



# Clatsop County

Community Development – Building Codes

800 Exchange St., Suite 100

Astoria, OR 97103

(503) 338-3697 phone

## 2021 Code Changes Effective October 1, 2021

*All installers, contractors, and suppliers should obtain a copy of the 2021 Oregon Residential Specialty Code, 2021 Oregon Plumbing Specialty Code, and 2021 Oregon Electrical Specialty Code in their respective discipline. The following is only a portion of the new code changes, you will need to obtain an edition of each code book to study the new requirements.*

### Oregon Plumbing Specialty Code Interim Amendments (Effective October 1, 2020)

- 702.1 Allows a 1 ½" trap and trap arm for tub-to-shower retrofits. 703.2 is changed to allow a 1 ½" drain. This provision is for a single head shower only.
- 703.2 Up to eight lavatories are now allowed on a 1 ½" horizontal drain line. No more than 2 DFUs are assigned to this line for sizing the DWV system.
- 703.2 Footnote allows five water closets on a 3" horizontal or vertical pipe. It does not allow >35 DFUs on a 3" horizontal pipe.
- 708.1 The minimum slope on a 3" horizontal pipe is now ¼" p/ft. A slope of 1/8" p/ft is no longer allowed. See 703.2 footnote as well.

### 2021 Oregon Plumbing Specialty Code

- 309.5 Dead legs are prohibited.
- 407.3 Water Heaters meeting ASSE 1084 meet this requirement. In the case of public lavatories an ASSE 1070 device meets this requirement.
- 408.5 Barrier free showers are now allowed (no curb/threshold). The entire bathroom becomes a wet room.
- 412.1.2 Non-water urinals are required to have a minimum ¼" water line roughed in for future use. ASME A112.19.19 is the appropriate listing for non-water urinals.
- 603.3.10 New definition of ASSE 1024-yard hydrant.
- 604.10.1 Tracer wire for underground non-metal water lines is changed from 18 gauge to 14 gauge.
- 608.5 Water heater drip pans are no longer acceptable termination points for T/P discharge.
- 704.2 Double sanitary tee sized per 706.2 is rescinded. Fixture fittings only are allowed for side-by-side or back-to-back fixtures.
- 707.4 Cleanouts are required on all kitchen sinks and urinals regardless of location.
- 707.9 Underfloor cleanouts are required to be within 5' of an underfloor access point.
- 718.4 Tracer wire for underground non-metal sewer lines is changed from 18 gauge to 14 gauge.
- 911.1 Limits the use of circuit venting to eight fixtures identified now as water closets, showers, toilets, and floor drains.
- 1007.7 This allows the use of an ASSE 1072 floor drain trap protector. It does not negate the requirement for an automatic trap primer.
- 1101.4 Clarifies that flow-through catch basins are prohibited.
- Chapter 13 CMT corrugated medical tubing is now allowed for medical gas installations.

**2021 Oregon Residential Specialty Code (Building)**

- R105.1.1 New spaces. The creation of new habitable spaces, new toilet rooms, or new bathrooms will require a building permit even when no structural changes are proposed.
- R302.2.3 Utilities for townhouses. Shared or common use utilities shall not run beneath a townhouse. Separate utility services shall be supplied to each individual townhouse. Utilities serving an individual townhouse shall not run beneath another separate townhouse, and shall not run through the attic of another separate townhouse.
- R302.3.2 Builders who want to build a duplex with a property line separation for future options will use the code requirements for townhouse construction methods. (One two-hour or two one-hour wall methods.)
- R303.4 Each dwelling unit shall be provided with whole-house mechanical ventilation in accordance with M1505.4.
- R310.2.5 Emergency escape and rescue openings located above a portion of roof surface below shall be provided with an unobstructed path, not less than 36 inches in width, from the vertical plane of the opening to the nearest edge of the lower roof.
- R311.7.11 Alternating tread devices are not allowed for means of egress purposes.
- R311.7.12 Ship's ladders are not allowed for means of egress purposes.
- R329 Design and construction of barriers for residential swimming pools which are accessory to four or fewer dwelling units shall comply with the applicable provisions of the International Swimming Pool and Spa Code. Appendix G is rescinded.
- R403.1 The minimum footing width for three story conventional light frame construction has been increased. Load bearing value of soil 1,000 lbs. = 35", 1,500 lbs. = 23", and 2,000 lbs. = 17".
- R507 Decks. This section has been completely reorganized with new requirements. All wood for decks must now be No. 2 or better and preservative-treated or naturally durable.
- R602.9 Exterior cripple walls with a stud height less than 14 inches must be continuously sheathed on one side with wood structural panels fastened to both the top and bottom plates in accordance with Table R602.3(1), or the cripple walls shall be constructed of solid blocking.
- R602.10 Wall Bracing. Where all of the braced wall panels along a braced wall line occur within a single line, the braced wall line shall be located at the aligned braced wall panels, and an offset of the braced wall line is not permitted.
- R602.10.4.4 Wall Bracing. Blocking at all horizontal panel joints for a continuously sheathed structure is not required, it's only required at the qualifying/designated braced wall panels. The plans must clearly indicate where the qualifying panels are located in order to show where this blocking is required.
- R908.3.1 Re-roofing. A roof recover is not permitted where any of the following conditions occur:  
1. where the existing roof or roof covering is water soaked or has deteriorated to the point that the existing roof or roof covering is not adequate as a base for additional roofing.  
2. Where the existing roof covering is slate, clay, cement or asbestos cement tile.  
3. Where the existing roof has two or more applications of any type of roof covering.
- Appendix T This appendix, Dwelling Unit Fire Sprinklers has been rescinded and the NFPA 13D is now referenced as the code for dwelling unit fire systems.
- Wall Bracing Statewide Alternate Method 13-01 which allowed the 2008 ORSC wall bracing provisions for lateral wall bracing designs has been rescinded.
- Portal Framing Statewide Alternate Method 97-01 which provided a method of constructing a portal frame has been rescinded.

### **2021 Oregon Residential Specialty Code (Energy)**

- Table N1101.1(2) The Additional Energy Measure selection table has been revised. Designers are required to choose only one selection. Option #5 of the previous table is now the prescriptive path and is required on all new dwellings. (Air sealing, mechanical whole-building ventilation system, all ducts and air handlers contained within building envelope or all ducts sealed with mastic.)
- Table N1104.8 Air Barrier Installation and Air Sealing requirements. This is a new table containing many prescriptive requirements for air barrier and sealing.
- N1105.3 All new duct systems and air handling equipment and appliances must be completely inside the building thermal envelope.
- N1106 New insulation requirements for all domestic hot water piping.
- N1107.4 Solar Ready interconnection pathway. All new dwellings are required to provide a dedicated solar ready circuit for future solar system installations.

### **2021 Oregon Residential Specialty Code (Mechanical)**

- M1502.4.2 Dryer ducting joints must be sealed with listed tape, screws are prohibited. Deformation of ducting is not allowed. Four-inch ducting cannot be installed in a standard 2" x 4" wall.
- M1505.4 The whole-house mechanical ventilation system shall provide balanced ventilation. Documentation will be required on all new dwelling unit applications.
- M1505.4.1 This section provides calculation methods to balance whole-house ventilation systems when provided.
- M1505.5 Range exhaust hoods/fans must be Energy Star Certified.
- M1505.6 Rooms with water closets, bathing or spa facilities must have an exhaust fan with a de-humidistat or timer.
- G2427.5.10 Insulation shields are now specifically required on all factory-built chimneys.

### **2021 Oregon Electrical Specialty Code**

- 110.22(A) Disconnecting means, not just panels, are required to be labeled with the source of power.  
*Commentary: Previously only panels were required to be marked.*
- 110.26(C)(2) For large equipment, egress from electrical rooms can't be impeded by equipment doors.  
*Commentary: Previously doors of equipment cabinets were not taken into consideration.*
- 200.10(B) Screw terminals are now allowed to be silver.  
*Commentary: Grounded screws have long been silver (colored), but the code required them to be substantially white.*
- 210.8 Removed 'through a door' as an exception when measuring 6' for GFCI.  
*Commentary: This will require GFCI protection for a receptacle that can be reached with a six-foot cord from a sink, even if the receptacle is in another room.*
- 210.8(A) Added 240v outlets to required GFCI list. (Not adopted by Oregon)
- 210.8(A)(5) Changed to all basements, not just unfinished. (Not adopted by Oregon)
- 210.8(A)(11) Added indoor damp and wet locations to GFCI list. (Not adopted by Oregon)
- 210.8(B) Increased voltage for non-dwelling GFCI to 250V. (Not adopted by Oregon)
- 210.8(B)(2) In addition to kitchens, added areas with sinks and permanent provisions for cooking.  
*Commentary: Wet bars, break rooms, etc. are now required to have GFCI protection for the entire counter-space.*
- 210.8(B)(6) Added damp to wet locations. (Not adopted by Oregon)
- 210.8(B)(8) Added accessory buildings. (Not adopted by Oregon)
- 210.8(B)(11) Added laundry areas. (Included Oregon's exemption for single appliances)

- Commentary: Previously there was a residential requirement, but not commercial.*
- 210.8(B)(12) Added Bathtubs and showers within six feet.  
*Commentary: Since all receptacles in a bathroom are required to be GFCI protected, this will affect receptacles in the next room.*
- 210.8(E) GFCI protection is now required for the required service receptacle for HVAC in non-residential.  
*Commentary: Now the receptacle indoors is required to be GFCI protected.*
- 210.8(F) New requirement for outdoor 240v GFCI.  
*Commentary: Oregon limited to only general use. RV outlets are not considered general use.*
- 210.11(C)(3) Specifies that receptacles not required by 210.52(D) are not required to be supplied by the same circuit.
- 210.11(C)(4) Specifies that receptacles not required by 210.52(G)(1) are not required to be supplied by the same circuit.
- 210.12(C) Added patient sleeping rooms in R-4 occupancies to the AFCI list. (Not adopted by Oregon)
- 210.12(D) Added guest rooms and suites to AFCI requirements when modifications are made. (Not adopted by Oregon)
- 210.52(C) Changed how we calculate the number of outlets for kitchen islands and peninsulas. (Not adopted by Oregon)  
*Commentary: This would have required an outlet for every 18 sq. ft. of counter space.*
- 210.52(E)(3) Receptacles now required for decks built within 4" of a dwelling.  
*Commentary: Previously a receptacle was required for decks, balconies, etc. greater than 20 sq. ft. and attached to the structure.*
- 215.10 Temporary feeders 1000 amps or more do not require GFPE.  
*Commentary: This affects generators used to power a structure during power outages, maintenance, etc. for a maximum of 90 days.*
- 220.12 Extensive revision of lighting load calculations.  
*Commentary: Changes some of the va/ft requirements for non-dwelling occupancies. Added additional categories.*
- 220.42 Requires hospitals to be calculated at 100% and slightly increased load for hotels/motels.  
*Commentary: This will change the service size for new hospitals and clinics.*
- 220.53 Removed fastened in place cooking equipment from appliance allowed a 75% derate.  
*Commentary: Previously only the range was excluded.*
- 230.67 Requires all residential services to have surge suppression. (Not adopted by Oregon)
- 230.71 Eliminates allowing up to six disconnects for a service. (Not adopted by Oregon)
- 230.85 Requires emergency disconnect located external to dwelling units. (Not adopted by Oregon)
- 242 Moved 280 and 285 into a new article. Changed terminology from surge arrestors (1000V+) and surge-protective devices (-1000V) to Overvoltage protection.  
*Commentary: No changes to the requirements, just moved to a new article.*
- 250.64(A) Changed to allow AL GECs to be installed within 18" of the bottom of an enclosure listed for the environment. GEC terminations in concrete shall be protected with an extruded polymeric covering.  
*Commentary: Previously AL was prohibited within 18" of the earth. This will change the requirements for GEC terminations in concrete, which now requires addition corrosion protection.*
- 250.64(B)(2) and (B)(3) Prohibits PVC sch40 from use for protection of GECs exposed to damage.  
*Commentary: Allows only sch80 PVC or metal conduits to be used for protection.*
- 250.68(C)(3) Prohibits using concrete encased rebar to extend the grounding electrode system.  
*Commentary: The building steel can still be used for bonding, such as water lines, gas lines and significant metallic systems.*
- 250.104(A)(1) Limits required size of water pipe bonding to a maximum of 3/0 CU.

- 250.109 *Commentary: Eliminates the 12.5% requirement for service conductors over 1100Kcmil.*  
Allows a metal enclosure to be considered an effective grounding path.  
*Commentary: Allows bonding conductors at separate locations on a metal enclosure to be considered bonded together.*
- 250.121(B) Prohibits using the metal frame or building structure as an EGC.  
*Commentary: As with rebar in 250.68(C)(3), structural steel can still be used for bonding.*
- 250.122(B) Eliminates requirement to increase EGC when grounded conductors are increased due to temperature or number of conductors.  
*Commentary: A 6 AWG conductor is rated for 65 amps and needs a 10 AWG equipment ground. Previously, if the #6 was increased for any reason the #10 had to be increased proportionally. The idea was that if there is increased resistance causing reduced current, then we don't want the EGC to have increased resistance – it should be as low as possible. This recognizes that if #6 is replaced with #4, just because that is what you have in the truck, the #10 EGC is still sufficient.*
- 310 Article 310 has been extensively altered.  
*Commentary: Changes involved moving, combining and altering code sections and tables. No technical significant changes.*
- 314.16(B)(5) Added a ¼ unit volume fill for all EGCs over 4 in a box when calculating box fill.
- 314.27(C) All ceiling mounted outlet boxes which may end up with a fan installed are required to be listed for fan-use. (Oregon maintained original language)
- 320.80(A) Type AC cable now is required to be derated where more than two cables are together in insulation.  
*Commentary: Although AC cable appears similar to MC they are separate wiring methods. AC has a bare equipment ground in contact with the armor.*
- 334.12 There was no model code change, but Oregon did adopt a slimmed down version of the Clatsop County NM Cable Alternate Method.  
*Commentary: The alternate method approved in Clatsop County includes any location in a non-dwelling unit. Oregon's amendment is for above drop ceilings only.*
- 334.30 NM support is now required within 12" of a j-box, but up to 18" of cable length is allowed between the box and the support.  
*Commentary: Allows a limited amount of loop before the staple.*
- 337 New article covering Type P cable, previously a cable only used in hazardous locations, did not have its own article.
- 338.2 Added a definition to differentiate between SE cable with a sheath, and SE cable without a sheath.  
*Commentary: Now USE cable without an overall sheath is considered Service Entrance Cable Assembly. This is a good change because non-qualified people may confuse the two.*
- 338.100 USE cable without a sheath is prohibited from having bare conductors.
- 380.12(7) Multi-outlet assemblies are no longer allowed to be cord-and-plug connected.  
*Commentary: The electrical code does not govern cord-and-plug equipment, so this refers to permanently installed outlets being considered part of the required receptacles.*
- 392.30 Zip ties used in cable trays shall be listed for the application and for securing and supporting. (Not adopted by Oregon)  
*Commentary: Oregon went through the code and eliminated all references to "listed cable ties", same as last cycle.*
- 400.12 Allows flexible cords to be installed above a drop ceiling if they are in an enclosure listed for spaces used for environmental air.  
*Commentary: Oregon includes anywhere above the ceiling if part of a listed assembly and not longer than 6 ft.*

- 406.5(G)(2) Receptacles are prohibited from being installed face-up under a sink.
- 406.9(C) Receptacles prohibited within 36" of a tub/shower. (Not adopted by Oregon)
- 406.12 Added area to TR receptacle requirement. Garages, accessory structures of R-3, Common areas of R-1 and R-2, and entirety of assisted living facilities.  
*Commentary: Oregon did not adopt assisted living facilities. Previous exemptions for businesses and some assembly remained.*
- 408.4(A) Allows panel schedule to be posted adjacent to the panel.
- 408.6 Requires available fault current to be posted on all panels.  
*Commentary: Previously AFC labeling was only required at the service.*
- 408.43 Prohibits panels from being installed face-up.
- 410.118 Prohibits using a recessed luminaire for access to boxes not associated with the luminaire.  
*Commentary: This has been a common practice, but if the luminaire is properly secured it will not be readily removed.*
- 410.170 A new section created for grow lighting.
- 422.5(A) Added some new appliances to the list requiring GFCI.  
*Commentary: Oregon exempted sump pumps, sewage pumps, and dishwashers.*
- 422.16(B)(2) Flexible cords for D/W and disposal passing through the wall of a cabinet is required to be protected by a bushing.
- 430.122(B) Conductors on the load side of a VFD shall be sized 125% of the motor FLA or the wire size listed on the VFD.
- 430.122(D) Conductors on the load side of a VFD shall be sized 125% of the VFD rated input if there are two or more loads.
- 440.9 A wire-type EGC is required to be run to HVAC/HACR equipment when installed in EMT on a roof.  
*Commentary: Wet-listed compression fittings are not appropriate for equipment grounding.*
- 445.6 Requires generators to be listed. (Not adopted by Oregon)
- 445.18(D) Requires emergency disconnect for generators, outside of a dwelling, in addition to the unit disconnect on the generator. (Not adopted by Oregon)
- 450.9 The top of transformers is required to be marked to prohibit storage.  
*Commentary: Of more concern is standing on a transformer. The enclosure can bend and ultimately contact live parts.*
- 480.7(G) Utility disconnects, panels, and battery system disconnects are required to be marked with a plaque indicating the location on the premises of all disconnects.  
*Commentary: Aligns battery systems with other back-up systems.*
- 500.7(K) Clarified requirements for a gas detection system in hazardous locations.
- 517.10 Specifies that several types of medical offices are exempt from the requirements of 517 – Part II.  
*Commentary: Oregon included three more, same as last cycle.*
- 517.16 Requires that isolated ground receptacles still have a redundant ground.
- 517.31(C)(1)(a) Requires wiring components of the essential electrical system to be readily identified.  
*Commentary: Previously there was no requirement, even though this system should not be used for general use.*
- 518.6 Requires illumination of outdoor service equipment for an assembly occupancy, regardless of the voltage. (Not adopted by Oregon)
- 520.25(B) Resistance-type dimmers are now prohibited in a theater.  
*Commentary: This is due to energy conservation.*
- 545.20 A new section was created addressing mobile structures not intended as dwellings.

- 555.35 Changed requirements for GFCI and GFPE on docks/marinas. Requires ground fault leakage current measuring device shall be available.  
*Commentary: Oregon added an exception for modifications to existing systems.*
- 590.4(G) Allows using permanent wiring in a structure as temporary power, if it is GFCI protected.
- 600.5(B) and 600.6(A)(4) Disconnects for signs are required to be labeled to identify the sign served, and located in an area accessible to first responders.
- 625.54 All receptacles installed for EV charging are required to be GFCI protected.  
*Commentary: There is no upper ampacity limit, so this includes 30, 40 and 50 amp.*
- 680 Added sections 680.35 and 680.45 for immersion pools.  
*Commentary: An immersion pool is a shallow pool, such as those used for baptisms.*
- 680 Added section 680.50 for “splash pads”.  
*Commentary: A “splash pad is a pool 1” or less in depth. You often see these in urban parks for little kids to splash in. Usually includes fountains.*
- 680.22(A)(5) Requires a service receptacle in pool equipment rooms. All receptacles in pool equipment rooms shall be GFCI.  
*Commentary: The GFCI requirement has always been there, but there were no required receptacles before.*
- 690.12 Requirements for rapid-shutdown revised. There is a new UL standard for disconnects that need to be used, UL 3741.  
*Commentary: Rapid shutdowns from the previous UL are no longer approved.*
- 690.13(A) Solar disconnects are required to be locked by key or tool.  
*Commentary: They were required to be lockable, per 110.25, now required to be locked, although screws or similar barriers are permitted.*
- 690.15 Clarified purpose of PV equipment disconnecting means.
- 695.3(C)(3) New requirements for selective coordination of fire pump OCPD.
- 700.5(A) Meter mounted transfer equipment is not allowed for emergency systems.  
*Commentary: This is the “Generlink” or similar systems, where the device is installed behind the meter and a generator inserts into a receptacle, disconnecting utility power. Does not apply to “optional standby systems”.*
- 702.7(A) A sign is required at the residential emergency disconnect required by 230.85 indicating location of back-up power source. (Not adopted by Oregon)
- 705 Section 705 has been extensively revised.
- 706 Wording was changed throughout 706 (batteries), but the intent basically stayed the same or were directed at the manufacturer, with the exception of the three articles below.
- 706.7 Establishes required maintenance of Energy Storage Systems.
- 706.9 and 706.30(A)(1) With new nameplates required from the manufacturer come new guidelines for determining maximum voltage and current.
- 725.144 Extensive revision to the article concerning POE, Power Over Ethernet, where low-voltage devices use power from a Cat-5 cable. This was a new article in 2017 and is relatively unknown in the industry. Essentially, LV is now similar to line-voltage and needs to be derated based on the number of cables and the ampacity of the devices.
- 800.27 New requirement that LV cable shall not be operated above their listed operating temperature.  
*Commentary: A new requirement linked to 725.144.*
- 840.2 Added definitions for “Broadband” and “Premises-Powered” to the existing article titled “Premises-Powered Broadband Communication Systems”.