

Bellevue Building Code

**Amendment Insert Pages
to the
2012 Edition
of the
IBC**

INTENTIONALLY LEFT BLANK

(Insert facing page 56)

403.2.1.1 Type of construction. The following reductions in the minimum *fire-resistance rating* of the building elements in Table 601 shall be permitted as follows:

1. For buildings not greater than 420 feet (128 m) in *building height*, the *fire-resistance rating* of the building elements in Type IA construction, other than structural frame and bearing walls, shall be permitted to be reduced to the minimum *fire-resistance ratings* for the building elements in Type IB.
2. In other than Groups F-1, M and S-1 occupancies, the *fire-resistance rating* of the building elements in Type IB construction, other than structural frame and bearing walls, shall be permitted to be reduced to the *fire-resistance ratings* in Type IIA.
3. The *building height* and building area limitations of a building containing building elements with reduced *fire-resistance ratings* shall be permitted to be the same as the building without such reductions.

(Insert facing page 57)

➔ **403.3.2 Water supply to required fire pumps.** This section is deleted.

403.4.8 Standby power. A standby power system complying with Table 403(1), and NFPA 70 (National Electrical Code) Article 701 Legally Required Standby Power, shall be provided.

403.4.8.1 Special requirements for standby power systems. If the standby system is a generator set inside a building, the system shall be located in a separate room enclosed with 2-hour fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 711, or both, and shall be in a separate room from the normal power source including transformers and distribution equipment. Power distribution from the emergency source to the emergency transfer switch shall be by an independent route from the normal power source. System supervision with manual start and transfer features shall be provided at the fire command center. Standby power shall be provided for elevators in accordance with Section 3003. Fuel-fired standby power generator sets and associated fuel storage, including optional landlord- or tenant-owned generator sets, located more than 75 feet above the lowest level of Fire Department vehicle access, require the approval of the fire code official.

(Insert facing page 58)

TABLE 403(1)
Standby (Legally Required) and Emergency Power

<u>Type of equipment</u>	<u>Maximum Time to Energize Loads</u>	<u>Minimum Run Time (Duration)</u>	<u>IBC Section</u>	<u>IFC or NFPA Section</u>
Emergency Power Systems 1				
Exit signs	10 seconds	2 hours	1011.6.3	604.2.14 High rises 604.2.15 Underground buildings 1011.6.3 Exit signs 2403.12.6.1 Temporary tents, canopies, membrane structures NFPA 70
Exit illumination	10 seconds	2 hours	1006.3	1006.3 604.2.14 High rises 604.2.15 Underground buildings
Any emergency voice/alarm communication including area of refuge communication systems (barrier-free & horizontal exits)	NFPA 72	24 hours (battery) 4 hours (generator)	402.7.3, 402.7.4 & 907.5.2.2 Covered mall buildings 403.4.9 & 907.5.2.2 High rises 405.8, 405.9 & 907.5.2.2 Underground buildings 907.2.1 & 907.5.2.2 Assembly occupancies	604.2.13 Covered mall buildings 604.2.14 High rises 604.2.15 Underground buildings 907.2.1.1 Assembly occupancies NFPA 72
Fire detection and fire alarms	NFPA 72	24 hours (battery) 4 hours (generator)	403.4.9 High rises 405.9 Underground buildings 909.20.6.2 Smokeproof enclosures 907	604.2.14 High rises 604.2.15 Underground buildings 907.2.11 NFPA 72
Smoke control systems in high-rise buildings, underground buildings and covered mall buildings including energy management systems is used for smoke control or smoke removal	60 seconds	2 hours	403.4 High rises 404.7 Atriums 405.9 Underground buildings 909.11 Smoke control	909.11
Fire pumps in high-rise buildings & underground buildings	10 seconds	8 hours (NFPA 20)	403.4.9 High rises 405.9 Underground buildings	604.2.14 High rises and NFPA 20 604.2.15 Underground buildings 913.2 All Fire Pumps
Smokeproof enclosures and elevator shaft pressurization	60 seconds for pressurization	4 hours	403.4.8 High rises 909 and 909.20.6.2	
Any shaft exhaust fans required to run continuously in lieu of dampers	60 seconds	4 hours	715.5.3	
Elevator car lighting and communications in high-rise & underground buildings	10 seconds	4 hours	3003, 3007, and 3008	604.2.14 High rises 604.2.15 Underground buildings 604.2.18 Elevators
Lights, heating, and cooling for building fire command center and mechanical equipment rooms serving the fire command center	60 seconds	24 hours		604.2.14 High rises
Power (other than lights, heating and cooling) for building fire command center	60 seconds	4 hours		
Mechanical and electrical systems required by IFC 27 (hazardous materials including UPS rooms)	60 seconds	4 hours		Chapter 27
Legally Required Standby¹				

<u>Type of equipment</u>	<u>Maximum Time to Energize Loads</u>	<u>Minimum Run Time (Duration)</u>	<u>IBC Section</u>	<u>IFC or NFPA Section</u>
Emergency Power Systems 1				
Exhaust fans for any loading dock located interior to a building	60 seconds	4 hours		
Transformer vault ventilation equipment	60 seconds	4 hours		
Heat tape for sprinkler lines & heating in sprinkler riser rooms	60 seconds	24 hours		
Fuel pump system for any legally-required system	60 seconds	4 hours		

TABLE 403(1) FOOTNOTES:

1. The fuel pump and associated systems for the emergency or legally required generator shall be provided with power from the generator to maintain fuel supply.

403.4.8.1.1 Penetrations. Penetrations into and openings through a room containing a standby power system are prohibited except for required exit doors, equipment and ductwork necessary for heating, cooling or ventilation, sprinkler branch line piping, or electrical raceway serving the standby power system or being served by the standby power system. Such penetrations shall be protected in accordance with Section 713.

Exception: Metallic piping with no joints or openings where it passes through the standby power system room.

403.4.8.2 Standby power loads. Standby power loads shall be classified in accordance with Table 403(1).

403.4.9 Emergency power systems. An emergency power system complying with Table 403(1), and NFPA 70 (National Electrical Code) Article 700 Emergency Standby Power except as designated in Table 403(1), shall be provided. Fire pumps shall comply with NFPA 20 and NFPA 70 Article 695.

403.4.9.1 Special requirements for emergency power systems. If the emergency power system is a generator set inside a building, the system shall be located in a separate room enclosed with 2-hour fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 711, or both, and shall be in a separate room from the normal power source including transformers and distribution equipment. Power distribution from the emergency source to the emergency transfer switch shall be by an independent route from the normal power source. System supervision with manual start and transfer features shall be provided at the fire command center.

Fuel-fired emergency generator sets and associated fuel storage, including optional landlord- or tenant-owned generator sets, located more than 75 feet above the lowest level of Fire Department vehicle access, require the approval of the fire code official.

403.4.9.2 Emergency power loads. Emergency power loads shall be classified in accordance with Table 403(1).

403.5 Means of egress and evacuation. The means of egress in high-rise buildings shall comply with Sections 403.5.1 through 403.5.6, and in addition to these requirements, shall comply with Bellevue City Code 23.11.907.5.2.2.6, which requires either Phased Evacuation, an additional stair, or occupant evacuation elevators, to facilitate simultaneous building evacuation and firefighter response into the building.

403.7 Smoke control. A smoke-control system meeting the requirements of Section 909 shall be provided in all areas containing a Group I or Group R occupancy within high-rise buildings. Such areas shall be separated from all other building areas by a minimum of 1-hour fire-resistance rating of construction, but not less than required by Table 508.4, in accordance with Section 508.4, and smoke barrier construction in accordance with Section 710 and Section 909 to create separate smoke zones, or smoke control shall be provided in all such unseparated areas of the building.

405.1 General. The provisions of this section apply to building spaces having a floor level used for human occupancy more than 30 feet (9144 mm) below the finished floor of the lowest level of exit discharge.

Exceptions:

1. One- and two-family dwellings, sprinklered in accordance with Section 903.3.1.3.
2. Parking garages with automatic sprinkler systems in compliance with Section 405.3 and pressurized stair enclosures provided with emergency power in compliance with Sections 909.20, 909.20.5, and 909.20.6.
4. Fixed guideway transit systems complying with NFPA 130 as amended by the City of Bellevue.
5. Grandstands, bleachers, stadiums, arenas and similar facilities.
6. Where the lowest story is the only story that would qualify the building as an underground building and has an area not exceeding 1,500 square feet (139 m²) and has an occupant load less than 10.
7. Pumping stations and other similar mechanical spaces intended only for limited periodic use by service or maintenance personnel.

(Insert Facing Page 60)

405.8 Standby power. A standby power system complying with Table 403(1), and NFPA 70 (National Electrical Code) Article 701 Legally Required Standby Power except as designated in Table 403(1), shall be provided.

405.8.1 Special requirements for standby power systems. If the standby system is a generator set inside a building, the system shall be located in a separate room enclosed with 2-hour fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 712, or both, and shall be in a separate room from the normal power source including transformers and distribution equipment. Power distribution from the emergency source to the emergency transfer switch shall be by an independent route from the normal power source. System supervision with manual start and transfer features shall be provided at the fire command center.

Fuel-fired standby power generator sets and associated fuel storage, including optional landlord- or tenant-owned generator sets, located at a floor level more than 30 feet below the lowest level of exit discharge, require the approval of the Fire Code Official.

405.8.2 Standby power loads. Standby power loads shall be classified in accordance with Table 403(1).

405.9 Emergency power. An emergency power system complying with Table 403(1), and NFPA 70 (National Electrical Code) Article 700 Emergency Standby Power except as designated in Table 403(1), shall be provided. Fire pumps shall comply with NFPA 20 and NFPA 70 Article 695.

405.9.1 Special requirements for emergency power systems. If the emergency power system is a generator set inside a building, the system shall be located in a separate room enclosed with 2-hour fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 712, or both, and shall be in a separate room from the normal power source including transformers and distribution equipment. Power distribution from the emergency source to the emergency transfer switch shall be by an independent route from the normal power source. System supervision with manual start and transfer features shall be provided at the fire command center. Fuel-fired emergency generator sets and associated fuel storage, including optional landlord- or tenant-owned generator sets, located at a floor level more than 30 feet below the lowest level of exit discharge, require the approval of the fire code official.

405.9.2 Emergency power loads. Emergency power loads shall be classified in accordance with Table 403(1).

INTENTIONALLY LEFT BLANK

713.14.1 Elevator lobby. An enclosed elevator lobby shall be provided at each floor where an elevator shaft enclosure connects more than three stories. The lobby enclosure shall separate the elevator shaft enclosure doors from each floor by fire partitions. In addition to the requirements in Section 708 for fire partitions, doors protecting openings in the elevator lobby enclosure walls shall also comply with Section 716.5.3 as required for corridor walls, and penetrations of the elevator lobby enclosure by ducts and air transfer openings shall be protected as required for corridors in accordance with Section 717.5.4.1. Elevator lobbies shall have at least one means of egress complying with Chapter 10 and other provisions within this code.

Exceptions:

1. Enclosed elevator lobbies are not required at the level(s) of exit discharge, provided the level(s) of exit discharge is equipped with an automatic sprinkler system in accordance with Section 903.3.1.1.
2. Elevators not required to be located in a shaft in accordance with Section 712.1 are not required to have enclosed elevator lobbies.
3. Enclosed elevator lobbies are not required where additional doors are provided at the hoistway opening in accordance with Section 3002.6. Such doors shall comply with the smoke and draft control door assembly requirements in Section 716.5.3.1 when tested in accordance with UL 1784 without an artificial bottom seal.
4. Enclosed elevator lobbies are not required where the building is protected by an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2. This exception shall not apply to the following:
 - 4.1. Group I-2 occupancies;
 - 4.2. Group I-3 occupancies; and
 - 4.3. Elevators serving floor levels over 75 feet (22,860 mm) above the lowest level of fire department vehicle access in high-rise buildings.
5. Smoke partitions shall be permitted in lieu of fire partitions to separate the elevator lobby at each floor where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2. In addition to the

requirements in Section 710 for smoke partitions, doors protecting openings in the smoke partitions shall also comply with Sections 710.5.2.2, 710.5.2.3, and 716.5.9, and duct penetrations of the smoke partitions shall be protected as required for corridors in accordance with Section 717.5.4.1.

6. Enclosed elevator lobbies are not required where the elevator hoistway is pressurized in accordance with Section 909.21, and vertical exit enclosures are pressurized in accordance with Section 909.20.5, and the building is equipped throughout with an automatic sprinkler system in accordance with 903.3.1.1.
7. Enclosed elevator lobbies are not required where the elevator serves only open parking garages in accordance with Section 406.5.

WATER SUPPLY. The source and delivery system supplying the required flow (gpm) and pressure (psi) to a sprinkler system or other fire protection system/equipment.

903.2 Where required. Approved automatic sprinkler systems in new buildings and structures shall be provided in the locations described in this section.

HIGH-RISE BUILDING. Buildings having occupied floors or an occupied roof located more than 75 feet (22,860 mm) above the lowest level of fire department vehicle access.

INTENTIONALLY LEFT BLANK

(Insert Facing Page 205)

INTENTIONALLY LEFT BLANK

(Insert Facing Page 206)

903.2.11.1.3 Basements. Where any portion of a basement is located more than 75 feet (22,860 mm) from openings required by Section 903.2.11.1, or where new walls, partitions or other obstructions are installed that increase the exit access travel distance to more than 75 feet, the basement shall be equipped throughout with an approved automatic sprinkler system.

903.2.11 All occupancies. 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 Section 903.2.11.1 through 903.2.11.7.

903.2.11.3 Buildings 55 feet or more in height. An automatic sprinkler system shall be installed throughout buildings with a floor level having an occupant load of 30 or more that is located 55 feet (16 764 mm) or more above the lowest level of fire department vehicle access.

(Exceptions deleted)

903.2.11.7 Buildings exceeding 10,000 square feet. Notwithstanding any provision of the International Building Code or International Fire Code, as such codes are adopted by the City, throughout all buildings where the total floor area, including basements, exceeds 10,000 square feet. For purposes of this paragraph, portions of buildings separated by one or more fire walls will not be considered a separate building. Existing buildings shall comply with this section when an addition is made to the building and the total floor area, including the basements, or the existing building and the addition combined exceeds 10,000 square feet, or when the value of a structural alteration or repair of an existing building 10,000 square feet in area or greater exceeds 50 percent of the assessed valuation of such existing building, or exceeds 50 percent of the recognized replacement cost of the structure, without consideration of depreciation, as determined under the Marshall Valuation Service Cost Handbook, whichever is greater.

- 3. In rooms or areas that are of noncombustible construction with wholly noncombustible contents.
- 4. Fire service access elevator machine rooms and machinery spaces.
- 5. Machine rooms and machinery spaces associated with occupant evacuation elevators designed in accordance with Section 3008.

903.3.1.1.2 High rise building sprinkler system design. Combination standpipe /sprinkler risers using 6 in. pipe minimum, shall be used. Shut-off valves and water-flow devices shall be provided on each floor at the sprinkler system connection to each standpipe. Two four-way fire department connections serving the combination system shall be provided on separate streets well separated from each other. At least one of the fire department connections shall be connected to the riser above a riser isolation valve. Dry pipe sprinkler systems serving parking garages may use one separate two-way fire department connection. The dry pipe sprinkler system shall be supplied by the on-site water tank.

903.3.1.1.3 Seismic coefficient. The coefficient Cp for seismic bracing design calculations in accordance with NFPA 13 shall either use a value of 0.70, or shall use a value based on site specific USGS data.

903.3.1.1.1 Exempt locations. Automatic sprinklers shall not be required in the following rooms or areas where such rooms or areas are protected with an approved automatic fire detection system in accordance with Section 907.2 that will respond to visible or invisible particles of combustion. Sprinklers shall not be omitted from any room merely because it is damp, of fire-resistance rated construction or contains electrical equipment.

- 1. Any room where the application of water, or flame and water, constitutes a serious life or fire hazard, when approved by the fire code official.
- 2. Any room or space where sprinklers are considered undesirable because of the nature of the contents, when approved by the fire code official.

903.3.3 Obstructed locations. Automatic sprinklers shall be installed in accordance with NFPA 13 obstruction criteria and the listing requirements of the sprinkler head. Automatic sprinklers shall be installed in or under covered kiosks, displays, booths, concession stands, or equipment that exceeds 4 feet

(Insert Facing Page 208)



(1,219 mm) in width and depth, and for all multi-level exhibit booths. Not less than a 3-foot (914 mm) clearance shall be maintained between automatic sprinklers and the top of piles of combustible fibers.

Exception: Kitchen equipment under exhaust hoods protected with a fire-extinguishing system in accordance with Section 904.

secondary water source shall be provided with a net useable volume calculated by combining the highest demand of number 2 or 3 above with number 1 above. Only one parking/retail area and 2 high-rise buildings may share a common secondary water source.

An acceptable alternative to items 1 through 4 above is to provide a calculated net useable volume capable of meeting the hydraulically calculated sprinkler demand, including the total (combined inside and outside) hose stream requirement, as per NFPA 13. The duration of this calculated source shall have a duration of not less than 30 minutes for buildings with light hazard occupancies only and a 60 minute duration for buildings with ordinary hazard occupancies as defined by NFPA 13.

Exception: Existing buildings.

903.3.5.2 Secondary water supply. A secondary on-site water supply shall be provided for high-rise buildings as follows:

1. High-rise buildings containing R or B occupancy only shall be provided with a net useable volume of 15,000 gallons.
2. High-rise buildings containing an S-2 occupancy shall be provided with a net useable volume of 40,000 gallons.
3. High-rise buildings containing an M occupancy shall be provided with a net useable volume of 50,000 gallons.
4. Multi high-rise complexes sharing a common

(Insert Facing Page 209)

903.4.3 Floor control valves. *Approved* supervised indicating control valves shall be provided at the point of connection to the riser on each floor. The floor control valves shall be located within 6' of floors or landings unless chains or other approved devices are readily available.

905.3 Required installations. Standpipe systems shall be installed where required by Sections 905.3.1 through 905.3.9. Standpipe systems are allowed to be combined with automatic sprinkler systems. |

Exception: Standpipe systems are not required in Group R-3 occupancies.

905.3.4 Stages. Deleted.



905.3.4.1 Hose and cabinet. Deleted.



905.3.5 Underground buildings. Underground buildings shall be equipped throughout with a Class I automatic wet or manual wet standpipe system.



905.3.9 High Rise Building Standpipes. Standpipe risers shall be combination standpipe/sprinkler risers using a minimum pipe size of 6 inch. One 2-1/2 inch hose connection shall be provided on every intermediate floor level landing in every required stairway and elsewhere as required by NFPA 14. Where, and only where, static or residual water pressures at any hose outlet exceeds 175 psi (1207 kPa), approved pressure-regulating devices shall be installed to limit the pressure to 150 psi (1207 kPa). Such devices shall be adjusted to provide 150 psi (1207 kPa), or as close to that pressure as the adjustment will permit while flowing 300 gpm, without exceeding 175 psi (1207 kPa). The pressure on the inlet side of the pressure-regulating device shall not exceed the rated working pressure of the device. An additional non-regulated hose connection located directly below the PRV or an equally sized bypass around the pressure regulating device with a normally closed control valve shall be provided at each reduced pressure connection. Signage in accordance with NFPA 14 and Section 912.4 shall be provided.



905.4 Location of Class I standpipe hose connections. Class I standpipe hose connections shall be provided in all of the following locations:

1. In every required stairway, a hose connection shall be provided for each floor level above or below grade. Hose connections shall be located at an intermediate floor level landing between floors. Where stairs are required to provide roof access, the standpipe roof connections shall be located adjacent to the stair opening on the roof.
2. On each side of the wall adjacent to the exit opening of a horizontal exit.



Exceptions:

1. Where floor areas adjacent to a horizontal exit are reachable from exit stairway hose connections by a 30-foot (9,144 mm) hose stream from a nozzle attached to 100 feet (30,480 mm) of hose, a hose connection shall not be required at the horizontal exit.

(Insert Facing Page 212)

2. When the fire code official determines that standpipe connection is not needed.

3. In every exit passageway, at the entrance from the exit passageway to other areas of a building.

Exception: Where floor areas adjacent to an exit passageway are reachable from exit stairway hose connections by a 30-foot (9,144 mm) hose stream from a nozzle attached to 100 feet (30,480 mm) of hose, a hose connection shall not be required at the entrance from the exit passageway to other areas of the building.

4. In covered and open mall buildings, adjacent to each exterior public entrance to the mall, adjacent to each entrance from an exit passageway or exit corridor to the mall, at each intermediate landing within required enclosed stairways, and at other locations as necessary so that the distance to reach all portions of a tenant space does not exceed 200 feet (60,960 mm) from a hose connection.

5. Where the roof has a slope less than four units vertical in 12 units horizontal (33.3-percent slope), at least one standpipe shall be provided with a 2 ½ in. hose connection located on the roof. Additional hose connections shall be provided so that all portions of the roof are within 200 feet of hose travel distance from a standpipe hose connection. The hose connection(s) shall be at least 10 feet (3,048 mm) from the roof edge, skylight, light well or other similar openings, unless protected by a 42-inch-high (1,067 mm) guardrail or equivalent. All roof hose connections shall be arranged to be operable without entering the building. Roof connections in high-rise buildings are allowed to be located at the highest landing of a stairway with stair access to the roof. An additional hose connection shall be provided at the top of the most hydraulically remote standpipe for testing purposes.

6. Where the most remote portion of a nonsprinklered floor or story is more than 150 feet (45,720 mm) of hose travel distance from a hose connection or the most remote portion of a sprinklered floor or story is more than 200 feet (60,960 mm) of hose travel

distance from a hose connection, additional hose connections shall be provided in vertical exit enclosures or protected locations that are accessed through protected enclosures. The protected enclosure shall be a corridor constructed as a smoke barrier from the exit enclosure to the standpipe connection.

Exception: Hose connections in parking garages must be located in vertical exit enclosures, protected locations, immediately adjacent to exterior exit doors, loading docks or other areas as approved by the fire code official. Subject to the approval of the fire code official the travel distance may also be increased to a maximum distance of 240 feet.

Point of Information:

Chapter 10 of this code outlines the requirements for stairways to the roof and roof access. This section (905.4) identifies the locations of standpipes and hose connections, but does not dictate the need for additional stairways to the roof or roof access.

905.8 Dry standpipes. Dry standpipes, when approved by the fire code official, may be installed in other than high rise buildings.

INTENTIONALLY LEFT BLANK

(Insert Facing Page 214)

907.1 General. This section covers the application, installation, performance and maintenance of fire alarm systems and their components in new and existing buildings and structures. The requirements of Section 907.2 are applicable to new buildings and structures and new fire alarm systems including replacement of existing fire alarm control panels being installed in existing structures. The requirements of Section 907.3 are applicable to existing buildings and structures. Buildings required by this section to be provided with a fire alarm system shall be provided with a single fire alarm system unless otherwise approved by the fire code official. For the purposes of this section, fire barriers shall not be considered to create separate buildings. Building required by this section to be provided with a fire alarm system shall be provided with a single fire alarm system unless otherwise approved by the fire code official.

907.2.7.1 Occupant notification. Deleted.



INTENTIONALLY LEFT BLANK

INTENTIONALLY LEFT BLANK

(Insert Facing Page 220)

2. In each elevator machine room and in elevator lobbies.
3. Within 5 feet (1524 mm) of doors opening into stairways that are smoke proof enclosures, or are pressurized stairways.

907.2.13.2 Fire department communication system. An approved two-way, fire department communication system designed and installed in accordance with NFPA 72 shall be provided for fire department use. It shall operate between a fire command center complying with Section 911, elevators, elevator lobbies, emergency and standby power rooms, fire pump rooms, areas of refuge and inside enclosed exit stairways. The fire department communication device shall be provided at each floor level within the enclosed exit stairway.

907.2.13.1.1 Area smoke detection. Area smoke detectors shall be provided in accordance with this section. Smoke detectors shall be connected to an automatic fire alarm system. The activation of any detector required by this section, other than duct smoke detectors, shall activate the emergency voice/alarm communication system in accordance with Section 907.5.2.2. In addition to smoke detectors required by Sections 907.2.1 through 907.2.10, smoke detectors shall be located as follows, except that where such locations are within unconditioned spaces, other devices may be installed in accordance with 907.4.3.

1. In each mechanical equipment, electrical, transformer, telephone equipment or similar room which is not provided with sprinkler protection.

(Insert Facing Page 221)

907.2.18.1 Smoke detectors. A minimum of one smoke detector listed for the intended purpose shall be installed in the following areas:

1. Electrical, non-Utility owned transformer vault rooms, telephone equipment, elevator machine or similar rooms.
2. Elevator lobbies.
3. The main return and exhaust air plenum of each air-conditioning system serving more than one story and located in a serviceable area downstream of the last duct inlet.
4. Each connection to a vertical duct or riser serving two or more floors from return air ducts or plenums of heating, ventilating and air-conditioning systems, except that in Group R occupancies, a listed smoke detector is allowed to be used in each return-air riser carrying not more than 5,000 cfm (2.4 m³/s) and serving not more than 10 air inlet openings.
5. Within 5 ft. of doors opening into stairways that are smokeproof enclosures, or that are pressurized stairways.

Exception: Where any such locations in items 1 through 5 above are within unconditioned spaces, other devices may be installed in accordance with 907.4.3.

907.5 Occupant notification systems. A fire alarm system shall annunciate at the fire alarm control unit and shall initiate occupant notification upon activation, in accordance with Sections 907.5.1 through 907.5.2.3.4. Where a fire alarm system is required by another section of this code, it shall be activated by:

1. Automatic fire detectors.
2. *Automatic sprinkler system* waterflow devices.
3. Manual fire alarm boxes.
4. Automatic fire-extinguishing systems.

(Exception deleted)



907.5.2.1.1 Average sound pressure. The audible alarm notification appliances shall provide a sound pressure level of 15 decibels (dBA) above the average ambient sound level or 5 dBA above the maximum sound level having a duration of at least 60 seconds, whichever is greater, in every occupiable space within the building, or in the case of a partial alarm system, throughout the space that is being provided with the fire alarm system. The minimum sound pressure levels shall be: 75 dBA in occupancies in Groups R and I-1; 90 dBA in mechanical equipment rooms; and 60 dBA in other occupancies. In assembly occupancies with high sound levels such as nightclubs, bars, theaters, auditoriums, sanctuaries, etc. an interface shall be provided between the fire alarm system and the noise source to eliminate the noise source upon activation of the fire alarm system.

Exception:

Private mode signaling in accordance with NFPA 72 shall be allowed in areas of group I-2 and I -3 occupancies where occupants are not expected to self evacuate.

907.5.2.2.2 Live voice messages.

The emergency voice/alarm communication system shall also have the capability to broadcast live voice messages by paging zones on a selective and all-call basis.

Point of Information
See Fire Department Emergency Voice/Alarm Information Sheet F-43 for detailed messaging requirements.

Exceptions:

1. Visible alarm notification appliances are not required in alterations, except where an existing fire alarm system is replaced, or a new fire alarm system is installed.
2. Visible alarm notification appliances shall not be required in exits as defined in Section 1002.1.
3. Visible alarm notification appliances shall not be required in elevator cars.



907.5.2.2.4 Emergency voice/alarm communication captions.

Where stadiums, arenas and grandstands are required to caption audible public announcements in accordance with Section 1108.2.7.3, the emergency/voice alarm communication system shall also be captioned. Prerecorded or live emergency captions shall be from an approved location constantly attended by personnel trained to respond to an emergency.

907.5.2.2.6 Phased Evacuation

All buildings more than 10 stories above grade plane shall utilize an approved phased evacuation plan.

Exceptions:

1. When an additional exit stairway meeting the requirements of Sections IBC 1009 and 1022 are provided in addition to the minimum number of exits required by Section IBC 1021.1
2. Where the width of each required exit stairway is as specified in Section 1009.1 is increased by not less than 24" of additional width.
3. Where occupant self-evacuation elevators in accordance with IBC Section 3008 have been installed.
4. Where full tenant evacuation can be demonstrated to be accomplished in less than 7 minutes.

Point of Information
These provisions are intended to facilitate the simultaneous building evacuation and firefighter response into the building.

907.5.2.3 Visible alarms. Visible alarm notification appliances shall be provided in accordance with Sections 907.5.2.3.1 through 907.5.2.3.4.

907.6.3.1 Annunciator Panel. All fire alarm systems in buildings without a *fire command center* shall be provided with an annunciator panel (or the main fire alarm control panel) located inside the building at the main addressed building entrance.

Graphic annunciators, when provided, shall be mounted to maintain the viewer's directional orientation. The visual zone indication on the annunciator panel shall lock in until the system is reset and shall not be canceled by the operation of an audible-alarm silencing switch. Alarm panels and annunciators shall not be installed where they would obstruct exiting. The required exit width plus 12 inches shall be provided when the panel is located in a means of egress. Alarm panels shall not be installed in an exit enclosure providing the sole exit from any space.

909.1 Scope and purpose. This section applies to mechanical or passive smoke control systems when they are required by other provisions of this code and Sections 707.14.2.1 and 909.20. The purpose of this section is to establish minimum requirements for the design, installation and acceptance testing of smoke control systems that are intended to provide a tenable environment for the evacuation or relocation of occupants. These provisions are not intended for the preservation of contents or the timely restoration of operations. Smoke control systems regulated by this section serve a different purpose than the smoke- and heat-venting provisions found in Section 910. Mechanical smoke control systems shall not be considered exhaust systems under Chapter 5 of the International Mechanical Code.



909.4.6 Duration of operation. All portions of active or passive smoke control systems shall be capable of continued operation after detection of the fire event for a period of not less than either 20 minutes or 1.5 times the calculated egress time, whichever is less, except that the emergency generator shall have fuel capacity for no less than a 2-hour run time.

(Insert Facing Page 227)

INTENTIONALLY LEFT BLANK

(Insert Facing Page 228)

909.10.2 Ducts, including shafts acting as ducts.

Duct materials and joints shall be capable of withstanding the probable temperatures and pressures to which they are exposed as determined in accordance with Section 909.10.1. Ducts shall be constructed and supported in accordance with the International Mechanical Code. Ducts shall be leak tested to 1.5 times the maximum design pressure in accordance with nationally accepted practices. Measured leakage shall not exceed 5 percent of design flow. Results of such testing shall be a part of the documentation procedure. Ducts shall be supported directly from fire resistance-rated structural elements of the building by substantial, noncombustible supports.

Exception: Flexible connections (for the purpose of vibration isolation) complying with the International Mechanical Code and which are constructed of approved fire-resistance-rated materials.

909.10.3 Equipment, inlets and outlets. Equipment shall be located so as to not be exposed to uninvolved portions of the building to an additional fire hazard. Outdoor air inlets shall be located so as to minimize the potential for introducing smoke or flame into the building. Exhaust outlets shall be so located as to minimize reintroduction of smoke into the building and to limit exposure of the building or adjacent buildings to an additional fire hazard. In addition, supply air shall be taken directly from an outside, uncontaminated source located a minimum distance of 20 feet from any air exhaust system or outlet.

ventilated directly to and from the exterior. The room shall be completely enclosed in not less than 1-hour fire barriers constructed in accordance with Section 707, or 1-hour horizontal assemblies constructed in accordance with Section 711, or both, except 2-hour fire-resistance construction shall be required for high-rise and underground buildings per Sections 403 and 405 respectively. Power distribution from the two sources shall be by independent routes to the room containing the automatic transfer switch(s). Independent routes shall mean either a minimum 1-hour fire-resistance separation, or a physical distance of not less than 50 feet. Transfer to full standby power shall be automatic and shall take place within the maximum time to energize loads, as specified in Table 403(1). The systems shall comply with NFPA 70 (National Electrical Code).

909.11 Power systems. The smoke control system shall be supplied with two sources of power. Primary power shall be from the normal building power system. Secondary power shall be from an *approved* standby source complying with NFPA 70 (National Electrical Code). The standby power source and its transfer switches shall be in a separate room from the normal power transformers and switch gears, and

(Insert Facing Page 229)

INTENTIONALLY LEFT BLANK

(Insert Facing Page 230)

909.17 System response time. Smoke-control system activation shall be initiated immediately after receipt of an appropriate automatic or manual activation command. Smoke control systems shall activate individual components (such as dampers and fans) in the sequence necessary to prevent physical damage to the fans, dampers, ducts and other equipment. For purposes of smoke control, the fire-fighter's smoke control panel response time shall be the same for automatic or manual smoke control action initiated from any other building control point. The total response time, including that necessary for detection, shut-down of operating equipment and smoke control system startup, shall allow for full operational mode to be achieved before the conditions in the space exceed the design smoke condition. Upon receipt of an alarm condition at the fire alarm control panel, fans, dampers and automatic doors shall have achieved their expected operating state and confirmation of proper operation shall be indicated at the smoke control panel within 60 seconds. Documentation shall be provided in the required final report.

909.18.8.3.2 Certificate of compliance. A certificate of compliance shall be provided by the special inspector and responsible registered design professional certifying that the referenced property is in substantial compliance. The certificate shall identify the company, designer, special inspector that performed the testing, name, date and address of the property being tested. The following statement must also be included: "I have reviewed the report and by personal knowledge and on-site observation certify that the smoke control system is in substantial compliance with the approved design documents, and to the best of my understanding complies with requirements of the applicable codes as identified in the smoke control report."

909.20 Smokeproof enclosures. Where required by Section 1022.10, a smokeproof enclosure shall be constructed in accordance with this section. All portions of the smokeproof enclosure ventilation system and equipment must comply with the provisions of Section 909. A smokeproof enclosure shall consist of an enclosed interior exit stairway that conforms to Section 1022.2 and an open exterior balcony or ventilated vestibule meeting the requirements of this section. Where access to the roof is required by Section 1009.16, such access shall be from the smokeproof enclosure where a smokeproof enclosure is required.

909.20.5 Stair pressurization alternative. Where the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, the vestibule is not required, provided that interior exit stairways are pressurized to a minimum of 0.10 inches of water (25 Pa) and a maximum of 0.35 inches of water (87 Pa) in the shaft relative to the building measured with all stairway doors closed under maximum anticipated conditions of stack effect and wind effect. The pressure difference across doors shall not exceed 30 lbs. (133-N) maximum force to begin opening the door. For stair enclosure pressurization story increase as allowed by Washington State amendment to Section 504.3, the pressurization fan power may be supplied from either an emergency generator, or a connection ahead of the main building power disconnect.

909.20.6.3 Acceptance and testing. Special inspection for performance shall be required in accordance with Section 909.18.8.

909.21.1 Pressurization requirements. Elevator hoistways shall be pressurized to maintain a minimum positive pressure of 0.10 inches of water (25 Pa) and a maximum positive pressure of 0.25 inches of water (67 Pa) with respect to adjacent occupied space on all floors. This pressure shall be measured at the midpoint of each hoistway door, with all elevator cars at the floor of recall and all hoistway doors on the floor of recall open and all other hoistway doors closed. The opening and closing of hoistway doors at each level must be demonstrated during this test. The supply air intake shall be from an outside, uncontaminated source located a minimum distance of 20 feet (6096 mm) from any air exhaust system or outlet, and in accordance with IBC Section 909.10.3.

909.21.3 Ducts for system. Any duct system that is part of the pressurization system shall be protected with the same fire-resistance rating as required for the elevator shaft enclosure, and equipment, control wiring, power wiring, and ductwork shall comply with one of the methods specified in Sections 909.20.6.1.1, 909.20.6.1.2, or 909.20.6.1.3. Ducts shall be in accordance with Section 909.10.2.

909.21.4.4 Fan capacity. The supply fan shall either be adjustable with a capacity of at least 1,000 cfm (.4719 m³/s) per door, or that specified by a registered design professional to meet the requirements of a designed pressurization system. Fans shall be in accordance with Section 909.10.5.

909.21.5 Standby power. The elevator hoistway pressurization system shall be provided with standby power and the transfer to full standby power shall be automatic. For high-rise buildings, the transfer to standby power shall be in accordance with Table 403(1). For non-high-rise buildings, the transfer to standby power shall take place within 60 seconds per NFPA 70 (National Electrical Code Article 701 Legally Required Standby Power) with a run duration of not less than 2 hours.

INTENTIONALLY LEFT BLANK

(Insert Facing Page 234)

911.1.2 Separation & penetrations. Fire command center shall be separated from the remainder of the building by not less than a 2 hr fire barrier constructed in accordance with section 707 of the International Building Code or horizontal assembly constructed in accordance with section 712 of the International Building Code, or both. Penetrations into and openings through a fire command center are prohibited except for required exit doors, equipment and ductwork necessary for heating, cooling or ventilation, sprinkler branch line piping, electrical raceway for fire department communication and control and electrical raceway serving the fire command center or being controlled from the fire command center. Such penetrations shall be protected in accordance with Section 714.
Exception: Metallic piping with no joints or openings.

INTENTIONALLY LEFT BLANK

(Insert Facing Page 236)

913.2 Protection against interruption of service.

The fire pump, driver, and controller shall be protected in accordance with NFPA 20 against possible interruption of service through damage caused by explosion, fire, flood, earthquake, rodents, insects, windstorm, freezing, vandalism and other adverse conditions.

913.2.1 Protection of fire pump rooms and access.

Fire pumps shall be located in rooms that are separated from all other areas of the building by 2-hour fire barriers constructed in accordance with Section 707 or 2-hour horizontal assemblies constructed in accordance with Section 711, or both. Fire pump rooms not directly accessible from the outside shall be accessible through an enclosed passageway from an enclosed stairway or exterior exit. The enclosed passageway shall have a fire-resistance rating not less than the fire-resistance rating of the fire pump room (See NFPA 20 Section 4.12.2.1.2).

912.4 Signs. A metal sign with raised letters at least 1 inch (25 mm) in size shall be mounted on all fire department connections serving automatic sprinklers, standpipes or fire pump connections. Such signs shall read: SPRINKLERS, STANDPIPES, COMBINED, DRY S/PIPES, DRY S/P & SPKRS, BOOST TO _____ (as specified by the fire code official) PSI, or TEST CONNECTION or a combination thereof as applicable. Systems utilizing Pressure Reducing Valves (PRV's) must note the required boosted pressure at the Fire Department Connection, in order to overcome the PRV setting.

INTENTIONALLY LEFT BLANK

(Insert Facing Page 242)

1006.3 Illumination emergency power. The power supply for means of egress illumination shall normally be provided by the premises' electrical supply.

In the event of power supply failure, an emergency electrical system shall automatically illuminate all of the following areas:

1. Aisles and unenclosed egress stairways in rooms and spaces that require two or more means of egress.
2. Corridors, exit enclosures and exit passageways in buildings required to have two or more exits.
3. Exterior egress components at other than their levels of exit discharge until exit discharge is accomplished for buildings required to have two or more exits.
4. Interior exit discharge elements, as permitted in Section 1027.1, in buildings required to have two or more exits.
5. Exterior landings as required by Section 1008.1.6, for exit discharge doorways in buildings required to have two or more exits.

The emergency power system shall provide power for a duration of not less than 90 minutes, or such time as stipulated by Table 403(1) when applicable for high-rise or underground buildings, and shall consist of storage batteries, unit equipment or an on-site generator. The installation of the emergency power system shall be in accordance with NFPA 70 (National Electrical Code).

(Insert Facing Page 243)

power transfer within 60 seconds and fuel supply duration of 2 hours. The elevator shall be accessed from either an area of refuge complying with Section 1007.6 or a horizontal exit.

Exceptions:

1. Elevators are not required to be accessed from an area of refuge or horizontal exit in open parking garages .
2. Elevators are not required to be accessed from an area of refuge or horizontal exit in buildings and facilities equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
3. Elevators not required to be located in a shaft in accordance with Section 712 are not required to be accessed from an area of refuge or horizontal exit .
4. Elevators are not required to be accessed from an area of refuge or horizontal exit for smoke protected seating areas complying with Section 1028.6.2.

1007.4 Elevators. In order to be considered part of an accessible means of egress , an elevator shall comply with the emergency operation and signaling device requirements of Section 2.27 of ASME A17.1. Standby power shall be provided in accordance with Section 3003 and NFPA 70 (National Electrical Code Article 701 Legally Required Standby Power) for

(Insert Facing Page 244)

INTENTIONALLY LEFT BLANK

(Insert Facing Page 245)

1009.16.1 Roof access. Where a stairway is provided to a roof, access to the roof shall be provided through a penthouse complying with Section 1509.2.

Exception: In buildings without an occupied roof, access to the roof shall be permitted to be a roof hatch or trap door not less than 16 square feet in area and having a minimum dimension of 3 feet.

INTENTIONALLY LEFT BLANK

(Insert Facing Page 257)

1011.6.3 Power source. Exit signs shall be illuminated at all times. To ensure continued illumination for a duration of not less than 90 minutes, or such time as stipulated by Table 403(1) when applicable for high-rise or underground buildings, in case of primary power loss, the sign illumination means shall be connected to an emergency power system provided from storage batteries, unit equipment or an on-site generator. The installation of the emergency power system shall be in accordance with NFPA 70 (National Electrical Code).

Exception:

Approved exit sign illumination means that provide continuous illumination independent of external power sources for a duration of not less than 90 minutes, in case of primary power loss, are not required to be connected to an emergency power system.

INTENTIONALLY LEFT BLANK

(Insert Facing Page 259)

INTENTIONALLY LEFT BLANK

(Insert Facing Page 364)

xxxxx

2. Determine the design flood elevation and/or floodway in accordance with the City of Bellevue LUC 20.25H.175A and Engineering Standards, Section D4-04.5, "Floodplain/Floodway Analysis" to define special flood hazard areas. Determinations shall be undertaken by a registered design professional who shall document that the technical methods used reflect currently accepted engineering practice.

1612.3.2 Determination of impacts.

In riverine flood hazard areas where design flood elevations are specified but floodways have not been designated, the applicant shall provide a floodway analysis that demonstrates that the proposed work will meet the City of Bellevue Engineering Standards, Section D4-04.5, "Floodplain/Floodway Analysis."

1612.4 Design and construction. The design and construction of buildings and structures located in flood hazard areas, including flood hazard areas subject to high-velocity wave action, shall be in accordance with Chapter 5 of ASCE 7, ASCE 24 and with BCC Section 20.25H.175.

1612.3 Establishment of flood hazard areas.

To establish flood hazard areas, the applicable governing authority shall adopt a flood hazard map and supporting data. The flood hazard map shall include, at a minimum, areas of special flood hazard as identified by the Federal Emergency Management Agency in an engineering report entitled "The Flood Insurance Study for King County," dated May 16, 1995, as amended or revised with the accompanying Flood Insurance Rate Map (FIRM) and Flood Boundary and Floodway Map (FBFM) and related supporting data along with any revisions thereto. The adopted flood hazard map and supporting data are hereby adopted by reference and declared to be part of this section.

1612.3.1 Design flood elevations.

Where design flood elevations are not included in the flood hazard areas established in Section 1612.3, or where floodways are not designated, the building official is authorized to require the applicant to:

1. Obtain and reasonably utilize any design flood elevation and floodway data available from a federal, state or other source; or

(Insert Facing Page 365)

1613.1 Scope. Every structure, and portion thereof, including nonstructural components that are permanently attached to structures and their supports and attachments, shall be designed and constructed to resist the effects of earthquake motions in accordance with ASCE 7, excluding Chapter 14 and Appendix 11A. The seismic design category for a structure is permitted to be determined in accordance with Section 1613 or ASCE 7.

Exceptions:

1. Detached one- and two-family dwellings, assigned to Seismic Design Category A, B, or C, or located where the mapped short-period spectral response acceleration, S_s , is less than 0.4 g.
2. The seismic-force-resisting system of wood-frame buildings that conform to the provisions of Section 2308 are not required to be analyzed as specified in this section.
3. Agricultural storage structures intended only for incidental human occupancy.
4. Structures that require special consideration of their response characteristics and environment that are not addressed by this code or ASCE 7 and for which other regulations provide seismic criteria, such as vehicular bridges, electrical transmission towers, hydraulic structures, buried utility lines and their appurtenances and nuclear reactors.
5. Seismic design of automatic sprinkler systems when hanging, bracing, and restraint is designed and installed in accordance with the 2010 edition of NFPA 13 and the coefficient C_p for seismic bracing design calculations in accordance with NFPA 13 is either a value of 0.70, or a value based on site specific USGS data.

INTENTIONALLY LEFT BLANK

(Insert Facing Page 367)

1705.16 Fire-resistant penetrations and joints. ←
Section is deleted.

INTENTIONALLY LEFT BLANK

(Insert Facing Page 550)

3002.4 Elevator car to accommodate ambulance stretcher. Where elevators are provided in buildings four or more stories, or four or more stories below, grade plane, or in any R-1, R-2, or I occupancy building provided with an elevator regardless of the number of stories, at least one elevator shall be provided for fire department emergency access to all floors. The elevator car shall be of such a size and arrangement to accommodate an ambulance stretcher 24 inches by 84 inches (610 mm by 2134 mm) with not less than 5-inch radius corners, in the horizontal, open position and shall be identified by the international symbol for emergency medical services (star of life). The symbol shall not be less than 3 inches (76 mm) high and shall be placed inside on both sides of the hoistway door frame.

INTENTIONALLY LEFT BLANK

(Insert Facing Page 552)

3007.1 General. Where required by Section 403.6.1, every floor of the building shall be served by fire service access elevators complying with Sections 3007.1 through 3007.10. Except as modified in this section, fire service access elevators shall be installed in accordance with this chapter and ASME A17.1/CSA B44.

Exceptions:

1. When below grade portions of high rise buildings are served by elevators not serving above grade portions extending more than 75 feet above the lowest Fire department access and such elevators do not serve levels more than 80 feet below grade plane.
2. Elevators serving mezzanines located below the 7th Story

3007.2 Phase I Emergency recall operation. Actuation of any building fire alarm-initiating device shall initiate Phase I emergency recall operation on all fire service access elevators in accordance with the requirements in ASME A17.1/CSA B44 with a 5 minute delay except for smoke detectors located in associated elevator lobbies, hoistways or elevator machine rooms. All other elevators shall remain in normal service unless Phase I emergency recall operation is manually initiated by a separate, required three-position, key-operated "Fire Recall" switch or automatically initiated by the associated elevator lobby, hoistway or elevator machine room smoke detectors. In addition, if the building also contains occupant evacuation elevators in accordance with Section 3008, an independent, three-position, key-operated "Fire Recall" switch conforming to the applicable requirements in ASME A17.1/CSA B44 shall be provided at the designated level for each fire service access elevator.

3008.7.6.1 Location of lobby status indicator.

Visual signals for each elevator group shall be installed on each floor served. They shall be located 84 in. (2,130 mm) to 120 in. (3,000 mm) above the floor and centered above a hall call button. Lettering shall be a minimum of 2 in. (50 mm) high and conform to A117.1 requirement 703.2.

INTENTIONALLY LEFT BLANK

(Insert Facing Page 557)

INTENTIONALLY LEFT BLANK

(Insert Facing Page 564)

3304.1.5. Excavation and Shoring Near Improved Public Places. No person, firm or corporation shall excavate and/or install shoring in excess of four feet, measured vertically, on private property within any area between the vertical prolongation of the margin of an improved public place and a 100 percent slope plane (45 degrees from a horizontal plane) from the existing elevation of the margin of the traveled surface of an improved public place to the proposed elevation of the private property without first obtaining a permit from the building official to do so, and no work shall commence toward such excavation and shoring until a permit therefore has been issued by the building official. Improved public place means any street, alley, easement for water, sewer or storm drainage, or similar parcel of land which is deeded, dedicated or otherwise permanently made available to the City or public for city or public use.

(Insert Facing Page 565)

3306.2 Walkways. A walkway shall be provided for pedestrian travel in front of every construction and demolition site unless the applicable governing authority authorizes the sidewalk to be fenced or closed. Walkways shall be of sufficient width to accommodate the pedestrian traffic, but in no case shall they be less than 4 feet (1219 mm) in width. Walkways shall be provided with a durable walking surface. Walkways shall be *accessible* in accordance with Chapter 11 and shall be designed to support all imposed loads and in no case shall the design live load be less than 150 pounds per square foot (psf) (7.2 kN/m²). Where a pedestrian walkway passes into or through, or adjacent to, an area under construction or demolition, protection shall be provided as required by this chapter and Table 3306.1.

**TABLE 3306.1
PROTECTION OF PEDESTRIANS**

HEIGHT OF CONSTRUCTION	DISTANCE FROM CONSTRUCTION TO LOT LINE OR PEDESTRIAN WALKWAY	TYPE OF PROTECTION
8 feet or less	Less than 5 feet	Construction railings
	5 feet or more	None
More than 8 feet	Less than 5 feet	Barrier and covered walkway
	5 feet or more, but not more than one-fourth the height of construction	Barrier and covered walkway
	5 feet or more, but between one-fourth and one-half the height of construction	Barrier
	5 feet or more, but exceeding one-half the height of construction	None

INTENTIONALLY LEFT BLANK

(Insert Facing Page 567)