Legislation Details (With Text)

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Title: Actions related to repealing and adding Fire and Life Safety Regulations in the Fresno Municipal Code
1. Adopt the finding that this project is not subject to the requirements of the California Environmental Quality Act pursuant to CEQA Guidelines, Section 15061(b)(3) as there is clearly no possibility the adoption of the 2016 California Fire Code or amendments may have a significant adverse effect on the environment.
2. RESOLUTION - Making express findings that modifications or changes to the 2016 California Fire Code are reasonably necessary because of local climatic, geological, or topographical conditions.
3. BILL - (For introduction) Repealing Article 5 of Chapter 10, and adding Article 5 to Chapter 10 of the Fresno Municipal Code relating to fire and life safety regulations.

Sponsors: Fire Department

Indexes:

Code sections:

Attachments: 1. 2016 Ordinance- Repealing and Adding Chapter 10 Art 5 Fire and Life Safety.pdf, 2. 2016 Code Adoption Resolution.pdf, 3. 1925 NFPA The Story of Fresno.pdf, 4. 1953 Thirteen Separate Fires Give Fresno Dept Test.pdf, 5. 1966 NEWS BULLETIN NATIONAL AUTO SPRINKLER 1 of 2.pdf, 6. 1975 How the City of Fresno Achieved Better Fire Protection.pdf, 7. 1979 Sprinklers Cut Fresnos Fire Losses and Budget.pdf, 8. 1984 Effective Local Amendments Building Standards Mag.pdf, 9. 1987 February Sprinkler Age Article.pdf, 10. 2004 The Path at Your Feet.pdf, 11. 2006 Staff Report to Council.pdf, 12. 2008 FEMA Emerg Inc Rehab fa_314.pdf, 13. 2008 Wildfire Smoke July.pdf, 14. 2010 Environmental Impact of Fire Sprinklers FM Global.pdf, 15. 2012 SprinklerImpactFFInjuries.pdf, 16. 2015 FSTB Sep Editorial.pdf, 17. 2015 RFEnvironmentalImpactOfFire.pdf, 18. Reso 2002-378 Certifying Master EIR for 2025 Fresno General Plan.pdf, 19. Reso 2002-379 Adopting 2025 Fresno General Plan.pdf, 20. 1905 NBFU PP 1 Report Cover.jpg, 21. 1905 NBFU PP 18.jpg, 22. 1905 NBFU PP 19.jpg, 23. 1905 NBFU PP 99 Map.jpg, 24. 2016 CA DEPT WTR RSS GW_basinsCriticalOverdraft_SCentralRegion.pdf, 25. Quantification of Water Flow Testing Adjustments 2015.pdf

Date	Ver.	Action By	Action	Result
11/3/2016	1	City Council	approved	Pass

REPORT TO THE CITY COUNCIL

November 3, 2016

FROM: Fire Department

BY: KERRI L. DONIS, Fire Chief

SUBJECT

Actions related to repealing and adding Fire and Life Safety Regulations in the Fresno Municipal Code

1. Adopt the finding that this project is not subject to the requirements of the California Environmental Quality Act pursuant to CEQA Guidelines, Section 15061(b)(3) as there is clearly no possibility the adoption of the 2016 California Fire Code or amendments may have a significant adverse effect on the environment.
2. RESOLUTION - Making express findings that modifications or changes to the 2016 California Fire Code are reasonably necessary because of local climatic, geological, or topographical conditions.
3. BILL - (For introduction) Repealing Article 5 of Chapter 10, and adding Article 5 to Chapter 10 of the Fresno Municipal Code relating to fire and life safety regulations.

RECOMMENDATION

It is recommended Council:

1. Adopt the finding that this project is not subject to the requirements of the California Environmental Quality Act pursuant to CEQA Guidelines, Section 15061(b)(3) as there is clearly no possibility the adoption of the 2016 California Fire Code or amendments may have a significant adverse effect on the environment.

2. Adopt the Resolution making express findings that modifications or changes to the 2016 California Fire Code are reasonably necessary because of local climatic, geological, or topographical conditions.

3. Introduce the Ordinance Repealing Article 5 of Chapter 10, and adding Article 5 to Chapter 10 of the Fresno Municipal Code relating to fire and life safety regulations.

EXECUTIVE SUMMARY

Every three years, the California Building Standards Code (CBSC) is reviewed (and modified where applicable) then adopted by the California Building Standards Commission. In 2016, the Commission voted to adopt the 2016 edition of the CBSC which includes the 2016 edition of the California Fire Code. The CBSC will go into effect January 1, 2017. The City of Fresno Municipal Code contains these standards, which are adopted or modified as necessary to ensure the safety of the community. Staff is introducing the attached Resolution and Ordinance to be considered for adoption.

BACKGROUND

The 2016 CBSC incorporates the 2015 edition of the International Fire Code, as amended with necessary California amendments. The 2016 CBSC will become effective on January 1, 2017, and is mandated by the California Building Standards Commission for statewide adoption and enforcement. The City of Fresno has the authority to make necessary modifications to the State Code. Modifications that are administrative in nature do not require express findings; however, non-administrative modifications to building standards in the California Fire Code must be supported by an express finding relating to local climatic, geological, or topographical conditions. Additionally, any

modification to building standards and to other provisions of the California Fire Code adopted by the California State Fire Marshal cannot be less restrictive in the specific requirements of those provisions.

FINDINGS REGARDING LOCAL CLIMATIC, TOPOGRAPHICAL AND GEOLOGICAL CONDITIONS THAT MAKE THE PROPOSED AMENDMENTS TO THE CALIFORNIA FIRE CODE REASONABLY NECESSARY

The express findings relating to local climatic, geological, or topographical conditions, including an analysis of the modifications, may be found in the proposed Resolution and Ordinance. The following is a brief summary of the local climatic, topographical, and geological conditions, which make the amendments to the California Fire Code reasonably necessary, including that the City of Fresno experiences extreme temperatures, has a limited (and through years of drought) diminished water supply and pressure, has poor air quality, a high number of sunny days, and lower density development facilitated by the local topography.

CLIMATIC CONDITIONS - EXTREME TEMPERATURES

During the summer months the City of Fresno experiences periods of what can only be described as extreme heat.

The last three years' worth of the "Local Cli1atological Data Annual Summary with Comparative Data" reports for 2013, 2014, and 2015 promulgated by the United States Department of Commerce, National Oceanic and Atmospheric Administration, National Climatic Data Center demonstrate this condition. In the 2013 summary, the mean daily maximum temperature for Fresno in June, July, August and September is: 95.6°F, 102.3°F, 98.3°F and 91.5°F respectively. In 2014 the same information is noted as: 96.4°F, 101.2°F, 98.6°F and 94.6°F and in 2015 was: 96.8°F, 96.8°F, 97.1°F and 92.4°F.

Though Health & Safety Code § 17958.7 does not require the local conditions to be unique to a particular jurisdiction, the temperature charts demonstrate that the temperatures experienced in Fresno are extreme when compared to temperatures experienced in other parts of California.

Because of the extreme heat Fresno experiences during the summer months, Fresno firefighters responding to fires and other incidents requiring the evacuation of a building are regularly exposed to temperatures in excess of 105ºF degrees, when accounting for their protective gear, exposing them to the probability of heat cramps, heat exhaustion and possibly heat stroke.

GEOLOGICAL - LIMITED WATER SUPPLY AND WATER PRESSURE

The Fresno Metropolitan area is arid area that receives small amounts of rainfall each year. In 2013 Fresno received only 3.01 inches of water equivalent precipitation. In 2014, the City received only 7.46 inches and in 2015, only 8.98 inches. Furthermore, the Fresno City Metropolitan Area relies primarily on groundwater for its municipal water supply. According to the California Department of Water Resources, the Kings basin (our underground aquifer) is in a state of critical overdraft.

Due to the hot, dry summers in the Fresno area, domestic water demand substantially reduces the ability of the public water system to dependably meet the larger fire flow demand in many areas of the City.

CLIMATIC/TOPOGRAPHICAL - POOR AIR QUALITY CAUSED BY TOPOGRAPHY OF SAN JOAQUIN VALLEY AIR BASIN, LARGE NUMBER OF SUNNY DAYS AND INVERSIONS THAT FORM DURING WINTER MONTHS

As a result of the San Joaquin Valley's climate and topography, the San Joaquin Valley Air Basin (SJVAP) is predisposed to poor air quality. High mountain ranges surrounding the Valley frequently create air layer inversions that prevent mixing of air masses. The large number of sunny days per year, and high temperatures in the summer favors the formation of ozone. The area receives so much sunshine that the City of Fresno was ranked the second highest major California city for sunshine, eighth in the nation, with an estimated 79 percent annual average of possible sunshine for more than a 30-year period. In the winter, inversions form that often trap particulate matter.

The Federal EPA and California Air Resources Board have classified the San Joaquin Valley Air Basin as severe non-attainment for Ozone and serious non-attainment (federal) non-attainment (state) for PM_{10}. Ozone is formed by a complex series of chemical reactions between reactive organic gases (ROG), oxides of nitrogen and sunlight. PM_{10} is suspended particulate matter that is less than 10 microns in size. Given its small size, PM_{10} can remain airborne for long periods and can be inhaled, pass through the respiratory system, and lodge in the lungs. In general, non-attainment means that the federal standard has been exceeded more than twice per year.

Smoke is composed primarily of carbon dioxide, water vapor, carbon monoxide, particulate matter, hydrocarbons and other organic chemicals, nitrogen oxides, trace minerals and several thousand other compounds. Particulate matter is the principal pollutant of concern for the relatively short-term exposures (hours to weeks) typically experienced by the public. Particulate matter in wood smoke has a size range near the wavelength of visible light (.4-.7 micrometers). Because these particles can be inhaled into the deepest recesses of the lungs, they are thought to represent a greater health concern than larger particles. Another pollutant of concern during some events is carbon monoxide. The San Joaquin Valley Air Pollution Control District states "Emissions from burning include fine particulate, hydrocarbons, oxides of nitrogen, oxides of sulfur, carbon monoxide, and toxic air contaminants that contribute to our air quality problems."

TOPOGRAPHICAL - FRESNO'S DEVELOPMENT PATTERN

Due to the relatively low-density growth pattern in the Fresno area, its 20 fire stations are spaced approximately four miles apart resulting in an average of a two-mile running distance for the designated first-in engine company. This average two-mile travel distance increases the response time to fires, which result in an increase in the size and intensity of fires.

FINDINGS REGARDING THE REASONABLY NECESSITY OF THE PROPOSED AMENDMENTS TO THE CALIFORNIA FIRE CODE GIVEN LOCAL CLIMATIC, TOPOGRAPHICAL, AND GEOLOGICAL CONDITIONS

As set forth in detail in the attached proposed Resolution and Ordinance, each of the local amendments to the California Fire Code are reasonably necessary because of these climatic, topographical, and geological conditions. The amendments may be generally characterized as relating to (1) fire sprinkler systems; (2) luminous exit markings; (3) additional regulation of recycling and waste handling facilities; and (4) additional regulation of locations of above-ground tanks, the amount of Class 1 and Class II liquids at farms and construction sites in above-ground tanks and

basement storage of flammable liquids. Below is a brief summary of the reasons these amendments are necessary.

FIRE SPRINKLER SYSTEMS

Fire sprinkler systems have proven extremely effective in suppressing and extinguishing unwanted fires using a small fraction of the water used by traditional fire suppression methods. This results in smaller fires or fires of shorter duration and thus produces far less toxic smoke that affects air quality. Because fire sprinklers limit the size and the duration of fires, fewer fire personnel are likely to be required to respond to said fires, which reduce the number of fire personnel who would be exposed to the health risks associated with sustained exposure to high temperatures and smoke toxicity. Fire sprinklers also address the extended run times due to topography-related, low density growth patterns in Fresno, and require personnel to stay on scene for shorter periods of time. This allows personnel to be available for other calls for services at a higher rate. Finally, the lower consumption of water as a result of the installation of fire sprinklers preserves one of our City's most valuable resources, and limits the amount of water effluent (which could be in the millions of gallons) that must be treated downstream. The modifications proposed in this category maintain existing amendments approved by previous Councils that continue a proactive fire sprinkler installation emphasis for community-wide fire protection that commenced in 1979, and expand protection to reduce demand on the City's resources.

PHOTOLUMINESCENT EXIT MARKINGS

Photoluminescent exit markings greatly assist individuals in evacuating buildings without the use of fire personnel. Accordingly, requiring these markings facilitate the unassisted evacuation of buildings. Therefore, fewer fire personnel will be needed at the scene of a fire to assist in the evacuation of a building in which photoluminescent exit markings have been installed. This modification continues an existing amendment first approved by Council in 2006.

ADDITIONAL REGULATION OF RECYCLING AND WASTE HANDLING FACILITIES

These regulations will serve to reduce the possibility of spontaneous combustion of piles of waste materials and facilitate the suppression and extinguishing of fires at these sites. This will result in smaller amounts of pollutants being released into the air and in effluent water runoff, and result in fewer fire personnel having to respond to said fires. This may also shorten the time that fire personnel will be required to remain at the scene of the fire. These modifications are a continuation of requirements approved by Council in 2003, after the disastrous Crippen Fire in southwest Fresno.

ADDITIONAL REGULATION OF MOTOR FUEL DISPENSING AND REPAIR GARAGES, LOCATIONS OF ABOVE-GROUND TANKS, THE AMOUNT OF CLASS I AND CLASS II LIQUIDS AT FARMS AND CONSTRUCTION SITES IN ABOVE-GROUND TANKS AND BASEMENT STORAGE OF FLAMMABLE LIQUIDS.

Fresno's very hot, dry conditions make all combustible materials (grass, weeds, buildings, roof coverings, etc.) highly combustible, which increases the general community wide fire hazard. High temperatures also make all flammable and combustible liquids and gases much more volatile, increasing the fire hazard where they are present. Therefore, increased regulation of the storage of certain classes of fuels and gases is reasonably necessary to reduce the fire risk associated with the ignition of these materials. These modifications are a continuation of amendments approved by

Council that date back to at least 1978, in an effort to control the risk of low flash point hazardous materials in our community.

SUMMARY

Local amendments proposed for adoption are limited to those that are essential to effectively administer code responsibilities in daily operations of the fire department and to maintain previous amendments approved by Council relating to fire and life safety. Staff recommends adoption of the standards as proposed.

ENVIRONMENTAL FINDINGS

Staff has conducted a preliminary environmental evaluation of this ordinance pursuant to the requirements of California Environmental Quality Act (CEQA) Guidelines, section 15061(b)(3) and has determined with certainty that there is no possibility that the adoption of the 2016 California Fire Code or amendments may have a significant adverse effect on the environment, as defined by CEQA Guidelines, section 15382.

LOCAL PREFERENCE

Local preference was not implemented because this item does not include an award of a construction or services contract.

FISCAL IMPACT

Low financial impact.

Attachments:

- Ordinance Repealing Article 5 of Chapter 10 and Adding Article 5 to Chapter 10 of the Fresno Municipal Code Relating To Fire and Life Safety Regulations.
- Resolution Making and Adopting Express Findings That Modifications or Changes to the California Fire Code are Reasonably Necessary Because of Local Climatic, Geological and Topographical Conditions.
- Report on the City of Fresno, Cal., National Board of Fire Underwriters Committee of Twenty, 1905
- The Story of Fresno, a Tale of Redemption of a Fire Department, National Fire Protection Association, 1925
- Thirteen Separate Fires Give Fresno Department Sever Test, Fire Engineering, 1953
- The World’s Agribusiness Capitol, City with a 21st Century Fire Plan, National Automatic Sprinkler and Fire Control, 1966
- How the City of Fresno Achieved Better Fire Protection, Fire Journal, 1975.
- Sprinklers Cut Fresno’s Fire Losses and Budget, Fire Journal, 1979.
- Effective Local Amendments - City of Fresno, Building Standards, 1985

- Urban Fire Defense Planning, Part IV, Sprinkler Age, 1987
- The Path at Your Feet - The Shift in Emergency Lighting; International Fire Protection Magazine, 2004.
- January 10, 2006 Staff Report to City Council relating to requiring Automatic Fire Sprinklers.
- Emergency Incident Rehabilitation, Federal Emergency Management Agency, United State Fire Administration, (FEMA FA-314) 2008
- Wildfire Smoke - A Guide for Public Health Officials, rev. 2008
- Environmental Impact of Automatic Fire Sprinklers, Research Technical Report, FM Global, 2010.
- Addendum to U.S. Experience with Sprinklers Impact of Home Sprinklers on Firefighter Injuries, National Fire Protection Association, Fire Analysis and Research Division, 2012.
- The Environmental Impact of Fire, the Fire Protection Research Foundation, 2015.
- 2025 Fresno General Plan.
- Master Environmental Impact Report No. 10130 relating to the 2025 Fresno General Plan.
- Quantification of Water Flow Data Adjustments for Sprinkler System Design, the Fire Protection Research Foundation, 2015.
- Fire Safety and Technology Bulletin, Sept. 2015.
- The California Department of Water Resources, January 2016 identifying the local water basin as being in a “critically over-drafted” condition.