CODE

CITY OF REDMOND
ORDINANCE NO._____

AN ORDINANCE OF THE CITY OF REDMOND, WASHINGTON, AMENDING REDMOND MUNICIPAL CODE CHAPTER 15.06, FIRE CODE, IN ORDER TO READOPT THE 2021 INTERNATIONAL FIRE CODE AND SUBSEQUENT STATE AMENDMENTS.

WHEREAS, The State Building Code Council is adopting the 2021 International Fire Code pursuant to RCW 19.27.031; and

WHEREAS, Failure to adopt the 2021 International Fire Code with state will result in the City being out of compliance with state law; and

WHEREAS, The Fire Department has recommended that the City adopt the 2021 International Fire Code, with certain deletions and amendments, with an effective date coinciding with the State's actual effective date, currently anticipated to be October 29, 2023; and

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF REDMOND WASHINGTON, DOES ORDAIN AS FOLLOWS:

Section 1. Classification. This ordinance is of a general and permanent nature and shall become a part of the City Code.

Section 2. Amendment of RMC 15.06. The following provisions of RMC 15.06 are hereby amended to read as set forth below:

Chapter 15.06
FIRE CODE*

Sections:

Prior legislation: Ords. 1537, 1926, 2014, 2215.

Code reviser's note: This chapter was previously codified as Chapter 15.28 RMC.

***** Formerly Chapter 20E.100 RCDG.

15.06.010 Short title.

This chapter and amendments hereto shall constitute the Redmond Fire Code and may be cited as such.

15.06.011 Adoption.

A. The International Fire Code, [~~2018~~] **2021** Edition, published by the International Code Council including Appendices B, F and I, together with the amendments, modifications, and exceptions

in Washington Administrative Code Chapter 51-54A, excluding the changes to IFC Section 503, in their entirety as the same now exist or as they may be hereafter amended, except such portions as are hereinafter by this chapter deleted; modified; amended; or added to, are hereby adopted and incorporated as fully as if set out at length herein

15.06.012 Restrictions.

A. *Occupancies Prohibited.* No Group H, Division 1 occupancy as defined in Section [~~307~~] **202**, International Building Code, [~~2018~~] **2021** Edition, shall be permitted.

Exception: A Group H, Division 1 occupancy may be allowed when approved by the Chief and the Building Official and authorized by a valid fire code permit.

B. *Bulk Plants.* Bulk plants referred to in Section 5702, **and defined in Section 202,** of the International Fire Code, [~~2018~~] **2021** Edition, shall be prohibited throughout the City except in areas zoned Manufacturing Park (MP) or Industry (I) pursuant to the Redmond Zoning Code and shall be limited to underground storage only.

Exception: Unless prohibited by the City of Redmond wellhead protection ordinance or critical aquifer recharge area regulations.

C. *Liquefied Petroleum Gas Storage.* The limits referred to in Section 6104.2 of the International Fire Code, [~~2018~~] **2021** Edition, in which bulk storage of liquefied petroleum gas is restricted, are established throughout the City limits except areas zoned Manufacturing Park (MP) or Industry (I) pursuant to the Redmond Zoning Code.

D. *Flammable Cryogenic Fluids.* Flammable cryogenic fluids referred to in Section 5806 of the International Fire Code, [~~2018~~] **2021** Edition, shall be prohibited throughout the City except in areas zoned Manufacturing Park (MP) or Industry (I), or when approved by the Fire Code Official and the Building Official and authorized by a valid fire code permit.

(E) On demand mobile fueling operations referred to in section 5707 of the International Fire Code, 2021 Edition, shall be prohibited throughout the city.

15.06.013 Amendments.

A. The following are modifications or amendments to the International Fire Code, [~~2018~~] **2021** Edition, as adopted in RMC 15.06.011, and shall correspond to the context of said International Fire Code as if set out at length in their respective sections in lieu of or in addition to published sections or subsections. Where an amendment or modification replaces a published section or subsection, the published section or subsection shall be deemed void and deleted.

1. Amend 102.5 to read as follows:

102.5 Application of residential code.

Where structures are designed and constructed in accordance with the International Residential Code, including, without exception, all new licensed adult family homes in existing structures, the provisions of this code shall apply as follows:

1. Construction and design provisions of this code pertaining to the exterior of the structure shall apply including, but not limited to, premises identification, fire apparatus access and water supplies. Where interior or exterior systems or devices are installed, construction permits required by Section [~~105.7~~] **105.6** apply.

2. Administrative, operational and maintenance provisions of this code **and requirements of R.M.C 15.06.016** shall apply.

2. Amend Section 102.7 to read as follows:

102.7 Referenced codes and standards.

The codes and standards referenced in this code shall be the Redmond Fire Department Standards and 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 and as further regulated in Sections 102.7.1; 102.7.2, and 102.7.3. Redmond Fire Department Standards shall constitute the primary reference document and guideline. Where differences occur between the provisions of this code and the referenced standards, the provisions of this code shall apply.

3. Add Section 102.7.3 as follows:

102.7.3 Supplemental rules and regulations.

The fire code official is authorized to render interpretations of this code and to make and enforce rules and supplemental regulations in order to carry out the application and intent of its provisions. Such interpretations, rules, and regulations shall be known as the Redmond Fire Department Standards and shall be in conformance

with the intent and purpose of this code and shall be available to the public during normal business hours.

4. Add Section 104.6.5 as follows:

104.6.5 Documentation of required maintenance

When required by the *fire code official* documentation of maintenance to fire safety features or systems required by this code shall be submitted to the fire code official in an approved method, manner, and form. Fees associated with such documentation shall be in accordance with the adopted fee schedule.

5. Amend Section [~~104.11.2~~] **104.12.2** to read as follows:

[~~104.11.2~~] **104.12.2** Obstructing operations.

Persons shall not 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.

6. Add Section [~~104.12~~] **104.13** as follows:

[~~104.12~~] **104.13** Assistance from other agencies.

Police and other enforcement agencies shall have authority to render necessary assistance in the enforcement of this code as requested by the fire code official.

7. Amend Section 105.2.3 to read as follows:

105.2.3 Time limitation of application.

An application for a permit for any proposed work or operation shall be deemed to have been abandoned 365 days after the date of filing, unless such application has been diligently prosecuted or a permit shall have been issued; except that the fire code official is authorized to grant one or more extensions of time for additional

periods not exceeding 365 days each. The extension shall be requested in writing and justifiable cause demonstrated.

8. Amend Section 105.3.1 to read as follows:

105.3.1 Expiration.

An operational permit shall remain in effect until reissued, renewed or revoked, or for such a period of time as specified in the permit. Construction permits shall automatically become invalid unless the work authorized by such permit is commenced within 365 days after its issuance, or if the work authorized by such permit is suspended or abandoned for a period of 365 days after the time the work is commenced. Before such work recommences, a permit shall be first obtained and the fee to recommence work, if any, shall be one-half the amount required for a new permit for such work; provided, that changes have not been made and will not be made in the original construction documents for such work, and provided further that such suspension or abandonment has not exceeded one year. Permits are not transferable and any change in occupancy, operation, tenancy or ownership shall require that a new permit be issued.

9. Amend Section 105.3.2 to read as follows:

105.3.2 Extensions.

A permittee holding an unexpired permit shall have the right to apply for an extension of the time within which the permittee will commence work under that permit where work is unable to be commenced within the time required by this section for good and satisfactory reasons. The *fire code official* is authorized to grant, in writing, one or more extensions of the time period of a permit for periods of not more than 365 days each. Such extensions shall be requested by the permit holder in writing and justifiable cause demonstrated.

10. Amend Section [~~105.6.23~~] **105.5.25** to read as follows:

[~~105.6.23~~] **105.5.25** Hot work operations.

An operational permit is required for hot work including, but not limited to:

1. Public exhibitions and demonstrations where hot work is conducted.

2. Use of portable hot-work equipment inside a structure.

Exception 1: Work that is conducted under a construction permit.

Exception 2: Less than 16 ounces in self-contained, handheld devices that do not allow gas flow or flame when the trigger is released.

3. Fixed-site hot-work equipment such as welding booths.

4. Hot work conducted within a wildfire risk area.

5. Application of roof coverings with the use of an open-flame device.

6. When approved, the fire code official shall issue a permit to carry out a hot work program. This program allows approved personnel to regulate their facility's hot work operations. The approved personnel shall be trained in the fire safety aspects denoted in this chapter and shall be responsible for issuing permits requiring compliance with the requirements found in Chapter 35. These permits shall be issued only to their employees or hot-work operations under their supervision.

11. Amend Section [~~105.6.27~~] **105.5.29** to read as follows:

[~~105.6.27~~] **105.5.29** LP-gas.

An operational permit is required for:

1. Storage and use of LP-gas.

Exception 1: A permit is not required for individual containers with a 500-gallon (1893 L) water capacity or less or multiple container systems having an aggregate quantity not exceeding 500 gallons (1893 L) serving occupancies in Group R-3.

Exception 2: In other than R-3 occupancies, a permit is not required in noncommercial outdoor use of propane barbecue grills.

2. Operation of cargo tankers that transport LP-gas.

12. Amend Section [~~105.6.30~~] **105.5.32** to read as follows:

[~~105.6.30~~] **105.5.32** Mobile food preparation vehicles.

A permit is required for food preparation vehicles equipped with appliances that produce smoke or grease-laden vapors or utilize LP-gas or CNG systems. A permit issued from a public fire agency approved by the fire code official may be accepted in lieu of a Redmond Fire Department operational permit.

13. Amend Section ~~[105.6.43]~~ **105.5.45** to read as follows:

~~[105.6.43]~~ **105.5.45** Repair garages.

An operational permit is required for the operation of repair garages.

~~[14. REPEALED.]~~

~~[15]~~ **14**. Add Section [~~105.6.51~~] **105.5.53** to read as follows:

[~~105.6.51~~] **105.5.53** Fire alarm systems.

A fire alarm operational permit is required to operate all fire alarm systems required by Chapter 9 or RMC 15.06.015.

Point of Information: This requirement will apply to all systems effective January 1, 2021.

~~[16. ADD SECTION 105.6.52, EMERGENCY RESPONDER RADIO COVERAGE SYSTEM, AS FOLLOWS:~~

~~105.6.52 EMERGENCY RESPONDER RADIO COVERAGE SYSTEM.~~

~~AN OPERATIONAL PERMIT IS REQUIRED TO OPERATE AN EMERGENCY RESPONDER RADIO COVERAGE SYSTEM AS PRESCRIBED IN SECTION 510.]~~

~~[17]~~ **15**. Amend Section [~~105.7.5~~] **105.6.3** to read as follows:

[~~105.7.5~~] **105.6.3** Cryogenic fluids.

A construction permit is required for installation of or alteration to stationary cryogenic fluid storage systems where the system capacity exceeds the amounts listed in Table [~~105.6.10~~] **105.5.11**. Maintenance performed in accordance with this code is not considered an alteration and does not require a construction permit.

[~~18~~] **16**. Amend Section [~~105.7.20~~] **105.6.19** as follows:

[~~105.7.20~~] **105.6.19** Smoke control or smoke exhaust systems.

Construction permits are required for installation of or alteration to smoke control or smoke exhaust systems regulated by Chapter 9. Maintenance performed in accordance with this code is not considered to be an alteration and does not require a permit.

[~~19~~] **17**. Add Section [~~105.7.27~~] **105.6.26** as follows:

[~~105.7.27~~] **105.6.26** HPM facilities.

A construction permit is required to install equipment or facilities that store, handle, or use hazardous production materials.

[~~20~~] **18**. Add Section [~~105.7.28~~] **105.6.27** as follows:

[~~105.7.28~~] **105.6.27** Refrigeration equipment.

A construction permit is required to install a mechanical refrigeration unit or system regulated by Chapter 6 of the IFC.

[~~21~~] **19**. Add Section [~~105.7.29~~] **105.6.28** as follows:

[~~105.7.29~~] **105.6.28** Places of assembly.

A construction permit is required for all new place of assembly uses.

~~[22. Amend Section 108.6 as follows:~~

~~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.]~~

20. Amend section 111 as follows:

111.1 Appeals

Whenever the fire code official or designee disapproves an application or refuses to grant a permit applied for, or when it is claimed that the provisions of the code do not apply or that the true intent and meaning of the code has been misconstrued or wrongly interpreted, the applicant may appeal to the Chief of the Fire Department in accordance with the procedures for Type 1 Review, RZC 21.76.060(d). Appeals from the decisions of the Chief to the Hearing Examiner shall be made as prescribed in RZC 21.76.060(d)(4).

111.2 Limitations on authority: Section not adopted.

111.3 Qualifications: Section not adopted.

111.4 Administration: Section not adopted.

[~~23~~] **21**. Add Section [~~111.5~~] **114.8** as follows:

[~~111.5~~] **114.8** Fire- or explosion-damaged buildings.

The owner, occupant, or other person having under his control any property or materials on a property damaged by fire or explosion shall, when ordered by the fire chief, immediately secure the property against entry or unauthorized access by the public, by boarding up all openings, fencing, barricading or utilizing other appropriate measures. Within 30 days after written notice to do so has been served, all debris and/or damaged materials shall be removed from the property and proof

furnished that contractual arrangements have been made for prompt demolition, replacement, or repair of all fire- or explosion-damaged structures remaining on the property involved in the fire or explosion.

[~~24~~] **22**. Add/amend Section 202 as follows:

1. Amend the definition(s) of "Facility" and "High-Rise Buildings" to read as follows:

FACILITY.

A building or use in a fixed location including exterior storage areas for flammable and combustible substances and hazardous materials, piers, wharves, tank farms, parks, plazas, sport fields, or other public assembly areas and similar uses. This term includes recreational vehicles, mobile home and manufactured housing parks, sales, and storage lots.

HIGH-RISE BUILDINGS:

A building with an occupied floor or occupied roof located more than 75 feet (22,860 mm) above the lowest level of fire department vehicle access.

[~~25~~] **23**. Amend Section 307.1 to read as follows:

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, see also Chapter 173-425 WAC.

[~~26~~] **24**. Amend Section 307.4.2 to read as follows:

307.4.2 Recreational fires.

Recreational fires shall not be conducted within 50 feet (15,240 mm) of a structure or combustible material. Conditions that could cause a fire to spread within 50 feet (15,240 mm) of a structure shall be eliminated prior to ignition.

[~~27~~] **25**. Amend Section 307.4.3 to read as follows:

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.

[~~28~~] **26**. Add Section 503.1.1.1 to read as follows:

503.1.1.1 Extent of access.

The fire apparatus access roadway shall extend to within 50 feet of at least 25 percent of the perimeter of the building. Where access roadway cannot be provided, the fire code official is authorized to require an approved fire protection system or systems as provided in RMC 15.06.017.

Exception: Detached one- and two-family dwelling units.

[~~29~~] **27**. Add Section 503.1.1.2 to read as follows:

503.1.1.2 Easements.

When directed by the fire code official, emergency vehicle access routes or areas, including emergency vehicle operations areas, turnarounds, overhang areas, firefighter access, emergency egress, or similar, that are not within a public right-of-way shall be maintained in an approved and recorded emergency vehicle access and/or firefighter access easement.

28. Add section 503.1.4 to read as follows:

503.1.4 emergency medical access.

When an elevator is required in a building, access for aid or medic vehicles shall be provided as follows or as approved by the fire code official:

1. Vehicular access shall be provided to a dedicated parking space that is located within 75 feet (22,860 mm) of travel distance to a 4 foot by 7 foot elevator that serves each floor or area of a structure.

2. The path from the parking space to the elevator shall not contain stairs, obstructions, or grade changes that prevent the safe use of a stretcher.

3. When the parking space is provided within a structure or parking garage, the minimum clear height shall be as specified by the fire code official but not less than 10 feet. If this space is provided along a street the minimum length of the parking space shall be not less than 30 feet (9,140 mm).

4. The minimum width and turning radii shall be the same as other required fire access unless approved by the fire code official.

[30] **29**. Add Section 503.2.7.1 as follows:

503.2.7.1 Maximum grade.

All required access roadways shall be constructed so that the maximum gradient is 10 percent. Where this requirement cannot be met, the fire code official is authorized to require approved safeguards as identified in RMC 15.06.017.

[~~31~~] **30**. Amend Section 503.2.8 to read as follows:

503.2.8 Angles of approach and departure.

The angles of approach and departure for fire apparatus access roads shall be within the limits established by the fire code official based on the fire department's apparatus. No access roadway or access road approach to a public way shall have an arc higher than 12 inches in less than 20 feet. Where these requirements cannot be provided, the fire code official is authorized to require approved safeguards as identified in RMC 15.06.017.

[~~32~~] **31**. Amend Section 503.4 as follows:

503.4 Obstructions of fire lanes and fire apparatus access roads.

Fire lanes and fire apparatus access roads shall not be obstructed in any manner, including the parking of vehicles. The minimum widths and clearances established in Section 503.2.1 and 503.2.2 shall be maintained at all times. The fire chief shall have the power and authority to remove or cause to be removed without notice, any vehicle, vessel, or thing parked or placed in violation of Section 503.4 of the International Fire Code. The fire chief may direct a property owner or property manager of a commercial or multifamily development to have such vehicles towed and/or contract with a towing company to have such vehicles towed when necessary to maintain fire access unobstructed. The owner of any item so removed shall be responsible for all towing, storage, and other charges connected therewith.

[~~33~~] **32**. Add Section 505.3 to read as follows:

505.3 Street and road designations.

Street and road designations shall be as determined and assigned by the fire chief.

~~[34. Add Section 503.1.4 to read as follows:~~

~~503.1.4 Emergency medical access.~~

~~When an elevator is required in a building, access for aid or medic vehicles shall be provided as follows or as approved by the fire code official:~~

~~1. Vehicular access shall be provided to a dedicated parking space that is located within 75 feet (22,860 mm) of travel distance to a 4 ft. by 7 ft. elevator that serves each floor or area of a structure.~~

~~2. The path from the parking space to the elevator shall not contain stairs, obstructions, or grade changes that prevent the safe use of a stretcher.~~

~~3. When the parking space is provided within a structure or parking garage, the minimum clear height shall be as specified by the fire code official but not less than 10~~

~~feet. If this space is provided along a street the minimum length of the parking space shall be not less than 30 feet (9,140 mm).~~

~~4. The minimum width and turning radii shall be the same as other required fire access unless approved by the fire code official.]~~

[~~35~~] **33**. Amend Section 507.5 to read as follows:

507.5 Fire hydrant systems.

Fire hydrant systems along public or private roads shall comply with Sections 507.5.1 through 507.5.6. Hydrant spacing in commercial and multifamily shall be 300 feet (91,440 mm) on-center; hydrant spacing for single-family residences shall be 600 feet (182,880 mm) on center.

[~~36~~] **34**. Amend Section 507.5.1 to read as follows:

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 [~~150~~] **300** 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, Group U and one- and two-family dwellings, the distance requirement shall be [~~300~~] **450** feet (91,440 mm).

2. For Group R-3, Group U, and one- and two-family dwellings equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3, the distance requirement shall be 600 feet (182,880 mm).

[~~37~~] **35**. Amend Section 507.5.1.1 to read as follows:

507.5.1.1 Hydrant for sprinkler and standpipe systems.

Buildings equipped with a sprinkler or standpipe system installed in accordance with Section 903 or 905 shall have a fire hydrant within 40 feet of the fire department connections.

Exception: The distance shall be permitted to exceed 40 feet where approved by the fire code official.

[~~38~~] **36**. Replace the existing language in Section 510 with the following:

510.1 Emergency responder radio coverage in new buildings.

Approved radio coverage for emergency responders shall be provided within buildings meeting any 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; or
4. There are floors used for human occupancy more than 30 feet below the finished floor of the lowest level of exit discharge.
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). This section shall not require improvement of the existing public safety communication systems.

Exceptions:

1. 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.

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.

510.2 Emergency responder radio coverage in existing buildings.

Existing buildings shall be provided with 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.

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 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 radio system manager 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 allowed by the public safety radio system operator. Prior to installation, all radio frequency (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 public safety radio system operator shall 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 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 20 dB greater than the system gain under all operating conditions.

5. Bidirectional amplifiers (BDAs) used in emergency responder radio coverage systems shall be fitted with anti-oscillation circuitry and per-channel AGC.

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 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 BDAs may be utilized when specifically authorized in writing by the public safety radio system operator.

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. 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. Active system component malfunction.

7. Malfunction of 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 Federal Communications Commission (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 and Sections 510.5.1 through 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 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 telephone operators 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.

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 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 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(2) and 510.5.3(3).

c. Data sheets and/or manufacturer specifications for the emergency responder radio coverage system equipment, backup battery, and charging system (if utilized).

d. A diagram showing device locations and wiring schematic.

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 in an approved manner.

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”. 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 through 510.6.7.

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 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. 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".

   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 hour to verify that they will properly operate during an actual power outage. If within the 1-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.

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

6. At the conclusion of the testing, a report, which shall verify compliance with Section 510.6.1, shall be submitted to the fire code official in an approved manner.

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 nonfunctional 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.

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 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.

[~~39~~] **37**. Amend Section [~~603.3~~] **605.4** to read as follows:

[~~603.3~~] **605.4** Fuel oil storage systems.

Fuel oil storage systems **for building heating systems** shall be installed **and maintained** in accordance with this code. **Tanks and fuel** oil piping systems shall be installed in accordance with **chapter 13 of** the International Mechanical Code. Secondary containment shall be provided for all new installations of storage tanks and associated piping.

Exception: Piping that is integral to the fuel-fired appliance.

[~~40~~] 3**8**. Amend Section 901.4.1 to read as follows:

901.4.1 Required fire protection systems.

Fire protection **and life safety** systems required by this code or the International Building Code shall be installed, repaired, operated, tested, and maintained in accordance with this code. A fire protection **or life safety** system for which a design option, exception, or reduction to the provisions of this code or the International Building Code has been granted shall be considered a required system. The Redmond Fire Department Standards applicable to the particular system shall constitute the primary reference document.

[~~41~~] **39**. Amend Section 901.7 to read as follows:

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 shutdown 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.

Exception: Facilities with an approved notification and impairment management program. The notification and impairment program for water-based fire protection systems shall comply with NFPA 25.

[~~42~~] **40**. Add Section 901.11 to read as follows:

901.11 Problematic fire protection systems:

In the event of repeated system malfunctions or maintenance related activations, the fire code official may declare the system to be a problematic system and is authorized to direct corrective action to be taken. The fire code official is authorized to have the fire protection system taken out of service. The procedures found in Section 901.7 "Systems out of service" shall be followed.

[~~43~~] **41**. Amend Section 903.2 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 Redmond Municipal Code Section 15.06.016 and IFC Sections 903.2.1 through 903.2.12.

[~~44~~] **42**. Add Section 903.3.9 as follows:

903.3.9 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 townhomes.

[~~45~~] **43**. Amend Section 903.4.2 to read as follows:

903.4.2 Alarms.

Approved audible 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. 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, activation of the automatic sprinkler system shall activate 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 1- or 2-dwelling units if not otherwise specifically required.

~~[46]~~ **44**. Amend Section 903.4.3 to read as follows:

903.4.3 Floor control valves.

Approved supervised indicating control valves shall be provided at the point of connection to the riser on each floor. The floor control valves shall be located within interior exit stairways and within 6 feet of floors or landings unless chains or other readily 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.

[~~47~~] **45**. Amend Section 905.3.1 as follows:

905.3.1 Height.

Class I standpipe systems shall be installed throughout buildings where any of the following conditions exist:

1. Three or more stories are above or below the lowest level of the fire department vehicle access.

~~[1.]~~**2.** Where 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.

~~[2.]~~**3.** 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.

4. Basements greater than 20,000 square feet.

5. Multiple levels of below grade parking.

Exception: In determining the lowest level of fire department vehicle access, it shall not be required to consider:

1. Recessed loading docks for four vehicles or less, and

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

46. Amend section 905.3.8 as follows:

905.3.8 landscaped roofs and courtyards.

Buildings or structures that have landscaped roofs or courtyards and that are equipped with a standpipe system shall have the standpipe system extended so that all portions of the roof level or courtyard on which the landscaped roof or courtyard is located is reachable from a hose connection by a 30-foot hose stream from a nozzle attached to 150 feet of hose.

[~~48~~] **47**. Add Section 905.3.9 to read as follows:

905.3.9 High-rise building standpipes.

High-rise standpipe risers shall be combination standpipe/sprinkler risers using a minimum pipe size of 6 inches. One 2 1/2-inch hose connection shall be provided

on every intermediate floor level landing in every required stairway and elsewhere as required by NFPA 14.

Where and only where static or residual water pressures at any hose outlet exceeds 175 psi (1207 kPa), approved pressure regulating devices (PRV) 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 nonregulated hose connection located directly below the PRV or an equally sized bypass around the PRV with a normally closed control valve shall be provided at each reduced pressure connection. Each nonregulated hose connection shall be labeled "High Pressure-No PRV". Each sign shall have 1/2-inch white letters on a red background.

[~~49~~] **48** Add Section 905.3.10 as follows:

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.

[~~50~~] **49**. Amend Section 907.1 as follows:

907.1 General

Redmond Municipal Code 15.06.015 and this section cover**s** the application, installation, performance, and maintenance of fire alarm systems and their components in new and existing buildings and structures. The requirements of Section 907.2 are applicable to new buildings and structures. The requirements of 907.9 are applicable to existing buildings and structures. Redmond Fire Department Standard 9.00, Automatic Alarm Systems, applies to all required systems.

[~~51~~] **50**. Amend Section 907.2 to read as follows:

907.2 Where required – New buildings and structures.

An approved fire alarm system installed in accordance with the provisions of this code and NFPA 72 shall be provided in new buildings and structures where there is a required sprinkler system, except one- and two-family dwellings as defined in the International Residential Code and in accordance with Sections 907.2.1 through 907.23**,** and provide occupant notification in accordance with Section 907.5 unless other requirements are provided by another section of this code.

A minimum of one manual fire alarm box shall be provided in an approved location to initiate a fire alarm signal to fire alarm systems employing automatic fire detectors or water-flow detection devices. Where other sections of this code allow elimination of fire alarm boxes due to sprinklers, a single fire alarm box shall be installed.

Exception: The manual fire alarm box is not required for fire alarm systems dedicated to elevator recall control and supervisory service.

[52] **51**. Amend Section 1011.12.2 as follows:

1011.12.2 Roof access.

Where a stairway is provided to a roof, access to the roof shall be provided through a penthouse complying with Section [~~1510.2~~] **1511.2** of the International Building Code.

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

[~~53~~] **52**. Amend Section 1103.2 as follows:

1103.2 Emergency responder radio system coverage in existing buildings.

Buildings constructed prior to the implementation of this code shall not be required to comply with the emergency responder coverage provisions except as follows:

1. Whenever an existing wired communication system cannot be repaired or is being replaced.

2. 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 that cannot be reasonably mitigated by other means.

Exception: Where it is determined by the fire code official that the radio coverage system is not needed.

[~~54~~] **53**. Amend Section 1103.8.1 to read as follows:

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~~] **907.2.11**. Interconnection and power sources shall be in accordance with sections 1103.8.2 and 1103.8.3, respectively.

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

[~~55~~] **54**. Add Section 1103.11 as follows:

1103.11 Building information card.

An approved building information card shall be located in each fire command center that includes, but is not limited to, all of the following information:

1. General building information.

Includes the property name, address, the number of floors in the building above- and below- grade, use and occupancy classification (for mixed-use buildings, the different types of occupancies on each floor should be specified) and the estimated building population during the day, night, and weekends.

2. Building emergency contact information.

Includes the building's emergency contacts, including, but not limited to the building manager; building engineer; and their respective work phone numbers, cell phone numbers, and e-mail addresses.

3. Building construction information.

Includes the type of building construction, including, but not limited to, the floors, walls, columns, and roof assembly.

4. Exit stairway information.

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

5. Building services and system information.

Building services and system information that includes the location of mechanical rooms, the location of the building management system, the location and capacity of all fuel oil tanks, the location of emergency generator(s), and the location(s) of natural gas service.

6. Fire protection system information.

Fire protection system information that includes the location of standpipes, the location of the fire pump room, the location of fire department connections, the 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 systems.

7. Hazardous material information.
Hazardous material information that includes the location and quantities of hazardous materials.

[~~56. AMEND CHAPTER 3308.2 AS FOLLOWS:~~

~~3308.2 PROGRAM SUPERINTENDENT.~~

~~THE OWNER SHALL DESIGNATE A PERSON TO BE THE FIRE PREVENTION PROGRAM SUPERINTENDENT WHO SHALL BE RESPONSIBLE FOR THE DEVELOPMENT, IMPLEMENTATION, AND MAINTENANCE OF A WRITTEN PLAN ESTABLISHING A FIRE PREVENTION PROGRAM AT THE PROJECT SITE APPLICABLE THROUGHOUT ALL PHASES OF THE CONSTRUCTION, REPAIR, ALTERATION, OR DEMOLITION WORK AND ENSURE THAT IT IS CARRIED OUT THROUGH COMPLETION OF THE PROJECT. THE FIRE PREVENTION PROGRAM SUPERINTENDENT SHALL HAVE THE AUTHORITY TO ENFORCE THE PROVISIONS OF THIS CHAPTER AND OTHER PROVISIONS AS NECESSARY TO SECURE THE INTENT OF THIS CHAPTER. WHERE GUARD SERVICE IS PROVIDED, THE SUPERINTENDENT SHALL BE RESPONSIBLE FOR THE GUARD SERVICE.~~]

[~~57. AMEND CHAPTER 3308.3 AS FOLLOWS:~~

~~3308.3 PREFIRE PLANS.~~

~~THE FIRE PREVENTION PROGRAM SUPERINTENDENT SHALL DEVELOP AND MAINTAIN AN APPROVED PREFIRE PLAN IN COOPERATION WITH THE FIRE CHIEF. PRE-FIRE PLANS FOR BUILDINGS EXCEEDING 50,000 SQUARE FEET 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.~~]

[~~58~~] **55**. Add Section [~~3308.10~~] **3303.11** as follows:

[~~3308.10~~] **3303.11** Job shacks and other temporary structures.

Job shacks and other temporary structures located within or less than 20 feet from the permanent building shall:

1. Be constructed of noncombustible materials or 1-hour fire-resistive construction.

2. Not be equipped with fuel-fired heaters.

3. Be equipped with a monitored fire alarm system when located below grade.

4. Not function as offices unless protected with automatic sprinkler systems.

[~~59~~] **56**. Add Section [~~3308.11~~] **3303.12** as follows:

[~~3308.11~~] **3303.12** Buildings greater than 50,000 feet in area.

Buildings under construction that are defined as a high-rise or are greater than 50,000 in area shall comply with the requirements of [~~3308.11.1~~] **3303.12.1** through [~~3308.11.3~~] **3303.12.3**.

[~~3308.11.1~~] **3303.12.1** Job site security.

The job site shall be secured with controlled access once above-grade combustible construction has begun with off-hours guard service, motion-controlled surveillance, or both.

[~~3308.11.2~~] **3303.12.2** Construction mitigations for wood frame buildings exceeding 80,000 square feet when exposures exist within 60 feet 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 ongoing wood-frame construction is considered to be within the project when adjacent structures are separated by less than 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.

[~~3308.10.3~~] **3303.12.3** 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.

For the purpose of measuring total square footage of wood framing, any adjacent ongoing wood frame construction is considered to be within the project when adjacent structures are separated by less than 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.

[~~60~~] **57**. Amend Section 5001.5.2 to read as follows:

5001.5.2 Hazardous Materials Inventory Statement (HMIS).
Where required by the fire code official, an application for a permit shall include an HMIS, such as Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III, Tier II Report or other approved statement. The HMIS shall be provided using a Redmond Fire Department-approved format and shall include the following information:

1. Product name.
2. Component.
3. Chemical Abstract Service (CAS) number.
4. Location where stored or used.
5. Container size.
6. Hazard classification.
7. Amount in storage.
8. Amount in use-closed systems.
9. Amount in use-open systems.

[~~61~~] **58**. Amend Section 5003.1 to read as follows:

5003.1 Scope.
The storage, use and handling of all hazardous materials shall be in accordance with this section and shall comply with the provisions of the City of Redmond wellhead protection ordinance and critical aquifer recharge area regulations.

[~~62~~] **59**. Add Section 5003.9.11 as follows:

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

[~~63~~] **60**. Add Section 5608.1.1 as follows:

5608.1.1 Fireworks.
Refer to Redmond Municipal Code Chapter 9.26, (Fireworks) and to RCW 70.77.120 et seq. (State fireworks law).

[~~64~~] **61**. Add Section 5703.4.1, to read as follows:

5703.4.1, Secondary containment.
Secondary containment shall be provided for all new installations of storage tanks and associated piping.

[~~65~~] **62.** Amend Section B102.1 to read as follows:

B102.1 Definitions
For the purpose of this appendix, certain terms are defined as follows:

FIRE FLOW: The flow rate of a water supply, measured at 20 pounds per square inch (psi) (138 kPa) residual pressure, that is available for firefighting.

FIRE-FLOW CALCULATION AREA: The building area, as defined in Chapter 2 of this Code, is used to determine the required fire flow.

[~~66~~] **63**. Amend Section B104.1 to read as follows:

B104.1 General
The *fire-flow calculation area* shall be the area of all floor levels included within the *exterior walls* (or exterior walls and fire walls), exclusive of vent shafts and *courts*. Areas of the building not provided with surrounding walls shall be included in the fire-flow calculation area if such areas are included within the horizontal projections of the roof or floor above, except as modified in Section B104.3.

[~~67~~] **64**. Amend Section B104.2 to read as follows:

B104.2 Area separation.

Portions of buildings that are separated by fire walls constructed in accordance with the International Building Code, Section 706, and ADU's separated from the primary structure in accordance with International Residential Code, Section 302.3, are allowed to be considered as separate fire-flow calculation areas.

[~~68~~] **65**. Amend Section B105.1 to read as follows:

B105.1 One- and two-family dwellings.

The minimum *fire-flow* and flow duration requirements for one- and two-family *dwellings* shall be as specified in Tables B105.1(1) and B105.1(2).

Exception: One- and two-family homes located in areas of the City identified by the City of Redmond Water Department as having less than 1500 gpm available, may use the following formula to determine required fire flow:

Available gpm x 2.4 square feet = maximum building area

[~~69~~] **66**. Amend Section B105.2 to read as follows:

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 Tables B105.2 and B105.2(2).

[~~70~~] **67**. Amend Table B105.1(1) to read as follows:

Table B105.1(1). REQUIRED FIRE FLOW FOR ONE- AND TWO-FAMILY DWELLINGS

FIRE-FLOW CALCULATION AREA (square feet)	**AUTOMATIC SPRINKLER SYSTEM (design standard)**	**MINIMUM FIRE FLOW (gallons per minute)**	**FLOW DURATION (hours)**
0 – 3600	No automatic sprinkler system	1500	2

FIRE-FLOW CALCULATION AREA (square feet)	AUTOMATIC SPRINKLER SYSTEM (design standard)	MINIMUM FIRE FLOW (gallons per minute)	FLOW DURATION (hours)
3601 and greater	No automatic sprinkler system	Value in Table B105.1(2)	Duration in Table 105.1(2) at the required flow rate
0 – 3600	NFPA 13D	1000	1
3601 and greater	NFPA 13D	50% of the value in Table B105.1(2), but not less than 1000gpm	Duration in Table 105.1(2) at the required flow rate

Table B105.2. REQUIRED FIRE FLOW FOR BUILDINGS OTHER THAN ONE- AND TWO-FAMILY DWELLINGS

AUTOMATIC SPRINKLER SYSTEM (design standard)	MINIMUM FIRE FLOW (gallons per minute)	FLOW DURATION (hours)
No automatic sprinkler system	Value in Table B105.1(2)	Duration in Table 105.1(2)
NFPA 13	50% of the value in Table B105.1(2) but not less than 3500 gpm	Duration in Table 105.1(2) at the reduced flow rate but not less than 3 hours

15.06.014 Reserved.

15.06.015 Fire detection systems.

The following regulations constitute general requirements of fire detection and alarm systems and supervisory and alarm requirements for buildings with automatic fire sprinklers. Specific requirements may be found in the Redmond Fire Department Standards, Redmond Fire Code, and NFPA 72.

Where required:

A. In structures with an approved fire sprinkler system.

Exception 1: Fire sprinkler system with 10 or less heads with the approval of the Fire Marshal.

Exception 2: One- and two-family dwellings per the International Residential Code.

B. *Structures in Annexed Areas.* Any structure with a gross area of 6,000 square feet or more annexed to the City shall install a fire detection system within one year from the date of annexation.

Exception: Single-family and multifamily residential occupancies.

C. Where required elsewhere by the Redmond Fire Code or the International Building Code. (Ord. 3008 § 2, 2020; Ord. 2957 § 8 (part), 2019: Ord. 2530 § 2 (part), 2010: Ord. 2357 § 1 (part), 2007: Ord. 2220 § 1, 2004).

15.06.016 Fire sprinkler systems.

A. The following regulations constitute general requirements for fire sprinkler systems:

1. All approved fire sprinkler systems shall meet the requirements of the Redmond Fire Department Standards, Redmond Fire Code, and the applicable NFPA standards. All systems shall have an adequate water supply, system of piping, and sprinkler heads designed to discharge water on a fire at an appropriate time and in an effective manner. All underground sprinkler supply piping shall be included on civil drawings and shall be approved by the water supplier and the Redmond Fire Department.

B. For the purposes of this section, building area, as defined in the IFC, shall apply.

C. *Where Required.* An approved fire sprinkler system shall be required in the following structures:

1. *Commercial.*

An area separation wall or fire wall, or occupancy separation or fire barrier wall, or a distance of 10 feet (3,048 mm) or less shall not constitute a separation between two commercial structures on the same property.

a. In any structure where the building area is 3,000 square feet or more.

These can include bus and transit shelters, covered pedestrian paths, and similar structures not attached to or within 10 feet (3,048 mm) of buildings.

Exception: Fire sprinklers are allowed to be omitted under roof structures when all of the following conditions exist:

i. Roof structures are stand-alone, detached, and built with noncombustible building materials.

ii. Used to provide weather protection for people.

iii. Are open on greater than 50 percent of the perimeter sides to allow ventilation of heat and smoke.

iv. Are not intended to store combustibles or have combustible materials contained beneath the roof line. The roof structure shall not extend over any transit vehicle or curb.

v. When no other code or applicable standard requires fire sprinklers.

b. In any structure where the calculated fire flow demand exceeds available flow.

c. In buildings with an A-2 occupancy where one or more of the following exists:

- An occupant load greater than 100.
- An A-2 fire area is located on a floor other than the level of exit discharge.

d. All nightclubs, defined as follows:

Nightclub. An A-2 occupancy use under the 2006 International Building Code in which the aggregate area of concentrated use of unfixed chairs and standing space that is specifically designated and primarily used for dancing or viewing performers exceeds 350 square feet, excluding adjacent lobby areas. “Nightclub” does not include theaters with fixed seating, banquet halls, or lodge halls.

e. In any building with an assembly occupancy where the total occupant load of the building is over 200.

f. Existing commercial buildings where one of the following applies:

• Additions resulting in a gross area greater than 5,000 square feet, or

• Sprinklers may be required in buildings that undergo a change of use or occupancy. Refer to the International Fire Code Section 102.3.

2. *Residential – One- and Two-Family Dwellings.*

a. An approved automatic fire sprinkler system shall be installed in new one- and two-family dwellings and townhouses as described in the International Residential Code in accordance with Section 903.3.1**.3** of the International Fire Code, [~~2018~~] **2021** Edition.

Exception: This subsection does not require the installation of an approved fire sprinkler system in any mobile home or manufactured home.

This exception is limited to this subsection and nothing herein exempts a mobile home or manufactured home from any other requirement to install an approved automatic fire sprinkler system under any other section or subsection of this code or of any international code adopted by the City.

b. Existing detached one- and two-family dwelling units where additions result in a structure that exceeds the available fire flow.

c. When ADU's are attached to, or within, an existing single family home both the ADU and existing single family home shall be sprinklered.

Exception: When the ADU and existing single family home are separated in accordance with the International Residential Code, Section 302.3.

d. In any one- and two-family dwelling unit that will be newly licensed as an adult family home.]

3. Where required elsewhere by the Redmond Fire Code or the International Building Code.

(Ord. 3008 § 2, 2020; Ord. 2957 § 8 (part), 2019: Ord. 2834 § 2 (part), 2016: Ord. 2774 § 2, 2015: Ord. 2693 § 2 (part), 2013: Ord. 2530 § 2 (part), 2010: Ord. 2357 § 1 (part), 2007: Ord. 2324 § 1, 2007; Ord. 2220 § 1, 2004).

15.06.017 Restricted access buildings.

A. Where a building or portion of a building is so located or constructed with grades; elevations; vegetation; or other natural or manmade obstacles which make exterior or interior access and/or use by fire apparatus; equipment; or personnel unduly difficult; unsafe; or impossible, additional safeguards may be required by the Fire Code Official. Where such access is being proposed as part of a land subdivision, the Fire Code Official may declare a proposed lot un-accessible and therefore deny that proposed lot. Safeguards may consist of one or more of the following applicable items or alternates suitable for firefighting, fire protection, EMS, and/or rescue operations as specified by the Fire Code Official:

1. Automatic fire sprinkler throughout.

2. Smoke detection system.

3. Automatic fire alarm systems.

4. Communication systems.

    a. Voice alarm system;

    b. Public address system;

    c. Fire Department communication system.

5. Central control station.

6. Smoke control systems.

7. Emergency elevator systems.

8. Emergency exits.

9. Emergency areas of refuge including horizontal exits and smoke-proof enclosures.

10. Vertical and horizontal standpipes.

11. Standby power, light, and emergency systems.

12. Emergency medical services-sized elevator (four-foot x seven-foot clear interior).

13. Reduction or deletion of non-sprinklered areas.

14. Fire-resistive construction.

15. Noncombustible siding (limited, protected, or no openings).

16. NFPA 13-compliant sprinkler coverage.

17. Brushed concrete access drive or similar.

18. Firefighter access stairs/ramps.

19. Ladder operations area (not just aerial but also ground ladders).

20. Electrically controlled access doors or gates provided with emergency services override (strobe, radio, etc.).

21. Dedicated emergency service access and parking areas.

B. All systems shall meet the design requirements set forth in the Redmond Fire Department Standards and Redmond Fire Code.

15.06.018 Reserved.

(Ord. 2957 § 8 (part), 2019; Ord. 2357 § 1 (part), 2007).

15.06.019 New materials, processes or occupancies which may require permits.

The Fire Code Official shall determine and specify, after giving the affected person an opportunity to be heard, any new materials, processes or occupancies which may require permits, in addition to those now enumerated in said code. The Chief of the Fire Department shall cause such a list to be posted in a conspicuous place in his office and distribute copies thereof to interested persons.

15.06.020 Wellhead protection ordinance coordination.

Fire Department construction and maintenance, reviews and inspections occur within critical aquifer recharge areas established within the Redmond Municipal Code and the Redmond Zoning Code. A major component of these Fire Department reviews and inspections is the

verification that storage, handling, use, and operations involving hazardous materials comply with adopted codes. In order to coordinate and minimize overlap in the enforcement of the Redmond Fire Code with wellhead protection regulations, the following shall apply:

A. Regulations imposed through the wellhead protection and critical aquifer recharge area regulations are enforceable by a Fire Code Official.

B. Where, within a particular critical aquifer recharge area, a threshold amount noted within the wellhead protection or critical aquifer recharge area regulations is less than the threshold in the Redmond Fire Code, the lower threshold shall apply and be enforceable by the Fire Code Official.

C. The Fire Code Official shall exercise authority over all hazardous materials inventory statements and hazardous material management plans for materials regulated by the Redmond Fire Code.

D. The Fire Department shall have the authority to enforce rules governing deleterious substances for such substances so identified by the City of Redmond Environmental and Utilities Services Division. Substances so identified by Environmental and Utilities Services Division shall be listed under the subcategory “other health hazards” of hazardous materials. Other health hazards may include irritants, sensitizers, pyrophoric, unstable-reactive, and radioactive materials, as identified by the Fire Code Official.

15.06.021 **REPEALED** [~~APPEALS.~~

~~WHENEVER THE FIRE CODE OFFICIAL OR DESIGNEE DISAPPROVES AN APPLICATION OR REFUSES TO GRANT A PERMIT APPLIED FOR, OR WHEN IT IS CLAIMED THAT THE PROVISIONS OF THE CODE DO NOT APPLY OR THAT THE TRUE INTENT AND MEANING OF THE CODE HAS BEEN MISCONSTRUED OR WRONGLY INTERPRETED, THE APPLICANT MAY APPEAL TO THE CHIEF OF THE FIRE DEPARTMENT IN ACCORDANCE WITH THE PROCEDURES FOR TYPE 1 REVIEW, RZC 21.76.060(D). APPEALS FROM THE DECISIONS OF THE CHIEF TO THE HEARING EXAMINER SHALL BE MADE AS PRESCRIBED IN RZC 21.76.060(D)(4).]~~

(Ord. 3008 § 2, 2020; Ord. 2957 § 8 (part), 2019: Ord. 2693 § 2 (part), 2013: Ord. 2596 § 2 (part), 2011: Ord. 2357 § 1 (part), 2007: Ord. 2220 § 1, 2004).

15.06.022 Penalties and enforcement.

1. *Penalties for Violations.* Any person who violates any of the provisions of the Redmond Fire Code or fails to comply therewith, or who violates or fails to comply with any order made thereunder, or who builds in violation of any detailed statement of specifications or plans submitted and approved thereunder, and from which no appeal has been taken, or who fails to comply with such an order as affirmed or modified by the board of appeals or by a court of competent jurisdiction, within the time fixed herein, shall, severally for each and every such violation and noncompliance respectively, be subject to the penalties for violations provided in RMC 1.01.110 or 1.14.060 as deemed applicable by the Fire Chief. The imposition of one penalty for any violation shall not excuse the violation or permit it to continue; and all such persons shall be required to correct or remedy such violations or defects within a reasonable time.

2. The imposition of penalties upon conviction shall not preclude the City and the Fire Chief from taking further appropriate legal action to cause compliance with the provisions of the Redmond Fire Code or to remove prohibited conditions. (Ord. 3008 § 2, 2020; Ord. 2957 § 8 (part), 2019: Ord. 2357 § 1 (part), 2007: Ord. 2220 § 1, 2004).

15.06.023 Building permit issuance and occupancy.

The passage of the ordinance codified in this chapter is necessary for the protection of the public health, safety, and welfare of the citizens of the City. No building permit shall be issued until plans which are in compliance with this chapter have been submitted and approved. No building shall be occupied until such approved systems have been inspected and are operational. (Ord. 3008 § 2, 2020; Ord. 2957 § 8 (part), 2019: Ord. 2357 § 1 (part), 2007: Ord. 2220 § 1, 2004).

15.06.024 Nonconforming structures.

Nonconforming structures shall comply with the following:

A. A nonconforming structure may not be expanded or altered in any way so as to increase that nonconformity.

B. When a nonconforming structure has been destroyed, damaged, or incurred a loss equal to or greater than 50 percent of its assessed value or equal to or greater than 50 percent of multifamily residential units have displaced occupants it shall comply with the requirements of RMC 15.06.015 and 15.06.016.

C. Where structures have separate fire areas, either by definition or by geographic configuration as determined by the Fire Code Official, the percentage of damage or unit count may be figured based upon the assessed valuation, or number of units, contained within a fire area. Requirements of RMC 15.06.015 and 15.06.016 shall apply to the fire area only, except that the design and installation of any system shall accommodate future extension in other areas of the structure.

D. A nonconforming structure shall be brought into full compliance with RMC Chapter 15.06, the Redmond Fire Code, when alteration or expansion of the structure takes place and the following takes place within any three-year period:

1. The gross floor area of the structure is increased by 100 percent or more; or

2. The costs stated on all approved building permit applications for the structure equal or exceed the value of the existing structure at the beginning of that three-year period.

E. For purposes of this section, a multifamily residential unit has displaced occupants whenever the unit has been declared by the Building Official to be unsafe for occupancy due to fire damage, destruction or loss. (Ord. 3038 § 2, 2021; Ord. 3008 § 2, 2020; Ord. 2957 § 8 (part), 2019: Ord. 2530 § 2 (part), 2010).

Section 3. Severability. If any section, sentence, clause or phrase of this ordinance should be held to be invalid or unconstitutional by a court of competent jurisdiction, such invalidity or unconstitutionality shall not affect the validity or constitutionality of any other section, sentence, clause or phrase of this ordinance.

Section 4. Effective Date. This ordinance shall become effective concurrent with Washington State's adoption of the 2021 International Fire Code, anticipated to occur on October 29, 2023.

ADOPTED by the Redmond City Council this ____ day of _____, 2023.

CITY OF REDMOND

_____
JESSICA FORSYTHE, COUNCIL PRESIDENT AND MAYOR PRO TEM

ATTEST:

_____
CHERYL XANTHOS, MMC, CITY CLERK (SEAL)

APPROVED AS TO FORM:

_____
JAMES E. HANEY, CITY ATTORNEY

FILED WITH THE CITY CLERK:
PASSED BY THE CITY COUNCIL:
SIGNED BY THE MAYOR:
PUBLISHED:
EFFECTIVE DATE:
ORDINANCE NO.

YES: