

**TUALATIN VALLEY FIRE & RESCUE
ORDINANCE 04-01**

Authorized by ORS 478.910

REVISION RECORD FOR TVF&R BLUE PAGES

By starting with a full loose-leaf copy of the *Oregon Fire Code* (2003 *International Fire Code* with Oregon Amendments) and substituting the TVF&R blue pages listed below, the user will have a complete *TVF&R Ordinance 04-01*, in correct numerical sequence. It is suggested that original OFC pages that have been removed, and replaced by TVF&R blue pages, be retained for future reference.

Remove OFC Page(s)

1R through 4R
371R through 372R

Insert TVF&R Page(s)

1R through 4R
371R through 372R(1)

Marginal Marking Supplemental Information

Double vertical lines with a letter "T" alongside are TVF&R amendments. All other double vertical lines are amendments and additions promulgated by the State of Oregon.

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ADMINISTRATION

SECTION 101
GENERAL

101.1 Title. These regulations shall be known as the *Oregon Fire Code*, hereinafter referred to as "this code."

101.2 Scope. This code establishes regulations affecting or relating to structures, processes, premises and safeguards regarding:

1. The hazard of fire and explosion arising from the storage, handling or use of structures, materials or devices;
2. Conditions hazardous to life, property or public welfare in the occupancy of structures or premises;
3. Fire hazards in the structure or on the premises from occupancy or operation;
4. Matters related to the construction, extension, repair, alteration or removal of fire suppression or alarm systems.

The following governmental subdivisions may have other regulations as long as such regulations are consistent with OAR Chapter 837, Division 39. A water district under ORS 264.342 or a city or county, subject to consent as required by ORS 478.924, or a rural fire protection district under ORS 478.910.

ORS 264.342, 478.924, 478.910 and OAR 837, Division 39 are not a part of this code but are reproduced or paraphrased here for the reader's convenience.

ORS 264.342 allows a domestic water district to adopt a fire prevention code.

ORS 478.924 states that the provisions of a fire prevention code adopted, by a district after October 4, 1977, shall not apply unless approved by the governing body of the city or county in which the district exists.

ORS 478.910 allows a rural fire protection district to adopt a fire prevention code.

OAR Chapter 837, Division 39 regulates the administration of fire prevention programs.

101.2.1 Appendices specifically adopted. The provisions of the following appendices are adopted as part of this code: B, C, D, H and L.

101.3 Intent. The purpose of this code is to establish the minimum requirements consistent with nationally recognized good practice for providing a reasonable level of life safety and property protection from the hazards of fire, explosion or dangerous conditions in new and existing buildings, structures and premises and to provide safety to fire fighters and emergency responders during emergency operations as authorized by ORS 476.030 and 478.910.

ORS 476.030 is not a part of this code but is reproduced or paraphrased here for the reader's convenience. ORS 476.030 defines the duties and powers of the State Fire Marshal to adopt a state fire code.

101.4 Severability. If a section, subsection, sentence, clause or phrase of this code is, for any reason, held to be unconstitutional, such decision shall not affect the validity of the remaining portions of this code.

101.5 Validity. In the event any part or provision of this code is held to be illegal or void, this shall not have the effect of making void or illegal any of the other parts or provisions hereof, which are determined to be legal; and it shall be presumed that this code would have been adopted without such illegal or invalid parts or provisions.

SECTION 102
APPLICABILITY

102.1 Construction and design provisions. The construction and design provisions of this code shall apply to:

1. Structures, facilities and conditions arising after the adoption of this code.
2. Existing structures, facilities and conditions not legally in existence at the time of adoption of this code.
3. Existing structures, facilities and conditions when identified in specific sections of this code.
4. Existing structures, facilities and conditions which, in the opinion of the code official, constitute a distinct hazard to life or property.

102.2 Administrative, operational and maintenance provisions. The administrative, operational and maintenance provisions of this code shall apply to:

1. Conditions and operations arising after the adoption of this code.
2. Existing conditions and operations.

See also Section 110.1.1, ORS 476.030(c) and OAR Chapter 837, Division 41.

ORS 476.030(c) is not a part of this code but is reproduced or paraphrased here for the reader's convenience.

ORS 476.030(c) defines the rules for maintenance and regulations of structural fire safety features in occupied structures and overseeing the safety and directing the means and adequacy of exits in case of fire except that structural changes shall not be required in buildings built, occupied and maintained in conformity with state building code regulations applicable at the time of construction.

OAR Chapter 837, Division 41 defines the fire protection regulations relating to existing facilities.

[EB] **102.3 Change of use or occupancy.** The provisions of the *International Existing Building Code* shall apply to all buildings undergoing a change of occupancy.

102.4 Application of building code. The design and construction of new structures shall comply with the *International Building Code*. Repairs, alterations and additions to existing structures shall comply with the *International Existing Building Code*.

[EB] **102.5 Historic buildings.** The construction, alteration, repair, enlargement, restoration, relocation or movement of existing buildings or structures that are designated as historic buildings when such buildings or structures do not constitute a distinct hazard to life or property shall be in accordance with the provisions of the *International Existing Building Code*.

102.6 Referenced codes and standards. The codes and standards referenced in this code shall be those that are listed in Chapter 45 and such codes and standards shall be considered part of the requirements of this code to the prescribed extent of each such reference. Where differences occur between the provisions of this code and the referenced standards, the provisions of this code shall apply.

102.7 Subjects not regulated by this code. Where no applicable standards or requirements are set forth in this code, or are contained within statutes or administrative rules adopted by the jurisdiction, compliance with applicable standards of the National Fire Protection Association or other nationally recognized fire safety standards, as approved, shall be deemed as prima facie evidence of compliance with the intent of this code. Nothing herein shall derogate from the authority of the fire code official to determine compliance with codes or standards for those activities or installations within the code official's jurisdiction or responsibility.

102.8 Matters not provided for. Requirements that are essential for the public safety of an existing or proposed activity, building or structure, or for the safety of the occupants thereof, which are not specifically provided for by this code shall be determined by the fire code official.

102.9 Conflicting provisions. Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall be applicable.

**SECTION 103
DEPARTMENT OF FIRE PREVENTION**

103.1 General. (Not adopted) *The department of fire prevention is established within the jurisdiction under the direction of the fire code official. The function of the department shall be the implementation, administration and enforcement of the provisions of this code.*

103.2 Appointment. (Not adopted) *The fire code official shall be appointed by the chief appointing authority of the jurisdiction; and the fire code official shall not be removed from office except for cause and after full opportunity to be heard on specific and relevant charges by and before the appointing authority.*

103.3 Deputies. (Not adopted) *In accordance with the prescribed procedures of this jurisdiction and with the concurrence of the appointing authority, the fire code official shall have the authority to appoint a deputy fire code official, other related technical officers, inspectors and other employees.*

103.4 Liability. The fire code official, officer or employee charged with the enforcement of this code, while

acting for the jurisdiction, shall not thereby be rendered liable personally, and is hereby relieved from all personal liability for any damage accruing to persons or property as a result of an act required or permitted in the discharge of official duties. See also ORS 30.265.

ORS 30.265 is not a part of this code but is reproduced or paraphrased here for the reader's convenience.

ORS 30.265 defines the scope of liability of public body officers, employees and agents.

103.4.1 Legal defense. Any suit instituted against any officer or employee because of an act performed by that officer or employee in the lawful discharge of duties and under the provisions of this code shall be defended by the legal representative of the jurisdiction until the final termination of the proceedings. The fire code official or any subordinate shall not be liable for costs in an action, suit or proceeding that is instituted in pursuance of the provisions of this code; and any officer of the department of fire prevention, acting in good faith and without malice, shall be free from liability for acts performed under any of its provisions or by reason of any act or omission in the performance of official duties in connection therewith.

103.5 Cooperation with other agencies. For regulations regarding interagency cooperation, see ORS 455.150(8), ORS 479.165, OAR 918-020-0010, OAR 918-020-0020 and OAR 837-039-0110.

ORS 455.150(8), ORS 479.165, OAR 918-020-0010, OAR 918-020-0020 and OAR 837-039-0110 are not a part of this code but are reproduced or paraphrased here for the reader's convenience.

ORS 455.150(8) requires municipalities to create a written plan that specifies how cooperation with the State Fire Marshal or designee of the State Fire Marshal will be achieved and how a uniform fire code will be considered in the review process of the design and construction phases of buildings or structures.

ORS 479.165 requires the State Fire Marshal to develop rules establishing certification of fire officials who review plans, new construction, alterations and specifications from a uniform fire code.

OAR 918-020-0010 and 918-020-0020 establish a minimum standard for procedures of cooperation between local municipalities and the State Fire Marshal or a designee of the State Fire Marshal.

OAR 837-039-0110 establish standards for certification of fire officials who review plans, new construction, alterations and specifications from a fire code.

**SECTION 104
GENERAL AUTHORITY AND RESPONSIBILITIES**

104.1 General. The fire code official is hereby authorized to enforce the provisions of this code as directed in ORS 476.060, 478.910 and OAR Chapter 837, Division 39 and shall have the authority to adopt policies, procedures, rules and regulations in order to clarify the application of its provisions. Modifications to this code shall not be

less stringent than the minimum fire code adopted by the State Fire Marshal. 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.

ORS 476.060, 478.910 and OAR Chapter 837, Division 39 are not a part of this code but are reproduced or paraphrased here for the reader's convenience. ORS 476.060 designates local fire marshals. Local fire chiefs and chief of police as assistants to the State Fire Marshal by virtue of office held. ORS 478.910 grants the authority to a district board to adopt a fire prevention code. OAR Chapter 837, Division 39 regulates the administration of fire prevention programs.

104.2 Applications and permits. The fire code official is authorized to receive applications, review construction documents and issue permits for construction regulated by this code, issue permits for operations regulated by this code, inspect the premises for which such permits have been issued and enforce compliance with the provisions of this code.

104.3 (Not Adopted) Right of entry. *Whenever it is necessary to make an inspection to enforce the provisions of this code, or whenever the fire code official has reasonable cause to believe that there exists in a building or upon any premises any conditions or violations of this code which make the building or premises unsafe, dangerous or hazardous, the fire code official shall have the authority to enter the building or premises at all reasonable times to inspect or to perform the duties imposed upon the fire code official by this code. If such building or premises is occupied, the fire code official shall present credentials to the occupant and request entry. If such building or premises is unoccupied, the fire code official shall first make a reasonable effort to locate the owner or other person having charge or control of the building or premises and request entry. If entry is refused, the fire code official has recourse to every remedy provided by law to secure entry.*

104.3.1 Right of entry. The State Fire Marshal, Deputy State Fire Marshal or assistants to the State Fire Marshal may at all reasonable hours, enter into all buildings and upon all premises, except private residences, for the purpose of inspection to ascertain if fire hazards exist therein or thereon as authorized by ORS 476.150(1).

ORS 476.150(1) is not a part of this code but are reproduced or paraphrased here for the reader's convenience.

ORS 476.150(1) grants permission to the State Fire Marshal and deputies, at all reasonable hours, to enter into all buildings and upon all premises, except private residences, for the purpose of inspection to ascertain if fire hazards exist therein or thereon.

104.3.2 Warrant. When the fire code official has first obtained a proper inspection warrant or other remedy provided by law to secure entry, an owner or occupant or person having charge, care or control of the building or premises shall not fail or neglect, after proper request is made as herein provided, to permit entry therein by the fire code official for the purpose of inspection and examination pursuant to this code. See ORS 476.155, 476.160, 476.165 and 476.170.

ORS 476.155, 476.160, 476.165 and 476.170 are not a part of this code but are reproduced or paraphrased here for the reader's convenience.

ORS 476.155 defines when judges are authorized to issue inspection warrants.

ORS 476.160 defines circumstances under which a warrant may be issued.

ORS 476.165 defines established cause to issue a warrant.

ORS 476.170 defines execution of a warrant.

104.4 Identification. The fire code official shall carry proper identification when inspecting structures or premises in the performance of duties under this code.

104.5 Notices and orders. The fire code official is authorized to issue such notices or orders as are required to affect compliance with this code in accordance with Sections 109.1 and 109.2.

104.6 Official records. The fire code official shall keep official records as required by Sections 104.6.1 through 104.6.4. Such official records shall be retained for not less than five years or for as long as the structures or activity to which such records relate remains in existence, unless otherwise provided by other regulations in accordance with Oregon Revised Statute 192, Public and Private Records; Public Reports and Meetings.

104.6.1 Approvals. A record of approvals shall be maintained by the fire code official and shall be available for public inspection during business hours in accordance with applicable laws.

104.6.2 Inspections. The fire code official shall keep a record of each inspection made, including notices and orders issued, showing the findings and disposition of each.

104.6.3 (Not adopted) Fire records. *The fire department shall keep a record of fires occurring within its jurisdiction and of facts concerning the same, including statistics as to the extent of such fires and the damage caused thereby, together with other information as required by the fire code official.*

104.6.3.1 Fire records and reports. Reports shall be kept by the State Fire Marshal in accordance with ORS 476.090.

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Fire reports shall be provided to the State Fire Marshal in accordance with ORS 476.210(2), ORS 476.220 and ORS 476.270.

ORS 476.090, ORS 476.210(2), ORS 476.220 and ORS 476.270 are not a part of this code but are reproduced or paraphrased here for the reader's convenience.

ORS 476.090 requires the State Fire Marshal to keep records of all fires occurring within the state and all facts concerning the fires.

ORS 476.210(2) requires the fire chief of every city or rural fire protection district to provide the State Fire Marshal with a report of every fire occurring within the jurisdiction of the fire chief.

ORS 476.220 requires the officer making an investigation of a fire to notify the State Fire Marshal and within one week of the occurrence, shall forward the State Fire Marshal a written statement of all facts as requested on the forms provided by the State Fire Marshal.

ORS 476.270 requires an insurance company to immediately make a report to the State Fire Marshal if the insurance company has reason to believe that a fire loss to its assured was caused by incendiary means.

104.6.4 Administrative. Application for modification, alternative methods or materials and the final decision of the fire code official shall be in writing and shall be officially recorded in the permanent records of the fire code official.

104.7 Approved materials and equipment. All materials, equipment and devices approved by the fire code official shall be constructed and installed in accordance with such approval.

104.7.1 Material and equipment reuse. Materials, equipment and devices shall not be reused or reinstalled unless such elements have been reconditioned, tested and placed in good and proper working condition and approved.

104.7.2 Technical assistance. To determine the acceptability of technologies, processes, products, facilities, materials and uses attending the design, operation or use of a building or premises subject to inspection by the fire code official, the fire code official is authorized to require the owner or agent to provide, without charge to the jurisdiction, a technical opinion and report. The opinion and report shall be prepared by a qualified engineer, specialist, laboratory or fire safety specialty organization acceptable to the fire code official and shall analyze the fire safety properties of the design, operation or use of the building or premises and the facilities and appurtenances situated thereon, to recommend necessary changes. The fire code official is authorized to require design submittals to be prepared by, and bear the stamp of, a registered design professional.

104.8 Modifications. Whenever there are practical difficulties involved in carrying out the provisions of this code, the fire code official shall have the authority to grant modifications for individual cases, provided the fire code official shall first find that special individual reason makes the strict letter of this code impractical and the modification is in compliance with the intent and purpose of this code and that such modification does not lessen health, life and fire safety requirements. The details of action granting modifications

shall be recorded and entered in the files of the department of fire prevention. The State Fire Marshal may make adjustments and variances to this code under ORS 476.035.

ORS 476.035 is not a part of this code but is reproduced or paraphrased here for the reader's convenience.

ORS 476.035 gives the State Fire Marshal the power to make adjustments, variances or exceptions to specific requirements of this code on a statewide, regional, jurisdictional or geographical use basis when the State Fire Marshal determines that application of the requirements are impossible, impractical, create unnecessary hardship, or create consequences inconsistent with the general purpose of the code.

104.9 Alternative materials and methods. The provisions of this code are not intended to prevent the installation of any material or to prohibit any method of construction not specifically prescribed by this code, provided that any such alternative has been approved. The fire code official is authorized to approve an alternative material or method of construction where the fire code official finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, at least the equivalent of that prescribed in this code in quality, strength, effectiveness, fire resistance, durability and safety.

104.10 (Not adopted) Fire investigations. *The fire code official, the fire department or other responsible authority shall have the authority to investigate the cause, origin and circumstances of any fire, explosion or other hazardous condition. Information that could be related to trade secrets or processes shall not be made part of the public record except as directed by a court of law.*

104.10.1 Fire investigations. Fire investigations shall be in accordance with ORS 476.030(4) and ORS 476.210(1).

ORS 476.030(4) and 476.210(1) are not a part of this code but are reproduced or paraphrased here for the reader's convenience.

ORS 476.030(4) gives the State Fire Marshal the authority to investigate or cause an investigation to determine the probable cause, origin and circumstances of any fire.

ORS 476.210(1) requires the municipal fire marshal, fire department chief, constables and other officers referred to in ORS 476.060 to investigate the cause, origin and circumstances of each fire in their respective jurisdictions.

104.10.2 Assistance from other agencies. Police and other enforcement agencies shall have authority to render necessary assistance in the investigation of fires when requested to do so.

104.11 Authority at fires and other emergencies. The fire chief or officer of the fire department in charge at the scene of a fire or other emergency involving the protection of life or property or any part thereof, shall have the authority to direct such operation as necessary to extinguish or control any fire, perform any rescue operation, investigate the existence of suspected or reported fires, gas leaks or other hazardous

APPENDIX B

FIRE-FLOW REQUIREMENTS FOR BUILDINGS

The provisions contained in this appendix are adopted by the State of Oregon

SECTION B101 GENERAL

B101.1 Scope. The procedure for determining fire-flow requirements for buildings or portions of buildings hereafter constructed shall be in accordance with this appendix. This appendix does not apply to structures other than buildings. The fire code official may be guided by the Oregon State Fire Marshal Interpretation #94-02 "Water Supply". See also ORS 479.200.

ORS 479.200 is not a part of this code but is reproduced or paraphrased here for the reader's convenience.

ORS 479.200 regulates water supply requirements for certain public buildings erected after July 1, 1967, as defined in ORS 479.010(1)(i).

The Oregon State Fire Marshal Interpretation #94-02 "Water Supply" is not a part of this code but is paraphrased here for the reader's convenience.

The interpretation recommends methods for calculating water supply requirements based on local conditions or ISO grading using Appendix B or NFPA 1142.

B104.3 Type IA and Type IB construction. The fire-flow calculation area of buildings 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.

SECTION B102 DEFINITIONS

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 fire fighting.

FIRE-FLOW CALCULATION AREA. The floor area, in square feet (m²), used to determine the required fire flow.

SECTION B103 MODIFICATIONS

B103.1 Decreases. The fire chief is authorized to reduce the fire-flow requirements for isolated buildings or a group of buildings in rural areas or small communities where the development of full fire-flow requirements is impractical.

B103.2 Increases. The fire chief is authorized to increase the fire-flow requirements where conditions indicate an unusual susceptibility to group fires or conflagrations. An increase shall not be more than twice that required for the building under consideration.

B103.3 Areas without water supply systems. For information regarding water supplies for fire-fighting purposes in rural and suburban areas in which adequate and reliable water supply systems do not exist, the fire code official is authorized to utilize NFPA 1142 or the *International Urban Wildland Interface Code*.

SECTION B104 FIRE AREA

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, except as modified in Section B104.3.

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

B104.3 Type IA and Type IB construction. The fire-flow calculation area of buildings 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.

SECTION B105 FIRE-FLOW REQUIREMENTS FOR BUILDINGS

B105.1 Required Fire Flow No building shall be constructed, altered, enlarged, moved, or repaired in a manner that by reason of size, type of construction, number of stories, occupancy, or any combination thereof creates a need for a fire flow in excess of 3,000 gallons per minute at 20 pounds per square inch residual pressure, or exceeds the available fire flow at the site of the structure. The requirements for determining fire flow for all buildings are as set forth in Oregon Fire Code, Appendix B.

EXCEPTION: Fire flow requirements in excess of 3,000 gallons per minute may be allowed if, in the opinion of the chief, all reasonable methods of reducing the fire flow have been included within the development and no unusual hazard to life and property exists.

Existing buildings that require a fire flow in excess of 3,000 gallons per minute are not required to comply with the fire flow requirements of this section. However, changes in occupancies or the character of occupancies, alterations, additions or repairs shall not further increase the required fire flow for buildings.

B105.1.1 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 m²) 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 (344.5 m²) shall not be less than that specified in Table B105.1.

Exceptions: 1. A reduction in required fire flow of 50 percent, as approved, is allowed when the building is provided with an approved automatic sprinkler system.

2. When there are not more than one each, Group R, Division 3 and Group U occupancies or agricultural building, as defined by ORS 455.315, on a single parcel of not less than one acre, the requirements of this section may be modified provided, the Group R, Division 3 occupancy does not require a fire flow in excess of 1500 gpm (based on NFPA Standard 1142) and in the opinion of the chief, firefighting or rescue operations would not be impaired.

B105.2 Buildings other than One- and Two-Family Dwellings. The minimum fire flow and flow duration shall be determined by the size and construction type of the structure under consideration.

B105.2.1 Occupancy Hazards

5.2.1.1 Single Occupancy Hazards. Where only a single occupancy hazard is housed in a building the minimum required building fire flow shall be multiplied by the hazard factor in Table B105.2 to determine the total required fire flow.

B105.2.2 Multiple Occupancy Hazards. Where more than one hazard is housed in a building the minimum required building fire flow shall be proportioned by percentage of the floor area used for each occupancy hazard. The proportioned building fire flow shall be multiplied by the hazard factor, relating to that portion of the building in Table B105.2 and totaled to determine the required fire flow.

Table B105.2

Light Hazard Occupancies	1.0
Ordinary Hazard (Group 1)	1.2
Ordinary Hazard (Group 2)	1.3
Extra Hazard (Group 1)	1.4
Extra Hazard (Group 2)	1.5

B105.2.3 The total required fire flow may be reduced by one of the following options, but in no case shall be less than 1500 GPM @ 20 psi residual.

1. Reduced by 75 percent where a complete approved automatic fire extinguishing system meeting the requirements of NFPA 13, is installed throughout the building and the system is electronically supervised and is monitored by an approved central receiving station.

2. Reduced by 25 percent where an approved automatic and manual fire alarm system is installed throughout the building that is monitored by an approved central receiving station. The systems shall meet the requirements of NFPA 72.

**SECTION B106
REFERENCED STANDARDS**

			B1042
ICC	IBC	International Building Code	Table B105.1
ICC	IFC	International Fire Code	B105.2
ICC	IUWIC	International Urban- Wildland Interface Code	B 103.3
NFPA	1142	Standard on Water Supplies for Suburban and Rural Fire Fighting	B 103.3

**TABLE B105.1
MINIMUM REQUIRED FIRE FLOW AND FLOW DURATION FOR BUILDINGS³**

FIRE-FLOW CALCULATION AREA (square feet)					FIRE FLOW (gallons per minute) ^c	FLOW DURATION (hours)
Type IA and IB ^b	Type IIA and IIIA ^b	Type IV and V-A ^b	Type IIB and IIIB ^b	Type V-B ^b		
0-22,700	0-12,700	0-8,200	0-5,900	0-3,600	1,500	2
22,701-30,200	12,701-17,000	8,201-10,900	5,901-7,900	3,601-4,800	1,750	
30,201-38,700	17,001-21,800	10,901-12,900	7,901-9,800	4,801-6,200	2,000	
38,701-48,300	21,801-24,200	12,901-17,400	9,801-12,600	6,201-7,700	2,250	
48,301-59,000	24,201-33,200	17,401-21,300	12,601-15,400	7,701-9,400	2,500	
59,001-70,900	33,201-39,700	21,301-25,500	15,401-18,400	9,401-11,300	2,750	
70,901-83,700	39,701-47,100	25,501-30,100	18,401-21,800	11,301-13,400	3,000	3
83,701-97,700	47,101-54,900	30,101-35,200	21,801-25,900	13,401-15,600	3,250	
97,701-112,700	54,901-63,400	35,201-40,600	25,901-29,300	15,601-18,000	3,500	
112,701-128,700	63,401-72,400	40,601-46,400	29,301-33,500	18,001-20,600	3,750	
128,701-145,900	72,401-82,100	46,401-52,500	33,501-37,900	20,601-23,300	4,000	4
145,901-164,200	82,101-92,400	52,501-59,100	37,901-42,700	23,301-26,300	4,250	
164,201-183,400	92,401-103,100	59,101-66,000	42,701-47,700	26,301-29,300	4,500	
183,401-203,700	103,101-114,600	66,001-73,300	47,701-53,000	29,301-32,600	4,750	
203,701-225,200	114,601-126,700	73,301-81,100	53,001-58,600	32,601-36,000	5,000	
225,201-247,700	126,701-139,400	81,101-89,200	58,601-65,400	36,001-39,600	5,250	
247,701-271,200	139,401-152,600	89,201-97,700	65,401-70,600	39,601-43,400	5,500	
271,201-295,900	152,601-166,500	97,701-106,500	70,601-77,000	43,401-47,400	5,750	
295,901 -Greater	166,501-Greater	106,501-115,800	77,001-83,700	47,401-51,500	6,000	
—	—	115,801-125,500	83,701-90,600	51,501-55,700	6,250	
—	—	125,501-135,500	90,601-97,900	55,701-60,200	6,500	
—	—	135,501-145,800	97,901-106,800	60,201-64,800	6,750	
—	—	145,801-156,700	106,801-113,200	64,801-69,600	7,000	
—	—	156,701-167,900	113,201-121,300	69,601-74,600	7,250	
—	—	167,901-179,400	121,301-129,600	74,601-79,800	7,500	
—	—	179,401-191,400	129,601-138,300	79,801-85,100	7,750	
—	—	191,401 -Greater	138,301-Greater	85,101 -Greater	8,000	

For SI: 1 square foot = 0.0929 m², 1 gallon per minute = 3.785 L/m, 1 pound per square inch = 6.895 kPa.

- a. The minimum required fire flow shall be permitted to be reduced by 25 percent for Group R.
- b. Types of construction are based on the *International Building Code*.
- c. Measured at 20 psi.

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