



SINGLE FAMILY & DUPLEX MOST COMMONLY MISSED ITEMS

This information is provided for your convenience only and is not part of this permit. Included are many often-missed requirements of the construction codes for single family or duplex construction. City inspection staff will check for these items as well as all other requirements of the Codes. There may also be items identified in red ink on the plans approved by the City that the inspectors will verify. When structural engineering accompanies plans, the inspector will verify that the building also complies with that detailing. Complete requirements of the Code can be found in the 2021 Oregon Residential Specialty Code Effective October 2021. The number in square brackets is the Code reference.

BUILDING PLANNING

- 1) Smoke and carbon monoxide alarms must be installed at the time of interior alterations, repairs or additions requiring a permit are made. [R314 & R315]
- 2) Provide an approved smoke alarm in each sleeping room, outside each sleeping room within 21ft of any door to a sleeping room measured along the path of travel. On each additional story of the dwelling including basements and habitable attics. Not less than 3ft horizontally from the door or opening of a bathroom that contains a bathtub or shower. [R314.3] Alarms shall be interconnected in a way such that actuation of one alarm will actuate all required alarms in the dwelling. [R314.4] Review all manufacturers installation requirements for important information regarding placement.
- 3) Rooms containing water closets, bathing facilities or spa facilities shall be provided with a mechanical ventilation system in accordance with R303.3. [M1505.6] Such system shall be controlled by a de-humidistat, timer, or other approved mechanical control. CFM rate(s) per table [M1505.5] Water closet compartments or toilet rooms without bathtub, shower or spa facilities shall be provided with an aggregate glazing area of not less than 3sft one half Of which shall be openable. [R303.3.2]
- 4) Habitable space, hallways and portions of basements containing these spaces shall have a ceiling height of not less than 7'-0"(2134mm). Bathrooms, toilet rooms and laundry rooms shall have a ceiling height of not less than 6' 8"(2032mm). [R305.1] See Exceptions
- 5) Provide safety glazing for all glazing in door assemblies, railings, tub/shower enclosures, glazing within a 24" arc of a door; glazing adjacent to stairways, landings, or ramps within 36" horizontally of a walking surface where the bottom edge of the glass is less than 60" above the walking surface; glazing adjacent to stairways within 60" horizontally of the bottom tread in any direction where the exposed surface of the glass is less than 60" above the nose of the tread. Except: Glazing in tub/shower enclosures and near doors need not be tempered if the bottom-exposed edge is located at least 60" high above the adjacent floor or walking surface. [R308.4]
- 6) Openings between the garage and residence shall be equipped with solid wood doors not less than 1 3/8 inches in thickness or honeycomb core steel doors not less than 1-3/8" in thickness or 20-minute fire-rated doors. [R302.5.1.1]
- 7) The garage shall be completely separated from the residence and its attic area by a minimum 1/2" gypsum board or equivalent applied to the garage side. Garages beneath habitable rooms shall be separated from all habitable rooms above by a minimum of 5/8" Type X gypsum board or equivalent. Where the separation is a floor-ceiling assembly, the supporting structure shall be protected by 1/2" gypsum board or equivalent. [R302.6]
- 8) Garage and carport floors shall be sloped to a drain or toward the main vehicle entry door. [R309.1 & R309.2]
- 9) Enclosed space under stairs that is accessed by a door or access panel shall have walls, under stair surface and any soffits protected on the enclosed side with 1/2" gypsum board or equivalent. [R302.7] See exceptions: Not required if the dwelling unit and under stair area is protected with an approved sprinkler system.
- 10) Basements, habitable attics and every sleeping room shall have not less than one operable emergency escape and rescue opening. [R310.1] Emergency escape and rescue openings shall have a net clear opening of not less than 5.7sft. The net clear opening height shall be no less than 24" and the net clear opening width shall be no less than 20" [R310.2.1 See Exceptions] The emergency escape window sill height shall comply with. [R310.2.2]
- 11) Operable windows where the sill is more than 72" above finished grade or flat surface w/min. 36" width below must have min. 24" sill or fall protection per R312.2.1.
- 12) Minimum hallway width is 36" finish wall to finish wall. [R311.6]
- 13) There shall be a landing or floor on each side of each exterior door. The interior floor or landing must be no more than 1/2" below the threshold. [R311.3.1] Exception: The exterior landing at the required exit door may not be more than 8" below the top of threshold provided the door does not swing over the landing. The width of the landing shall not be less than the door served and have a minimum dimension of 36" measured in the direction of travel. [R311.3]
- 14) Egress doors shall be readily openable from inside the dwelling without the use of a key or special knowledge or effort. They must not be key-operated from the inside. [R311.2]
- 15) For stairways, there must be a landing at the top and bottom of each stairway except at the top of interior stairs provided a door does not swing over the stair. The width must not be less than the width of the stairway and shall have a minimum dimension of 36" measured in the direction of travel. [R311.7.6]
- 16) Minimum stairway headroom 6'- 8"; Maximum riser: 8"; Minimum tread: 9"; Minimum clear width above handrail: 36". [R311.7]
- 17) Provide means to illuminate both interior and exterior stairways including landings and treads. [R303.7 and R303.8]
- 18) Provide a continuous handrail on at least one side of stairways with four or more risers; grip size shall be 1 1/4"- 2" circular cross-sectional dimension. If not circular, a perimeter dimension of 4"-6 1/4 "with a maximum cross section of 2 1/4 " (see code section if perimeter is greater than 6 1/4 "); 30" to 38" above the tread nosing; with minimum 1-1/2" clearance to the wall. [R311.7.8]
- 19) Open sided stairs with a total rise greater than 30" above floor or grade below shall have guardrails a min. of 34" high measured vertically from the tread nosing. Intermediate rails shall not allow passage of a sphere 5" or more in diameter. [R312.1]
- 20) Porches, balconies, or raised floor surfaces located more than 30" above the floor or grade below shall have guardrails; minimum 36" in height, with intermediate rails that do not allow passage of a sphere 4" or more in diameter. [R312]



FOUNDATION/GRADING – Note: Per ORSC the City of Eugene is located within Seismic Design Category D₁

- 21) Gravel or other structural fill 6" to 12" must be compacted with special inspection but no report necessary if it meets 90% modified proctor; > 12" must have a full report and special inspection. **Landslide Info:** <https://oregongeology.org/landslide/landslidehome.htm>
Soil Survey: USDA-NRSC Soil Survey at <http://websoilsurvey.nrcs.usda.gov/app/>
- 22) The sill or sole plate shall be anchored to the foundation with minimum ½" diameter bolts over min. 3" x 3" x .229" plate washers embedded at least 7" into concrete or masonry spaced at 6' on center maximum with a bolt located a maximum of 12" from the end of each plate section – minimum two bolts per plate section. [R403.1.6.1]
- 23) Minimum footing width supporting conventional light-framed construction is 12" for 1-story, 15" for 2 stories, and 23" for 3 stories [R403.1.1]
- 24) Minimum depth of footings is 12" below finished grade [R403.1.4].
- 25) Masonry foundation walls shall be min. 8" wide; concrete foundation walls shall be min. 6" wide to 4'6" high, 7.5" wide to max. 8' high [R404.1.4].
- 26) Minimum seismic reinforcing for concrete footings in Eugene shall be as follows:
 - One-#4 continuous horizontal bar within 12" of the top of the wall and one- #4 bar 3"- 4" from the bottom of the footing. [R403.1.3, R403.1.3.5, ASTM A615; A706 or A996]: Concrete stem-walls [R404.1.4.2]
 - Two-pour concrete footing & stem wall or grouted masonry stem wall on concrete footing shall also have min. vertical reinforcement of one #4 bar @ 48" o.c., extending to 3" clear of the bottom of footing, have a standard 6" hook, and extend a min. of 14" into the stem wall.
 - Slabs-on-ground with turned-down footings shall have minimum. one #4 bar at the top and bottom of the footing or one #5 bar or two #4 bars located in the middle third of the footing depth.
- 27) Retaining walls not supported laterally at the top & that retain more than 48" of unbalanced fill must be designed by an engineer. [R404.4]
- 28) Columns/posts shall be restrained to prevent lateral displacement at the bottom. Exception: Columns less than 48" in height, bearing on a pier or footing within a crawl space enclosed by a continuous foundation wall need not be restrained at the bottom. [R407.3]
- 29) All surfaces of steel columns, including the inside, except stainless or galvanized, must have a shop coat of rust-inhibitive paint (R407.2)
- 30) Provide 12" clearance to ground from underside of girders and beams and 18" for joists or provide pressure treated wood. [R317.1]
- 31) Provide 3" min. bearing for girders entering masonry or concrete with ½" air space on tops, sides and ends. [R502.6, R317.1(4)]
- 32) Provide an access opening to all under-floor areas: 18" x 24" minimum. [R408.4]
- 33) Provide under-floor ventilation within 3' of each corner equivalent to 1/150 of the crawl space area. [R408.1]
- 34) Provide 6-mil black polyethylene ground cover, lapped 12" at joints and extending 12" up foundation walls, in crawl space. [R408, R506.2.3]
- 35) Provide 6-mil black polyethylene, joints lapped 12" beneath all concrete floor slabs of conditioned spaces. [R506.2.3]
- 36) Surface drainage shall be diverted to a storm sewer conveyance or other approved point of collection. The grade away from foundation walls shall fall a minimum 6" within the first 10' or 5% or provide an approved drainage system. [R401.3]
- 37) Where there is evidence that surface water does not readily drain from the building site or the groundwater table can rise to within 6" of the finished floor at the building perimeter, an approved drainage system is required in the under-floor space. [R408.6]

FLOORS, WALLS, AND ROOFS

- 38) Where decks are supported by attachment to an exterior wall, decks shall be positively anchored to the primary structure. [R507.9.2.1] Attachments per [R507.9.1; R507.8]
- 39) Deck ledger shall be a minimum 2 x 8 P.T. attached with minimum ½" diameter lags. [See table R507.9.1.3(1) R507.9.1.3(2)] [R507.9.1.1]
- 40) Provide positive lateral attachment using tension ties (Figure R507.9.2(1) [R507.9.2]
- 41) Masonry veneer ties may support a maximum of 2sq.ft. of wall area. If strand wire, shall be not less in thickness than No. 9 gauge US. If sheet metal, shall not be less than No. 22 gauge US. [R703.8.4.1] Note Exceptions for Seismic D1
- 42) Approved corrosion resistant flashing is required at all exterior windows, door openings, horizontal wood trim, where exterior porches, and where decks or stairs attach to a wall or floor. [R703.4]
- 43) Studs shall be continuous from support at the sole plate to a support at the top plate to resist lateral loads on the wall [R602.3].
- 44) Shear wall nailing or stapling must remain exposed for inspection and approval. Fasteners must not be consistently over driven. Staples may not be used to fasten exterior sheathing [R602.3, R109.1, R301.1].
- 45) Truss Engineering must be on the job site at framing inspection, for all types of trusses used. [R502.11.4, R802.10.1]
- 46) Enclosed attics and rafter spaces shall be provided with cross ventilation. Net ventilating area shall be not less than 1/150 of the area of the space ventilated. Provide a 1" minimum air space above insulation and baffle at eave or soffit vents. [R806.1 R806.2 R806.3]
- 47) Provide an accessible attic access opening not less than 22" x 30" to areas that exceed 30 sq. ft. and have a clear height over 30". [R807.1]

FIREPLACES

See requirements in Chapter 10 for masonry chimneys and fireplaces. Factory built fireplaces shall be installed according to the manufacturer's installation instructions.



MECHANICAL & PLUMBING

- 48) RESIDENTIAL PLUMBING PLANS ARE NOT REVIEWED PRIOR TO PERMIT ISSUANCE. All plumbing work shall comply with current codes and will be field-inspected for compliance.
- 49) Heating and cooling appliances located in a garage or carport shall be protected from impact by automobiles with min. 2" ϕ pipe bollards filled with concrete or wheel barriers bolted to the slab. [M1307.3.1, Figure M1307.3.1]
- 50) Fuel-fired appliances shall not be located in or obtain combustion air from these locations: sleeping rooms, bathrooms, toilet rooms, or storage closets (see exceptions). [G2406, G2407, G2408]
- 51) Appliances having an ignition source shall be installed at an elevation so that the ignition source is a minimum of 18" above the floor level in garages. [M1307.3, OPSC 507.6]
- 52) An air supply for fuel combustion, draft hood dilution, and ventilation of the space in which the appliance is installed must be provided for all liquid and solid fuel-burning appliances in accordance with Sec.M1701. (These methods do not apply to fireplaces, fireplace stoves, and direct-vent appliances.) Provide an opening and a clear unobstructed passageway to attic and underfloor spaces large enough for removal of the largest piece of equipment, but no smaller than 22" w x 30" h and not more than 20ft. away from the equipment. Install lighting, switched at entry point. [M1305]
- 53) Minimum shower compartment: 1,024 sq. in.; shall also be capable of encompassing a 30" circle [OPSC 408.6].
- 54) Showers shall be equipped with control valves of the pressure balance, thermostatic mixing, or the combination pressure balance/thermostatic mixing valve type with maximum mixed water setting of 120 degrees Fahrenheit [OPSC 408.3]
- 55) Combination pressure and temperature relief valves shall protect equipment used for heating water. [OPSC 505.4, .5, .6]
- 56) Water heaters shall be anchored to resist horizontal movement. (i.e. earthquake strapping) [OPSC 507.2]
- 57) Storm water and perimeter foundation drains located within 2' of any building or structure, or less than 1' below the ground shall be Schedule 40 ABS, Schedule 40 PVC, or CPE installed per installation standard 1A. [OPSC 1101.4.2]
- 58) Combustion air requirements for solid fuel burning appliances. [M1701.1]

ELECTRICAL

- 59) RESIDENTIAL ELECTRICAL PLANS ARE NOT REVIEWED PRIOR TO PERMIT ISSUANCE. All electrical work shall comply with current codes and will be field-inspected for compliance.
- 60) Provide a concrete-encased grounding electrode at electrical service consisting of a minimum 20' length of 1/2" diameter steel reinforcement in footings per [OESC-250.52(A)(3)] Electrode shall extend 12" minimum above the plate line near the electrical service. [R403.1.8(2)
See Sec. OESC-250.52(A) for Electrodes Permitted for Grounding (if a concrete encased electrode is not available).
- 61) GFCI protection required for receptacles in outdoor locations, garages, crawl spaces, unfinished basements, bathrooms, where serving counter-top surfaces in kitchens, and when within 6' of laundry, utility, and wet-bar sinks. [OESC-210.8(A)1-10]
- 62) Arc-fault circuit interrupter protection is required for all branch circuits that supply 120-volt, single-phase, 15-and 20-ampere outlets installed in all bedrooms. [OESC-210.12]
- 63) All smoke alarms shall receive their primary source of power from the permanent built-in wiring with battery back-up in case power is interrupted. Exception for remodels: hardwiring and interconnection is required only if other remodeling considerations require removal of the appropriate wall and ceiling coverings to facilitate wiring. [R314.6]
- 64) Recessed light fixtures installed in cavities intended to be insulated shall be labeled as suitable for being installed in direct contact with insulation (IC rated). [OESC XI 410.116-122] [N1104.2.7]

ENERGY CONSERVATION

- 65) 2008 Oregon Energy Code has two parts; 1. – the base requirements and 2. – an additional measure selected from a list of options.
Exterior envelope requirements: (Refer to Section N1103, for alternative insulation paths.)
Exterior Walls: R-21, Below Grade Walls: R-15, Underfloor: R-30, Slab Floor Edges: R-15, Flat Ceilings: R-38, Vaulted Ceilings: R-38 (max. 50% of floor area), Exterior Doors: U=0.20, (max. 28sq.ft. U=0.54), Windows: U=0.35, Skylights (max. 2% of floor area): U=0.60, Forced Air Ducts: R-8. [Table N1101(1)]
- 66) Provide approved vapor barrier installed on the warm side (in winter) of insulation at all unventilated exterior walls, floors, and ceilings enclosing conditioned space. [N1104.9.1]

REMINDER FOR BUILDERS:

1. The approved building permit plans must remain at the construction site and available to city inspectors at all times.
2. Construction must be completed in compliance with the approved plans and specifications. Proposed changes must be approved by the City.
3. All permits expire 180 days after issuance if no inspections have been called for or no activity has commenced on the project.

REQUEST INSPECTIONS AT :

Online Scheduling

The online [Inspection Scheduling System](#) allows you to schedule inspections for your project with just a few clicks of the mouse from the convenience of your computer.

Mobile Scheduling

For details on using [My Permits](#) mobile, see our [online help](#).

You are still welcome to schedule inspections by calling our inspection support staff at 541-682-5283. Our staff is available from 7:30 am to 4:00 pm, Monday through Friday. **Most inspections can be provided on the same week-day, if the inspection request is made prior to 7 am**