



CITY OF TROY

Residential Application & Checklist

Application Submittal

Plans, applications and other written correspondence must be submitted electronically. Please ensure plans, application and checklist are complete to reduce the number of delays. (If you need assistance or do not have digital plans, please contact our office)

Electronic Submittal

- All files submitted should be in PDF format, print ready, easily legible and setup so that there is no data outside the print page.
- Email plans to pb@latahcountyid.gov or send or drop plans by via thumb drive. If files are large and you want to email, you may bundle them into a zip file.
- Once the building permit has been issued, it is required that the approved stamped plans, that are sent back to the applicant, are printed to scale and available at the job site for the inspector.

Application Acceptance

- Plans must be accepted as complete and the plan review fee must be paid before zoning check and plan review can begin.

Other Permit Contacts

Septic Permits and Inspections:

North Latah Health Department
(208) 882-7506
333 E Palouse River Drive, Moscow

State of Idaho Inspections:

Electrical and Plumbing
Permit Support:
(208) 334-3950

Roadway Access Approvals:

Idaho Transportation Department
(208) 799-5090
North Latah Highway District
(208) 882-7490

State Inspection Request Line

(Electric and Plumbing)
(800) 839-9239
Permit site: dbs.idaho.gov

South Latah Highway District
(208) 285-1412

Idaho Department of Water Resources
(208) 762-2800



BUILDING PERMIT APPLICATION

LATAH COUNTY DEPARTMENT OF PLANNING & BUILDING

Leave blank or write in parcel number (if known) if no address has been assigned

↓ BP #

JOB ADDRESS:			
(number)	(road name)	(city)	(zip code)
IF NO ADDRESS HAS BEEN ASSIGNED OR DRIVEWAY LOCATION HAS CHANGED, A NEW ADDRESS IS REQUIRED.			
1. Proposed approaches will not be approved for an address. A copy of your highway district or ITD approval must be submitted, and all approaches must be constructed prior to any address being issued. Driveways with three or more existing or potential users will be required to be named as a lane .			
2. Attach a map showing the location of your approved constructed approach including measurements to property lines, the public road, and proposed and existing structures.			
Point of Contact: <input type="checkbox"/> Owner <input type="checkbox"/> Contractor <input type="checkbox"/> Engineer/Architect		Preferred Method of Contact: <input type="checkbox"/> Text <input type="checkbox"/> Phone <input type="checkbox"/> Email	
<input type="checkbox"/> Other:			
OWNER:		Mailing Address:	
Phone:	Cell #:	Email:	
CONTRACTOR:		Mailing Address:	
Phone:	Cell #:	Email:	License #:
ENGINEER/ARCHITECT:		Mailing Address:	
Phone:	Cell #:	Email:	License #:
This building has: <input type="checkbox"/> Plumbing <input type="checkbox"/> Electrical <input type="checkbox"/> None		Plumbing permit:	Electrical permit:
We will not schedule a framing inspection if you haven't submitted your state electrical and plumbing permit numbers to this office. Please get us these numbers as soon as they are issued.			
# Of Existing Dwellings on Parcel	# Of other structures on parcel	Uses on parcel:	
Please describe the type of work you will be completing and what this structure will be used for:			
*Many types of structures are required to have plans stamped by a design professional. Please contact the Building Department prior to plan submittal for a determination.			
Class of Work: <input type="checkbox"/> New <input type="checkbox"/> Addition <input type="checkbox"/> Alteration <input type="checkbox"/> Repair <input type="checkbox"/> Move <input type="checkbox"/> Change of Use		Approximate size of new structure:	
Authorization and Notice			
THE PERMIT APPLIED FOR WITH THIS APPLICATION BECOMES NULL AND VOID IF NO INSPECTION IS REQUESTED AND PERFORMED FOR THE WORK AUTHORIZED WITHIN 180 DAYS FROM DATE OF ISSUANCE AND/OR IF NO INSPECTION IS REQUESTED AND PERFORMED FOR A PERIOD OF 180 DAYS FROM THE MOST RECENT INSPECTION. THE COUNTY HAS NO RESPONSIBILITY TO MAKE YOU AWARE OF YOUR PERMIT'S EXPIRATION AND ANY NOTIFICATION YOU MAY RECEIVE IS A COURTESY; YOU ARE ACCOUNTABLE FOR THE PERMIT'S STATUS. FURTHERMORE, THIS PERMIT IS VOIDABLE AND MAY BE REVOKED BY THE COUNTY IF THERE IS ANY MISREPRESENTATION IN THIS APPLICATION, INCLUDING BUT NOT LIMITED TO MISREPRESENTING THE LOCATION OF THE PROPERTY LINES OR IF THERE IS A FAILURE TO PERFORM THE WORK AS REPRESENTED IN THE APPLICATION.			
THE APPLICANT/OWNER/CONTRACTOR ARE RESPONSIBLE FOR KNOWING THE LOCATION OF THE PROPERTY LINES AND FOR REPRESENTING THEM TO THE COUNTY ACCURATELY. THE COUNTY IS NOT RESPONSIBLE FOR KNOWING OR VERIFYING THE LOCATION OF PROPERTY LINES AND VERIFICATION OF SUCH IS NOT PART OF ANY INSPECTION CONDUCTED BY THE COUNTY. THE COUNTY RELIES ON THE APPLICANT/OWNER/CONTRACTOR'S REPRESENTATIONS REGARDING THE PROPERTY LINES TO CHECK SETBACKS, ENSURE THE STRUCTURE IS BUILT ON THE PROPERTY INDICATED AND FOR COMPLIANCE WITH CODES. IF THE OWNER/APPLICANT/BUILDER IS NOT AWARE OR UNSURE OF THE LOCATION OF THE PROPERTY LINES, THE OWNER IS RESPONSIBLE FOR PROCURING A SURVEY TO LOCATE THE PROPERTY LINES. THE APPLICANT OR OWNER IS RESPONSIBLE FOR ANY DAMAGES THAT MAY ARISE FROM ANY MISREPRESENTATION ON THIS APPLICATION OR ON ANY PROPERTY.			
COMMENCEMENT OF CONSTRUCTION PRIOR TO THE ISSUANCE OF A BUILDING PERMIT OR IN VIOLATION OF ANY CODE, IS DONE WITH THE UNDERSTANDING THAT ALL WORK WILL BE REMOVED, AND PROPERTY CONDITIONS MAY BE REQUIRED TO BE RESTORED, IF A PERMIT IS NOT ISSUED OR IF IT IS REVOKED, AND THAT IF A PERMIT IS ISSUED THE PERMIT SHALL BE SUBJECT TO ADDITIONAL FEES. ALL PROVISIONS OF LAWS AND ORDINANCES GOVERNING THIS TYPE OF WORK WILL BE COMPLIED WITH WHETHER SPECIFIED HEREIN OR NOT. THE GRANTING OF A PERMIT DOES NOT PRESUME TO GIVE AUTHORITY TO VIOLATE OR CANCEL THE PROVISIONS OF ANY OTHER FEDERAL, STATE OR LOCAL LAW.			
I HEREBY CERTIFY THAT I HAVE READ, EXAMINED, AND UNDERSTAND THIS APPLICATION AND NOTICE AND CERTIFY THIS APPLICATION TO BE TRUE AND CORRECT.			
a. Signature of Property Owner* (required)	b. Date	c. Signature of Applicant (if different than property owner)	d. Date
a. Signature of Contractor	b. Date		
Office Use Only			
ASSESORS PARCEL NUMBER:			
	APPROVED BY	DATE	COMMENTS
SEPTIC/SEWER			
ROAD ACCESS			

GENERAL INFORMATION

- Application
- Site Plan, see attached
- Driveway Map/Plan (Can be combined with driveway plan if it can be easily read)

Please show:

- The location of the driveway including the access point onto the roadway
- Driveway widths
- Driveway length
- Driveway slopes that exceed 10% and length
- Culverts, water diversion, water breaks, and bridge locations
- Stream or water crossings
- Cut or fill areas including slopes and heights
- Retaining walls
- Locations and dimensions of turn outs and turn arounds
- Engineering if applicable

**Please note that driveways must comply with Article 9 of the Latah County Land Use Ordinance.*

- Address: See application
- Floodplain approvals if applicable: Check with Planning Department prior to doing any construction, including driveways.
- Highway district/ITD approval
- Septic approval
- Plumbing and Electrical permit numbers – Idaho Division of Building Safety (If you do not have them get them to us as soon as you do)
- Climatic and Geographic Design Criteria:
 - Snow load – all structures must meet minimum roof snow loads as shown on the map in Title 7 Section 7-1-10 Latah Cty Building Codes & Regulations -please verify prior to design
 - Wind Speed: 115mph or design using 1609IBC or Chapter 26-30 ASCE 7
 - Seismic Design Category: B
 - Subject to Damage from weathering: Severe
 - Frost Depth 30 inches
 - Subject to damage from termite: Slight to moderate
 - Winter Design Temp: 10 Degrees F
 - Ice Shield Underlayment Required: Yes
 - Flood Hazards: yes-please verify with staff prior to design
 - Air Freezing Index: 1500 or less
 - Mean Annual Temperature: 47.3 Degrees F

BUILDING PLANS

****REMEMBER TO INCLUDE PLANS FOR DECKS AND LANDINGS****

All elevations and framing drawings must be to scale.

ELEVATION DRAWINGS:

- Elevations of structure and foundation/basement that shows all sides and heights.
[Page(s)_____]
- Plan view for each level showing usage of all rooms and dimensions. [Page(s)_____]

FOUNDATION/FOOTING/CONNECTIONS/ANCHORS:

- Sizes of footings, spread footing(pad), foundation walls, venting, openings, piers, vapor barrier, slabs, and reinforcement (size and spacing) for each. [Page(s)_____]
- Perimeter subsoil drain and damp-proofing on all concrete or masonry walls that retain earth and enclose habitable or accessible space located below grade. [Page(s)_____]
- Pony/Cripple Walls: Note stud type, size, length and spacing. [Page(s)_____]
- Anchor Bolts: Specify sizes, embedment and spacing, and sill plate type and sill sealer. Hold downs for wall bracing. [Page(s)_____]

FRAMING/WALL/ROOF:

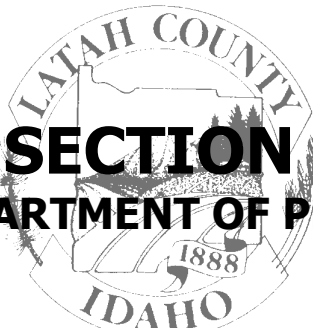
- Floor framing: Specify floor joists type, size, spacing and spans. Beam sizes, spacing, spans, any columns, and floor sheathing. [Page(s)_____]
- Roof framing [may be omitted for trusses]: rafter and/or ceiling joist type, framing members spans, sizes and spacing, roof sheathing, bearing points. [Page(s)_____]
- Trusses: Truss specification sheet(s) that are stamped by an engineer, truss layout, spacing, spans, and style (scissor, mono, hip, standard, or girder), and interior bearing points. Truss spec sheets may be turned in at the time of purchase of trusses, but no later than prior to truss inspection. [Page(s)_____]
- Beams, Headers and Columns: Specify types and sizes of supporting beams, headers and columns and any bearing points. [Page(s)_____]
- Roof covering: type (roof coverings must be made of fire-resistant materials), underlayments and attic ventilation. [Page(s)_____]
- Wall Components: Specify types, sizes, spacing, lengths, sheathing, exterior moisture resistant barrier, siding material, interior wall covering, and interior vapor barrier. For basements, provide interior wood wall construction and method of protection against decay. [Page(s)_____]
- Stairways: Show locations, width, rise and run, handrails, lighting and guardrails. [Page(s)_____]

ELECTRICAL/MECHANICAL

- Electrical/Mechanical: Types, efficiency ratings when applicable, and locations of smoke detectors, carbon monoxide detectors, all mechanical fans, furnace, air conditioner units, water heaters, heating equipment, fireplaces (incl. wood stoves), etc. include manufacturer's specifications for any mechanical or fuel burning equipment you plan to install. [Page(s)_____]
- Garages: The above plus Gas Fired Equipment must be elevated so the source of ignition is at least 18" minimum above the floor. Show how gas piping and equipment will be guarded to prevent damage (such as a bollard). [Page(s)_____]

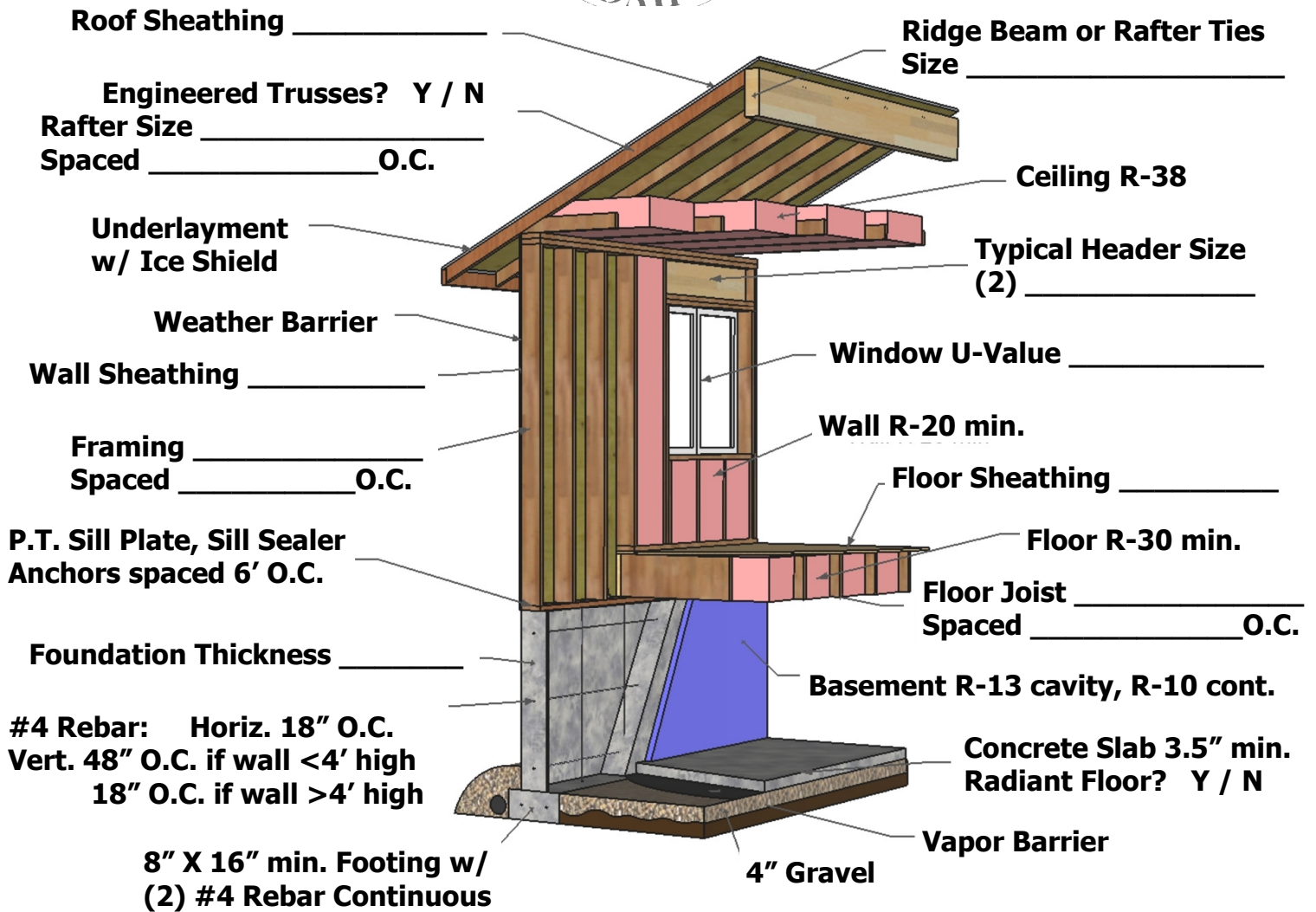
OTHER

- Insulation materials to be used for foundation, floors, walls and attic/ceiling and R values associated with the specified insulation materials, including manufacturer's specifications if foam. [Page(s)_____]
- Plumbing Fixtures: Show types and locations. [Page(s)_____]
- Access: Indicate attic access and crawlspace access locations and sizes. [Page(s)_____]
- Garage/Dwelling Separation: Note the required wall and/or ceiling separation requirements between the garage and the dwelling including the door. [Page(s)_____]
- Decks, Porches, and Stoops: Show locations, construction details, deck ledger connection details and type, spacing and span of floor joists. [Page(s)_____]
- Window and door schedule showing types, U-factor, locations, opening sizes(egress) and required safety glazing locations. [Page(s)_____]



WALL SECTION DETAIL

LATAH COUNTY DEPARTMENT OF PLANNING & BUILDING



- Footings must be placed 30" below grade on undisturbed soil
- Dampproofing and subsoil drain required when retaining usable space
- Attic and Crawlspace must be adequately ventilated
- Provide any engineered designs/layouts. ie: Trusses, I-Joists, etc.
- Special conditions may required additional requirements
- Other building details must be provided in addition to this form

INSTRUCTIONS FOR PREPARING A SITE PLAN

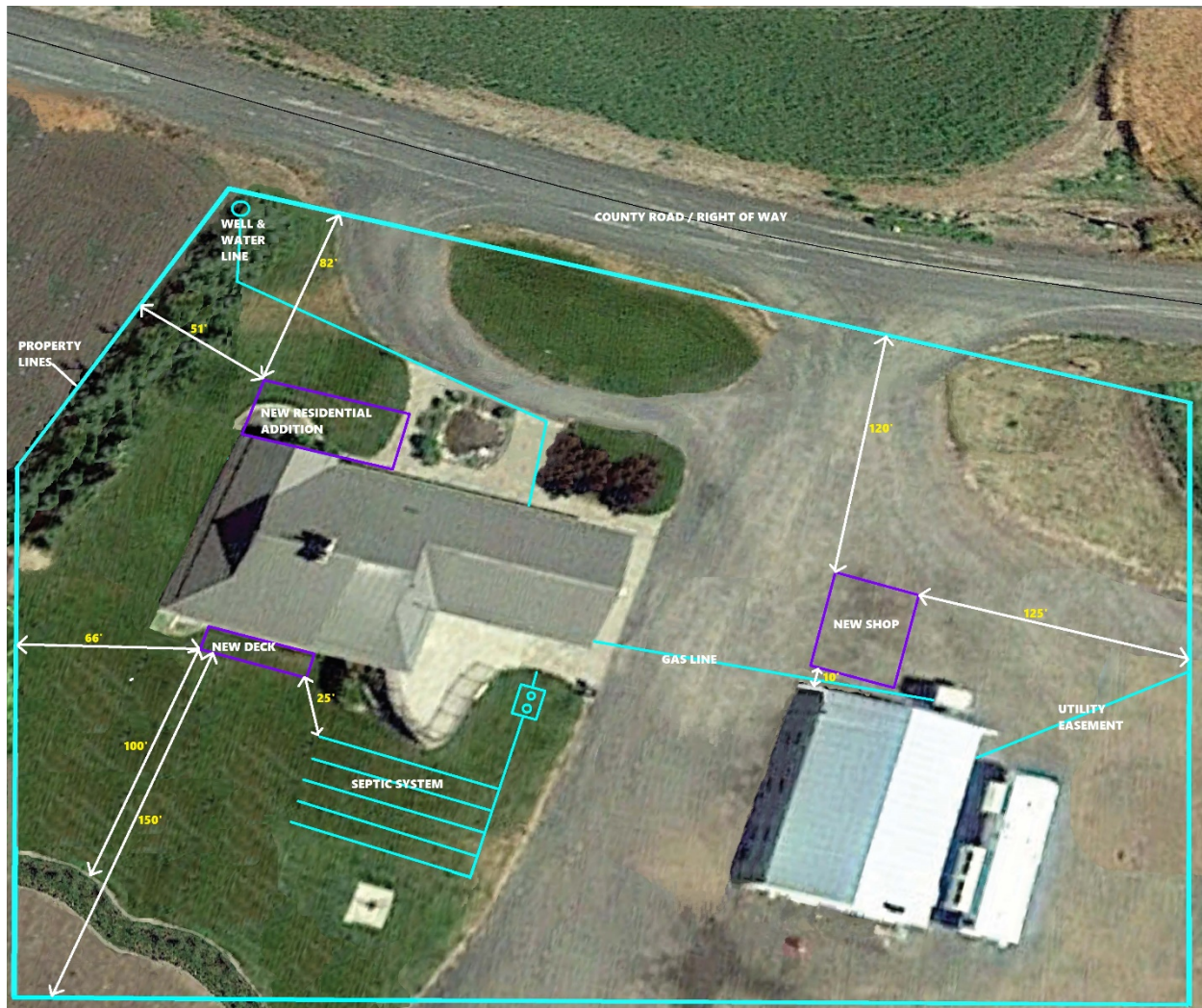
Please refer to the example diagram below

The site plan shows us if your new structure will meet the required setbacks to property lines, roadways, septic systems, streams, etc.

Upon request, we will provide you with an aerial photo as well as the required setbacks for your zoning designation. You can access an aerial photo under the “maps” tab at www.latahcountyid.gov

Include, at a minimum:

- The new structure(s) and measured distances to property lines, other structures, streams, septic system, well, and roadways.
- Easements, water lines and gas lines that cross your property
- Areas on your property that have been filled with soil or other materials





LATAH COUNTY PLANNING & BUILDING

Latah County Courthouse

PO Box 8068, 522 South Adams
Moscow, ID 83843

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INSPECTIONS

Latah County adopted the 2018 International Building Code and 2018 International Residential Code which requires this department to perform inspections. It is the obligation of the person doing the work to schedule inspections. All seven of the following inspections are required by Latah County:

<p>IT IS THE OBLIGATION OF THE PERSON WHO IS DOING THE WORK TO REQUEST THE REQUIRED INSPECTIONS</p>
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- 1. FOUNDATION INSPECTION.** To be made after forming for footings are complete and any required reinforcing steel is in place. For concrete foundations, any required forms shall be in place prior to inspection. All materials for the foundation shall be on the job, except where concrete is already mixed in accordance with ACI 318 or ASTM Standard C 1157, the concrete need not be on the job. Where the foundation is to be constructed of approved wood, additional inspections may be required by the building official.
- 2. BASEMENT WALL DAMP PROOFING AND DRAIN INSPECTION.** To be made after the installation of perimeter footing drains and the application of damp proofing material on the basement walls.
- 3. CONCRETE SLAB OR UNDER-FLOOR INSPECTION.** To be made after all in-slab or under-floor building service equipment, conduit, piping accessorized and ancillary equipment items are in place, but before any concrete is placed or floor sheathing installed, including subfloor.
- 4. FRAME INSPECTION.** To be made after the roof, all framing, fire blocking and bracing are in place and all pipes, chimneys and vents are complete and the rough electrical, plumbing, and heating wires, pipes are ducts are complete.
- 5. INSULATION INSPECTION.** To be made after all insulation is placed. (Blown in insulation can be checked at the final inspection.)
- 6. DRYWALL INSPECTION.** To be made after all lathing and drywall, interior and exterior, is in place, but before any drywall joints or fasteners are taped and finished.
- 7. FINAL INSPECTION.** To be made after finish grading and the building is complete and ready for occupancy.

No work shall proceed until the required inspections have taken place. This office will require work that has been placed over uninspected, covered or concealed work to either be removed, or have a licensed engineer prepare a sealed inspection report concerning the acceptability of the covered work.



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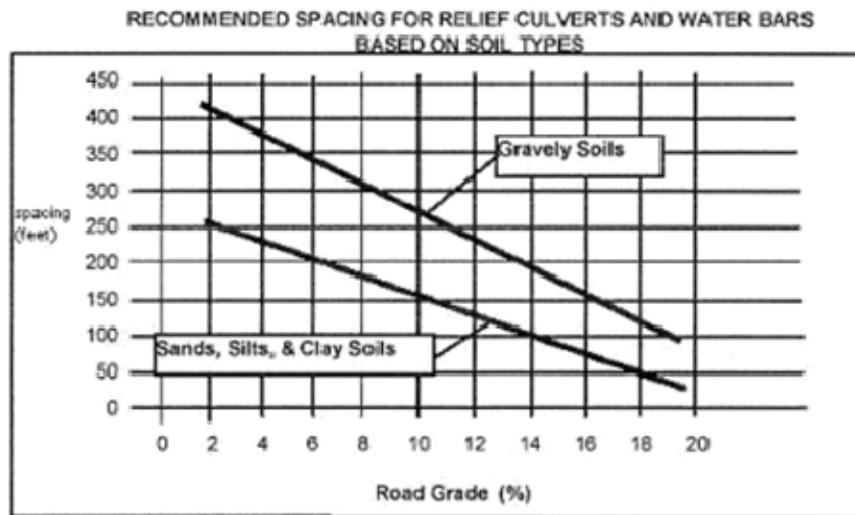
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DRIVEWAY REQUIREMENTS

Please check with the Planning Department prior to starting driveway construction to see if your development approval (as per another section of this code) required that your driveway have a 20' width.

ALL DRIVEWAYS SHALL:

1. Have a graveled or paved width of at least 10 feet, with a turnaround at the residence, building or structure which allows a safe opposite change of direction for emergency equipment 40 feet long and 15 feet high.
2. Have graveled or paved turnouts 50 feet long and 10 additional feet wide for every 1000 lineal feet of driveway, except where line of site is obstructed in which case such turnouts shall be located every 500 feet.
3. Have a turning radius for all curves which will accommodate emergency equipment 40 feet long.
4. Have side slopes (cut or fill slopes) re-vegetated using species mixtures, seeding techniques, and scheduled as recommended by the Natural Resources Conservation Service until such time that permanent vegetation is established. Alternative methods that control weeds, runoff and erosion may be utilized. Side slopes shall not be left to over-winter without appropriate treatment.
5. Have water breaks or water bars or culverts constructed at the recommended spacing based on the graph below:



6. Have driveway plan designed by a professional engineer licensed in the State of Idaho when any one of the following conditions will result from construction:
 - a. Driveways cross any stream shown on a U.S. Geological Survey 7.5 Minute Series Topographic map.
 - b. Driveways that have a grade that will exceed 10% for more than 100 feet.
 - c. Driveways with side slopes (cut or fill slopes) that exceed two horizontal to one vertical on heights of four feet or more.
7. Have access approved in writing by the responsible highway district and be constructed in accordance with the highway district standards.



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CONSTRUCTION STANDARDS FOR INDUSTRIAL USE

1. Accessory off-street parking and loading facilities shall be provided to accommodate the use and occupancies for all buildings and structures and every land use established, in all zones, after the effective date of this ordinance. When required, parking lots shall comply with all accessibility requirements as set forth in the adopted Building Code Ordinance.
2. Development and continued maintenance of an approved buffer yard of not less than 20 feet in width within the setback area. The buffer yard must extend along any public right-of-way and any perimeter property line which is adjacent to land not zoned Industrial.
3. Prior to issuance of a building permit or initiation of any activity that does not require a building permit the applicant shall provide a signed statement that an available water source adequate for the needs of the proposed facility has been developed. The Planning Department shall check to ensure necessary permit have been issued for the water source.
4. Prior to issuance of a building permit or initiation of any activity that does not require a building permit, the Department of Environmental Quality (D.E.Q.) shall be consulted and if necessary, prior to a certificate of occupancy, provide written approval for a waste water management plan that is created by and submitted to the D.E.Q. by the applicant or their representative. The applicant will have to meet whatever standards the D.E.Q. requires for the submittal. The applicant shall comply with the requirements of the approved plan prior to the certificate of occupancy being issued.
5. A stormwater management program shall be implemented to ensure that no increase in runoff from the property results from the new development. This program shall be developed and submitted to the Planning Department for review prior to issuance of a building permit or initiation of any activity that does not require a building permit. If adequate, the plan shall be approved by the Planning Department. Any necessary site improvements must be made and verified prior to the issuance of the certificate of occupancy for the facility.

If the use will require outdoor watering, may have hazardous or other chemicals that could be discharged during a rain event, or if there are any hazardous chemicals that if released could be a safety hazard to the public, the Planning Department can require this plan be designed by a professional engineer licensed in the State of Idaho and the engineer shall certify that the program has been implemented (including physical improvements).

6. The hours of operation shall be restricted to the period from 6 a.m. to 9 p.m. for exterior activities. Operation outside these hours shall require a conditional use permit as provided by Section 7.01 of this ordinance.
7. Prior to issuance of a building permit or initiation of any activity that does not require a building permit, a plan for parking must be submitted that includes spaces, accessibility, and approach points. All approach points must be approved by the appropriate highway agency.
8. Prior to issuance of a building permit or initiation of any activity that does not require a building permit, a plan for any lighting must be submitted. All lighting must be a full cutoff fixture and shall be directed away from existing residences.

9. Prior to issuance of a building permit or initiation of any activity that does not require a building permit, a plan for fire protection must be submitted.
10. Prior to issuance of any building permit or initiation of any activity that does not require a building permit, the applicant shall provide approval from, the health department for any new septic system, any connection or modification to an existing septic system, and approval from any City or sewer district showing an approved connection for the proposed use.
11. Prior to issuance of any building permit or initiation of any activity that does not require a building permit a plan for any outdoor storage must be submitted.

Depending on the use, other requirements set by the code or by permits may be required. Please check with the Planning Department.



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CONSTRUCTION STANDARDS FOR COMMERCIAL USE

The following uses must submit the following documents/information must be submitted as part of your permit application when applicable (applicability is determined as having the item or needing the item because of other items on the parcel):

Plans for:

- A. parking including spaces, accessibility, approach points
- B. stormwater runoff
- C. landscaping for shading and buffering
- D. lighting (lighting must be a full cutoff fixture and shall be directed away from existing residences)
- E. fire protection
- F. water system (public when required, water right when required; the Planning Department shall check to ensure necessary permits have been issued for the water source)
- G. sewer system (the applicant shall provide approval from the health department for any new septic system, any connection or modification to an existing septic system, and approval from any City or sewer district showing an approved connection for the proposed use)
- H. outdoor storage
- I. hours of operation
- J. building permit
- K. wastewater management

Depending on the use, other requirements set by the code or by permits may be required. Please check with the Planning Department.



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WATERPROOFING AND DAMP PROOFING FOUNDATIONS

Latah County has adopted the 2018 International Residential Code which provides for foundation damp proofing in Section R405 and R406. It is the contractor's responsibility to be aware of these requirements. Following is a list of some of the most important points of this chapter:

1. A subsurface soils investigation will be required of each building site unless foundation waterproofing or approved damp proofing is provided.
2. Damp proofing materials, 6 mil polyethylene, or other approved methods or materials, shall be installed between the slab and base material.
3. Wall damp proofing shall be installed on the exterior surface of walls enclosing a basement, and shall extend from a point @ grade, down to the top of the spread portion of the footing. The surface area should be smoothed, and the area covered with an approved damp proofing material.
4. When damp proofing is required, a base material shall be installed under the floor and a drain shall be installed around the foundation perimeter.
5. Where the groundwater investigation indicated that a hydrostatic pressure caused by the groundwater does exist, walls and floors shall be waterproofed in accordance with this appendix chapter. Methods for floor and wall waterproofing are outlined in this appendix chapter.
6. Other damp proofing and waterproofing requirements exist. The quality and type of backfill material, building site grading, and erosion protection are all considerations that should be made.

Ground water and surface water are problems encountered in Latah County. The adoption of this code outlines ways that these common problems can be controlled.



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ENGINEERED ROOF TRUSS SYSTEMS

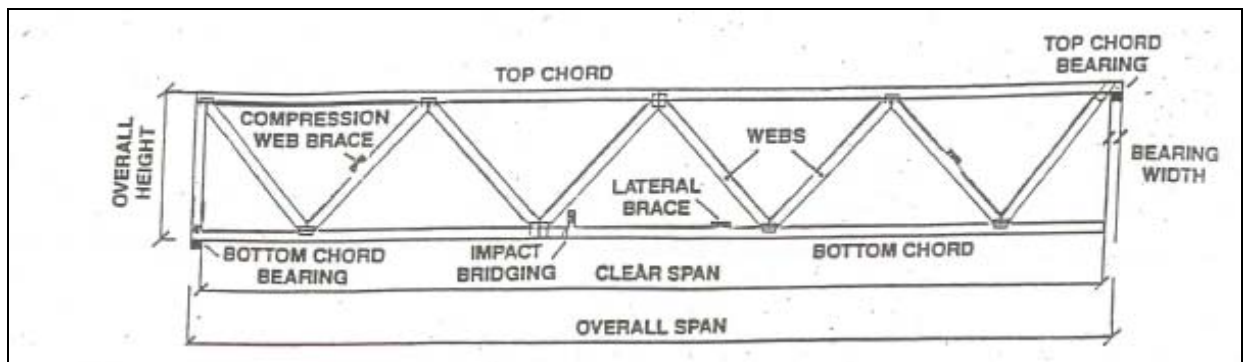
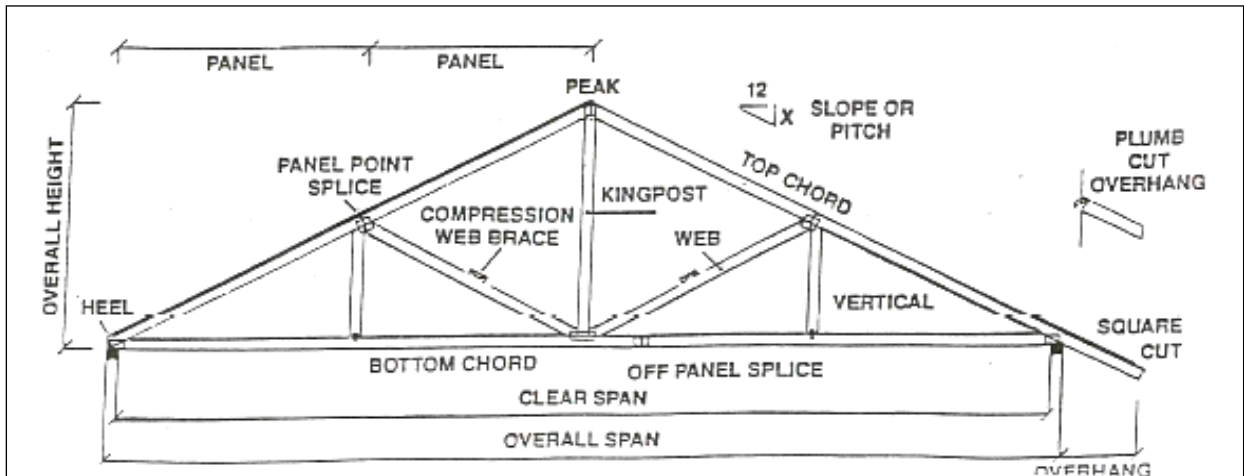
As more complex roof lines or larger rooms are designed into homes, the use of manufactured roof truss systems are becoming more common.

Latah County requires a copy of the engineered stamped truss plans for the roof system no later than the framing inspection.

At the framing inspection the specific trusses will be located, the bearing point, size of bearing, solid blocking at points of bearing, as well as the required lateral bracing will be inspected and snow load compliance will be verified. Snow load requirements vary within the county. Trusses are to be designed to sustain the minimum required snow loads.

A Builder should become familiar with the requirements of using engineered roof trusses and in reading the truss plan to avoid a correction called for at the framing inspection, and a delay in construction while the correction is made and a subsequent inspection scheduled.

If you are unsure of the installation requirements for engineered truss systems, or are not certain of the snow load requirements for you specific building site, please contact the Latah County Building Department for assistance.





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HAZARDOUS LOCATIONS FOR GLAZING

Please be aware that windows that are located in certain areas are required to be made up of glass that is resistant to human impact. The following locations shall be considered to be in hazardous locations:

1. Glazing in ingress and egress doors except jalousies.
2. Glazing in fixed and sliding panels of sliding door assemblies and panels in swinging doors other than wardrobe doors.
3. Glazing in storm doors.
4. Glazing in all unframed swinging doors.
5. Glazing in walls, door, enclosures and fences used as the barrier for indoor and outdoor swimming pools, hot tubs, steam rooms, bath tubes and showers, where the bottom exposed edge of the glazing is less than 60 inches above a standing/walking surface or is less than 60 inches horizontal from the water's edge/fixtures edge.
6. Glazing in fixed or operable panels adjacent to a door where the nearest exposed edge of the glazing is within a 24-inch arc of either vertical edge of the door in a closed position and where the bottom exposed edge of the glazing is less than 60 inches above the walking surface.
7. Glazing in an individual fixed or operable panel, other than those locations described in Items 5 and 6 above that meets all the following conditions:
 - a. Exposed area of individual pane greater than 9 square feet.
 - b. Exposed bottom edge less than 18 inches above the floor.
 - c. Exposed top edge greater than 36 inches above the floor.
 - d. One or more walking surfaces within 36 inches horizontally of the glazing in railings regardless of height above walking surface. Included are structural baluster panels and nonstructural in-fill panels.
8. Glazing in walls enclosing stairway landings or within 5 feet of the bottom and top of stairways where the bottom edge of the glass is less than 60 inches above a walking surface.



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STAIRWAYS, LANDINGS, GUARDS AND HANDRAILS

2018 IRC [Sections R311 & R312]

2018 IBC [Chapter 10]

Permit Requirements

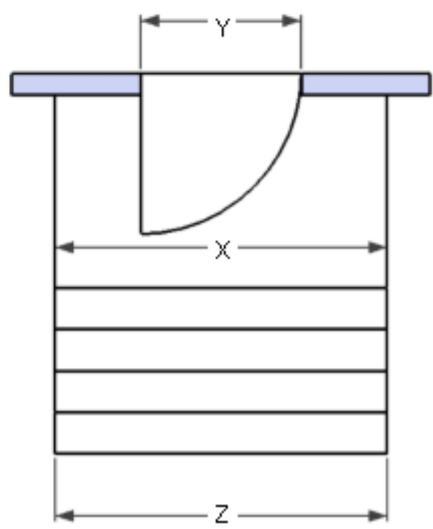
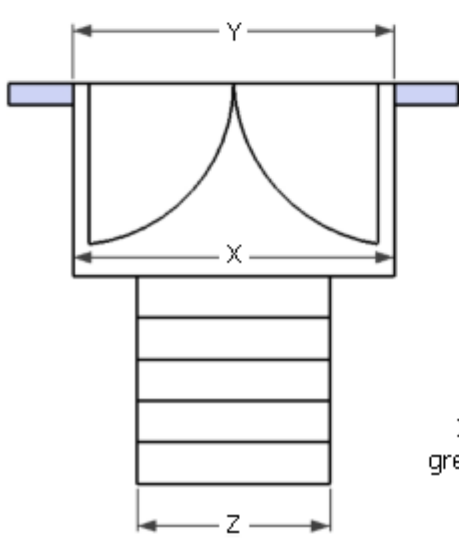
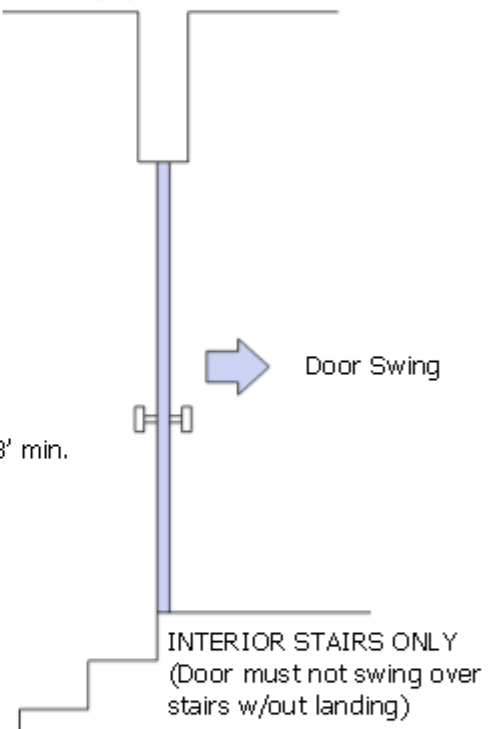
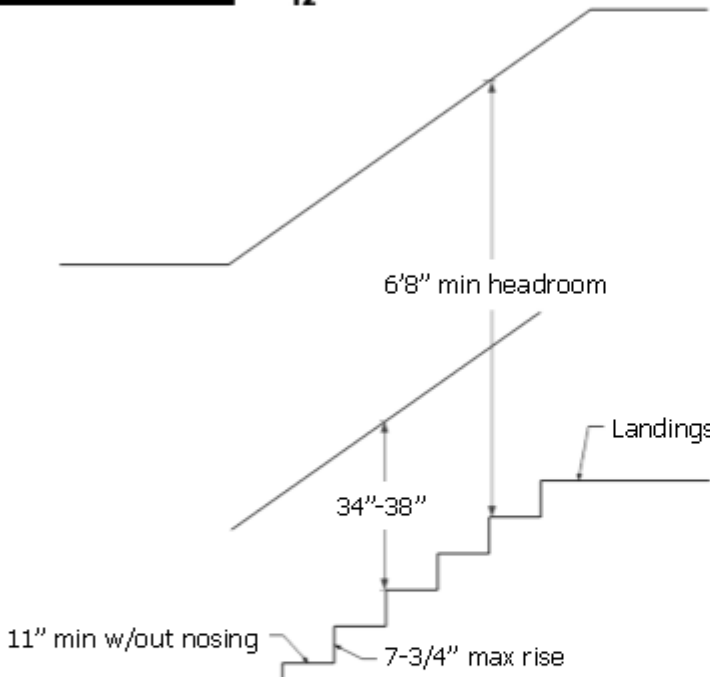
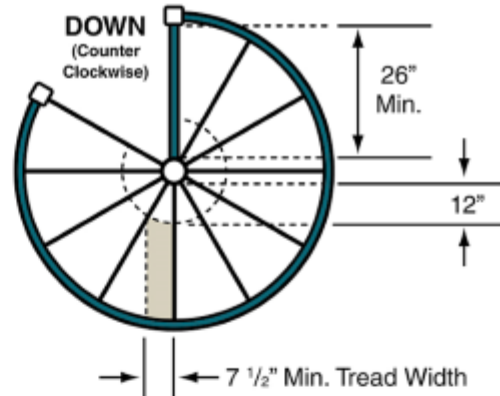
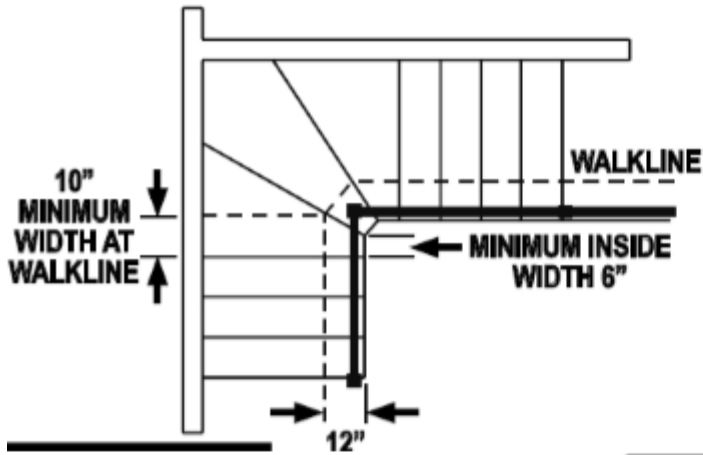
- Any construction, alteration or repair of a stairway requires a building permit.

Stairways

- The width of the stairway shall not be less than 36" for a residential application and not less than 44" for a stairway serving an occupant load of 50 or more.
- The maximum riser height shall be 7-3/4" and the minimum tread depth shall be 10" in a residential stairway. A maximum riser height of 7" and minimum tread depth of 11" is required for stairways serving other than an R-3 occupancy.
- Stairway rise and run measurements shall not vary more than 3/8" from top to bottom.
- The minimum headroom allowed in all parts of a stairway shall not be less than 6'-8" except in a spiral stairway, which may have a minimum height of 6'-6".
- Solid risers with a depth of less than 11", shall require a nosing of not less than 3/4" or more than 1-1/4". The greatest nosing projection shall not exceed the smallest by more than 3/8".
- An alteration or replacement of an existing stairway in an existing structure shall not be required to comply with the requirements of a new stairway where the existing space and construction will not allow a reduction in pitch or slope.
- Any portion of the stairway within 8" of the earth must be either pressure treated or naturally decay resistant lumber such as redwood or cedar.

Landings

- There shall be a floor or landing on each side of an exterior door except the exterior side of a sliding door. There shall also be a floor or landing at the top and bottom of each stairway although an interior stairway may open to steps at the top provided the door does not swing over the steps.
- Every landing shall have a minimum dimension of 36" measured in the direction of travel.



X = Landing Width
 Y = Doorway Width
 Z = Stair Width

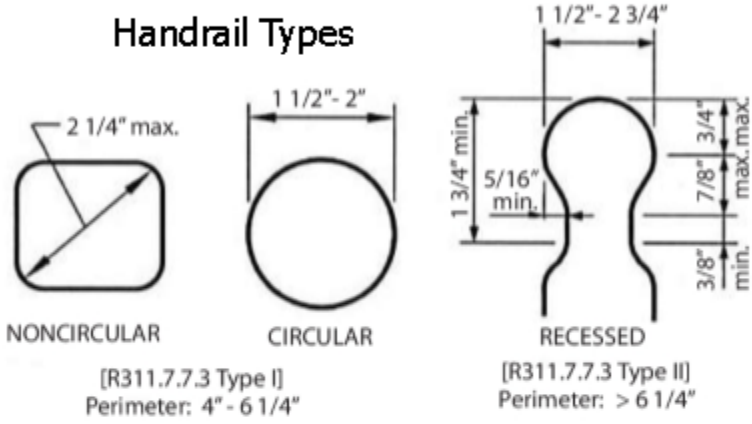
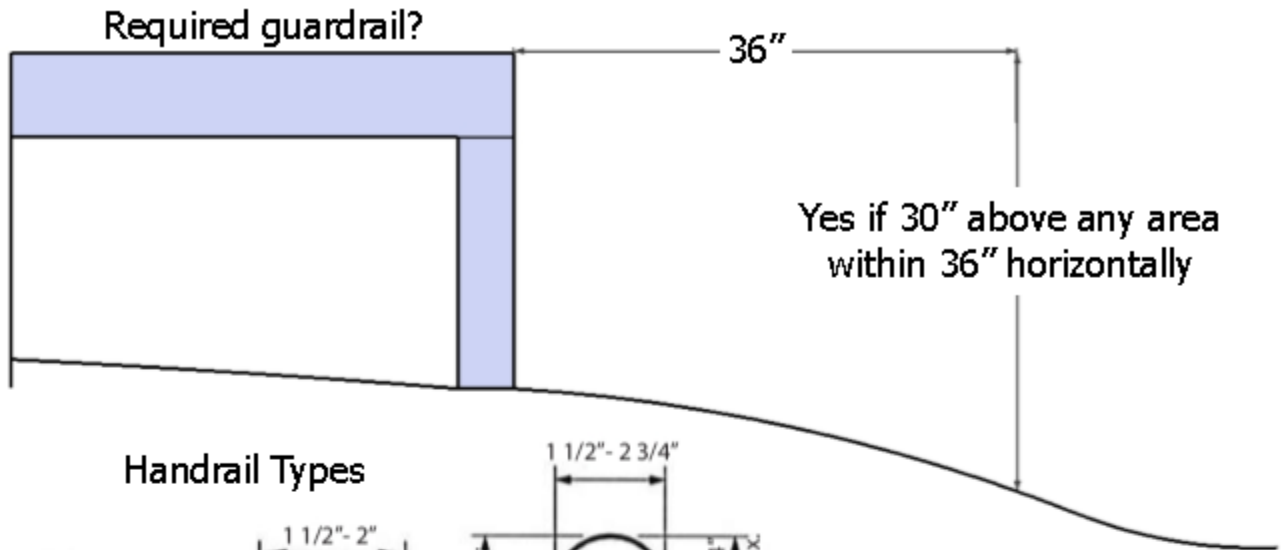
X shall be equal to or greater than both Y and Z

Guards

- Porches, balconies, or raised floor surfaces located more than 30" above the floor or grade within 36" horizontally shall have guards.
- The minimum height of guards shall be 36".
- Guards shall be constructed that the top rail to support a 200lb load in any direction and the in-fill panel to support 50lb in any single sq. ft.
- Required guards shall have intermediate rails or ornamental closures that do not allow the passage of a sphere 4" in diameter. The exception is the triangular opening formed by the riser, tread and bottom rail of the guard, which may be of such a size that a 6" sphere cannot pass through.

Handrails

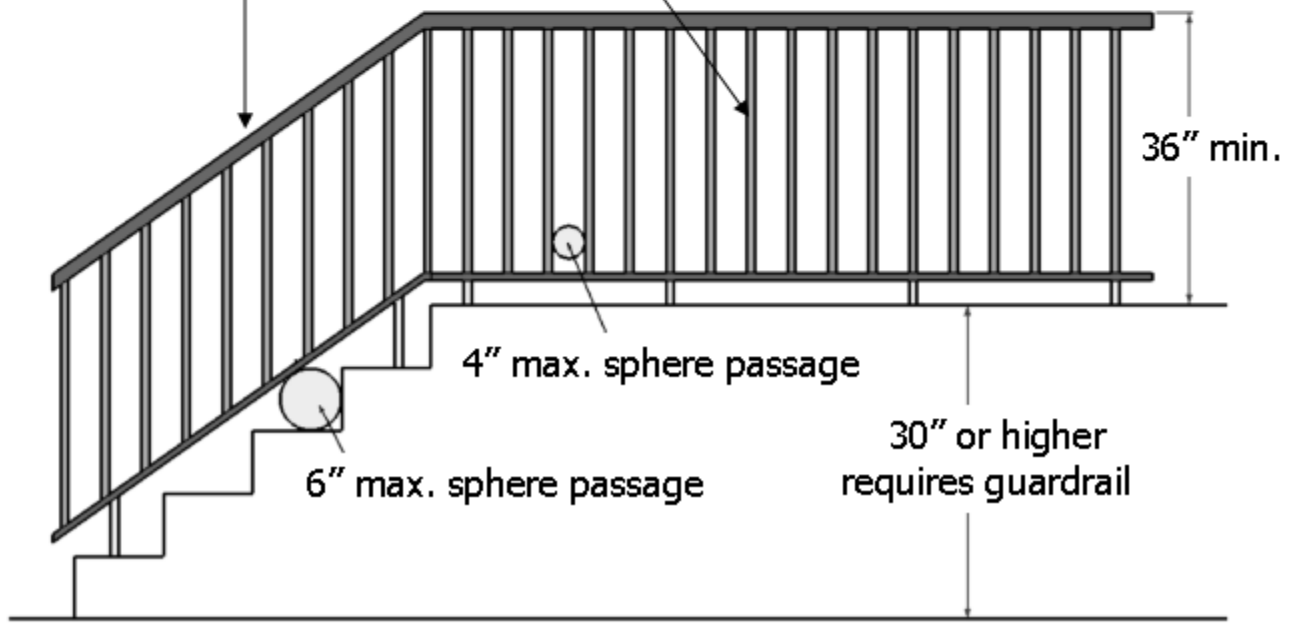
- All stairways with four or more risers are required to have at least one handrail.
- The top of handrails shall be constructed not less than 34" and not more than 38" above the nosing of the stair treads and landings.
- Handrails shall be constructed to support a 200lb load in any direction.
- Handrails shall be continuous the full length of the stairs and ends shall be returned to the wall or terminate in newel posts or safety terminals.
- The handgrip portion of handrails shall not be less than 1-1/4" or more than 2" in cross-sectional dimensions. If the handrail is not circular it shall have a perimeter dimension of at least 4" and not greater than 6-1/4" with a maximum cross section of 2-1/4".
- Handrails adjacent to a wall shall have a minimum of 1-1/2" clear space between the wall and the handrail.



In-fill paneling must resist 50lb per sq ft

Top rail and Handrail must be able to resist a 200lb force in any direction

Handrail required for 4 steps or more





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ENERGY CONSERVATION

Latah County has adopted the International Energy Conservation Code, 2018 Edition, as adopted by the Idaho Legislature. This Energy Code is applicable to all residential construction in Latah County.

Minimum Envelope Standards. Regardless of the component values for the proposed house allowed under any compliance method, no envelope component can be less efficient than the minimums specified in the table below.

ENVELOPE COMPONENT	R-VALUE
ROOF/CEILING (flat or scissor truss)	R49 R38 with raised heel trusses or energy trusses
VAULTED ROOF	R30 if the roof/ceiling assembly does not allow for R49
WALLS ABOVE GRADE	R20
FLOORS OVER CRAWL SPACES	R30, or filled cavity, R19 min.
BELOW GRADE WALLS Stud walls Continuous insulation	R13 R10
UNHEATED SLAB HEATED SLAB ON GRADE EDGE INSULTATION	R10, 2ft R15, 2ft
WINDOWS	U-factor .30

Note: These are not prescriptive measures but are component minimum values.

Mechanical Ventilation: A mechanical exhaust ventilation system shall be installed in all homes to provide the minimum exhaust ventilation rates specified in the table below. These specifications establish minimum criteria for designing and installing exhaust ventilation systems.

MINIMUM REQUIRED EXHAUST VENTILATION RATES

AREA	VENTILATON RATES
Kitchens	100 cfm intermittent or 25 cfm continuous
Bathrooms-Toilet Rooms	Mechanical exhaust capacity of 50 cfm intermittent or 20 cfm continuous.



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FASTENER SCHEDULE FOR STRUCTURAL MEMBERS

**TABLE R602.3(1)
FASTENING SCHEDULE**

ITEM	DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER ^{a, b, c}	SPACING AND LOCATION
Roof			
1	Blocking between ceiling joists or rafters to top plate	4-8d box (2½" × 0.113"); or 3-8d common (2½" × 0.131"); or 3-10d box (3" × 0.128"); or 3-3" × 0.131" nails	Toe nail
2	Ceiling joists to top plate	4-8d box (2½" × 0.113"); or 3-8d common (2½" × 0.131"); or 3-10d box (3" × 0.128"); or 3-3" × 0.131" nails	Per joist, toe nail
3	Ceiling joist not attached to parallel rafter, laps over partitions (see Section R802.5.2 and Table R802.5.2)	4-10d box (3" × 0.128"); or 3-16d common (3½" × 0.162"); or 4-3" × 0.131" nails	Face nail
4	Ceiling joist attached to parallel rafter (heel joint) (see Section R802.5.2 and Table R802.5.2)	Table R802.5.2	Face nail
5	Collar tie to rafter, face nail or 1¼" × 20 ga. ridge strap to rafter	4-10d box (3" × 0.128"); or 3-10d common (3" × 0.148"); or 4-3" × 0.131" nails	Face nail each rafter
6	Rafter or roof truss to plate	3-16d box nails (3½" × 0.135"); or 3-10d common nails (3" × 0.148"); or 4-10d box (3" × 0.128"); or 4-3" × 0.131" nails	2 toe nails on one side and 1 toe nail on opposite side of each rafter or truss ^d
7	Roof rafters to ridge, valley or hip rafters or roof rafter to minimum 2" ridge beam	4-16d (3½" × 0.135"); or 3-10d common (3" × 0.148"); or 4-10d box (3" × 0.128"); or 4-3" × 0.131" nails	Toe nail
		3-16d box 3½" × 0.135"); or 2-16d common (3½" × 0.162"); or 3-10d box (3" × 0.128"); or 3-3" × 0.131" nails	End nail
Wall			
8	Stud to stud (not at braced wall panels)	16d common (3½" × 0.162")	24" o.c. face nail
		10d box (3" × 0.128"); or 3" × 0.131" nails	16" o.c. face nail
9	Stud to stud and abutting studs at intersecting wall corners (at braced wall panels)	16d box (3½" × 0.135"); or 3" × 0.131" nails	12" o.c. face nail
		16d common (3½" × 0.162")	16" o.c. face nail
10	Built-up header (2" to 2" header with ½" spacer)	16d common (3½" × 0.162")	16" o.c. each edge face nail
		16d box (3½" × 0.135")	12" o.c. each edge face nail
11	Continuous header to stud	5-8d box (2½" × 0.113"); or 4-8d common (2½" × 0.131"); or 4-10d box (3" × 0.128")	Toe nail
12	Top plate to top plate	16d common (3½" × 0.162")	16" o.c. face nail
		10d box (3" × 0.128"); or 3" × 0.131" nails	12" o.c. face nail
13	Double top plate splice	8-16d common (3½" × 0.162"); or 12-16d box (3½" × 0.135"); or 12-10d box (3" × 0.128"); or 12-3" × 0.131" nails	Face nail on each side of end joint (minimum 24" lap splice length each side of end joint)

(continued)

TABLE R602.3(1)—continued
FASTENING SCHEDULE

ITEM	DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER ^{a, b, c}	SPACING AND LOCATION
14	Bottom plate to joist, rim joist, band joist or blocking (not at braced wall panels)	16d common (3½" × 0.162")	16" o.c. face nail
		16d box (3½" × 0.135"); or 3" × 0.131" nails	12" o.c. face nail
15	Bottom plate to joist, rim joist, band joist or blocking (at braced wall panel)	3-16d box (3½" × 0.135"); or 2-16d common (3½" × 0.162"); or 4-3" × 0.131" nails	3 each 16" o.c. face nail 2 each 16" o.c. face nail 4 each 16" o.c. face nail
16	Top or bottom plate to stud	4-8d box (2½" × 0.113"); or 3-16d box (3½" × 0.135"); or 4-8d common (2½" × 0.131"); or 4-10d box (3" × 0.128"); or 4-3" × 0.131" nails	Toe nail
		3-16d box (3½" × 0.135"); or 2-16d common (3½" × 0.162"); or 3-10d box (3" × 0.128"); or 3-3" × 0.131" nails	End nail
17	Top plates, laps at corners and intersections	3-10d box (3" × 0.128"); or 2-16d common (3½" × 0.162"); or 3-3" × 0.131" nails	Face nail
18	1" brace to each stud and plate	3-8d box (2½" × 0.113"); or 2-8d common (2½" × 0.131"); or 2-10d box (3" × 0.128"); or 2 staples 1¾"	Face nail
19	1" × 6" sheathing to each bearing	3-8d box (2½" × 0.113"); or 2-8d common (2½" × 0.131"); or 2-10d box (3" × 0.128"); or 2 staples, 1" crown, 16 ga., 1¾" long	Face nail
20	1" × 8" and wider sheathing to each bearing	3-8d box (2½" × 0.113"); or 3-8d common (2½" × 0.131"); or 3-10d box (3" × 0.128"); or 3 staples, 1" crown, 16 ga., 1¾" long	Face nail
		Wider than 1" × 8" 4-8d box (2½" × 0.113"); or 3-8d common (2½" × 0.131"); or 3-10d box (3" × 0.128"); or 4 staples, 1" crown, 16 ga., 1¾" long	
Floor			
21	Joist to sill, top plate or girder	4-8d box (2½" × 0.113"); or 3-8d common (2½" × 0.131"); or 3-10d box (3" × 0.128"); or 3-3" × 0.131" nails	Toe nail
22	Rim joist, band joist or blocking to sill or top plate (roof applications also)	8d box (2½" × 0.113")	4" o.c. toe nail
		8d common (2½" × 0.131"); or 10d box (3" × 0.128"); or 3" × 0.131" nails	6" o.c. toe nail
23	1" × 6" subfloor or less to each joist	3-8d box (2½" × 0.113"); or 2-8d common (2½" × 0.131"); or 3-10d box (3" × 0.128"); or 2 staples, 1" crown, 16 ga., 1¾" long	Face nail

(continued)

WALL CONSTRUCTION

TABLE 602.3(1)
FASTENING SCHEDULE—continued

ITEM	DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER ^{a, b, c}	SPACING AND LOCATION	
Floor				
24	2" subfloor to joist or girder	3-16d box (3 1/2" x 0.135"); or 2-16d common (3 1/2" x 0.162")	Blind and face nail	
25	2" planks (plank & beam—floor & roof)	3-16d box (3 1/2" x 0.135"); or 2-16d common (3 1/2" x 0.162")	At each bearing, face nail	
26	Band or rim joist to joist	3-16d common (3 1/2" x 0.162") 4-10 box (3" x 0.128"), or 4-3" x 0.131" nails; or 4-3" x 14 ga. staples, 7/16" crown	End nail	
27	Built-up girders and beams, 2-inch lumber layers	20d common (4" x 0.192"); or	Nail each layer as follows: 32" o.c. at top and bottom and staggered.	
		10d box (3" x 0.128"); or 3" x 0.131" nails	24" o.c. face nail at top and bottom staggered on opposite sides	
		And: 2-20d common (4" x 0.192"); or 3-10d box (3" x 0.128"); or 3-3" x 0.131" nails	Face nail at ends and at each splice	
28	Ledger strip supporting joists or rafters	4-16d box (3 1/2" x 0.135"); or 3-16d common (3 1/2" x 0.162"); or 4-10d box (3" x 0.128"); or 4-3" x 0.131" nails	At each joist or rafter, face nail	
29	Bridging or blocking to joist	2-10d box (3" x 0.128"), or 2-8d common (2 1/2" x 0.131"); or 2-3" x 0.131" nails	Each end, toe nail	
ITEM	DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER ^{a, b, c}	SPACING OF FASTENERS	
			Edges (inches) ^b	Intermediate supports ^{a, e} (inches)
Wood structural panels, subfloor, roof and interior wall sheathing to framing and particleboard wall sheathing to framing [see Table R602.3(3) for wood structural panel exterior wall sheathing to wall framing]				
30	3/8" - 1/2"	6d common (2" x 0.113") nail (subfloor, wall) ⁱ 8d common (2 1/2" x 0.131") nail (roof); or RSRS-01 (2 3/8" x 0.113") nail (roof) ^j	6	12 ^f
31	19/32" - 1"	8d common nail (2 1/2" x 0.131"); or RSRS-01; (2 3/8" x 0.113") nail (roof) ^j	6	12 ^f
32	1 1/8" - 1 1/4"	10d common (3" x 0.148") nail; or 8d (2 1/2" x 0.131") deformed nail	6	12
Other wall sheathing^g				
33	1/2" structural cellulose fiberboard sheathing	1 1/2" galvanized roofing nail, 7/16" head diameter, or 1 1/4" long 16 ga. staple with 7/16" or 1" crown	3	6
34	25/32" structural cellulose fiberboard sheathing	1 3/4" galvanized roofing nail, 7/16" head diameter, or 1 1/2" long 16 ga. staple with 7/16" or 1" crown	3	6
35	1/2" gypsum sheathing ^d	1 1/2" galvanized roofing nail; staple galvanized, 1 1/2" long; 1 1/4" screws, Type W or S	7	7
36	5/8" gypsum sheathing ^d	1 3/4" galvanized roofing nail; staple galvanized, 1 5/8" long; 1 5/8" screws, Type W or S	7	7
Wood structural panels, combination subfloor underlayment to framing				
37	3/4" and less	6d deformed (2" x 0.120") nail; or 8d common (2 1/2" x 0.131") nail	6	12
38	7/8" - 1"	8d common (2 1/2" x 0.131") nail; or 8d deformed (2 1/2" x 0.120") nail	6	12
39	1 1/8" - 1 1/4"	10d common (3" x 0.148") nail; or 8d deformed (2 1/2" x 0.120") nail	6	12

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 mile per hour = 0.447 m/s; 1 ksi = 6.895 MPa.

(continued)

TABLE R602.3(1)—continued
FASTENING SCHEDULE

- a. Nails are smooth-common, box or deformed shanks except where otherwise stated. Nails used for framing and sheathing connections shall have minimum average bending yield strengths as shown: 80 ksi for shank diameter of 0.192 inch (20d common nail), 90 ksi for shank diameters larger than 0.142 inch but not larger than 0.177 inch, and 100 ksi for shank diameters of 0.142 inch or less.
- b. Staples are 16 gage wire and have a minimum $\frac{7}{16}$ -inch on diameter crown width.
- c. Nails shall be spaced at not more than 6 inches on center at all supports where spans are 48 inches or greater.
- d. Four-foot by 8-foot or 4-foot by 9-foot panels shall be applied vertically.
- e. Spacing of fasteners not included in this table shall be based on Table R602.3(2).
- f. For wood structural panel roof sheathing attached to gable end roof framing and to intermediate supports within 48 inches of roof edges and ridges, nails shall be spaced at 6 inches on center where the ultimate design wind speed is less than 130 mph and shall be spaced 4 inches on center where the ultimate design wind speed is 130 mph or greater but less than 140 mph.
- g. Gypsum sheathing shall conform to ASTM C1396 and shall be installed in accordance with GA 253. Fiberboard sheathing shall conform to ASTM C208.
- h. Spacing of fasteners on floor sheathing panel edges applies to panel edges supported by framing members and required blocking and at floor perimeters only. Spacing of fasteners on roof sheathing panel edges applies to panel edges supported by framing members and required blocking. Blocking of roof or floor sheathing panel edges perpendicular to the framing members need not be provided except as required by other provisions of this code. Floor perimeter shall be supported by framing members or solid blocking.
- i. Where a rafter is fastened to an adjacent parallel ceiling joist in accordance with this schedule, provide two toe nails on one side of the rafter and toe nails from the ceiling joist to top plate in accordance with this schedule. The toe nail on the opposite side of the rafter shall not be required.
- j. RSRS-01 is a Roof Sheathing Ring Shank nail meeting the specifications in ASTM F1667.



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ALTERNATE ATTACHMENTS FOR FASTENING STRUCTURAL MEMBERS

WALL CONSTRUCTION

TABLE R602.3(2)
ALTERNATE ATTACHMENTS TO TABLE R602.3(1)

NOMINAL MATERIAL THICKNESS (inches)	DESCRIPTION ^{a, b} OF FASTENER AND LENGTH (Inches)	SPACING ^c OF FASTENERS	
		Edges (inches)	Intermediate supports (inches)
Wood structural panels subfloor, roof^a and wall sheathing to framing and particleboard wall sheathing to framing^f			
Up to 1/2	Staple 15 ga. 1 3/4	4	8
	0.097 - 0.099 Nail 2 1/4	3	6
	Staple 16 ga. 1 3/4	3	6
19/32 and 5/8	0.113 Nail 2	3	6
	Staple 15 and 16 ga. 2	4	8
	0.097 - 0.099 Nail 2 1/4	4	8
23/32 and 3/4	Staple 14 ga. 2	4	8
	Staple 15 ga. 1 3/4	3	6
	0.097 - 0.099 Nail 2 1/4	4	8
	Staple 16 ga. 2	4	8
1	Staple 14 ga. 2 1/4	4	8
	0.113 Nail 2 1/4	3	6
	Staple 15 ga. 2 1/4	4	8
	0.097 - 0.099 Nail 2 1/2	4	8
NOMINAL MATERIAL THICKNESS (inches)	DESCRIPTION ^{a, b} OF FASTENER AND LENGTH (Inches)	SPACING ^c OF FASTENERS	
Floor underlayment; plywood-hardboard-particleboard^f-fiber-cement^h			
Fiber-cement			
1/4	3d, corrosion-resistant, ring shank nails (finished flooring other than tile)	3	6
	Staple 18 ga., 7/8 long, 1/4 crown (finished flooring other than tile)	3	6
	1 1/4 long x .121 shank x .375 head diameter corrosion-resistant (galvanized or stainless steel) roofing nails (for tile finish)	8	8
	1 1/4 long, No. 8 x .375 head diameter, ribbed wafer-head screws (for tile finish)	8	8
Plywood			
1/4 and 5/16	1 1/4 ring or screw shank nail-minimum 12 1/2 ga. (0.099") shank diameter	3	6
	Staple 18 ga., 7/8, 3/16 crown width	2	5
11/32, 3/8, 15/32, and 1/2	1 1/4 ring or screw shank nail-minimum 12 1/2 ga. (0.099") shank diameter	6	8 ^c
19/32, 5/8, 23/32 and 3/4	1 1/2 ring or screw shank nail-minimum 12 1/2 ga. (0.099") shank diameter	6	8
	Staple 16 ga. 1 1/2	6	8
Hardboard^f			
0.200	1 1/2 long ring-grooved underlayment nail	6	6
	4d cement-coated sinker nail	6	6
	Staple 18 ga., 7/8 long (plastic coated)	3	6
Particleboard			
1/4	4d ring-grooved underlayment nail	3	6
	Staple 18 ga., 7/8 long, 3/16 crown	3	6
3/8	6d ring-grooved underlayment nail	6	10
	Staple 16 ga., 1 1/8 long, 3/8 crown	3	6
1/2, 5/8	6d ring-grooved underlayment nail	6	10
	Staple 16 ga., 1 3/8 long, 3/8 crown	3	6

(continued)

WALL CONSTRUCTION

**TABLE R602.3(2)—continued
ALTERNATE ATTACHMENTS TO TABLE R602.3(1)**

For SI: 1 inch = 25.4 mm.

- a. Nail is a general description and shall be permitted to be T-head, modified round head or round head.
- b. Staples shall have a minimum crown width of $\frac{7}{16}$ -inch on diameter except as noted.
- c. Nails or staples shall be spaced at not more than 6 inches on center at all supports where spans are 48 inches or greater. Nails or staples shall be spaced at not more than 12 inches on center at intermediate supports for floors.
- d. Fasteners shall be placed in a grid pattern throughout the body of the panel.
- e. For 5-ply panels, intermediate nails shall be spaced not more than 12 inches on center each way.
- f. Hardboard underlayment shall conform to CPA/ANSI A135.4
- g. Specified alternate attachments for roof sheathing shall be permitted where the ultimate design wind speed is less than 130 mph. Fasteners attaching wood structural panel roof sheathing to gable end wall framing shall be installed using the spacing listed for panel edges.
- h. Fiber-cement underlayment shall conform to ASTM C1288 or ISO 8336, Category C.

**TABLE R602.3(3)
REQUIREMENTS FOR WOOD STRUCTURAL PANEL WALL SHEATHING USED TO RESIST WIND PRESSURES^{a, b, c}**

MINIMUM NAIL		MINIMUM WOOD STRUCTURAL PANEL SPAN RATING	MINIMUM NOMINAL PANEL THICKNESS (Inches)	MAXIMUM WALL STUD SPACING (Inches)	PANEL NAIL SPACING		ULTIMATE DESIGN WIND SPEED V_{ult} (mph)		
Size	Penetration (Inches)				Edges (Inches o.c.)	Field (Inches o.c.)	Wind exposure category		
							B	C	D
6d Common (2.0" x 0.113")	1.5	24/0	$\frac{3}{8}$	16	6	12	140	115	110
8d Common (2.5" x 0.131")	1.75	24/16	$\frac{7}{16}$	16	6	12	170	140	135
				24	6	12	140	115	110

For SI: 1 inch = 25.4 mm, 1 mile per hour = 0.447 m/s.

- a. Panel strength axis parallel or perpendicular to supports. Three-ply plywood sheathing with studs spaced more than 16 inches on center shall be applied with panel strength axis perpendicular to supports.
- b. Table is based on wind pressures acting toward and away from building surfaces in accordance with Section R301.2. Lateral bracing requirements shall be in accordance with Section R602.10.
- c. Wood structural panels with span ratings of Wall-16 or Wall-24 shall be permitted as an alternate to panels with a 24/0 span rating. Plywood siding rated 16 o.c. or 24 o.c. shall be permitted as an alternate to panels with a 24/16 span rating. Wall-16 and Plywood siding 16 o.c. shall be used with studs spaced not more than 16 inches on center.



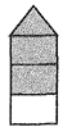

**TABLE R602.3(4)
ALLOWABLE SPANS FOR PARTICLEBOARD WALL SHEATHING^a**

THICKNESS (Inch)	GRADE	STUD SPACING (Inches)	
		Where siding is nailed to studs	Where siding is nailed to sheathing
$\frac{3}{8}$	M-1 Exterior glue	16	—
$\frac{1}{2}$	M-2 Exterior glue	16	16

For SI: 1 inch = 25.4 mm.

- a. Wall sheathing not exposed to the weather. If the panels are applied horizontally, the end joints of the panel shall be offset so that four panel corners will not meet. Panel edges must be supported. Leave a $\frac{1}{16}$ -inch gap between panels and nail not less than $\frac{3}{8}$ inch from panel edges.

TABLE R602.3(5)
SIZE, HEIGHT AND SPACING OF WOOD STUDS^a

STUD SIZE (Inches)	BEARING WALLS					NONBEARING WALLS	
	Laterally unsupported stud height ^a (feet)	Maximum spacing where supporting a roof-ceiling assembly or a habitable attic assembly, only (inches)	Maximum spacing where supporting one floor, plus a roof-ceiling assembly or a habitable attic assembly (inches)	Maximum spacing where supporting two floors, plus a roof-ceiling assembly or a habitable attic assembly (inches)	Maximum spacing where supporting one floor height ^a (Inches)	Laterally unsupported stud height ^a (feet)	Maximum spacing (Inches)
							
2 x 3 ^b	—	—	—	—	—	10	16
2 x 4	10	24 ^c	16 ^c	—	24	14	24
3 x 4	10	24	24	16	24	14	24
2 x 5	10	24	24	—	24	16	24
2 x 6	10	24	24	16	24	20	24

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

- a. Listed heights are distances between points of lateral support placed perpendicular to the plane of the wall. Bearing walls shall be sheathed on not less than one side or bridging shall be installed not greater than 4 feet apart measured vertically from either end of the stud. Increases in unsupported height are permitted where in compliance with Exception 2 of Section R602.3.1 or designed in accordance with accepted engineering practice.
- b. Shall not be used in exterior walls.
- c. A habitable attic supported by 2 x 4 studs is limited to a roof span of 32 feet. Where the roof span exceeds 32 feet, the wall studs shall be increased to 2 x 6 or the studs shall be designed in accordance with accepted engineering practice.

TABLE R602.3(6)
ALTERNATE WOOD BEARING WALL STUD SIZE, HEIGHT AND SPACING

STUD HEIGHT	SUPPORTING	STUD SPACING ^a	ULTIMATE DESIGN WIND SPEED					
			115 mph		130 mph ^b		140 mph ^b	
			Maximum roof/floor span ^c		Maximum roof/floor span ^c		Maximum roof/floor span ^c	
			12 ft.	24 ft.	12 ft.	24 ft.	12 ft.	24 ft.
11 ft.	Roof Only	12 in.	2 x 4	2 x 4	2 x 4	2 x 4	2 x 4	2 x 4
		16 in.	2 x 4	2 x 4	2 x 4	2 x 6	2 x 4	2 x 6
		24 in.	2 x 6	2 x 6	2 x 6	2 x 6	2 x 6	2 x 6
	Roof and One Floor	12 in.	2 x 4	2 x 6	2 x 4	2 x 6	2 x 4	2 x 6
		16 in.	2 x 6	2 x 6	2 x 6	2 x 6	2 x 6	2 x 6
		24 in.	2 x 6	2 x 6	2 x 6	2 x 6	2 x 6	2 x 6
12 ft.	Roof Only	12 in.	2 x 4	2 x 4	2 x 4	2 x 6	2 x 4	2 x 6
		16 in.	2 x 4	2 x 6	2 x 6	2 x 6	2 x 6	2 x 6
		24 in.	2 x 6	2 x 6	2 x 6	2 x 6	2 x 6	2 x 6
	Roof and One Floor	12 in.	2 x 4	2 x 6	2 x 6	2 x 6	2 x 6	2 x 6
		16 in.	2 x 6	2 x 6	2 x 6	2 x 6	2 x 6	2 x 6
		24 in.	2 x 6	2 x 6	2 x 6	2 x 6	2 x 6	DR

For SI: 1 inch = 25.4mm, 1 foot = 304.8 mm, 1 mph = 0.447 m/s, 1 pound = 4.448 N.

DR = Design Required.

- a. Wall studs not exceeding 16 inches on center shall be sheathed with minimum 1/2-inch gypsum board on the interior and 3/8-inch wood structural panel sheathing on the exterior. Wood structural panel sheathing shall be attached with 8d (2.5" x 0.131") nails not greater than 6 inches on center along panel edges and 12 inches on center at intermediate supports, and all panel joints shall occur over studs or blocking.
- b. Where the ultimate design wind speed exceeds 115 mph, studs shall be attached to top and bottom plates with connectors having a minimum 300-pound lateral capacity.
- c. The maximum span is applicable to both single- and multiple-span roof and floor conditions. The roof assembly shall not contain a habitable attic.