

2016 Fire Code Local Amendment Justification/Statement of Reason

Building Standards Law allows local amendments in accordance with the following:

For purposes of this subdivision, a city or county may make reasonably necessary modifications to the requirements, adopted pursuant to Health and Safety Code Section 17958, 17958.5, 17958.7, and 18941.5, contained in the provisions of the code and regulations on the basis of local conditions.

Chapter 1 – Scope and Administration:

Section 101.4: This section is carried over from the existing City of Desert Hot Springs Municipal Code Chapter 15.08 and relocated to this section to resolve any conflict with the fire code provisions. Riverside County maintains its own severability clause and does not adopt the fire code text.

Section 102.5: This section is new to City of Desert Hot Springs Municipal Code Chapter 15.08 but does not have any change in regulatory effect. Current amendments are to the fire code not the residential code. The scope and application of the fire code needs to be expanded to apply to the fire sprinkler systems for accessory structures constructed under the 2016 California Residential Code (CRC) which are now permitted to exceed 3,000 square feet in area. This modification maintains the applicability of the 2016 California Fire Code (CFC) Section 903.2 amendment to those accessory structures greater than or equal to 3,600 square feet in area. This has no change in intent and maintains the protection offered.

Section 103.4: This section is new to City of Desert Hot Springs Municipal Code Chapter 15.08 to resolve any conflict between state law and the fire code provisions.

Section 104.1.1: This section is carried over from the existing City of Desert Hot Springs Municipal Code Chapter 15.08 and renumbered. It is imperative that enforcement capability be disseminated to other law enforcement entities within the Riverside County area because of its vast topography and diversity. This gives the Riverside County Fire Department greater enforcement capabilities due to the presence of these other agencies across the County of Riverside.

Section 104.12: This section is carried over from the existing City of Desert Hot Springs Municipal Code Chapter 15.08 and grants authority to the Fire Chief, in cooperation with the Board of Supervisors, to close hazardous fire areas.

Section 108.1: This section is amended to identify the board of appeals and additional criteria is added for clarification and implementation. The modifications to this section are consistent with Health and Safety Code 17920.5 where no board of appeals exists. This section provides for the ability to create a Board of Appeals as needed.

Section 109.4: This section is carried over from the existing City of Desert Hot Springs Municipal Code Chapter 15.08 and relocated to this section to resolve any conflict with the fire code provisions. City of Desert Hot Springs Municipal Code Chapter 15.08 requires punishments and penalties for violations to be in accordance with the City of Desert Hot Springs Municipal Code and Health and Safety Code Sections 17995 through 17995.5.

Section 113.2: This section is carried over from the previous City of Desert Hot Springs Municipal Code Chapter 15.08 and relocated to the fees section of the fire code. This amendment is necessary to identify that fees are in accordance with the City of Desert of Hot Springs Ordinances and fee schedules.

Section 113.6: This section is carried over from the previous City of Desert Hot Springs Municipal Code Chapter 15.08 and relocated to the fees section of the fire code. This section is maintained in accordance with Health and Safety Code 13009 and 13009.1, and Government Code 53150, et seq. for cost recovery.

Chapter 2 – Definitions:

Fire Chief: This definition is carried over from the previous City of Desert Hot Springs Municipal Code Chapter 15.08. This definition was added to designate that this term means the Fire Chief of Riverside County whenever the wording appears in the California Fire Code or this Ordinance. This is to distinguish obligatory authority to the Fire Chief or any of the designated representatives for fire prevention measures and declarations in enforcing this Ordinance

Chapter 5 – Fire Service Features

Section 503.2.1: The section is added to provide consistency with current Riverside County Fire Department standards and access policy (FPS 06-05 rev 06/01/2011). This correlation of the fire code is necessary for minimum fire apparatus access widths for firefighter operations and consistency throughout the county. This modification does not supersede City road standards where the City standards are more restrictive. This modification has no change in regulatory effect.

Section 503.2.2: This section is carried over from the previous City of Desert Hot Springs Municipal Code Chapter 15.08. This section is enhanced to specifically specify who has authority to designate Fire Lanes and modify minimum widths.

Section 503.6.1: The section is added to provide fire department and other emergency responders more rapid access to gated facilities. Underwriters Laboratory (UL) “determined that fires today are more dangerous and pose more risks than in the past. Fire propagation is faster, and time to flashover, escape times and collapse times are all shorter” (UL Fire Safety Journal Issue 1). The need for our first responders to be on scene sooner or without disruption will provide for greater occupant and firefighter safety, and assist in property protection.

Section 503.7: This section is carried over from the previous City of Desert Hot Springs Municipal Code Chapter 15.08. This section provides additional width for apparatus access roads where utilized for loading/unloading or passenger drop off/pick up to prevent interference with operational access needs.

Section 507.5.7: This section is carried over from the previous City of Desert Hot Springs Municipal Code Chapter 15.08. This section provides for the size and quantities of outlets for residential standard, super hydrant standard, and super hydrant enhanced fire hydrants and that they shall be required as determined by the Fire Code Official.

Section 507.5.8: This section is carried over from the previous City of Desert Hot Springs Municipal Code Chapter 15.08. The section provides direct reference to Riverside County Fire Department Std. 06-11 for specific requirements for the installation of blue reflective markers for fire hydrants.

Section 508.1, 508.1.3, and 508.1.6: These sections are carried over from the previous City of Desert Hot Springs Municipal Code Chapter 15.08. These sections have been amended to require fire command centers for structures larger than 300,000 square feet in size. To put into context, the Fire Command Center would be triggered when the buildings are approximately 2.5 times the typical Costco Warehouse store and approximately two times the size of a typical Walmart Supercenter. Large structures of this size pose numerous challenges to emergency responders due to the large amounts of fuel loads from the storage, manufacturing and/or processing of flammable/combustible commodities and other processes within the building. Challenges include wide distribution of smoke throughout the structure, difficulty for firefighters to locate and reach the fire and difficulty in search and evacuation of the public, employees and firefighters. These structures typically require numerous fire protection, early suppression and detection systems that may include, but are not limited to, fire pumps, multiple fire sprinkler systems, advanced fire alarm systems, smoke control systems, and refrigeration gas detection system(s). During a fire, the incident commander must have the ability to readily identify the status of the various suppression and detection systems and have access to other building information details that may include, but are not limited to, building floor plans, high-pile/rack storage details, smoke control/ventilation systems, fire sprinkler zoning details, mechanical refrigeration equipment and piping details, and hazardous materials data sheets along with quantities and storage/use locations. A fire

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command center provides a centralized location for the incident commander to review details about the building and the incident and to effectively coordinate emergency responders and suppression activities with increased efficiency and speed. The Riverside County Fire Department has experienced several incidents in buildings with and without Fire Command Centers. Incident Commanders found that having detailed information on built in fire protection systems and controls, building schematics and hazardous materials storage plans were vital towards mitigating the event. When this information was not available, firefighting personnel were forced to operate upon assumptions and much less information. In addition, this increased efficiency and speed results in facilities returning to operation more expeditiously after incidents or false alarms thereby reducing loss of revenue for the business.

Section 508.1.1 & 508.1.8: These sections are added to identify the approved location of the fire command center and to indicate signage requirements for the entrance door.

Section 509.2.1: This section is carried over from the previous City of Desert Hot Springs Municipal Code Chapter 15.08 and relocated to a more appropriate location in the code. This amendment encompasses other exterior fire protection water supply appliances such as Fire Department connections, and other exterior fire protection system control valves, or any other exterior fire protection system component that may require immediate access.

Section 606.10.1.2: This section is carried over from the previous City of Desert Hot Springs Municipal Code Chapter 15.08. This section specifies the location of manual crossover valves when manual operation is required by the Fire Code Official. The amendment specifies that the manual valves shall be located in an approved location immediately outside of the machinery room, in a secure metal box or equivalent and marked as Emergency Controls. This is to ensure that the valves are in readily accessible location(s) for access during an emergency.

Section 903.2: This section is carried over from the previous City of Desert Hot Springs Municipal Code Chapter 15.08 with modification. Modifications have been made to provide certain exemptions including, but not limited to, agricultural and greenhouse Group U structures up to 5,500 square feet in area and specific shade structures.

The existing amendment provides a base square footage requirement for all new commercial, industrial, and residential occupancies other than one- and two-family dwellings. Though the amendment includes a reference to the requirement for one- and two-family dwellings, the authority for residential fire sprinkler requirements resides in Title 24, Part 2.5 [2016 California Residential Code].

Automatic sprinkler systems have been successfully used to protect industrial and commercial buildings and their occupants for more than 100 years. Historically the place which has offered the least amount of fire protection to occupants was and still is their own home. This was brought to light in 1973 by the Report of the National Commission on Fire Prevention and Control, America Burning. At the time of the report approximately 8,000 people died in structure fires every year in the United States. Nine out of ten of those victims died in their home.

However, the U.S. Fire Administration report "Fire in the United States 2004–2013 17<sup>th</sup> edition" reflects that nonresidential fire losses are costly. "National estimates of nonresidential building fires and losses, from 2004 to 2013, annually accounted for only 7 percent of fires, 2 percent of deaths, and 8 percent of injuries. These properties, however, accounted for a disproportionately large annual dollar loss, 21 percent. Trends in nonresidential buildings showed a 14 percent decrease in fires, a 9 percent increase in deaths, a 7 percent increase in injuries, and a 10 percent decrease in dollar loss from 2004 to 2013."

The same report concluded "...that, overall, the fire problem in the U.S. continues to improve. Ten-year fire loss rates are down. It is likely that several factors continue to contribute to these trends..." which includes; "fire sprinklers, which quickly combat incipient fires, especially in nonresidential and multifamily buildings, and fire codes, which have been strengthened." Furthermore, the report reflects that The nonresidential building category includes industrial and commercial properties, institutions (such as hospitals, nursing homes and prisons), educational establishments (from preschool through university), mobile properties, and storage properties. On average, about 89 percent of nonresidential structure fires,

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88 percent of deaths, 91 percent of injuries, and 92 percent of dollar losses reported to National Fire Incident Reporting System from 2004 to 2013 occurred in nonresidential buildings.

Aside from firefighter and explosion fatalities, there has never been a multiple loss of life in a fully sprinklered building due to fire or smoke. All fire protection features have a reliability factor. Walls and shafts can be breached by means of poke-throughs and building alterations. Exit doors can be blocked or locked.

The California Residential Code is requiring that all one and two family dwellings be protected by sprinklers. It is still imperative, based on the geographical, topographical, climatic diversity of Riverside County, to continue to protect all structures greater than 3,600 sq. ft. by Fire Sprinklers, to ensure faster suppression to those occupancies that would not normally be required to be protected which would exhaust a number resources including water which climatically is so precious to our environment as a whole. It will provide for less run off into ground water due to suppression activities and less pollutants into the environment.

Mobile homes are a part of the American landscape. In 2007 alone, more than 95,000 manufactured homes were shipped nationwide. Manufactured housing also accounts for approximately 10 percent of the single-family structures in the United States. Despite the fact that we drive by them, respond to medical calls in them, and sometimes live in them, we often overlook mobile homes when it comes to training and prefire planning. However, as the deaths of two firefighters in Craigsville, West Virginia, showed, mobile homes can pose significant, and sometimes deadly, challenges. The burning mobile home is a less-than-stable platform, making search and possible rescue of occupants even more dangerous. The exterior walls are not as structurally sound when compared with those of most site-built homes. The narrow halls complicate search. If the first-due engine pulls up and the mobile home is burning from end to end, the firefighting strategy has already been decided. The fire must be knocked down in order to move in. If the home is in a mobile home park, again, protecting exposures is vital. Radiant heat can ignite the homes nearby. Fire sprinklers can prevent the flashover from occurring and in many cases put the fire out and save valuable resources in the process, such as water, personnel, and environmental cleanup, limited displacement into County shelter(s), and less inconvenience to the family. The mobile home, because of its construction, requires fast water.

The National Fire Protection Association reports in 2007-2011, 11,400 structure fires per year were reported in manufactured homes, with associated losses of; 206 civilian deaths, 434 civilian injuries, and \$179 million in direct damage per year nationally. The roof, for example, burns through more quickly than a typical residential roof and is not safe for firefighters. Mobile home fires can quickly grow out of control, because there's not as much wallboard and drywall, and there are fewer walls to keep the fire from spreading.

The record for automatic fire sprinklers is based on the simple fact that there has never been a multiple death of building occupants from a fire developing in a building protected by an automatic fire sprinkler system properly installed and maintained in accordance with nationally recognized standards (NFPA 13, 13D, 13R, and NFPA 25).

AWWA Research Foundation has published the following report: Impact of Fire Flow on Distribution System Water Quality, Design, and Operation. This report concludes the following:

"Water-efficient fire suppression technologies exist that use less water than conventional standards. In particular, the universal application of automatic sprinkler systems provides the most proven method for reducing loss of life and property due to fire, while at the same time providing faster response to the fire and requiring significantly less water than conventional fire-fighting techniques. It is recommended that the universal application of automatic fire sprinklers be adopted by local jurisdictions."

Consider the benefits: a single firefighter using a normal 1-1/2" fire hose can be applying between 175-400 gallons of water per minute when attempting to extinguish a fire. On the other hand, a single fire sprinkler will be flowing only 18- to 40- gallons of water per minute. This means that over a 5-minute period, the following quantities of water are used:

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Fire-fighter with 1-1/2" hose:

175 gpm x 5 minutes = 875 gallons of water

400 gpm x 5 minutes = 2,000 gallons of water

Fire sprinkler system:

18 gpm x 5 minutes = 90 gallons of water

40 gpm x 5 minutes = 200 gallons of water

Section 903.3.5.3: This section is carried over from the previous City of Desert Hot Springs Municipal Code Chapter 15.08. The section limits all hydraulically calculated fire sprinkler systems to not exceed 90% of the water supply capacity. The 10% buffer in the hydraulic calculation is a common engineering business practice that gives some flexibility to account for system water pressures that may decrease as additional demands are placed on the water system from additional construction or as the system ages.

Section 3204.2.1: This section is carried over from the previous City of Desert Hot Springs Municipal Code Chapter 15.08. By requiring client leased or occupant owned warehouses to have a technical report completed by a fire protection engineer, it will minimize problems concerning commodity and sprinkler protection. By having an engineer complete a technical report for the proposed or existing building it will provide greater certainty that adequate protection for the commodities that are proposed will be sufficient. By not having adequate sprinkler protection, it could be detrimental to the building and could also cause loss of life in the event of a fire. Geographically this can be a significant problem due to the seismic activity that Riverside County experiences. The Engineer can assess the adequate protection for the correct commodity classifications, ensure the correct seismic provisions are in place for the type of system to be installed, and provide a professional assurance to a very volatile type of occupancy. It takes a vast number of resources to extinguish a fire of this type. By adding this requirement, it will ensure an added level of safety.

Section 4904.3: This section is carried over from the previous City of Desert Hot Springs Municipal Code Chapter 15.08. This section is required under State Law, Section 51178.5.

Modification has been made to correct the date of the State adopted and recommended Very High Fire Hazard Severity Zone map.

Table B105.2 of Appendix B: This amendment is carried over from the previous City of Desert Hot Springs Municipal Code Chapter 15.08. The amended text has been moved from the body of Section B-105.2 to a new table in the 2016 California Fire Code to properly correlate to the percentage reduction in fire flow for sprinkler systems. This allows the fire department to still have adequate fire flow mitigation with sprinkler protection and not jeopardize main distribution systems by inadequately under sizing them and have costly upgrades for future projects. With the geographical diversity that the County has it is important that this requirement be added to ensure adequate water in the event of a fire.

Section C103.1: This provision is carried over from the previous City of Desert Hot Springs Municipal Code Chapter 15.08 and modified to correlate with the new 2016 California Fire Code section number and text. This provision is to clarify the additional location of fire hydrants to be at intersections. This requirement has been standard policy within Riverside County.