

STRUCTURAL STANDARDS CITE-IT, WRITE-IT



These structural standards reference the following codes and standards:

- Oregon Structural Specialty Code (OSSC), including the Oregon Energy Efficiency Specialty Code (OEESC / ASHRAE Standard 90.1) – Chapter 13 of the OSSC
- Oregon Residential Specialty Code (ORSC)

Updated: April 1, 2021

PLANS, FOOTINGS AND FOUNDATIONS			
Site, plans, and slopes		OSSC	ORSC
1	Building permit copy is not provided on site.	105.7	R105.7
2	Site plan absent or insufficient. Site plan must show setbacks, projections, and distances from lot lines.	107.2.6	R106.2
3	Approved construction plans not provided on job site.	107.3.1	R106.3.1
4	Work not ready for inspection. Permit holder or agent must notify building official when ready, do not cover work prior to inspection.	110.5, 110.6	R109.3
5	Inspection card not on job site where required by the municipality. Other recording methods may be approved by the building official.		R116.1
6	Site address not plainly visible.	502.1	R319.1
7	Fill soils do not comply with code or accepted engineering practice. Fill soils that support footings or foundations must be installed and tested per accepted engineering practice.	1804.6	R401.2
8	Slopes exceed engineering requirements and/or prescriptive setback.	1808.7	R403.1.9
Footings		OSSC	ORSC
1	Construction joints between concrete footing and stem wall do not meet seismic reinforcement requirements. SDC D ₀ , D ₁ or D ₂ require vertical rebar.		R403.1.3.1
2	Concrete footings or stem walls do not meet seismic reinforcement requirements. SDC D ₀ , D ₁ or D ₂ require not less than one no. 4 rebar in footing/stem wall. SDC C requires not less than one no. 4 bar in the upper 12 inches of the wall.		R403.1.3
3	Exterior footings do not meet the minimum depth requirements. Not less than 12 inches below finished grade on undisturbed soil. Also see applicable frost depth.	1809.4, 1809.5	R403.1.4, Table R301.2(1)
Foundations		OSSC	ORSC
1	Grounding electrode (UFER) is not provided or is not properly installed.	1808.8.5.1	R403.1.8
2	Foundation does not meet minimum elevation requirements.	1808.7.4	R403.1.9.3
3	Foundation walls do not meet minimum seismic design requirements.	1807.1.6.2.1	R404.1.3.2, R404.1.2.1
4	Foundation walls do not meet minimum design standards. Foundation walls supporting more than 4 feet of unbalanced backfill without lateral support at the top (e.g., supporting an exterior cripple wall) shall be designed per accepted engineering practice.	1610 1807.1.6 1807.2	R404.1.1 R404.1.2 R404.1.3
5	Retaining walls do not meet minimum design standards.	1807.2	R404.4
6	Foundation drainage is not provided.	1805.4.2	R405.1
7	Underfloor drainage that was approved is not provided.	1804.8, 1805.1.2	R408.6
8	Underfloor ventilation is insufficient.	1202.4	R408.1
9	Hold-downs and rebar for ABW's or portal frame are not tied or otherwise supported in place.	2308.6.5	R404.1.3.3.7.4

Post, beam, floor joists and PT/naturally durable framing		OSSC	ORSC
1	Mudsills, plates and wood framing members not pressure-treated or naturally durable as required. Wood framing in direct contact with concrete shall be pressure-treated or naturally durable.	2304.12.1.4	R317.1 no.2
2	Wood joists less than 18 inches and wood girders less than 12 inches above exposed earth shall be pressure treated or naturally durable. Does not apply where required ground cover is installed.	2304.12.1.1	R317.1 no.1
3	Wood girders not pressure treated as required. (Ends of wood girders entering concrete or masonry shall have minimum 1/2-inch air space on top, sides, and ends or be pressure treated or naturally durable)	2304.12.2.1	R317.1 no.4
4	Wood columns not pressure-treated or naturally durable as required. Wood supports in direct contact with earth shall be pressure treated or naturally durable.	2304.12.3	R317.1.2
5	Foundation plates or sills, anchor bolts, absent or insufficient. Minimum of 2 bolts each plate section. Minimum of 4 inches from each end. Maximum of 12 inches from ends.	2308.3	R403.1.6
6	Low point drains absent or insufficient	1804.8, 1805.1.2	R405.1, R408.6
7	Joists under bearing partitions do not meet minimum specifications. Joists parallel to the bearing partitions shall be of adequate size to support the load. Joists perpendicular to bearing partitions shall not be offset from supporting girders, walls or partitions more than the joist depth.	2308.4.5	R502.4
8	Floor joists do not have sufficient bearing on support wall. Floor joists shall have a bearing of not less than 1 1/2 inches on wood or metal and 3 inches on masonry or be supported by approved hangers.	2308.4.2.2	R502.6
9	Holes bored in joists exceed allowable size and/or location. Holes bored in joists shall not be within 2 inches of the top or bottom of the joist and the diameter shall not exceed one-third the depth of the joist.	2308.4.2.4	R502.8
10	Post and beam connection not adequately fastened.	2304.11.1.2	R502.9
11	Ground cover does not meet minimum specifications. Class I vapor retarder or other approved material shall turn up 12 inches foundation wall and lap 12 inches at joints.	1202.4	N1104.9.2, R408.1
FRAMING			
Shear walls / braced walls		OSSC	ORSC
1	Sheathing fasteners overdriven. Nail sizes or pattern of fasteners are not per prescriptive requirements or engineering details.	1604.2, 2308.1.1, 2304.9	Tab. R602.3(1), Tab. R602.3(3), R106
2	Hold-downs or straps for ABW or portal frame are not the correct size or per design.	2308.6.5	R602.10.6, R106
3	Braced walls are not built per the approved plan or as engineered.	2308.6	R602.10, R106
4	Nails used to attach siding shall be corrosion-resistant or aluminum, stainless steel or zinc-coated	1404.17	R703.3.2
Floor and roof framing		OSSC	ORSC
1	Trusses installed are not according to approved plans. Lateral bracing is not as detailed on truss design.	2303.4.3	R502.11, R802.10, R106
2	Lateral restraint at supports or bracing is absent or insufficient. (Floor joists shall have a 2-inch-thick solid blocking the full depth of the joist at each support, except where ends of the joists are nailed to a header, band or rim joist.)	2308.4.2.3	R502.7, R802.10.3

Floor and roof framing--continued		OSSC	ORSC
3	Ridge board does not meet minimum specifications. (Thickness – Not less than 1 inch nominal or the depth of the cut end of the rafters.)	2308.7.3	R802.3
4	Ceiling joist and rafter connections do not meet minimum specifications. Rafters shall be nailed to adjacent ceiling joists to form a continuous tie. Where not parallel, rafters shall be tied to not less than 1-inch by 4-inch collar tie or approved ridge strap. Collar ties shall be spaced not more than 4 feet on center.	2308.7.3.1	R802.4
5	Rafters and ceiling joists do not have sufficient lateral support. (Rafters, ceiling joists, and trusses shall be supported laterally to prevent rotation at points of bearing.)	2308.7.8	R802.8
6	Design, bracing, and alterations of trusses shall require consultation with design professional. Plans and specifications for manufactured trusses designed per accepted engineering practice and submitted to municipality prior to fabrication. Such trusses shall not be altered or modified without approval of the engineer.	2303.4.3, 2303.4.5	R802.10.1, R802.10.4
7	Uplift resisting connection is missing in an area where wind uplift is greater than 200 pounds. Trusses shall be connected to wall plates with approved connectors.	2303.4.4, Table 2308.7.5	R802.11.1
8	Attic ventilation is absent or insufficient.	1202.2.2.1	R806.2
9	Roof flashing does not meet minimum specifications.	1503.2, 1507.1	R905.2.8
10	Exterior landings, decks, balconies and stairs require nails not subject to withdrawal.		R311.5
Walls		OSSC	ORSC
1	Double top plate end joints offset requirements.	2308.5.3.2	R602.3.2
2	Diameter of bored holes exceed maximum allowable.	2308.5.10	R602.6
3	Top plates notched greater than 50 percent of width, required metal tie absent or insufficient.	2308.5.8	R602.6.1
4	Weather-resistant barrier on exterior walls absent or insufficient. Means of drainage not met. ORSC: Minimum 1/8-inch space, approved alternate, or use of ASTM E2273 drainage material.	1402.2, 1404.4	R703.1.1, R703.2
Windows and ventilation		OSSC	ORSC
1	Light and ventilation is insufficient.	1202.5, 1204.2, 1204.3	R303.1
2	Mechanical ventilation missing from toilet room and bathing or spa facility.	1202.5.2.1	R303.3, M1507.4
3	Safety glass is not provided as proposed/built.	2406.4	R308.4
4	Egress window/door does not meet minimum specifications. (Net clear opening of 5.7 square feet (or 5 square feet for grade floor and below grade window), height of 24 inches; width of 20 inches; and maximum sill height of 44 inches above the finished floor, measured to the bottom of the clear opening.	1030	R310.2
Stairways		OSSC	ORSC
1	Stairways do not meet required rise and run specification or minimum headroom requirements.	1011.3, 1011.5	R311.7.2, R311.7.5
2	Winder treads do not meet minimum tread depth requirements. Minimum tread depth of 6 inches at narrowest end and minimum tread depth of 9 inches (residential) or 11 inches (commercial) from the walk line and not permitted for egress.	1011.4, 1011.5.2	R311.7.5.2.1
Access		OSSC	ORSC
1	Access opening to underfloor crawl space is absent or insufficient. 18 by 24 inches (OSSC) 18 by 24 inches floor/16 by 24 inches perimeter wall (ORSC)	1208.1, 1208.3	R408.4
2	Access opening to attic area is absent or insufficient 22 by 30 inches in areas with 30 inches of headroom. (ORSC) 20 by 30 inches in areas with 30 inches of headroom. (OSSC)	1208.2, 1208.3	R807.1

Fire protection		OSSC	ORSC
1	Garage ducting does not meet minimum specifications.	406.3.2.2	R302.5.2
2	Smoke detectors or alarms are not located in accordance with the code or approved plans. See applicable occupancies in OSSC.	907.2.10	R314.3
3	Fireblocking does not meet the required spacing. Intervals not exceeding 10 feet horizontal and at floor/ceiling levels vertical.	718.2	R302.11
Bathrooms		OSSC	ORSC
1	Water closet, bathtub, or shower clearance is insufficient. Shower or tub clearance is insufficient.	1209.4, Chapter 11	R307.1, Figure R307.1
Fireplaces		OSSC	ORSC
1	Fireplace/chimney clearance is insufficient. Not less than 2 feet clearance is required.	2111.12	R1001.11, Table R1001.1
2	Masonry fireplaces/chimney require anchorage at floor and ceiling levels Seismic design categories D ₀ , D ₁ or D ₂ (ORSC) Seismic design categories C or D (OSSC)	2111.5	R1001.4.1, Table R1001.1
3	Masonry fireplaces/chimney requires seismic reinforcing. Seismic design categories D ₀ , D ₁ or D ₂ (ORSC) Seismic design categories C or D (OSSC)	2111.4	R1001.3
4	Interconnected carbon monoxide alarms are required on each story containing sleeping rooms, installed in each sleeping room or outside each sleeping room within 15 feet.	915.1	R315.3
Insulation and energy		OSSC	ORSC
1	Foamed plastic insulation is not provided with a thermal barrier.	2603.4	R316.4
2	Insulation materials do not meet minimum flame-spread specifications. Exposed wall and ceiling insulation and vapor barrier shall have a Flame Spread rating of 25 or less and a Smoke Development rating of 450 or less and be installed with adequate clearances.	720.2	R302.10, MII, R316.3
3	Insulation does not meet the energy compliance method on approved plans.	ASHRAE 90.1—5.4.1	N1101.4
4	Window thermal performance label (<i>U</i> -factor) missing. Verify that the <i>U</i> -factors on the window meet the energy path.	ASHRAE 90.1—5.8.2	Table N1101.1(1)
5	Baffles as installed do not meet minimum requirements at eaves.	1202.2.1	N1104.2.5
6	C-rated fixtures required in this location.	ASHRAE 90.1—5.8.1.6	N1104.2.8
7	Sealing around window and doors and penetrations is absent or insufficient.	ASHRAE 90.1—5.4.3.2	N1104.8.2
8	Insulation of ducts located outside building envelope is insufficient.	ASHRAE 90.1—6.4.4	Table N1104.1(1), M1601.3
9	Additional energy measures, as required and selected, are not included or installed correctly.		N1101.1, Table N1101.1(2)

FINAL			
General		OSSC	ORSC
1	Address does not meet the identification requirements.	502.1	R319.1
2	Final grade does not slope away from foundation.	1804.4	R401.3
3	Wall flashing is absent or insufficient.	1402.2, 1404.4	R703.4
Garage		OSSC	ORSC
1	Garage / dwelling separation is absent or insufficient.	406.3.2	R302.6 Table R302.6
2	Openings from a private garage into a sleeping room are prohibited unless equipped with approved automatic fire sprinkler system.	406.2.5	R302.5.1
3	Gypsum board does not meet minimum separation requirements.	406.3.2.1	R302.6 Table R302.6
4	Appliances located in a garage shall be protected from impact.	OMSC 304.6	M1307.3.1 Figure M1307.3.1
Bath		OSSC	ORSC
1	Shower area wall surface does not meet the minimum requirements.	1209.2.3	R307.2
2	Water closet minimum clear area is insufficient.	1209.4	Figure R307.1
3	Shower doors and bathtub doors do not meet the tempered laminated safety glass or approved plastic glazing requirements.	2406.4.5	R308.1 - R308.4
Bedrooms and basements		OSSC	ORSC
1	Egress window does not meet minimum specifications.	1030	R310.2
2	Interconnected smoke alarms are not provided in required location.	907.2	R314.4
3	Interconnected carbon monoxide alarms are required in each sleeping room, or outside of each sleeping room door within 15 feet, and on each story with sleeping rooms.	915.1.2	R315.5
Safety glass		OSSC	ORSC
1	Glass does not meet the safety glazing requirements.	2406.4	R308.4
Stairways, decks, or balconies		OSSC	ORSC
1	Under-stair protection is absent or insufficient.	1011.7.3, 1011.7.4	R302.7
2	Stairway does not meet minimum specification.	1011, 1014	R311.7
3	Guardrails do not meet minimum specifications.	1015	R312
Crawl space		OSSC	ORSC
1	Attic/floor insulation is absent or insufficient.	ASHRAE 90.1—5.5.3	Table N1101.1(1)
2	Seal between walls and foundation, or at penetrations is absent or insufficient.	ASHRAE 90.1—5.4.3	N1104.8.2
3	Ground cover does not meet minimum specifications.	1202.4	N1104.9.2, R408
4	Duct or water pipe insulation is absent or insufficient.	ASHRAE 90.1—6.4.4, 7.4.3	N1105.2, N1106.1, N1106.2

ADA REQUIREMENTS—CITE-IT, WRITE-IT

These ADA requirements reference the following codes and standards:

- Oregon Structural Specialty Code (OSSC)
- Oregon Residential Specialty Code (ORSC)
- ANSI A117.1, *Accessible and Usable Buildings and Facilities*

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ADA REQUIREMENTS			
General		OSSC	ANSI
1	Site accessibility does not meet the minimum requirements. (At least one accessible route shall be provided.)	1104.2	
2	Sidewalks within a site do not meet the requirements for accessibility.	1104	403
3	Accessible route does not meet minimum specifications.	1104	402.2
4	Door hardware does not comply with accessibility requirements. (Door hardware shall not require tight grasping, tight pinching or twisting of the wrist to operate.)	1010.1.9	404.2.6
5	Water fountains do not comply with accessibility requirements.	1109.5	602
6	Room signage does not meet accessibility requirements.	1111	703
7	Cluster mailbox access does not meet requirements for accessible route.	1112	
Handicap spaces		OSSC	ANSI
1	Striping does not meet accessible parking requirements.	1106.7	
2	Slope exceeds maximum accessible parking specifications. Slope shall not exceed 1 unit vertical to 48 units horizontal.	1106.7	502.5
3	Parking facilities do not include required number of handicap spaces. (Affected buildings) ORS 447.233(2a)	Table 1106.1	
4	Size of accessible parking does not meet the minimum specifications. ORS 447.233 (2b) and (2c)	1106.7	
5	Signs do not meet accessibility requirements. ORS 447.233(2e)	1106.7	
6	Ramps shall not extend into parking space. ORS 447.233(3)	1106.7	
Toilet rooms		OSSC	OPSC
1	Partitions do not meet accessibility requirements.	1109.2	603.2, 604.3, 604.8, 604.9
2	Toilets do not meet accessibility requirements.	1109.2	604.2, 604.4
3	Grab bars do not meet accessibility requirements.	1109.2	604.5, 609
4	Lavatories do not meet accessibility requirements.	1109.2	606
5	Appurtenances and mirrors height do not meet accessibility requirements.	1109.2	603.3
6	Under floor ventilation area is insufficient.	1202.4	ORSC R408.1
7	Hold-downs and rebar for ABW's or portal frame are not tied in place.	2308.6.5	ORSC R404.1.3.3.7.4

COVERED MULTI-FAMILY HOUSING—CITE-IT, WRITE-IT

These covered multi-family housing requirements reference the following codes and standards:

- Oregon Structural Specialty Code (OSSC)
- Oregon Mechanical Specialty Code (OMSC)
- ANSI A117.1, *Accessible and Usable Buildings and Facilities*

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COVERED MULTI-FAMILY HOUSING			
Type A units		OSSC	ANSI
1	Toilet and bathing fixtures do not meet accessibility requirements.		603, 604, 1003.11
2	Mirror height does not meet accessibility requirements.		603.3, 1003.11.2.3
3	Operating controls do not meet accessibility requirements.		1003.9
4	Bathing fixtures do not meet accessibility requirements.		603.2, 604.3, 1003.11
5	Fire alarms do not comply with accessibility requirements.	907.5.2.3.3	
Dwelling unit rooms		OSSC	ANSI
1	Door smoke seal is absent or insufficient.	710.5.2	
2	Smoke detectors are absent or insufficient.	907.2.10.2, 907.5.2.3.3	702
3	Installed door hardware does not meet minimum specifications. (Minimum 34 inches and a maximum of 48 inches above the floor.)	1010.1.9	
4	Egress window does not meet minimum specifications.	1030	1002.13
5	Exhaust fan in bathrooms containing bathing fixtures absent or insufficient.	1202.5.2.1	
6	Baseboard in bathroom does not meet minimum specifications. (Not less than 4 inches in height)	1209.2.1	
7	Bathroom wall finish does not meet minimum specifications.	1209.2.2	
8	Safety glazing is required in shower/tub area.	2406.4.5	
9	Exhaust fan fusible links in dampers	OMSC 607.3	
10	Heaters: Manufacturer's installation instructions are required.	OMSC 304.1	

MECHANICAL STANDARDS—CITE-IT, WRITE-IT

These mechanical installation standards reference the following codes and standards:

- Oregon Mechanical Specialty Code (OMSC)
- Oregon Residential Specialty Code (ORSC)

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MECHANICAL INSTALLATIONS			
Underfloor		ORSC	OMSC
1	Duct insulation is absent or insufficient.	N1105.2, M1601.3	604
2	Dryer exhaust vent pipe exceeds allowable length.	M1502.4.5	504.8.4, 504.9
3	Duct support strapping is absent or insufficient.	M1502.4.2, M1601.4.4	603.1
4	Clearance from earth to ducts is insufficient.	M1601.4.8	603.14
Framing		ORSC	OMSC
1	Access to appliances in attic/crawl space does not meet the minimum specs.	M1305.1	306.3, 306.4
2	Exhaust fan ducts do not run to the exterior.	M1501.1, M1502.3, M1505.2	501.3
3	Duct support is absent or insufficient or not installed per manufacturer's installation instructions.	M1502.4.2, M1601.4.4	603.1
4	Combustion air obtained from the attic does not meet minimum specs.	G2407.11	C304.11
5	Gas line not completely installed or air pressure test not on.	G2417.4	C406.1
6	Chimney/vent connector clearances to combustibles do not meet minimum requirements. Type B gas vents do not have a minimum 1-inch clearance from wood, Romex wire, or combustibles. Oil or solid fuel vents do not have adequate clearance.	M1803.3.4, Tab. M1803.3.4 G2425.15.4, G2427.7.8 Tab. G2427.10.5	801.18.4 Tab. C503.10.5
7	Insulation shield is absent or insufficient.	G2426.4	802.8, C502.4
Final		ORSC	OMSC
1	Clearances to combustible construction does not meet requirements.	M1306.1	304.9
2	Water heater straps for SDC D ₀ , D ₁ and D ₂ are absent or insufficient.	M1307.2	301.15
3	Appliance is not installed to the listing or the labeling is missing.	M1307.1	304.1, 301.4, 301.6
4	Appliances in a garage need to be protected from impact.	M1307.3.1, Fig. M1307.3.1,	304.6, 304.7 Fig. 304.1
5	Bathroom exhaust fans are not functioning or providing proper cfm.	M1505.5	403.3.1.1, Tab. 403.3.1.1 Tab. 403.3.2.3
Gas appliances		ORSC	OMSC
1	Combustion air is not provided.	G2407	C304.1
2	Protection post is not provided in garage.	G2408.3 Fig. M1307.3.1	C303.4, Fig. C304.1
3	Equipment is not installed to manufacturer's installation instructions.	G2408.1	C305.1
4	Appliance location in garage does not meet minimum specifications.	G2408.2.1	C305.3, C305.4
5	Equipment is not meeting clearances to combustibles.	G2408.5	C305.8
6	Working clearance at service side of appliances is absent or insufficient.	M1305.1	C306.1, C306.2, C306.3, C306.4

Gas appliances—continued		ORSC	OMSC
7	Access to appliances in attic/crawl space does not meet minimum specs. Openings into attics/underfloor with appliances need to be large enough to remove the appliance but a minimum of 22 by 30 inches.	M1305.1.2, M1305.1.3	C306.2, C306.3, C306.4
8	Lighting with a switch is not provided within the passageway opening.	M1305.1.2.1, M1305.1.3.3	C306.3.1, C306.4.1
9	Outlet not provided at or near the appliance location.	M1305.1.2.1 M1305.1.3.3	C306.3.1, C306.4.1
10	Regulators not installed to manufacturer's installation instructions.	G2421	C305.1, C410.1
11	Equipment is not provided with a shut off valve within 6 feet.	G2420.5	C409.5
12	Appliance connectors exceed maximum allowable length.	G2422.1.2	C411, C411.1.3.1
13	Draft hood is not installed correctly	G2427.10.3	C503.12
14	Vent type is incorrect for the listing of the appliance.	Tab. G2427.4	C502.1, Tab. C503.4
15	Vent size does not meet minimum size requirements.	G2428.2.2	C504.2.2
16	Vent termination does not meet the minimum height.	G2427.6.4 G2427.6.5	C503.6.5, Fig. C503.6.5
17	Vent clearances do not meet the listing.	G2427.7.8	Tab. C503.10.5
18	Rooms with bathing or spa facilities shall be provided with mechanical ventilation controlled by de-humidistat or similar control.	M1505.6	Tab. 403.3.1.1, Note i
Commercial hoods and ducts			OMSC
1	Duct joint seals are absent or insufficient.		506.3.2
2	Duct exhaust does not meet the air velocity of 500 feet per minute.		506.3.4
3	Hood does not meet the listed flow rate or minimum cfm per linear foot of hood based on type.		507.1 Exc., 507.5
4	Grease duct does not meet minimum clearances. Not less than 18 inches from combustibles and 3 inches from noncombustible.		506.3.6
5	Duct slope is not adequate.		506.3.7
6	Cleanouts are absent or insufficient.		506.3.8
7	Duct support or enclosure/shaft is insufficient or does not meet the listing.		506.3.11
8	Exhaust termination location is not at an approved area.		506.3.13, 506.4.2
9	Hood type and listing is absent or insufficient on what is supposed to be listed per the application.		507.1
10	Grease filters are not provided as per listing.		507.2.8
11	Cook top and canopy distances must not exceed 4 feet.		507.4.1
12	Makeup-air needs to be provided when the hood is in operation.		508.1
13	Extinguishing system is absent or insufficient		OSSC 905.1
14	Trip test and gas and makeup air shutdown not acceptance tested and verified.		509.1
Smoke/fire dampers			OMSC
1	Direction of smoke/fire dampers installed incorrectly.		607.2
2	Smoke/fire dampers not Classified to meet UL 555 for penetration rating.		607.3
3	Fusible link does not meet the required operating temperature for the location.		607.3.3.1
4	Not accessible to motor and louvers.		607.4
5	Letters on access doors need to be a minimum of 1/2 inches high.		607.4

ELECTRICAL STANDARDS—CITE-IT, WRITE-IT

The following are electrical installation references to the Oregon Electrical Specialty Code which includes:

- National Electrical Code, NFPA 70
- Oregon amendments specified in OAR 918-305-0105 Table 1-E

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ELECTRICAL INSTALLATIONS		
Rough-in		OESC
1	Oxidation inhibitor compound not installed on aluminum conductors in services and panel boards.	110.3(B)
2	Inadequate terminations or splices.	110.14(A)
3	Adequate working clearances not provided around services and panel boards.	110.26(A)(1),(2),(3)
4	Circuits not adequate for receptacle serving the dishwasher or garbage disposal.	210.23(A)(1),(2)
5	Receptacle outlet box spacing not arranged to meet requirements.	210.52(A)(1),(2),(3),(4)
6	Insufficient receptacle outlets in kitchen and countertops.	210.52(B)(3), 210.52(C)(1),(2),(3),(4),(5) Figure 210.52(C)(1)
7	Alcoves with area not less than 2 by 3 feet require at least one receptacle.	210.52(I), OESC Amendment
8	Separate circuit not provided for receptacle serving the laundry receptacle outlet(s).	210.52(F)
9	Lighting not provided in storage/equipment spaces.	210.70(A)(3)
10	Sign circuit and show window lighting provision inadequate.	220.14(F), 220.14(G), 600.5
11	Service entrance conductors or feeders need to be sized large enough for demand loads.	220.40
12	Aerial service conductors or feeders do not have correct clearance above grade or driveway.	230.24(B)
13	Sub-panels located in clothes closets are prohibited.	240.24(D)
14	Separately derived system improperly grounded.	250.30
15	No disconnect or grounding electrode at separate building.	250.32(B), 250.32(D)
16	Metallic gas lines and water lines not bonded Statewide Code Interpretation 08-04.	250.104(B)
17	Metal well casing not grounded.	250.112(M)
18	Neutral sub-panel not isolated.	250.142(B)
19	Ground wires in boxes not made up with wire nut, crimps, or clips.	250.148(B)
20	All conductors of a circuit not routed together.	300.3
21	NM cable installed in bored holes closer than 1- ¹ / ₄ inch to edge of framing member does not have ¹ / ₁₆ -inch nail guards installed.	300.4(A)(1) and (2)
22	Minimum cover and burial depth inadequate.	Table 300.5
23	Box(s) not securely mounted.	300.11(A)
24	A minimum of 6 inches of free conductors not provided at box for device make-up.	300.14
25	Box(s) required at all outlets and splices.	300.15
26	Fire rated walls in duplexes not protected at electrical openings around boxes.	300.21
27	Box(s) not sized large enough for number of conductors.	314.16
28	NM cable sheathing cover does not extend into box at least ¹ / ₄ inches.	314.17(C)

Rough-in—continued		OESC
29	Box(s) not flush with combustible surfaces.	314.20
30	Incorrect outlet boxes used to support ceiling fans	314.27(C)
31	NM cable above ceiling not protected from damage.	334.15, OESC amendment
32	NM cable not secured and protected within 6 feet of attic access.	334.23
33	NM cable not secured at correct intervals or above service panel.	334.30
34	Lighting fixture boxes in closets do not meet minimum clearances to shelving.	410.16, Figure 410.2
35	Unused openings in boxes, panel boards, and services not plugged.	408.7, 314.17
36	No bonding and GFCI protection for hydro-massage bathtubs.	680 Section VII
37	Communication outlet not provided in dwellings.	800.156
38	Primary protector for communication circuits not bonded.	800.1
Final		OESC
1	Available fault current exceeds equipment rating.	110.9
2	Service and panel board internal parts damaged or contaminated during construction.	110.12 (B)
3	Cover-plates on plugs and switches missing.	110.27, 404.9(A), 406.6
4	Grounded conductor (neutral) not identified at terminals.	200.6
5	GFCI receptacles not installed or functioning.	210.8
6	Receptacles with incorrect polarity.	200.11
7	Arc-fault circuit interrupters not provided for circuits supplying outlets where required.	210.12
8	Over-current devices not rated for the conductor ampacity.	240.4
9	Receptacles have open ground.	250.138
10	Lock-nuts loose or missing.	300.1
11	Services, panel boards, and equipment not securely fastened.	300.11
12	No dimmer-controlled receptacles.	404.14(E)
13	Receptacles in wet or damp locations not WR rated.	406.9(B)
14	Circuits not labeled and identified in services and panel boards.	408.4(A)
15	Back-fed devices not secured.	408.36(D)
16	Panel board (sub-panel) grounded conductor (neutral) not isolated.	408.4
17	Terminal can only have one conductor at neutral bars and circuit breakers.	110.3, 408.41
18	Florescent lighting fixtures not grounded.	410.40
19	Branch circuit(s) do not meet minimum rating specifications.	422.10(A), 422.13
20	GFCI protection required for cables installed in heated floors.	424.44(E)
21	New GFCI devices not tested.	OAR 918-271-0040

PLUMBING STANDARDS—CITE-IT, WRITE-IT

The following plumbing requirements reference the Oregon Plumbing Specialty Code (OPSC).

Updated: April 1, 2021

PLUMBING INSTALLATIONS		
Underground/underslab		OPSC
1	Test failed leaks	609.4, 712
2	Voids around piping not sealed appropriately	312.2
3	Improper depth of water piping exiting building through foundation wall	609.1
4	No test on waterlines	609.4
5	Improper configuration and size of DWV piping and fittings	Table 701.1, 703, 704, 706
6	Cleanouts absent or insufficient	707
7	Grade of horizontal drainage piping does not meet minimum specifications	708
8	System (or portion thereof) below upstream manhole without a backwater valve	710.6
9	No test on DWV system	712
10	Required primer lines on floor drains	1007.1
11	Water pipe sizing	610
12	Sewage ejector sizing	710.3
13	Approved materials, DWV, water piping	604.0, Table 604.1, 701.2, Table 701.2
14	Vent connections	901.1, 905.2, 905.3, 905.5
15	Vent size	904
16	Trap arm length	1002.2
17	Trap arm change of direction	1002.3
18	Vent opening	1002.4
Underfloor		OPSC
1	Test failed leaks	609.4, 712.1
2	Freeze protection for waterline below insulation not provided	312.6
3	Nail plate protection not provided	312.9
4	Support for DWV and/or waterlines system absent or insufficient	313, Table 313.3
5	Water pipe materials	604, Table 604.1
6	Improper depth of water line exiting building through foundation wall	609.1
7	Undersized water piping	610, Table 610.3, Table 610.4
8	Undersized DWV piping	702.1, Table 702.1, 703
9	Drainage change of direction	706
10	Required cleanouts and clearances absent or insufficient	707.4 - 707.14
11	Grade on DWV system does not meet minimum specifications	708

Underfloor—continued		OPSC
12	System (or portion thereof) below upstream manhole without a backwater valve	710.1
13	Sewage ejector requirements	710.2
14	Under-floor piping covered prior to inspection	OAR 918-785-0200
15	Vent requirements	901.2
16	Size of vents	904.1
17	Vent connections	905
18	Vertical wet vent	908.1
19	Horizontal wet vent	908.2
Rough-in/top out		OPSC
1	Test failed leaks	712
2	Freeze protection for pipes in unconditioned spaces is absent or insufficient.	312.6
3	Nail plate protection not provided.	312.9
4	Structural member weakened or impaired by notching or boring.	312.11
5	Hangers and supports do not meet minimum specifications.	313, Table 313.3
6	Improper spacing and clearances of fixtures.	402.5
7	Required pressure/temperature-balancing valves on fixtures not provided.	408.3, 409.4, 4010.3
8	Main shut off valves not provided.	606.2
9	Improper depth of water line exiting building through foundation wall.	609.1
10	No test on waterlines.	609.4
11	Undersized water and DWV system.	610.3, 610.4, 702.1, 703.2
12	Vent piping exceeds maximum allowable horizontal length.	Table 703.2 Footnote 6
13	Drainage change of direction.	706.1
14	Improper cleanout location, installation or clearances.	707
15	Required cleanouts and clearances not provided.	707.9
16	Grade on drainage system does not meet minimum specifications.	708
17	System (or portion thereof) below upstream manhole without a backwater valve.	710
18	No test on DWV system.	712
19	Sewage ejector installation requirements.	710.2
20	Macerating toilet systems.	710.13
21	Undersized and number of cross-sectional areas of vent(s).	904.1
22	Venting for island sinks and similar equipment does not meet minimum specifications.	909
23	Horizontal wet venting exceeds limitations.	908.2
24	Air admittance valves (AAV) installation requirements.	SAM 07-01
25	Approved DWV materials.	Table 701.2, Chapter 17

Water service		OPSC
1	Test failed leaks	609.4, 712
2	Drainage and related underground piping covered prior to inspection	105.2.1.2
3	Lack of listed primer when required	605.3.1, 605.12.2
4	Inappropriate use of plastic piping given electrical grounding system	604.1
5	Water pressure reducing valve not provided	608.2
6	Water service depth below frost	609.1
7	No test on water system	609.4
8	14-gauge copper blue tracer wire on waterline not provided	604.10.1
9	Waterline not correctly sized for building	610.1
10	Full-way valve required	606.2
Backflow		OPSC
1	Required backflow device	603.1
2	Connection to potable waterline covered prior to inspection	105.2.1.1
3	Backflow device does not meet minimum required clearances	Table 603.2, 603.4.3
4	Test results for backflow prevention assembly not provided	603.4.2
5	Required freeze protection for backflow prevention device absent or insufficient	312.6
Rain drains		OPSC
1	Expansion joints for roof drain connections	1105.1, 1101.5.1
2	Unsupported lines. (case by case)	313, Table 313.3
3	covered prior to inspection	105.2.1
4	Improper point of disposal	1101.2
5	Connection to underfloor or footing drain not provided. Sump/backwater valve/ejectors if required.	1101.6
6	Improper size for roof area and horizontal storm drains.	1103.2, Table 1103.2
7	Required cleanouts not provided	1101.13
8	Proper materials	1101.4
9	Testing	1107
Building sewer		OPSC
1	Improper materials	715
2	Improper connectors or adapters for joining dissimilar materials	705, 715.2
3	Undersized line	717, Table 717.1
4	Improper grade or slope, Tracer wire, Sewer water in same trench, Sewer location	718, 720, 721
5	Provide required test	723
6	Lack of required cleanouts	719
7	Line covered prior to inspection	105.2

Shower pan installation		OPSC
1	Shower pan does not meet minimum specifications	408.6
2	Required slope on sub-base does not meet minimum specifications	408.7
3	Liner not clamped properly with drain body	408.7
4	Required test not provided	408.7.5
5	Location of shower valve and heads	408.9
6	Shower riser secured	408.1
7	Shower liner material approval	408.7
Final		OPSC
1	Test failed – leaks	609.4, 712
2	Sealing of openings in walls	312.12.2
3	Hose bibbs not secured	402.3
4	Fixture not listed to approved standard	301.2
5	Fixtures not sealed at joint with wall/floor	402.3
6	Flashing not installed on vents	906.5
7	Access to pump motor for jetted tub not provided	409.6
8	Temperature exceeds 120 degrees at tub/showers/bidets	408.3, 409.4, 410.3
9	Required elevations and protective barriers on water heater located in garage are absent or insufficient	507.6, 507.6.1
10	Water heater not strapped	507.2
11	Water heater not properly sized	Table 501.1(1)
12	Hot- and cold-water pipes are crossed at	417.5
13	Backflow devices not provided	603.2, Table 603.2
14	Test results not provided for all backflow prevention assemblies	603.4.2
15	Required shut-off valves not provided	606.1, 606.5
16	Water softener sizing	611
17	Required expansion devices absent or insufficient	608.3
18	Temperature/pressure relief valves improperly routed or terminated	608.5
19	Water heater pan installed	507.4
20	Dishwasher drain connection	414.3, 807.3
21	Trap arm change of direction	1002.3
22	Primer valves absent or insufficient	1007.1
23	AAVs not properly installed	SAM 07-01