

Only amended sections and subsections are shown. Text amended by this ordinance (as opposed to amendments Seattle has already made to the *International Building Code*) is in red.

CHAPTER 1

ADMINISTRATION

SECTION 101 TITLE, PURPOSE AND SCOPE

* * *

101.~~(5)~~4 Purpose. The purpose of this code is to provide minimum standards to safeguard life or limb, health, property and public welfare by regulating and controlling the design, construction, quality of materials, occupancy, location and maintenance of buildings and structures within the City and certain equipment specifically regulated herein. The purpose of this code is to provide for and promote the health, safety and welfare of the general public, and not to create or otherwise establish or designate any particular class or group of *persons* who will or should be especially protected or benefited by the terms of this code.

101.~~(6)~~5 Internal consistency. Where in any specific case, different sections of this code specify different materials, methods of construction or other requirements, the most restrictive governs. Where there is a conflict between a general requirement and a specific requirement, the specific requirement governs.

101.~~(7)~~6 Referenced codes and standards. The codes and standards referenced in this code are considered part of this code to the extent prescribed by each such reference. If differences occur between provisions of this code and referenced codes and standards, the provisions of this code apply, except that nothing in this code limits the effect of any provision of the Grading Code, Stormwater Code, or Regulations for Environmentally Critical Areas.

101.~~(8)~~7 Appendices. Provisions in the appendices of the *International Building Code* do not apply unless specifically adopted.

101.~~(9)~~8 Metric units. Wherever in this code there is a conflict between metric units of measurement and U.S. customary units, the U.S. customary units govern.

SECTION 106 BUILDING PERMITS

* * *

106.13.5.2 Requirements for construction buildings. The construction of the structure shall be subject to reasonable safeguards for *persons* and property as the *building official* shall ~~((prescribes))~~ **prescribe**; the nature and extent of fire-extinguishing equipment shall be subject to the requirements of the fire chief, and the sanitary facilities shall meet the requirements of the Director of Public Health.

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CHAPTER 4

SPECIAL DETAILED REQUIREMENTS BASED ON USE AND OCCUPANCY

SECTION 406

MOTOR-VEHICLE-RELATED OCCUPANCIES

406.1 General. Motor-vehicle-related occupancies shall comply with Sections 406.1 through 406.8.

Note: The Seattle Electrical Code requires that all occupancies provide one of the following to facilitate future installation of electric vehicle charging outlets:

1. Reserved space in the electrical service equipment for installation of an overcurrent protective device for electric vehicle electric vehicle charging system branch circuits, or
2. A designated location and working clearances for a future electric vehicle charging system panel-board.

See Seattle Electrical Code [220.57](#) and [625.27](#) for details.

SECTION 428

PRIVATE AND UTILITY TRANSFORMER VAULTS

428.9 Drainage for vaults.

428.9.1 General. Drains are prohibited in all transformer vaults.

428.9.2 Sumps. All transformer vaults containing oil-insulated transformers shall have a dry sump. All sumps shall have an opening of at least 6 inches (152 mm) diameter, a depth of at least 12 inches (305 mm), and shall be equipped with a removable steel grate that is flush with the floor. Sumps shall have at least an 8 gallon (30 liter) capacity. Sump capacity may be greater where required by the utility. The sump shall have a grouted bottom. The sump shall be located near, but not directly behind, the personnel door and shall be out of the entry path for moving transformers in and out of the vault. The vault floor shall slope at least 1 inch in 10 feet (25 mm in ~~(305 mm)~~ [3048 mm](#)) toward the sump.

CHAPTER 5

GENERAL BUILDING HEIGHTS AND AREAS

SECTION 506 BUILDING AREA

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TABLE 506.2^{a, b}
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable) IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION								
		TYPE I		TYPE II		TYPE ((#)) III		TYPE IV	TYPE V	
		A	B	A	B	A	B	HT	A	B
A-1	NS	UL	UL	15,500	8,500	14,000	8,500	15,000	11,500	5,500
	S1	UL	UL	62,000	34,000	56,000	34,000	60,000	46,000	22,000
	SM	UL	UL	46,500	25,500	42,000	25,500	45,000	34,500	16,500
A-2	NS	UL	UL	15,500	9,500	14,000	9,500	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	45,000	34,500	18,000
A-3	NS	UL	UL	15,500	9,500	14,000	9,500	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	45,000	34,500	18,000
A-4	NS	UL	UL	15,500	9,500	14,000	9,500	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	45,000	34,500	18,000
A-5	NS	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S1									
	SM									
B	NS	UL	UL	37,500	23,000	28,500	19,000	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	108,000	54,000	27,000
E	NS	UL	UL	26,500	14,500	23,500	14,500	25,500	18,500	9,500
	S1	UL	UL	106,000	58,000	94,000	58,000	102,000	74,000	38,000
	SM	UL	UL	79,500	43,500	70,500	43,500	76,500	55,500	28,500
F-1	NS	UL	UL	25,000	15,500	19,000	12,000	33,500	14,000	8,500
	S1	UL	UL	100,000	62,000	76,000	48,000	134,000	56,000	34,000
	SM	UL	UL	75,000	46,500	57,000	36,000	100,500	42,000	25,500
F-2	NS	UL	UL	37,500	23,000	28,500	18,000	50,500	21,000	13,000
	S1	UL	UL	150,000	92,000	114,000	72,000	202,000	84,000	52,000
	SM	UL	UL	112,500	69,000	85,500	54,000	151,500	63,000	39,000
H-1	NS ^c	21,000	16,500	11,000	7,000	9,500	7,000	10,500	7,500	NP
	S1									
H-2	NS ^c	21,000	16,500	11,000	7,000	9,500	7,000	10,500	7,500	3,000
	S1									
	SM									

TABLE 506.2^{a, b}—continued
ALLOWABLE AREA FACTOR (A_f = NS, S1, S13R, or SM, as applicable) IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION								
		TYPE I		TYPE II		TYPE ((#)) III		TYPE IV	TYPE V	
		A	B	A	B	A	B	HT	A	B
H-3	NS ^c	UL	60,000	26,500	14,000	17,500	13,000	25,500	10,000	5,000
	S1									
	SM									
H-4	NS ^{c, d}	UL	UL	37,500	17,500	28,500	17,500	36,000	18,000	6,500
	S1	UL	UL	150,000	70,000	114,000	70,000	144,000	72,000	26,000
	SM	UL	UL	112,500	52,500	85,500	52,500	108,000	54,000	19,500
H-5	NS ^{c, d}	UL	UL	37,500	23,000	28,500	19,000	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	108,000	54,000	27,000
I-1	NS ^{d, e}	UL	55,000	19,000	10,000	16,500	10,000	18,000	10,500	4,500
	S1	UL	220,000	76,000	40,000	66,000	40,000	72,000	42,000	18,000
	SM	UL	165,000	57,000	30,000	49,500	30,000	54,000	31,500	13,500
I-2	NS ^{d, f}	UL	UL	15,000	11,000	12,000	NP	12,000	9,500	NP
	S1	UL	UL	60,000	44,000	48,000	NP	48,000	38,000	NP
	SM	UL	UL	45,000	33,000	36,000	NP	36,000	28,500	NP
I-3	NS ^{d, e}	UL	UL	15,000	10,000	10,500	7,500	12,000	7,500	5,000
	S1	UL	UL	45,000	40,000	42,000	30,000	48,000	30,000	20,000
	SM	UL	UL	45,000	30,000	31,500	22,500	36,000	22,500	15,000
I-4	NS ^{d, g}	UL	60,500	26,500	13,000	23,500	13,000	25,500	18,500	9,000
	S1	UL	121,000	106,000	52,000	94,000	52,000	102,000	74,000	36,000
	SM	UL	181,500	79,500	39,000	70,500	39,000	76,500	55,500	27,000
M	NS	UL	UL	21,500	12,500	18,500	12,500	20,500	14,000	9,000
	S1	UL	UL	86,000	50,000	74,000	50,000	82,000	56,000	36,000
	SM	UL	UL	64,500	37,500	55,500	37,500	61,500	42,000	27,000
R-1	NS ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	20,500	12,000	7,000
	S13R									
	S1	UL	UL	96,000	64,000	96,000	64,000	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	61,500	36,000	21,000
R-2	NS ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	20,500	12,000	7,000
	S13R									
	S1	UL	UL	96,000	64,000	96,000	64,000	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	61,500	36,000	21,000
R-3	NS ^{d, h}	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S13R									
	S1									
	SM									
((R-4	NS ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	20,500	12,000	7,000
	S13R									
	S1	UL	UL	96,000	64,000	96,000	64,000	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	61,500	36,000	21,000
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	25,500	14,000	9,000
	S1	UL	192,000	104,000	70,000	104,000	70,000	102,000	56,000	36,000
	SM	UL	144,000	78,000	52,500	78,000	52,500	76,500	42,000	27,000

TABLE 506.2^{a,b}—continued
ALLOWABLE AREA FACTOR (*A_f* = NS, S1, S13R, or SM, as applicable) IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION								
		TYPE I		TYPE II		TYPE (H) III		TYPE IV	TYPE V	
		A	B	A	B	A	B	HT	A	B
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	38,500	21,000	13,500
	S1	UL	316,000	156,000	104,000	156,000	104,000	154,000	84,000	54,000
	SM	UL	237,000	117,000	78,000	117,000	78,000	115,500	63,000	40,500
U	NS	UL	35,500	19,000	8,500	14,000	8,500	18,000	9,000	5,500
	S1	UL	142,000	76,000	34,000	56,000	34,000	72,000	36,000	22,000
	SM	UL	106,500	57,000	25,500	42,000	25,500	54,000	27,000	16,500

Note: UL = Unlimited; NP = Not permitted;

For SI: 1 square foot=0.0929 m².

NS = Buildings not equipped throughout with an automatic sprinkler system; S1 = Buildings a maximum of one *story above grade plane* equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; SM = Buildings two or more *stories above grade plane* equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

- a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
- b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
- c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
- d. The NS value is only for use in evaluation of *existing building* area in accordance with the *International Existing Building Code*.
- e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
- f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and Section 1103.5 of the *International Fire Code*.
- g. New Group I-4 occupancies see Exceptions 2 and 3 of Section 903.2.6.
- h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

CHAPTER 7

FIRE AND SMOKE PROTECTION FEATURES

SECTION 703 FIRE-RESISTANCE RATINGS AND FIRE TESTS

* * *

703.4 Automatic sprinklers. Under the prescriptive fire-resistance requirements of this code, the *fire-resistance rating* of a building element, component or assembly shall be established without the use of *automatic sprinklers* or any other fire suppression system being incorporated as part of the assembly tested in accordance with the fire exposure, procedures and acceptance criteria specified in ASTM E119 or UL 263. However, this section shall not prohibit or limit the duties and powers of the *building official* allowed by Sections ~~((104.10 and 104.11))~~ 104.4 and 104.5.

* * *

CHAPTER 9

FIRE PROTECTION SYSTEMS

SECTION 903 AUTOMATIC SPRINKLER SYSTEMS

[W] 903.2.1.8 Nightclubs. An automatic sprinkler system shall be provided throughout nightclubs.

[F] 903.2.11 **Specific building areas and hazards.** In all occupancies other than Group U, an *automatic sprinkler system* shall be installed for building design or hazards in the locations set forth in Sections 903.2.11.1 through 903.2.11.((6))7.

[F] 903.3.1.1 **NFPA 13 sprinkler systems.** Where the provisions of this code require that a building or portion thereof be equipped throughout with an *automatic sprinkler system* in accordance with this section, sprinklers shall be installed throughout in accordance with NFPA 13 except as provided in Sections 903.3.1.1.1 and 903.3.1.1.((2))3.

[F] 903.3.1.2.1 **Balconies and decks.** Sprinkler protection shall be provided for exterior balconies, decks and ground floor patios of *dwelling units* and *sleeping units* in accordance with rules promulgated by the *building official* or *fire code official*((~~where~~)) where the building is of Type V construction, provided there is a roof or deck above. Sidewall sprinklers that are used to protect such areas shall be permitted to be located such that their deflectors are within 1 inch (25 mm) to 6 inches (152 mm) below the structural members and a maximum distance of 14 inches (356 mm) below the deck of the exterior balconies and decks that are constructed of open wood joist construction.

[F] 903.3.1.3 **NFPA 13D sprinkler systems.** *Automatic sprinkler systems* installed in one- and two-family *dwelling*s, ((3)) Group R-3, ((Group R-4 Condition 4)) and *townhouses*, when approved by the *fire code official*, shall be permitted to be installed throughout in accordance with NFPA 13D.

SECTION 907 FIRE ALARM AND DETECTION SYSTEMS

[F] 907.1.2 **Fire alarm shop drawings.** All construction documents shall be reviewed by a NICET III or IV in ((fire)) fire alarms or a professional engineer licensed in the state of Washington prior to being submitted for permitting. The reviewing professional shall submit a stamped, signed and dated letter; or a verification method approved by the *fire code official* indicating the system has been reviewed and meets or exceeds the design requirements of the State of Washington and the *fire code official*.

Shop drawings for fire alarm systems shall be submitted for review and approval prior to system installation, and shall include, but not be limited to, all of the following where applicable to the system being installed:

1. A floor plan that indicates the use of all rooms.
2. Locations of alarm-initiating devices.
3. Locations of alarm notification appliances, including candela ratings for visible alarm notification appliances.
4. Design minimum audibility level for occupant notification.
5. Location of fire alarm control unit, transponders and notification power supplies.
6. Annunciators.
7. Power connection.
8. Battery calculations.
9. Conductor type and sizes.
10. Voltage drop calculations.
11. Manufacturers' data sheets indicating model numbers and listing information for equipment, devices and materials.
12. Details of ceiling height and construction.
13. The interface of fire safety control functions.
14. Classification of the supervising station.

SECTION 909 SMOKE CONTROL SYSTEMS

* * *

[F] **909.6.3 Pressurized stairways and elevator hoistways.** Where stairways or elevator hoistways are pressurized, such pressurization systems shall comply with Section 909 as smoke control systems, in addition to the requirements of Sections 909.20 ~~((of this code))~~ and 909.21 ~~((of the International Fire Code))~~.

* * *

909.6.3 Pressurized stairways and elevator hoistways. Where stairways or elevator hoistways are pressurized, such pressurization systems shall comply with Section 909 as smoke control systems, in addition to the requirements of Section 909.20 ~~((of this code))~~ and Section 909.21 ~~((of the International Building Code))~~.

* * *

909.20.6 Stairway pressurization for low-rise buildings. Where stairway pressurization is provided in accordance with Section 1006.3.2 exception 7 or Section 510.2 item 10 or 11, the pressurization system shall comply with the following:

1. Stairways shall be pressurized to a minimum positive pressure of 0.15 inch of water column (37 Pa) relative to the main occupied area on each floor, and a maximum pressure that complies with Section 1010.1.3.
2. The stairway pressurization shall be activated by a fire alarm originating anywhere in the building.
3. Pressurization equipment and its duct work located within the building shall be separated from other portions of the building by construction equal to that required for the interior exit stairway.
4. Supply air shall be taken directly from an outside, uncontaminated source at least 20 feet (6096 mm) from any air exhaust system or outlet. Air ducts shall be continuous to the exterior of the building. Two smoke detectors shall be located in the duct in accordance with NFPA 72 arranged to automatically shut down the fan system only when both smoke detectors activate. The detectors shall be located downstream of the fan and shall be connected to the fire alarm as a supervisory signal.
5. A legally required standby power system shall be provided for the pressurization system according to Seattle Electrical Code Section 701. A connection ahead of the service disconnecting means shall be permitted as the sole source of power to the pressurization system.
6. Other measures to prevent loss of pressurization shall be provided in the design and construction of

interior exit stairways, such as doors and door closers, quality of workmanship and caulking of penetrations and joints.

7. Stairway pressurization systems in low-rise buildings shall comply with Sections 909.10, ~~((through)) 909.12, 909.13, 909.14, 909.15, 909.17, 909.18, and 909.19,~~ in addition to Section 909.20.5.

Exception: A rational analysis complying with Section 909.4 is not required.

* * *

909.21.8 Smoke control provisions. Hoistway pressurization systems shall comply with Sections 909.10 through 909.19 in addition to Section 909.21.

Exception: Hoistway pressurization systems in low-rise buildings are not required to comply with 909.11 and 909.16.

CHAPTER 12

INTERIOR ENVIRONMENT

SECTION 1207 SOUND TRANSMISSION

* * *

1207.2 Air-borne sound. Walls, partitions and floor/ceiling assemblies separating *dwelling units* and *sleeping units* from each other or from public or service areas shall have a sound transmission class of not less than 50, or not less than 45 if field tested, for air-borne noise when tested in accordance with ASTM E90. Penetrations or openings in construction assemblies for piping; electrical devices; recessed cabinets; bathtubs; soffits; or heating, ventilating or exhaust ducts shall be sealed, lined, insulated or otherwise treated to maintain the required ratings. ~~((This requirement shall not apply to entrance doors; however, such doors shall be tight fitting to the frame and sill.))~~

Exception: *Dwelling unit* or guest room entrance doors from interior corridors and interconnecting doors between separate units shall have perimeter seals. Such door assemblies shall have a sound transmission class (STC) rating of not less than 28.

* * *

STRUCTURAL DESIGNS

SECTION 1607 LIVE LOADS

TABLE 1607.1
MINIMUM UNIFORMLY DISTRIBUTED LIVE LOADS, L_o , AND
MINIMUM CONCENTRATED LIVE LOADS^a

OCCUPANCY OR USE	UNIFORM (psf)	CONCENTRATED (pounds)
1. Apartments (see residential)	—	—
2. Access floor systems		
Office use	50	2,000
Computer use	100	2,000
3. Armories and drill rooms	150 ^m	—
4. Assembly areas		
Fixed seats (fastened to floor)	60 ^m	
Follow spot, projections and control rooms	50	
Lobbies	100 ^m	—
Movable seats	100 ^m	
Stage floors	150 ^m	
Platforms (assembly)	100 ^m	
Other assembly areas	100 ^m	
5. Balconies and decks ^{b, (m)}	((Same as occupancy served)) 1.5 times the live load for the area served. Not to exceed 100 psf	—
***	***	***

SECTION 1613 EARTHQUAKE LOADS

1613.5.2 ASCE 7 Section 12.2.5.4. Modify ASCE 7 Section 12.2.5.4 to read as follows:

12.2.5.4 Increased Structural Height Limit for Steel Eccentrically Braced Frames, Steel Special Concentrically Braced Frames, Steel Buckling-Restrained Braced Frames, Steel Special Plate Shear Walls, and Special Reinforced Concrete Shear Walls. The limits on height, h_u , in Table 12.2-1 are permitted to be increased from 160 ft (50 m) to 240 ft (75 m) for structures assigned to Seismic Design Categories D or E and from 100 ft (30 m) to ~~((150))~~ 160 ft (50 m) for structures assigned to Seismic Design Category F, if all of the following are satisfied:

1. The structure shall not have an extreme torsional irregularity as defined in Table 12.3-1 (horizontal structural irregularity Type 1b).
2. The steel eccentrically braced frames, steel special concentrically braced frames, steel buckling-restrained braced frames, steel special plate shear walls or special reinforced concrete shear walls in any one plane shall resist no more than 60 percent of the total seismic forces in each direction, neglecting accidental torsional effects.
3. Where floor and roof diaphragms transfer forces from the vertical seismic force-resisting elements above the diaphragm to other vertical force-resisting elements below the diaphragm, these in-plane transfer forces shall be amplified by the overstrength factor, Ω_c , for the design of the diaphragm flexure, shear, and collectors.
4. The earthquake force demands in foundation mat slabs, grade beams, and pile caps supporting braced frames and/or walls arranged to form a shear-resisting core shall be amplified by 2 for shear and 1.5 for flexure.
5. The earthquake shear force demands in special reinforced concrete shear walls shall be amplified by the overstrength factor, Ω_c .

CHAPTER 18

SOILS AND FOUNDATIONS

SECTION 1810 DEEP FOUNDATIONS

* * *

1810.3.10.4 Seismic reinforcement. For structures assigned to *Seismic Design Category C*, a permanent steel casing shall be provided from the top of the micropile down to the point of zero curvature. For structures assigned to *Seismic Design Category D, E or F*, the micropile shall be considered as an alternative system in accordance with Section ~~((104.14))~~ 104.5. The alternative system design, supporting documentation and test data shall be submitted to the *building official* for review and approval.

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CHAPTER 19

CONCRETE

SECTION 1905 MODIFICATIONS TO ACI 318

* * *

1905.1.9 ACI 318, Section ~~((5.1.4))~~ 19.2.1.2. Modify ACI 318, Section ~~((5.1.4))~~ 19.2.1.2, to read as follows:

~~((5.1.1—Concrete shall be proportioned to provide an average compressive strength, f'_c , as prescribed in 5.3.2 and shall satisfy the durability criteria of Chapter 4. Concrete shall be produced to minimize the frequency of strength tests below f'_c , as prescribed in 5.6.3.3. For concrete designed and constructed in accordance with the Code, f'_c shall not be less than 2500 psi.))~~

19.2.1.2 The specified compressive strength shall be used for proportioning of concrete mixtures in Section 26.4.3 and for testing and acceptance of concrete in Section 26.12.3.

Exception: Concrete is permitted to be designed and constructed in accordance with Section ~~((1905.1.2))~~ 1905.1.10.

1905.1.10 ACI 318, Section ~~((5.2))~~ 26.4.3. Modify ACI 318, Section ~~((5.2))~~ 26.4.3 by adding new Section ~~((5.2.4))~~ 26.4.3.2 as follows:

Concrete proportioning in accordance with Table 1905.1.10 is permitted to be used for concrete to be made with cements meeting strength requirements for Type I, II, or III of ASTM C 150. Table 1905.1.10 shall not be used to proportion concrete containing lightweight aggregates. If approved by the building official, Table 1905.1.10 is permitted to be used with air-entraining admixtures (conforming to ASTM C260) and/or normal-range water-reducing admixtures (conforming to ASTM C494-11 Standard Specification for Chemical Admixtures for Concrete, Types A, D or E; or C618-12 Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete). For strengths greater than 4000 psi (27.7 MPa), proportions shall be established on the basis of field experience and trial mixtures according to ACI Section ~~((5.3))~~ 26.4.3.1(b) or by proportioning without field mixtures or trial mixtures according to ACI Section ~~((5.4))~~ 26.4.4.1(b). When approved by the building official, concrete proportions shall be determined in accordance with the provisions of ACI 318, Section ~~((5.3. or 5.4))~~ 26.4.3.1(b) or 26.4.4.1(b).

CHAPTER 30

ELEVATORS AND CONVEYING SYSTEMS

SECTION 3003 CODES

3003.1 Seattle Elevator Code. The following are adopted by reference as part of the Seattle Building Code. They also constitute the Elevator Code of the City of Seattle.

1. Safety Code for Elevators and Escalators, ASME A17.1-2013, as amended in this ordinance and Appendices A through D, F through J, L, M and P through V.

Exceptions:

- 1.1. ASME A17.1 Sections 5.4, 5.5, 5.10, ~~(and)~~ 5.11, and 5.12 are not adopted.
- 1.2. ASME A17.1 Section 1.2.1, Purpose, is not adopted.
2. Safety Standard for Platform Lifts and Stairway Chairlifts, ASME A18.1-2011.
3. Standard for Elevator Suspension, Compensation, and Governor Systems, ASME A17.6-2010.

Exception: ASME A17.6 Part 2 Aramid Fiber Ropes for Elevators, is not adopted.

4. Safety regulations for all elevators, dumbwaiters, escalators and other conveyances, Washington Administrative Code Chapter 296-96 as it existed on February 15, 2013.

Exception: The following sections of WAC Chapter 296-96 are not part of the *Elevator Code of the City of Seattle*:

1. Part B, Licenses and Fees for all Elevators, Dumbwaiters, Escalators, and Other Devices.
2. Part B-1, Regulations and Fees for All Elevators, Dumbwaiters, Escalators and Other Conveyances.
3. Part C, Regulations for New and Altered Elevators and Lifting Devices, WAC 296-96-02400 through WAC 296-96-02420.
- ~~(3-)~~ 4. Part C3, Construction, Operation, Maintenance and Inspection of Private Residence Conveyances for Transporting Property for Residential Use.
- ~~(4-)~~ 5. Part C4, Temporary Hoists.
- ~~(5-)~~ 6. Part C5, Additional Types of Conveyances.

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SECTION 3011 RETROACTIVE REQUIREMENTS FOR EXISTING INSTALLATIONS

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3011.3 Key retainer box. The key retainer box shall comply with Section 3011.3.1 or 3011.3.2.

3011.3.1 Conveyances installed between March 1, 1956, and August 14, 2004. A key retainer box locked and keyed to the standard City access key for elevator access and operation keys shall be provided. The key retainer box shall meet the following standards:

1. Dimensions – 8 inches high, 6 inches wide, 1 inch deep.
2. Material – 16 gauge steel welded.
3. Color – red (unless located in the main lobby above the hall call button, 6 feet nominal above the floor).
4. Labeling – “FOR FIRE DEPARTMENT USE.”
5. Lock – Ace one-inch cylinder cam lock key #39504.

The key retainer box is to be installed at the designated recall floor above the Phase I recall switch or in the main lobby above the hall call button when no recall feature exists. The key retainer box is to be mounted 6 feet nominal above the floor. The *building official* is permitted to approve other locations upon request.

Key retainer boxes are permitted to comply with Section 3011.3.2 or 3016.9 as an alternative to complying with this section.

3011.3.2 Conveyances installed between August 15, 2004, and November 5, 2016. A key retainer box locked and keyed to the secure city access key for elevator and other conveyance access and operation keys shall be provided. The key retainer box shall meet the following standards:

1. Minimum dimensions – 6 1/2 inches high, 6 inches wide, 2 inches deep.
2. Material – at least 16 gauge steel welded.
3. Color – red (unless located in the main lobby above the hall call button, 6 feet above the floor).
4. Labeling – “For Emergency Use.”
5. Lock – high security Medeco lock specified by the building official. Use of the key shall be restricted to fire, emergency response, and elevator inspection personnel.

The key retainer box shall be flush or surface mounted, installed at the designated recall floor above the Phase I recall switch or in the main lobby above the hall call button if no recall feature exists. The key retainer box is to be

mounted approximately 6 feet above the floor. The key retainer box shall be attached to the building so as to be able to withstand a force of 300 lbf/square foot applied horizontally at any point. In buildings with more than one elevator, the key retainer box shall be large enough to accommodate all required keys. The building official may approve other locations and custom box types upon request.

Key retainer boxes are permitted to comply with Section 3016.9 as an alternative to complying with this section.

SECTION 3016 NEW INSTALLATIONS - CONSTRUCTION STANDARDS

3016.4 Requirements to accommodate people with disabilities. All new elevators shall comply with Chapter 11. In addition, WAC ~~((296-96-02400))~~ 296-96-02425 through 02605 ~~((applies))~~ apply as those sections existed on February 15, 2013.

SECTION 3017 NEW INSTALLATIONS - GENERAL EMERGENCY OPERATION REQUIREMENTS

3017.5 Fireman's visual signal, ASME 2.27.3.2.6. Elevators requiring Phase I or Phase II operation shall comply with ASME 2.27.3.2.6 as amended below:

When ~~((Phase I Emergency Recall Operation is initiated by a fire alarm initiating device))~~ a smoke or heat detector for any location listed in 2.27.3.2.6(a) through (e) ((;)) is activated during Phase I Emergency Recall Operation as required by 2.27.3.2.3 or 2.27.3.2.4, or Phase II Emergency In-Car Operation as required by 2.27.3.3, the visual signal [see 2.27.3.1.6(h) and Fig. 2.27.3.1.6(h)] shall illuminate intermittently only in a car(s) with equipment in that location, as follows:

- (a) machine room
- (b) machinery space containing a ~~((motor controller or))~~ driving machine
- (c) control room
- ~~((d))~~ control space
- ~~((e))~~ (d) hoistway

SECTION 3028 PERIODIC INSPECTIONS AND TESTS

3028.2 Category Five tests. Elevators shall be subject to five-year inspection test requirements in accordance with Table 3028, Periodic Test Requirements – Category Five, except that safety and governor systems of cars operating on wood guide rails shall be tested by tripping the governor by hand with rated load in the car, and the car at rest.

All Category Five tests shall comply with ASME A17.1, 8.6 as amended below:

ASME 8.6.4.20 Periodic Test Requirements – Category 5.

NOTE: For test frequency, see ~~((8.11.1.3))~~ Table 3028.

8.6.4.20.1 Car and Counterweight Safeties. Types A, B, and C car and counterweight safeties shall be tested in accordance with 8.6.4.20.1(a) ~~((or subject to approval by the authority having jurisdiction with 8.6.4.20.1(b)))~~.

(a) *Rated Load and Rated Speed Test.* Car safeties, except those operating on wood guide rails, and their governors, shall be tested with rated load in the car. Counterweight safety tests shall be made with no load in the car. Tests shall be made by tripping the governor by hand at the rated speed. The following operational conditions shall be checked (Item 2.29.2):

(1) Type B safeties shall stop the car with the rated load within the required range of stopping distances for which the governor is tripped (Item 2.29.2) and the level of the platform checked for conformance to 2.17.9.2.

(2) For Type A safeties and Type A safety parts of Type C safeties, there shall be sufficient travel of the safety rollers or dogs remaining after the test to bring the car and its rated load to rest on safety application at governor tripping speed. The level of the platform shall be checked for conformance to 2.17.9.2.

~~((b) Alternative Test Method for Car Safeties. The alternative test methods shall comply with 8.6.11.10 and the following:~~

~~((1) The testing of safeties with any load in the car, centered on each quarter of the platform symmetrically with relation to the centerlines of the platform from no load up to rated load, and at not less than rated speed shall be permitted provided that~~

~~((a) when the alternative test is performed, the test shall stop the car and verify that the safeties will be capable of stopping an overspeeding car in accordance with the requirements of Section 2.17 applicable to the specific classification of safeties, and~~

(b) when applied, the method shall verify that the safeties perform or are capable of performing in compliance with 8.6.4.20.1(a) and the platform shall not be out of level more than 30 mm/m (0.36 in./ft) in any direction.)

(2) A test tag as required in 8.6.1.7.2 shall be provided.

8.6.4.20.2 Governors

(a) The tripping speed of the governor and the speed at which the governor overspeed switch, where provided, operates shall be tested to determine conformance with the applicable requirements and the adjustable means shall be sealed (Item 2.13.2.1).

(b) The governor rope pull-through and pull-out forces shall be tested to determine conformance with the applicable requirements, and the adjustment means shall be sealed (Item 2.13.2.1).

(c) After these tests in jurisdictions enforcing NBCC, a metal tag indicating the date of the governor tests, together with the name of the person or firm that performed the tests, shall be attached to the governor in a permanent manner.

SECTION 3029 REQUIREMENTS FOR MAINTENANCE CONTROL PROGRAM AND REMOTE MONITORING

3029.1 ASME A17.1, 8.6.1 General Maintenance Requirements. Conveyances shall be maintained in accordance with ASME A17.1, 8.6.1 as amended below.

8.6.1.2.1 A written Maintenance Control Program shall be in place to maintain the equipment in compliance with the requirements of 8.6. The MCP shall specify examinations, tests, cleaning, lubrication, and adjustments to applicable components at regular intervals (see definition for *maintenance*) and shall comply with the following.

(a) "A Maintenance Control Program for each unit (see 8.6.1.1.1) shall be provided by the person(s) and/or firm maintaining the equipment and shall be viewable on-site by elevator personnel at all times from time of acceptance inspection and test or from the time of equipment installation or alteration (see 8.10.1.5)."

(b) The MCP shall include, but not be limited to, the Code required maintenance tasks, maintenance procedures, and examination and test listed with the associated requirement (see 8.6.4 through 8.6.11). Where maintenance tasks, maintenance procedures, or examinations or tests have been revised in 8,6, the MCP shall be updated.

(c) The MCP shall reference On-Site Equipment Documentation (see 8.6.1.2.2) needed to fulfill 8.6.1.2.1(b) and On-Site Maintenance Records (see 8.6.1.4.1) that record the completion of all associated maintenance tasks specified in 8.6.1.4.1(a).

~~((d) Where the MCP is maintained remotely from the machine room, machinery space, control room, or control space (see 8.11.1.8), instructions for on-site locating or viewing the MCP either in hard copy or in electronic format shall be posted on the controller or at the means necessary for test (see 2.7.4). The instructions shall be permanently legible with characters a minimum of 3 mm (0.125 in.) in height.) The MCP shall be posted in the machine room, machinery place or control room.~~

(e) The specified scheduled maintenance intervals (see 1.3) shall, as applicable, be based on

- (1) equipment age, condition, and accumulated wear
- (2) design and inherent quality of the equipment
- (3) usage
- (4) environmental conditions
- (5) improved technology
- (6) the manufacturer's recommendations and original equipment certification for any SIL rated devices or circuits (see 8.6.3.12 and 8.7.1.9)
- (7) the manufacturer's recommendations based on any ASME A17.7/CSA B44.7 approved components or functions

(f) Procedures for tests; periodic inspections; maintenance; replacements; adjustments; and repairs for traction-loss detection means, broken-suspension-member detection means, residual-strength detection means, and related circuits shall be incorporated into the made part of the Maintenance Control Program. [See 2.20.8.1, 2.20.8.2, 2.20.8.3, ~~((8.6.11.10, 8.10.2.2.2(ee)(3)(e)(2);))~~ 8.10.2.2.2(ss), and 8.6.4.19.12~~((f))~~.]

8.6.1.4.1 On-Site Maintenance Records

(a) *Maintenance Control Program Records*

(1) A record that shall include the maintenance tasks listed with the associated requirements of 8.6 identified in the Maintenance Control Program (8.6.1.2.1), other tests (see 8.6.1.2.2), examinations and adjustments, and the specified scheduled intervals shall be maintained.

(2) The specified scheduled maintenance intervals (see 1.3) shall, as applicable, be based on the criteria given in 8.6.1.2.1(e).

(3) MCP records shall be viewable on-site by elevator personnel in ~~((either))~~ hard copy ~~((or electronic format acceptable to the authority having jurisdiction))~~ and shall include but are not limited to the following:

- (a) site name and address
- (b) service provider name
- (c) conveyance identification (I.D.) and type
- (d) date of record

(e) a description of the maintenance task, interval, and associated requirements of 8.6

(f) indication of completion of maintenance task

NOTE: [8.6.1.4.1(a)]: Recommended format for documenting Maintenance Control Program records can be found in Nonmandatory Appendix Y. This is only an example format. A specific maintenance control program that includes all maintenance needs is required for each unit.

(b) *Repair and Replacement Records.* The following repairs and replacements shall be recorded and shall be kept on-site for viewing by elevator personnel in ~~((either))~~ hard copy. Records in electronic format may be provided if approved by the building official. ~~((or electronic format. Instructions for locating the records of each unit for immediate viewing shall be posted on the controller or at the means necessary for test (see 2.7.6.4).))~~ The provided instructions shall be permanently legible with characters a minimum of 3 mm (0.125 in) in height. The record shall include an explanation of the repair or replacement, date, and name of person(s) and/or firm performing the task. The record of repairs and replacements shall be retained by the owner of the equipment for the most recent 5 yr or from the date of installation or adoption of this Code edition, whichever is less or as specified by the authority having jurisdiction and shall be a permanent record for the installation. ~~((These records may be kept remotely from the site.))~~

(1) Repairs (8.6.2.1 through 8.6.2.5) including repairs of components and devices listed in 8.6.4, 8.6.5, 8.6.6, 8.6.7, 8.6.8, 8.6.9, and 8.6.10.

(2) Replacements (8.6.3.1 through 8.6.3.11 except 8.6.3.7 and 8.6.3.10) including replacements of components and devices listed in 8.6.4, 8.6.5, 8.6.6, 8.6.7, 8.6.8, 8.6.9, and 8.6.10.

(c) *Other Records.* The following written records shall be kept on-site for each unit. Instruction for locating the records of each unit for immediate viewing shall be posted on the controller or at the means necessary for test (see 2.7.6.4). The provided instructions shall be permanently legible with characters a minimum of 3 mm (0.125 in.) in height. These records shall be retained for the most recent 5 yr from of the date of installation or adoption of this Code edition, whichever is less or as specified by the authority having jurisdiction. The record shall include the date and name of person(s) and/or firm performing the task.

(1) A record of oil usage (8.6.5.7).

(2) A record of findings for firefighters' service operation required by 8.6.11.1 with identification of the person(s) that performed the operation.

(3) Periodic tests (see 8.6.1.7) shall be documented or recorded in accordance with 8.6.1.7.2.

(4) Written record to document compliance with replacement criteria specified in ASME A17.6 requirement 1.10.1.1(c).

(d) *Permanent Record.* A permanent record of the results of all acceptance tests as required by 8.10.1.1.4 and 8.10.1.1.5 shall be kept with the on-site records.

Test tags, complying with 2.16.3.3 for marking plates (except lettering shall be 1.6 mm [0.0625 in]), permanently attached to or adjacent to the controller, shall meet this requirement.

NOTE: This requirement does not apply to equipment installed under ASME A17.1-2010 and earlier editions.

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