

**CITY COUNCIL AGENDA ITEM**  
CITY OF SHORELINE, WASHINGTON

|                      |                                                                                                        |
|----------------------|--------------------------------------------------------------------------------------------------------|
| <b>AGENDA TITLE:</b> | Adoption of Local Amendments to the 2006 International Construction Codes                              |
| <b>DEPARTMENT:</b>   | Planning and Development Services                                                                      |
| <b>PRESENTED BY:</b> | Ray Allshouse, Building Official<br>Joseph Tovar, FAICP, Director of Planning and Development Services |

**PROBLEM/ISSUE STATEMENT:**

The issue before Council is the revision of local amendments to the Construction and Building Codes.

Shoreline Municipal Code Chapter 15.05 Construction and Building Codes adopts the current editions of the national model codes by reference without requiring further Council action. However, changes to model code language require an update of specific local amendments for consistency purposes. Additional revisions recommended by City and Shoreline Fire Department Staff to reflect current practice and accommodate existing as well as contemplated water purveyor standards are also included.

**FINANCIAL IMPACT:**

There are no direct financial impacts to the City of the amendments proposed by City and Fire Department Staff.

**RECOMMENDATION**

Staff recommends that Council approve Ordinance No. 477, amending Chapter 15.05 of the Shoreline Municipal Code (Attachment A).

Approved By:

City Manager 

City Attorney 

## **INTRODUCTION**

Adoption of local amendments to the 2006 International Construction Codes is necessary to ensure consistency with the Development Code and accommodate operational requirements of the Shoreline Fire Department and water purveyors.

## **BACKGROUND**

On November 17, 2006, the Washington State Building Code Council voted to adopt the 2006 Editions of the national model codes, with some state amendments under Washington Administrative Code rulemaking authority. The effective date of these codes, as amended, is July 1, 2007.

Shoreline Municipal Code Chapter 15.05 Construction and Building Codes adopts the current editions of these national model codes by reference without requiring further Council action (Ordinance No. 355, 2004). However, changes to model code language require an update of specific local amendments for consistency purposes. Additional revisions recommended by City and Shoreline Fire Department Staff to reflect current practice and accommodate existing as well as contemplated water purveyor standards are also included.

## **LOCAL AMENDMENT ANALYSIS**

Exhibits 1 through 4 to Attachment A include a copy of the original and proposed amending language shown in legislative format. Legislative format uses strikethroughs for proposed text deletions and underlines for proposed text additions.

Descriptive statements are included below for each local amendment change included in proposed Ordinance No. 477.

SMC 15.05.010 Adoption of referenced codes.

- Additional factors used in practice to determine building fire flow and fire hydrant requirements need to be codified as local amendments to the International Fire Code in lieu of Appendix B and C adoption.

SMC 15.05.030 International building code amendments.

SMC 15.05.040 International residential code amendments.

- Technical building code requirements apply to all construction, whether or not a permit is required, so the option to not regulate to a lower threshold is deemed appropriate. Furthermore, retaining the current 200 square foot building permit exemption affords continued consistent language to that found in the Development Code, Title 20.
- Clarification edits to elevator car ambulance stretcher accommodations.

SMC 15.05.050 International fire code amendments.

- Referenced standards for Emergency Power Supply Systems have proven in practice to require significant effort by Fire Department staff; the cost of which will

be recovered explicitly by requiring a construction permit with an hourly rate fee for such installations.

- The current amendment language is deleted since it is now included in the 2006 IFC under Section 308.6 Flaming food and beverage preparation.
- Inclusion of other types of fueled equipment was unintentionally omitted from current Section 314.4 Indoor Displays amendment language.
- Additional factors used in practice to determine building fire flow are codified under Section 508.3 in lieu of IFC Appendix B language.
- An increase of the residential exception limitation from 350 to 500 feet to the nearest fire hydrant, to allow inclusion of the entire distance to the remotest fire hose service point.
- Specific fire hydrant obstruction protective measures regarding motor vehicles, refuse containers and other obstructions are codified under amended Section 508.5.4.
- Additional factors used in practice to determine building fire hydrant locations are codified under Section 508.5 in lieu of IFC Appendix C language.
- The current amendment language is deleted due to an entire rewrite of Section 803 in the 2006 IFC.
- The current sunset dates in Sections 901.6.1 and 904.11 have past and therefore are no longer needed.
- Section 903.2.14 factors for determination of fire flow and fire hydrant locations are provided under amendments to Sections 508.3 and 508.5 in addition to a new Section 508.5.7, with actual flow testing of hydrants limited to only when approved by the water purveyor.
- The current amendment language for Sections 905.3.7 and 905.8 is deleted since it is redundant to 2006 IFC language.
- Necessary requirements heretofore covered by adoption of Appendix B and C have been incorporated as local amendments in the body of the code under Sections 508.3 and 508.5.

The International Fire Code amendments were presented to the Shoreline Fire Department Board of Commissioners and approved on September 6, 2007. All recommendations of the Shoreline Water District Manager have been accommodated.

### **RECOMMENDATION**

Staff recommends that Council approve Ordinance No. 477, amending Chapter 15.05 of the Shoreline Municipal Code (Attachment A).

### **ATTACHMENTS**

Attachment A: Ordinance 477, containing proposed amendment language revisions in legislative format as Exhibit 1 through 4

**ORDINANCE NO. 477**

**AN ORDINANCE OF THE CITY OF SHORELINE, WASHINGTON AMENDING THE INTERNATIONAL BUILDING CODE, INTERNATIONAL RESIDENTIAL CODE and INTERNATIONAL FIRE CODE AND AMENDING SECTIONS 15.05.010, 15.05.030, 15.05.040 AND 15.05.050 OF THE SHORELINE MUNICIPAL CODE**

WHEREAS, Chapter 15.05 of the Shoreline Municipal Code adopts all building and construction codes, as amended by the State Building Code Council, for the City of Shoreline, including the International Building Code ("IBC"), the International Residential Code ("IRC"), and the International Fire Code ("IFC");

WHEREAS, City of Shoreline staff has reviewed the IBC and the IRC as adopted by the City of Shoreline and is proposing amendments in order to ensure consistency with the Shoreline Development Code; and

WHEREAS, the City of Shoreline staff and the and Shoreline Fire Department have reviewed the IFC as adopted by the City of Shoreline and are proposing amendments in order to improve fire safety;

**NOW THEREFORE, THE CITY COUNCIL OF THE CITY OF SHORELINE, WASHINGTON DO ORDAIN AS FOLLOWS:**

**Section 1. Amendment.** Shoreline Municipal Code Section 15.05.010, *Adoption of referenced codes*, is hereby amended as set forth in Exhibit 1, which is attached hereto and incorporated herein.

**Section 2. Amendment.** Shoreline Municipal Code Section 15.05.030, *International Building Code amendments*, is hereby amended as set forth in Exhibit 2, which is attached hereto and incorporated herein.

**Section 3. Amendment.** Shoreline Municipal Code Section 15.05.040, *International Residential Code amendments*, is hereby amended as set forth in Exhibit 3, which is attached hereto and incorporated herein.

**Section 4. Amendment.** Shoreline Municipal Code Section 15.05.050, *International Fire Code amendments*, is hereby amended as set forth in Exhibit 4, which is attached hereto and incorporated herein.

**Section 5. Severability.** Should any section, paragraph, sentence, clause or phrase of this ordinance, or its application to any person or circumstance, be declared unconstitutional or otherwise invalid for any reason, or should any portion of this ordinance be preempted by state or federal law or regulation, such decision or preemption shall not affect the validity of the remaining portions of this ordinance or its application to other persons or circumstances.

**Section 6. Effective Date and Publication.** A summary of this ordinance consisting of the title shall be published in the official newspaper and the ordinance shall take effect five days after publication.

**PASSED BY THE CITY COUNCIL ON DECEMBER 10, 2007.**

\_\_\_\_\_  
Mayor Robert Ransom

**ATTEST:**

**APPROVED AS TO FORM:**

\_\_\_\_\_  
Scott Passey  
City Clerk

\_\_\_\_\_  
Ian Sievers  
City Attorney

Date of publication: December, 2007  
Effective date: December, 2007

## EXHIBIT 1

### 15.05.010 Adoption of referenced codes.

The city of Shoreline hereby adopts the following codes for the purpose of establishing rules and regulations for the construction, alteration, removal, demolition, equipment, use and occupancy, location and maintenance of buildings, premises and structures, including permits and penalties:

A. The current edition of the International Building Code published by the International Code Council, Inc., as adopted by the Washington State Building Code Council in Chapter 51-50 WAC, as now or hereafter amended.

B. The current edition of the International Residential Code published by the International Code Council, Inc., as adopted by the Washington State Building Code Council in Chapter 51-51 WAC, as now or hereafter amended.

C. The current edition of the International Mechanical Code published by the International Code Council, Inc., as adopted by the Washington State Building Code Council in Chapter 51-52 WAC, as now or hereafter amended, except that the standards for liquefied petroleum gas installations shall be NFPA 58 (Storage and Handling of Liquefied Petroleum Gases) and ANSI Z223.1/NFPA 54 (National Fuel Gas Code).

D. The current edition of the International Fuel Gas Code published by the International Code Council, Inc., as adopted by the Washington State Building Code Council in Chapter 51-52 WAC, as now or hereafter amended. The following appendix is specifically adopted: Appendix A, Sizing Capacities of Gas Piping.

E. The current edition of the International Fire Code, published by the International Code Council, Inc., as adopted by the Washington State Building Code Council in Chapter 51-54 WAC, as now or hereafter amended, including those standards of the National Fire Protection Association specifically referenced in the International Fire Code; provided, that notwithstanding any wording in this code, participants in religious ceremonies shall not be precluded from carrying hand-held candles. The following appendices are specifically adopted:

- ~~1. Appendix B, Fire Flow Requirements for Buildings;~~
- ~~2. Appendix C, Fire Hydrant Locations and Distribution;~~
- ~~3~~ 1. Appendix E, Hazard Categories;
- ~~4~~ 2. Appendix F, Hazard Ranking.

F. Except as provided in RCW 19.27.170, the current edition of the Uniform Plumbing Code and Uniform Plumbing Code Standards, published by the International Association of Plumbing and Mechanical Officials, as adopted by the Washington State Building Code Council in Chapters 51-56 and 51-57 WAC, as now or hereafter amended; provided, that any provisions of such code affecting sewers or fuel gas piping are not adopted. The following appendices are specifically adopted:

1. Appendix A, Recommended Rules for Sizing the Water Supply System;

- 2. Appendix B, Explanatory Notes on Combination Waste and Vent Systems;
- 3. Appendix D, Sizing Storm Water Drainage Systems;
- ~~4. Appendix H, Recommended Procedures for Design, Construction and Installation of Commercial Kitchen Grease Interceptors;~~
- 54. Appendix I, Installation Standards.

G. The rules adopted by the Washington State Building Code Council establishing standards for making buildings and facilities accessible to and usable by the physically disabled or elderly persons, as provided in RCW 70.92.100 through 70.92.160.

H. The current edition of the Washington State Energy Code, as adopted by the State Building Code Council in Chapter 51-11 WAC, as now or hereafter amended.

I. The current edition of the Washington State Ventilation and Indoor Air Quality Code, as adopted by the Washington State Building Code Council in Chapter 51-13 WAC, as now or hereafter amended.

J. The 2005 National Electric Code, published by the National Fire Protection Association, as adopted by the Department of Labor and Industries in Chapter 296-46B WAC, as now or hereafter amended, and Chapter 19.28 RCW, as now or hereafter amended.

K. The 2003 International Property Maintenance Code published by the International Code Council as amended and filed under city clerk's receiving number 3505.

## EXHIBIT 2

### 15.05.030 International Building Code amendments.

#### A. Section 105.2, Work exempt from permit.

##### 1. Section 105.2(1) is amended to read as follows:

1. One-story detached accessory structures used as tool and storage sheds, playhouses and similar uses, provided the floor area does not exceed 200 square feet (18.33 m<sup>2</sup>)

##### 2. Section 105.2(6) is amended to read as follows:

6. Platforms, sidewalks and driveways not more than 30 inches (762 mm) above grade and not over any basement or story below and which are not part of an accessible route.

##### 3. Section 105.2(14) is added to read as follows:

14. Re-roofing of existing buildings where there are no structural elements being revised or replaced including the roof diaphragm.

#### B. Section 1612.3, Establishment of flood hazard areas, is amended to read as follows:

To establish flood hazard areas, the governing body shall adopt a flood hazard map and supporting data. The flood hazard map shall include, at a minimum, areas of special flood hazard as identified by the Federal Emergency Management Agency in an engineering report entitled "The Flood Insurance Study for the City of Shoreline," dated March 4, 1997, as amended or revised with the accompanying Flood Insurance Rate Map (FIRM) and Flood Boundary and Floodway Map (FBFM) and related supporting data along with any revisions thereto. The adopted flood hazard map and supporting data are hereby adopted by reference and declared to be part of this section.

#### C. Section 3002.4, Elevator car to accommodate ambulance stretcher, is amended to read as follows:

Where elevators are provided in buildings, four or more stories above above grade plane or four or more stories below grade plane, or any R occupancy buildings with elevators serving one or more stories above or below ground access, at least one elevator shall be provided for fire department emergency access to all floors. The elevator car shall be such a size and arrangement to accommodate a 24-inch by 84-inch (610 mm by 1930 mm) ambulance stretcher in the horizontal, open position and shall be identified by the international symbol for emergency medical services (star of life). The symbol shall not be less than 3 inches (76 mm) high and shall be placed inside on both sides of the hoistway door frame.



## EXHIBIT 3

### 15.05.040 International Residential Code amendments.

#### A. Section 105.2, Work exempt from permit.

##### 1. Section 105.2(1) is amended to read as follows:

1. One-story detached accessory structures used as tool and storage sheds, playhouses and similar uses, provided the floor area does not exceed 200 square feet (18.33 m<sup>2</sup>)

##### 4 2. Section 105.2(6) is amended to read as follows:

6. Platforms, sidewalks and driveways not more than 30 inches (762 mm) above grade and not over any basement or story below and which are not part of an accessible route.

##### 2 3. Section 105.2(10) is added to read as follows:

10. Re-roofing of existing buildings where there are no structural elements being revised, including the roof diaphragm.

#### B. Table R301.2(1), Climatic and Geographical Design Criteria, is amended to read as follows:

| Table R301.2(1)<br>Climatic and Geographical Design Criteria |                    |
|--------------------------------------------------------------|--------------------|
| Roof Snow Load                                               | 25 lbs/sq ft       |
| Wind Speed                                                   | 85 mph             |
| Seismic Design Category                                      | D2                 |
| Weathering                                                   | Moderate           |
| Frost Line Depth                                             | 12"                |
| Termites                                                     | Slight to Moderate |
| Decay                                                        | Slight to Moderate |
| Winter Design Temp                                           | 27 degrees         |
| Ice Shield Underlayment Required                             | No                 |
| Flood Hazards                                                | *                  |
| Air Freeze Index                                             | 113                |
| Mean Annual Temp                                             | 53 degrees         |
| *1. Date of ordinance adoption: March 4, 1997.               |                    |
| 2. Map effective date: May 15, 1995.                         |                    |

## EXHIBIT 4

### **15.05.050 International Fire Code amendments.**

A. Section 102.6 is amended to read as follows:

102.6 Referenced codes and standards. The codes and standards referenced in this code shall be those that are listed in Chapter 45. 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 chief. Where differences occur between the provisions of this code and the referenced standards, the provisions of this code shall apply.

B. Sections 104.1, 104.10.1, and 104.11.2 are amended to read as follows:

1. 104.1 General. The City Manager or his/her designee is hereby authorized to enforce the provisions of this code, and to adopt policies, procedures, rules and regulations in order to clarify the application of its provision. Wherever this code refers to the fire code official it shall be construed to mean the City Manager or his/her designee. Such interpretations, policies, procedures, rules and regulations shall be in compliance with the intent and purpose of this code and shall not have the effect of waiving requirements specifically provided for in this code.

2. 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 when requested to do so by the fire chief or his/her designee.

3. 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 chief 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.

C. New Section 105.7.14 is added to read as follows:

105.7.14 Emergency Power Supply System. A construction permit is required for the installation of Emergency Power Supply Systems required by Section 604.

G.D. Sections 109.3 and 111.4 are hereby repealed.

~~D. New Section 308.3.1.2 is added to read as follows:~~

~~308.3.1.2 Flaming food and beverage preparation.~~

~~308.3.1.2.1 General. The preparation of flaming foods or beverages in places of assembly and drinking or dining establishments shall be in accordance with Section 308.3.1.2.~~

~~308.3.1.2.2 Dispensing. Flammable or combustible liquids used in the preparation of flaming foods or beverages shall be dispensed from one of the following:~~

- ~~1. A 1-ounce (29.6 ml) container; or~~
- ~~2. A container not exceeding 1 quart (946.5 ml) capacity with controlled-pouring device that will limit the flow to a 1-ounce (29.6 ml) serving.~~

~~308.3.1.2.3 Containers not in use. Containers shall be secured to prevent spillage when not in use.~~

~~308.3.1.2.4 Serving of flaming food. The serving of flaming foods or beverages shall be done in a safe manner and shall not create high flames. The pouring, ladling or spooning of liquids is restricted to a maximum height of 8 inches (203 mm) above the receiving receptacle.~~

~~308.3.1.2.5 Location. Flaming foods or beverages shall be prepared only in the immediate vicinity of the table being serviced. They shall not be transported or carried while burning.~~

~~308.3.1.2.6 Fire protection. The person preparing the flaming foods or beverages shall have a wet cloth immediately available for use in smothering the flames in the event of an emergency.~~

E. Section 308.3.7 is amended to read as follows:

308.3.7 Group A occupancies. Open-flame devices shall not be used in a Group A occupancy.

Exceptions:

1. Open-flame devices are allowed to be used in the following situations, provided approved precautions are taken to prevent ignition of a combustible material or injury to occupants:

1.1. Where necessary for ceremonial or religious purposes in accordance with Section 308.3.5.

1.2. On stages and platforms as a necessary part of a performance in accordance with Section 308.3.6.

1.3. Where candles on tables are securely supported on substantial noncombustible bases and the candle flames are protected.

2. Heat-producing equipment complying with Chapter 6 and the International Mechanical Code.
3. Gas lights are allowed to be used provided adequate precautions satisfactory to the fire code official are taken to prevent ignition of combustible materials.
4. Where approved by the fire code official (~~see also 308.3.1.2~~).

F. Section 314.4 is amended to read as follows:

314.4 Vehicles. Liquid- or gas-fueled vehicles, fueled equipment, boats or other motorcraft shall not be located indoors except as follows:

1. Batteries are disconnected.
2. Fuel in fuel tanks does not exceed one-quarter tank or 5 gallons (19 L) (whichever is least).
3. Fuel tanks and fill openings are closed and sealed to prevent tampering.
4. Vehicles, boats or other motorcraft, or fueled equipment are not fueled or defueled within the building.

G. State amendments for Sections 503.1, 503.1.1, 503.1.2, 503.1.3, 503.2, 503.3, and 503.4 are hereby repealed.

H. Sections 508.3 ~~and~~ ,508.5.1 and 508.5.4 are amended to read as follows:

1. 508.3 Fire flow. Fire flow requirements for buildings or portions of buildings and facilities shall be determined ~~by use of Appendix B~~ in accordance with Sections 508.3.1 through 508.3.9.

Exception:

Fire Flow is not required for structures under 500 square feet with a B, U or R-1 occupancy where structures are at least 30 feet from any other structure and are used only for recreation.

2. 508.3.1 Minimum residual pressure. All required fire flow, either temporary or permanent, shall not create a minimum residual pressure in the public or private water system of less than 20 psi. (WAC 246-290-230)

3. 508.3.2 Required fire flow. The required quantity and demand duration of water shall be equal to the calculated fire flow for the greatest hazard or protected risk in the proposed development, and shall be determined by the fire code official using Table B105.1 Appendix B of the International Fire Code as the required baseline fire flow.

Exceptions:

A. The fire code official may increase the fire-flow requirements where conditions indicate an unusual susceptibility to group fires, conflagrations, or other fire hazard to the community.

B. The minimum fire flow requirements for one- and two-family dwellings having a fire-flow calculation area of 3,600 square feet or less, shall be 1,000 gallons per minute.

C. Up to two (2) Group R, Division 3 occupancy buildings less than 2,500 gross square feet (including attached garages) shall be exempt from this section.

4. 508.3.3 Infrastructure calculations. Where the existing fire flow on a system is inadequate, or a new system is proposed, engineering design calculations or an approved flow test when allowed by the water purveyor may be required to verify fire flow.

5. 508.3.4. Where the required fire flow exceeds the available fire flow, the installation or enhancement of automatic fire sprinkler and/or automatic fire detection and alarm systems may be used in conjunction with Section 508.3.5 when approved by the fire code official.

6. 508.3.5 Credit for automatic sprinkler systems. Fire flow credit for automatic sprinkler protection shall be granted only when the entire structure is protected by an approved automatic sprinkler system, designed in accordance with NFPA-13 or NFPA-13R, and for single family dwellings less than 4,800 sq. ft. in total area, designed in accordance with NFPA-13D.

508.3.5.1 Credit toward fire flow requirements shall be granted by the fire code official where sprinklers are installed:

1. For the purposes of area or height increases as specified in the International Building Code.

2. For the purposes of one-hour fire resistive substitution as specified in the International Building Code.

3. In Group R, Division 3 occupancies, as a substitute for fire apparatus access.

508.3.5.2 There shall be no additional credit toward fire flow requirements by installing an automatic sprinkler system where the system is required by the International Building or Fire Codes to protect hazardous storage or processes, or in any Group H or I occupancy

508.3.5.3 Fire flow credit allowed per type of sprinkler system:

1. The reduction allowed for a NFPA 13 designed system shall be 50 percent.

2. The reduction allowed for a NFPA 13 R designed system shall be 30 percent.

3. The reduction allowed for an NFPA 13 D designed system shall be 30 percent.

4. The reduction allowed may be increased by the fire code official when the design area or density has been increased over the minimums set forth by the applicable NFPA standard. This provision only applies to light hazard occupancies.

7. 508.3.6 Fire-flow calculation area. The area used to calculate fire flow shall be determined in accordance with this section.

508.3.6.1 The fire-flow calculation area shall be the total floor area of all floor levels within the exterior walls, and under the horizontal projections of the roof of a building.

508.3.6.2 Portions of buildings that are separated by four hour-fire walls without openings, constructed in accordance with the International Building Code, are allowed to be considered as separate fire-flow calculation areas.

508.3.6.3 The fire-flow calculation area of a building constructed of Type IA and Type IB construction shall be the area of the three largest successive floors.

Exception: Fire-flow calculation area for open parking garages shall be determined by the area of the largest floor.

2 8. 508.5 Fire hydrant systems. Fire hydrant systems shall comply with Sections 508.5.1 through 508.5.7.

508.5.1 Where required. Where a portion of the facility or building hereafter constructed or moved into or within the jurisdiction is more than ~~150~~ 400 feet from a any hydrant required to meet the building's fire flow, on a fire apparatus access road, as measured by an approved route around the exterior of the facility or building, onsite 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 ~~350~~ 500 feet. One and two family dwellings located beyond the 500 feet are required to install a NFPA 13D sprinkler system.

2. For buildings equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1, or 903.3.1.2, or 903.3.1.3 the distance requirement shall be 600 feet (183 m).

508.5.1.1 Hydrant spacing and distribution. Fire hydrants installed for new development shall be located as per fire flow requirements, approved by the fire code official and comply with sections 508.5.1.1.1 through 508.5.1.1.5.

508.5.1.1.1 Buildings of less than 2500 gpm. Buildings having a required fire flow less than two thousand five hundred (2500) gpm may have fire hydrants on one side of the building only.

508.5.1.1.2 Buildings of 2500 gpm and less than 3500gpm. Buildings having a required fire flow of two thousand five hundred (2500) gpm or more and less than three thousand five hundred (3500) gpm shall have hydrants served by a main that loops the building or complex of buildings and reconnects back into a distribution supply main in a separate location.

Exception: Where property lines, topography or other features prevent fire department vehicle access to one or more sides of a building or complex of buildings, this requirement may be waived if suitable fire protection features as approved by the fire code official are installed on the premises.

508.5.1.1.3 Buildings of 3500 gpm or more. Buildings having a required fire flow of three thousand five hundred (3500) gpm or more shall have hydrants served by a main that loops the building or complex and that is served from two directions or two sources of water supply.

508.5.1.1.4 Distance from buildings. For other than hazardous conditions, fire hydrants shall be located at least fifty (50) feet from the building or buildings they serve. When the materials or processes in a building or complex of buildings constitute a hazardous condition as determined by the fire code official, hydrants shall be located no closer than eighty (80) feet from the building.

Exception: Where property lines, topography or other features prevent this spacing, fire hydrants may be located closer to the building or buildings if suitable safeguards as approved by the fire code official are provided to protect fire equipment and fire fighters using the hydrant.

508.5.1.1.5 Arterials. Where a project site is located on a divided or primary arterial (traffic count of more than 20,000 vehicles per day), required hydrants shall be located on the same side of the divided or primary arterial as the project.

9. 508.5.4 Obstruction. Posts, fences, vehicles, growth, trash, storage and other materials or objects shall not be placed or kept near fire hydrants, fire department inlet connections or fire protection system control valves in a manner that would prevent such equipment or fire hydrants from being immediately discernible. There shall be no parking of motor vehicles, refuse containers or other obstructions within fifteen (15) feet of a hydrant measured along the street or curb from a point perpendicular to the hydrant. The fire department shall not be deterred or hindered from gaining immediate access to fire protection equipment or fire hydrants. Paved access to fire hydrants shall be maintained to accommodate fire fighting apparatus, and to prevent damage to landscaping and pavement when the fire hydrant is being tested at its full flow.

10. 508.5.4.1 Marking. Paved areas within the vicinity of a hydrant shall be permanently marked by painting the words "NO PARKING" and striping as approved by the fire code official. Fire hydrants located on private property shall be marked with an approved, reflective hydrant marker provided by the property owner placed in the street, alley, fire lane or access route in a location specified by the fire code official.

I. New Section 508.5.7 is added to read as follows:

508.5.7.5 Number of fire hydrants required. The number of hydrants required for a building or complex of buildings shall be based on the formula:

Number of hydrants = required fire flow divided by 1500 gpm.

Fractions equal to or greater than one-half (1/2) shall be rounded up to the next higher whole number. Fractions less than one-half (1/2) shall be dropped.

Exception: Where actual fire flow tests performed in an approved manner when allowed by the water purveyor show higher flows exist.

† J. A new definition is added to Section 602.1 to read as follows:

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.

~~J. Section 803.1 is amended to read as follows:~~

~~803.1 General requirements. The provisions of Sections 803.1.1 through 803.1.4 shall be applicable to all occupancies covered by Sections 803.2 through 803.7.~~

~~K. New Section 803.1.4 is added to read as follows:~~

~~803.1.4 Atrium Furnishings. Atrium furnishings shall comply with Sections 803.1.4.1 and 803.1.4.2.~~

~~803.1.4.1 Potential heat. Potential heat of combustible furnishings and decorative materials within atria shall not exceed 9,000 Btu per pound (20,934 J/g) when located with an area that is more than 20 feet (6096 mm) below ceiling-level sprinklers.~~

~~803.1.4.2 Decorative materials. Decorative material in atria shall be noncombustible, flame resistant or treated with a flame retardant.~~

~~L~~ K. New Section 901.4.5 is added to read as follows:

901.4.5 Additions, change of use, alterations and repairs to buildings. Additions, change of use, alterations and repairs to buildings shall comply with this section.

901.4.5.1 Additions or changes of use. Additions or changes of use to existing buildings which would result in a nonconforming building shall be brought up to current code requirements for fire protection systems.

Exception: A one time exemption for additions to Group R, Division 3 occupancies of up to 500 square feet is permitted without compliance with this



section. This exemption shall be recorded with King County Records and Elections.

901.4.5.2 Alterations and repairs. When the value of all alterations or repairs performed within a seventy month period exceeds 50% of the value of the building, then fire extinguishing systems, and fire detection systems shall be installed throughout the building if one would otherwise be required for the building if of new construction. The value of the building shall be as listed by the King County Assessor's Office or other acceptable method approved by the fire code official at the time of the first permit application or first alteration or repair work performed. Buildings not listed with an appraised value shall utilize an alternate method of valuation prescribed by the fire code official.

M.L. Sections ~~901.6.1~~ and 901.7 are is amended to read as follows:

~~1. 901.6.1 Standards. Fire protection systems shall be inspected, tested and maintained in accordance with the referenced standards listed in Table 901.6.1. For the sole purpose of inspecting, testing and maintenance of water based fire protection systems in accordance with NFPA 25, all existing water based fire protection systems shall be considered new as of July 1, 2004.~~

~~2. 901.7 Systems out of service. Where a fire protection system is out of service, the fire department and the fire code official shall be notified immediately and, where required by the fire code official, the building shall either be evacuated or an approved fire watch shall be provided for all occupants left unprotected by the shut down until the fire protection system has been returned to service. Where utilized, fire watches shall be provided with at least one approved means for notification of the fire department and their only duty shall be to perform constant patrols of the protected premises and keep watch for fires.~~

N.M. Section 903.2 is amended to read as follows:

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

Ø N. New Section 903.2.14 is added to read as follows:

903.2.14 All buildings. All newly constructed buildings shall comply with this section.

903.2.14.1 Gross square footage. All newly constructed buildings with a gross square footage of 5,000 or greater square feet, regardless of type or use as well as zero lot line townhouses with an aggregate area of all connected townhouses equaling 5,000 square feet or greater shall be sprinklered.

903.2.14.2 Fire flow. All buildings requiring 2000 gallons per minute or more fire flow shall be sprinklered.

903.2.14.3 Group R Division 3. Group R, Division 3 occupancies shall be provided with an automatic sprinkler system if adequate fire flow, or hydrant spacing, or approved fire department access is not provided as defined in IFC Sections 503, Appendix B, Appendix C and the City of Shoreline Engineering Development Guide and 508.

Exception: Up to two (2) Group R, Division 3 occupancy buildings less than 2,500 gross square feet (including attached garages) shall be exempt from this section.

P.O. Sections 903.4.2 and 903.4.3 are amended to read as follows:

1. 903.4.2 Alarms. Approved audible and visible alarm notification appliances shall be connected to every automatic sprinkler system in accordance with Section 907 and throughout areas designated by the fire code official. 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: With approval of the fire code official, audible and visible alarm notification appliances may be omitted for approved residential sprinkler systems in one or two dwelling units if not otherwise specifically required.

2. 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.

Exception: When approved by the fire code official in NFPA 13D and NFPA 13R Systems.

Q.P. Section 904.11 is amended to read as follows:

904.11 Commercial cooking systems. ~~Existing fire suppression systems not in compliance with Underwriters Laboratory Standard 300 shall be replaced with a conforming system by July 1, 2005.~~ The automatic fire-extinguishing system for commercial cooking systems shall be of a type recognized for protection of commercial cooking equipment and exhaust system of the type and arrangement protected. Pre-engineered automatic dry- and wet-chemical extinguishing systems shall be tested in accordance with UL 300 and listed and labeled for specific use as protection for commercial cooking operations. The system shall be installed in accordance with this code, its listing and the manufacturer's installation instructions. Automatic fire-extinguishing systems of the following types shall be installed in accordance with the referenced standard indicated, as follows:

1. Carbon dioxide extinguishing systems, NFPA 12.
2. Automatic sprinkler systems, NFPA 13.

3. Foam-water sprinkler system or foam-water spray systems, NFPA 16.
4. Dry-chemical extinguishing systems, NFPA 17.
5. Wet chemical extinguishing systems, NFPA 17A.

Exceptions:

~~1. The use of existing fire suppressions systems may be continued where lard is being used and no vegetable oils are used; and~~

2.1. Factory-built commercial cooking recirculating systems that are tested in accordance with UL 197 and listed, labeled and installed in accordance with Section 304.1 of the International Mechanical Code.

~~R. New Section 905.3.7 is added to read as follows:~~

~~905.3.7 High rise building standpipes. Standpipe risers shall be combination standpipe/sprinkler risers using a minimum pipe size of 6 in. Two 2-1/2 in. hose connections shall be provided on every intermediate floor level landing in every required stairway. Where pressure reduction valves (prv) are required, each hose connection shall be provided with its own prv. The system shall be designed to provide a minimum flow of 300 gpm at a minimum pressure of 150 psi (maximum 200 psi) at each standpipe connection, in addition to the flow and pressure requirements contained in NFPA 14.~~

~~S. Section 905.8 is amended to read as follows:~~

~~905.8 Dry standpipes. Dry standpipes, when approved by the fire code official, are acceptable in other than high rise buildings.~~

~~T~~ Q. Section 906.1 is amended to read as follows:

906.1 Where required. Portable fire extinguishers shall be installed in the following locations:

1. In all Group A, B, E, F, H, I, M, R-1, R-2, R-4 and S occupancies.
2. Within 30 feet (9144 mm) of commercial cooking equipment.
3. In areas where flammable or combustible liquids are stored, used or dispensed.
4. On each floor of structures under construction, except Group R-3 occupancies, in accordance with Section 1415.1.
5. Where required by the sections indicated in Table 906.1.
6. Special hazard areas, including but not limited to laboratories, computer rooms and generator rooms, where required by the fire code official.

U.R. New Section 907.2.24 is added to read as follows:

907.2.24 All buildings. All newly constructed buildings with a gross square footage of 3,000 or greater shall be provided with an approved automatic and manual fire alarm system.

Exceptions:

A. Group R Division 3 and 4, and Group U Occupancies having adequate fire flow and approved access.

B. Group R Division 3 and 4 dwelling units shall have interconnected single station smoke detectors in accordance with RCW 48.48.140 and WAC 212-10.

~~V.S.~~ Section 1404.5 is amended to read as follows:

1404.5 Fire watch. When required by the fire code official for building construction or demolition that is hazardous in nature, qualified personnel shall be provided to serve as an onsite fire watch. Fire watch personnel shall be provided with at least one approved means for notification of the fire department and their sole duty shall be to perform constant patrols and watch for the occurrence of fire.

~~W.T.~~ Section 2703.9 is amended to read as follows:

2703.9 General safety precautions. General precautions for the safe storage, handling or care of hazardous materials shall be in accordance with Sections 2703.9.1 through 2703.9.10.

~~X.U.~~ New Section 2703.9.10 is added to read as follows:

2703.9.10 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.

~~Y.V.~~ Sections 3204.3.1.1, 3404.2.9.5.1, 3406.2.4.4, and 3804.2 are amended to designate the applicable areas as the city of Shoreline, except as allowed by the fire code official.

~~Z.~~ Appendix B, Sections B104.1, B104.2, and B105.1, and the footnotes of Table B105.1, are amended to read as follows:

~~1. B104.1 General. The fire flow calculation area shall be the total floor area of all floor levels within the exterior walls, and under the horizontal projections of the roof of a building, including basements and attached garages, except as modified in Section B104.3.~~

~~2. B104.2 Area separation. Portions of buildings which are separated by four-hour firewalls without openings, constructed in accordance with the International Building Code, are allowed to be considered as separate fire-flow calculation areas.~~

~~3. B105.1 One and two family dwellings. The minimum fire-flow requirements for one and two family dwellings having a fire-flow calculation area which does not exceed 3,600 square feet (344.5 m<sup>2</sup>) shall be 1,000 gallons per minute (3785.4 L/min). Fire flow and flow duration for dwellings having a fire-flow calculation area in excess of 3,600 square feet (344.5m<sup>2</sup>) shall not be less than that specified in Table B105.1.~~

~~Exception: A reduction in required fire flow of 30 percent, as approved, is allowed when the building is provided with an approved NFPA 13D automatic sprinkler system.~~

~~4. B105.2 Buildings other than one and two family dwellings. The minimum fire flow and flow duration for buildings other than one and two family dwellings shall be as specified in Table B105.1.~~

~~Exception: A reduction in required fire flow of up to 50 percent, as approved, is allowed when the building is provided with an approved NFPA 13 automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2 of the International Fire Code. Where buildings are of Type I or II construction and are a light-hazard occupancy as defined by NFPA 13, the reduction may be up to 75 percent. The resulting fire flow shall not be less than 1,500 gallons per minute (5678 l/min) for the prescribed duration as specified in Table B105.1.~~

~~5. Table B105.1 (footnotes).~~

~~a. Types of construction are based on the International Building Code.~~

~~b. Measured at 20 psi.~~

~~AA. Appendix C, Section C105.1, and the Table C105.1 are amended as follows:~~

~~1. C105.1 Hydrant spacing. The average spacing between fire hydrants shall not exceed that listed in Table C105.1.~~

~~Exception: The fire chief is authorized to accept a deficiency of up to 10 percent where existing fire hydrants provide all or a portion of the required fire hydrant service.~~

~~Regardless of the average spacing, fire hydrants shall be located such that all points on streets and access roads adjacent to a building are within the distances listed in Table C105.1.~~

~~Exception: One and two family dwellings are permitted to be up to 350 feet from a hydrant measured from the property to the hydrant measured in the path of travel of the fire apparatus. Dwellings not meeting this requirement shall install a~~

NFPA 13D automatic sprinkler system or a new hydrant meeting flow requirements within the distance required in this exception.

2. Table C105.1.

Number and Distribution of Fire Hydrants

| FIRE FLOW REQUIREMENT (gpm) | MINIMUM NUMBER OF HYDRANTS | AVERAGE SPACING BETWEEN HYDRANTS<br>a,b,c (feet) | MAXIMUM DISTANCE FROM ANY POINT ON STREET OR ROAD FRONTAGE TO A HYDRANT<br>d |
|-----------------------------|----------------------------|--------------------------------------------------|------------------------------------------------------------------------------|
| 1,750 or less               | 1                          | 300                                              | 250                                                                          |
| 2,000—2,250                 | 2                          | 300                                              | 225                                                                          |
| 2,500                       | 3                          | 300                                              | 225                                                                          |
| 3,000                       | 3                          | 300                                              | 225                                                                          |
| 3,500—4,000                 | 4                          | 300                                              | 210                                                                          |
| 4,500—5,000                 | 5                          | 300                                              | 180                                                                          |
| 5,500                       | 6                          | 300                                              | 180                                                                          |
| 6,000                       | 6                          | 250                                              | 150                                                                          |
| 6,500—7,000                 | 7                          | 250                                              | 150                                                                          |
| 7,500 or more               | 8 or more                  | 200                                              | 120                                                                          |

Table C105.1 (footnotes).

a. Reduce by 100 feet for dead-end streets or roads.

b. Where streets are provided with median dividers which can be crossed by fire fighters pulling hose lines, or where arterial streets are provided with four or more traffic lanes and have a traffic count of more than 30,000 vehicles per day, hydrant spacing shall average 300 feet on each side of the street and be arranged on an alternating basis.

c. Where new water mains are extended along streets where hydrants are not needed for protection of structures or similar fire problems, fire hydrants shall be provided at spacing not to exceed 1,000 feet to provide for transportation hazards.

d. Reduce by 50 feet for dead-end streets or roads.

~~e. One hydrant for each 1,000 gallons per minute or fraction thereof unless actual flow data will support higher flow rates.~~  
~~{Ord. 355 § 5, 2004}~~

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