            |                 | $\rho =$ <b>1.3</b>                       | $\Omega =$ <b>1.0</b>    | ASCE7-16 12.10.1.1 |     |                 |     |             |     |
|   |                       |                                   |                |            |                 | Force Ratio = <b>1.91</b>                 |                          |                    |     |                 |     |             |     |
| <b>Wall Line Loading and Dimensions:</b>                              |                       |                                   |                |            |                 | Max ( $\rho$ , Force Ratio) = <b>2.39</b> | Chord: <b>X</b> (X or Y) |                    |     |                 |     |             |     |
| $V_{wind}$ (unfactored):  | <b>3918</b> lbs       | $v_w$ :                           | <b>434</b> plf | $L_w$ :    | <b>22.00</b> ft | $W_w$ :                                   | <b>114</b> plf           |                    |     |                 |     |             |     |
| $V_{Seismic}$ (unfactored):   | <b>871</b> lbs        | $v_s$ :                           | <b>112</b> plf | $L_{sw}$ : | <b>5.42</b> ft  | $W_{Eq}$ :                                | <b>188</b> plf           |                    |     |                 |     |             |     |
| Out of Plane Offset Irregularity                                      | <b>No</b>             | (ASCE 7-16 - Table 12.3-1 Type 4) |                |            |                 |   |                          |                    |     |                 |     |             |     |
| Other Structural Irregularity   | <b>Yes</b>            | (ASCE 7-16 - 12.3.3.4)            |                |            |                 |   |                          |                    |     |                 |     |             |     |
| Location:   | $A_d$ (ft)            | $L_v$ (ft)                        | $A_c$ (ft)     | $L_c$ (ft) | $d_d$ (ft)      | Factored SW above                         |                          | Lower Drag (lbs)   | W/S | Total Drag (lb) | W/S | Chord (lbs) | W/S |
|   |                       |                                   |                |            |                 | Wind                                      | Seismic                  |                    |     |                 |     |             |     |
| Patio / Dining  | 15.50                 | 0.00                              | 0.00           | 0.00       | 0.00            |   |                          | 1656               | W   | 1656            | W   | NA          | S   |
| Patio / Dining  |                       | 5.42                              |                |            |                 |   |                          | 2351               | W   | 2351            | W   | NA          | S   |
| <b>Diaphragm Boundary and Shear wall Connection (Factored loads):</b> |                       |                                   |                |            |                 |   |                          |                    |     |                 |     |             |     |
| Sheathing Conn. length:   | <b>15.83</b> ft       | Unit Shear (w):                   | <b>149</b> plf | <          | 238 plf         | Unblocked                                 |                          |                    |     |                 |     |             |     |
| Factored SW Above, W:   |                       | Unit Shear (s):                   | <b>92</b> plf  | <          | 170 plf         | Unblocked                                 |                          |                    |     |                 |     |             |     |
| Factored SW Above, E:   |                       |                                   |                |            |                 |   |                          |                    |     |                 |     |             |     |
| <b>Design Notes:</b>  |                       |                                   |                |            |                 |   |                          |                    |     |                 |     |             |     |
| Patio / Dining  | Drag Truss = 2000 lbs |                                   |                |            |                 |   |                          |                    |     |                 |     |             |     |
| Patio / Dining  | Drag Truss = 2750 lbs |                                   |                |            |                 |   |                          |                    |     |                 |     |             |     |

|   |                       |                                   |                |            |                 |   |                          |                    |     |                 |     |             |     |
|---|-----------------------|-----------------------------------|----------------|------------|-----------------|---|--------------------------|--------------------|-----|-----------------|-----|-------------|-----|
| <b>Lower Wall Line 1.8</b>  |                       |                                   |                |            |                 | $\rho =$ <b>1.3</b>                       | $\Omega =$ <b>1.0</b>    | ASCE7-16 12.10.1.1 |     |                 |     |             |     |
|   |                       |                                   |                |            |                 | Force Ratio = <b>1.91</b>                 |                          |                    |     |                 |     |             |     |
| <b>Wall Line Loading and Dimensions:</b>                              |                       |                                   |                |            |                 | Max ( $\rho$ , Force Ratio) = <b>2.39</b> | Chord: <b>X</b> (X or Y) |                    |     |                 |     |             |     |
| $V_{wind}$ (unfactored):  | <b>3474</b> lbs       | $v_w$ :                           | <b>232</b> plf | $L_w$ :    | <b>22.00</b> ft | $W_w$ :                                   | <b>114</b> plf           |                    |     |                 |     |             |     |
| $V_{Seismic}$ (unfactored):   | <b>941</b> lbs        | $v_s$ :                           | <b>73</b> plf  | $L_{sw}$ : | <b>9</b> ft     | $W_{Eq}$ :                                | <b>188</b> plf           |                    |     |                 |     |             |     |
| Out of Plane Offset Irregularity                                      | <b>No</b>             | (ASCE 7-16 - Table 12.3-1 Type 4) |                |            |                 |   |                          |                    |     |                 |     |             |     |
| Other Structural Irregularity   | <b>Yes</b>            | (ASCE 7-16 - 12.3.3.4)            |                |            |                 |   |                          |                    |     |                 |     |             |     |
| Location:   | $A_d$ (ft)            | $L_v$ (ft)                        | $A_c$ (ft)     | $L_c$ (ft) | $d_d$ (ft)      | Factored SW above                         |                          | Lower Drag (lbs)   | W/S | Total Drag (lb) | W/S | Chord (lbs) | W/S |
|   |                       |                                   |                |            |                 | Wind                                      | Seismic                  |                    |     |                 |     |             |     |
| Drag Truss  |                       | 9.00                              |                |            |                 | 2620                                      | 1219                     | 2084               | W   | 4705            | W   | NA          | S   |
| <b>Diaphragm Boundary and Shear wall Connection (Factored loads):</b> |                       |                                   |                |            |                 |   |                          |                    |     |                 |     |             |     |
| Sheathing Conn. length:   | <b>22</b> ft          | Unit Shear (w):                   | <b>214</b> plf | <          | 238 plf         | Unblocked                                 |                          |                    |     |                 |     |             |     |
| Factored SW Above, W:   | <b>2620</b> lbs       | Unit Shear (s):                   | <b>144</b> plf | <          | 170 plf         | Unblocked                                 |                          |                    |     |                 |     |             |     |
| Factored SW Above, E:   | <b>1219</b> lbs       |                                   |                |            |                 |   |                          |                    |     |                 |     |             |     |
| <b>Design Notes:</b>  |                       |                                   |                |            |                 |   |                          |                    |     |                 |     |             |     |
| Drag Truss  | Drag Truss = 5000 lbs |                                   |                |            |                 |   |                          |                    |     |                 |     |             |     |

|                                 |                                |  |  |                                |  |  |  |
|---------------------------------|--------------------------------|--|--|--------------------------------|--|--|--|
| <b>Diaphragm w/ Point Load:</b> |                                |  |  | <b>Symbols &amp; Equations</b> |  |  |  |
| $W$ :                           | <b>114</b> plf                 | $[(W * L_c^2) / (8d_c)] + [(P * b * (L_c / 2)) / (L_c * d_c)]$         |  | P, Point Load on Diaphragm     |  |  |  |
| $P$ :                           | <b>4160.4</b> lbs              | Chord Force @ Midspan: <b>1175</b> lbs                                 |  | $x_p$ , Location of Point Load |  |  |  |
| $L_c$ :                         | <b>23.42</b> ft                |  |  | a+b=L <sub>c</sub> & a>b       |  |  |  |
| $d_d$ :                         | <b>22.00</b> ft                |  |  |                                |  |  |  |
| $x_p$ :                         | <b>8.67</b> ft                 | $\{[(W * x_p) / (8d_c)] * (L_c - x_p) + [(P * a * b) / (L_c * d_c)]\}$ |  |                                |  |  |  |
| $a$ :                           | <b>14.75</b> ft                | Chord Force @ $x_p$ : <b>1364</b> lbs                                  |  |                                |  |  |  |
| $b$ :                           | <b>8.67</b> ft                 |  |  |                                |  |  |  |
| Use:                            | Typ. DBL Top PL Splice is Okay |  |  |                                |  |  |  |

| Lower Wall Line 3   |                       | $\rho =$                          | 1.3                | $\Omega =$ | 1.0        | ASCE7-16 12.10.1.1 |         |                  |     |                 |     |             |     |
|---|-----------------------|-----------------------------------|--------------------|------------|------------|--------------------|---------|------------------|-----|-----------------|-----|-------------|-----|
|   |                       | Force Ratio =                     | 1.91               |            |            |                    |         |                  |     |                 |     |             |     |
|   |                       | Max ( $\rho$ , Force Ratio) =     | 2.39               |            |            |                    |         |                  |     |                 |     |             |     |
| <b>Wall Line Loading and Dimensions:</b>                              |                       | Chord: X (X or Y)                 |                    |            |            |                    |         |                  |     |                 |     |             |     |
| $V_{wind}$ (unfactored):  | 2227 lbs              | $v_w$ :                           | 232 plf (Factored) | $L_w$ :    | 22.00 ft   | $W_w$ :            | 114 plf |                  |     |                 |     |             |     |
| $V_{Seismic}$ (unfactored):   | 602 lbs               | $v_s$ :                           | 73 plf (Factored)  | $L_{sw}$ : | 5.76 ft    | $W_{EQ}$ :         | 188 plf |                  |     |                 |     |             |     |
| Out of Plane Offset Irregularity                                      | No                    | (ASCE 7-16 - Table 12.3-1 Type 4) |                    |            |            |                    |         |                  |     |                 |     |             |     |
| Other Structural Irregularity   | Yes                   | (ASCE 7-16 - 12.3.3.4)            |                    |            |            |                    |         |                  |     |                 |     |             |     |
| Location:   | $A_d$ (ft)            | $L_v$ (ft)                        | $A_c$ (ft)         | $L_c$ (ft) | $d_d$ (ft) | Factored SW above  |         | Lower Drag (lbs) | W/S | Total Drag (lb) | W/S | Chord (lbs) | W/S |
|   |                       |                                   |                    |            |            | Wind               | Seismic |                  |     |                 |     |             |     |
| Drag Truss  | 22.00                 |                                   |                    |            |            | 2555               | 1223    | 1336             | W   | 3891            | W   | NA          | S   |
| <b>Diaphragm Boundary and Shear wall Connection (Factored loads):</b> |                       |                                   |                    |            |            |                    |         |                  |     |                 |     |             |     |
| Sheathing Conn. length:   | 22 ft                 | Unit Shear (w):                   | 131 plf            | <          | 238 plf    | Unblocked          |         |                  |     |                 |     |             |     |
| Factored SW Above, W:   | 1540 lbs              | Unit Shear (s):                   | 88 plf             | <          | 170 plf    | Unblocked          |         |                  |     |                 |     |             |     |
| Factored SW Above, E:   | 717 lbs               |                                   |                    |            |            |                    |         |                  |     |                 |     |             |     |
| <b>Design Notes:</b>  |                       |                                   |                    |            |            |                    |         |                  |     |                 |     |             |     |
| Drag Truss  | Drag Truss = 4000 lbs |                                   |                    |            |            |                    |         |                  |     |                 |     |             |     |

| Lower Wall Line B   |   | $\rho =$                          | 1.3               | $\Omega =$ | 1.0        | ASCE7-16 12.10.1.1 |         |                  |     |                 |     |             |     |
|---|---|-----------------------------------|-------------------|------------|------------|--------------------|---------|------------------|-----|-----------------|-----|-------------|-----|
|   |   | Force Ratio =                     | 1.91              |            |            |                    |         |                  |     |                 |     |             |     |
|   |   | Max ( $\rho$ , Force Ratio) =     | 2.39              |            |            |                    |         |                  |     |                 |     |             |     |
| <b>Wall Line Loading and Dimensions:</b>                              |   | Chord: X (X or Y)                 |                   |            |            |                    |         |                  |     |                 |     |             |     |
| $V_{wind}$ (unfactored):  | 2085 lbs  | $v_w$ :                           | 40 plf (Factored) | $L_w$ :    | 57.25 ft   | $W_w$ :            | 114 plf |                  |     |                 |     |             |     |
| $V_{Seismic}$ (unfactored):   | 1424 lbs  | $v_s$ :                           | 32 plf (Factored) | $L_{sw}$ : | 30.92 ft   | $W_{EQ}$ :         | 188 plf |                  |     |                 |     |             |     |
| Out of Plane Offset Irregularity                                      | No  | (ASCE 7-16 - Table 12.3-1 Type 4) |                   |            |            |                    |         |                  |     |                 |     |             |     |
| Other Structural Irregularity   | Yes   | (ASCE 7-16 - 12.3.3.4)            |                   |            |            |                    |         |                  |     |                 |     |             |     |
| Location:   | $A_d$ (ft)  | $L_v$ (ft)                        | $A_c$ (ft)        | $L_c$ (ft) | $d_d$ (ft) | Factored SW above  |         | Lower Drag (lbs) | W/S | Total Drag (lb) | W/S | Chord (lbs) | W/S |
|   |   |                                   |                   |            |            | Wind               | Seismic |                  |     |                 |     |             |     |
| Entry   | 7.50  | 7.50                              |                   |            |            | 289                | 456     | 266              | S   | 859             | S   | NA          | S   |
| Back of Stair / Patio   | 28.00   | 7.50                              |                   |            |            | 289                | 456     | 588              | S   | 1181            | S   | NA          | S   |
| Garage / Patio  | 41.33   | 7.50                              |                   |            |            | 289                | 456     | 1143             | S   | 1737            | S   | NA          | S   |
| <b>Diaphragm Boundary and Shear wall Connection (Factored loads):</b> |   |                                   |                   |            |            |                    |         |                  |     |                 |     |             |     |
| Sheathing Conn. length:   | 36.58 ft  | Unit Shear (w):                   | 67 plf            | <          | 238 plf    | Unblocked          |         |                  |     |                 |     |             |     |
| Factored SW Above, W:   | 1191 lbs  | Unit Shear (s):                   | 132 plf           | <          | 170 plf    | Unblocked          |         |                  |     |                 |     |             |     |
| Factored SW Above, E:   | 1882 lbs  |                                   |                   |            |            |                    |         |                  |     |                 |     |             |     |
| <b>Design Notes:</b>  |   |                                   |                   |            |            |                    |         |                  |     |                 |     |             |     |
| Entry   | HTS20 Beam to DBL Top PL  |                                   |                   |            |            |                    |         |                  |     |                 |     |             |     |
| Back of Stair / Patio   | CS16 w/ 2x BLK'G to Beam Force Okay in Diaphragm (1181 lbs/13'-2" = 93 plf < 238 plf) |                                   |                   |            |            |                    |         |                  |     |                 |     |             |     |
| Garage / Patio  | MST27 Beam to DBL Top Pl  |                                   |                   |            |            |                    |         |                  |     |                 |     |             |     |

**FROELICH CONSULTING ENGINEERS**

client: Pahlisch  
 project: Conifer 2-A  
 job number: 24-B169

date: 6/24/2024  
 by: CHA  
 Location: Side of Garage

**Foundation Bearing Check**Gravity Loads on Stemwalls

Roof DL = 18 psf  
 SL = 25 psf  
 Wall DL = 8 psf  
 Floor DL = 15 psf  
 LL = 40 psf

Foundation Geometry

Footing t = 7 in  
 Footing W = 15 in  
 Stem T (1) = 6 in  
 Stem H (2) = 31 in  
 Bearing Capacity (3) = 1500 psf

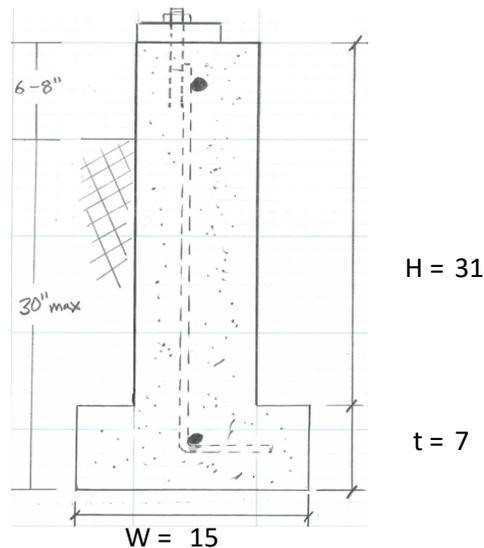
Max Axial Load:

|                       |                   |                    |
|-----------------------|-------------------|--------------------|
| Roof Trib = 12.00 ft  | Roof DL = 216 plf | Floor DL = 180 plf |
| Wall Trib = 18.00 ft  | SL = 300 plf      | LL = 480 plf       |
| Floor Trib = 12.00 ft | Wall DL = 144 plf |                    |

Load Cases:

(16-8)  $D+F$   
 (16-9)  $D+H+F+L =$   
 (16-10)  $D+H+F+(S) =$   
 (16-11)  $D+H+F+0.75L+0.75S =$

|         | Dead | Live | Total |
|---------|------|------|-------|
| (16-8)  | 540  | NA   | 540   |
| (16-9)  | 540  | 480  | 1020  |
| (16-10) | 540  | 300  | 840   |
| (16-11) | 540  | 585  | 1125  |



**Footing Dead Load = 293 plf**

**Bearing Check = 1134 < 1500 O.K.**

Notes:

- 1) Stem meets min thickness per ACI
- 2) Max retained soil height 30" w/ exposed stem
- 3) Assumed 1500 psf code min, if different geotech report provides value
- 4) w/ #4 Bar Top/Bottom Per IBC/OSSC 1905.1.8(a)(c)2
- 5) Dowels not required if supported at top and bottom



**FROELICH**  
ENGINEERS

**Client:** Pahlisch  
**Project:** Conifer  
**Proj. #:** 25-B031  
**Date:** 02/05/25  
**By:** JDB  
**Location:** Side of Garage

## Foundation Design (Stem and Footing)

2021 IBC - Soils and Foundations CH. 18

2019 ACI - Plain Concrete CH. 14

### Gravity Load on stem wall (Service):

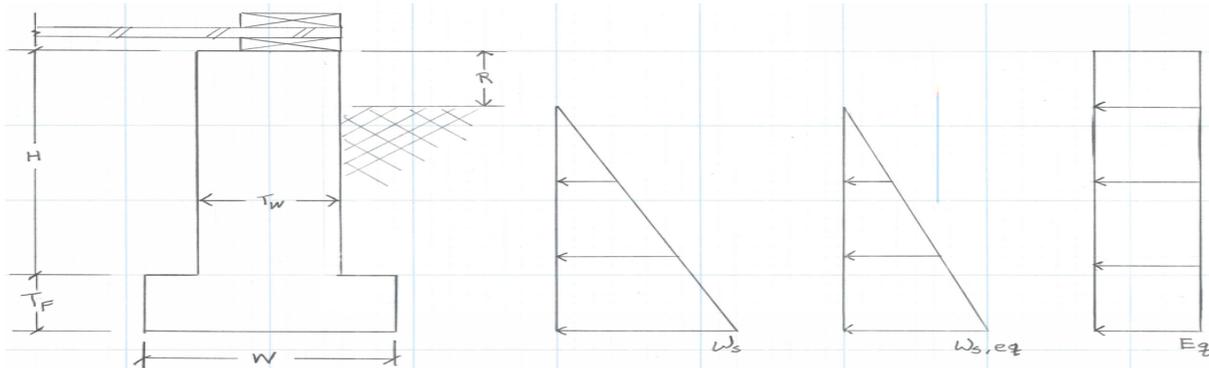
|           | Minimum Loads     |                   | Maximum Loads     |                   |
|-----------|-------------------|-------------------|-------------------|-------------------|
|           | Design Load (psf) | Trib. Length (ft) | Design Load (plf) | Trib. Length (ft) |
| Roof DL:  | 18                | 6                 | 108               | 12                |
| Roof SL:  | 25                | 6                 | 150               | 12                |
| Wall DL:  | 8                 | 8                 | 64                | 18                |
| Floor DL: | 15                | 2                 | 30                | 11                |
| Floor LL: | 40                | 2                 | 80                | 11                |

### Foundation Wall Geometry:

|                               |        |     |
|-------------------------------|--------|-----|
| Height of stem wall, H =      | 27     | in  |
| Thickness of footing, $T_F$ = | 7      | in  |
| Thickness of wall, $T_W$ =    | 8      | in  |
| Width of footing, W =         | 15     | in  |
| Reveal above grade, R =       | 6      | in  |
| Foundation Weight, $W_f$ =    | 334.38 | plf |

### Soil Earth Pressure

|                                    |        |     |
|------------------------------------|--------|-----|
| Equivalent fluid pressure, $W_s$ = | 81.667 | plf |
|------------------------------------|--------|-----|



|                        |     |    |
|------------------------|-----|----|
| Eccentricity, $0.1h$ = | 3.4 | in |
|------------------------|-----|----|

| Load Cases (ASD): |                              | Min. Pu Stem (plf) | Max. Pu Stem (plf) | Sliding At FTG (lbs/ft) |
|-------------------|------------------------------|--------------------|--------------------|-------------------------|
| (16-8)            | D                            | 536                | 859                | 0                       |
| (16-9)            | D+H+L =                      | 616                | 1299               | 69                      |
| (16-10)           | D+H+S =                      | 686                | 1159               | 69                      |
| (16-11)           | D+H+0.75L+0.75S =            | 709                | 1414               | 69                      |
| (16-12)           | D+H+(0.6W or 0.7E)=          | 536                | 944                | 162                     |
| (16-13)           | D+H+0.75L+0.75S+0.75(0.6W) = | 709                | 1414               | 69                      |
| (16-14)           | D+H+0.75L+0.75S+0.75(0.7E) = | 709                | 1478               | 138                     |
| (16-15)           | 0.6D+0.6W+H=                 | 322                | 516                | 69                      |
| (16-16)           | 0.6D+0.7E+H =                | 322                | 600                | 134                     |

|     |                   |
|-----|-------------------|
| D = | Dead Load         |
| H = | Lateral Soil Load |
| L = | Live Load         |
| S = | Snow Load         |
| E = | Seismic Load      |
| W = | Wind Load         |

### Design Assumptions:

- 1) Foundation wall is supported at the top by a wood diaphragm idealized as "flexible".
- 2) (1/3) stress increase for wind or seismic.
- 3) Active earth pressure is permitted for at rest case when foundation wall is less than 8 feet tall and above construction is light framed.
- 4) Wind pressure will not control the design, the wind load will react into the diaphragm.

### Design Soil Requirements:

|   |      |     |
|---|------|-----|
| Active Earth Pressure:                  | 35   | pcf |
| At-Rest Earth Pressure:                 | 35   | pcf |
| Passive Pressure:                       | 250  | pcf |
| Coefficient of Friction:                | 0.45 |     |
| Allowable Bearing Pressure:             | 1500 | psf |
| Concrete unit weight:                   | 150  | pcf |
| Concrete Compressive strength, $f_c'$ : | 2500 | psi |
| Strength Reduction Factor, $\phi$ =     | 0.6  |     |
| Concrete weight factor, $\gamma$ :      | 1    |     |

### Seismic Design Requirements

|  |       |    |
|--|-------|----|
| Importance Factor, $I_e$ :                 | 1.0   |    |
| Short period spectral response, $S_{DS}$ : | 0.702 | %g |

### Seismic load on wall

|  |        |     |
|--|--------|-----|
| Mononobe-Okabe Coeff, $S_{DS}/2.5$ =       | 0.2808 |     |
| $F_p = 0.4(I_E)(S_{DS})(W_{unit}) =$       | 0.2808 |     |
| $F_{p_{min}} =$ Check 10% of unit weight = | 0.100  |     |
| Stem Uniform seismic load, $E_q$ =         | 79.56  | plf |
| Soil seismic weight, $W_{s,eq}$ =          | 22.9   | plf |

**Sliding at Soil and Footing:**

|  |     |   |     |        |
|--|-----|---|-----|--------|
| Sliding ratio minimum dead load, (friction x Pu)/(Sliding force) = | 1.1 | > | 1.1 | ∴ O.K. |
| Sliding ratio maximum dead load, (friction x Pu)/(Sliding force) = | 2.1 | > | 1.5 | ∴ O.K. |

**Soil Bearing at Footing:**

|   |      |   |      |        |
|---|------|---|------|--------|
| Soil Bearing w/ out wind or seismic, (Max Pu/ Footing Area) =     | 1132 | < | 1500 | ∴ O.K. |
| Soil Bearing w/ wind or seismic loading, (Max Pu/ Footing Area) = | 1182 | < | 2000 | ∴ O.K. |

**Strength Design of Plain Concrete Foundation Walls**

|   |        |                 |
|---|--------|-----------------|
| Section modulus per foot of stem, Sm =                        | 128    | in <sup>3</sup> |
| Section area per foot of stem, A1 =                           | 96     | in <sup>2</sup> |
| Tension Side of Wal, Mn = $5\lambda\sqrt{f'c}Sm$ =            | 2667   | lb-ft           |
| Compression Side of Wall, Mn = $0.85(f'c)Sm$ =                | 22667  | lb-ft           |
| Compression of wall section, Pn = $0.60f'c[1-(lc/32h)^2]A1$ = | 141460 | lbs             |

**LRFD Strength Design Load Combinations:**

|                      |     |    |
|----------------------|-----|----|
| Eccentricity, 0.1h = | 3.4 | in |
|----------------------|-----|----|

| Load Cases (LRFD): |                              | Min. Pu<br>Stem<br>(plf) | Max. Pu<br>Stem<br>(plf) | Sliding<br>At FTG<br>(lbs/ft) | Max<br>Shear<br>(lbs/ft) | Ecc.<br>Moment<br>(lb-ft/ft) | Max<br>Moment<br>(lb-ft/ft) | Total<br>Moment<br>(lb-ft/ft) |
|--------------------|------------------------------|--------------------------|--------------------------|-------------------------------|--------------------------|------------------------------|-----------------------------|-------------------------------|
| (16-1)             | 1.4D =                       | 751                      | 1203                     | 0                             | 0                        | 341                          | 0                           | 341                           |
| (16-2)             | 1.2D + 1.6(H + L) + 0.5(S) = | 847                      | 1885                     | 111                           | 111                      | 534                          | 55                          | 589                           |
| (16-3)             | 1.2D + 1.6S + 1.6H + L =     | 964                      | 1951                     | 111                           | 111                      | 553                          | 55                          | 608                           |
| (16-4)             | 1.2D + L + 1.6H + 0.5S =     | 799                      | 1621                     | 111                           | 111                      | 459                          | 55                          | 514                           |
| (16-5)             | 1.2D + 1.0E + L + 1.6H + S = | 568                      | 1152                     | 243                           | 243                      | 326                          | 143                         | 469                           |
| (16-6)             | 0.9D + 1.6H =                | 483                      | 773                      | 111                           | 111                      | 219                          | 55                          | 274                           |
| (16-7)             | 0.9D + 1.0E + 1.6H           | 407                      | 894                      | 243                           | 243                      | 253                          | 143                         | 396                           |

**Concrete Stem Wall Strength Design:****Wall interaction compression face =  $Pu/\phi Pn + Mu/\phi Mn < 1$** 

|        |                             |      |   |   |        |
|--------|-----------------------------|------|---|---|--------|
| (16-1) | $Pu/\phi Pn + Mu/\phi Mn =$ | 0.23 | < | 1 | ∴ O.K. |
| (16-2) | $Pu/\phi Pn + Mu/\phi Mn =$ | 0.39 | < | 1 | ∴ O.K. |
| (16-3) | $Pu/\phi Pn + Mu/\phi Mn =$ | 0.40 | < | 1 | ∴ O.K. |
| (16-4) | $Pu/\phi Pn + Mu/\phi Mn =$ | 0.34 | < | 1 | ∴ O.K. |
| (16-5) | $Pu/\phi Pn + Mu/\phi Mn =$ | 0.31 | < | 1 | ∴ O.K. |
| (16-6) | $Pu/\phi Pn + Mu/\phi Mn =$ | 0.18 | < | 1 | ∴ O.K. |
| (16-7) | $Pu/\phi Pn + Mu/\phi Mn =$ | 0.26 | < | 1 | ∴ O.K. |

**Wall interaction Tension face =  $Mu/Sm - Pu/Ag < \phi 5\lambda\sqrt{f'c}$** 

|        |                   |   |   |     |        |
|--------|-------------------|---|---|-----|--------|
| (16-1) | $Mu/Sm - Pu/Ag =$ | 0 | < | 150 | ∴ O.K. |
| (16-2) | $Mu/Sm - Pu/Ag =$ | 0 | < | 150 | ∴ O.K. |
| (16-3) | $Mu/Sm - Pu/Ag =$ | 0 | < | 150 | ∴ O.K. |
| (16-4) | $Mu/Sm - Pu/Ag =$ | 0 | < | 150 | ∴ O.K. |
| (16-5) | $Mu/Sm - Pu/Ag =$ | 0 | < | 150 | ∴ O.K. |
| (16-6) | $Mu/Sm - Pu/Ag =$ | 0 | < | 150 | ∴ O.K. |
| (16-7) | $Mu/Sm - Pu/Ag =$ | 0 | < | 150 | ∴ O.K. |

**Shear in Stem =  $Vn = (4/3)\phi\lambda\sqrt{f'c}bwh$** 

|        |                       |     |   |      |        |
|--------|-----------------------|-----|---|------|--------|
| (16-1) | Factored Design Shear | 0   | < | 3840 | ∴ O.K. |
| (16-2) | Factored Design Shear | 111 | < | 3840 | ∴ O.K. |
| (16-3) | Factored Design Shear | 111 | < | 3840 | ∴ O.K. |
| (16-4) | Factored Design Shear | 111 | < | 3840 | ∴ O.K. |
| (16-5) | Factored Design Shear | 243 | < | 3840 | ∴ O.K. |
| (16-6) | Factored Design Shear | 111 | < | 3840 | ∴ O.K. |
| (16-7) | Factored Design Shear | 243 | < | 3840 | ∴ O.K. |



**FROELICH**  
ENGINEERS

---

**Reference Drawings:**

The following pages contain drawings for the project covered by these calculations. These drawings were created by others and contain information that was not produced by Froelich Engineers. Drawings have been reviewed for structural information covered by these calculations. Non-structural information in the drawings is included in these calculations for reference only.

**Drawing Dimensions:**

Froelich Engineers, Inc. is responsible only for dimensions that are referenced in these calculations. These dimensions include the extent of shear walls, wood wall heights, frost depths, extent of blocking or strapping, specified beam or joist lengths, extended footing requirements, blocked diaphragms. All non-structural dimensions referenced on the plan sheets are the sole responsibility of Pahlisch Homes, Inc.

**GENERAL NOTES AND SPECIFICATIONS**

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE INTERNATIONAL BUILDING CODES (IBC) AND THE INTERNATIONAL RESIDENTIAL CODES (IRC) UNLESS OTHERWISE SPECIFIED.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL BUILDING DEPARTMENT.

3. ALL MATERIALS AND WORKMANSHIP SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE LOCAL BUILDING DEPARTMENT AT ALL STAGES OF CONSTRUCTION.

4. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ADJACENT PROPERTIES AT ALL TIMES.

5. ALL UTILITIES SHALL BE PROTECTED AND DEEPER THAN INDICATED ON THE PLANS.

6. ALL FOUNDATION WORK SHALL BE COMPLETED PRIOR TO THE START OF SUPERSTRUCTURE CONSTRUCTION.

7. ALL ROOFING SHALL BE INSTALLED PRIOR TO THE START OF INTERIOR FINISHES.

8. ALL EXTERIOR FINISHES SHALL BE INSTALLED PRIOR TO THE START OF INTERIOR FINISHES.

9. ALL INTERIOR FINISHES SHALL BE INSTALLED PRIOR TO THE START OF EXTERIOR FINISHES.

10. ALL MECHANICAL, ELECTRICAL, AND PLUMBING WORK SHALL BE INSTALLED PRIOR TO THE START OF INTERIOR FINISHES.

**FOUNDATION**

1. ALL FOUNDATION WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE INTERNATIONAL BUILDING CODES (IBC) AND THE INTERNATIONAL RESIDENTIAL CODES (IRC) UNLESS OTHERWISE SPECIFIED.

2. ALL FOUNDATION WORK SHALL BE COMPLETED PRIOR TO THE START OF SUPERSTRUCTURE CONSTRUCTION.

3. ALL FOUNDATION WORK SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE LOCAL BUILDING DEPARTMENT AT ALL STAGES OF CONSTRUCTION.

4. ALL FOUNDATION WORK SHALL BE INSTALLED PRIOR TO THE START OF SUPERSTRUCTURE CONSTRUCTION.

5. ALL FOUNDATION WORK SHALL BE INSTALLED PRIOR TO THE START OF SUPERSTRUCTURE CONSTRUCTION.

6. ALL FOUNDATION WORK SHALL BE INSTALLED PRIOR TO THE START OF SUPERSTRUCTURE CONSTRUCTION.

7. ALL FOUNDATION WORK SHALL BE INSTALLED PRIOR TO THE START OF SUPERSTRUCTURE CONSTRUCTION.

8. ALL FOUNDATION WORK SHALL BE INSTALLED PRIOR TO THE START OF SUPERSTRUCTURE CONSTRUCTION.

9. ALL FOUNDATION WORK SHALL BE INSTALLED PRIOR TO THE START OF SUPERSTRUCTURE CONSTRUCTION.

10. ALL FOUNDATION WORK SHALL BE INSTALLED PRIOR TO THE START OF SUPERSTRUCTURE CONSTRUCTION.

**ROOFING**

1. ALL ROOFING SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE INTERNATIONAL BUILDING CODES (IBC) AND THE INTERNATIONAL RESIDENTIAL CODES (IRC) UNLESS OTHERWISE SPECIFIED.

2. ALL ROOFING SHALL BE COMPLETED PRIOR TO THE START OF INTERIOR FINISHES.

3. ALL ROOFING SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE LOCAL BUILDING DEPARTMENT AT ALL STAGES OF CONSTRUCTION.

4. ALL ROOFING SHALL BE INSTALLED PRIOR TO THE START OF INTERIOR FINISHES.

5. ALL ROOFING SHALL BE INSTALLED PRIOR TO THE START OF INTERIOR FINISHES.

6. ALL ROOFING SHALL BE INSTALLED PRIOR TO THE START OF INTERIOR FINISHES.

7. ALL ROOFING SHALL BE INSTALLED PRIOR TO THE START OF INTERIOR FINISHES.

8. ALL ROOFING SHALL BE INSTALLED PRIOR TO THE START OF INTERIOR FINISHES.

9. ALL ROOFING SHALL BE INSTALLED PRIOR TO THE START OF INTERIOR FINISHES.

10. ALL ROOFING SHALL BE INSTALLED PRIOR TO THE START OF INTERIOR FINISHES.

**EXTERIOR FINISHES**

1. ALL EXTERIOR FINISHES SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE INTERNATIONAL BUILDING CODES (IBC) AND THE INTERNATIONAL RESIDENTIAL CODES (IRC) UNLESS OTHERWISE SPECIFIED.

2. ALL EXTERIOR FINISHES SHALL BE COMPLETED PRIOR TO THE START OF INTERIOR FINISHES.

3. ALL EXTERIOR FINISHES SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE LOCAL BUILDING DEPARTMENT AT ALL STAGES OF CONSTRUCTION.

4. ALL EXTERIOR FINISHES SHALL BE INSTALLED PRIOR TO THE START OF INTERIOR FINISHES.

5. ALL EXTERIOR FINISHES SHALL BE INSTALLED PRIOR TO THE START OF INTERIOR FINISHES.

6. ALL EXTERIOR FINISHES SHALL BE INSTALLED PRIOR TO THE START OF INTERIOR FINISHES.

7. ALL EXTERIOR FINISHES SHALL BE INSTALLED PRIOR TO THE START OF INTERIOR FINISHES.

8. ALL EXTERIOR FINISHES SHALL BE INSTALLED PRIOR TO THE START OF INTERIOR FINISHES.

9. ALL EXTERIOR FINISHES SHALL BE INSTALLED PRIOR TO THE START OF INTERIOR FINISHES.

10. ALL EXTERIOR FINISHES SHALL BE INSTALLED PRIOR TO THE START OF INTERIOR FINISHES.

**INTERIOR FINISHES**

1. ALL INTERIOR FINISHES SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE INTERNATIONAL BUILDING CODES (IBC) AND THE INTERNATIONAL RESIDENTIAL CODES (IRC) UNLESS OTHERWISE SPECIFIED.

2. ALL INTERIOR FINISHES SHALL BE COMPLETED PRIOR TO THE START OF EXTERIOR FINISHES.

3. ALL INTERIOR FINISHES SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE LOCAL BUILDING DEPARTMENT AT ALL STAGES OF CONSTRUCTION.

4. ALL INTERIOR FINISHES SHALL BE INSTALLED PRIOR TO THE START OF EXTERIOR FINISHES.

5. ALL INTERIOR FINISHES SHALL BE INSTALLED PRIOR TO THE START OF EXTERIOR FINISHES.

6. ALL INTERIOR FINISHES SHALL BE INSTALLED PRIOR TO THE START OF EXTERIOR FINISHES.

7. ALL INTERIOR FINISHES SHALL BE INSTALLED PRIOR TO THE START OF EXTERIOR FINISHES.

8. ALL INTERIOR FINISHES SHALL BE INSTALLED PRIOR TO THE START OF EXTERIOR FINISHES.

9. ALL INTERIOR FINISHES SHALL BE INSTALLED PRIOR TO THE START OF EXTERIOR FINISHES.

10. ALL INTERIOR FINISHES SHALL BE INSTALLED PRIOR TO THE START OF EXTERIOR FINISHES.

**MECHANICAL, ELECTRICAL, AND PLUMBING (MEP)**

1. ALL MEP WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE INTERNATIONAL BUILDING CODES (IBC) AND THE INTERNATIONAL RESIDENTIAL CODES (IRC) UNLESS OTHERWISE SPECIFIED.

2. ALL MEP WORK SHALL BE COMPLETED PRIOR TO THE START OF INTERIOR FINISHES.

3. ALL MEP WORK SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE LOCAL BUILDING DEPARTMENT AT ALL STAGES OF CONSTRUCTION.

4. ALL MEP WORK SHALL BE INSTALLED PRIOR TO THE START OF INTERIOR FINISHES.

5. ALL MEP WORK SHALL BE INSTALLED PRIOR TO THE START OF INTERIOR FINISHES.

6. ALL MEP WORK SHALL BE INSTALLED PRIOR TO THE START OF INTERIOR FINISHES.

7. ALL MEP WORK SHALL BE INSTALLED PRIOR TO THE START OF INTERIOR FINISHES.

8. ALL MEP WORK SHALL BE INSTALLED PRIOR TO THE START OF INTERIOR FINISHES.

9. ALL MEP WORK SHALL BE INSTALLED PRIOR TO THE START OF INTERIOR FINISHES.

10. ALL MEP WORK SHALL BE INSTALLED PRIOR TO THE START OF INTERIOR FINISHES.

**GENERAL NOTES**

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE INTERNATIONAL BUILDING CODES (IBC) AND THE INTERNATIONAL RESIDENTIAL CODES (IRC) UNLESS OTHERWISE SPECIFIED.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL BUILDING DEPARTMENT.

3. ALL MATERIALS AND WORKMANSHIP SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE LOCAL BUILDING DEPARTMENT AT ALL STAGES OF CONSTRUCTION.

4. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ADJACENT PROPERTIES AT ALL TIMES.

5. ALL UTILITIES SHALL BE PROTECTED AND DEEPER THAN INDICATED ON THE PLANS.

6. ALL FOUNDATION WORK SHALL BE COMPLETED PRIOR TO THE START OF SUPERSTRUCTURE CONSTRUCTION.

7. ALL ROOFING SHALL BE INSTALLED PRIOR TO THE START OF INTERIOR FINISHES.

8. ALL EXTERIOR FINISHES SHALL BE INSTALLED PRIOR TO THE START OF INTERIOR FINISHES.

9. ALL INTERIOR FINISHES SHALL BE INSTALLED PRIOR TO THE START OF EXTERIOR FINISHES.

10. ALL MECHANICAL, ELECTRICAL, AND PLUMBING WORK SHALL BE INSTALLED PRIOR TO THE START OF INTERIOR FINISHES.

| REVISION HISTORY |  | SHEETS |            | DATE OF  |          |
|------------------|--|--------|------------|----------|----------|
| VERSION          | DESCRIPTION  | CHANGE | STRUCTURAL | AFFECTED | REVISION |
| V3_A2_01-301     | NEW DESIGN, UPDATED TO MATCH CURRENT DESIGN PERMITS. | NO     | NO         | 1/18/23  | JM       |

| DESIGN CRITERIA        |  |
|------------------------|--|
| PROJECT LOCATION       | NEWBERG, OREGON  |
| DESIGNER               | PAHLISCH HOMES   |
| DATE OF DESIGN         | 1/18/23  |
| DESIGNER'S LICENSE NO. | 12345  |
| PROJECT NO.            | 12345  |
| PROJECT NAME           | CONIFER A  |
| PROJECT ADDRESS        | 210 SW WILSON AVENUE, SUITE 100, BEND, OR 97702  |
| PROJECT PHONE          | (541) 385-6762   |
| PROJECT FAX            | (541) 385-6762   |
| PROJECT EMAIL          | SALES@PAHLISCHHOMES.COM  |
| PROJECT WEBSITE        | WWW.PAHLISCHHOMES.COM  |
| PROJECT SOCIAL MEDIA   | FACEBOOK: PAHLISCH HOMES, INSTAGRAM: PAHLISCH HOMES, PINTEREST: PAHLISCH HOMES   |
| PROJECT NOTES          | ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE INTERNATIONAL BUILDING CODES (IBC) AND THE INTERNATIONAL RESIDENTIAL CODES (IRC) UNLESS OTHERWISE SPECIFIED. |

| TABLE OF CONTENTS |                                     |
|-------------------|-------------------------------------|
| CS                | COVER SHEET                         |
| 1A                | ELEVATIONS                          |
| 1B                | ELEVATIONS                          |
| 2                 | FOUNDATION                          |
| 3                 | MAN LEVEL FLOOR PLAN                |
| 3.1               | MAN LEVEL FLOOR PLAN - DESIGN       |
| 4                 | UPPER LEVEL FLOOR PLAN - DESIGN     |
| 4.1               | UPPER LEVEL FLOOR PLAN - STRUCTURAL |
| 5                 | ROOF PLAN                           |
| 6                 | SECTION                             |
| D1                | DETAILS                             |
| V                 | ROOF VENTING                        |

**OREGON CODE REFERENCES**

1. INTERNATIONAL RESIDENTIAL CODES (IRC) - 2021 EDITION

2. INTERNATIONAL BUILDING CODES (IBC) - 2021 EDITION

3. OREGON RESIDENTIAL CODES (ORC) - 2021 EDITION

4. OREGON BUILDING CODES (OBC) - 2021 EDITION

5. OREGON ELECTRICAL CODES (OEC) - 2021 EDITION

6. OREGON MECHANICAL CODES (OMC) - 2021 EDITION

7. OREGON PLUMBING CODES (OPC) - 2021 EDITION

8. OREGON FIRE CODES (OFC) - 2021 EDITION

9. OREGON ENERGY CODES (OEC) - 2021 EDITION

10. OREGON ENVIRONMENTAL CODES (OEC) - 2021 EDITION

11. OREGON HEALTH CARE CODES (OHC) - 2021 EDITION

12. OREGON HUMAN SERVICES CODES (OHS) - 2021 EDITION

13. OREGON LABOR CODES (OLC) - 2021 EDITION

14. OREGON LAND USE CODES (OLUC) - 2021 EDITION

15. OREGON LANDMARKS AND HERITAGE CODES (OLHC) - 2021 EDITION

16. OREGON LANDSCAPE ARCHITECTURE CODES (OLAC) - 2021 EDITION

17. OREGON LANDSCAPE ARCHITECTURE REGULATIONS (OLAR) - 2021 EDITION

18. OREGON LANDSCAPE ARCHITECTURE STANDARDS (OLAS) - 2021 EDITION

19. OREGON LANDSCAPE ARCHITECTURE PRACTICE ACT (OLAPA) - 2021 EDITION

20. OREGON LANDSCAPE ARCHITECTURE BOARD RULES (OLABR) - 2021 EDITION

21. OREGON LANDSCAPE ARCHITECTURE BOARD REGULATIONS (OLABR) - 2021 EDITION

22. OREGON LANDSCAPE ARCHITECTURE BOARD STANDARDS (OLAS) - 2021 EDITION

23. OREGON LANDSCAPE ARCHITECTURE BOARD PRACTICE ACT (OLAPA) - 2021 EDITION

24. OREGON LANDSCAPE ARCHITECTURE BOARD RULES (OLABR) - 2021 EDITION

25. OREGON LANDSCAPE ARCHITECTURE BOARD REGULATIONS (OLABR) - 2021 EDITION

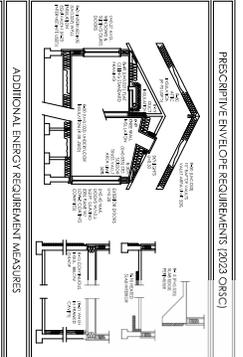
26. OREGON LANDSCAPE ARCHITECTURE BOARD STANDARDS (OLAS) - 2021 EDITION

27. OREGON LANDSCAPE ARCHITECTURE BOARD PRACTICE ACT (OLAPA) - 2021 EDITION

28. OREGON LANDSCAPE ARCHITECTURE BOARD RULES (OLABR) - 2021 EDITION

29. OREGON LANDSCAPE ARCHITECTURE BOARD REGULATIONS (OLABR) - 2021 EDITION

30. OREGON LANDSCAPE ARCHITECTURE BOARD STANDARDS (OLAS) - 2021 EDITION



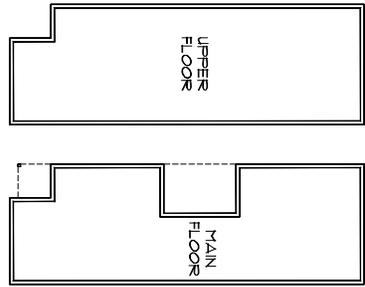
| CONIFER A     |             |
|---------------|-------------|
| MAIN LEVEL    | 775 SQ.FT.  |
| UPPER LEVEL   | 1313 SQ.FT. |
| TOTAL         | 2088 SQ.FT. |
| GARAGE        | 485 SQ.FT.  |
| COVERED PORCH | 37 SQ.FT.   |
| COVERED PATIO | 119 SQ.FT.  |

**pahlisch**  
HOMES  
WWW.PAHLISCHHOMES.COM

210 SW WILSON AVENUE  
SUITE 100  
BEND, OR 97702  
(541) 385-6762  
OR CCB# 42067  
WA LIC# PAHL1191513

PURSUANT TO THE FEDERAL COPYRIGHT ACT, THESE PLANS, WHETHER A FULL CONSTRUCTION SET, EXTRA PLANS, SUCH PRINTS OR REPRODUCTIONS, ARE HEREBY REGISTERED WITH THE U.S. COPYRIGHT OFFICE. THE REGISTERED PURCHASER WHO IS NOT A LICENSEE OF THE REGISTERED OWNER SHALL BE PERMITTED ONLY TO REPRODUCE FOR ANY AND ALL TRADES TO THE ORIGINAL PLANS AS PURCHASED FROM THE OFFICE. ANY REPRODUCING, TRADING, REPRODUCTION OR SALE OF THESE PLANS BY ANYONE IS PROHIBITED WITHOUT THE WRITTEN PERMISSION FROM PAHLISCH HOMES, INC.

V3\_A2\_01-301



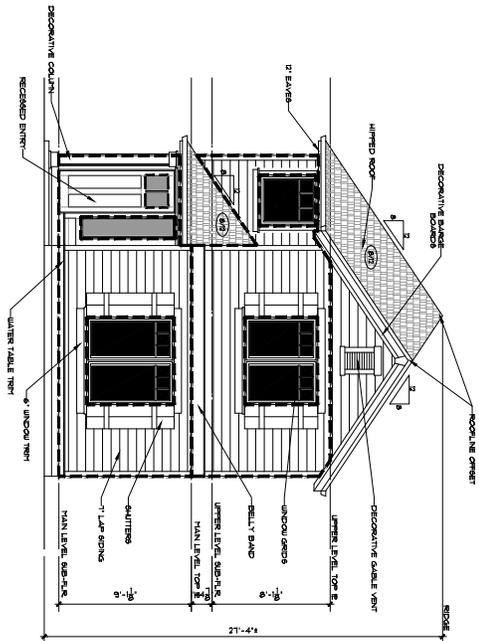
SIDING LEGEND

| GLAZING STANDARDS |           |                |                          |                        |         |            |
|-------------------|-----------|----------------|--------------------------|------------------------|---------|------------|
| ELEVATIONS        | WALL AREA | MIN REQUIRED % | MIN AREA OF GLAZING REQ. | ACTUAL AREA OF GLAZING | TOTAL % | MEETS REQ. |
| FRONT-MAIN        | 195       | 20.00%         | 39.00                    | 49.00                  | 25.13%  | YES        |
| FRONT-TOTAL       | 382       | 25.00%         | 95.50                    | 95.50                  | 25.00%  | YES        |
| REAR              | 412       | 10.00%         | 40.80                    | 48.52                  | 11.78%  | YES        |

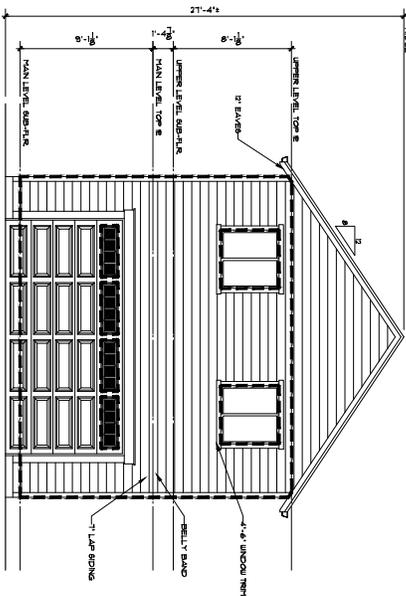
DESIGN ELEMENTS ARE 12'  
 1. ALL ROOF EAVES ARE 12"  
 2. ROOF LINE OFFSET  
 3. 4'-6" WINDOW TRIM AROUND ALL WINDOWS  
 4. BELLY BAND

ARTICULATION:  
 1. SECTION OF BUILDING FACADE RECESSED  
 2. SECTION OF BUILDING FACADE  
 3. ROOF LINE OFFSET  
 4. COVERED PORCH

DESIGN ELEMENTS:  
 1. ALL ROOF EAVES ARE 12"  
 2. ROOF LINE OFFSET  
 3. 4'-6" WINDOW TRIM AROUND ALL WINDOWS  
 4. BELLY BAND  
 5. BELLY BAND  
 6. BELLY BAND TRIM  
 7. BELLY BAND TRIM  
 8. DECORATIVE BARGE BOARD  
 9. WINDOW GRIDS  
 10. DECORATIVE COLUMN  
 11. DECORATIVE VENT IN GABLE



FRONT ELEVATION

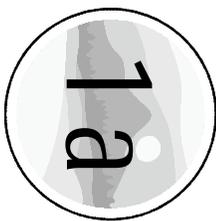


REAR ELEVATION

| GARAGE % REQUIREMENTS |                             |                  |               |                 |
|-----------------------|-----------------------------|------------------|---------------|-----------------|
| WIDTH OF FACADE       | TOTAL WIDTH OF GARAGE DOORS | % OF GARAGE DOOR | MAX % ALLOWED | ADJUSTMENT USED |
| 22'                   | 16'                         | 72.72%           | 40.00         | YES             |

RESERVED FOR CITY STAMP

CONIFER A  
 MAIN LEVEL 775 SQ.FT.  
 UPPER LEVEL 1313 SQ.FT.  
 TOTAL 2088 SQ.FT.  
 GARAGE 485 SQ.FT.  
 COVERED PORCH 37 SQ.FT.  
 COVERED PATIO 119 SQ.FT.



**pahlisch**  
 HOMES  
 WWW.PAHLISCHHOMES.COM

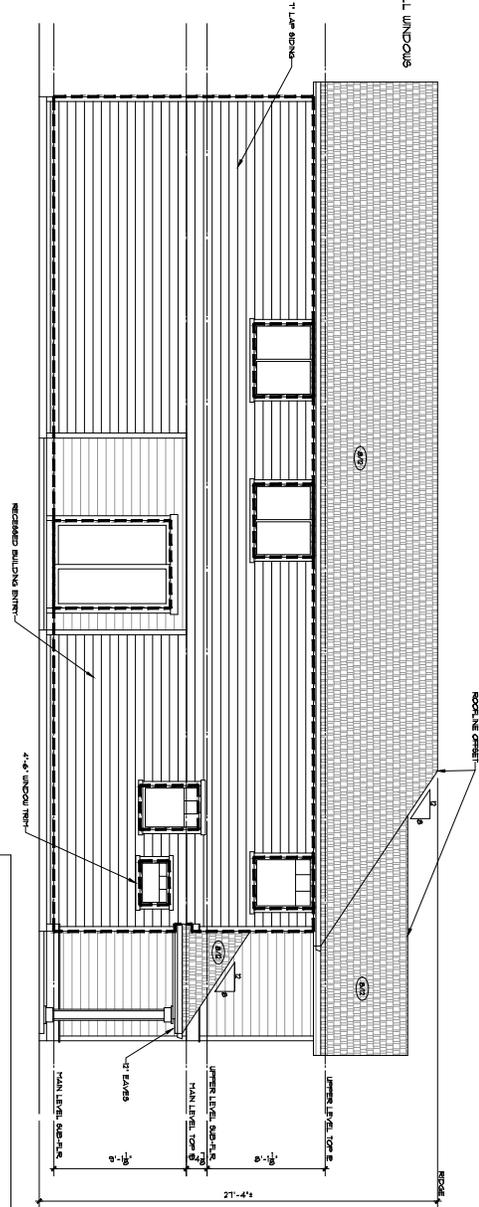
210 SW WILSON AVENUE  
 SUITE 100  
 BEND, OR 97702  
 (541) 385-6762  
 OR CCB# 42067  
 WA LIC# PAHL1W15J3

PURSUANT TO THE FEDERAL COPYRIGHT ACT, THESE PLANS, WHETHER A FULL CONSTRUCTION SET, EXTRACTS, PRINTS, STUDY PRINTS, OR REPRODUCTION, CONTAIN THE COPYRIGHTED AND REGISTERED INFORMATION OF PHLISCH HOMES, INC. ACCORDINGLY, THESE PLANS MAY NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION FROM PHLISCH HOMES, INC.

PER CITY OF BEND REQUIREMENTS, PURSUANT TO THE 2021 OREGON RESIDENTIAL SPECIALTY CODE (ORSC), SECTION R301.3, PREPARE VALUATIONS SHALL BE BASED UPON OREGON ADMINISTERED RULES ON PARADOXICAL STATEWIDE FEE METHODOLOGIES FOR RESIDENTIAL AND GARAGE. PERVALUATION SQUARE FOOTAGE OF A DWELLING, ADJUSTED FOR GARAGE SHALL BE DETERMINED FROM OUTSIDE OF EXTERIOR WALL TO OUTSIDE OF EXTERIOR WALL FOR EACH LEVEL. UNDER THIS RULE, SQUARE FEETAGE DETERMINED TO BE: XXXX IF MAIN LEVEL, XXXX IF UPPER LEVEL, XXXX IF GARAGE, XXXX IF OUTDOOR COVERED AREA.

1265.T110 SINGLE FAMILY & TWO UNIT TOWNHOMES

- DESIGN ELEMENTS  
 1. RECESSED BUILDING ENTRY  
 2. ALL ROOF FAVES ARE 1"  
 3. ROOFLINE OFFSET  
 4. 1" LANE SIDING  
 5. 4'-6" WINDOW TRIM AROUND ALL WINDOWS

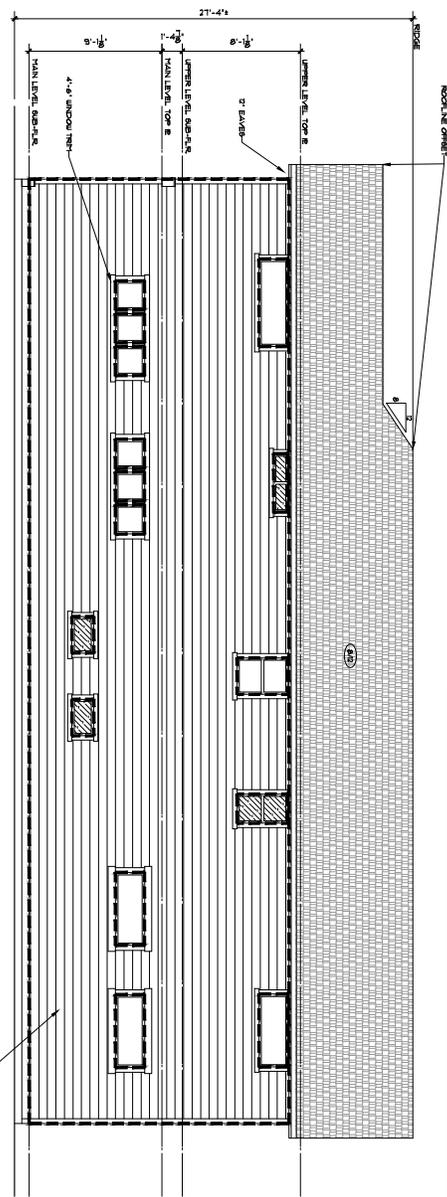


NON-ENHANCED PATIO SIDE ELEVATION

1/4" = 1'-0"

| GLAZING STANDARDS           |           |                |                          |                        |         |            |
|-----------------------------|-----------|----------------|--------------------------|------------------------|---------|------------|
| ELEVATIONS                  | WALL AREA | MIN REQUIRED % | MIN AREA OF GLAZING REQ. | ACTUAL AREA OF GLAZING | TOTAL % | MEETS REQ. |
| NON-ENHANCED PATIO SIDE     | 106       | 8.00%          | 8.144                    | 121.00                 | 12.48%  | YES        |
| NON-ENHANCED NON-PATIO SIDE | 1152      | 8.00%          | 92.16                    | 93.25                  | 8.09%   | YES        |
| COMBINED SUITE OF SIDE %    | N/A       | 20.00%         | N/A                      | N/A                    | 20.19%  | YES        |

- 1265.T110 SINGLE FAMILY & TWO UNIT TOWNHOMES  
 DESIGN ELEMENTS  
 1. RECESSED BUILDING ENTRY  
 2. ROOFLINE OFFSET  
 3. 1" LANE SIDING  
 4. 4'-6" WINDOW TRIM AROUND ALL WINDOWS



NON-ENHANCED NON-PATIO SIDE ELEVATION

1/4" = 1'-0"

RESERVED FOR CITY STAMP

**CONIFERA A**  
 MAIN LEVEL 775 SQ.FT.  
 UPPER LEVEL 1313 SQ.FT.  
 TOTAL 2088 SQ.FT.  
 GARAGE 485 SQ.FT.  
 COVERED PORCH 37 SQ.FT.  
 COVERED PATIO 119 SQ.FT.



**pahlisch**  
 HOMES  
 WWW.PAHLISCHHOMES.COM

210 SW WILSON AVENUE  
 SUITE 100  
 BEND, OR 97702  
 (541) 385-6762  
 OR CCB# 42067  
 WA LIC# PAHLHP15J3

PURSUANT TO THE FEDERAL COPYRIGHT ACT, THESE PLANS, WHETHER A FULL CONSTRUCTION SET, EXTRACTS, PRINTS, STUDY PRINTS, OR REPRODUCTION OF ANY KIND, CONTAIN THE COPYRIGHTED MATERIAL AND ARE NOT TO BE REPRODUCED, COPIED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION FROM PAHLISCH HOMES, INC.

PER CITY OF BEND REQUIREMENTS, PURSUANT TO THE 2021 OREGON RESIDENTIAL SPECIALTY CODE (ORSC), SECTION R301.3, PREPARE VALUATIONS SHALL BE BASED UPON OREGON ADMINISTERING RULES (ORS) 15400010-1. STATEWIDE FEE METHODOLOGIES FOR RESIDENTIAL AND GARAGE SHALL BE SQUARE FOOTAGE OF A DWELLING, ADDITION, OR GARAGE SHALL BE OBTAINED FROM OUTSIDE OF EXTERIOR WALL TO OUTSIDE OF EXTERIOR WALL FOR EACH LEVEL. UNDER THIS RULE, SQUARE FEETAGE DETERMINED TO BE MAIN LEVEL, XXXX IF UPPER LEVEL, XXXX IF GARAGE, XXXX IF OUTDOOR COVERED AREA, XXXX IF

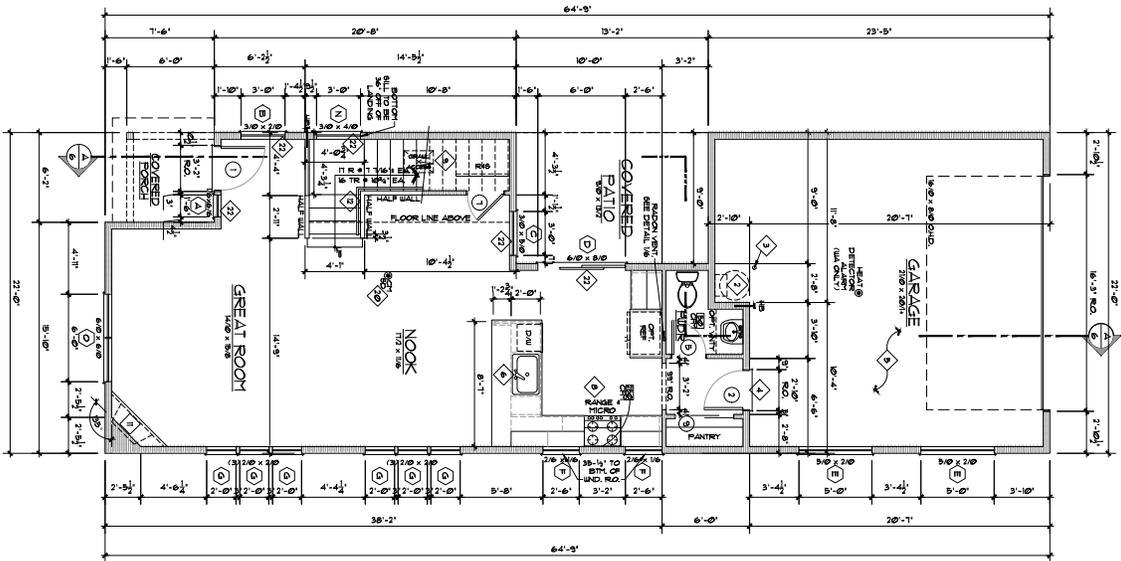


DOOR SCHEDULE

| NO.                   | SIZE (WxD)<br>(width x height) | BO. (width)<br>(width) | TYPE   | QTY | NOTES                      |
|-----------------------|--------------------------------|------------------------|--------|-----|----------------------------|
| <b>EXTERIOR DOORS</b> |                                |                        |        |     |                            |
| 1                     | 3'10" x 8'0"                   | 3'4" x 8"              | 6045   | 1   | FRONT DOOR                 |
| 2                     | 2'0" x 6'0"                    | 3'4" x 8"              | 6045   | 1   | 1/2" x 20" SOLID CORE DOOR |
| <b>INTERIOR DOORS</b> |                                |                        |        |     |                            |
| 3                     | (2) 2'0" x 6'0"                | 3'1" x 8"              | 6045   | 1   |                            |
| 4                     | 1'8" x 6'0"                    | 2'1" x 8"              | 6045   | 1   |                            |
| 5                     | 2'4" x 6'0"                    | 3'0" x 8"              | 6045   | 2   |                            |
| 6                     | 2'4" x 6'0"                    | 3'0" x 8"              | POCKET | 1   |                            |
| 7                     | 2'0" x 6'0"                    | 3'1" x 8"              | 6045   | 6   |                            |
| 8                     | 2'0" x 6'0"                    | 3'4" x 8"              | 6045   | 2   |                            |
| 9                     | 4'0" x 6'0"                    | 4'0" x 8"              | BTW446 | 1   |                            |
| 10                    | 3'0" x 6'0"                    | 4'1" x 8"              | BTW446 | 2   |                            |

WINDOW SCHEDULE

| NO. | SIZE (WxD)<br>(width x height) | TYPE | FINISH/CONCRETE | QTY | NOTES |  |
|-----|--------------------------------|------|-----------------|-----|-------|--|
| A   | 1'6" x 6'0"                    | PFD  | YES             | NO  | 1     | SEE LITE ELEVATIONS                            |
| B   | 3'0" x 2'0"                    | PFD  | YES             | NO  | 1     | SEE LITE ELEVATIONS                            |
| C   | 3'0" x 8'0"                    | PFD  | YES             | NO  | 1     | SEE LITE ELEVATIONS                            |
| D   | 6'0" x 8'0"                    | PFD  | YES             | NO  | 1     | SEE LITE ELEVATIONS                            |
| E   | 3'0" x 2'0"                    | PFD  | NO              | NO  | 3     |  |
| F   | 2'0" x 1'6"                    | PFD  | NO              | YES | 2     | HEADLINE HT. OF R/O. 1" FROM TOP OF STR. SILL. |
| G   | 2'0" x 2'0"                    | PFD  | NO              | NO  | 6     |  |
| H   | 3'0" x 4'0"                    | XO   | NO              | NO  | 2     | SEE PLAN FOR ORIENTATION                       |
| I   | 4'0" x 4'0"                    | XO   | NO              | NO  | 2     | SEE PLAN FOR ORIENTATION                       |
| J   | 2'0" x 3'6"                    | 6M   | NO              | YES | 1     |  |
| K   | 2'0" x 3'6"                    | 6M   | NO              | NO  | 1     | SEE PLAN FOR ORIENTATION                       |
| L   | 4'0" x 1'0"                    | XO   | NO              | YES | 1     |  |
| M   | 3'0" x 2'0"                    | PFD  | NO              | NO  | 1     | SEE PLAN FOR ORIENTATION                       |
| N   | 3'0" x 4'0"                    | PFD  | YES             | NO  | 1     | SEE PLAN FOR ORIENTATION                       |
| O   | 6'0" x 6'0"                    | XO   | NO              | NO  | 1     | SEE PLAN FOR ORIENTATION                       |
| P   | 6'0" x 8'0"                    | XO   | NO              | NO  | 1     | SEE PLAN FOR ORIENTATION                       |
| Q   | 3'0" x 4'0"                    | PFD  | NO              | NO  | 2     | SEE PLAN FOR ORIENTATION                       |
| R   | -                              | -    | -               | -   | -     | -  |



MAIN FLOOR PLAN

TWO STORY KENOTES

1. OPERON INITIAL ERECT FOR INTERIOR WALLS AND PARTITION WALLS. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS.
2. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS.
3. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS.
4. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS.
5. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS.
6. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS.
7. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS.
8. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS.
9. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS.
10. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS.
11. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS.
12. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS.
13. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS.
14. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS.
15. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS.
16. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS.
17. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS.
18. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS.
19. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS.
20. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS.
21. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS.
22. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS.
23. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS.
24. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS. OPERON SHALL BE ERECTED AND FINISHED TO MATCH EXISTING WALLS AND PARTITION WALLS.

210 SW WILSON AVENUE  
SUITE 100  
BEND, OR 97702  
(541) 385-6762  
OR CCB# 42067  
WA LIC# PAHL1091513

**pahlisch**  
HOMES  
WWW.PAHLISCHHOMES.COM

PURSUANT TO THE FEDERAL COPYRIGHT ACT, THESE PLANS, WHETHER A FULL CONSTRUCTION SET, EXTRA SETS, OR PRINTS OF REPRODUCIBLE VOLUMES, CONTAIN THE COPYRIGHT NOTICE AND ARE DULY REGISTERED WITH THE LIBRARY OF CONGRESS. PROPERLY RESERVING ALL RIGHTS FOR PAHLISCH HOMES, INC. ALL RIGHTS ARE RESERVED AND MAY NOT BE USED BY ANYONE EXCEPT FOR THE INTENDED PROJECT OF ONE HOUR ONLY. REPRODUCED USE OR REPRODUCTION OF THESE PLANS IS PROHIBITED WITHOUT THE WRITTEN PERMISSION FROM PAHLISCH HOMES, INC.

**CONIFERA A**  
MAIN LEVEL 775 SQ. FT.  
UPPER LEVEL 1313 SQ. FT.  
TOTAL 2088 SQ. FT.  
GARAGE 485 SQ. FT.  
COVERED PORCH 37 SQ. FT.  
COVERED PATIO 119 SQ. FT.



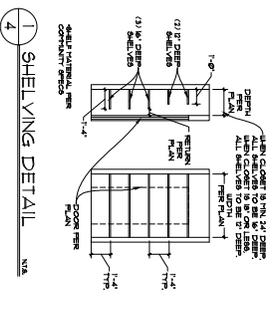


**DOOR SCHEDULE**

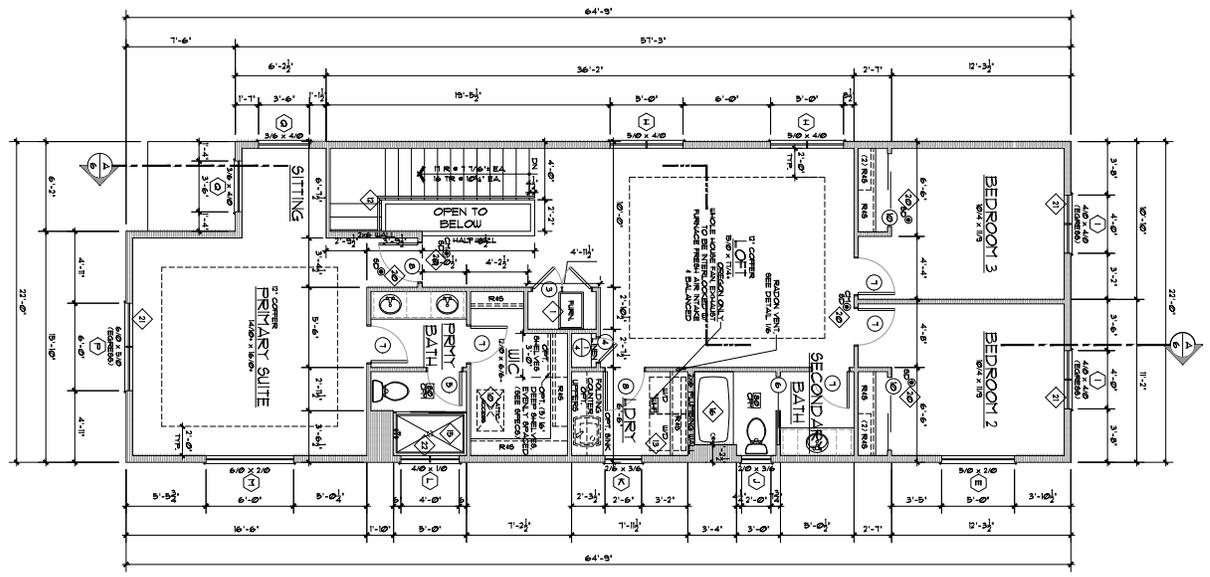
| NO.                   | SIZE (WxD)      | RCO (WxD)   | TYPE    | QTY | NOTES                          |
|-----------------------|-----------------|-------------|---------|-----|--------------------------------|
| <b>EXTERIOR DOORS</b> |                 |             |         |     |                                |
| 1                     | 3'10" x 8'0"    | 3'4" x 8'0" | 6045    | 1   | FRONT DOOR                     |
| 2                     | 2'0" x 6'0"     | 3'4" x 8'0" | 6045    | 1   | 1/2" AIR TIGHT SOLID CORE DOOR |
| <b>INTERIOR DOORS</b> |                 |             |         |     |                                |
| 3                     | (1) 2'0" x 6'0" | 3'1" x 8'0" | 6045    | 1   |                                |
| 4                     | 1'8" x 6'0"     | 2'1" x 8'0" | 6045    | 1   |                                |
| 5                     | 2'4" x 6'0"     | 3'0" x 8'0" | 6045    | 2   |                                |
| 6                     | 2'4" x 6'0"     | 3'0" x 8'0" | POCKET  | 1   |                                |
| 7                     | 2'0" x 6'0"     | 3'1" x 8'0" | 6045    | 6   |                                |
| 8                     | 2'0" x 6'0"     | 3'4" x 8'0" | 6045    | 2   |                                |
| 9                     | 4'0" x 6'0"     | 4'0" x 8'0" | 6174/65 | 1   |                                |
| 10                    | 3'0" x 6'0"     | 6'1" x 8'0" | 6174/65 | 2   |                                |

**WINDOW SCHEDULE**

| NO. | SIZE (WxD)  | TYPE  | FINISH/DESCRIPTION | QTY | NOTES |                     |
|-----|-------------|-------|--------------------|-----|-------|---------------------|
| A   | 1'6" x 6'0" | FIXED | YES                | NO  | 1     | SEE LITE ELEVATIONS |
| B   | 3'0" x 2'0" | FIXED | YES                | NO  | 1     | SEE LITE ELEVATIONS |
| C   | 3'0" x 8'0" | FIXED | YES                | NO  | 1     | SEE LITE ELEVATIONS |
| D   | 6'0" x 8'0" | FIXED | YES                | NO  | 1     | SEE LITE ELEVATIONS |
| E   | 6'0" x 2'0" | FIXED | NO                 | NO  | 3     | SEE LITE ELEVATIONS |
| F   | 2'0" x 1'6" | FIXED | NO                 | YES | 2     | HEADLINE HT. OF R/O |
| G   | 2'0" x 2'0" | FIXED | NO                 | NO  | 6     | SEE LITE ELEVATIONS |
| H   | 3'0" x 4'0" | FIXED | NO                 | NO  | 2     | SEE LITE ELEVATIONS |
| I   | 4'0" x 4'0" | FIXED | NO                 | NO  | 2     | SEE LITE ELEVATIONS |
| J   | 2'0" x 3'6" | FIXED | NO                 | YES | 1     | SEE LITE ELEVATIONS |
| K   | 2'0" x 3'6" | FIXED | NO                 | NO  | 1     | SEE LITE ELEVATIONS |
| L   | 4'0" x 1'0" | FIXED | NO                 | YES | 1     | SEE LITE ELEVATIONS |
| M   | 6'0" x 2'0" | FIXED | NO                 | NO  | 1     | SEE LITE ELEVATIONS |
| N   | 3'0" x 4'0" | FIXED | YES                | NO  | 1     | SEE LITE ELEVATIONS |
| O   | 6'0" x 8'0" | FIXED | NO                 | NO  | 1     | SEE LITE ELEVATIONS |
| P   | 6'0" x 8'0" | FIXED | NO                 | NO  | 1     | SEE LITE ELEVATIONS |
| Q   | 3'0" x 4'0" | FIXED | NO                 | NO  | 2     | SEE LITE ELEVATIONS |
| R   | -           | -     | -                  | -   | -     | -                   |



**UPPER FLOOR PLAN**



- 1. GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND LOCATIONS OF ALL EXISTING AND REMAINING STRUCTURE AND UTILITIES AND SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES AND AUTHORITIES.
- 2. GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND LOCATIONS OF ALL EXISTING AND REMAINING STRUCTURE AND UTILITIES AND SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES AND AUTHORITIES.
- 3. GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND LOCATIONS OF ALL EXISTING AND REMAINING STRUCTURE AND UTILITIES AND SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES AND AUTHORITIES.
- 4. GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND LOCATIONS OF ALL EXISTING AND REMAINING STRUCTURE AND UTILITIES AND SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES AND AUTHORITIES.
- 5. GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND LOCATIONS OF ALL EXISTING AND REMAINING STRUCTURE AND UTILITIES AND SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES AND AUTHORITIES.
- 6. GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND LOCATIONS OF ALL EXISTING AND REMAINING STRUCTURE AND UTILITIES AND SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES AND AUTHORITIES.
- 7. GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND LOCATIONS OF ALL EXISTING AND REMAINING STRUCTURE AND UTILITIES AND SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES AND AUTHORITIES.
- 8. GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND LOCATIONS OF ALL EXISTING AND REMAINING STRUCTURE AND UTILITIES AND SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES AND AUTHORITIES.
- 9. GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND LOCATIONS OF ALL EXISTING AND REMAINING STRUCTURE AND UTILITIES AND SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES AND AUTHORITIES.
- 10. GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND LOCATIONS OF ALL EXISTING AND REMAINING STRUCTURE AND UTILITIES AND SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES AND AUTHORITIES.
- 11. GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND LOCATIONS OF ALL EXISTING AND REMAINING STRUCTURE AND UTILITIES AND SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES AND AUTHORITIES.
- 12. GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND LOCATIONS OF ALL EXISTING AND REMAINING STRUCTURE AND UTILITIES AND SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES AND AUTHORITIES.
- 13. GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND LOCATIONS OF ALL EXISTING AND REMAINING STRUCTURE AND UTILITIES AND SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES AND AUTHORITIES.
- 14. GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND LOCATIONS OF ALL EXISTING AND REMAINING STRUCTURE AND UTILITIES AND SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES AND AUTHORITIES.
- 15. GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND LOCATIONS OF ALL EXISTING AND REMAINING STRUCTURE AND UTILITIES AND SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES AND AUTHORITIES.
- 16. GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND LOCATIONS OF ALL EXISTING AND REMAINING STRUCTURE AND UTILITIES AND SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES AND AUTHORITIES.
- 17. GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND LOCATIONS OF ALL EXISTING AND REMAINING STRUCTURE AND UTILITIES AND SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES AND AUTHORITIES.
- 18. GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND LOCATIONS OF ALL EXISTING AND REMAINING STRUCTURE AND UTILITIES AND SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES AND AUTHORITIES.
- 19. GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND LOCATIONS OF ALL EXISTING AND REMAINING STRUCTURE AND UTILITIES AND SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES AND AUTHORITIES.
- 20. GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND LOCATIONS OF ALL EXISTING AND REMAINING STRUCTURE AND UTILITIES AND SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES AND AUTHORITIES.
- 21. GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND LOCATIONS OF ALL EXISTING AND REMAINING STRUCTURE AND UTILITIES AND SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES AND AUTHORITIES.
- 22. GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND LOCATIONS OF ALL EXISTING AND REMAINING STRUCTURE AND UTILITIES AND SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES AND AUTHORITIES.
- 23. GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND LOCATIONS OF ALL EXISTING AND REMAINING STRUCTURE AND UTILITIES AND SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES AND AUTHORITIES.
- 24. GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND LOCATIONS OF ALL EXISTING AND REMAINING STRUCTURE AND UTILITIES AND SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES AND AUTHORITIES.

**CONIFERA A**  
 MAIN LEVEL 775 SQ. FT.  
 UPPER LEVEL 1313 SQ. FT.  
 TOTAL 2088 SQ. FT.  
 GARAGE 485 SQ. FT.  
 COVERED PORCH 37 SQ. FT.  
 119 SQ. FT.

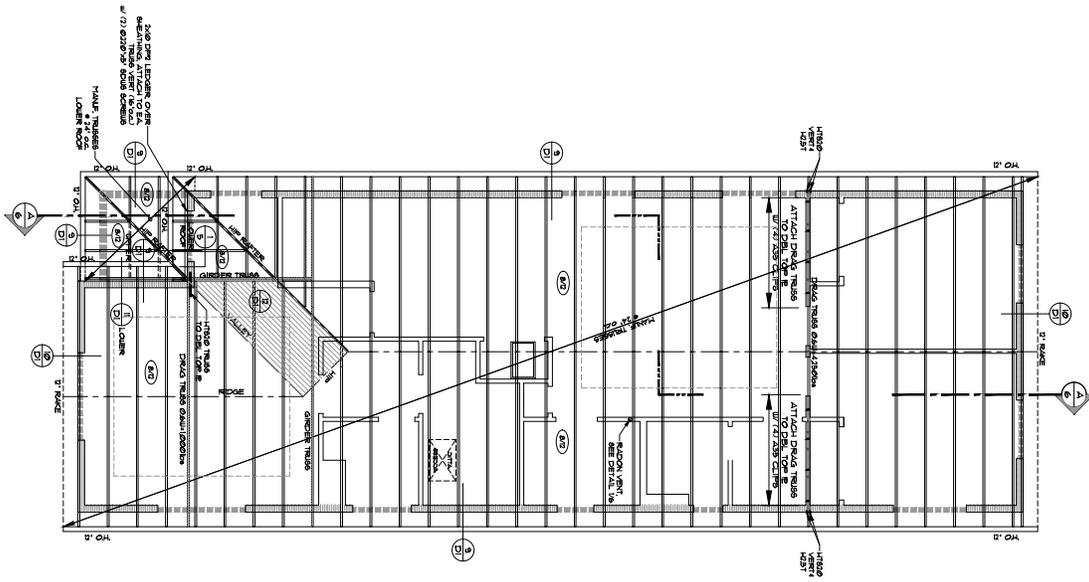
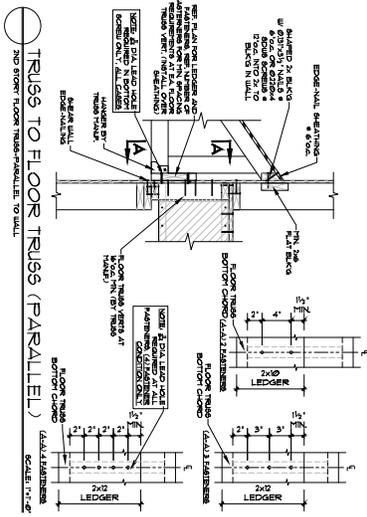


**pahlisch**  
 HOMES  
 WWW.PAHLISCHHOMES.COM

210 SW WILSON AVENUE  
 SUITE 100  
 BEND, OR 97702  
 (541) 385-6762  
 OR CCB# 42067  
 WA LIC# PAHL191513

PURSUANT TO THE FEDERAL COPYRIGHT ACT, THESE PLANS, WHETHER A FULL CONSTRUCTION SET, EXTRA SETS, REVISIONS OR REPRODUCTION, ARE THE PROPERTY OF PAHLISCH HOMES, INC. NO PART OF THESE PLANS MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF PAHLISCH HOMES, INC.





ROOF PLAN

1/4" = 1'-0"



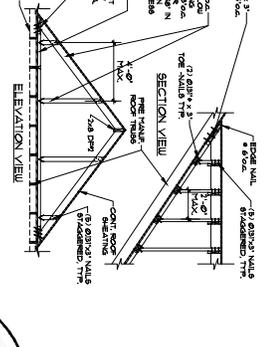
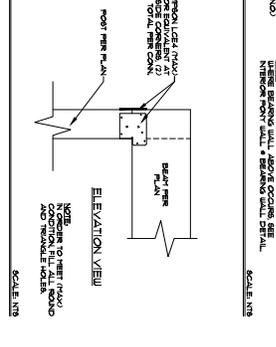
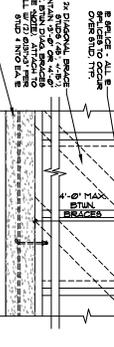
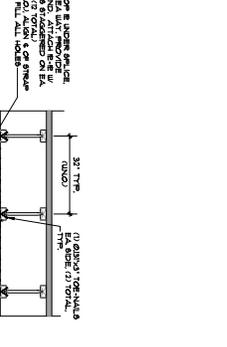
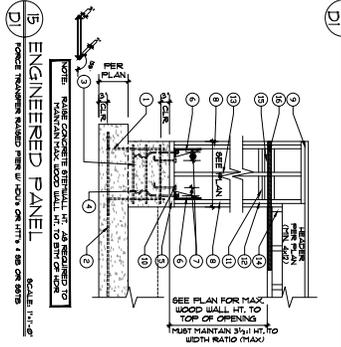
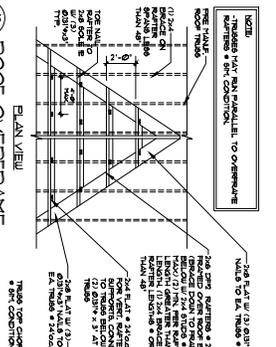
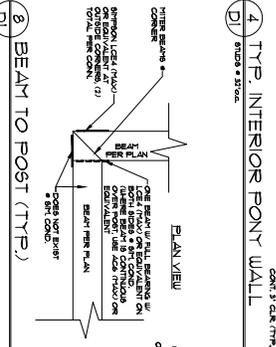
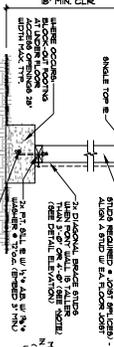
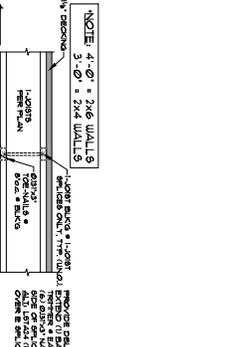
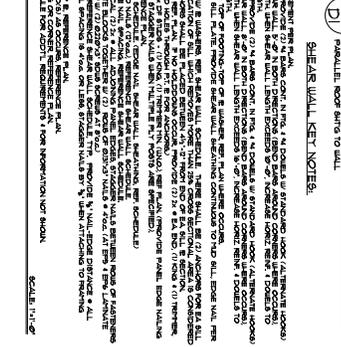
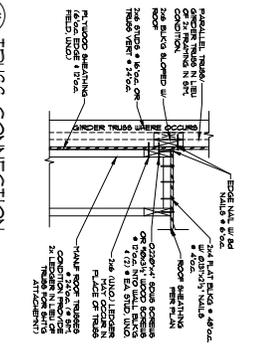
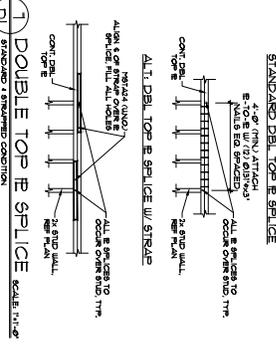
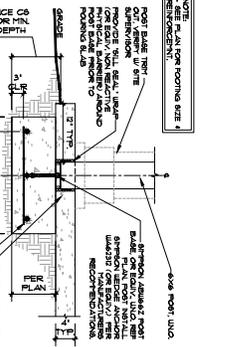
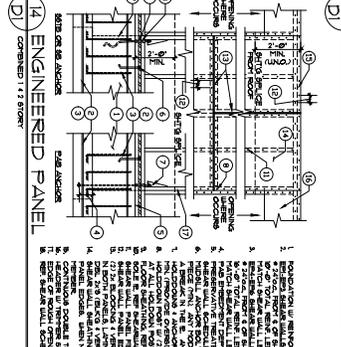
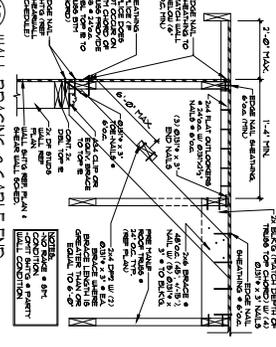
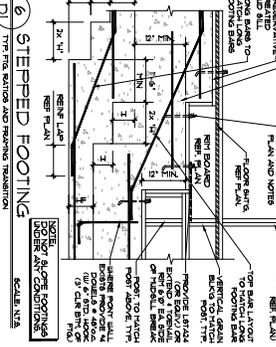
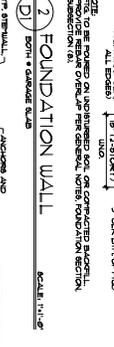
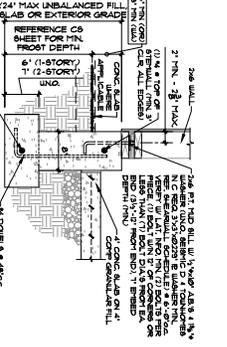
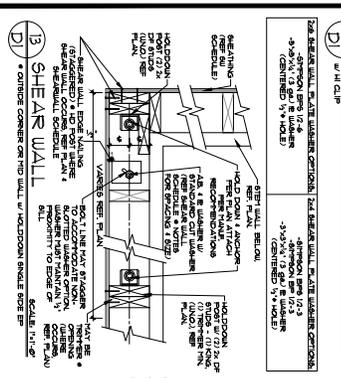
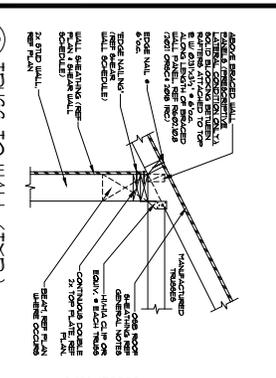
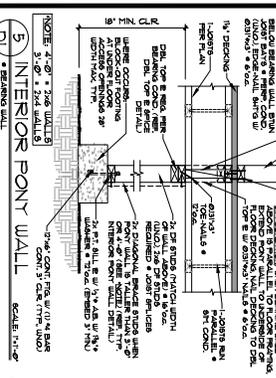
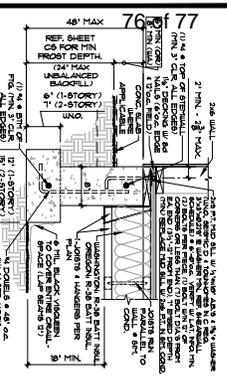
**pahlisch**  
HOMES  
WWW.PAHLISCHHOMES.COM

210 SW WILSON AVENUE  
SUITE 100  
BEND, OR 97702  
(541) 385-6762

OR CCB# 42067  
WA LIC# PAHLHM15J3

PURSUANT TO THE FEDERAL COPYRIGHT ACT, THESE PLANS, WHETHER A FULL CONSTRUCTION SET, EXTRA FEES, SIGHT PRINTS OR REPRODUCTION VOLUMES, CONTAIN THE COPYRIGHT NOTICE AND ARE DULY REGISTERED WITH THE LIBRARY OF CONGRESS. PROPERLY RESERVING ALL RIGHTS FOR PAHLISCH HOMES, INC. HOWEVER, THESE PLANS MAY NOT BE USED BY ANYONE EXCEPT FOR THE INTENDED PROJECT OF ONE HOUSE ONLY. REPRODUCED USE OR REPRODUCTION VOLUMES IS PERMITTED ONLY BY THE REGISTERED PURCHASER WHO EXERCISES LEGAL RIGHTS IN ANY ALTERATIONS TO THE ORIGINAL PLANS AS PURCHASED FROM THIS OFFICE. ANY REBROWING, TRACING, REPRODUCTION OR USE OF THESE PLANS BY ANYONE IS PROHIBITED WITHOUT THE WRITTEN PERMISSION FROM PAHLISCH HOMES, INC.





210 SW WILSON AVENUE  
SUITE 100  
BEND, OR 97702  
(541) 385-6762  
OR CCB# 42067  
WA LIC# PAHL19153

RESPONSE TO THE FEDERAL COPYRIGHT ACT: THESE PLANS, WHETHER A FULL CONSTRUCTION SET, EXTRA PERMITS, DESIGN PRINTS OR REPRODUCTION VOLUMES, CONTAIN THE COPYRIGHT NOTICE AND ARE DULY REGISTERED WITH THE LIBRARY OF CONGRESS. PROPERLY RESERVING ALL RIGHTS FOR PAHLISCH HOMES INC. (HEREINAFTER "PAHLISCH") IS HEREBY PROTECTED BY ANY AND ALL RIGHTS RESERVED BY ANYONE EXCEPT FOR THE INTENDED PROJECT OF ONE HOUR ONLY. REPRODUCTION OR REPRODUCTION VOLUMES ARE PERMITTED ONLY BY THE REGISTERED PURCHASER WHO EXPLICITLY AND LEGALLY REQUESTS FOR ANY ALTERATIONS TO THE ORIGINAL PLANS AS FURNISHED FROM THE OFFICE. ANY REPRODUCTION, TRANSMISSION OR SALE OF THESE PLANS BY ANYONE IS PROHIBITED WITHOUT THE WRITTEN PERMISSION FROM PAHLISCH HOMES, INC.

**pahlisch**  
HOMES  
WWW.PAHLISCHHOMES.COM

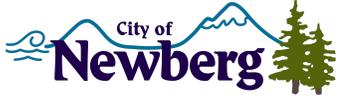
**CONIFERA A**

MAIN LEVEL: 775 SQ. FT.  
UPPER LEVEL: 1313 SQ. FT.  
TOTAL: 2088 SQ. FT.  
GARAGE: 485 SQ. FT.  
COVERED PORCH: 37 SQ. FT.  
COVERED PATIO: 119 SQ. FT.

**D1**

V3\_A2\_01-301





PERMIT #: BLD-25-168

ISSUED DATE: January 27, 2026

### CERTIFICATE OF OCCUPANCY

This structure has been inspected, and at the time of certificate issuance, is in compliance with all applicable codes and regulations for occupancy based on the edition of the Oregon Specialty Code.

**Site Address:** 2475 N VILLA RD, Newberg, OR, 97132 **Parcel #:** R3208 05100

**Construction Types:** New Construction / New Detached Single-Family Dwelling **Permit Type:** Residential

**Fire Sprinkler Required by Code:** No **Fire Sprinkler Installed/Altered:** No

**DETAILED DESCRIPTION OF WORK:** New single-family home

#### AUTHORIZED PERMIT HOLDERS

**Owner:** PAHLISCH HOMES AT COLLINA LP 210, BEND, OR. 97702

**Contractor:** CORY CHRISTIAN BITTNER **CCB License #:** 42067

#### CONDITIONS

ALL FINAL INSPECTIONS HAVE BEEN COMPLETED AND THE BUILDING IS APPROVED FOR OCCUPANCY

THIS CERTIFICATE MAY BE REVOKED BY THE City of Newberg, OR UPON VIOLATION OF ANY OF ITS RULES AND REGULATIONS.

To view permit details related to this Certificate, scan this barcode or visit [newbergor.viewpointcloud.com/#/records/1432](http://newbergor.viewpointcloud.com/#/records/1432)



City of Newberg, OR

# Inspection Report

**Inspection:** Building Final Inspection

**Inspector:** BLD- Brooks Bateman

**Inspection Date:** Jan 26, 2026

**Record:** \*Building Permit #BLD-25-168

**Location:** 2475 N VILLA RD, Newberg, OR 97132

**Applicant:** Jennifer Mercadante

BUILDING FINAL

**Overall Result:** Pass

City of Newberg, OR

# Inspection Report

**Inspection:** Engineering Final Inspection

**Inspector:** ENG- Mike Grimes

**Inspection Date:** Jan 23, 2026

**Record:** \*Building Permit #BLD-25-168

**Location:** 2475 N VILLA RD, Newberg, OR 97132

**Applicant:** Jennifer Mercadante

ENGINEERING FINAL INSP

**Overall Result:** Pass



City of Newberg, OR

January 27, 2026

## Plumbing Final Inspection

Record No. BLD-25-168

Status Completed

Became Active January 8, 2026

Type Inspection

Due Date None

Assignee BLD- Brooks Bateman

### Record No: BLD-25-168

\*Building Permit

Status: Active

Submitted On: 5/9/2025

#### Primary Location

2475 N VILLA RD  
Newberg, OR 97132

#### Owner

PAHLISCH HOMES AT COLLINA LP  
SW WILSON AVE 210 BEND, OR  
97702

#### Applicant

Jennifer Mercadante  
 503-596-2208 ext. 201\_\_  
 pdxpermits@pahlisch.com  
 210 SW Wilson Ave.  
Suite 100  
Bend, Oregon 97702

### Inspection Types Overview

PLUMBING FINAL  
PASS

### Scheduled Appointments

None

### Requested Appointments

None

### Past Appointments

**Monday, January 12, 2026**

2475 N VILLA RD, Newberg, OR 97132  
Requested January 12, 2026 at 12:34 pm

 **Completed**  
This appointment was completed. Find results below.

Inspector  
 BLD- Brooks Bateman [View Inspection Report](#)

---

PLUMBING FINAL PASS

Overall Comment  
—

---

Notes  
—

## Monday, January 12, 2026

2475 N VILLA RD, Newberg, OR 97132

Requested January 11, 2026 at 3:09 pm

 **Completed**

This appointment was completed. Find results below.

Inspector



BLD- Brooks Bateman



[View Inspection Report](#)

**PLUMBING FINAL**

**FAIL**

### Overall Comment

1. Provide strap with 8 nails each side on over notched top late in garage at lineset and second floor same lineset

Check at insulation

### Notes

Garage code is 81018 hold arrow key. Call Mark if any issues thanks

## Messages

No comments yet.

## Step Activity

|  |                        |
|--|------------------------|
| BLD-Mariah Lemen activated this step   | 01/08/2026 at 9:28 am  |
| BLD-Mariah Lemen assigned this step to BLD-Brooks Bateman                      | 01/08/2026 at 9:29 am  |
| markh@pahlisch.com requested an inspection for Jan 12, 2026                    | 01/11/2026 at 3:09 pm  |
| BLD- Brooks Bateman scheduled an inspection for Jan 12, 2026                   | 01/12/2026 at 7:02 am  |
| BLD- Brooks Bateman changed the requested inspection date from Jan 12, 2026 to | 01/12/2026 at 12:24 pm |
| BLD- Brooks Bateman completed an inspection                                    | 01/12/2026 at 12:24 pm |
| BLD- Brooks Bateman scheduled an inspection for Jan 12, 2026                   | 01/12/2026 at 12:34 pm |
| BLD- Brooks Bateman completed an inspection                                    | 01/12/2026 at 12:43 pm |
| BLD-Mariah Lemen completed this step   | 01/22/2026 at 8:35 am  |

City of Newberg, OR

# Inspection Report

**Inspection:** Mechanical Final Inspections

**Inspector:** BLD- Brooks Bateman

**Inspection Date:** Jan 12, 2026

**Record:** \*Building Permit #BLD-25-168

**Location:** 2475 N VILLA RD, Newberg, OR 97132

**Applicant:** Jennifer Mercadante

MECHANICAL FINAL INSP

**Overall Result:** Pass