Print Form

CITY OF PORTLAND, OREGON - BUREAU OF DEVELOPMENT SERVICES

1900 SW Fourth Avenue • Portland, Oregon 97201 • 503-823-7300 • www.portlandoregon.gov/bds

Application for New Single Family Residential Construction (One or Two Units)

6/29

What type of home(s) are you building?

☒ Single family residence ☐ Duplex ☐ Townhouses on individual lots ☐ Townhouses on shared lots

☐ Floating home ☐ Manufactured home on its own lot

☐ Detached accessory dwelling unit (ADU) ☐ Other: _____

If your project includes 3 or more structures built to the Oregon Residential Speciality Code or International Residential Code and are either located on a single tax lot or attached to eath other, you will apply through the Batch Submittal and Review Process. Please contact Permitting Services at 503-823-7357 for more information.

Applicant Information

Company Name Arcon Group Inc

Contact Person Chris Thelen

Mailing Address PO Box 42292

City Portland State OR Zip Code 97242

Office Phone — Cell Phone 503.936.8120 FAX —

Email chrisc arconoregon.com

Lot Owner Name Christopher + Victoria Thelen

Mailing Address 7537 SE Taylor St.

City Portland State OR Zip Code 97215

Contractor Name Arcon Group Inc CCB# OR 53417

Project Information

Tax account number: R 104259 — If you do not know the tax account number, call Multnomah County at 503-988-3326

Cross streets: SW Alta Mira Cr & SW Westwood Dr | Tax lot number: 1S1E 16BD TL 3400

Plat name/number Alta Mira | Block/lot: Lot 9 | Qtr section #:

Living area: 2715 sq.ft. | Basement: — sq.ft. | Garage/carport: 675 sq.ft.

Is there a detached garage/carport or other accessory structure being built? ☐ yes ☒ no

Is there an existing house on the lot that will be demolished? ☐ yes ☒ no

Land Use Review case numbers: Alta Mira PUD CU 25-79

Plan designer/architect name: Christopher Thelen 2021 | Plan # Alta Mira

Has BDS permitted this design previously? ☐ yes ☒ no Permit #

Do you plan on building the same house plan again? ☐ yes ☒ no ☐ not sure

Is this a Master House Plan? ☐ yes ☒ no MHP #

15-187574-RS

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Simple Site Erosion Control Requirements Form

Project or Permit Number Alta Mira Residence 15-187574-RS

Project Address Lot 9 Alta Mira

Name of Responsible Party (print) Chris Thelen

Day Phone 503.936.8120 **FAX** — **email** chris@arconoregon.com

Erosion control inspections are required and it is your responsibility to request these inspections.

Erosion control measures are required on this site. Because of the size and slope, a drawn plan is not required. Erosion Control Measures and inspections are required prior to beginning foundation excavation. This form may only be used for simple sites:

1. Flat (less than 10% slope before development)
2. More than 50 feet from a wetland or waterbody
3. Outside an environmental or greenway zone
4. Less than 10,000 sq. ft. of ground disturbance
5. Not a land division of 10,000 sq. ft. or more

This is an agreement that the applicant and/or responsible parties will use erosion control during this project as required. The applicant and/or responsible party must sign this form to comply with Section 10.40.020 of the Code. Details for the measures outlined below are located in the City of Portland Erosion Control Manual, available at either the Development Services Center or on our Web site at ***www.portlandonline.com/bds***

	Minimum Erosion Control Requirements	Additional Requirements
1.	Temporary sediment control (silt fences, bio-filter bags or fiber rolls, storm drain inlet protection).	Prevent the transport of sediment from the site (Manual Sections 2-2 and 4-2) Call for #200 inspection.These items must be provided even with undisturbed vegetative buffers as allowed by manual.
2.	Stabilize access points by installing a gravel construction entrance. Do not use rock or dirt ramps in the gutter, use a wood ramp if needed to get over curb.	Limit construction vehicle access, whenever possible, to one route. Stabilize access points. Provide street cleaning by sweeping or shoveling any sediment that may have been tracked out. Place sediment in a suitable disposal area where it will not erode again. (Manual Sections 2-2 and 4-1)
3.	Stabilize all soils, including stockpiles that are temporarily exposed. Use one or more of the temporary soil stabilization Best Management Practices (BMP's): temporary grasses, mulch applications, erosion blankets, plastic sheeting, plus dust control measures.	Soil Stabilization (Manual Sections 2-2 and 4-4)
4.	Maintain erosion controls identified in requirements 1 through 3 above according to specifications prescribed in manual.	Inspect and maintain required erosion and sediment controls to ensure continued performance of their intended function. (Manual Chapters 4 and 5)
5.	Comply with the necessary development activity controls, including controls for fuel spill control, waste removal, concrete waste management or painting preparation.	During construction, prevent the introduction of pollutants in addition to sediment into stormwater. (Manual Section 5)
6.	Use one or more of the following to permanently stabilize soils before final building inspection: Permanent vegetative cover, mulch applications or application of sod.	After construction but before project completion, permanently stabilize all exposed soils that have been disturbed during construction. (Manual Sections 4-4)
7.	Prevent sediment from entering all storm drains, including ditches, which receive runoff from the disturbed area	Remove temporary drain inlet protection measures after final site clean-up. Call for #210 inspection.
8.	Post signage on-site that identifies the City's Erosion Control complaint number	The sign will be provided upon approval of the pre-construction inspection. It must be maintained on-site until the final inspection.

You must request a preconstruction erosion control inspection prior to construction. Call 503-823-7000 and request a #200 inspection using your IVR number.

I agree to meet each requirement and use appropriate erosion control measures as outlined above to prevent erosion and sedimentation from leaving the site of project/permit number referenced. **I understand that all inspections are still required**, and that failure to install or maintain adequate measures may result in a re-inspection fees or additional fines. A permanent erosion control inspection #210 will be required prior to a final building inspection.

Signature of Responsible Party
Property Owner or Owner's Agent _____ Date 6/17/15

City of Portland, Oregon - Bureau of Development Services

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New Single Family Residential Minimum Submittal Checklist and Sample Site Plan

Folder number:	15-187574-RS	Date:	6/17/2015

The information listed below is the minimum information required for a complete submittal package. If items are missing or incomplete, we will not accept your project for review. The completeness and complexity of the plans will determine how quickly they are reviewed.

Documents required for all submittals		staff use
1	**Application Form** Including applicant contact information, lot owner, contractor, and property identification details (Tax ID Number, R Number, and Legal Description)	☑ provided
2	**This Submittal Checklist** Completed with all attachments as needed clearly indicated	☑ provided
3	**Fixtures Worksheet** Completed worksheet outlining all electrical, mechanical, and plumbing fixtures	☑ provided
4	**Residential Water Service Application** Completed form detailing plumbing fixtures to be installed and authorization to create Water Bureau account	☑ provided
5	**Erosion Control Plan (4 copies)** Provide an erosion control plan or, if eligible, complete and sign the Simple Site Erosion Control Requirement form.	☑ provided
6	**Energy Efficiency Additional Measures Form** Check the boxes next to the measures you have selected. Note that the building plans must also indicate the additional measure you have chosen.	☑ provided
7	**Radon Control Method(s)** Check the box or boxes next to the radon mitigation method you have selected.	☑ provided
8	**Stormwater Management Simplified Approach (SIM) Form** Completed form with stormwater facility, discharge point, and infiltration tests indicated. Please refer to Appendix D3 of the BES Stormwater Management Manual at www.portlandonline.com/bes/2008swmm	☑ provided
Documents that may be required for your submittal *(Text in italics describe the circumstances for which these items are typically required)*		
9	**Fire Sprinklers (2 copies)** *if the proposed structure is more than 3 stories OR if required as a condition of applicable Land Use Review.* Fire sprinklers must be reviewed by the BDS Plumbing Division. Fire sprinkler submittals must include hydraulic calculations, the manufacturer's cut sheets for the sprinkler heads, and a floor plan showing the location of all sprinkler equipment. Fire sprinklers may be may be submitted as a "deferred submittal" item for a $123 charge. Please advise intake staff if you want to use this option.	☑ n/a ☐ provided
10	**Townhouse Maintenance Agreement** *for 2-unit townhouse applications.* Include a completed and signed but unrecorded Building Maintenance Agreement – a sample template can be found on the BDS website at http://www.portlandoregon.gov/bds	☑ n/a ☐ provided
11	**Geotechnical/soils report (2 copies)** *for sites with slopes in excess of 20%, within soils hazard areas, or where a special foundation system relying on lateral soil bearing is employed.* Provide geotechnical or soils report from a geotechincal engineer licensed in Oregon.	☐ n/a ☑ provided
12	**Manufactured roof truss design details (2 sets)** *for buildings using manufactured roof trusses.* Provide roof truss drawings and layout stamped by an engineer licensed in Oregon. Roof trusses may be may be submitted as a deferred submittal item for a $123. Please advise intake staff if you want to use this option.	☑ n/a ☐ provided

13	**Manufactured floor truss design details (2 sets)** *for buildings using manufactured floor trusses.* Provide floor truss drawings and layout stamped by an engineer licensed in Oregon. Manufactured floor system designs/calculations must be provided at time of submittal.	☐ n/a ☑ provided
14	**Engineer's calculations (1 set)** *for buildings using engineered lateral systems.* Engineering calculations shall be prepared and stamped by an architect or engineer licensed in Oregon as applicable to the project under review. Lateral design details and connections must be incorporated into the plans or on a separate full size sheet attached to the plans with cross-references between plan location and details.	☐ n/a ☑ provided
15	**Beam calculations (1 set)** *for buildings with beams and/or multiple joists over ten feet in length and/or any beam/joist carrying a non-uniform load or for cantilever conditions.* Calculations stamped by an engineer are required for beams supporting loads from more than one level or beams supporting overturning loads from discontinuous shear walls.	☐ n/a ☑ provided
16	**Residential Structural Plan Review Exemption Form** *if this option is selected by the owner and engineer.* The exemption form must have original signatures from both the owner and the engineer. Faxes and photocopies are not acceptable. If the structural exemption form is signed, no formal structural review will be conducted on the submitted plans and the building owner is responsible for any field corrections that may be necessary as a result of the inspection process; however, this does not exempt a project from other required reviews (Life Safety, Planning, etc).	☑ n/a ☐ provided
	Plans required for all submittals	
17	**Building Plans (4 copies)** Plans must be legible, drawn to scale, and show conformance to the applicable local and state building codes. **Each set should include the following:**	☑ provided
17a	**Foundation Plan** Show dimensions, anchor bolts, any hold-down types and locations, connection details, vent size and location, location and size of crawl space access.	☑ provided
17b	**Floor Plans** Show all dimensions, room identification, window type and size, location of smoke detectors, water heater, furnace, ventilation fans, plumbing fixtures, balconies and decks, location and construction details for stairs and handrails.	☑ provided
17c	**Cross Sections and Details** Show sizes and spacing for all framing members, such as floor beams, headers, joists, sub-floor, wall construction, roof construction. More than one cross section may be required to clearly portray construction. Show details of all wall and roof sheathing, roofing, roof slope, ceiling height, siding material, footings and foundation, stairs, fireplace construction, thermal insulation.	☑ provided
17d	**Building Elevation Views** Provide exterior elevations for all sides showing materials, doors, windows, and both existing and proposed finished grades. Building elevations must match the finished grades shown on the site plan. New detached ADU requires elevations of existing house.	☑ provided
17e	**Energy Code Compliance** Identify the prescriptive energy path or provide energy calculations.	☑ provided
17f	**Bracing/Lateral Load System Details** and locations of lateral load resisting elements must be shown on the plans. The lateral system may be prescriptive per requirements of the Oregon Residential Specialty Code OR may be engineered to the requirements of the Oregon Residential Specialty Code. If engineered, all building drawings and calculations must be stamped by an engineer or architect licensed in Oregon. Drawings must be complete with all required engineered details included on full-size sheets attached to every set of plans.	☑ provided
17g	**Floor/Roof Framing Plans** Show member sizing, spacing, bearing locations. Show location of attic ventilation, size and location of attic access.	☑ provided
17h	**Basement and Retaining Wall Cross-Sections and Details** Show reinforcement sizes and locations, footing sizes, etc. Retaining walls greater than 4 ft or basement walls greater than 10 ft in height must be engineered with calculations stamped by an engineer. Retaining walls must be shown on the site plan.	☐ n/a ☑ provided
17i	**Deck Plans** Deck framing plans, guardrail details, and deck connection details must be included in building plans.	☑ n/a ☐ provided

18	Site/Plot plans (4 copies) Site plans must be drawn to scale. Minimum scale requirement is 1"=10'. Minimum paper size is 11"x17", with sufficient white space provided for reviewers' notes and stamps.	☑ **provided**
	Your site plan must include all of the following elements:	
18a	North arrow	☑
18b	Property and building corner elevations [see "J" on sample site plan]	☑
18c	If there is more than a 4 foot elevation differential, the site plan must show existing and proposed elevation contours at 2' intervals [see "L" and "M" on sample site plan]	☑
18d	Footprint of new & existing structures, including decks and retaining walls [see "K" on sample site plan]	☑
18e	Lot & building dimensions	☑
18f	Setbacks dimensions for the following - building(s) to property line, building to building, front door to property line, garage door to property line [see "H" and "I" on sample site plan]	☑
18g	Lot area	☑
18h	Building area (not including eaves)	☑
18i	Building coverage % (building area/lot area = % coverage)	☑
18j	Impervious area (include structures, paving, and roof overhangs)	☑
18k	Stormwater facility - location, type, size, and setbacks from buildings and property lines [see "O" on sample site plan]	☑
18l	Stormwater discharge point - location and type of discharge point (e.g. drywell, trench, storm or combo sewer, drainageway, ditch etc) - a separate discharge point is not needed if the primary stormwater facility is a drywell or soakage trench	☑
18m	Utilities - location, size, and type of pipe for water, sewer, storm, and gas [see "G" on sample site plan]	☑
18n	Septic system and/or well locations, types, and sizes (if applicable)	NA ☐
18o	Driveway location, size, and material	☑
18p	Street & right-of-way configuration, including curb, planting strip, sidewalk, and buffer [see "F" on sample site plan]	☑
18q	Location and dimensions of all easements on property [see "N" on sample site plan]	NA ☐
18r	Landscaping - show the location, size, and species of proposed trees [see "C" on sample site plan] AND/OR root protection for existing trees to be preserved on lot [see "A" and "B" on sample site plan]	☐ NA
18s	Street trees - show existing street trees to be removed or preserved [see "D" on sample site plan] AND/OR provide room for new street trees in public right-of-way [see "E" on sample site plan]	☐ NA

Applicant name (print) Chris Thelen

Signature _____ **Date** 6/17/15

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Residential Fixtures Worksheet

Please list the mechanical, electrical and plumbing fixtures you are planning to install for your new single family residential construction project.

Mechanical Fixture	Quantity
Heating and Cooling	
Air conditioner (site plan required)	
Furnace/burner including ductwork/vent/liner	
Heat pump (site plan required)	1
Air handling unit	
Hydronic hot water system	
Residential boiler (radiator or hydronic)	
Unit heaters (fuel type, not electric): in-wall, in-duct, suspended, etc.	
Vent for appliance other than furnace	
Gas fireplace	1
Flue vent for water heater or gas fireplace	1
Wood/pellet stove	
Chimney/liner/flue/vent	
Range hood/other kitchen equipment	1
Clothes dryer exhaust	2
Single duct exhaust fans (bathrooms, toilet compartments, utility rooms)	4
Attic/crawl space fans	
Other: Mini Split Heads	4
Gas Fuel Piping: indicate number of outlets	
Furnace	
Wall/suspended/unit heater	
Water heater/boiler	1
Fireplace	1
Range	1
Barbecue	
Clothes dryer	
Other:	

Plumbing Fixture	Quantity
Bathrooms (full or partial)	4
Kitchens*	1
Laundry/utility sinks*	1
Bar sinks	1
Water heaters/boilers*	1
Clothes washers*	2
Rain drain: # of feet around perimeter of house	110 L'
Sanitary sewer: # of feet from house to property line	47L'
Storm sewer: # of feet from house to property line or disposal system	33L'
Water line: # of feet from house to property line	5'
Fire sprinklers: # of sq. ft. of house to be sprinklered (include basement, exclude garage)	
Other:	

** The first kitchen, water heater, clothes washer and laundry/utility sink are included in the basic plumbing package*

Electrical Fixture	Quantity
Area of house in sq. ft. to be wired (including basement and attached garage)	3390
Additional circuits for detached garage	
Limited energy electrical wiring (check yes if you are installing any of the following: telephone, cable TV, security systems, doorbell, computer network cables, thermostat, vacuum system)	☒ yes ☒ no
Temporary electrical service	☒ yes ☒ no
Other:	

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Radon Control Methods
2011 Oregon Residential Specialty Code, Appendix F

New habitable residential structures shall have radon gas mitigation. Indicate the method(s) of radon gas mitigation to be installed in the structure:

☒ **Crawl space construction:**

- ☐ Mechanically ventilated (detailed on plans); or
- ☒ Passive sub-membrane depressurization; or
- ☐ Permanently open foundation ventilation per R408.1 and a blower-door building tightness test. Test results to be provided to the building inspector prior to final inspection approval.

☒ **Slab-on-grade or basement construction:**

- ☒ Passive depressurization system, with 4" thick layer of gas-permeable aggregate below slab.

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2014 Energy Efficiency Additional Measures Requirements

All new dwellings and areas that are added to existing dwellings shall meet the envelope requirements of ORSC Table N1101.1(1). Portions of existing dwellings that are affected by new construction shall meet the envelope requirements of ORSC Table N1101.2. In addition, Additional Measure Requirements per ORSC N1101.1 (for new construction) and N1101.3 (for additions) are required as follows:

☒ Construction of **New Residential Structure**: Complete Sections A **and** B

☐ Construction of **Large Additions** (additions of 600 SF or more, or additions that are more than 40% of the existing heated floor area): Complete Sections A **and** B

☐ Construction of **Small Additions** (additions that are between 400 and 600 SF, or between 15 to 40% of the existing heated floor area): Complete Section C, or either Section A or B (for entire structure).

☐ **Exempt Additions**: If the added floor area is less than 15% of the existing heated floor area, or less than 200 sf, no additional measures are required.

All Energy Efficiency components must be reflected on the plans. For all structures, a minimum of 50% of permanently installed lighting fixtures shall have high efficacy lamps.

Section A: Envelope Enhancement Measure, Table N1101.1(2) (Select One)

☐ **1 High efficiency walls & windows:**

- Exterior walls – R-19+5 (insulation sheathing)/SIPS, and one of the following options:
  - ☐ Windows – Max 15% of conditioned area, **or**
  - ☐ Windows – U-0.30

☒ **2 High efficiency envelope:**

- Exterior walls – R-21 Intermediate framing, **and**
- Vaulted ceilings – R-30 Advanced framing, **and**
- Flat ceilings – R-49, **and**
- Framed floors – R-38, **and**
- Windows – U-0.30, **and**
  - ☐ Doors – All doors U-0.20, **or**
  - ☒ Additional 15% of permanently installed lighting fixtures as high-efficacy lamps or Conservation Measure D and E

☐ **3 High efficiency ceiling, windows and duct sealing:**
(Cannot be used with Section B: Conservation Measure E)

- Vaulted ceilings – R-30 Advanced framing (not more than 50% of the heated floor area), **and**
- Flat ceilings – R-49, **and**
- Windows – U-0.30, **and**
- Performance tested duct systems (ODOE documentation to be submitted to building inspector prior to final inspection)

(Continued to page 2)

☐ **4 High efficiency thermal envelope UA:**

- Proposed UA is 15% lower than the Code UA when calculated in Table N1104.1(1)

☐ **5 Building tightness testing, ventilation and duct sealing:**

- Mechanical system providing whole-building ventilation per Table N1101.1(3), or ASHRAE 62.2, **and**
- Performance tested duct systems (ODOE documentation to be submitted to building inspector prior to final inspection), **and**
- Blower door test report submitted to building inspector prior to final inspection showing ≤ 6.0 air changes per hour.

☐ **6 Ducted HVAC systems within conditioned space:**
(Cannot be used with Section B: Conservation Measure B or C)

- All ducts and air handler are contained within heated building envelope

Section B: Conservation Measure, Table N1101.1(2) (Select One)

☐ **A High efficiency HVAC system - Select one of the following options:**

☐ Gas-fired furnace or boiler with 90% minimum AFUE (sealed combustion air ducted directly from outdoors if furnace or boiler is within conditioned space), **or**

☐ Air-source heat pump 8.5 minimum HSPF, **or**

☐ Closed-loop ground source heat pump with 3.0 minimum COP

☐ **B Ducted HVAC systems within conditioned space:**

- All ducts and air handlers are within heated building envelope

☒ **C Ductless heat pump:**

- Replace electric resistance heating in at least the primary zone with at least on ductless mini-split heat pump with 8.5 minimum HSPF

☐ **D High efficiency water heating and lighting:**

- Natural gas/propane, on-demand water heating with 0.80 minimum EF, **and**
- Minimum 75% of permanently installed lighting fixtures as CFL or linear fluorescent or minimum 40 lumens per watt

☐ **E Energy management device & duct sealing:**

- Whole building energy management device capable of monitoring or controlling energy consumption, **and**
- Performance tested duct systems (ODOE documentation to be submitted to building inspector prior to final inspection), **and**
- 75% of permanently installed lighting fixtures as high-efficacy lamps

☐ **F Solar voltaic:**

- Minimum 1 watt per square foot of conditioned floor space with Total Solar Resource Fraction ≤ 75%

☐ **G Solar water heating:**

- 40 square feet minimum gross collector area with Total Solar Resource Fraction ≤ 75%

(Continued to page 3)

Malia S.

Zoning Plan Examination Checksheet Response

Permit #: 15-187574-000-00-RS **Date:** 8/7/16

Customer name and phone number: Chris Tullen 503.936.8120

NOTE: *Please number each change in the '#' column. Use as many lines as necessary to describe your changes. Indicate which reviewer's checksheet you are responding to and the item your change addresses. If the item is not in response to a checksheet, write* **customer** *in the last column.*

#	Description of changes, revisions, additions, etc.	Checksheet and item #
1	Sink covenant. You should have or be receiving a copy as I mailed it on 8/5. I will include a copy here and route to you.	
2	I believe all items are now resolved.	
3	Since we are not ready for the tree planting issue with the neighbors, and in the interest of needing to proceed with the permit, please add payment into the tree fund as noted on sheet A1.1	A1.1

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AUG 08 2016
DOCUMENT SERVICES

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MALIA SWILANENKO

Zoning Plan Examination Checksheet Response

Permit #: 15-187574-000-00-RS **Date:** 7/18/16

Customer name and phone number: Chris Thelen 503-936-8120

NOTE: *Please number each change in the '#' column. Use as many lines as necessary to describe your changes. Indicate which reviewer's checksheet you are responding to and the item your change addresses. If the item is not in response to a checksheet, write* **customer** *in the last column.*

#	Description of changes, revisions, additions, etc.	Checksheet and item #
1	See LU 15-252585 and revised plans for revisions • front setbacks approved to 5' and 15' with 2' eave projections • West side setback approved to 5' with 12" eave and bay window projections • Gas fireplace deleted @ West Elevation • see sheet A1.3 for tree protection on lot to west.	Zoning #1
2	Is it possible to do a deferred submittal for tree planting? We are still working with the HOA on this, but don't want to hold up permit	Zoning #2
3	See revised elevation drawings for building height. A 3.1, 3.2	Zoning #3
4	See revised site plans for 20' driveway width at front property line.	Zoning #4

(for office use only)

Beth Copeland SD

City of Portland, Oregon
Bureau of Development Services
Plan Review / Permitting Services
FROM CONCEPT TO CONSTRUCTION

Dan Saltzman, Commissioner
Paul L. Scarlett, Director
Phone: (503) 823-7310
Fax: (503) 823-4172
TTY: (503) 823-6868
www.portlandoregon.gov/bds

BDS Checksheet Response

Permit #: 15-187574 RS **Date:** 8/7/16

Customer name and phone number: Chris Thelen 503.936.8120

Note: Check which review you are responding to. Please provide specific information concerning the changes you have made in response to the checksheet. Note the checksheet item number. Describe the change, revision, or correction. Identify the location on the plans (i.e. page number and/or detail number). Use as many lines as needed. *If the item is not in response to a checksheet, write **"Applicant"** in the column labeled "Checksheet item number."*

☐ **Planning**	☐ **Structural**	☐ **PBOT**	☐ **Fire**	☐ **Plumbing**
☐ **Life Safety**	☐ **BES Pollution Prevention**	☐ **BES**	☐ **Water**	☒ **Site Dev.**
☐ **Electrical**	☐ **Urban Forestry**	☐ **Addressing**	☐ **Parks & Recreation**	

Please use this sheet to submit your response to only one of the above review groups. If you need to respond to more than one review group, you will need a separate Checksheet Response Form for each group.

Checksheet item number	Description of changes, corrections, additions, etc.	Location on plans
—	No off site grading for this permit. See revised sheet A1.2	A1.2

Checksheet item number	Description of changes, corrections, additions, etc.	Location on plans

NICHOLE H

BES Plan Check Corrections Response

Permit #: 15-187574-000-00-RS **Date:** 7/18/16

Customer name and phone number: Chris Thelen 503.936.8120

Note: In the spaces below, please provide specific information concerning the changes that you have made in response to the checksheet. Note the checksheet item number, your response or a description of the revision, and the location of the change on the plans (i.e. page number and/or detail number). Use as many lines as needed. *If the item is not in response to a checksheet, write* ***"Applicant"*** *in the column labeled "Checksheet item number."*

Checksheet item number	Description of changes, revisions, additions, etc.	Location on plans
1	See revised plan and o+m for flow through planter	A1.2 S1.0
2	See revised storm sewer disposal point at west property line.	A1.2
3	See simplified form for SW130 and structural cross section of planter on o+m form and LU 15-252585	SD1 detail Simp Form
4	See O+M form	

Plan Bin Location: 74RS

CITY OF
PORTLAND, OREGON
BUREAU OF ENVIRONMENTAL SERVICES
1900 SW 4TH AVE, SUITE 2100
Portland, OR 97201

BES PLAN EXAMINATION CHECK SHEET

Application # **15-187574-000-00-RS**

Review Date: **July 27, 2016**

IVR# **3650772**

To:	APPLICANT	**CHRISTOPHER THELEN** **ARCON GROUP INC** **PO BOX 42292** **PORTLAND, OR 97242**	Work Home E-Mail	503 936-8120 503 - CHRIS@ARCONOREGON.COM
From:		**NICOLE HITTLE**	Phone Fax E-Mail	503-823-5609 503 823-7692 Nicole.Hittle@portlandoregon.gov
cc:	OWNER	**CHRISTOPHER H THELEN & M VICTORIA THELEN** **7533 SE TAYLOR ST** **PORTLAND, OR 97215-2266**	 E-Mail	(503) 936-8120 CHRIS@ARCONOREGON.COM

PROJECT INFORMATION

Street Address:	5434 SW ALTA MIRA CIR
Description of Work	NEW SINGLE FAMILY RESIDENCE/MAIN FLOOR WITH DAYLIGHT BASEMENT/ATTACHED GARAGE/SLOPE GREATER THAN 20%/COMPLEX

The following are items that will need to be addressed prior to plan approval by the Bureau of Environmental Services. Approval of your plan for sanitary and storm management facilities by BES does not mean your building permit can be immediately issued; BES is only one of many bureaus that review your building plan.

Item #	Location on plans	Clarifications / Corrections Required
1.		Need 2 copies of the recorded Encroachment easement.
2.		Ok to have O&M notarized and recorded with Multnomah County. Please email me a complete copy of the recorded O&M. Make sure to include the Simplified O&M Specifications for planters (I attached in email) doc before recording with the county.
3.		Please include a cross-section of the flow through planter in plan set.
4.	Info only	It is recommended that you go through a plumbing code appeal for the private storm sewer easement; see the BDS Appeals page for more information, including an online appeals form.
5.	Info only	It is recommended that you have your easement reviewed by BDS. The current easement reviewer is Emily Sandy: Emily.Sandy@portlandoregon.gov

To respond to this checksheet, come to the Bureau of Development Services located at 1900 SW Fourth Ave. The Development Service Center (1st floor) and Permitting Services (2nd floor) are open Monday through Friday from 8:00 a.m. to 3:00 p.m. (close at noon on Thursday). Please update all sets of submitted drawings by either replacing the original sheets with new sheets, or editing the originally submitted sheets. You can review "How to Update Your Plans in Response to a Checksheet" at http://www.portlandoregon.gov/bds/article/93028 Visit the BDS website for more helpful information and a current listing of services available in the Development Services Center.

Please complete the attached Checksheet Response Form and include it with your re-submittal.

Nicole Hittle

BES Plan Check Corrections Response

Permit #: 15-187574-000-00-RS **Date:** 8/7/16

Customer name and phone number: Chris Thelen 503-936-8120

Note: In the spaces below, please provide specific information concerning the changes that you have made in response to the checksheet. Note the checksheet item number, your response or a description of the revision, and the location of the change on the plans (i.e. page number and/or detail number). Use as many lines as needed. *If the item is not in response to a checksheet, write* ***"Applicant"*** *in the column labeled "Checksheet item number."*

Checksheet item number	Description of changes, revisions, additions, etc.	Location on plans
1	Tom should have Encroachment agree-	
	ment	
2	Tom should have the O&M.	
3	I will attach the section of	
	the flow thru planter to	
	each plan set as sheet S1.0	S1.0
4	ok thanks	
5	ok thanks	

Plan Bin Location: 74RS

NATALIE DAVIS

Life Safety & Structural Checksheet Response

Permit #: 15-187574-000-00-RS **Date:** 7/18/16

Customer name and phone number: Chris Thelen 503.936.8120

Note: In the spaces below, please provide specific information concerning the changes that you have made in response to the checksheet. Note the checksheet item number, your response or a description of the revision, and the location of the change on the plans (i.e. page number and/or detail number). Use as many lines as needed. *If the item is not in response to a checksheet, write* ***"Applicant"*** *in the column labeled "Checksheet item number."*

Checksheet item number	Description of changes, corrections, additions, etc.	Location on plans
1	See Sheet A2.1 for 'Art Studio'	A2.1
2	See revised elevations and window schedule for updates. Egress windows are casements that meet min. opening req'mts	A2.1 A2.1 - 2.2
3	See revised drawings showing smoke and CO^2 alarm locations	A2.1-2
4	There is a bearing wall between the Storage room and crawl space with 9'x3'-6" openings on each side to crawl space.	A2.1 S1.0, 2.0
5	See notes on sheet A5.1 for requested clarifications	A5.1
6	See memo from engineer, 2 copies provided. See also notes on sheets regarding bearing and beam sizes	S1.0-2.1

Plan Bin Location: 74RS

FROELICH
ENGINEERS
www.froelichengineers.com

Main Office
6969 SW Hampton St.
Portland, Oregon 97223
503-624-7005

Central Oregon
745 NW Mt. Washington Dr. #205
Bend, Oregon 97701
541-383-1828

Denver Office
12303 Airport Way, Suite 200
Broomfield, Colorado 80021
720-560-2269

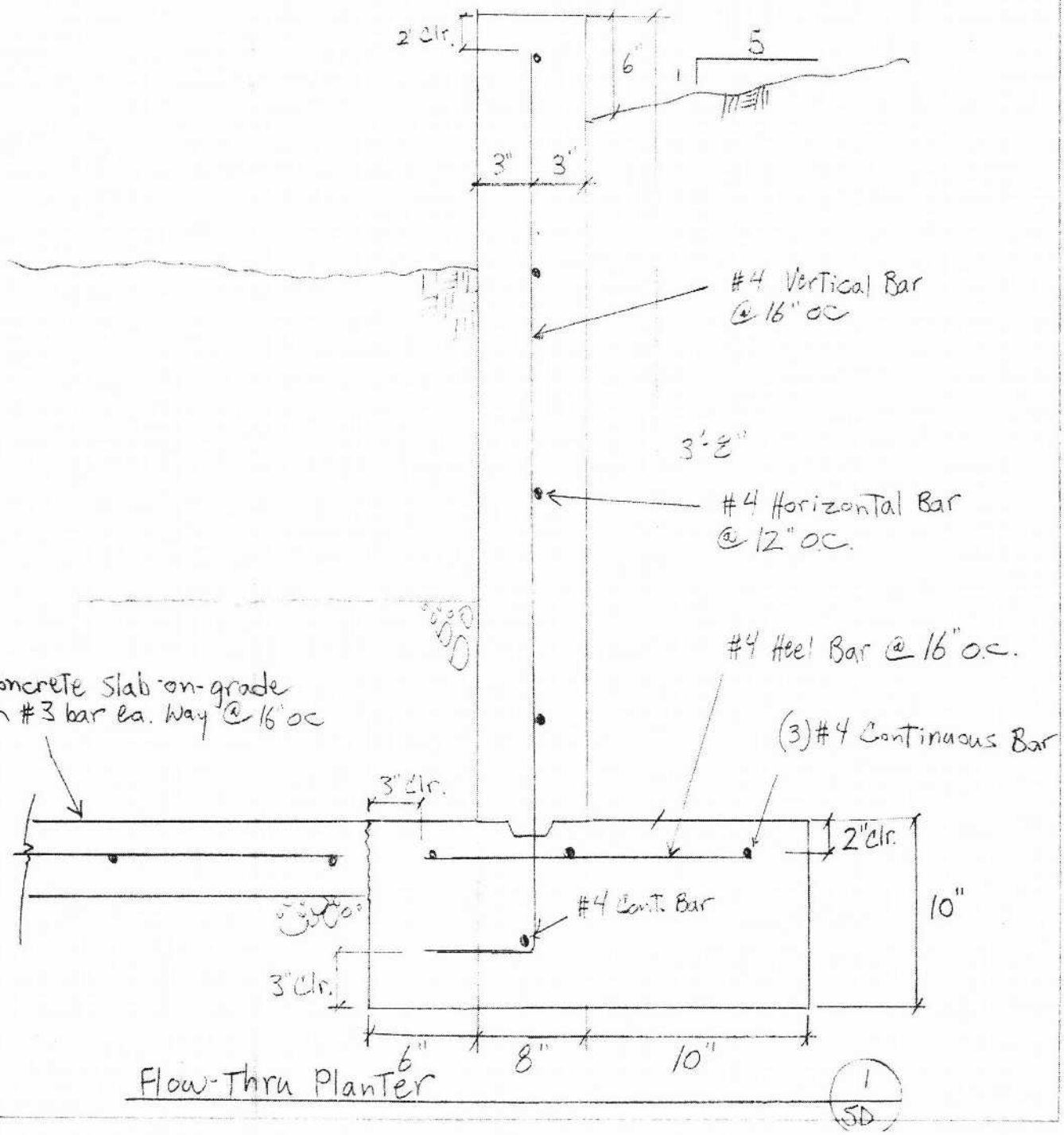
CLIENT: Chris Thelen

PROJECT: Alta Vista Flow-Thru Planter

NUMBER: 15-T070

DATE: 12/18/2015

BY: TWN



Flow-Thru Planter

1/SD

FROELICH
ENGINEERS

Memorandum

Job Name: Alta Mira Residence
FE Job #: 15-T070
Re: Structural Plan Review

6. Sheet 13 shows a calculation for C4 supporting roof beam RB6. This beam used to span left to right over the center of the garage. The roof plan was revised to use heavier joists that span the full depth of the garage. Thus, RB6 and C4 are no longer used.

The C5 calculation was for a column supporting roof beam RB6 and floor beam FB3 and is no longer used.

C6 shows the calculation for support of FB3 only. FB3 occurs at 2 locations and now spans 8'-9". See attached revised calculation for FB3 specifying a 5-1/8"x10-1/2" GL beam. The total reaction for FB3 is 5773 lbs. C6 posts down on retaining wall footings with a minimum width of 2'-3". No additional spread footings are needed at these columns. C6 can be a (2)-2x6 DF #2 post – see attached calculation.

☑ PORTLAND OFFICE 6969 SW Hampton Street Portland, Oregon 97223 503-624-7005
☐ CENTRAL OREGON 745 NW Mt. Washington Dr., Suite #205 Bend, Oregon 97701 541-383-1828
☐ DENVER OFFICE 12303 Airport Way, Suite #200 Broomfield, Colorado 80021 720-560-2269
www.froelich-engineers.com

WoodWorks® SOFTWARE FOR WOOD DESIGN	COMPANY	PROJECT
	July 8, 2016 08:54	FB3 a.wwb

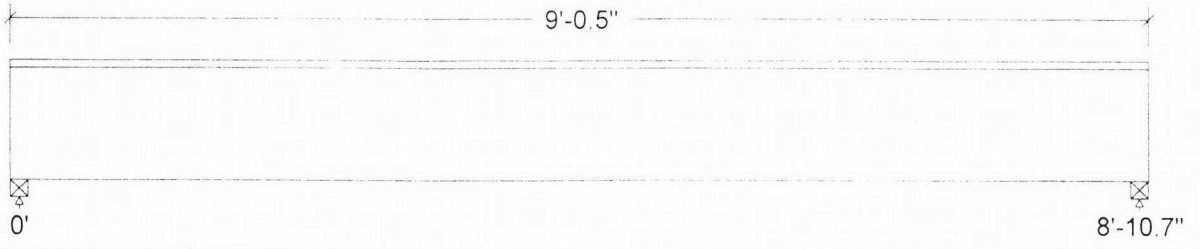
Design Check Calculation Sheet

WoodWorks Sizer 10.2

Loads:

Load	Type	Distribution	Pat-tern	Location [ft] Start	End	Magnitude Start	End	Unit
Load1	Dead	Full UDL				715.0		plf
Load2	Live	Full UDL				550.0		plf
Self-weight	Dead	Full UDL				12.4		plf

Maximum Reactions (lbs), Bearing Capacities (lbs) and Bearing Lengths (in) :



Unfactored:			
Dead	3287		3287
Live	2486		2486
Factored:			
Total	5773		5773
Bearing:			
Capacity			
Beam	5773		5773
Supports	5957		5957
Anal/Des			
Beam	1.00		1.00
Support	0.97		0.97
Load comb	#2		#2
Length	1.73		1.73
Min req'd	1.73		1.73
Cb	1.00		1.00
Cb min	1.00		1.00
Cb support	1.07		1.07
Fcp sup	625		625

Glulam-Unbal., West Species, 24F-1.8E WS, 5-1/8"x10-1/2"

7 laminations, 5-1/8" maximum width,
Supports: All - Timber-soft Beam, D.Fir-L No.2
Total length: 9'-0.5";
Lateral support: top= full, bottom= at supports;

Analysis vs. Allowable Stress (psi) and Deflection (in) using NDS 2012 :

Criterion	Analysis Value	Design Value	Analysis/Design
Shear	fv = 125	Fv' = 265	fv/Fv' = 0.47
Bending(+)	fb = 1610	Fb' = 2400	fb/Fb' = 0.67
Live Defl'n	0.09 = <L/999	0.30 = L/360	0.29
Total Defl'n	0.20 = L/527	0.44 = L/240	0.45

Additional Data:

FACTORS:	F/E(psi)	CD	CM	Ct	CL	CV	Cfu	Cr	Cfrt	Notes	Cn*Cvr	LC#
Fv'	265	1.00	1.00	1.00	-	-	-	-	1.00	1.00	1.00	2
Fb'+	2400	1.00	1.00	1.00	1.000	1.000	1.00	1.00	1.00	1.00	-	2
Fcp'	650	-	1.00	1.00	-	-	-	-	1.00	-	-	-
E'	1.8 million		1.00	1.00	-	-	-	-	1.00	-	-	2
Eminy'	0.85 million		1.00	1.00	-	-	-	-	1.00	-	-	2

CRITICAL LOAD COMBINATIONS:

Shear : LC #2 = D+L, V = 5681, V design = 4471 lbs

Bending(+): LC #2 = D+L, M = 12633 lbs-ft

Deflection: LC #2 = D+L (live)

LC #2 = D+L (total)

D=dead L=live S=snow W=wind I=impact Lr=roof live Lc=concentrated E=earthquake

All LC's are listed in the Analysis output

Load combinations: ASCE 7-10 / IBC 2012

CALCULATIONS:

Deflection: EI = 890e06 lb-in2

"Live" deflection = Deflection from all non-dead loads (live, wind, snow…)

Total Deflection = 1.00(Dead Load Deflection) + Live Load Deflection.

Design Notes:

1. WoodWorks analysis and design are in accordance with the ICC International Building Code (IBC 2012), the National Design Specification (NDS 2012), and NDS Design Supplement.
2. Please verify that the default deflection limits are appropriate for your application.
3. Glulam design values are for materials conforming to ANSI 117-2010 and manufactured in accordance with ANSI A190.1-2007
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 Fcp(tension), Fcp(comp'n).

WoodWorks® SOFTWARE FOR WOOD DESIGN	COMPANY	PROJECT
	July 8, 2016 08:53	FB3 b.wwb

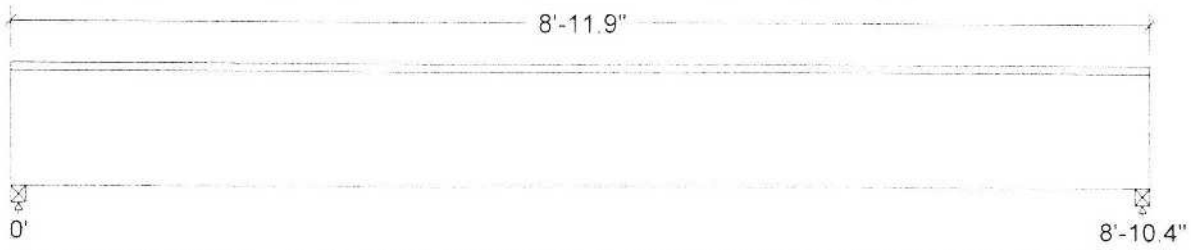
Design Check Calculation Sheet

WoodWorks Sizer 10.2

Loads:

Load	Type	Distribution	Pat-tern	Location [ft] Start	End	Magnitude Start	End	Unit
Load1	Dead	Full UDL				715.0		plf
Load3	Live	Point		4.38		3000		lbs
Self-weight	Dead	Full UDL				12.4		plf

Maximum Reactions (lbs), Bearing Capacities (lbs) and Bearing Lengths (in) :



Unfactored:			
Dead	3269		3268
Live	1539		1461
Factored:			
Total	4808		4729
Bearing:			
Capacity			
Beam	4808		4729
Supports	4961		4880
Anal/Des			
Beam	1.00		1.00
Support	0.97		0.97
Load comb	#2		#2
Length	1.44		1.42
Min req'd	1.44		1.42
Cb	1.00		1.00
Cb min	1.00		1.00
Cb support	1.07		1.07
Fcp sup	625		625

Glulam-Unbal., West Species, 24F-1.8E WS, 5-1/8"x10-1/2"

7 laminations, 5-1/8" maximum width,
Supports: All - Timber-soft Beam, D.Fir-L No.2
Total length: 8'-11.9";
Lateral support: top= full, bottom= at supports;

Analysis vs. Allowable Stress (psi) and Deflection (in) using NDS 2012 :

Criterion	Analysis Value	Design Value	Analysis/Design
Shear	fv = 114	Fv' = 265	fv/Fv' = 0.43
Bending(+)	fb = 1758	Fb' = 2400	fb/Fb' = 0.73
Live Defl'n	0.08 = <L/999	0.30 = L/360	0.29
Total Defl'n	0.20 = L/536	0.44 = L/240	0.45

Additional Data:

FACTORS:	F/E(psi)	CD	CM	Ct	CL	CV	Cfu	Cr	Cfrt	Notes	Cn*Cvr	LC#
Fv'	265	1.00	1.00	1.00	-	-	-	-	1.00	1.00	1.00	2
Fb'+	2400	1.00	1.00	1.00	1.000	1.000	1.00	1.00	1.00	1.00	-	2
Fcp'	650	-	1.00	1.00	-	-	-	-	1.00	-	-	-
E'	1.8 million		1.00	1.00	-	-	-	-	1.00	-	-	2
Eminy'	0.85 million		1.00	1.00	-	-	-	-	1.00	-	-	2

CRITICAL LOAD COMBINATIONS:

```
Shear     : LC #2  = D+L, V =   4765, V design =   4084 lbs
Bending(+): LC #2  = D+L, M =  13795 lbs-ft
Deflection: LC #2  = D+L  (live)
            LC #2  = D+L  (total)
D=dead L=live S=snow W=wind I=impact Lr=roof live Lc=concentrated E=earthquake
All LC's are listed in the Analysis output
Load combinations: ASCE 7-10 / IBC 2012
```

CALCULATIONS:

```
Deflection:  EI =    890e06 lb-in2
"Live" deflection = Deflection from all non-dead loads (live, wind, snow…)
Total Deflection = 1.00(Dead Load Deflection) + Live Load Deflection.
```

Design Notes:

1. WoodWorks analysis and design are in accordance with the ICC International Building Code (IBC 2012), the National Design Specification (NDS 2012), and NDS Design Supplement.
2. Please verify that the default deflection limits are appropriate for your application.
3. Glulam design values are for materials conforming to ANSI 117-2010 and manufactured in accordance with ANSI A190.1-2007
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 Fcp(tension), Fcp(comp'n).

WoodWorks® SOFTWARE FOR WOOD DESIGN	COMPANY	PROJECT
	July 8, 2016 08:45	C6.wwc

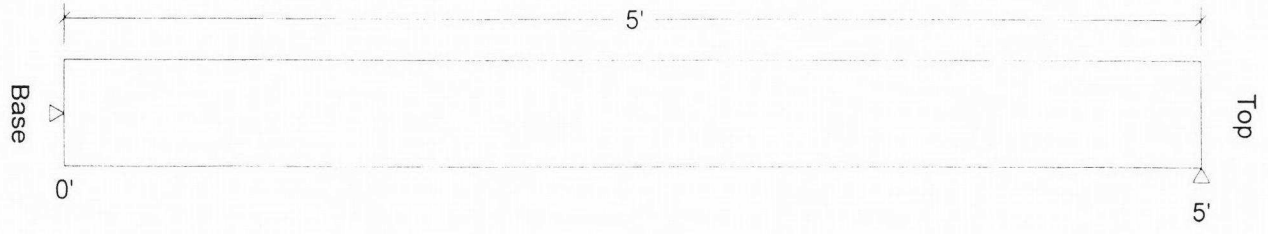
Design Check Calculation Sheet

WoodWorks Sizer 10.2

Loads:

Load	Type	Distribution	Pat-tern	Location [ft] Start	End	Magnitude Start	End	Unit
Load1	Dead	Axial		(Ecc. = 0.00")		3287		lbs
Load2	Live	Axial		(Ecc. = 0.00")		3000		lbs
Self-weight	Dead	Axial				20		lbs

Lateral Reactions (lbs):



Lumber n-ply, D.Fir-L, No.2, 2x6, 2-ply (3"x5-1/2")

Support: Non-wood; Bearing length = column width

Total length: 5';

Pinned base; Load face = width(b); Built-up fastener: nails; Ke x Lb: 1.0 x 0.0 = 0.0 [ft]; Ke x Ld: 1.0 x 5.0 = 5.0 [ft];

Repetitive factor: applied where permitted (refer to online help);

Analysis vs. Allowable Stress (psi) and Deflection (in) using NDS 2012 :

Criterion	Analysis Value	Design Value	Analysis/Design
Axial	fc = 382	Fc' = 1348	fc/Fc' = 0.28
Axial Bearing	fc = 382	Fc* = 1485	fc/Fc* = 0.26

Additional Data:

FACTORS:	F/E(psi)	CD	CM	Ct	CL/CP	CF	Cfu	Cr	Cfrt	Ci	LC#
Fc'	1350	1.00	1.00	1.00	0.908	1.100	-	-	1.00	1.00	2
Fc*	1350	1.00	1.00	1.00	-	1.100	-	-	1.00	1.00	2

CRITICAL LOAD COMBINATIONS:

Axial : LC #2 = D+L, P = 6307 lbs Kf = 1.00

D=dead L=live S=snow W=wind I=impact Lr=roof live Lc=concentrated E=earthquake

All LC's are listed in the Analysis output

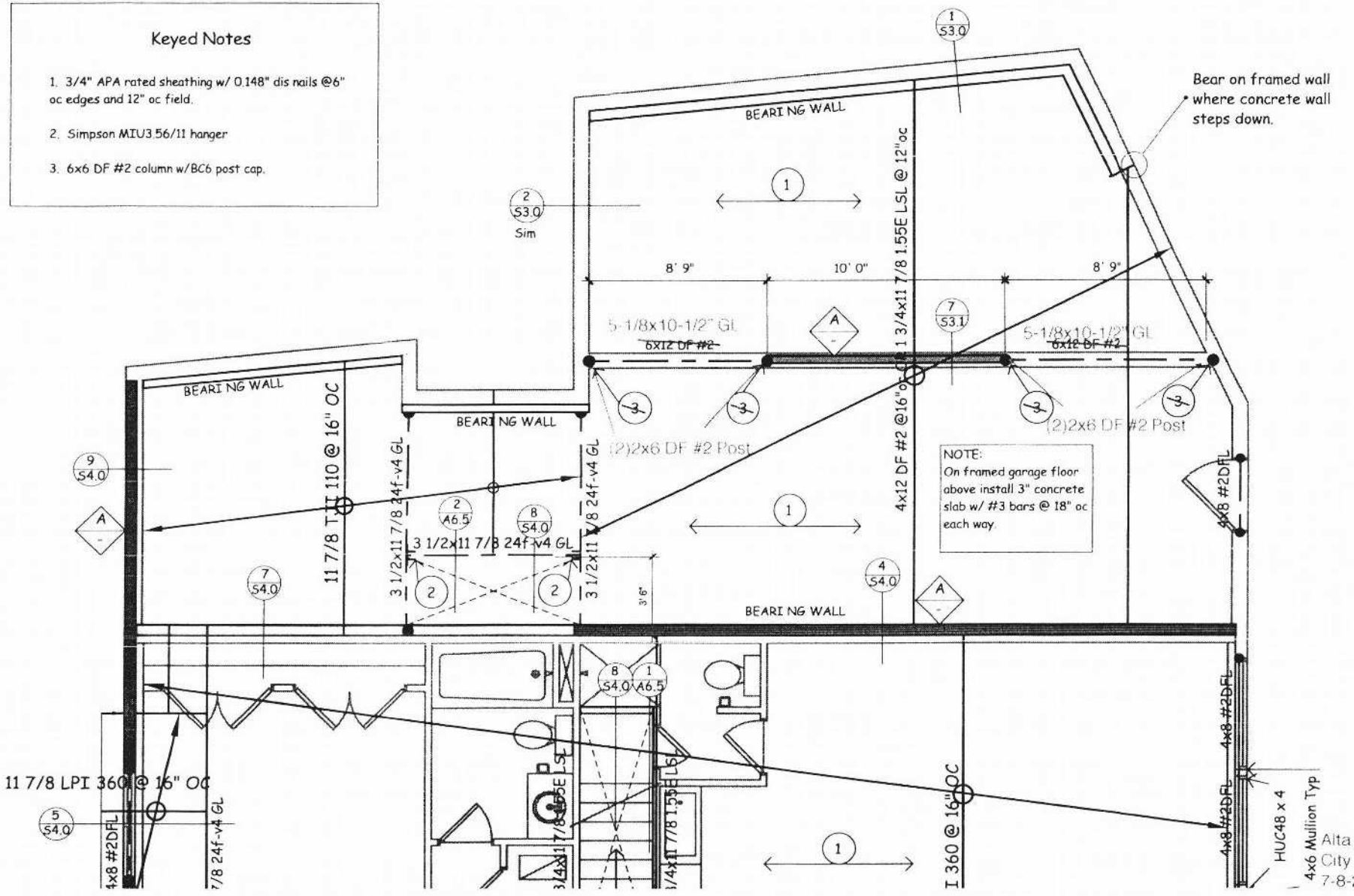
Load combinations: ASCE 7-10 / IBC 2012

Design Notes:

1. WoodWorks analysis and design are in accordance with the ICC International Building Code (IBC 2012), the National Design Specification (NDS 2012), and NDS Design Supplement.
2. Please verify that the default deflection limits are appropriate for your application.
3. BUILT-UP COLUMNS: nailed or bolted built-up columns shall conform to the provisions of NDS Clause 15.3.
4. FIRE RATING: Joists, wall studs, and multi-ply members are not rated for fire endurance.

Keyed Notes

1. 3/4" APA rated sheathing w/ 0.148" dis nails @6" oc edges and 12" oc field.
2. Simpson MIU3.56/11 hanger
3. 6x6 DF #2 column w/BC6 post cap.



Alta Mira Redlines
City Comments
7-8-2016

Trus Joist™ Weyerhaeuser

TJI® s31
TJI® s33
TJI® s47
Joists

December 2014 • Reorder TJ-9510

INSTALLATION GUIDE FOR FLOOR AND ROOF FRAMING

WARNING:
DO NOT walk on joists until braced. **INJURY MAY RESULT.**

WARNING:
DO NOT stack building materials on unsheathed joists. Stack only over beams or walls.

WARNING:
DO NOT walk on joists that are lying flat.

IMPORTANT: PLEASE READ CAREFULLY!

WARNING: JOISTS ARE UNSTABLE UNTIL BRACED LATERALLY

BRACING INCLUDES: Blocking, Hangers, Rim Board, Sheathing, Rim Joist, Strut Lines

Lack of proper bracing during construction can result in serious accidents. Observe the following guidelines:

1. Properly install all blocking, hangers, rim boards, and rim joists at TJI® joist end supports.
2. Establish a permanent deck (sheathing), fastened to the first 4 feet of joists at the end of the bay or braced end wall.
3. Safety bracing of 1x4 (minimum) must be nailed to a braced end wall or sheathed area and to each joist.
4. Sheathing must be completely attached to each TJI® joist before additional loads can be placed on the system.
5. Ends of cantilevers require safety bracing on both the top and bottom flanges.
6. The flanges must remain straight within ½" from true alignment.

This guide is intended for the products shown in dry-use conditions.

La Sécurité Avant Tout

AVERTISSEMENT

Lire Attentivement

- Les solives non contreventées latéralement sont instables. Voir le guide d'installation **avant** la pose des solives TJI®.
- Ne pas circuler sur les solives TJI® **avant** qu'elles ne soient adéquatement contreventées. Risque de blessure.
- Ne pas empilées des matériaux sur des solives avant d'avoir installé les sous-plancher. Les entreposer temporairement au-dessus des poutres et murs.

La Seguridad Ante Todo

ADVERTENCIA

Por Favor Lea Cuidadosamente

- Las viguetas son inestables hasta que sean reforzadas lateralmente. Vea la guía de instalaciones **antes** de instalar las viguetas TJI®.
- No camine sobre las viguetas hasta que sean apuntaladas.
- No ponga materiales de construcción sobre las viguetas TJI® antes de instalar el triplay. Ponga materials únicamente sobre vigas o muros.

CONTENTS

FLOOR

ROOF AND WALL

BEAM AND COLUMN

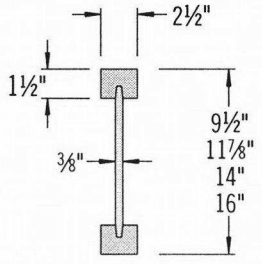
BUILD SAFELY

We at Weyerhaeuser are committed to working safely and want to remind you to do the same. We encourage you to follow the recommendations of provincial regulations (www.canoshweb.org/en/) in Canada regarding:

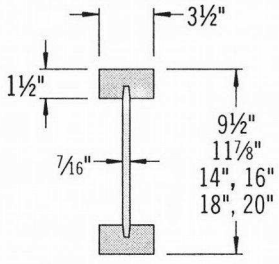
- Personal protective equipment (PPE) for hands, feet, head, and eyes
- Fall protection
- Use of pneumatic nailers and other hand tools
- Forklift safety

Please adhere to the Weyerhaeuser product installation details, including the installation of safety bracing on unsheathed floors and roofs.

PRODUCT IDENTIFICATION



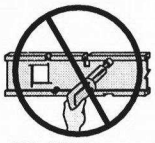
TJI® s31 and s33 joists



TJI® s47 joists

ALLOWABLE HOLES—TJI® JOISTS

DO NOT cut holes in cantilever reinforcement.



DO NOT cut or notch flange.

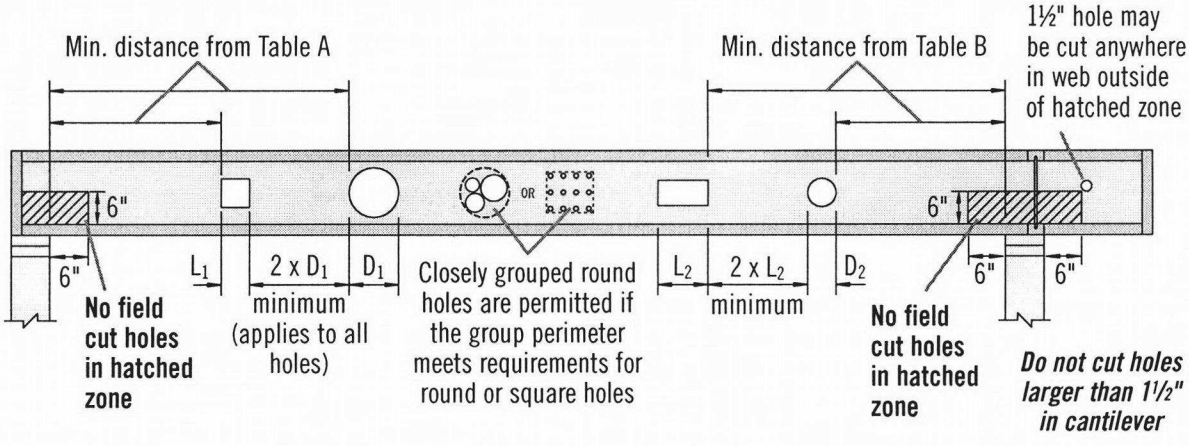


Table A—End Support

Minimum distance from edge of hole to inside face of nearest end support

Joist Depth	TJI®	Round Hole Size									Square or Rectangular Hole Size								
		2"	3"	4"	6¼"	8⅝"	10¾"	12¾"	14¾"	16¾"	2"	3"	4"	6¼"	8⅝"	10¾"	12¾"	14¾"	16¾"
9½"	s31	1'-0"	2'-0"	2'-6"	5'-6"						1'-0"	1'-6"	2'-6"	4'-6"					
	s33	1'-6"	2'-6"	3'-0"	6'-0"						1'-0"	2'-0"	3'-0"	5'-0"					
	s47	1'-0"	1'-0"	2'-6"	6'-0"						1'-6"	2'-6"	3'-6"	5'-6"					
11⅞"	s31	1'-0"	1'-6"	1'-6"	3'-0"	6'-0"					1'-0"	1'-6"	2'-6"	4'-6"	6'-0"				
	s33	1'-0"	1'-6"	2'-6"	3'-6"	7'-0"					1'-0"	2'-0"	3'-0"	5'-6"	7'-0"				
	s47	1'-0"	1'-0"	2'-0"	4'-0"	7'-0"					2'-0"	3'-0"	3'-6"	6'-6"	7'-6"				
14"	s31	1'-0"	1'-0"	1'-0"	2'-0"	3'-0"	6'-0"				1'-0"	1'-6"	2'-0"	3'-6"	6'-0"	7'-6"			
	s33	1'-0"	1'-0"	1'-6"	2'-6"	4'-6"	8'-0"				1'-0"	1'-6"	2'-6"	4'-6"	7'-0"	8'-6"			
	s47	1'-0"	1'-0"	1'-0"	2'-6"	5'-0"	8'-6"				1'-0"	2'-0"	3'-0"	5'-6"	8'-0"	9'-6"			
16"	s31	1'-0"	1'-0"	1'-0"	1'-6"	2'-6"	3'-6"	6'-0"			1'-0"	1'-0"	1'-6"	3'-0"	6'-0"	7'-0"	9'-6"		
	s33	1'-0"	1'-0"	1'-0"	1'-6"	3'-6"	5'-0"	8'-0"			1'-0"	1'-0"	1'-6"	4'-0"	7'-0"	9'-0"	10'-6"		
	s47	1'-0"	1'-0"	1'-0"	1'-6"	3'-6"	5'-6"	9'-0"			1'-0"	1'-0"	2'-6"	4'-6"	8'-6"	10'-0"	11'-0"		
18"	s47	1'-0"	1'-0"	1'-0"	1'-0"	2'-0"	4'-0"	6'-0"	9'-6"		1'-0"	1'-0"	1'-0"	4'-0"	7'-0"	10'-6"	12'-0"	13'-6"	
20"	s47	1'-0"	1'-0"	1'-0"	1'-0"	1'-6"	2'-6"	4'-6"	6'-6"	10'-0"	1'-0"	1'-0"	1'-0"	2'-6"	6'-0"	10'-0"	11'-6"	13'-0"	14'-6"

Table B—Intermediate or Cantilever Support

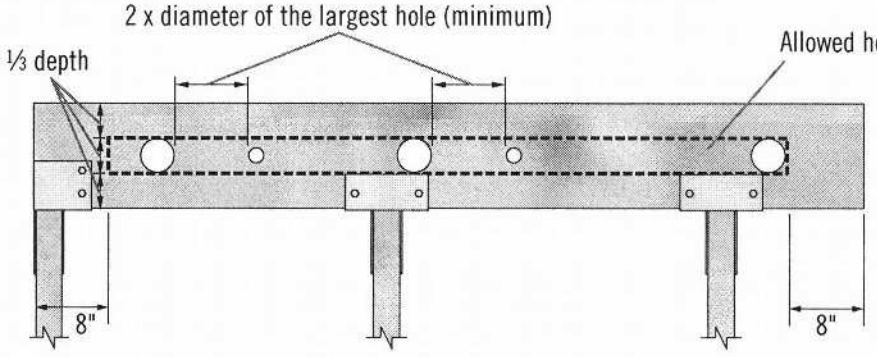
Minimum distance from edge of hole to inside face of nearest intermediate or cantilever support

Joist Depth	TJI®	Round Hole Size									Square or Rectangular Hole Size								
		2"	3"	4"	6¼"	8⅝"	10¾"	12¾"	14¾"	16¾"	2"	3"	4"	6¼"	8⅝"	10¾"	12¾"	14¾"	16¾"
9½"	s31	2'-0"	3'-0"	4'-0"	8'-6"						2'-0"	3'-0"	4'-0"	6'-6"					
	s33	2'-6"	3'-6"	5'-0"	9'-0"						2'-0"	3'-6"	4'-6"	7'-6"					
	s47	1'-6"	3'-0"	4'-6"	8'-6"						3'-0"	4'-6"	5'-6"	8'-0"					
11⅞"	s31	1'-6"	2'-0"	2'-6"	4'-6"	9'-0"					1'-6"	2'-6"	3'-6"	7'-0"	9'-0"				
	s33	2'-0"	3'-0"	3'-6"	5'-6"	10'-6"					2'-0"	3'-0"	4'-0"	8'-6"	10'-0"				
	s47	1'-0"	1'-0"	2'-0"	5'-6"	11'-0"					2'-0"	3'-6"	5'-0"	9'-6"	11'-0"				
14"	s31	1'-0"	1'-0"	1'-6"	3'-0"	5'-0"	9'-0"				1'-0"	1'-6"	2'-6"	5'-6"	9'-0"	11'-6"			
	s33	1'-0"	1'-0"	2'-0"	4'-0"	6'-6"	12'-0"				1'-0"	2'-0"	3'-6"	6'-6"	11'-0"	13'-0"			
	s47	1'-0"	1'-0"	1'-0"	4'-0"	7'-6"	12'-6"				1'-0"	2'-6"	4'-0"	8'-0"	12'-0"	13'-6"			
16"	s31	1'-0"	1'-0"	1'-0"	2'-0"	3'-6"	5'-6"	9'-6"			1'-0"	1'-0"	1'-6"	4'-6"	9'-0"	11'-0"	14'-0"		
	s33	1'-0"	1'-0"	1'-0"	2'-6"	5'-0"	7'-6"	12'-6"			1'-0"	1'-0"	2'-0"	5'-6"	11'-0"	13'-6"	15'-6"		
	s47	1'-0"	1'-0"	1'-0"	2'-0"	5'-6"	9'-0"	14'-0"			1'-0"	1'-6"	3'-0"	7'-0"	13'-0"	15'-0"	16'-6"		
18"	s47	1'-0"	1'-0"	1'-0"	1'-0"	3'-0"	6'-6"	9'-6"	14'-6"		1'-0"	1'-0"	1'-6"	6'-0"	11'-0"	15'-6"	17'-0"	18'-6"	
20"	s47	1'-0"	1'-0"	1'-0"	1'-0"	1'-6"	3'-6"	7'-0"	10'-6"	15'-0"	1'-0"	1'-0"	1'-0"	4'-0"	9'-0"	15'-0"	16'-6"	18'-0"	19'-6"

GENERAL NOTES

- Leave ⅛" of web (minimum) at top and bottom of hole. **DO NOT cut joist flanges.**
- Tables are based on uniform load tables in current design literature.
- For simple span (5' minimum), uniformly loaded joists used in residential applications, one maximum size round hole may be located at the centre of the joist span **provided that no other holes occur in the joist.**

1.55E TimberStrand® LSL Headers and Beams



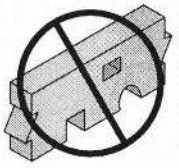
1.55E TimberStrand® LSL

Header or Beam Depth	Maximum Round HoleSize
9½"	3"
11⅞"	3⅝"
14"–16"	4⅝"

- See illustration for allowed hole zone.

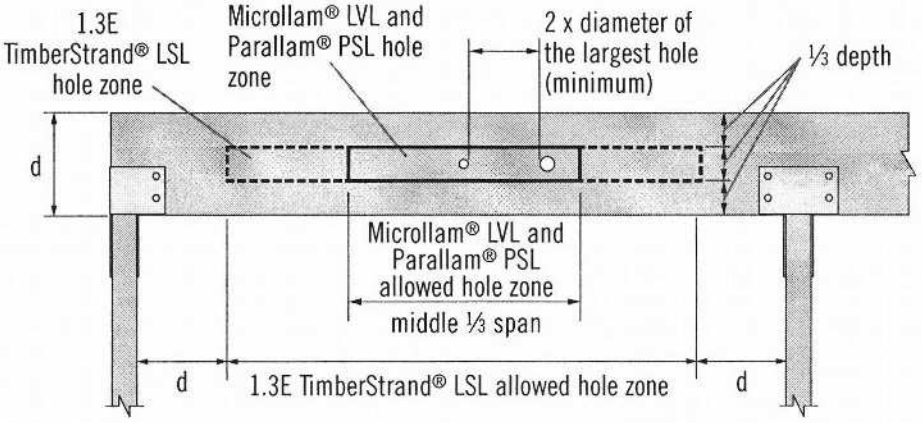
GENERAL NOTES

- Allowed hole zone suitable for headers and beams with **uniform and/or concentrated loads** anywhere along the member.
- Round holes only.
- No holes in headers or beams in plank orientation.



DO NOT cut, notch, or drill holes in headers or beams except as indicated in the illustrations and tables.

Other Trus Joist® Headers and Beams



Other Trus Joist® Beams

Header or Beam Depth	Maximum Round Hole Size
5½"	1¾"
7¼"–20"	2"

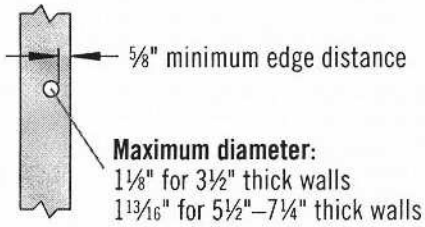
- See illustration for allowed hole zone.

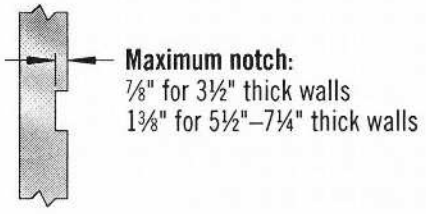
GENERAL NOTES

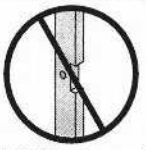
- Allowed hole zone suitable for headers and beams with **uniform loads only**.
- No holes in cantilevers.
- Round holes only.
- No holes in headers or beams in plank orientation.

TimberStrand® LSL Wall Studs

One notch may be cut anywhere except the middle ⅓ of the length of the stud or column.
One hole may be drilled anywhere along the length of the stud or column but must be at least ⅝" from the edge.



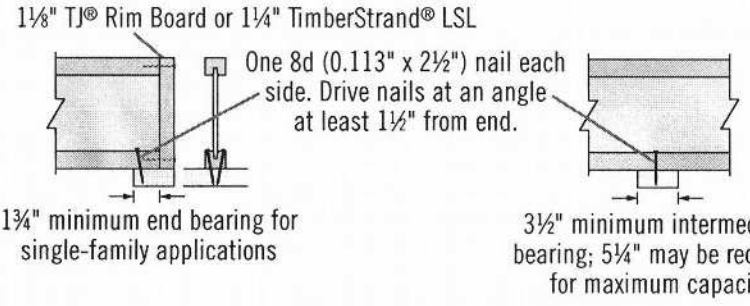




DO NOT cut a notch and a hole in the same cross section.

TJI® JOIST NAILING REQUIREMENTS AT BEARING

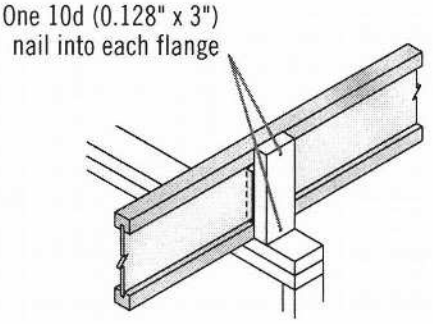
TJI® Joist to Bearing Plate



- Increased bearing capacities may be achieved with increased bearing lengths. See plans for required bearing lengths.

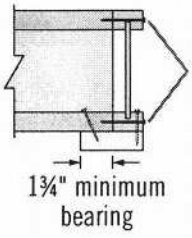
Shear transfer nailing: Use connections equivalent to floor panel nailing schedule. See page 4.

Squash Blocks to TJI® Joist (Load bearing wall above)



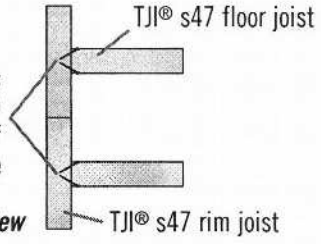
Also see detail B2, page 5

Rim to TJI® Joist



1⅛" TJ® Rim Board or 1¼" TimberStrand® LSL:
One 10d (0.131" x 3") nail into each flange

TJI® s31 or s33 rim joist:
One 16d (0.135" x 3½") nail into each flange



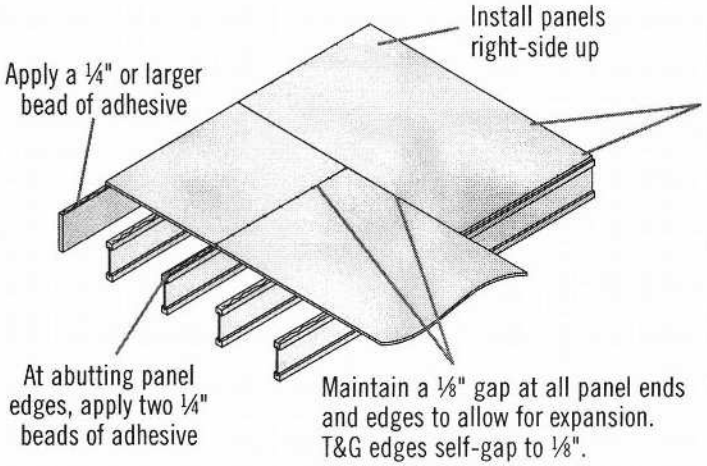
TJI® s47 rim joist:
Toenail with 10d (0.128" x 3") nails, one each side of TJI® joist flange

Locate rim board joint between joists

INSTALLATION RECOMMENDATIONS

RECOMMENDED COMPONENTS

- Weyerhaeuser Edge Gold™ floor panels
- TJI® joists
- 1⅛" TJ® Rim Board or 1¼" TimberStrand® LSL



RECOMMENDED ADHESIVES

- Weyerhaeuser recommends using solvent-based subfloor adhesives that meet ASTM D3498 (AFG-01) performance standards. When latex subfloor adhesive is required, careful selection is necessary due to a wide range of performance between brands.

Nail panel to joist at 12" on-centre in field and 6" on-centre along panel edges. Apply fasteners ⅜" from panel edges.

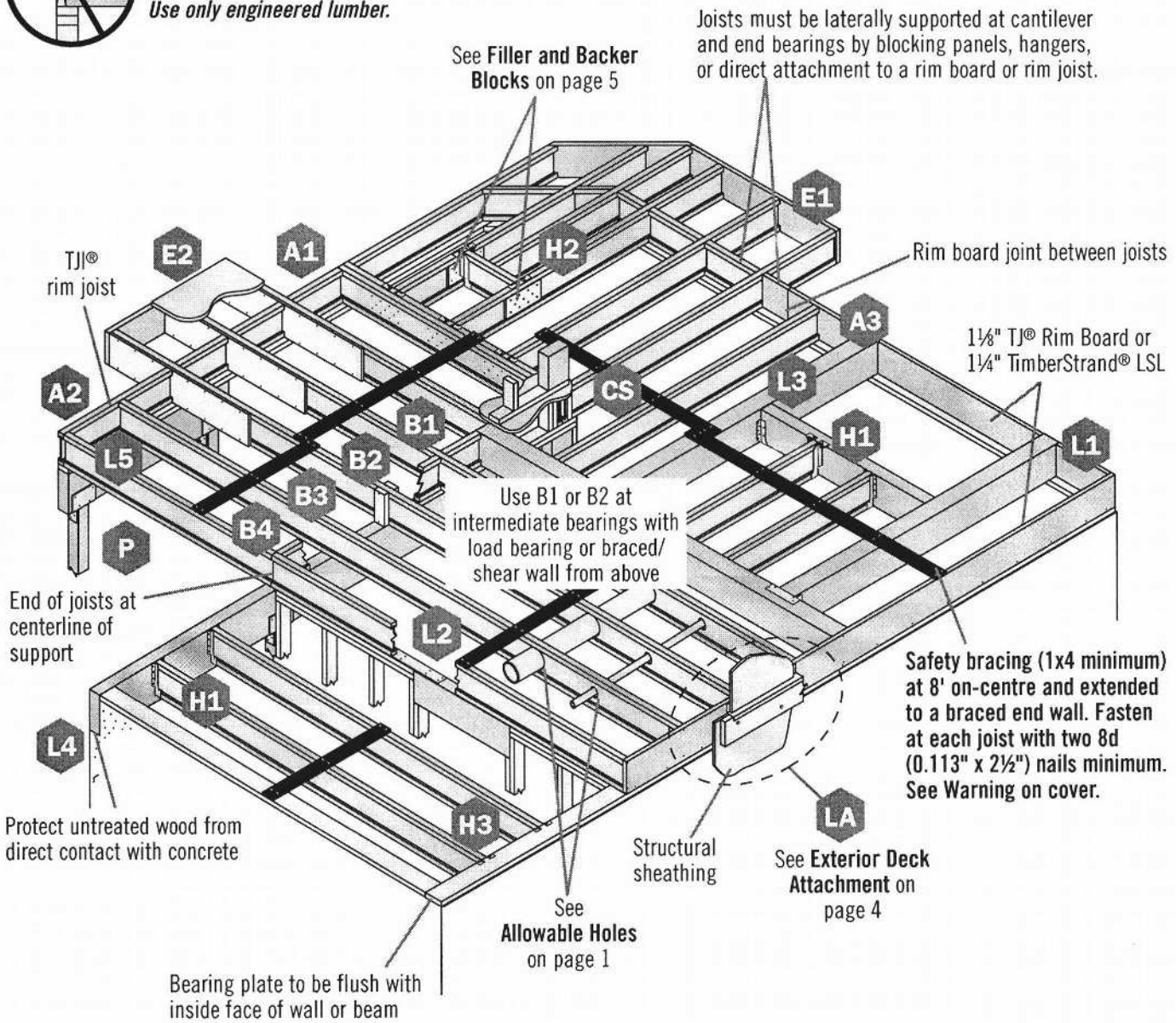
- For ¾" panels, use 8d (0.131" x 2½") or 6d (0.120" x 2") deformed-shank nails or other code-approved fasteners.
- For ⅞" panels, use 8d (0.131" x 2½") or 8d (0.120" x 2½") deformed-shank nails or other code-approved fasteners.
- Fully nail floor panel within 10 minutes of applying adhesive (or sooner if required by adhesive manufacturer).
- Screws may be substituted for the nails noted above if the screws have equivalent lateral load capacity.

TJI® JOIST FLOOR FRAMING

TJI® joist floor framing does not require bridging or mid-span blocking

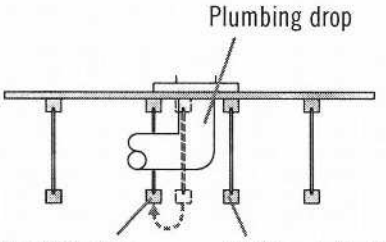
WARNING
Joists are unstable until laterally braced. See Warning on cover.

DO NOT use sawn lumber for rim board or blocking as it may shrink after installation. Use only engineered lumber.



INSTALLATION TIPS

- Subfloor adhesive will improve floor performance, but may not be required.
- Squash blocks and blocking panels carry stacked vertical loads (details B1 and B2). Packing out the web of a TJI® joist (with web stiffeners) is not a substitute for squash blocks or blocking panels.
- When joists are doubled at non-load bearing parallel partitions, space joists apart the width of the wall for plumbing or HVAC.
- Additional joist at plumbing drop (see detail at right).



Joist may be shifted up to 3" if floor panel edge is supported and span rating is not exceeded. **Do not cut joist flanges.**

Additional joist is required if floor panel edge is unsupported or if span rating is exceeded.

DETAIL SCHEDULE

End bearings (see page 4)

- A1 with blocking panels
- A2 with TJI® rim joist
- A3 with rim board

Intermediate bearings* (see page 5)

- B1 with blocking panels to support load bearing wall above
- B2 with squash blocks to support load bearing wall above
- B3 without blocking panels or squash blocks (no wall above)

Cantilever details (see page 5)

- E1 no reinforcement
- E2 ¾" reinforcement on one side
- E3 ¾" reinforcement both sides
- E4 joist reinforcement
- F1 deck cantilever
- PB1 permanent bracing

Cantilevers less than 5" (see page 5)

- E5 ¾" reinforcement on one side, with vertical blocking
- E6 ¾" reinforcement both sides, with vertical blocking
- E7 ¾" reinforcement on one side, with horizontal blocking
- E8 ¾" reinforcement on both sides, with horizontal blocking
- E9 horizontal blocking, no reinforcement

Hanger Details
(more connector information on page 8)

- H1 TJI® joist to beam (see page 8)
- H2 TJI® joist to joist (see page 5)
- H3 TJI® joist on masonry wall or steel beam (see page 8)

Other details

- B4 butting joists with blocking panels (see above)
- CS column support (see page 4)
- LA exterior deck attachment (see page 4)
- W web stiffeners (see page 6)
- L beam details (see page 9)
- P column details (see page 9)

Load bearing wall must stack over wall below. Blocking panels may be required at braced/shear walls above or below.

JAVELIN® SOFTWARE FRAMING PLANS

A-W B-W E-W Web stiffeners required on each side of joist at bearing. Refer to your Javelin® framing plan.
Bearing requirements as shown on the Javelin® framing plan are job-specific and supersede minimum bearing requirements listed.

FASTENING OF FLOOR PANELS 4

Guidelines for Closest On-Centre Spacing per Row

Nail Size	TJI®	Rim board		1½" TimberStrand® LSL or wider	Microllam® LVL	Parallam® PSL
	s31, s33, and s47	1⅛" TJ® Rim Board	1¼" TimberStrand® LSL			
8d (0.113" x 2½"), 8d (0.131" x 2½")	4"(1)	6"	4"	3"	3"	3"
10d (0.148" x 3"), 12d (0.148" x 3¼")	4"(1)(2)	6"	4"	4"	4"	4"
16d (0.162" x 3½")	Not Applicable(3)	16"(4)	6"(5)	6"(5)	8"	6"

(1) Stagger nails when using 4" on-centre spacing and maintain ⅜" joist and panel edge distance. One row of fasteners permitted (two at abutting panel edges) for diaphragms. For other applications, multiple rows of fasteners are permitted if the rows are offset at least ½" and staggered.

(2) With 10d (0.148" x 1½") nails spacing can be reduced to 3" on-centre for light gauge steel straps.

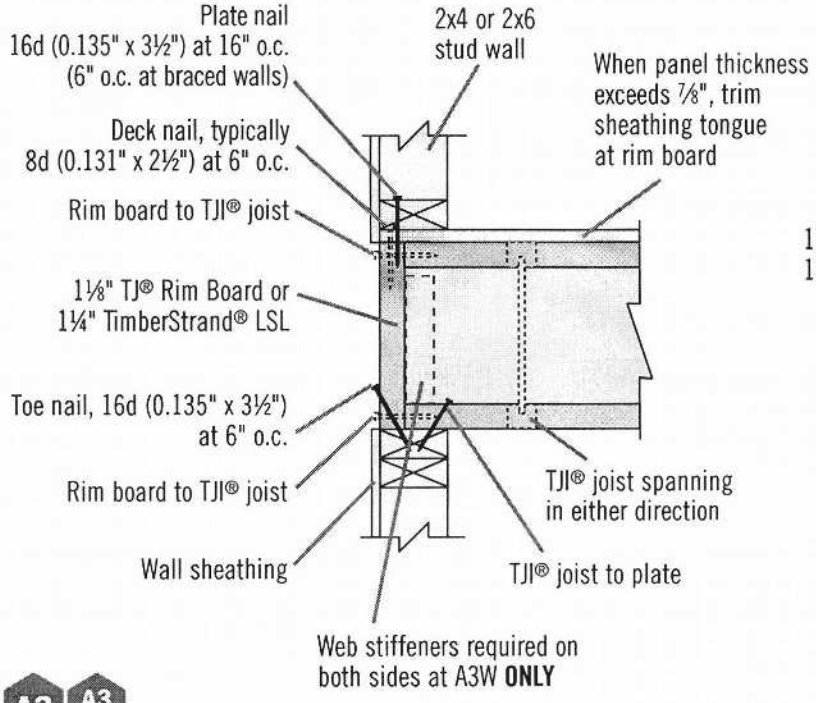
(3) When nailing through the wall sill plate and floor sheathing, closest on-centre spacing is 4" (1⅜" maximum penetration).

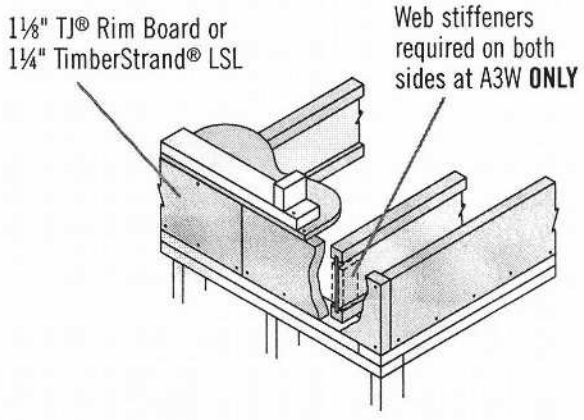
(4) Can be reduced to 5" on-centre if nail penetration into the narrow edge is no more than 1⅜" (to avoid splitting).

(5) Can be reduced to 4" on-centre if nail penetration into the narrow edge is no more than 1⅜" (to avoid splitting).

- Recommended nailing is 12" on-centre in field and 6" on-centre along panel edge. Fastening requirements on engineered drawings supersede recommendations listed above.
- For recommended nailing and adhesives, see **INSTALLATION RECOMMENDATIONS** on page 2.
- Nailing rows must be offset at least ½" and staggered.
- 14 gauge staples may be substituted for 8d (0.113" x 2½") nails if minimum penetration of 1" into the TJI® joist or rim board is achieved.
- Maximum spacing of nails is 18" on-centre for TJI® joists.

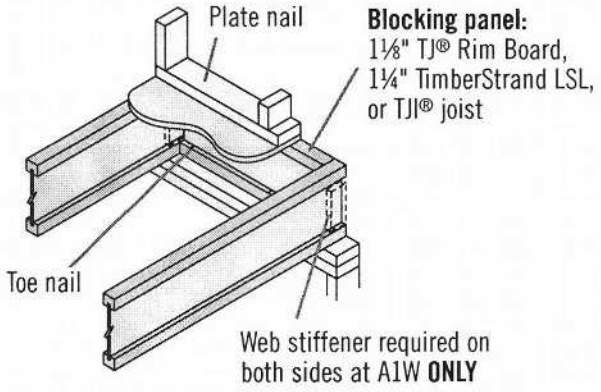
RIM BOARD DETAILS



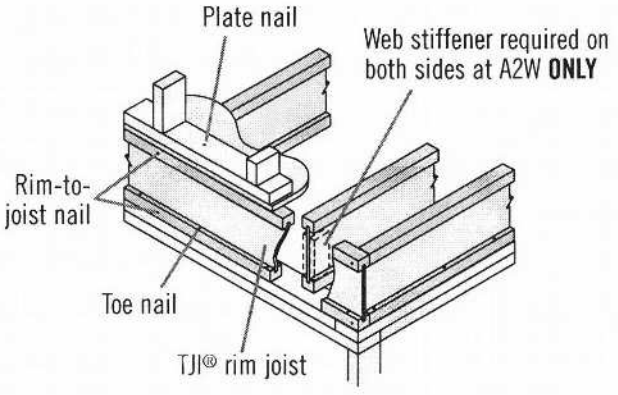


A3 A3W

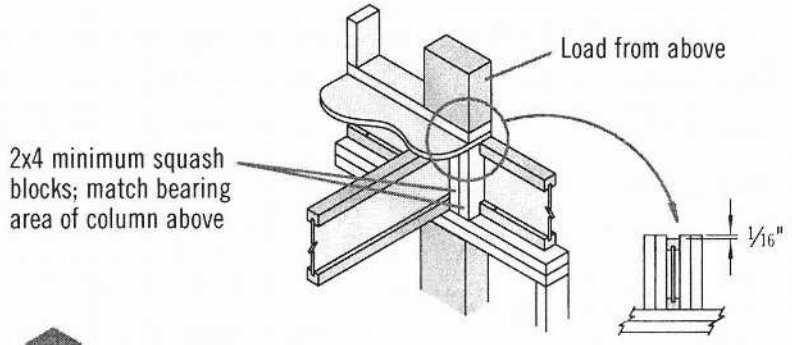
FLOOR DETAILS



A1 A1W ***Attach blocking per A3.1 in rim board installation table above***

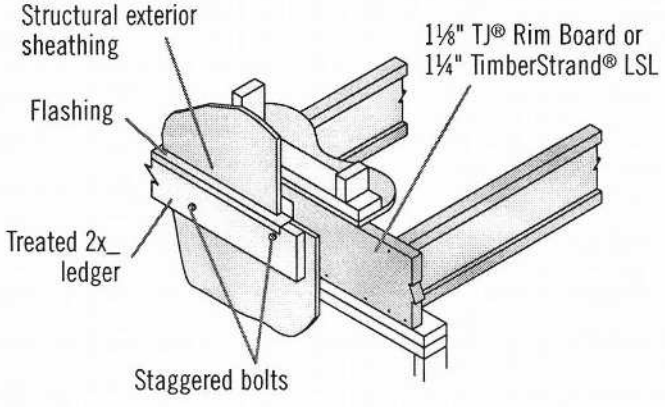


A2 A2W ***Must have 1¾" minimum joist bearing at ends. Attach rim joist per fastening instructions in detail A3.***



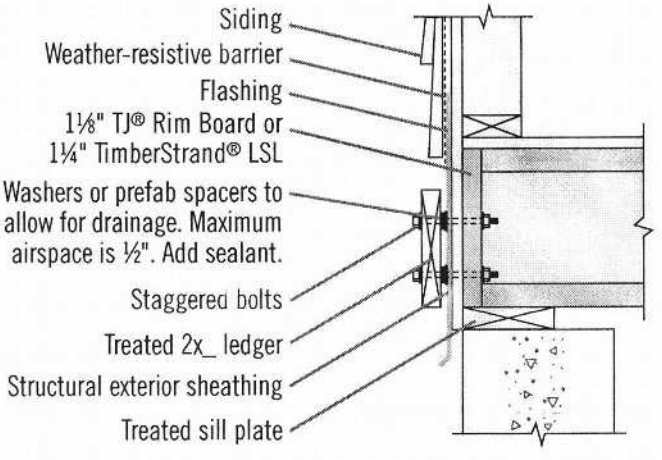
CS ***Use 2x4 minimum squash blocks to transfer load around TJI® joist***

Exterior Deck Attachment

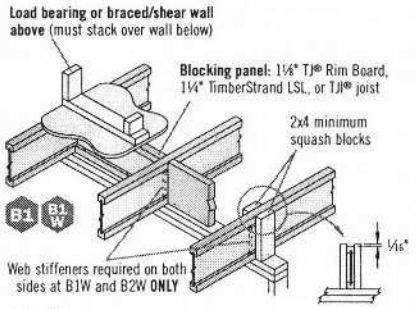


LA ***Corrosion-resistant fasteners required for wet-service applications***

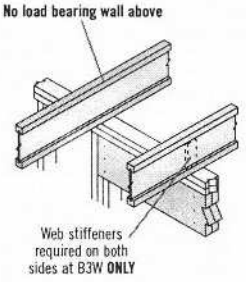
Shimmed Deck Attachment



Maintain 2" distance (minimum) from edge of ledger to edge of fastener. Stagger bolts.

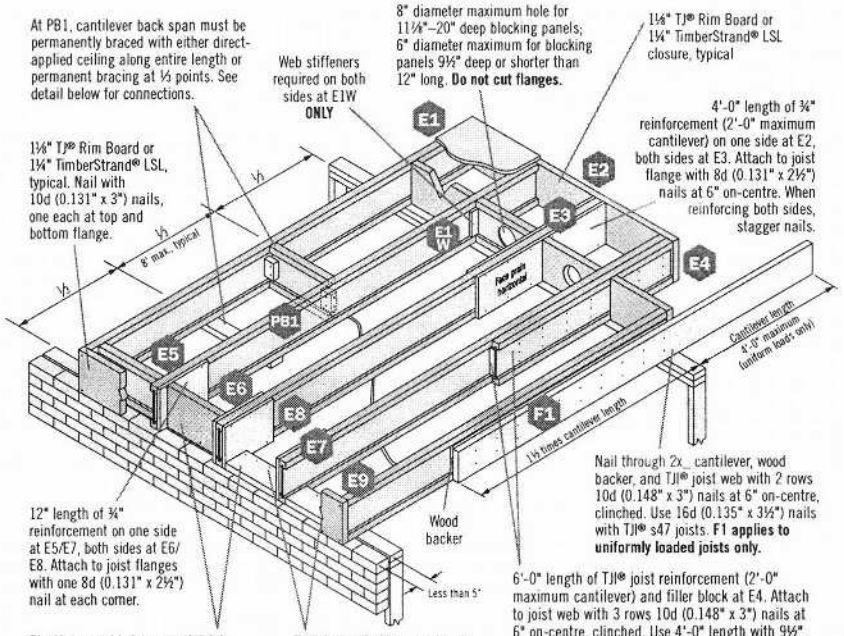


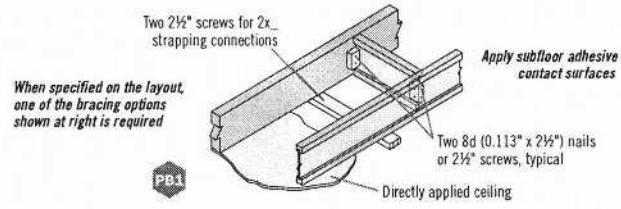
B2 B2W *Blocking panels may be required with braced/ shear walls above or below—see detail B1*



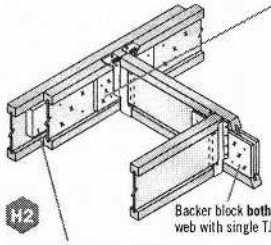
B3 B3W *Blocking panels may be required with braced/ shear walls above or below—see detail B1*

CANTILEVER DETAILS





FILLER AND BACKER BLOCKS



HANGER BACKER BLOCK

Install tight to top flange (tight to bottom flange with face mount hangers).

- **Single-Family Applications:** Attach with ten 10d (0.128" x 3") nails, clinched when possible.
- **Multi-Family applications and depths greater than 16":** Attach with **fifteen** 10d (0.128" x 3") nails, clinched when possible.

DOUBLE TJI® JOIST FILLER BLOCK

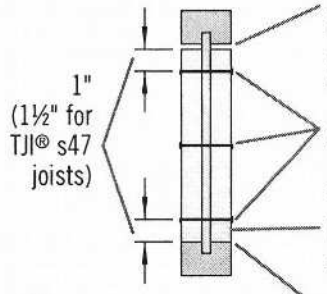
- **Single-Family Applications:** Attach with ten 10d (0.128" x 3") nails, clinched. Use ten 16d (0.135" x 3½") nails from each side with TJI® s47 joists.
- **Multi-Family applications and depths greater than 16":** Attach with **fifteen** 10d (0.128" x 3") nails, clinched. Use **fifteen** 16d (0.135" x 3½") nails from each side with TJI® s47 joists.

Filler and Backer Block Sizes

TJI®	s31 or s33		s47		
Depth	**9½" or 11⅞"**	**14" or 16"**	**9½" or 11⅞"**	**14" or 16"**	**18" or 20"**
Filler Block(1) (Detail H2)	2x6 + ⅜" sheathing	2x8 + ⅜" sheathing	Two 2x6	Two 2x8	Two 2x12
Cantilever Filler (Detail E4)	2x6 + ⅜" sheathing 4'-0" long	2x10 + ⅜" sheathing 6'-0" long	Not applicable		
Backer Block(1) (Detail F1 or H2)	1" net		2x6	2x8	2x12

(1) If necessary, increase filler and backer block height for face mount hangers and maintain ¼" gap at top of joist. See detail W. Filler and backer block dimensions should accommodate required nailing without splitting. The suggested minimum length is 24" for filler and 12" for backer blocks.

WEB STIFFENERS—FLOOR AND ROOF APPLICATIONS 6



Gap:
⅛" minimum
2¾" maximum

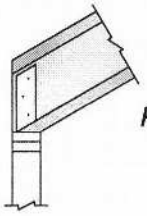
Three 8d (0.113" x 2½") nails, clinched.
Three 16d (0.135" x 3½") nails for TJI® s47 joists.

Web stiffeners on both sides. See sizes below.

Tight fit

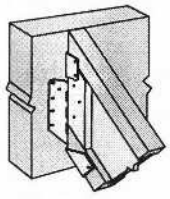
W

WEB STIFFENER REQUIREMENTS



Required at all birdsmouth cuts.

Required at all sloped hangers.

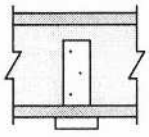


Required if the sides of the hanger do not extend to laterally support at least ⅜" of the TJI® joist top flange.

WEB STIFFENER SIZES

- **TJI® s31 and s33 joists:** 1" x 2⁵⁄₁₆" minimum
- **TJI® s47 joists:** 2x4, construction grade or better

Only required at intermediate bearing locations when noted on framing plan.



TYPICAL ROOF AND WALL FRAMING

DETAIL SCHEDULE

Roof details (see page 7)

- R1 on bevel plate
- R1W on bevel plate with web stiffeners
- R3 with variable slope seat connector
- R3W with seat connector and web stiffeners
- R5 with birdsmouth cut
- R7 intermediate bearing
- R7W intermediate bearing with web stiffeners
- R8 2x4 outrigger and filler with birdsmouth cut
- R9 2x4 outrigger without filler
- R10 2x4 outrigger with filler
- R10W 2x4 outrigger with filler and web stiffeners
- R14 ridge detail
- R14W ridge detail, with web stiffeners

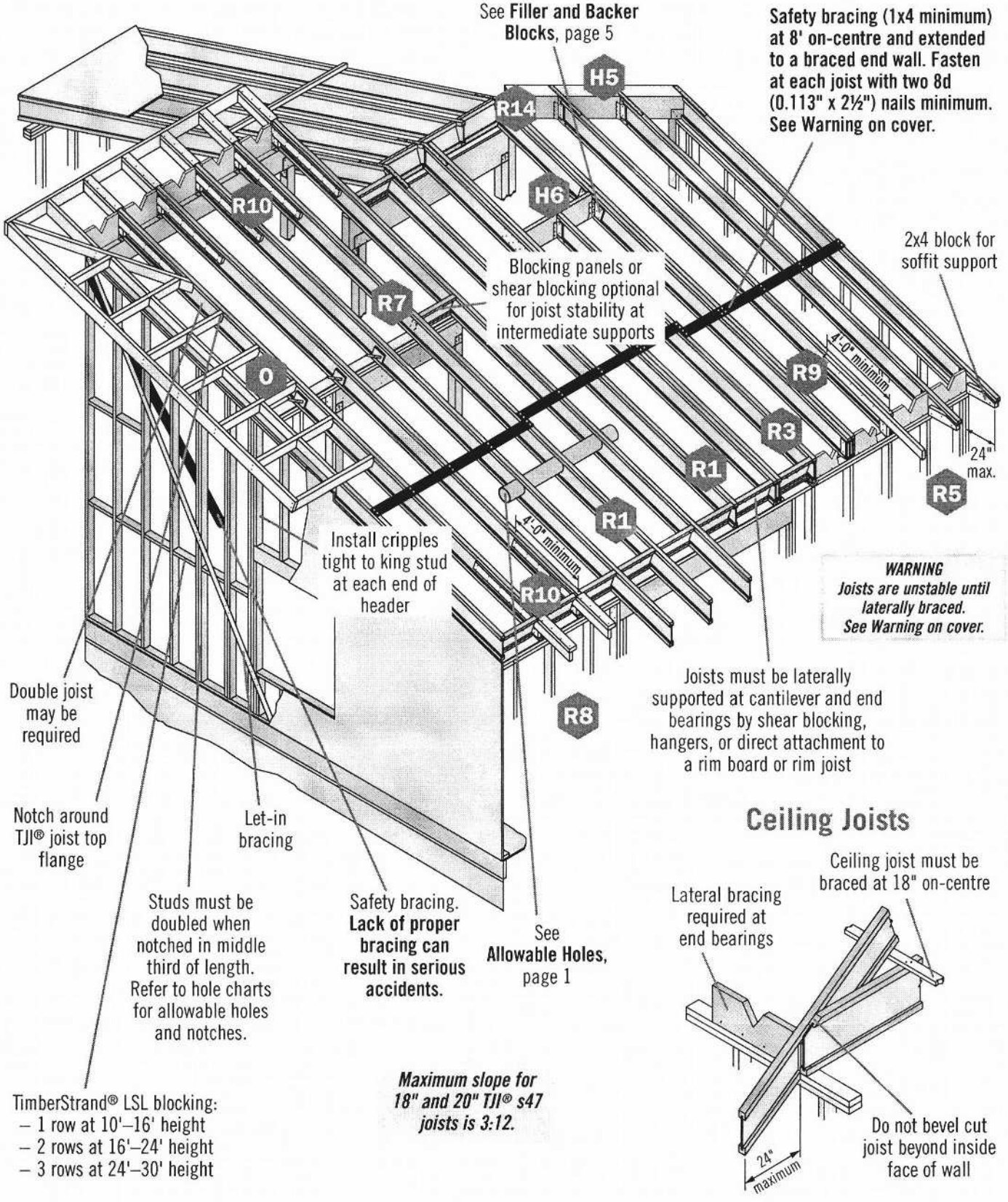
Other details

- O 2x_ overhang at end wall
- SB shear blocking (see page 8)
- W web stiffeners

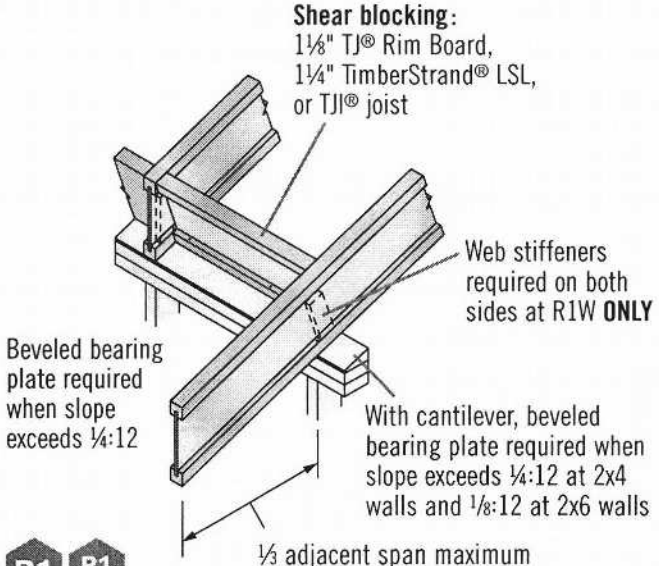
Hanger details (see page 8)

- H5 slope adjusted hanger
- H6 header on slope

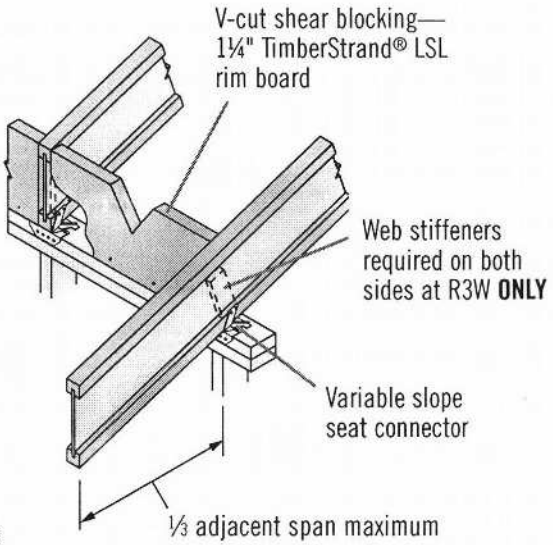
Joists must be laterally supported at cantilever and end bearings by blocking panels, hangers, or direct attachment to a rim board or rim joist.



Ceiling Joists



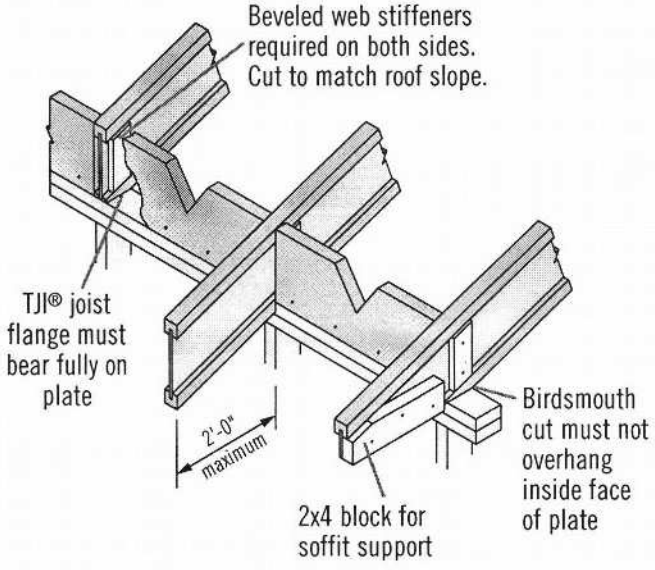
R1 R1W



R3 R3W

Birdsmouth Cut

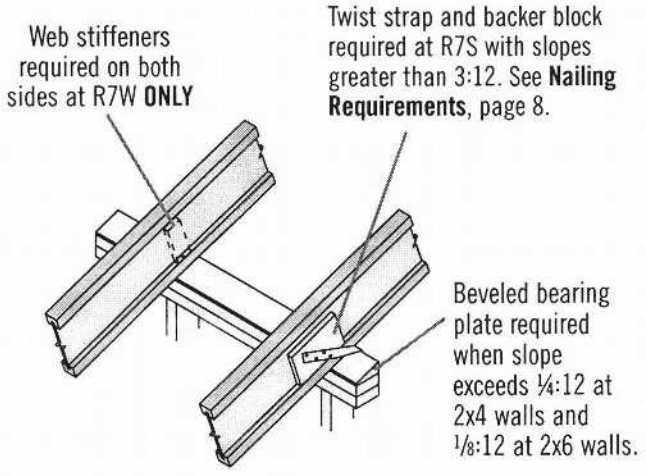
Birdsmouth cut allowed at low end of joist only



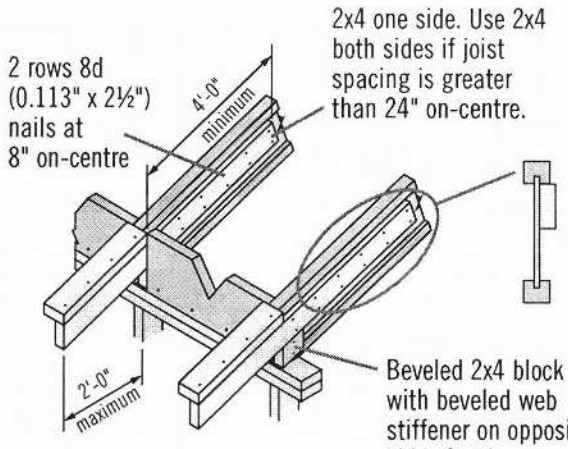
R5

Intermediate Bearing

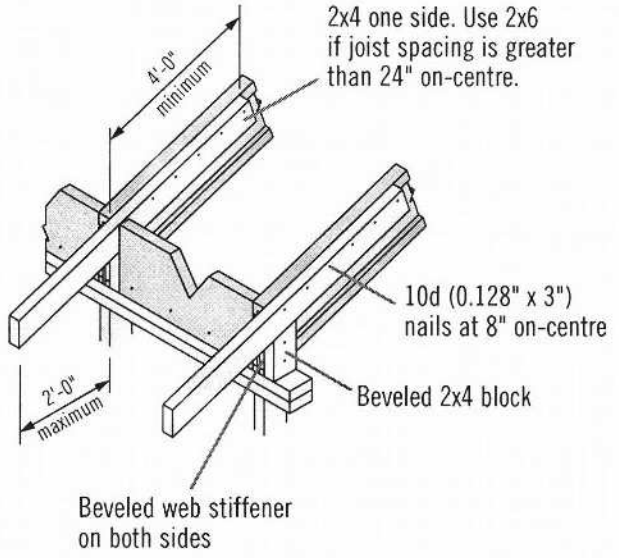
Blocking panels or shear blocking may be specified for joist stability at intermediate supports



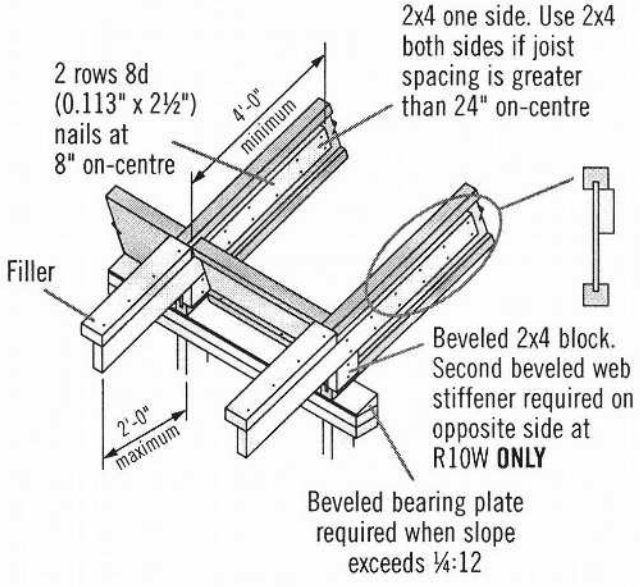
R7 R7W R7S



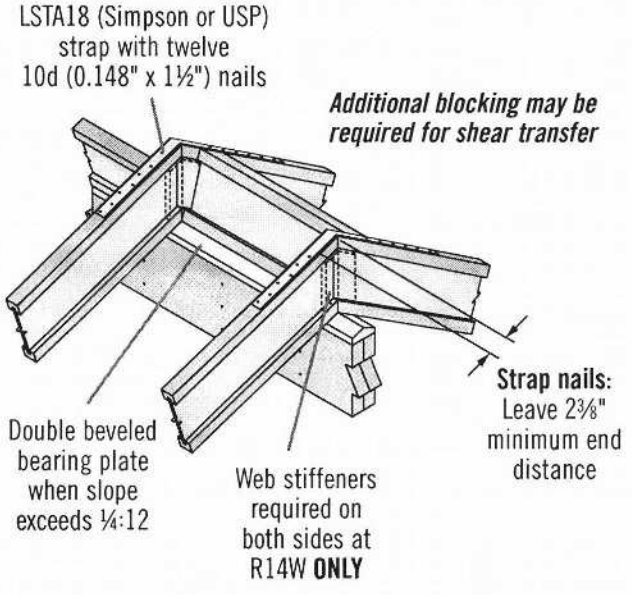
R8 ***Birdsmouth cut allowed at low end of joist only***



R9 ***Birdsmouth cut allowed at low end of joist only***



R10 **R10W**



R14 **R14W**

APPROVED HANGERS

- The following manufacturers are approved to supply hangers for Trus Joist® products:
  - Simpson Strong-Tie Co., Inc.: 1-800-999-5099
  - USP Structural Connectors: 1-800-328-5934
- Hanger design loads differ by support type and may exceed the capacity of the support and/or supported member. Contact your Weyerhaeuser representative or refer to Weyerhaeuser software.

NAILING REQUIREMENTS

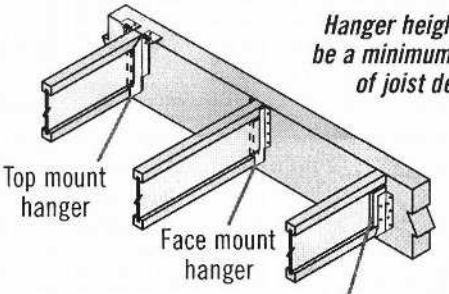
- Fill all round, dimple, and positive angle holes with the proper nails. Hanger nails are usually a heavier gauge because of the higher loads they need to carry.
- Unless specified otherwise, full capacity of straps or connectors can only be achieved if the following nail penetration is provided:

	FACE MOUNT	TOP MOUNT
10d (0.148" x 1½")	1½" minimum	1½" minimum
10d (0.148" x 3")	1½" minimum, clinched	3" minimum
16d (0.162" x 3½")	1¾" minimum, clinched	3½" minimum

- Top mount hangers should be fastened to TJI® joist headers with 10d (0.148" x 1½") nails. Fasten face mount hangers to 3½" or wider TJI® joist headers with 10d (0.148" x 3") or 16d (0.162" x 3½") nails.

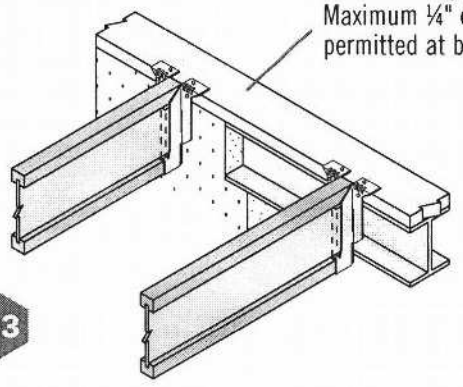
CONNECTOR INSTALLATION AND SQUEAK PREVENTION TIPS

- Nails must be completely set.
- Leave 1/16" clearance between the member and the support member or hanger.
- Joist to beam connections require hangers; do not toenail.
- Install the supported member tight to the bottom of the hanger. Reduce squeaks by adding subfloor adhesive to the hanger seat.
- On Simpson Strong-Tie® VPA connectors, bend the bottom flange tabs over and nail to TJI® joist bottom flange.



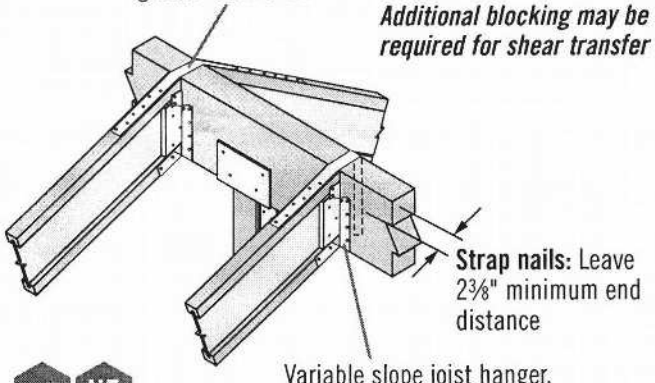
H1

Web stiffeners required if the sides of the hanger do not laterally support at least ⅜" of the TJI® joist top flange



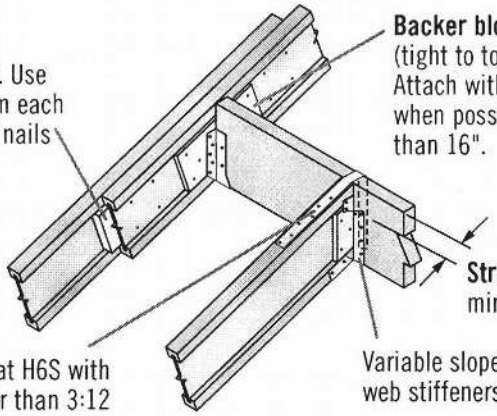
H3

LSTA24 (Simpson or USP) strap with twelve 10d (0.148" x 1½") nails required at H5S with slopes greater than 3:12



H5 H5S

Filler block: Attach with ten 10d (0.128" x 3") nails, clinched. Use ten 16d (0.135" x 3½") nails from each side with TJI® s47 joists. Use 15 nails with depths greater than 16".



Backer block: Install tight to bottom flange (tight to top flange with top mount hangers). Attach with ten 10d (0.128" x 3") nails, clinched when possible. Use 15 nails with depths greater than 16".

Strap nails: Leave 2⅜" minimum end distance

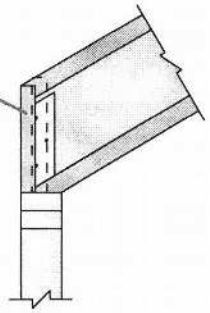
LSTA18 strap required at H6S with slopes greater than 3:12

Variable slope joist hanger. Beveled web stiffeners required on both sides.

H6 H6S

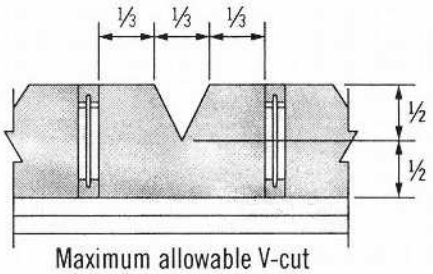
SHEAR BLOCKING AND VENTILATION HOLES (Roof Only)

TimberStrand® LSL or TJ® rim board for shear blocking (between joists). Field trim to match joist depth at outer edge of wall or locate on wall to match joist depth.



For TJI® joists with slopes of 10:12 to 12:12, the vertical depth of shear blocking at bearing will require 1⅛" TJ® Rim Board or 1¼" TimberStrand® LSL or that is one size deeper than the TJI® joist.

SB

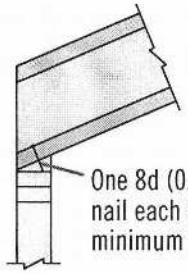


Maximum allowable V-cut

TJI® JOIST NAILING REQUIREMENTS AT BEARING

TJI® Joist to Bearing Plate

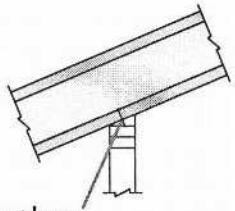
END BEARING
(1¾" minimum bearing required)



One 8d (0.113" x 2½") nail each side, 1½" minimum from end

When slope exceeds ¼:12, a beveled bearing plate, variable slope seat connector, or birdsmouth cut (at low end of joist only) is required.

INTERMEDIATE BEARING
(3½" minimum bearing required)

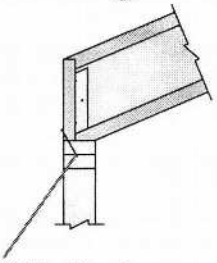


Slopes 3:12 or less:
One 8d (0.113" x 2½") nail each side. See detail R7.

Slopes greater than 3:12:
Two 8d (0.113" x 2½") nails each side, plus a twist strap and backer block. See detail R7S.

When slope exceeds ¼:12 for a 2x4 wall or ⅛:12 for a 2x6 wall, a beveled bearing plate or variable slope seat connector is required.

Blocking to Bearing Plate



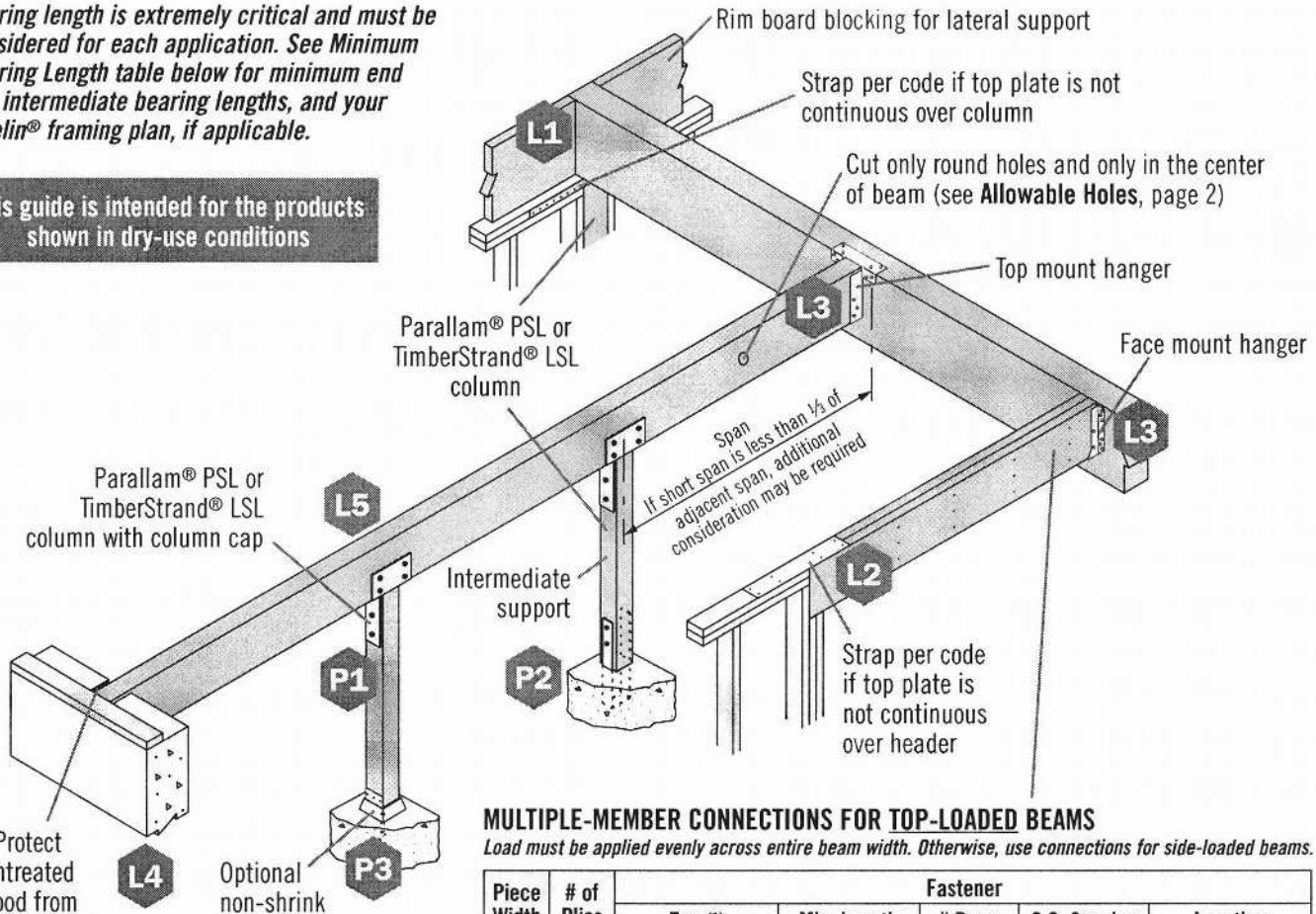
1⅛" TJ® Rim Board or 1¼" TimberStrand® LSL:
Toenail with 10d (0.131" x 3") nails at 6" on-centre or 16d (0.135" x 3½") nails at 12" on-centre

TJI® joist blocking:
10d (0.128" x 3") nails at 6" on-centre

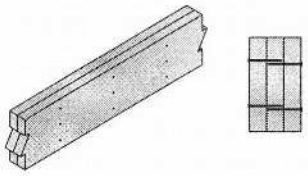
Shear transfer nailing:
Minimum, use connections equivalent to sheathing nail schedule

Bearing length is extremely critical and must be considered for each application. See Minimum Bearing Length table below for minimum end and intermediate bearing lengths, and your Javelin® framing plan, if applicable.

This guide is intended for the products shown in dry-use conditions



When fasteners are required on both sides, stagger fasteners on the second side so they fall halfway between fasteners on the first side.



L6 ***Multiple pieces can be nailed or bolted together, up to a maximum width of 7"***

MULTIPLE-MEMBER CONNECTIONS FOR SIDE-LOADED BEAMS

- Additional nailing or bolting may be required with side-loaded multiple-member beams. Refer to current product literature.

MULTIPLE-MEMBER CONNECTIONS FOR TOP-LOADED BEAMS

Load must be applied evenly across entire beam width. Otherwise, use connections for side-loaded beams.

Piece Width	# of Plies	Fastener				
		Type[1]	Min. Length	# Rows	O.C. Spacing	Location
1¾"	2	10d nails	3"	3[2]	12"	One side
		12d–16d nails	3¼"	2[2]		
		Screws	3⅜" or 3½"	2	24"	
	3	10d nails	3"	3[2]	12"	Both sides
		12d–16d nails	3¼"	2[2]		
		Screws	3⅜" or 3½"	2	24"	Both sides
			5"			One side
	4	10d nails[3]	3"	3[2]	12"	One side (per ply)
		12d–16d nails[3]	3¼"	2[2]		
		Screws	5" or 6"	2	24"	Both sides
			6¾"			One side
3½"	2	Screws	5" or 6"	2	24"	Both sides
			6¾"			One side
		½" bolts	8"	2	24"	–

(1) 10d nails are 0.128" diameter; 12d–16d nails are 0.148"–0.162" diameter; screws are SDS, SDW, USP WS, or TrussLOK-EWP™.

(2) An additional row of nails is required with depths of 14" or greater.

(3) When connecting 4-ply members, nail each ply to the other and offset nail rows by 2" from rows in the ply below.

DETAIL SCHEDULE

Beam and header details

- L1 bearing at wood wall
- L2 bearing for door or window header
- L3 beam to beam connection
- L4 bearing at concrete wall
- L5 bearing at wood or steel column
- L6 connection of multiple pieces

Column details

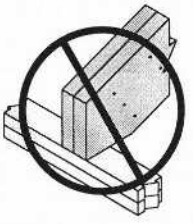
- P1 beam on column cap
- P2 column base
- P3 elevated column base

BEAM AND HEADER BEARINGS

Minimum Bearing Length for Beams and Headers

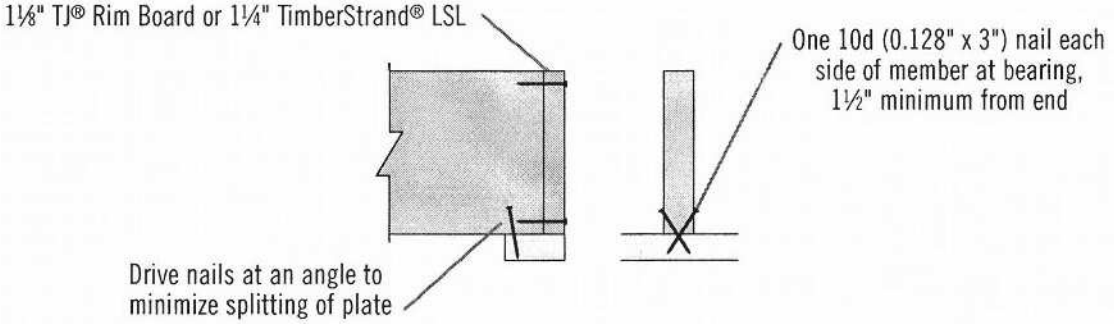
Beam Depth	Bearing	Span of Header or Beam								
		4'	6'	8'	10'	12'	16'	20'	24'	28'
5½"	End/Int.	2¼" / 4½"	1½" / 3½"	1½" / 3½"	1½" / 3½"	1½" / 3½"				
7¼"	End/Int.	3½" / 6¼"	2¼" / 5½"	1¾" / 4¼"	1½" / 3½"	1½" / 3½"	1½" / 3½"			
8⅝"	End/Int.	3½" / 8½"	2¼" / 5¾"	1¾" / 4¼"	1½" / 3½"	1½" / 3½"	1½" / 3½"	1½" / 3½"	1½" / 3½"	
9¼", 9½"	End/Int.		4¼" / 8"	3¼" / 7½"	2½" / 6¼"	2" / 5¼"	1½" / 4"	1½" / 3½"	1½" / 3½"	1½" / 3½"
11¼", 11⅞"	End/Int.				4" / 9¼"	3¼" / 8"	2¼" / 6"	1¾" / 4¾"	1½" / 4"	1½" / 3½"
14"	End/Int.					4½" / 10¾"	3¼" / 8¼"	2½" / 6½"	2" / 5½"	1¾" / 4¾"
16"	End/Int.						4¼" / 10½"	3¼" / 8½"	2¾" / 7"	2¼" / 6"
18"	End/Int.							4¼" / 10½"	3¼" / 8¾"	2¾" / 7½"
20"	End/Int.								4¼" / 10¾"	3½" / 9¼"

- **Minimum bearing length:** 1½" at ends, 3½" at intermediate supports.
- Bearing across full beam width is required.
- Bearing lengths shown are based on bearing stress for TimberStrand® LSL, Microllam® LVL, or Parallam® PSL. If the support member's allowable bearing stress is lower (e.g., when bearing on a flat wood plate), bearing lengths may need to be increased.
- Table assumes maximum allowable uniform load. For other conditions, contact your Weyerhaeuser representative.
- Beams and headers require lateral support at bearing points and along the top (or compression edge) at 24" on-center or closer.
- **1¾"-thick members that are 16" or deeper must be used in multiple-ply units only.**

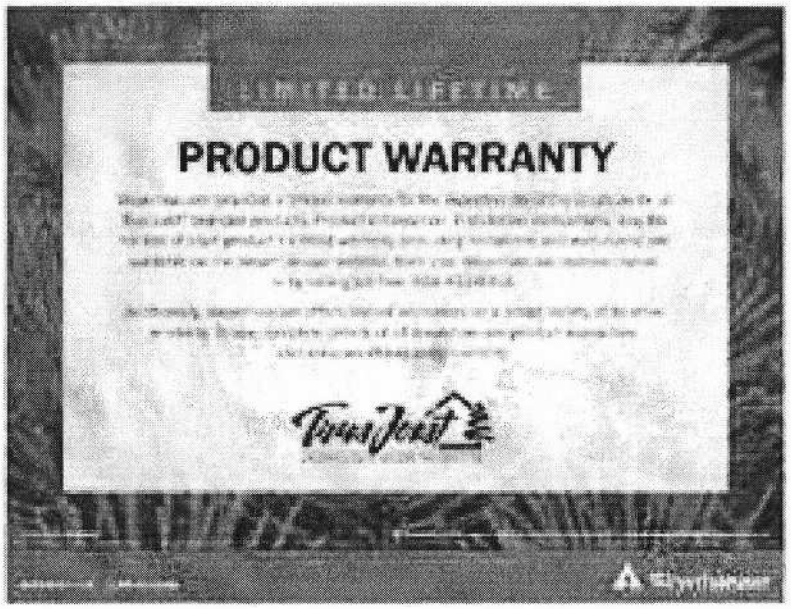


DO NOT overhang seat cuts on beams beyond inside face of support member

Beam Attachment at Bearing



OUR GUARANTEE



For conditions not shown in this guide, or other assistance, contact your Weyerhaeuser representative or call

1-888-453-8358

CODE EVALUATIONS, See

TJI® Joists
CCMC 13132-R
(pending for TJI® 9½" s47 joists)

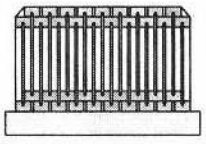
TimberStrand® LSL
CCMC 12627-R

Parallam® PSL
CCMC 11161-R

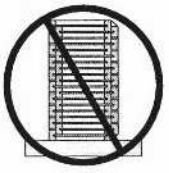
Microllam® LVL
CCMC 08675-R

TJ® Rim Board
CCMC 13261-R

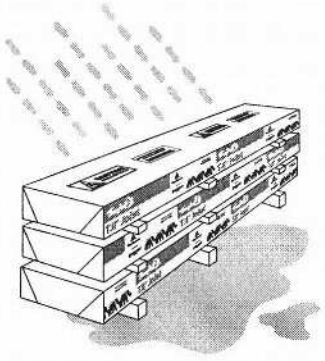
PRODUCT STORAGE



Store and handle joists in vertical orientation.



Protect products from sun and water.



CAUTION: Wrap is slippery when wet or icy.

Use 6x6 (or larger) support blocks at 10' on-centre to keep products out of mud and water.

Align 2x3 (or larger) stickers directly over support blocks.

Have a damaged joist or beam? File a damage report online for prompt service from your regional technical office. Scan the QR code with your smartphone or go to **woodbywy.com/support.**

TrusJoist™ Weyerhaeuser

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