ORDINANCE O-4752

AN ORDINANCE OF THE CITY OF KIRKLAND REPEALING AND REENACTING CHAPTER 21.20 OF THE KIRKLAND MUNICIPAL CODE ENTITLED "INTERNATIONAL FIRE CODE"; DECLARING AN EMERGENCY AND ESTABLISHING AN IMMEDIATE EFFECTIVE DATE.

WHEREAS, the City Council of the City of Kirkland has adopted by reference the prior International Fire Codes, with amendments, for the health, safety and welfare of the community as set forth in the Kirkland Municipal Code Chapter 21.20; and

WHEREAS, a new version of the International Fire Code will go into effect on February 1, 2021; and

WHEREAS, Fire Prevention staff have collaborated extensively with neighboring jurisdictions in northeast King County to create local amendments that promote a safe community, a safe environment for emergency responders, and a predictable and consistent experience for developers, designers and builders; and

WHEREAS, the City Council wishes to provide standards for the maintenance of buildings and property within the City to protect the public health, safety and welfare.

NOW, THEREFORE, the City Council of the City of Kirkland do ordain as follows:

Section 1. Kirkland Municipal Code Chapter 21.20 entitled "International Fire Code" is hereby repealed and replaced with the following new Chapter 21.20 entitled "International Fire Code" to read as follows:

21.20.010 International Fire Code adopted.

In accordance with Chapter 19.27 RCW, the 2018 Edition of the International Fire Code, as published by the International Code Council, Inc., together with any additions, deletions, and exceptions currently enacted or as may be amended from time to time by the state of Washington through its Building Code Council pursuant to Chapter 51-54A WAC, and as further amended by this chapter, is adopted and incorporated by this reference. Further, the following Appendix chapters are specifically adopted as part of the Kirkland Fire Code: Appendix B (Fire Flow Requirements for Buildings) and Appendix C (Fire Hydrant Locations and Distribution).

One copy of the International Fire Code and the appendices adopted above are on file with the city's fire code official.

21.20.020 Code Conflicts.

To the extent allowed by RCW 19.27.040, if a conflict exists between the provisions of the International Fire Code adopted and amended by the Washington State Building Code Council and the provisions of this chapter, the Kirkland Fire Code provisions shall govern.

21.20.030 Amendments to the International Fire Code – Chapter 1, Scope and Administration.

The following local amendments to Chapter 1 of the International Fire Code, entitled "Scope and Administration," including all amendments enacted by the state of Washington, are hereby adopted and incorporated into the International Fire Code as follows:

A. ***Scope and General Requirements -- Title.*** *Section 101 of the International Fire Code entitled "Scope and General Requirements," is amended to reads by substituting subsection 101.1 with the following:*

> 101.1 Title. These regulations shall be known as the Fire Code of the ~~[NAME OF JURISDICTION]~~ City of Kirkland, hereinafter referred to as "this code."

B. ***Applicability – Referenced codes and standards.*** *Section 102 of the International Fire Code entitled "Applicability," is amended by substituting subsection 102.7 with the following:*

> 102.7 Referenced codes and standards. The codes and standards referenced in this code shall be those that are listed in Chapter 80. Such codes and standards shall be considered part of the requirements of this code to the prescribed extent of each such reference as determined or modified by the fire code official. Where differences occur between the provisions of this code and the referenced standards, the provisions of this code shall apply. When allowed by the Fire Code Official, editions of standards not herein referenced may be used provided the entire standard is utilized.

C. ***General authority and responsibilities – Indigent housing guidelines.*** *Section 104 of the International Fire Code entitled "General Authority and Responsibilities," is amended by adding the following new Subsection 104.1.1:*

> 104.1.1 Indigent housing guidelines. The *fire code official* is hereby authorized to develop a policy regarding application and exemption of construction codes for temporary homeless shelters in accordance with WAC 51-16-030 Exemptions for indigent housing guidelines, now or as hereafter amended.

D. ***General authority and responsibilities – Assistance from other agencies.*** *Section 104 of the International Fire Code entitled "General Authority and Responsibilities," is amended by substituting subsection 104.10.1 with the following:*

> 104.10.1 Assistance from other agencies. Police and other enforcement agencies shall have authority to render necessary assistance in the investigation of fires or the enforcement of this code as requested by the fire code official.

E. ***General authority and responsibilities – Obstructing operations.*** *Section 104 of the International Fire Code entitled "General authority and responsibilities," is amended by substituting subsection 104.11.2 with the following:*

> 104.11.2 Obstructing operations. No person shall obstruct the operations of the fire department in connection with extinguishment, control, or investigation of any fire, or actions relative to other emergencies, or disobey any lawful command of the fire department or officer of the fire department in charge of the emergency, or any part thereof, or any lawful order of a police officer assisting the fire department.

F. ***Permits – Compressed gases.*** *Section 105 of the International Fire Code entitled "Permits," is amended by substituting subsection 105.6.8 with the following:*

> 105.6.8 Compressed gases. An operational permit is required for the storage, use or handling at *normal temperature and*

pressure (NTP) of *compressed gases* in excess of the amounts listed in Table 105.6.8.

Exception: Vehicles equipped for and using *compressed gas* as a fuel for propelling the vehicle.

TABLE 105.6.8
PERMIT AMOUNTS FOR COMPRESSED GASES

TYPE OF GAS	AMOUNT (cubic feet at NTP)
Carbon dioxide used in carbon dioxide enrichment systems	875 (100 lbs.)
Carbon dioxide or nitrogen used in insulated liquid carbon dioxide beverage dispensing, food or beverage applications	875 (100 lbs.)
Corrosive	200
Flammable (except cryogenic fluids and liquefied petroleum gases)	200
Highly toxic	Any Amount
Inert and simple asphyxiant	6,000
Oxidizing (including oxygen)	504
Pyrophoric	Any Amount
Toxic	Any Amount

For SI: 1 cubic foot – 0.02832 m^3.

G. ***Permits – Mobile food preparation vehicles.*** *Section 105 of the International Fire Code entitled "Permits," is amended by substituting subsection 105.6.30 with the following:*

105.6.30 Mobile food preparation vehicles. A permit is required for mobile food preparation vehicles equipped

with appliances that produce smoke or grease-laden vapors or utilize LP-gas systems or CNG systems.

Valid operational permits issued by any King County Fire Agency are recognized provided that the vehicle and appliances are maintained in accordance with conditions of the permit.

H. ***Permits – Positive alarm sequence. Section*** *105 of the International Fire Code entitled "Permits," is amended by adding the following new subsection 105.6.51:*

105.6.51 Positive alarm sequence. An operational permit is required to operate a PAS (Positive Alarm Sequence) Account as prescribed in NFPA (National Fire Protection Association) 72.

I. ***Permits – Flammable and combustible liquids.*** *Section 105 of the International Fire Code entitled "Permits," is amended by substituting subsection 105.7.8 with the following:*

105.7.8 Flammable and combustible liquids. A construction permit is required:

1. To repair or modify a pipeline for the transportation of flammable or combustible liquids.
2. To install, construct or alter tank vehicles, equipment, tanks, plants, terminals, wells, fuel-dispensing stations, refineries, distilleries and similar facilities where flammable and combustible liquids are produced, processed, transported, stored, dispensed or used.
3. To install, alter, remove, abandon or otherwise dispose of a flammable or combustible liquid tank.

Exception: A permit is not required for the abandonment or removal of underground storage tanks previously used to store fuel oil for residential heating. It is the property owner's responsibility to make the decision on how to proceed with abatement.

J. ***Permits – Refrigeration Equipment.*** *Section 105 of the International Fire Code entitled "Permits," is amended by adding the following new subsection 105.7.27:*

105.7.27 Refrigeration Equipment. A construction permit is required to install a mechanical refrigeration unit or system regulated by Chapter 6 of the International Fire Code.

K. ***Fees – Schedule of permit fees.*** *Section 106 of the International Fire Code entitled "Fees," is amended by substituting subsection 106.2 with the following:*

106.2 Schedule of permit fees. ~~A fee for each permit shall be paid as required, in accordance with the schedule as established by the applicable governing authority.~~ The fee for each permit shall be as set forth in Chapter 21.74, as now or hereafter amended. A permit shall not be valid until the fees have been paid, nor shall an amendment to a permit be released until the additional fee, if any, has been paid.

L. ***Fees – Work commencing before permit issuance.*** *Section 106 of the International Fire Code entitled "Fees," is amended by substituting subsection 106.3 with the following:*

106.3 Work commencing before permit issuance. A person who commences any work, activity or operation regulated by this code before obtaining the necessary permits shall be subject to an additional fee established ~~by the applicable governing authority~~ in Chapter 21.74 KMC, which shall be in addition to the required permit fees.

M. ***Fees - Refunds.*** *Section 106 of the International Fire Code entitled "Fees," is amended by substituting subsection 106.5 with the following:*

106.5 Refunds. ~~The applicable governing authority is authorized to establish a refund policy.~~ Refunds shall be according to policies and procedures established in Chapter 21.74 KMC.

N. ***Fees – Re-inspection fee.*** *Section 106 of the International Fire Code entitled "Fees," is amended by adding the following new subsection 106.6:*

106.6 Re-inspection fee. A re-inspection fee may be assessed when all of the following criteria have been met:

a. Code violations have been identified by the *fire code official*;

b. A written notice has been issued to the responsible party, identifying the code violations and a time period to make corrections; and

c. The code violations have not been corrected within the specified period.

O. ***Fees – Event fee.*** *Section 106 of the International Fire Code entitled "Fees," is amended by adding the following new subsection 106.7:*

106.7 Event Fee. When the fire chief determines it is necessary to preserve the public health, safety and welfare, event sponsors may be required to compensate the department for staffing and equipment in an amount calculated according to the Washington State Fire Chiefs Association's fee schedule together with Fire Prevention hourly staffing rate as set forth in Chapter 21.74 KMC or as now or hereafter amended.

P. ***Maintenance – Recordkeeping.*** *Section 108 of the International Fire Code entitled "Maintenance," is amended by substituting subsection 108.3 with the following:*

108.3 Recordkeeping. A record of periodic inspections, test, servicing and other operations and maintenance shall be maintained on the premises or other *approved* location for not less than 3 years, or a different period of time where specified in this code or referenced standards. Records shall be made available for inspection by the *fire code official*, and a copy of the records shall be provided to the *fire code official* upon request.

The *fire code official* is authorized to prescribe the form and format of such recordkeeping. The *fire code official* is authorized to require that certain required records be filed with the *fire code official*.

Effective February 1, 2020 all confidence test reports must be filed with the Compliance Engine at www.thecomplianceengine.com

Q. ***Maintenance – Timeliness of report filing.*** *Section 108 of the International Fire Code entitled "Maintenance," is amended by adding the following new subsection 108.3.1:*

> 108.3.1 Timeliness of report filing. Fire/life safety system confidence test reports must be submitted within five business days of the inspection or maintenance completion. Systems with impairments or red-tagged systems must also be reported immediately using the current mandatory impaired systems reporting process.
>
> Reports that are not submitted in a timely manner are subject to an additional $10 fee for each late report.

R. ***Maintenance – Overcrowding.*** *Section 108 of the International Fire Code entitled "Maintenance," is amended by substituting subsection 108.6 with the following:*

> 108.6 Overcrowding. Overcrowding or admittance of any person beyond the *approved* capacity of a building or a portion thereof shall not be allowed. The *fire code official*, upon finding any overcrowding conditions or obstructions in aisles, passageways or other means of egress, or upon finding any condition which constitutes a life safety hazard, shall be authorized to direct actions be taken to reduce the overcrowding or to cause the event to be stopped until such condition or obstruction is corrected.

S. ***Appeals.*** *Section 109 of the International Fire Code entitled "Appeals," is amended by substituting Section 109 with the following:*

> 109.1 ~~Board of appeals established. In order to hear and decide appeals of orders, decisions or determinations made by the fire code official relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The board of appeals shall be appointed by the governing body and shall hold office at its pleasure. The fire code official shall be an ex officio member of said board but shall not have a vote on any matter before the board. The board shall adopt rules of procedure for conducting its business and shall render all decisions and findings in writing to the appellant with a duplicate copy to the fire code~~

~~official.~~ Appeals to hearing examiner. Appeals of orders, decisions and determinations of *the fire code official* that do not constitute enforcement actions shall be heard and decided by the city of Kirkland hearing examiner. Enforcement actions shall be brought pursuant to the provisions of Chapter 1.12. To the extent the codes adopted by reference in this title refer to a "board of appeals" those references shall be deemed to refer to the city of Kirkland hearing examiner.

109.2 Limitations on authority. An application for appeal shall be based on a claim that the intent of this ~~code~~ chapter, chapter 21.33 KMC, or the rules legally adopted hereunder have been incorrectly interpreted, the provisions of this code do not fully apply, or an equivalent method of protection or safety is proposed. The ~~Board~~ hearing examiner shall not have authority to waive requirements of this code.

109.3 ~~Qualifications. The board of appeals shall consist of members who are qualified by experience and training to pass on matters pertaining to hazards of fire, explosions, hazardous conditions or fire protection systems, and are not employees of the jurisdiction.~~ When to appeal and appeal fee. An appellant shall file a written appeal of the order, decision or determination of the *fire code official* with the Fire Marshal of the Kirkland fire department within thirty days of the date of the decision of the *fire code official*. There shall not be an appeal fee for appeals of stop work orders or code enforcement orders. For all other matters, the appeal fee shall be one hundred twenty-five dollars and shall accompany the written appeal. Failure to timely file the appeal or pay the appeal fee shall result in dismissal of the appeal.

109.4 Contents of notice of appeal. The appeal shall contain a clear reference to the matter being appealed and a statement of the specific elements of the *fire code official's* order, decision or determination disputed by the appellant.

109.5 Notice of the appeal hearing.

(a) The fire code official shall prepare a notice of the appeal hearing containing the following:

(1) The file number and a brief description of the matter being appealed;

(2) A statement of the scope of the appeal including a summary of the elements of the fire code official's order, decision or determination that are contested in the appeal;

(3) The time and place of the hearing on appeal before the hearing examiner; and

(4) A statement of who may participate in the appeal.

(b) At least fourteen days before the hearing on the appeal, the fire code official shall send a copy of the notice of appeal hearing to each person who has appealed the fire code official's order, decision or determination.

109.6 Participation in the appeal. Only those parties who have appealed the fire code official's order, decision or determination may participate in the appeal. Appellants may participate in either or both of the following ways:

(1) By submitting written comments or testimony to the hearing examiner prior to the commencement of the hearing; or

(2) By appearing in person, or through a representative, at the hearing. The hearing examiner may reasonably limit the extent of oral testimony or oral argument to facilitate the orderly and timely conduct of the hearing.

109.7 Scope of appeal. The appeal will be an open record appeal hearing. The scope of the appeal is limited to the specific elements of the fire code official's order, decision or determination disputed by the appellant and the hearing examiner shall only consider comments, testimony and arguments on these specific elements.

109.8 Record of appeal hearing. The city shall make an electronic sound recording of the hearing.

109.10 Decision on the appeal. The hearing examiner shall consider all information and material within the scope of the appeal submitted by persons entitled to participate in the appeal. Based on the hearing examiner's findings and conclusions, the hearing examiner may affirm, reverse or modify the order, decision or determination being appealed. The hearing examiner shall issue his or her decision within fifteen days of the appeal hearing by emailing it to the city. Within four business days after it is issued, the hearing examiner's decision shall be mailed or emailed by the City to the applicant and to each person who has requested notice of the decision. The decision by the hearing examiner is the final decision of the city.

109.11 Judicial review. Any judicial appeal of the hearing examiner's decision shall be reviewed in King County superior court pursuant to Chapter 36.70C RCW, the Land Use Petition Act ("LUPA"). The land use petition must be filed within twenty-one calendar days of the issuance of the hearing examiner's decision.

*T. **Violations – Violation penalties.** Section 110 of the International Fire Code entitled "Violation," is amended by substituting subsection 110.4 with the following:*

Section 110.4. Violation penalties. Persons who shall violate a provision of this code or shall fail to comply with any of the requirements thereof or who shall erect, install, alter, repair or do work in violation of the approved construction documents or directive of the fire code official, or of a permit or certificate used under provisions of this code, shall be guilty of a ~~[SPECIFY OFFENSE]~~ misdemeanor, punishable by a fine of not more than ~~[AMOUNT]~~ $1,000 dollars or by imprisonment not exceeding ~~[NUMBER OF DAYS]~~ 90 days, or both such fine and imprisonment. Each day that a violation continues after due notice has been served shall be deemed a separate offense.

Section 110.4.1 Violations and enforcement. In addition to the remedies provided for in this Title and remedies that may otherwise be available at law, any violation of this Title, including codes adopted by reference, may be enforced pursuant to the provisions of Chapter 1.12 KMC.

Section ~~110.4.1~~ 110.4.2 Abatement of violation. In addition to the imposition of the penalties herein described, the fire code official is authorized to institute appropriate action to pre-vent unlawful construction or to restrain, correct or abate a violation; or to prevent illegal occupancy of a structure or premises; or to stop an illegal act, conduct of business or occupancy of a structure on or about any premises.

21.20.040 Amendments to the International Fire Code – Chapter 2, Definitions.

The following local amendments to Chapter 2 of the International Fire Code, entitled "General Definitions," including all amendments enacted by the state of Washington, are hereby adopted and incorporated into the International Fire Code as follows:

A. ***Definitions – General.*** Section 202 of the International Fire Code is amended by the substitution and addition of the following definitions to section 202:

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

Power Tap. A listed device for indoor use consisting of an attachment plug on one end of a flexible cord and two or more receptacles on the opposite end equipped with overcurrent protections

Public Safety Radio System Operator. Eastside Public Safety Communications Agency (EPSCA), its successor agency – Puget Sound Emergency Radio Network (PSERN) and any future successor agency.

Standby Power System. All references to Standby Power System shall be considered to indicate Legally Required Power in accordance with the Kirkland

Electrical Code, and NFPA 70 (National Electrical Code), and shall be in accordance with Chapter 27 KMC, Legally Required Standby Power, as a source of automatic electric power of a required capacity and duration to operate required buildings, hazardous materials or ventilation systems in the event of a failure of the primary power. Standby power systems are required for electrical loads where interruption of the primary power could create hazards or hamper rescue or fire-fighting operations.

21.20.050 Amendments to the International Fire Code – Chapter 3, General Requirements.

The following local amendments to Chapter 3 of the International Fire Code, entitled "General Requirements," including all amendments enacted by the state of Washington, are hereby adopted and incorporated into the International Fire Code as follows:

*A. **General Requirements — Open Burning, Recreational Fires and Portable Outdoor Fireplaces.** Section 307 of the International Fire Code is amended by substituting section 307 with the following:*

307.1 General. A person shall not kindle or maintain or authorize to be kindled or maintained any open burning unless conducted and approved in accordance with Sections 307.1.1 through 307.5.

307.1.1 Prohibited open burning. Open burning shall be prohibited except in accordance with subsections 307.2 – 307.5. ~~when atmospheric conditions or local circum-stances make such fires hazardous.~~

~~Exceptions:~~
~~1. Bonfires~~
~~2. Recreational Fires~~
~~3. Portable outdoor fireplaces~~

307.2 Permit required - Bonfire. A permit shall be obtained from the fire code official in accordance with Section 105.6 prior to kindling a ~~fire for recognized silvicultural or range or wildlife management practices, prevention or control of disease or pests, or~~ a bonfire. Application for such approval shall only be

presented by and permit issued to the owner of the land upon which the fire is to be kindled.

Exception: A permit is not required for a *recreational fire* or portable outdoor fireplace.

307.2.1 ~~Authorization. Where required by state or local law or regulations, open burning shall only be permitted with prior approval from the state or local air and water quality management authority, provided that all conditions specified in the authorization are followed. See also Chapter 173-425 WAC.~~ Bans on fires due to air quality or fire danger. If the Puget Sound Clean Air Agency issues a burn ban due to air quality, or if a fire safety burn ban is issued by the Kirkland Fire Department all fires are prohibited. It is the responsibility of the property owner where the fire is to be conducted to ensure no such ban exists prior to starting any fire.

307.3 Extinguishment authority. Where ~~open burning~~ any fire creates or adds to a hazardous situation, or a required permit ~~for open burning~~ has not been obtained, the fire code official is authorized to order the extinguishment of the ~~open burning operation~~ fire.

307.4 Location. The location for ~~open burning~~ any fire shall be not less than 50 feet (15 240 mm) from any structure, and provisions shall be made to prevent the fire from spreading to within 50 feet (15 240 mm) of any structure.

Exceptions:

~~1. Fires in approved containers that are not less than 15 feet (4572 mm) from a structure.~~

The minimum required distance from a structure shall be 25 feet (7620 mm) where the pile size is 3 feet (914 mm) or less in diameter and 2 feet (610 mm) or less in height.

307.4.1 Bonfires. A bonfire shall not be conducted within 50 feet (15 240 mm) of a structure or

combustible material unless the fire is contained in a barbecue pit. Conditions which could cause a fire to spread within 50 feet (15 240 mm) of a structure shall be eliminated prior to ignition.

307.4.2 *Recreational fires. Recreational fires* shall not be conducted within 25 feet (7620 mm) of a structure or combustible material. Conditions which could cause a fire to spread within 25 feet (7620 mm) of a structure shall be eliminated prior to ignition. See also Chapter 173-425 WAC.

307.4.3 Portable outdoor fireplaces. Portable outdoor fireplaces shall be used in accordance with the manufacturer's instructions and shall not be operated within 15 feet (3048 mm) of a structure or combustible material.

~~Exception: Portable outdoor fireplaces used at one- and two-family dwellings.~~

307.5 Attendance. Bonfires, *recreational fires* and use of portable outdoor fireplaces shall be constantly attended until the fire is extinguished. A minimum of one portable fire extinguisher complying with Section 906 with a minimum 4-A rating or other approved on-site fire-extinguishing equipment, such as dirt, sand, water barrel, garden hose or water truck, shall be available for immediate utilization.

B. ***General storage—Storage under stairways.*** *Section 315 of the International Fire Code, entitled "General Storage," is amended by adding the following new subsection 315.3.2.1:*

315.3.2.1 Storage under stairways. Storage is prohibited under exit stairways.

Exception: Enclosures under stairways in accordance with Sections 1011.7.3 or 1011.7.4 as applicable.

C. ***General Requirements – Road Tunnels, Bridges and Other Limited Access Highways.*** *Chapter 3 of the International Fire Code is amended by adding the following new section 320:*

Section 320. Road runnels, bridges and Other limited access highways.

320.1 Road tunnels, bridges and other limited access highways. Road tunnels, bridges, and other limited access highways shall be in accordance with NFPA 502.

21.20.060 Amendments to the International Fire Code – Chapter 4, Emergency Planning and Preparedness.

The following local amendments to Chapter 4 of the International Fire Code, entitled "Emergency Planning and Preparedness," including all amendments enacted by the state of Washington, are hereby adopted and incorporated into the International Fire Code as follows:

*A. **General – Evacuation Required.** Section 401 of the International Fire Code is amended by the adding the following new subsection 401.9:*

401.9 Evacuation required. In the event of activation of a fire, emergency alarm, or at the direction the *fire code official*, occupants of the building or portion of the building in which the alarm is activated shall make a safe and orderly evacuation out of the building, or as provided in the building's fire safety and evacuation or high-rise emergency operations plan.

Exceptions:

1. Where the occupant's physical or other disability make the occupant unable to evacuate without assistance and no assistance is immediately available; or

2. Where the presence of smoke, fire, structural collapse or other hazard or obstruction in the occupant's means of egress make evacuation unsafe.

21.20.070 Amendments to the International Fire Code – Chapter 5, Fire Service Features.

The following local amendments to Chapter 5 of the International Fire Code, entitled "Fire Service Features," including all amendments enacted by the state of Washington, are hereby adopted and incorporated into the International Fire Code as follows:

*A. **Fire Apparatus Access Roads – Where Required.** Section 503 is amended by substituting subsection 503.1 with the following.*

> 503.1 Where required. Fire apparatus access roads shall be provided and maintained in accordance with locally adopted street, road, and access standards. The city of Kirkland has established criteria for fire apparatus access roads in Operating Policy #6 which is available on the city of Kirkland Website and at City Hall.

*B. **Access to Building Openings and Roofs – Buildings with enclosed interior courtyards.** Section 504 of the International Fire Code is amended by adding the following new subsection 504.4:*

> 504.4. Buildings with enclosed interior courtyards. New buildings with enclosed interior courtyards shall have a straight/direct access corridor and/or stairway from the exterior to the courtyard at a location acceptable to the *fire code official*. If a stairway is used it shall comply with International Fire Code Section 1011 and a corridor shall comply with International Fire Code Section 1020. The access shall have a minimum width of 4 feet (or as directed by the *fire code official*) and be large enough to carry a 35-foot-long sectional ladder (minimum folded length 20 feet) directly from the exterior to the courtyard without obstructions. The access door shall be marked at the street as "Direct access to courtyard."

*C. **Fire Protection Water Supplies – Fire Hydrant Systems, Where Required.** Section 507 of the International Fire Code entitled "Fire Protection Water Supplies," is amended by substituting subsection 507.5.1 with the following:*

> 507.5.1. Where required. Where a portion of the facility or building hereafter constructed or moved into or within the jurisdiction is more than ~~400~~ 150 feet from a hydrant on a fire apparatus access road, as measured by an approved route around the exterior of the facility or building, on-site fire hydrants and mains shall be provided where required by the *fire code official*.
>
> Exceptions:

1. For Group R-3 and Group U occupancies, the distance requirement shall be ~~600~~ 300 feet (91.5 m).
2. For Group R-3 and Group U occupancies equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1, 903.3.1.2, the distance requirements shall be 600 feet (183 m).

D. ***Fire Command Center – Separations and Penetrations.*** *Section 508 of the International Fire Code entitled "Fire Command Center," is amended by substituting subsection 508.1.2 with the following:*

508.1.2 Separation and 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 (IBC) or horizontal assembly constructed in accordance with section 711 of the IBC, 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 International Building Code Section 714.

Exception: Metallic piping, with no joints or openings within the fire command center, is allowed if penetrations are protected in accordance with Section 714.

E. ***Emergency Responder Radio Coverage.*** *Section 510 of the International Fire Code entitled "Emergency Responder Radio Coverage," is amended by substituting Section 510 with the following:*

510.1 Emergency responder radio coverage in new buildings. ~~New buildings shall have a~~ *Approved* radio coverage for emergency responders shall be provided within ~~the~~ buildings that meet any one of the following conditions:

1. High rise buildings;

2. The total building area is 50,000 square feet or more;
3. The total basement area is 10,000 square feet or more;
4. There are floors used for human occupancy more than 30 feet below the finished floor of the lowest level of exit discharge; or
5. Buildings or structures where the Fire or Police Chief determines that in-building radio coverage is critical because of its unique design, location, use or occupancy.

The radio coverage system shall be installed in accordance with Sections 510.4 through 510.5.5 of this code and with the provisions of NFPA 1221 (2019). ~~based on the existing coverage levels of the public safety communication systems utilized by the jurisdiction, measured at the exterior of the building.~~ This section shall not require improvement of the existing public safety communication systems.

Exceptions:

~~1. Where *approved* by the building official and the *fire code official*, a wired communication system in accordance with Section 907.2.12.2 shall be permitted to be installed or maintained instead of an *approved* radio coverage system.~~

~~2~~1. ~~Where it is determined by the *fire code official* that the radio coverage system is not needed.~~ Buildings and areas of buildings that have minimum radio coverage signal strength levels of the King County Regional 800 MHz Radio System within the building in accordance with Section 510.4.1 without the use of a radio coverage system.

Point of Information

When determining if the minimum signal strength referenced in 510.4.1.1 exists at a subject building, the signal strength

shall be measured at any point on the exterior of the building up to the highest point on the roof.

~~3~~2. In facilities where emergency responder radio coverage is required and such systems, components or equipment required could have a negative impact on the normal operations of that facility, the *fire code official* shall have the authority to accept an automatically activated emergency responder radio coverage system.

3. One- and two-family dwellings and townhouses.

4. Subject to the approval of the fire code official, buildings other than high-rise buildings, colleges, universities and buildings primarily occupied by Group E or I occupancies that have completed a Mobile Emergency Responder Radio Coverage application and submitted payment as outlined in the application.

510.1.1 Occupancy. It shall be unlawful to occupy any portion of a building or structure until Emergency Responder Radio Coverage has been tested and *approved* in accordance with the provisions of Section 510.

510.2 Emergency responder radio coverage in existing buildings. Existing buildings shall ~~be provided with~~ have *approved* radio coverage for emergency responders as required in Chapter 11.

510.3 Permit required. A construction permit for the installation of or modification to emergency responder radio coverage systems and related equipment is required as specified in Section 105.7.6. Maintenance performed in accordance with this code is not considered a modification and does not require a permit.

Point of Information

Prior coordination and approval from the Public Safety Radio System Operator is required before installation of an Emergency Responder Radio System. Until 2022, such approval is required from EPSCA, King County, Seattle or ValleyCom depending on the location of the installation. In 2022 PSERN will be the single operator of a county wide system.

In order to be forward compatible, designers and contractors should be aware of PSERN's requirements for Distributed

Antenna Systems which can be found via https://psern.org/requirements/

510.4 Technical requirements. Systems, components and equipment required to provide the emergency responder radio coverage system shall comply with Sections 510.4.1 through 510.4.2.8.

510.4.1 Emergency responder communication enhancement system signal strength. The building shall be considered to have acceptable emergency responder communications enhancement system coverage when signal strength measurements in 95 percent of all areas on each floor of the building meet the signal strength requirements in Sections 510.4.1.1 through 510.4.1.3.

Exception: Critical areas, such as the fire command center(s), the fire pump room(s), interior exit stairways, exit passageways, elevator lobbies, standpipe cabinets, sprinkler sectional valve locations, and other areas required by the *fire code official*, shall be provided with 99 percent floor area radio coverage.

510.4.1.1 Minimum signal strength into the building. The minimum inbound signal strength shall be sufficient to provide usable voice communications throughout the coverage area as specified by the *fire code official*. The inbound signal level shall be a minimum of -95 dBm in 95% of the coverage area and 99% in critical areas ~~throughout the coverage area~~ and sufficient to provide not less than a Delivered Audio Quality (DAQ) of 3.0 or an equivalent Signal-to-Interference-Plus-Noise Ratio (SINR) applicable to the technology for either analog or digital signals.

510.4.1.2 Minimum signal strength out of the building. The minimum outbound signal strength shall be sufficient to provide usable voice communications throughout the coverage area as specified by the *fire code official*. The outbound signal level shall be sufficient to provide not less than a DAQ of 3.0 or an equivalent SINR applicable to the technology for either analog or digital signals. A minimum signal strength of -95 dBm shall be received by the King County Regional 800 MHz Radio System when transmitted from within the building.

510.4.1.3 System performance. Signal strength shall be sufficient to meet the requirements of the applications being utilized by public safety for emergency operations through the coverage area as specified by the ~~*fire code official*~~ Public Safety Radio System Operator in Section 510.4.2.2.

510.4.2 System design. The emergency responder radio coverage system shall be designed in accordance with Sections 510.4.2.1 through 510.4.2.8 and NFPA 1221 (2019).

510.4.2.1 Amplification systems and components. Buildings and structures that cannot support the required level of radio coverage shall be equipped with systems and components to enhance the public safety radio signals and achieve the required level of radio coverage specified in Sections 510.4.1 through 510.4.1.3. Public safety communications enhancement systems utilizing radio-frequency-emitting devices and cabling shall be ~~*approved*~~ allowed by the ~~*fire code official*~~ radio system operator. Prior to installation, all RF-emitting devices shall have the certification of the radio licensing authority and be suitable for public safety use.

510.4.2.2 Technical criteria. The ~~*fire code official*~~ Public Safety Radio System Operator shall ~~maintain a document providing the specific technical information and requirements for the emergency responder communications coverage system. This document shall contain, but not be limited to,~~ provide the various frequencies required, the location of radio sites, the effective radiated power of radio sites, the maximum propagation delay in microseconds, the applications being used and other supporting technical information necessary for system design upon request by the building owner or owner's representative.

510.4.2.3 ~~Standby power~~ Power supply sources. Emergency responder radio coverage systems shall be provided with dedicated standby batteries or provided with 2-hour standby batteries and connected to the facility generator power system in accordance with Section 1203.

The standby power supply shall be capable of operating the emergency responder radio coverage system at 100-percent system capacity for a duration of not less than 12 hours.

510.4.2.4 Signal booster requirements. If used, signal boosters shall meet the following requirements:

1. All signal booster components shall be contained in a National Electrical Manufacturer's Association (NEMA) 4, IP66-type waterproof cabinet, or equivalent.

   Exception: Listed battery systems that are contained in integrated battery cabinets.

2. Battery systems used for the emergency power source shall be contained in a NEMA 3R or higher-rated cabinet, IP65-type waterproof cabinet or equivalent.

3. Equipment shall have FCC or other radio licensing authority certification and be suitable for public safety use prior to installation.

4. Where a donor antenna exists, isolation shall be maintained between the donor antenna and all inside antennas to not less than 20dB greater than the system gain under all operating conditions.

5. Bi-Directional Amplifiers (BDAs) used in emergency responder radio coverage systems shall ~~have~~ be fitted with anti-oscillation circuitry and per-channel AGC ~~oscillation prevention~~.

6. The installation of amplification systems or systems that operate on or provide the means to cause interference on any emergency responder radio coverage networks shall be coordinated and *approved* by the ~~*fire code official*~~ Public Safety Radio System Operator.

7. Unless otherwise *approved* by the Public Safety Radio System Operator, only channelized signal boosters shall be permitted.

Exception: Broadband BDA's may be utilized when specifically authorized in writing by the Public Safety Radio System Operator.

Point of Information
BDA's must also comply with PSERN's (www.psern.org/requirements) detailed requirements, which include channelized, minimum of 28 channels, supporting analog, P25 Phase I (FDMA), and P25 Phase II (TDMA).

510.4.2.5 System monitoring. The emergency responder radio enhancement system shall include automatic supervisory and trouble signals that are monitored by a supervisory service and are annunciated by the fire alarm system in accordance with NFPA 72 ~~be monitored by a listed fire alarm control unit, or where *approved* by the *fire code official*, shall sound an audible signal at a constantly attended on-site location~~. The following conditions shall be separately annunciated by the fire alarm system, or, if the status of each of the following conditions is individually displayed on a dedicated panel on the radio enhancement system, a single automatic supervisory signal may be annunciated on the fire alarm system indicating deficiencies of the radio enhancement system:

1. Loss of normal AC power supply.
2. System battery charger(s) failure.
3. Malfunction of the donor antenna(s).
4. Failure of active RF-emitting device(s).
5. Low-battery capacity at 70-percent reduction of operating capacity.
6. ~~Failure of critical system components~~ Active system component malfunction.
7. Malfunction of the ~~The~~ communications link between the fire alarm system and the emergency responder radio enhancement system.

510.4.2.6 Additional frequencies and change of frequencies. The emergency responder radio coverage system shall be capable of modification or expansion in the event frequency changes are required by the FCC or other radio licensing authority, or additional frequencies are made available by the FCC or other radio licensing authority.

510.4.2.7 Design documents. The *fire code official* shall have the authority to require "as-built" design documents and specifications for emergency responder communications coverage systems. The documents shall be in a format acceptable to the *fire code official.*

510.4.2.8 Radio communication antenna density. Systems shall be engineered to minimize the near-far effect. Radio enhancement system designs shall include sufficient antenna density to address reduced gain conditions.

Exceptions:

1. Class A narrow band signal booster devices with independent AGC/ALC circuits per channel.
2. Systems where all portable devices within the same band use active power control

510.5 Installation requirements. The installation of the public safety radio coverage system shall be in accordance with NFPA 1221 (2019) and Sections 510.5.1 through ~~510.5.4~~ 510.5.7.

510.5.1 Approval prior to installation. Amplification systems capable of operating on frequencies licensed to any public safety agency by the FCC or other radio licensing authority shall not be installed without prior coordination and approval of the ~~*fire code official*~~ Public Safety Radio System Operator.

510.5.2 Minimum qualifications of personnel. The minimum qualifications of the system designer and lead installation personnel shall include both of the following:

1. A valid FCC-issued general ~~radio~~ radiotelephone operator's license.

2. Certification of in-building system training issued by an *approved* organization or *approved* school, or a certificate issued by the manufacturer of the equipment being installed.

~~((These qualifications shall not be required where demonstration of adequate skills and experience satisfactory to the *fire code official* is provided.))~~

510.5.3 Acceptance test procedure. Where an emergency responder radio coverage system is required, and upon completion of installation, the building owner shall have the radio system tested to verify that two-way coverage on each floor of the building is ~~not less than 95 percent~~. in accordance with Section 510.4.1. The test procedure shall be conducted as follows:

1. Each floor of the building shall be divided into a grid of 20 approximately equal test areas, with a maximum test area size of 6,400 square feet. Where the floor area exceeds 128,000 square feet, the floor shall be divided into as many approximately equal test areas as needed, such that no test area exceeds the maximum square footage allowed for a test area.

2. Coverage testing of signal strength shall be conducted using a calibrated spectrum analyzer for each of the test grids. A diagram of this testing shall be created for each floor where coverage is provided, indicating the testing grid used for the test in Section 510.5.3(1), and including signal strengths and frequencies for each test area. Indicate all critical areas.

3. Functional talk-back testing shall be conducted using two calibrated portable radios of the latest brand and model used by the agency's radio communications system or other equipment *approved* by the *fire code official*. Testing shall use Digital Audible Quality (DAQ) metrics, where a passing result is a DAQ of 3 or higher. Communications between handsets shall be tested and recorded in the grid square diagram required by section 510.5.3(2): each grid square

on each floor; between each critical area and a radio outside the building; between each critical area and the fire command center or fire alarm control panel; between each landing in each stairwell and the fire command center or fire alarm control panel.

4. Failure of more than ~~one test area~~ 5% of the test areas on any floor shall result in failure of the test.

   Exception: Critical areas shall be provided with 99 percent floor area coverage.

5. In the event that two of the test areas fail the test, in order to be more statistically accurate, the floor shall be permitted to be divided into 40 equal test areas. Failure of not more than two nonadjacent test areas shall not result in failure of the test. If the system fails the 40-area test, the system shall be altered to meet the 95-percent coverage requirement.

6. A test location approximately in the center of each test area shall be selected for the test, with the radio enabled to verify two-way communications to and from the outside of the building through the public agency's radio communications system. Once the test location has been selected, that location shall represent the entire test area. Failure in the selected test location shall be considered to be a failure of that test area. Additional test locations shall not be permitted.

7. The gain values of all amplifiers shall be measured, and the test measurement results shall be kept on file with the building owner so that the measurements can be verified during annual tests. In the event that the measurement results become lost, the building owner shall be required to rerun the acceptance test to reestablish the gain values.

8. As part of the installation, a spectrum analyzer or other suitable test equipment shall be utilized to ensure spurious oscillations are not being generated by the subject signal booster. This test

shall be conducted at the time of installation and at subsequent annual inspections.

9. Systems incorporating Class B signal booster devices or Class B broadband fiber remote devices shall be tested using two portable radios simultaneously conducting subjective voice quality checks. One portable radio shall be positioned not greater than 10 feet (3048 mm) from the indoor antenna. The second portable radio shall be positioned at a distance that represents the farthest distance from any indoor antenna. With both portable radios simultaneously keyed up on different frequencies within the same band, subjective audio testing shall be conducted and comply with DAQ levels as specified in Sections 510.4.1.1 and 510.4.1.2.

10. Documentation maintained on premises. At the conclusion of the testing, and prior to issuance of the building Certificate of Occupancy, the building owner or owner's representative shall place a copy of the following records in the DAS enclosure or the building engineer's office. The records shall be available to the *fire code official* and maintained by the building owner for the life of the system:

    a. A certification letter stating that the emergency responder radio coverage system has been installed and tested in accordance with this code, and that the system is complete and fully functional.
    b. The grid square diagram created as part of testing in Sections 510.5.3.
    c. Data sheets and/or manufacturer specifications for the emergency responder radio coverage system equipment; back up battery; and charging system (if utilized).
    d. A diagram showing device locations and wiring schematic, and
    e. A copy of the electrical permit.

11. Acceptance test reporting to *fire code official*. At the conclusion of the testing, and prior to issuance of the building Certificate of Occupancy, the building owner or owner's representative shall

submit to the *fire code official* a report of the acceptance test by way of the department's third-party vendor thecomplianceengine.com.

510.5.4 FCC compliance. The emergency responder radio coverage system installation and components shall comply with all applicable federal regulations including, but not limited to, FCC 47 CFR Part 90.219.

510.5.5 Mounting of the donor antenna(s). To maintain proper alignment with the system designed donor site, donor antennas shall be permanently affixed on the highest possible position on the building or where *approved* by the *fire code official*. A clearly visible sign shall be placed near the antenna stating, "movement or repositioning of this antenna is prohibited without approval from the *fire code official*." The antenna installation shall be in accordance with the applicable requirements in the International Building Code for weather protection of the building envelope.

510.5.6 Wiring. The backbone, antenna distribution, radiating, or any fiber-optic cables shall be rated as plenum cables. The backbone cables shall be connected to the antenna distribution, radiating, or copper cables using hybrid coupler devices of a value determined by the overall design. Backbone cables shall be routed through an enclosure that matches the building's required fire-resistance rating for shafts or interior exit stairways. The connection between the backbone cable and the antenna cables shall be made within an enclosure that matches the building's fire-resistance rating for shafts or interior exit stairways, and passage of the antenna distribution cable in and out of the enclosure shall be protected as a penetration per the International Building Code.

510.5.7 Identification Signs. Emergency responder radio coverage systems shall be identified by an *approved* sign located on or near the Fire Alarm Control Panel or other *approved* location stating "This building is equipped with an Emergency Responder Radio Coverage System. Control Equipment located in room (insert information provided by owner)."

A sign stating "Emergency Responder Radio Coverage System Equipment" shall be placed on or adjacent to the door of the room containing the main system components.

510.6 Maintenance. The emergency responder radio coverage system shall be maintained operational at all times in accordance with Sections 510.6.1(1) through (7) ~~510.6.4~~.

510.6.1 Testing and proof of compliance. The owner of the building or owner's authorized agent shall have the emergency responder radio coverage system ~~shall be~~ inspected and tested annually or where structural changes occur including additions or remodels that could materially change the original field performance tests. Testing shall consist of the following items (1) through (7):

1. In-building coverage test as required by the *fire code official* as described in Section 510.5.3 "Acceptance test procedure" or 510.6.1.1 "Alternative in-building coverage test." ~~or as required by the *fire code official*.))~~

   Exception: Group R Occupancy annual testing is not required within dwelling units.

2. Signal boosters shall be tested to verify that the gain/output level is the same as it was upon initial installation and acceptance or set to optimize the performance of the system.

3. Backup batteries and power supplies shall be tested under load of a period of ~~1~~ 2 hours to verify that they will properly operate during an actual power outage. If within the ~~1~~-2-hour test period the battery exhibits symptoms of failure, the test shall be extended for additional 1-hour periods until the integrity of the battery can be determined.

4. If a fire alarm system is present in the building, a test shall be conducted to verify that the fire alarm system is properly supervising the emergency responder communication system as required in Section 510.4.2.5. The test is performed by

simulating alarms to the fire alarm control panel. The certifications in Section 510.5.2 are sufficient for the personnel performing this testing.

4.5. Other active components shall be checked to verify operation within the manufacturer's specifications.

5.6. At the conclusion of the testing, a report, which shall verify compliance with Section ~~510.5.3~~ 510.6.1, shall be submitted to the *fire code official* by way of the department's third-party vendor thecomplianceengine.com

7. At the conclusion of testing, a record of the inspection and maintenance along with an updated grid diagram of each floor showing tested strengths in each grid square and each critical area shall be added to the documentation maintained on the premises in accordance with Section 510.5.3.

510.6.1.1 Alternative In-building coverage test. When the comprehensive test documentation required by Section 510.5.3 is available, or the most recent full five-year test results are available if the system is older than six years, the in-building coverage test required by the *fire code official* in Section 510.6.1(1), may be conducted as follows:

1. Functional talk-back testing shall be conducted using two calibrated portable radios of the latest brand and model used by the agency's radio communications system or other equipment *approved* by the *fire code official*. Testing shall use Digital Audible Quality (DAQ) metrics, where a passing result is a DAQ of 3 or higher. Communications between handsets in the following locations shall be tested: between the fire command center or fire alarm control panel and a location outside the building; between the fire alarm control panel and each landing in each stairwell.

2. Coverage testing of signal strength shall be conducted using a calibrated spectrum analyzer for:

(a) Three grid areas per floor. The three grid areas to be tested on each floor are the three grid areas with poorest performance in the acceptance test or the most recent annual test, whichever is more recent; and

(b) Each of the critical areas identified in acceptance test documentation required by Section 510.5.3, or as modified by the fire code official; and

(c) One grid square per serving antenna.

3. The test area boundaries shall not deviate from the areas established at the time of the acceptance test, or as modified by the *fire code official.* The building shall be considered to have acceptable emergency responder radio coverage when the required signal strength requirements in 510.4.1.1 and 510.4.1.2 are located in 95 percent of all areas on each floor of the building and 99 percent in Critical Areas, and any non-functional serving antenna are repaired to function within normal ranges. If the documentation of the acceptance test or most recent previous annual test results are not available or acceptable to the *fire code official,* the radio coverage verification testing described in 510.5.3 shall be conducted.

Point of Information

The alternative in-building coverage test provides an alternative testing protocol for the in-building coverage test in subsection (1) of section 510.6.1. There is no change or alternative to annual testing requirements enumerated in subsections (2) – (7) of Section 510.6.1, which must be performed at the time of each annual test.

510.6.2 Additional frequencies. The building owner shall modify or expand the emergency responder radio coverage system at his or her expense in the event frequency changes are required by the FCC or other radio licensing authority, or additional frequencies are made available by

the FCC ~~or other radio licensing authority~~ public safety radio system operator or FCC license holder. Prior approval of a public safety radio coverage system on previous frequencies does not exempt this section.

510.6.3 Nonpublic safety system. Where other nonpublic safety amplification systems installed in buildings reduce the performance or cause interference with the emergency responder communications coverage system, the nonpublic safety amplification system shall be corrected or removed.

510.6.4 Field testing. Agency personnel shall have the right to enter onto the property at any reasonable time to conduct field testing to verify the required level of radio coverage or to disable a system that due to malfunction or poor maintenance has the potential to impact the emergency responder radio system in the region.

21.20.080 Amendments to the International Fire Code – Chapter 6, Building Services and Systems.

The following local amendments to Chapter 6 of the International Fire Code, entitled "Building Services and Systems," including all amendments enacted by the state of Washington, are hereby adopted and incorporated into the International Fire Code as follows:

A. ***Building Services and Systems – Definitions.*** *Section 602 of the International Fire Code entitled "Definitions," is amended by adding the following definition:*

Power Tap. A listed device for indoor use consisting of an attachment plug on one end of a flexible cord and two or more receptacles on the opposite end and has overcurrent protection.

B. ***Electrical Equipment, Wiring and Hazards – Multiplug adapters.*** *Section 604 of the International Fire Code entitled "Electrical Equipment, Wiring and Hazards," is amended by substituting subsection 604.4 as follows:*

604.4 Multiplug adapters. Multiplug adapters, such as cube adapters, unfused plug strips or any other device not complying with ~~NFPA 70~~ the electrical code as adopted by the City of Kirkland shall be prohibited.

C. ***Elevator Operation Maintenance and Fire Service Keys – Elevator Maintenance.*** *Section 606 of the International Fire Code entitled "Elevator Operation Maintenance and Fire Service Keys," is amended by adding the following new subsection 606.9:*

606.9 Duty of building operators to repair elevator and give notice. Any owner or lessor of the entirety of a building subject to this chapter, or any agent thereof with the responsibility for managing such building (hereafter "building operator") shall ensure that the elevator(s) are accessible, usable and in good working order at all times.

606.9.1 Communication. Whenever an elevator is out of service, the building operator shall provide notice to all occupants in the building via text, e-mail, or phone call as well as a written notice posted on or adjacent to the elevator on each floor. The notice shall contain at least the following information:

1. The anticipated date and time that elevator service will resume;
2. Accommodations available for occupants that are dependent on elevator; and
3. Contact information if occupants have any questions.

Exception: Non-residential buildings may limit the notice to a written notice posted with the above information on or adjacent to the elevator on each floor.

606.9.2 Residential Buildings Served by a Single Elevator Level of Service. Residential buildings served by a single elevator shall maintain a full-service maintenance contract with a Washington State Licensed Elevator Company that provides the industries' highest-level service.

606.9.3 Accommodations for Residential Buildings Served by a Single Elevator. Residential buildings served by a single elevator shall maintain a plan to address out-of-service conditions for mobility impaired occupants at no cost to the occupant. Such plan shall include at least the following elements:

1. Transportation in and out of the building. Building operators shall maintain a list of companies qualified

to transport mobility impaired individuals in and out of the building up to once per day at no expense to the individual when elevator is out-of-service for up to 24 hours.

2. Alternate housing. When the elevator is out-of-service for longer than 72 hours, the building operator shall provide upon request alternative housing for any person residing in the building who needs to use the elevator to gain access or egress to or from his or her unit as a result of such person's physical disability, medical condition, infirmity, illness or other disability. Alternate housing is not required if such resident's disability does not prevent him or her from gaining access to or from his or her unit via available stairs. Such alternative housing shall be decent, safe, sanitary and provide reasonable accommodation for the person's disability. Any alternate housing shall be provided at the building operator's expense. The duty to provide alternative housing shall not arise if the building operator is prevented from repairing the elevator within seventy-two hours or any time thereafter due to a natural disaster or an act of God.

606.9.4 Failure to timely repair--Civil remedies. Where the failure to timely repair an elevator or to provide alternative housing, as required by Section 606.9 results in any person residing in the building having substantially restricted access to or egress from his or her unit because of such person's impaired ability to climb stairs as a result of such person's physical disability, medical condition, infirmity, illness or other similar circumstance, the person whose access to or egress from such building has been substantially restricted as set forth in this subsection and may request the City of Kirkland initiate a code compliance investigation. If upon investigation the City of Kirkland determines a building operator has violated a provision of KMC 21.20.606 it may issue a civil violation pursuant to KMC Chapter 1.12 and also pursue such other legal remedies as may be appropriate.

606.9.5 Prohibition on retaliation and discrimination in renting.

A. No landlord or building operator may bring or threaten to bring an action to recover possession, cause a tenant to quit the unit involuntarily, serve any notice to quit or notice of termination of tenancy, decrease any services or increase the rent where the landlord's intention is retaliation against the tenant for the tenant's assertion or exercise of rights under this chapter by reason of their disability. Such retaliation shall be a defense to an action to recover possession, or it may serve as a basis for an affirmative suit by the tenant for actual and punitive damages and injunctive relief as may be available through the Human Rights Commission pursuant to RCW 49.60.

B. It shall be illegal for any landlord to refuse to rent to any persons on the grounds that they may assert their rights under this chapter because they require an elevator for access to or egress from the building. Any such claim may be made to the Human Rights Commission pursuant to RCW 49.60.

606.9.6 Remedies cumulative. The remedies provided by this chapter are in addition to all other remedies available to any party with respect to ensuring accessibility and usability of elevators.

21.20.090 Amendments to the International Fire Code – Chapter 9, Fire Protection and Life Safety Systems.

The following local amendments to Chapter 9 of the International Fire Code, entitled "Fire Protection and Life Safety Systems," including all amendments enacted by the state of Washington, are hereby adopted and incorporated into the International Fire Code as follows:

A. ***Automatic Sprinkler Systems – Where Required.*** *Section 903 of the International Fire Code entitled "Automatic Sprinkler Systems," is amended by substituting subsection 903.2 with the following:*

903.2 Where required. *Approved automatic sprinkler systems* in new buildings and structures shall be provided in the locations described in Sections 903.2.1 through

903.2.12 and as required in Chapter 21.33 KMC Fire-Extinguishing Systems.

~~Exception: Spaces or areas in telecommunications buildings used exclusively for telecommunications equipment, associated electrical power distribution equipment, batteries and standby engines, provided that those spaces or areas are equipped throughout with an automatic smoke detection system in accordance with Section 907.2 and are separated from the remainder of the building by not less than 1-hour fire barriers constructed in accordance with Section 707 of the International Building Code or not less than 2 hour horizontal assemblies constructed in accordance with Section 711 of the International Building Code, or both.~~

B. ***Automatic Sprinkler Systems – Specific Buildings Areas and Hazards.*** *Section 903 of the International Fire Code entitled "Automatic Sprinkler Systems," is amended by substituting subsection 903.2.11 with the following:*

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 ~~903.11.6~~ 903.2.11.8.

903.2.11.1 Stories and basements without openings. An automatic sprinkler system shall be installed throughout all stories, including basements, of all buildings where the floor area exceeds 1,500 square feet (139.4 m2) and where there is not provided at least one of the following types of exterior wall openings:

1. Openings below grade that lead directly to ground level by an exterior stairway complying with Section 1011 or an outside ramp complying with Section 1012. Openings shall be located in each 50 linear feet (15,240 mm), or fraction thereof, of exterior wall in the story on not fewer than one side. The required openings shall be distributed such that the lineal distance between adjacent openings does not exceed 50 feet (15,240 mm).

2. Openings entirely above the adjoining ground level totaling not less than 20 square feet (1.86 m2) in each 50 linear feet (15,240 mm), or fraction thereof, of exterior wall in the story on not fewer than one side. The required openings shall be distributed such that the lineal distance between adjacent openings does not exceed 50 feet (15,240 mm). The height of the bottom of the clear opening shall not exceed 44 inches (1,118 mm) measured from the floor.

903.2.11.1.1 Opening dimensions and access. Openings shall have a minimum dimension of not less than 30 inches (762 mm). Access to such openings shall be provided for the fire department from the exterior and shall not be obstructed in a manner that firefighting or rescue cannot be accomplished from the exterior.

903.2.11.1.2 Openings on one side only. Where openings in a story are provided on only one side and the opposite wall of such story is more than 75 feet (22,860 mm) from such openings, the story shall be equipped throughout with an *approved automatic sprinkler system* or openings as specified above shall be provided on at least two sides of the story.

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.

903.2.11.2 Rubbish and linen chutes. An automatic sprinkler system shall be installed at the top of rubbish and linen chutes and in their terminal rooms. Chutes shall have additional sprinkler heads installed at alternate floors and at the lowest intake. Where a rubbish chute extends through a building more than one floor below the lowest intake, the extension shall have sprinklers installed that are recessed from the drop area of the chute and protected from freezing in accordance with Section 903.3.1.1. Such sprinklers shall be installed at alternate floors beginning with the second level below the last intake and ending with

the floor above the discharge. Access to sprinklers in chutes shall be provided for servicing.

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. ~~, measured to the finished floor.~~

~~Exceptions:~~

~~1. Open parking structures.~~

~~2. Occupancies in Group F-2.~~

903.2.11.4 Ducts conveying hazardous exhausts. Where required by the International Mechanical Code, automatic sprinklers shall be provided in ducts conveying hazardous exhaust, flammable or combustible materials.

Exception: Ducts where the largest cross-sectional diameter of the duct is less than 10 inches (254 mm).

903.2.11.5 Commercial cooking operations. An automatic sprinkler system shall be installed in a commercial kitchen exhaust hood and duct system where an automatic sprinkler system is used to comply with Section 904.

903.2.11.6 Other required suppression systems. In addition to the requirements of Section 903.2, the provisions indicated in Table 903.2.11.6 also require the installation of a fire suppression system for certain buildings and areas.

903.2.11.7 Relocatable buildings within buildings. Relocatable buildings or structures located within a building with an *approved* fire sprinkler system shall be provided with fire sprinkler protection within the occupiable space of the building and the space underneath the relocatable building.

Exceptions:

1. Sprinkler protection is not required underneath the building when the space is separated from the adjacent space by construction resisting the

passage of smoke and heat and combustible storage will not be located there.

2. If the building or structure does not have a roof or ceiling obstructing the overhead sprinklers.

3 Construction trailers and temporary offices used during new building construction prior to occupancy.

4. Movable shopping mall kiosks with a roof or canopy dimension of less than 4 feet (1219 mm) on the smallest side.

903.2.11.8 Exterior projections. Where sprinklers are required throughout a Group A occupancy, sprinklers shall be installed under exterior projections greater that 2 ft (600 mm) wide over areas where combustibles are stored or where outdoor dining occurs.

C. ***Automatic Sprinkler Systems – Installation Requirements.*** *Section 903 of the International Fire Code entitled "Automatic Sprinkler Systems," is amended by substituting subsection 903.3 with the following:*

Installation requirements. *Automatic sprinkler systems* shall be designed and installed in accordance with Sections 903.3.1 through ~~903.3.8~~ 903.3.9.

D. ***Installation Requirements – NFPA 13 Sprinkler Systems.*** *Section 903.3.1 of the International Fire Code entitled "Installation Requirements," is amended by substituting subsection 903.3.1.1 with the following:*

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 Section 903.3.1.1.1 through 903.3.1.1.~~2~~3

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 a room merely because it is damp, of fire-resistance-rated construction or contains electrical equipment.

1. A 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. ~~A~~ Any room or space where sprinklers are considered undesirable because of the nature of the contents, when approved by the fire code official.

~~3. Generator and transformer rooms separated from the remainder of the building by walls and floor/ceiling or roof/ceiling assemblies having a fire-resistance rating of not less than 2 hours.~~

4 3. In ~~R~~rooms or areas that are of noncombustible construction with wholly noncombustible contents.

~~5~~ 4. Fire service access elevator machine rooms and machinery spaces.

~~6~~ 5. Machine rooms~~,~~ and machinery spaces~~,~~ ~~control rooms and control spaces~~ associated with evacuation elevators and are designed in accordance with Section 3008 of the *International Building Code*.

6. Elevator machine rooms, elevator machinery spaces, control spaces, or hoistways of traction elevators that comply with NFPA 13 (2016) Section 8.15.5.3.

903.3.1.1.2 Bathrooms. In Group R occupancies, sprinklers shall not be required in bathrooms that do not exceed 55 square feet (5 m2) in area and are located within individual *dwelling units* or *sleeping units*, provided that walls and ceilings, including the walls and ceilings behind a shower enclosure or tub, are of noncombustible or limited-

combustible materials with a 15-minute thermal barrier rating.

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.

E. ***Installation Requirements – NFPA 13R Sprinkler Systems.*** *Section 903.3.1 of the International Fire Code entitled "Installation Requirements," is amended by substituting subsection 903.3.1.2 with the following:*

903.3.1.2 NFPA 13R sprinkler systems. Automatic sprinkler systems in Group R occupancies up to and including four stories ~~in height in buildings not exceeding 60 feet (18,288 mm) in height above grade plane~~ shall be permitted to be installed throughout in accordance with NFPA 13R.

~~The number of stories of Group R occupancies constructed in accordance with Sections 510.2 and 510.4 of the International Building Code shall be measured from the lowest level of fire department access.~~

Buildings designed in accordance with Washington Administrative Code 51-50-0504, 0510 or Section 510.4 of the International Building Code shall be designed in accordance with NFPA 13 throughout.

21.20.094 IFC Section 903.3.9 added – Fire Sprinkler Zones

Section 903.3 International Fire Code is hereby amended by the addition of a new section 903.3.9 – Fire Sprinkler Zones

F. ***Installation Requirements – Fire Sprinkler Zones.*** *Section 903.3 of the International Fire Code entitled "Installation Requirements," is amended by adding the following new subsection 903.3.9:*

903.3.9 Zones. When fire walls and/or horizontal exits are provided the sprinkler system shall be zoned to coincide with the fire walls and/or horizontal exits.

Exception: Sprinkler zoning is not required in existing construction, provided that fire alarm initiating devices are provided that would provide the same level of occupant notification that a zoned sprinkler system would.

G. ***Sprinkler System Supervision and Alarms – Alarms.*** *Section 903.4 of the International Fire Code entitled "Sprinkler System Supervision and Alarms," is amended by substituting subsection 903.4.2 with the following:*

Section 903.4.2. Alarms. ~~An a~~Approved audible ~~device, located on the exterior of the building in an approved location, shall be connected to each automatic sprinkler system~~ and visible alarm notification appliances shall be provided for every automatic sprinkler system in accordance with Section 907 and throughout areas designated by the Fire Code Official. ~~Such s~~Sprinkler water-flow alarm devices shall be activated by water flow equivalent to the flow of a single sprinkler of the smallest orifice size installed in the system. Alarm devices shall be provided on the exterior of the building in an approved location. Where a fire alarm system is installed, actuation of the automatic sprinkler system shall actuate the building fire alarm system.

Exception: Audible and visible notification devices are not required in NFPA 13D systems.

H. ***Sprinkler System Supervision and Alarms – Floor Control Valves.*** *Section 903.4 of the International Fire Code entitled "Sprinkler System Supervision and Alarms," is amended by substituting subsection 903.4.3 with the following:*

Section 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 ~~in high-rise buildings~~. The floor control valves shall be located within interior exit stairways and within 6' above floors or landings unless chains or other *approved* devices are readily available.

Exceptions:

1. In buildings without interior exit stairways, the location of the floor control valves shall be determined by the *fire code official.*

2. Approved domestically supplied local systems with 10 heads or less.

3. Approved residential sprinkler systems for 1 or 2 dwelling units if not otherwise specifically required.

I. ***Testing and Maintenance – Fire Sprinkler and Standpipe Main/Express Drains.*** *Section 903.5 of the International Fire Code entitled "Testing and Maintenance," is amended by adding the following new subsection 903.5.1:*

903.5.1 Fire Sprinkler and Standpipe main/express drains. Fire Sprinkler and standpipe main/express drains shall be positioned to drain to the sanitary sewer. Additionally, maintenance or testing discharges from fire pumps shall be treated in order to comply with the National Pollution Discharge Elimination System (NPDES) requirements.

Exception: This requirement does not apply to systems installed in one and two family dwellings and townhouses.

J. ***Standpipe Systems – Required Installations.*** *Section 905 of the International Fire Code entitled "Standpipe Systems," is amended by substituting subsection 905.3 with the following:*

905.3 Required installations. Standpipe systems shall be installed where required by Sections 905.3.1 through 905.3.8~~1~~0. Standpipe systems are allowed to be combined with automatic sprinkler systems.

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

K. ***Standpipe Systems – Height.*** *Section 905 of the International Fire Code entitled "Standpipe Systems," is amended by substituting subsection 905.3.1 with the following:*

905.3.1 Height. Class ~~III~~ I standpipe systems shall be installed throughout buildings where~~ any of the following conditions exist~~:

~~1. Four or more stories are above or below grade plane.~~
~~2. The floor level of the highest story is located more than 30 feet (9144 mm) above the lowest level of the fire department vehicle access.~~
~~3. The floor level of the lowest story is located more than 30 feet (9144 mm) below the highest level of fire department vehicle access.~~
~~Exceptions:~~
~~1. Class I standpipes are allowed in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.~~
~~2. Class I standpipes are allowed in Group B and E occupancies.~~
~~3. Class I manual standpipes are allowed in open parking garages where the highest floor is located not more than 150 feet (45 720 mm) above the lowest level of fire department vehicle access.~~
~~4. Class I manual dry standpipes are allowed in open parking garages that are subject to freezing temperatures, provided that the hose connections are located as required for Class II standpipes in accordance with Section 905.5.~~
~~5. Class I standpipes are allowed in basements equipped throughout with an automatic sprinkler system.~~
~~6. Class I standpipes are allowed in buildings where occupant use hose lines will not be utilized by trained personnel or the fire department.~~
~~7. In determining the lowest level of fire department vehicle access, it shall not be required to consider either of the following:~~
~~7.1. Recessed loading docks for four vehicles or less.~~
~~7.2. Conditions where topography makes access from the fire department vehicle to the building impractical or impossible.~~
the floor level of the highest story is located more than 30 feet (9,144 mm) above the lowest level of the fire department vehicle access, or where the floor level of the lowest story is located more than 30 feet (9,144 mm) below the highest level of fire department vehicle access.

Exceptions:

1. In determining the lowest level of fire department vehicle access, it shall not be required to consider:
    1.1. Recessed loading docks for four vehicles or less, and

1.2. Conditions where topography makes access from the fire department vehicle to the building impractical or impossible.

L. ***Standpipe Systems – High-Rise Building Standpipes.*** *Section 905 of the International Fire Code entitled "Standpipe Systems," is amended by adding the following new subsection 905.3.9:*

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 pressure at any hose outlet exceeds 175 psi (1,207 kPa), *approved* pressure-regulating devices shall be installed to limit the pressure to a range between 125 and 175 psi at not less than 300 gpm. 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.
Each non-regulated hose connection shall be labeled with a sign that states: "High Pressure – No PRV." The sign shall have 1/2" white letters on a red background.

Point of Information:
Additional flow and pressure requirements are contained in NFPA 14. Designers should be cognizant of space considerations within stair shafts and additional signage needed for the PRV by-pass control valves.

M. ***Standpipe Systems – Vertical Standpipes Served by Fire Pumps in High-Rise Buildings.*** *Section 905 of the International Fire Code entitled "Standpipe Systems," is amended by adding the following new subsection 905.3.10:*

905.3.10 Vertical Standpipes served by Fire Pumps in high-rise buildings. Where vertical standpipes are served by fire

pumps, a check valve shall be installed at the base of each vertical standpipe.

N. ***Standpipe Systems – Location of Class I Standpipe Hose Connections.*** *Section 905 of the International Fire Code entitled "Standpipe Systems," is amended by substituting subsection 905.4 with the following:*

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 interior exit 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.

   Exception: A single hose connection shall be permitted to be installed in the open corridor or open breezeway between open stairs that are not greater than 75 feet (22 860 mm) apart.

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 an interior 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.
   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 an interior 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), ~~a hose connection shall be located to serve the roof or at the highest landing of a stairway with stair access to the roof provided in accordance with Section 1011.12.~~ at least one standpipe shall be provided with a 2-1/2 inch 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 non-sprinklered 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, ~~the fire code official is authorized to require that additional hose connections be provided in approved locations.~~ additional hose connections shall be provided in interior exit stairway 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 interior exit stair, 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.

905.4.1 Protection. Risers and laterals of Class I standpipe systems not located within an enclosed stairway or pressurized enclosure shall be protected by a degree of fire resistance equal to that required for vertical enclosures in the building in which they are located.

Exception: In buildings equipped throughout with an approved automatic sprinkler system, laterals that are not located within an enclosed stairway or pressurized enclosure are not required to be enclosed within fire-resistance-rated construction.

905.4.2 Interconnection. In buildings where more than one standpipe is provided, the standpipes shall be interconnected in accordance with NFPA 14.

O. ***Standpipe Systems – Dry Standpipes.*** *Section 905 of the International Fire Code entitled "Standpipe Systems," is amended by substituting subsection 905.8 with the following:*

905.8 Dry standpipes. Dry standpipes shall not be installed.

Exception: Where subject to freezing, ~~and~~ in accordance with NFPA 14, and approved by the *fire code official.*

P. ***Fire Alarm and Detection Systems – General.*** *Section 907 of the International Fire Code entitled "Fire Alarm and Detection Systems," is amended by substituting subsection 907.1 with the following:*

907.1 General. This section covers the application, installation, performance and maintenance of fire alarm systems and their components in new and existing building 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 907.9 are applicable to existing buildings and structures.

For the purpose of this section, fire barriers shall not be considered to create a separate building.

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.*

Q. ***Emergency Voice/Alarm Communication Systems – Emergency Power.*** *Section 907.5.2.2 of the International Fire Code entitled "Emergency Voice/Alarm Communication Systems," is amended by substituting subsection 907.5.2.2.5 with the following:*

907.5.2.2.5 Emergency power. Emergency voice/alarm communications systems shall be provided with emergency power in accordance with International Building Code Section 2702 and Table 2702. ~~The system shall be capable of powering the required load for a duration of not less than 24 hours, as required by NFPA 72.~~

R. ***Installation and Monitoring – Annunciator Panel.*** *Section 907.6 of the International Fire Code entitled "Installation and Monitoring," is amended by substituting subsection 907.6.3.1 with the following:*

907.6.3.1 ~~Annunciation. The initiating device status shall be annunciated at an approved on-site location.~~ 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.

Exception: Other *approved* locations.

S. ***Installation and Monitoring – Zones.*** *Section 907.6 of the International Fire Code entitled "Installation and Monitoring," is amended by substituting subsection 907.6.4 with the following:*

907.6.4 Zones. Each floor shall be zoned separately, and a zone shall not exceed 22,500 square feet (2090 m2). The length of any zone shall not exceed 300 feet (91 440 mm) in any direction. Floors shall be further zoned to coincide with any fire walls and/or horizontal exits.

Exceptions:

1. *Automatic sprinkler system* zones shall not exceed the area permitted by NFPA 13.

2. Fire alarm zones that coincide with fire walls and/or horizontal exits are not required in existing buildings except:

   a. When a change of use occurs;
   b. The exiting or evacuation plan is modified and depends on the use of the fire wall or horizontal exit; or
   c. When fire alarm panels are replaced (Section 907.1).

T. ***Installation and Monitoring – Graphic Annunciator.*** *Section 907.6 of the International Fire Code entitled "Installation and Monitoring," is amended by substituting subsection 907.6.4.1 with the following:*

907.6.4.1 ~~Zoning indicator panel.~~ Graphic Annunciator. ~~A zoning indicator panel and the associated controls shall be provided in an approved location.~~ 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.

U. ***Installation and Monitoring – Monitoring.*** *Section 907.6 of the International Fire Code entitled "Installation and Monitoring," is amended by substituting subsection 907.6.6 with the following:*

Section 907.6.6. Monitoring. All new and existing fire alarm systems required by this chapter or by the International Building Code shall be monitored by an approved supervising station in accordance with NFPA 72.

Exception: Monitoring by a supervising station is not required for:

1. Single- and multiple-station smoke alarms required by Section 907.2.10

2. Smoke detectors in Group I-3 occupancies.

3. Automatic sprinkler systems in one- and two-family dwellings.

Point of Information

As of July 1, 1997, all buildings with existing systems must meet the standards of this section, if not specifically required to do so earlier.

V. ***Fire Department Connections – Signs.*** *Section 912 of the International Fire Code entitled "Fire Department Connections," is amended by substituting subsection 912.5 with the following:*

912.5 Signs. A red metal sign with white raised letters not less than 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: ~~AUTOMATIC~~ SPRINKLERS, ~~or~~ STANDPIPES, COMBINED, DRY S/PIPES, DRY S/P & SPKRS, BOOST TO (as specified by the *fire code official*) or TEST CONNECTION or a combination hereof as applicable. ~~Where the fire~~

~~department connection does not serve the entire building, a sign shall be provided indicating the portions of the building served.~~

If it is not readily apparent which building or portion the fire department connection serves, the sign shall also include the premises address or building identification, and the portion of the building protected.

Exception: A metal sign with letters at least 1 inch (25 mm) in size may match the fire department connection where chrome, brass or other *approved* decorative finish is utilized.

912.5.1 Markings. The fire department connection stand-alone pipe shall be painted red for greater visibility.

Exception: Fire department connections such as chrome, brass, or other *approved* decorative finish.

W. ***Fire Pumps – Fire Pump Controls.*** *Section 913 of the International Fire Code entitled "Fire Pumps," is amended by adding the following new subsection 913.1.1:*

913.1.1 Fire Pump Controls. Fire pump controllers supplying standpipes in excess of 130 p.s.i. shall be soft start.

X. ***Fire Pumps – Protection Against Interruption of Service.*** *Section 913 of the International Fire Code entitled "Fire Pumps," is amended by substituting subsection 913.2 with the following:*

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. ~~Rooms where fire pumps are located shall be separated from all other areas of the building in accordance with Section 913.2.1 of the International Building Code.~~ In high-rise buildings, 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. In other than high-rise buildings, separation shall consist of 1-hour fire barriers constructed

in accordance with Section 707 or 1-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 interior exit 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.

Point of Information

These provisions originate in NFPA 20 and are intended to facilitate fire department access to the fire pump room. Ideally fire pump rooms are located on the perimeter of the building affording direct access. Where that is not possible, a protected passageway is required. This passageway is not synonymous with an exit passageway and therefore not subject to the significant limitations of allowable penetrations. Fire pump rooms are not permitted to open directly into an exit passageway or interior exit stairway; rather the fire pump room must open into a vestibule before access to an exit passageway or an interior exit stairway.

Y. ***Covered and Open Mall Buildings – Automatic Sprinkler System.*** *Section 914.2 of the International Fire Code entitled "covered and Open Mall Buildings," is amended by substituting subsection 914.2.1 with the following:*

914.2.1 Automatic sprinkler system. Covered and open mall buildings and buildings connected shall be equipped throughout with an automatic sprinkler system in accordance with Section 903.1.1, which shall comply with the following:

1. The automatic sprinkler system shall be complete and operative throughout occupied space in the mall building prior to occupancy of any of the tenant spaces. Unoccupied tenant spaces shall be similarly protected unless provided with *approved* alternative protection.

2. Sprinkler protection for the mall of a covered mall building shall be independent from that provided for tenant spaces or anchors. Where tenant spaces are supplied by the same system, they shall be independently controlled.
3. Sprinkler protection for the tenant spaces of an open mall building shall be independent from that provided for anchor buildings.
4. Sprinkler protection shall be provided beneath exterior circulation balconies located adjacent to an open mall.
5. Where tenant spaces are supplied by the same system, they shall be independently controlled.

Z. ***High-Rise Buildings – Automatic Sprinkler System.*** *Section 914.3 of the International Fire Code entitled "High-Rise Buildings," is amended by substituting subsection 914.3.1 with the following:*

914.3.1 Automatic sprinkler system. Buildings and structures shall be equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 and a secondary water supply where required by Section 914.3.2.

~~Exception: An automatic sprinkler system shall not be required in spaces or areas of:~~

~~1. Open parking garages in accordance with Section 406.5 of the International Building Code.~~

~~2. Telecommunications equipment buildings used exclusively for telecommunications equipment, associated electrical power distribution equipment, batteries and standby engines, provided that those spaces or areas are equipped through-out with an automatic fire detection system in accordance with section 907.2 and are separated from the remainder of the building by not less than 1-hour fire barriers constructed in accordance with Section 707 of the International Building Code or not less than 2-hour horizontal assemblies constructed in accordance with Section 711 of the International Building Code, or both.~~

AA. ***High-Rise Buildings – High-Rise Building Sprinkler System Design.*** *Section 914.3 of the International Fire Code entitled "High-Rise Buildings," is amended by adding the following new subsection 914.3.1.3:*

914.3.1.3 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.

AB. ***High-Rise Buildings – Secondary Water Supply.*** *Section 914.3 of the International Fire Code entitled "High-Rise Buildings," is amended by substituting subsection 914.3.2 with the following:*

914.3.2 Secondary water supply. An automatic secondary on-site water supply ~~having a capacity not less than the hydraulically calculated sprinkler demand, including the hose stream requirement, shall be provided for high-rise buildings assigned to Seismic Design Category C, D, E or F as determined by the International Building Code. An additional fire pump shall not be required for the secondary water supply unless needed to provide the minimum design intake pressure at the suction side of the fire pump supplying the automatic sprinkler system. The secondary water supply shall have a duration of not less than 30 minutes as determined by the occupancy hazard classification in accordance with NFPA 13~~ shall be provided for high-rise building 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 that are less than 420 feet in height may share a common secondary water source 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 prove 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 the 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, including those undergoing substantial renovation.

21.20.100 Amendments to the International Fire Code – Chapter 10, Means of Egress.

The following local amendments to Chapter 10 of the International Fire Code, entitled "Fire Protection and Life Safety Systems," including all amendments enacted by the state of Washington, are hereby adopted and incorporated into the International Fire Code as follows:

A. ***Means of Egress Illumination – Duration.*** *Section 1008 of the International Fire Code entitled "Means of Egress Illumination," is amended by substituting subsection 1008.3.4 with the following:*

1008.3.4 Duration. The emergency power system shall provide power for a duration of not less than 90 minutes, or such time as stipulated by International Building Code Section 2702 and Table 2702 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 International Building Code Section 2702.

B. ***Two-Way Communication Systems – System Requirements.*** *Section 1009.8 of the International Fire Code entitled "Two-Way Communication Systems," is amended by substituting subsection 1009.8.1 with the following:*

1009.8.1 System requirements. Two-way communication systems shall provide communication between each required location and the fire command center or a central

control point location *approved* by the fire department. Where the central control point is not a constantly attended location, a two-way communication system shall have a timed automatic telephone dial-out capability to a monitoring location. The two-way communication system shall include both audible and visible signals. The two-way communication system shall have a battery backup or an *approved* alternate source of power that is capable of a duration of operation in accordance with International Building Section 2702 and Table 2702 ~~90 minutes use~~ upon failure of the normal power source.

C. ***Doors, Gates and Turnstiles – Thresholds.*** *Section 1010 of the International Fire Code entitled "Doors, Gates and Turnstiles," is amended by substituting subsection 1010.1.7 with the following:*

1010.1.7 Thresholds. Thresholds at doorways shall not exceed 3/4 inch (19.1 mm) in height above the finished floor or landing for sliding doors serving *dwelling units* or 1/2 inch (12.7 mm) above the finished floor or landing for other doors. Raised thresholds and floor level changes greater than 1/4 inch (6.4 mm) at doorways shall be beveled with a slope not greater than one-unit vertical in two units horizontal (50-percent slope).

Exceptions:

1. In occupancy Group R-2 or R-3, threshold heights for sliding and side-hinged exterior doors shall be permitted to be up to 7 3/4 inches (197 mm) in height if all of the following apply:

1.1. The door is not part of the required *means of egress.*

1.2. The door is not part of an *accessible route* as required by Chapter 11.

1.3. The door is not part of an *Accessible unit, Type A unit* or *Type B unit.*

2. In Type B units, where Exception 5 to Section 1010.1.5 permits a 4-inch (102 mm) elevation change at the door, the threshold height on the exterior side of the door shall not exceed 4 3/4 inches (120 mm) in height above the exterior deck, patio or balcony for sliding doors or 4 1/2 inches (114 mm) above the exterior deck, patio or balcony for other doors.

3. Thresholds at doors serving non-occupiable transformer rooms where emergency containment of oil and sprinkler water is required.

D. ***Stairways – Stairway Construction.*** *Section 1011 of the International Fire Code entitled "Stairways," is amended by substituting subsection 1011.7 with the following:*

1011.7 Stairway construction. Stairways shall be built of materials consistent with the types permitted for the type of construction of the building, except that wood handrails shall be permitted for all types of construction.
Exception: In buildings with a 3-hour horizontal assembly used to establish two separate buildings in accordance with International Building Code Section 510, a stairway constructed of combustible materials may extend below the 3-hour horizontal assembly if it is enclosed within a 3-hour fire-resistance rated shaft enclosure in accordance with Section 713, extending from the 3-hour horizontal assembly through the lowest basement level.

E. ***Horizontal Exits – Fire Alarm and Sprinkler Zones.*** *Section 1026 of the International Fire Code entitled "Horizontal Exits," is amended by adding the following new subsection 1026.6:*

1026.6 Fire Alarm and Sprinkler Zones. When fire walls and/or horizontal exits are provided the fire alarm and sprinkler systems shall be zoned to coincide with the horizontal exits.

Exception: Sprinkler zoning is not required in existing construction if fire alarm initiating devices provide the same level of occupant notification that a zoned sprinkler system would provide.

21.20.110 Amendments to the International Fire Code – Chapter 11, Construction Requirements for Existing Buildings. The following local amendments to Chapter 11 of the International Fire Code, entitled "Fire Protection and Life Safety Systems," including all amendments enacted by the state of Washington, are hereby adopted and incorporated into the International Fire Code as follows:

A. ***Fire Safety Requirements for Existing Buildings – Emergency Responder Radio Coverage in Existing Buildings.*** *Section 1103 of the International Fire Code entitled "Fire Safety Requirements for Existing Buildings," is amended by substituting subsection 1103.2 with the following:*

1103.2 Emergency responder radio coverage in existing buildings. ~~Existing buildings other than Group R-3, that do not have approved radio coverage for emergency responders in the building based on existing coverage levels of the public safety communication systems, shall be equipped with such coverage according to one of the following:~~ Buildings constructed prior to the implementation of this code shall not be required to comply with the emergency responder radio coverage provisions except as follows:

1. Whenever an existing wired communication system cannot be repaired or is being replaced. ~~, or where not approved in accordance with Section 510.1, Exception 1.~~

2. ~~Within a time frame established by the adopting authority. Within a time frame established by the adopting authority.~~ Buildings identified in Section 510.1 undergoing substantial alteration as determined by the Fire Code Official.

3. When buildings, classes of buildings or specific occupancies do not have minimum radio coverage signal strength as identified in Section 510.4.1 and the Fire or Police Chief determines that lack of minimum signal strength poses an undue risk to emergency responders or occupants that cannot be reasonably mitigated by other means.

B. ***Single and Multiple-Station Smoke Alarms – Where Required.*** *Section 1103.8 of the International Fire Code entitled "Single and Multiple-Station Smoke Alarms," is amended by substituting subsection 1103.8.1 with the following:*

1103.8.1 Where required. Existing Group I-1 and R occupancies shall be provided with single-station smoke alarms in accordance with Section 907.2.10, Interconnection and power sources shall be in accordance with Sections 1103.8.2 and 1103.8.3 respectively.

Exceptions: Where smoke detectors connected to a fire alarm system have been installed as a substitute for smoke alarms.

~~1. Where the code that was in effect at the time of construction required smoke alarms and smoke alarms complying with those requirements are already provided.~~

~~2. Where smoke alarms have been installed in occupancies and dwellings that were not required to have them at the time of construction, additional smoke alarms shall not be required provided that the existing smoke alarms comply with requirements that were in effect at the time of installation.~~

~~3. Where smoke detectors connected to a fire alarm system have been installed as a substitute for smoke alarms.~~

C. ***Fire Safety Requirements for Existing Buildings – Building Information Card.*** *Section 1103 of the International Fire Code entitled "Fire Safety Requirements for Existing Buildings," is amended by adding the following new subsection 1103.11:*

1103.11 Where required. Building Information Cards shall be provided in every high-rise building, hospital and R occupancies where multiple buildings are located on a common podium.

Building Information Cards shall be located in each fire command center when provided. If no fire command center exists, then the Building Information Cards shall be located in an *approved* location near the Fire Alarm Control Panel. The Building Information shall include, but is not limited to, information described in sections 1103.1 through 1103.11.7.

1103.11.1 General Building Information. General building information that includes: property name, address, the number of floors in the building above and below grade, use and occupancy classification (for mixed uses, identify the different types of occupancies on each floor) and the estimated building population during the day, night and weekend;

1103.11.2 Building Emergency Contact Information. Building emergency contact information that includes: a list of the building's emergency contacts including but not limited to building manager, building engineer and their respective work phone number, cell phone number and e-mail address;

1103.11.3 Building Construction Information. Building construction information that includes: the type of building construction including but not limited to floors, walls, columns and roof assembly;

1103.11.4 Exit Stairway Information. Exit access stairway and exit stairway information that includes; number of exit access stairways and exit stairways in building; each exit access stairway and exit stairway designation and floors served; location where each exit access stairway and exit stairway discharges, interior exit stairways that are pressurized; exit stairways provided with emergency lighting; each exit stairway that allow reentry; exit stairways providing roof access; elevator information that includes: number of elevator banks, elevator bank designation, elevator car numbers and respective floors that they serve; location of elevator machine rooms, control rooms and control spaces; location of sky lobby; and location of freight elevator banks;

1103.11.5 Building Services and System Information. Building services and system information that includes: location of mechanical rooms, location of building management system, location and capacity of all fuel oil tanks, location of emergency generator and location of natural gas service;

1103.11.6 Fire Protection System Information. Fire protection system information that includes: location of standpipes, location of fire pump room, location of fire department connections, floors protected by automatic sprinklers and location of different types of automatic sprinkler systems installed including but not limited to dry, wet and pre-action;

1103.11.7 Hazardous Material Information. Hazardous material information that includes: location and quantity of hazardous material.

21.20.120 Amendments to the International Fire Code – Chapter 12, Energy Systems.

The following local amendments to Chapter 12 of the International Fire Code, entitled "Energy Systems," including all amendments enacted by the state of Washington, are hereby adopted and incorporated into the International Fire Code as follows:

A. ***Emergency and Standby Power Systems – General.*** *Section 1203 of the International Fire Code entitled "Emergency and Standby Power Systems," is amended by substituting subsection 1203.1 with the following:*

> 1203.1 General. Emergency power systems and standby power systems required by this code or the *International Building Code* shall comply with Sections 1203.1.1 through 1230.1.9 and International Building Code chapter 27 as amended by the City of Kirkland.

21.20.330 Amendments to the International Fire Code – Chapter 33, Fire Safety During Construction and Demolition.

The following local amendments to Chapter 33 of the International Fire Code, entitled "Fire Safety During Construction and Demolition," including all amendments enacted by the state of Washington, are hereby adopted and incorporated into the International Fire Code as follows:

A. ***Owner's Responsibility for Fire Protection – Prefire Plans.*** *Section 3308 of the International Fire Code entitled "Owner's Responsibility for Fire Protection," is amended by substituting Section 3308.3 with the following:*

> 3308.3 Prefire plans. The fire prevention program superintendent shall develop and maintain an approved prefire plan in cooperation with the fire chief. Prefire plans for buildings exceeding 50,000 s.f. shall be *approved* prior to the issuance of the building permit. The fire chief and the *fire code official* shall be notified of changes affecting the utilization of information contained in such prefire plans.

B. ***Owner's Responsibility for Fire Protection – Job Shacks and Other Temporary Structures.*** *Section 3308 of the International Fire Code entitled "Owner's Responsibility for Fire Protection," is amended by adding the following new subsection 3308.8.10:*

3308.8.10 Job shacks and other temporary structures. Job shacks and other temporary structures located within or less than 20' from the permanent building shall be:

- Constructed of non-combustible materials or 1-hour fire-resistive construction.
- Shall not be equipped with fuel fired heaters.
- Shall be equipped with monitored fire alarm systems when located below grade.
- Shall not function as offices unless protected with automatic sprinkler systems.

C. ***Owner's Responsibility for Fire Protection – Additional Requirements for Wood-Frame Buildings More Than 50,000 Square Feet in Area.*** *Section 3308 of the International Fire Code entitled "Owner's Responsibility for Fire Protection," is amended by adding the following new subsection 3308.8.11:*

3308.11 Additional Requirements for wood-frame buildings more than 50,000 square feet in area.

3308.11.1 Job Site Security. Once above grade combustible construction has begun, the job site shall be secured with controlled access. Off hours guard service and/or motion-controlled surveillance may be required at the discretion of the fire code official.

3308.11.2 Construction mitigations for wood frame buildings exceeding 80,000 s.f. when exposures exist within 60' of a building under construction. The exterior wall of the building under construction shall be covered with 5/8-inch gypsum sheathing to include windows, doors or other openings until interior framing members have been covered with gypsum board or their finish materials.

For the purpose of measuring total square footage of wood framing, any adjacent on-going wood frame construction is considered to be within the project when adjacent structures are separated by less than sixty (60) feet of open air.

Exception: A mitigation plan developed by a Washington State Licensed Fire Protection Engineer. The mitigation plan may rely on temporary, permanent and/or active measures.

3308.11.3 Construction mitigations. For wood frame buildings exceeding 350,000 square feet; or 200,000 square feet when the building exceeds 50 feet in height, mitigating fire protection barriers consisting of at least one layer of 5/8-inch gypsum board or other equivalent fire resistive materials, shall be installed such that the mitigating fire protection barrier(s) enclose area(s) of not more than 50,000 square feet.

Exception: A mitigation plan developed by a Washington State Licensed Fire Protection Engineer. The mitigation plan may rely on temporary, permanent and/or active measures.

21.20.500 Amendments to the International Fire Code – Chapter 50, Hazardous Materials—General Provisions.

The following local amendments to Chapter 50 of the International Fire Code, entitled "Hazardous Materials—General Provisions," including all amendments enacted by the state of Washington, are hereby adopted and incorporated into the International Fire Code as follows:

A. ***General Safety Precautions – Manufacturer's Limitations.*** *Section 5003 of the International Fire Code entitled "General Safety Precautions," is amended by adding the following new subsection 5003.9.11:*

5003.9.11 Manufacturer's Limitations. The storage and use of hazardous materials shall not exceed the manufacturer's limitations on shelf life and any other restrictions on use.

21.20.530 Amendments to the International Fire Code – Chapter 53, Compressed Gases.

The following local amendments to Chapter 53 of the International Fire Code, entitled "Compressed Gases," including all amendments enacted by the state of Washington, are hereby

adopted and incorporated into the International Fire Code as follows:

A. ***Compressed Gases Not Otherwise Regulated – Insulated Liquid Carbon Dioxide or Nitrogen Systems Used in Beverage Disposing Applications.*** *Section 5307 of the International Fire Code entitled "Compressed Gases Not Otherwise Regulated," is amended by substituting subsection 5307.3 with the following:*

5307.3 Insulated liquid carbon dioxide or nitrogen systems used in beverage dispensing applications. Insulated liquid carbon dioxide or nitrogen systems with more than 100 pounds (45.4 kg) of carbon dioxide or nitrogen used in beverage dispensing applications shall comply with Section 5307.3.1.

5307.3.1 Ventilation. Where insulated liquid carbon dioxide or nitrogen storage tanks, cylinders, piping and equipment are located indoors, rooms or areas containing storage tanks, cylinders, piping and equipment, and other areas where a leak of carbon dioxide or nitrogen is expected to accumulate, shall be provided with mechanical ventilation in accordance with Section 5004.3 and designed to maintain the room containing carbon dioxide or nitrogen at a negative pressure in relation to the surrounding area.

Exception: A gas detection system complying with Section 5307.3.2 shall be permitted in lieu of mechanical ventilation.

5307.3.2 Gas detection system. Where ventilation is not provided in accordance with Section 5307.3.1, a gas detection system shall be provided in rooms or indoor areas and in below-grade outdoor locations with insulated carbon dioxide or nitrogen systems. Carbon dioxide or nitrogen sensors shall be provided within 12 inches (305 mm) of the floor in the area where the gas is expected to accumulate or other *approved* locations.

The system shall be designed as follows:

1. Activates an audible and visible supervisory alarm at a normally attended location upon detection of a carbon dioxide or nitrogen concentration of 5,000 ppm (9000 mg/m3).
2. Activates an audible and visible alarm within the room or immediate area where the system is

installed upon detection of a carbon dioxide or nitrogen concentration of 30,000 ppm (54 000 mg/m3).

21.20.570 Amendments to the International Fire Code – Chapter 57, Flammable and Combustible Liquids.

The following local amendments to Chapter 57 of the International Fire Code, entitled "Flammable and Combustible Liquids," including all amendments enacted by the state of Washington, are hereby adopted and incorporated into the International Fire Code as follows:

A. ***Flammable and Combustible Liquids – On-Demand Mobile Fueling Operations.*** *Chapter 57 of the International Fire Code entitled "Flammable and Combustible Liquids," is amended by substituting Section 5707 with the following:*

SECTION 5707 ON-DEMAND MOBILE FUELING OPERATIONS

5707.1 General. On-demand mobile fueling operations that dispense Class I, II and III liquids into the fuel tanks of motor vehicles shall comply with Sections 5707.1 through 5707.6.~~3~~6.

Exception: Fueling from an *approved* portable container in cases of an emergency or for personal use.

5707.1.1 Approval required. Mobile fueling operations shall not be conducted without first obtaining a *permit* and approval from the *fire code official*. Mobile fueling operations shall occur only at *approved* locations. The *fire code official* is authorized to approve individual locations or geographic areas where mobile fueling is allowed.

5707.2 Mobile fueling vehicle. An on-demand mobile fueling vehicle shall be ~~one of the following:~~ that which is utilized in on-demand fueling operations for the dispensing of Class I, II or III liquids into the fuel tanks of motor vehicles.

5707.2.1 Mobile fueling vehicle classifications. An on-demand mobile fueling vehicle shall be characterized as one of the following:

1. Tier 1 Mobile Fueling Vehicle- A tank vehicle that complies with NFPA 385 and that has chassis-mounted

tanks ~~or containers~~ where the aggregate ~~cargo~~ capacity does not exceed ~~1200~~ 1600 gallons (~~4592~~ 6057 L).

2. Tier 2 Mobile Fueling Vehicle- A ~~mobile fueling~~ vehicle with ~~a mounted *tank* in excess of~~ one or more chassis-mounted tanks or chassis-mounted containers, not to exceed 110 gallons (415 L) capacity and having an aggregate capacity that does not exceed 800 gallons (3028 L) ~~shall comply with the requirements of Section 5706.6, Section 5707 and NFPA 385~~ or the weight capacity of the vehicle in accordance with DOTn.

~~2~~ 3.Tier 3 Mobile Fueling Vehicle- A vehicle that carries a maximum aggregate capacity of 60 gallons (227 L) of motor fuel in metal safety cans *listed* in accordance with UL 30 or other *approved* metal containers, each not to exceed 5 gallons (19 L) in capacity. ~~Containers shall be secured to the mobile fueling vehicle except when in use.~~

5707.2.2 Mobile fueling vehicle requirements. Each ~~The~~ mobile fueling vehicle shall comply with all local, state and federal requirements~~.~~, as well as the following:

1. Mobile fueling vehicles with a chassis-mounted tank in excess of 110 gallons (415 L) shall also comply with the requirements of Section 5706.6 and NFPA 385.
2. The mobile fueling vehicle and its equipment shall be maintained in good repair.
3. Safety cans and *approved* metal containers shall be secured to the mobile fueling vehicle except when in use.
4. Fueling a motor vehicle from tanks or containers mounted in a trailer connected to a mobile fueling vehicle shall be prohibited.

5707.3 Required documents. Documents developed to comply with Sections 5707.3.1 through 5707.3.3 shall be updated as necessary by the *owner* of the mobile fueling operation and shall be maintained in compliance with Section 108.3.

5707.3.1 Safety and emergency response plan. Mobile fueling operators shall have an *approved* written safety and emergency response plan that establishes policies and procedures for fire safety, spill prevention and control,

personnel training and compliance with other applicable requirements of this code.

5707.3.2 Training records. Mobile fueling vehicles shall be operated only by designated personnel who are trained on proper fueling procedures and the safety and emergency response plan. Training records of operators shall be maintained.

5707.3.3 Site plan. Where required by the *fire code official*, a site plan shall be developed for each location or area at which mobile fueling occurs. The site plan shall be in sufficient detail to indicate the following:

1. ~~a~~ All buildings~~,~~ and structures~~,~~
2. ~~/~~ *Lot lines* or~~,~~ property lines ~~and~~
3. Electric car chargers
4. Solar photovoltaic parking lot canopies
5. ~~a~~ Appurtenances on site and their use or function~~;~~
6. ~~a~~ All uses adjacent to the *lot lines* of the site~~; all~~
7. ~~f~~ Fueling locations~~, the~~
8. ~~l~~ Locations of all storm drain openings and adjacent waterways or wetlands~~;~~
9. ~~I~~ Information regarding slope, natural drainage, curbing, impounding ~~and~~
10. ~~h~~ How a spill will be kept on the site property~~; and the~~
11. ~~s~~ Scale of the site plan.

5707.4 Mobile fueling areas. ~~Mobile fueling~~ The mobile fueling vehicle and point of connection of the vehicle being fueled shall not occur on public streets, *public ways* or inside *buildings*. Fueling on the roof level of parking structures or other *buildings* is prohibited.

5707.4.1 Separation. ~~Mobile fueling~~ The point of connection of the vehicle being fueled shall not take place within 25 feet (7620 mm) of buildings, lot lines, property lines or combustible storage. Mobile fueling vehicles shall not park within 10 feet (3048 mm) of buildings, lot lines, property lines, or combustible storage.

Exceptions:

1. The *fire code official* shall be authorized to decrease the separation distance for dispensing

from metal safety cans or other *approved* metal containers in accordance with Section 5707.2.

2. The point of fueling shall not take place within 10 feet (3048 mm) of buildings, lot lines, property lines, or combustible storage when the mobile fueling vehicle has an *approved* vapor recovery system or is servicing vehicles with on board refueling vapor recovery.

Where dispensing operations occur within 15 feet (4572 mm) of a storm drain, an *approved* storm drain cover or an *approved* equivalent method that will prevent any fuel from reaching the drain shall be used.

5707.4.2 Sources of ignition. Smoking, open flames and other sources of ignition shall be prohibited within 25 feet (7620 mm) of fuel dispensing activities. Signs prohibiting smoking or open flames within 25 feet (7620 mm) of the vehicle or the point of fueling shall be prominently posted on the mobile fueling vehicle. The engines of vehicles being fueled shall be shut off during fueling.

5707.4.3 Electrical equipment. Mobile fueling shall not occur within 20 feet of electrical equipment located within 18 inches of the ground unless such electrical equipment is rated for Class 1, Division 2 hazardous locations in accordance with the National Electrical Code.

5707.5 Equipment. Mobile fueling equipment shall comply with Sections 5707.5.1 through 5707.5.45.

5707.5.1 Dispensing hoses and nozzles. Where equipped, the dispensing hose shall not exceed 50 feet (15 240 mm) in length. The dispensing nozzles and hoses shall be of an *approved* and *listed* type. Where metal-to-metal contact cannot be made between the nozzle and the fuel fill opening, then a means for bonding the mobile fueling vehicle to the motor vehicle shall be provided and employed during fueling operations.

5707.5.2 Break-away device. A listed break-away device shall be provided at the nozzle.

Exception: Mobile fueling vehicles equipped with an *approved* brake interlock tied to the nozzle holder that

prohibits movement of the mobile fueling vehicle when the nozzle is removed from its holder or tied to the delivery of fuel that prevents activation of the pumping system.

5707.5.~~2~~3 ~~Fuel~~ Shut off valve and fuel limit. Mobile fueling vehicles shall be equipped with a listed shut off valve assembly and a fuel limit switch set to a maximum of 30 gallons (116 L) ~~and a nozzle or other *approved* device that, when activated, immediately causes flow of fuel from the mobile fueling vehicle to cease~~.

5707.5.~~3~~4 Fire extinguisher. An *approved* portable fire extinguisher complying with Section 906 with a minimum rating of ~~40~~ 4A:80-B:C shall be provided on the mobile fueling vehicle with signage clearly indicating its location.

5707.5.~~4~~5 Spill kit. Mobile fueling vehicles shall contain a minimum 5-gallon (19 L) spill kit of an *approved* type.

5707.6 Operations. Mobile fueling vehicles shall be constantly attended during fueling operations with brakes set and warning lights in operation. Mobile fueling vehicles shall not obstruct emergency vehicle access roads.

5707.6.1 Dispensing hose. Where equipped, mobile fueling vehicles shall be positioned in a manner to preclude traffic from driving over the dispensing hose. The dispensing hose shall be properly placed on an *approved* reel or in an *approved* compartment prior to moving the mobile fueling vehicle.

5707.6.2 Drip control. Operators shall place a drip pan or an absorbent pillow under the nozzle and each fuel fill opening prior to and during dispensing operations to catch drips.

5707.6.3 Safety cones. Safety cones or other visual barriers shall be employed as warning devices to highlight the vehicle fueling area.

5707.6.4 Vehicle lights. The mobile fueling vehicle flasher lights shall be in operation while dispensing operations are in progress.

5707.6.5 Nighttime deliveries. Nighttime deliveries shall only be made in areas deemed adequately lighted by the *fire code official.*

5707.6.36 Spill reporting. Spills shall be reported in accordance with Section 5003.3.1.

21.20.610 Amendments to the International Fire Code – Chapter 61, Liquified Petroleum Gases.

The following local amendments to Chapter 61 of the International Fire Code, entitled "Liquified Petroleum Gases," including all amendments enacted by the state of Washington, are hereby adopted and incorporated into the International Fire Code as follows:

A. ***Location of LP-Gas Containers – Maximum Capacity.*** *Section 6104 of the International Fire Code entitled "Location of LP-Gas Containers," is amended by substituting subsection 6104.2 with the following:*

6104.2 Maximum Capacity. Within the limits established by law restricting the storage of liquefied petroleum gas for the protection of heavily populated or congested commercial areas ~~[JURISDICTION TO SPECIFY]~~ within the boundaries of the City of Kirkland, the aggregate capacity of any one installation shall not exceed a water capacity 2,000 gallons (7570 L).

Exception: In particular installations, this capacity limit ~~shall~~ may ~~be determined by the fire code official~~ altered at the discretion of the chief, after consideration of special features such as topographical conditions, nature of occupancy and proximity to buildings, capacity of proposed LP-gas containers, degree of fire protection to be provided, and facilities of the local fire department. The storage of liquefied petroleum gas shall conform to the provisions of the Kirkland Zoning Code.

21.20.800 Amendments to the International Fire Code – Chapter 80, Reference Standards.

The following local amendments to Chapter 80 of the International Fire Code, entitled "Reference Standards," including all amendments enacted by the state of Washington, are hereby adopted and incorporated into the International Fire Code as follows:

A. ***Reference Standards – NFPA 1221.*** *Chapter 80 of the International Fire Code entitled "Reference Standards," is amended by substituting reference to NFPA 1221 with the following:*

NFPA
1221—~~16~~ 19: Standard for the Installation, Maintenance and Use of Emergency Services Communications Systems.

Section 2. The City Council hereby declares that an emergency exists pursuant to RCW 35A.13.190 necessitating that this ordinance take effect immediately upon passage. Publication shall be pursuant to Section 1.08.017, Kirkland Municipal Code in the summary form attached to the original of this ordinance and by this reference approved by the City Council.

Passed by affirmative vote of at least 5 members of the Kirkland City Council in open meeting this 2 day of February, 2021.

Signed in authentication thereof this 2 day of February, 2021.

Penny Sweet, Mayor

Attest:

Kathi Anderson, City Clerk

Approved as to Form:

Kevin Raymond, City Attorney

Publication Date: 02/08/2021

PUBLICATION SUMMARY
OF ORDINANCE NO. 4752

AN ORDINANCE OF THE CITY OF KIRKLAND REPEALING AND REENACTING CHAPTER 21.20 OF THE KIRKLAND MUNICIPAL CODE ENTITLED "INTERNATIONAL FIRE CODE"; DECLARING AN EMERGENCY AND ESTABLISHING AN IMMEDIATE EFFECTIVE DATE.

SECTION 1. Repeals Kirkland Municipal Code Chapter 21.20 and replaces the Chapter with a new Chapter 21.20 entitled "International Fire Code."

SECTION 2. Establishes that an emergency exists pursuant to RCW 35A.13.190 necessitating that the ordinance take effect immediately upon passage. Authorizes publication of the ordinance by summary, which summary is approved by the City Council pursuant to Section 1.08.017 Kirkland Municipal Code.

The full text of this Ordinance will be mailed without charge to any person upon request made to the City Clerk for the City of Kirkland. The Ordinance was passed by the Kirkland City Council at its meeting on the 2 day of February, 2021.

I certify that the foregoing is a summary of Ordinance 4752 approved by the Kirkland City Council for summary publication.

Kathi Anderson, City Clerk