ORDINANCE 1681


THE SEAL BEACH CITY COUNCIL DOES ORDAIN AS FOLLOWS:

Section 1. Findings.

A. California law requires that on January 1, 2020, all portions of the 2020 California Code of Regulations Title 24 will be effective within the City: and,

B. The City may amend the provisions of the California Code of Regulations Title 24 provided express findings for each amendment, addition or deletion is made based upon climatic, topographical or geological conditions.

C. The City shall file the amendments, additions or deletions shall be filed with California Building Standards Commission.

D. The City of Seal Beach is located in a densely populated coastal area in the northwest portion of Orange that is more prone to high winds, earthquakes, and fire, more difficult for firefighters to access than many other areas in California.

E. The Building Official has recommended modifying certain Parts of California Code of Regulations Title 24 due to local conditions in the City of Seal Beach.

F. The findings supporting the necessity for the amendments to building standards herein are contained in Attachment A to this ordinance in accordance with California Health and Safety Code Section 18941.5 and are incorporated by reference herein.

G. In accordance with Section 15061(b)(3) of Title 14 of the California Code of Regulations, the adoption of local amendments to the California Building Standards Code, and amending the Seal Beach Municipal Code, are exempt from the provisions of the California Environmental Quality Act.

Section 2. The purpose of this ordinance is to adopt by reference and amend the California Code of Regulations, Title 24, Part 2 California Building Code, Part 2.5 California Residential Code, Part 3 California Electrical Code, Part 4 California Mechanical Code, Part 5 California Plumbing code and Part 9 California Fire Code and International Pool and Spa Code. Therefore, the Seal Beach Municipal Code is hereby
amended by repealing Section 9.60.020 California Codes Adopted by Reference and Amended and 9.60.040 Pool and Spa Code from Chapter 9.60 and substituting with new Section 9.60.020 California Codes Adopted by Reference and Amended and 9.60.040 Pool and Spa Code all to read as follows:

CHAPTER 9.60 BUILDING CODE

9.60.020 CALIFORNIA CODES ADOPTED BY REFERENCE AND AMENDED

9.60.020.010 BUILDING CODE ADOPTED BY REFERENCE AND AMENDED

9.60.020.010.10 CALIFORNIA BUILDING CODE ADOPTED BY REFERENCE

Chapter 1 through 35 and Appendices F, I and J of 2019 California Building Code, Title 24 Part 2 of California Code of Regulations, as published by the California Building Standards Commission are hereby adopted by reference pursuant to the provisions of Sections 50022.1 through 50022.10 of the Government Code of the State of California as though fully set forth herein, and made a part of the Seal Beach Municipal Code with the same force and effect as though set out herein in full, including all of the regulations, revisions, conditions and terms contained therein except that those certain sections thereof which are necessary to meet local conditions as hereinafter set forth in Section 9.60.020.010.20 of this Code are hereby repealed, added or amended to read as set forth therein.

The administration of the Building Code shall be as set forth in Section 9.60.010 of this Code.

Not less than one copy of said 2019 California Building Code, Title 24 Part 2 of California Code of Regulations together with any and all amendments thereto proposed by the City of Seal Beach, has been and is now filed in the office of the Community Development Department and shall be remain on file with Building Official, and shall collectively be known as the City of Seal Beach Building Code and may be cited as Section 9.60.020.010 of the Seal Beach Municipal Code.

9.60.020.010.20 CALIFORNIA BUILDING CODE AMENDED

Chapter 1, 9, and 18 of 2019 California Building Code, Title 24 Part 2 of California Code of Regulations adopted by reference as the Building Code of the City of Seal Beach, are hereby amended, deleted or added as follows:

1- Chapter 1 Division II is deleted in its entirety.

2- Chapter 9 is amended in its entirety to read:
   Chapter 9 FIRE PROTECTION SYSTEMS. Chapter 9 of Building Code is deleted in its entirety and replaced with Chapter 9 of the California Fire Code

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as adopted and amended by City of Seal Beach Municipal Code Section 9.60.020.060

9.60.020.020 RESIDENTIAL CODE ADOPTED BY REFERENCE AND AMENDED

9.60.020.020.10 CALIFORNIA RESIDENTIAL CODE ADOPTED BY REFERENCE

Chapters 2 through 10, Chapter 44 and Appendix H, J, Q, R and S of 2019 California Residential Code, Title 24 Part 2.5 of California Code of Regulations, and Appendix J of 2019 California Building Code, Title 24 Part 2 of California Code of Regulations as published by the California Building Standards Commission, are hereby adopted by reference pursuant to the provisions of Sections 50022.1 through 50022.10 of the Government Code of the State of California as though fully set forth herein, and made a part of the Seal Beach Municipal Code with the same force and effect as though set out herein in full, including all of the regulations, revisions, conditions and terms contained therein except that those certain sections thereof which are necessary to meet local conditions as hereinafter set forth in Section 9.60.020.020.20 of this Code are hereby repealed, added or amended to read as set forth therein.

The administration of the Residential Code shall be as set forth in Section 9.60.010 of this Code.

Not less than one copy of said 2019 California Residential Code, Title 24 Part 2.5 of California Code of Regulations together with any and all amendments thereto proposed by the City of Seal Beach, has been and is now filed in the office of the Community Development Department and shall remain on file with Building Official, and shall collectively be known as the City of Seal Beach Residential Code and may be cited as Section 9.60.020.020 of the Seal Beach Municipal Code.

9.60.020.020.20 CALIFORNIA RESIDENTIAL CODE AMENDED

Chapter 3 of 2019 California Residential Code, Title 24 Part 2.5 of California Code of Regulations adopted by reference as the Residential Code of the City of Seal Beach, are hereby amended, deleted or added as follows:

1- Section R301.1.1.3.2 is amended in its entirety to read:

R301.1.1.3.2 Wood Frame Structures. The Building Official shall require construction documents to be approved and stamped by a California licensed architect or engineer for all dwellings of wood frame construction more than two stories and basement in height located in Seismic Design Category A, B, or C. Notwithstanding other sections of law, the law establishing these provisions is found in Business and Professions Code Sections 5537 and 6737.1.

The Building Official shall require construction documents to be approved and stamped by a California licensed architect or engineer for all dwellings of wood frame construction more than one story in height or with a basement located in Seismic Design Category D0, D1, or D2 or E.
2- Section R313 Automatic Fire Sprinkler System is amended in its entirety to read:

R313 Automatic Fire Sprinkler System. Section 903 of the Chapter 9 of Seal Beach Fire Code (Title 9 Chapter 9.60 Section 9.60.020.060 Fire Code) is adopted by reference to be the section R313 of the Residential Code.

9.60.020.030 ELECTRICAL CODE ADOPTED BY REFERENCE

9.60.020.030 CALIFORNIA ELECTRICAL CODE ADOPTED BY REFERENCE
89.102 through 89.114 of Article 89, Article 90, Chapters 1 through 9, and Annexes A, B, C,D,E,F,G,H, I and J of 2019 California Electrical Code, Title 24 Part 3 of California Code of Regulations, is hereby adopted by reference pursuant to the provisions of Sections 50022.1 through 50022.10 of the Government Code of the State of California as though fully set forth herein, and made a part of the Seal Beach Municipal Code with the same force and effect as though set out herein in full, including all of the regulations, revisions, conditions and terms contained therein.

The administration of the Electrical Code shall be as set forth in Section 9.60.010 of this Code.

Not less than one copy of said 2019 California Electrical Code, Title 24 Part 3 of California Code of Regulations together with any and all amendments thereto proposed by the City of Seal Beach, has been and is now filed in the office of the Community Development Department and shall remain on file with Building Official, and shall collectively be known as the City of Seal Beach Electrical Code and may be cited as Section 9.60.020.030 of the Seal Beach Municipal Code.

9.60.020.040 MECHANICAL CODE ADOPTED BY REFERENCE

9.60.020.040 CALIFORNIA MECHANICAL CODE ADOPTED BY REFERENCE
Division I Sections 1.2.0 through 1.14.0 of Chapter 1, Chapters 2 through 17 and Appendices B, C and D of 2019 California Mechanical Code, Title 24 Part 4 of California Code of Regulations, as published by the California Building Standards Commission are hereby adopted by reference pursuant to the provisions of Sections 50022.1 through 50022.10 of the Government Code of the State of California as though fully set forth herein, and made a part of the Seal Beach Municipal Code with the same force and effect as though set out herein in full, including all of the regulations, revisions, conditions and terms contained therein.

The administration of the Mechanical Code shall be as set forth in Section 9.60.010 of this Code.

Not less than one copy of said 2019 California Mechanical Code, Title 24 Part 4 of California Code of Regulations together with any and all amendments thereto proposed by the City of Seal Beach, has been and is now filed in the office of the Community
Development Department and shall be remain on file with Building Official, and shall collectively be known as the City of Seal Beach Mechanical Code and may be cited as Section 9.60.020.040 of the Seal Beach Municipal Code.

9.60.020.050 PLUMBING CODE ADOPTED BY REFERENCE

9.60.020.050 CALIFORNIA PLUMBING CODE ADOPTED BY REFERENCE
Division I Sections 1.2.0 through 1.14.0 of Chapter 1, Chapters 2 through 17 and Appendices A, B, D, H, I and J of 2019 California Plumbing Code, Title 24 Part 5 of California Code of Regulations, as published by the California Building Standards Commission are hereby adopted by reference pursuant to the provisions of Sections 50022.1 through 50022.10 of the Government Code of the State of California as though fully set forth herein, and made a part of the Seal Beach Municipal Code with the same force and effect as though set out herein in full, including all of the regulations, revisions, conditions and terms contained therein.

The administration of the Plumbing Code shall be as set forth in Section 9.60.010 of this Code.

Not less than one copy of said 2019 California Plumbing Code, Title 24 Part 5 of California Code of Regulations together with any and all amendments thereto proposed by the City of Seal Beach, has been and is now filed in the office of the Community Development Department and shall be remain on file with Building Official, and shall collectively be known as the City of Seal Beach Plumbing Code and may be cited as Section 9.60.020.050 of the Seal Beach Municipal Code.

9.60.020.060 FIRE CODE ADOPTED BY REFERENCE AND AMENDED

9.60.020.060.10 CALIFORNIA FIRE CODE ADOPTED BY REFERENCE
Chapters 1 Division I and Division II, Chapters 2 through 80 and Appendices B, BB, C, and CC of 2019 California Fire Code, Title 24 Part 9 of California Code of Regulations, as published by the California Building Standards Commission are hereby adopted by reference pursuant to the provisions of Sections 50022.1 through 50022.10 of the Government Code of the State of California as though fully set forth herein, and made a part of the Seal Beach Municipal Code with the same force and effect as though set out herein in full, including all of the regulations, revisions, conditions and terms contained therein except that those certain sections thereof which are necessary to meet local conditions as hereinafter set forth in Section 9.60.020.060.20 of this Code are hereby repealed, added or amended to read as set forth therein.

Not less than one copy of said 2019 California Fire Code, Title 24 Part 9 of California Code of Regulations together with any and all amendments thereto proposed by the City of Seal Beach, has been and is now filed in the office of the Community Development Department and shall be remain on file with Building Official, and shall collectively be known as the City of Seal Beach Fire Code and may be cited as Section 9.60.020.060 of the Seal Beach Municipal Code.
9.60.020.060.20 CALIFORNIA FIRE CODE MODIFIED
Chapter 1, 2, 3, 4, 5, 9, 12, 28, 49, 50, 56, 57, 58 and 80 of 2019 California Fire Code,
Title 24 Part 9 of California Code of Regulations adopted by reference as the Fire Code of
the City of Seal Beach, are hereby amended, deleted or added as follows:

1- Division II Section 101.1 is amended in its entirety to read:
101.1 Title. These regulations shall be knowns the Fire Code of City of Seal
Beach hereinafter referred to as "this code"

2- Division II Section 110.4 is amended to read:
110.4 Violation penalties. Persons who shall violate a provision of this code or
shall fail to comply with any of the requirements thereof or shall fail to comply
with any issued orders or notices or who shall erect, install, alter, repair or do
work in violation of the approved construction documents or directive of the fire
code official, or of a permit or certificate used under provisions of this code, shall
be subject to penalties assessed as prescribed in the OCFA Prevention Field
Services adopted fee schedule. Each day that a violation continues after due
notice has been served shall be deemed a separate offense.

3- A new Division II Section 110.4.2 is added to read:
110.4.2 Infraction and misdemeanor. Persons operating or maintaining any
occupancy, premises or vehicle subject to this code that shall permit any fire or
life safety hazard to exist on premises under their control shall be guilty of an
infraction. Persons who fail to take immediate action to abate a fire or life safety
hazard when ordered or notified to do so by the chief or a duly authorized
representative are guilty of a misdemeanor.

4- Section 202 is amended to add the following definitions;
OCFA: Orange County Fire Authority, fire authority having jurisdiction.

SPARK ARRESTER. A listed device constructed of noncombustible material
specifically for the purpose of meeting one of the following conditions:
1. Removing and retaining carbon and other flammable particles/debris from
the exhaust flow of an internal combustion engine in accordance with
California Vehicle Code Section 38366.
2. Fireplaces that burn solid fuel in accordance with California Building Code
Chapter 28.

5- Section 304.1.2 is amended in its entirety to read as follows:
304.1.2 Vegetation. Weeds, grass, vines or other growth that is capable of being
ignited and endangering property, shall be cut down and removed by the owner
or occupant of the premises. Vegetation clearance requirement in urban-wildland
interface areas shall be in accordance with Chapter 49. Type, amount,
arrangement, and maintenance of vegetation in a fuel modification area, interior
slope, or similarly hazardous area shall be in accordance with OCFA Guideline
6- A new Section 305.6 is added to read:
305.6 Hazardous conditions. Outdoor fires burning wood or other solid fuel are not allowed when any of the following conditions applies:

1. when predicted sustained winds exceed 8 MPH and relative humidity is less than 25%, or a red flag condition has been declared
2. when an official sign was caused to be posted by the fire code official, or a public announcement is made

No outdoor fires using any fuel type are permitted when predicted sustained winds exceed 20 MPH or when such fires present a hazard as determined by the fire code official.

7- A new Section 305.7 is added to read:
305.7 Disposal of rubbish. Rubbish, trash or combustible waste material shall be burned only within an approved incinerator and in accordance with Section 307.2.1.

8- A new Section 307.6 added to read:
307.6 Outdoor Fireplaces, Fire Pits, Fire Rings, or similar devices used at Group R Occupancies. Outdoor fireplaces, fire pits, fire rings, or similar exterior devices used at Group R shall comply with this section.
Exception: Barbeques, grills, and other portable devices intended solely for cooking.

9- A new Section 307.6.1 added to read:
307.6.1 Gas-fueled devices. Outdoor fireplaces, fire pits and similar devices fueled by natural gas or liquefied-petroleum gas are allowed when approved by the Building Department and the device is designed to only burn a gas flame and not wood or other solid fuel. At R-3 occupancies, combustible construction and vegetation shall not be located within three feet of an atmospheric column that extends vertically from the perimeter of the device. At other R occupancies, the minimum distance shall be ten feet. Where a permanent Building Department approved hood and vent is installed, combustible construction may encroach upon this column between the bottom of the hood and the vent opening. Where chimneys or vents are installed, they shall have a spark arrester as defined in Section 202.

10- A new Section 307.6.2 added to read:
307.6.2 Devices using wood or fuels other than natural gas or liquefied-petroleum gas. Permanent outdoor fireplaces burning wood or other solid fuel shall be constructed in accordance with the California Building Code with clearance from combustible construction and building openings as required
therein. Fires in a fireplace shall be contained within a firebox with an attached chimney. The opening in the face of the firebox shall have an installed and maintained method of arresting sparks.

The burning of wood or other solid fuel in a device is not allowed within 25 feet of combustible structures unless within an approved permanent fireplace. Conditions which could cause a fire to spread within 25 feet of a structure or to vegetation shall be eliminated prior to ignition. Fires in devices burning wood or solid fuel shall be in accordance with Sections 305, 307, and 308.

Exceptions:
1. Portable fireplaces and fire rings/pits equipped with a device to arrest sparks shall be located at least 3' from combustible construction at R-3 occupancies,
2. Portable fireplaces, and fire pits/rings equipped with a device to arrest sparks, shall be located at least 15 feet from combustible structures at other R occupancies.

11-A new Section 307.6.2.1 added to read:
307.6.2.1 Where prohibited.
The burning of wood and other solid fuels shall not be conducted within a fuel modification zone, Wildfire Risk Area (WRA), Wildland-Urban Interface Area (WUI), or in locations where conditions could cause the spread of fire to the WRA or WUI.

Exceptions:
1. Permanent fireplaces that are not located in a fuel modification zone
2. Where determined by the Fire Code Official that the location or design of the device should reasonably prevent the start of a wildfire.

12-Section 308.1.6.3 Sky lanterns is hereby amended to read:
308.1.6.3 Sky lanterns. A person shall not ignite, release, or cause to be released a sky lantern.

13-A new Section 321 added to read:
321 Fuel Modification Requirements for New Construction. All new structures and facilities adjoining land containing hazardous combustible vegetation shall be approved and in accordance with the requirements of OCFA Guideline C-05 "Vegetation Management Guideline – Technical Design for New Construction Fuel Modification Plans and Maintenance Program."

14-A new Section 322 added to read:
322 Clearance of brush or vegetation growth from roadways. The fire code official is authorized to cause areas within 10 feet (3048 mm) on each side of portions of highways and private streets which are improved, designed or ordinarily used for vehicular traffic, to be cleared of flammable vegetation and
other combustible growth. Measurement shall be from the flow-line or the end of the improved edge of the roadway surfaces.

**Exception:** Single specimens of trees, ornamental shrubbery or cultivated ground cover such as green grass, ivy, succulents or similar plants used as ground covers, provided that they do not form a means of readily transmitting fire.

15-A new Section 323 added to read:

**323 Unusual circumstances.** The fire code official may suspend enforcement of the vegetation management requirements and require reasonable alternative measures designed to advance the purpose of this code if determined that in any specific case that any of the following conditions exist:

1. Difficult terrain.
2. Danger of erosion.
3. Presence of plants included in any state and federal resources agencies, California Native Plant Society and county-approved list of wildlife, plants, rare, endangered and/or threatened species.
4. Stands or groves of trees or heritage trees.
5. Other unusual circumstances that make strict compliance with the clearance of vegetation provisions undesirable or impractical.

16-A new Section 324 added to read:

**324 Use of equipment.** Except as otherwise provided in this section, no person shall use, operate, or cause to be operated in, upon or adjoining any hazardous fire area any internal combustion engine which uses hydrocarbon fuels, unless the engine is equipped with a spark arrester as defined in Section 202 maintained in effective working order, or the engine is constructed, equipped and maintained for the prevention of fire.

**Exceptions:**

1. Engines used to provide motor power for trucks, truck tractors, buses, and passenger vehicles, except motorcycles, are not subject to this section if the exhaust system is equipped with a muffler as defined in the Vehicle Code of the State of California.

2. Turbocharged engines are not subject to this section if all exhausted gases pass through the rotating turbine wheel, there is no exhaust bypass to the atmosphere, and the turbocharger is in good mechanical condition.

17-A new Section 324.1 Use of Equipment and Devices Generating Heat, Sparks or Open Flames added to read:

**324.1 Equipment and devices generating heat, sparks or open flames.** During any time of the year within Wildfire Risk Areas, within or immediately adjacent to any forest- or brush-covered land or non-irrigated grass-covered
land, no person shall use or operate any welding equipment, cutting torches, tar pots, grinding devices, or other tools or equipment that may produce a spark, fire, or flame that could result in a wildfire without doing the following:

1. First clearing away all flammable material, including snags, from the area around such operation for a distance of 30 feet or other approved method to reduce fire spread into the wildlands. If 30-foot clearing cannot be achieved, then an alternate method shall be approved by the AHJ prior to work starting.

2. Maintain one serviceable round point shovel with an overall length of not less than forty-six (46) inches and one backpack pump water-type fire extinguisher fully equipped and ready for use at the immediate area during the operation.

3. Stop work when winds are 8 MPH or greater during periods when relative humidity is less than 25%, or a red flag condition has been declared or public announcement is made, when an official sign was caused to be posted by the fire code official, or when such fires present a hazard as determined by the fire code official.

4. Keep a cell phone nearby and call 911 immediate in case of fire.

18-A new Section 324.2 added to read:

324.2 Spark arresters. Spark arresters shall comply with Section 202, and when affixed to the exhaust system of engines or vehicles subject to Section 324 shall not be placed or mounted in such a manner as to allow flames or heat from the exhaust system to ignite any flammable material.

19-Section 407.5 is amended in its entirety to read:

407.5 Hazardous Materials Inventory Statement. Where required by the fire code official, each application for a permit shall include OCFA's Chemical Classification Packet in accordance with Section 5001.5.2.

20-Section 501.1 is amended in its entirety to read:

501.1 Scope. Fire service features for buildings, structures and premises shall comply with this chapter and, where required by the fire code official, with OCFA Guideline B-09, "Fire Master Plan for Commercial & Residential Development." Fire service features for buildings, structures and premises located in State Responsibility Areas, and Local Responsibility Areas designated as Very High Hazard Fire Severity Zone shall also comply with OCFA Guideline B-09a, "Fire Safe Development in State Responsibility Areas, and Local Responsibility Areas designated as Very High Hazard Fire Severity Zone".

21-Section 510.1 is amended in its entirety to read:

510.1 Emergency responder radio coverage in new buildings. All new buildings shall have approved radio coverage for emergency responders within the building based upon the existing coverage levels of the public safety communication systems utilized by the jurisdiction, measured at the exterior of the building. This section shall not require improvement of the existing public
safety communication systems. The Emergency Responder Radio Coverage System shall comply with the Orange County Sheriff’s Department, Communications and Technology Division guidelines and specifications and, where the functionality or performance requirements in the California Fire Code are more stringent, this code.

**Exceptions:**
1. In buildings or structures where it is determined by the fire code official that the radio coverage system is not needed, including but not limited to the following:
   a. Existing buildings or structures, unless required by the Building Official and OCFA for buildings and structures undergoing extensive remodel and/or expansion.
   b. Elevators.
   c. Structures that meet all of the following:
      i. Three stories or less, and
      ii. Do not have subterranean storage or parking, and
      iii. Do not exceed 50,000 square feet on any single story.
   d. Structures that meet all of the following:
      i. Residential structures four stories or less, and
      ii. Constructed of wood, and
      iii. Do not have subterranean storage or parking, and
      iv. Are not built integral to an above ground multi-story parking structure.

Should a structure that is three stories or less and 50,000 square feet or smaller on any single story include subterranean storage or parking, then this ordinance shall apply only to the subterranean areas.

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 the facility, the fire code official shall have the authority to accept an automatically activated emergency radio coverage system.

22-Section 510.2 Emergency responder radio coverage in existing buildings is deleted in its entirety.
23-Section 510.3 Permit required is deleted in its entirety.

24-Section 903.2 is amended in its entirety to read:
903.2 Where required. Approved automatic sprinkler systems in buildings and structures shall be provided when one of the following conditions exists:

1. **New buildings:** Notwithstanding any applicable provisions of Sections 903.2.1 through 903.2.19, an automatic fire-extinguishing system shall also be installed in all occupancies when the total building area exceeds 5,000
square feet as defined in Section 202, regardless of fire areas or allowable area, or is more than two stories in height.

**Exception:** Subject to approval by the Fire Code Official, open parking garages in accordance with Section 406.5 of the California Building Code.

2. **Existing Buildings:** Notwithstanding any applicable provisions of this code, an automatic sprinkler system shall be provided in an existing building when an addition occurs and one of the following conditions exists:
   a. When an addition exceeds 2000 square feet and the resulting building area exceeds 5000 square feet.

   **Exception:** Existing Group R-3 occupancies shall comply with Section 903.2.8 (2).

25-Section 903.2.8 is amended in its entirety to read:

903.2.8 Group R. An automatic sprinkler system installed in accordance with Section 903.3 shall be provided throughout all buildings with a Group R fire area as follows:

1. **New Buildings:** An automatic sprinkler system shall be installed throughout all new buildings, including attached garages.

2. **Existing R-3 Buildings:** An automatic sprinkler system shall be installed throughout when one of the following conditions exists:
   a. All existing Group R occupancies and U-1 garages when the total area is increased by 750 square feet or more.
   b. An automatic sprinkler system shall be installed throughout any existing Group R Occupancy building when the floor area of the Alteration or Combination of an Addition and Alteration, is 50% or more of area/value of the existing structure and where the scope of the work exposes building framing and facilitates sprinkler installation and is such that the Building/Fire Code Official determines that the complexity of installing a sprinkler system would be similar as in a new building.
   c. Any addition to an existing building which has fire sprinklers installed.

**Exceptions:**

1. Existing Group R-3 occupancies converted to Group R-3.1 occupancies not housing bedridden clients, not housing nonambulatory clients above the first floor and not housing clients above the second floor.

2. Existing Group R-3 occupancies converted to Group R-3.1 occupancies housing only one bedridden client and complying with Section 425.8.3.3.

3. Pursuant to [Health and Safety Code](https://www.leginfo.ca.gov/) Section 13113 occupancies housing ambulatory children only, none of whom are mentally ill or mentally retarded, and the buildings or portions thereof in which such children are housed are not more than two stories in height, and buildings or portions thereof housing
such children have an automatic fire alarm system activated by approved smoke detectors.

4. Pursuant to Health and Safety Code Section 13143.6 occupancies licensed for protective social care which house ambulatory clients only, none of whom is a child (under the age of 18 years), or who is elderly (65 years of age or over).

When not used in accordance with Section 504.2 or 506.3 an automatic sprinkler system installed in accordance with Section 903.3.1.2 shall be allowed in Group R-2.1 occupancies.

An automatic sprinkler system designed in accordance with Section 903.3.1.3 shall not be utilized in Group R-2.1 or R-4 occupancies.

26-A new Section 903.3.5.3 is added to read:

903.3.5.3 Hydraulically calculated systems. The design of hydraulically calculated fire sprinkler systems shall not exceed 90% of the water supply capacity.

Exception: When static pressure exceeds 100 psi, and required by the Fire Code Official, the fire sprinkler system shall not exceed water supply capacity specified by Table 903.3.5.3.

27-Section 1201.1.1 is amended in its entirety to read:

1201.1.1 Other Systems Where required by the fire code official, other systems and operations including but not limited to battery systems assembly, battery reconditioning and storage, research and development of battery storage systems, electric vehicle manufacturing and testing, and battery charging systems for cars and carts inside of buildings or structures, shall comply with this chapter.

28-Section 2801.2 is amended in its entirety to read:

2801.2 Permit. Permits shall be required as set forth in Section 105.6 and 105.6.29.

29-Section 2808.2 is amended in its entirety to read:

2808.2 Storage site. Storage sites shall be level and on solid ground, elevated soil lifts or other all-weather surface. Sites shall be thoroughly cleaned and approval obtained from the fire code official before transferring products to the site.

30-Section 2808.3 is amended in its entirety to read:

2808.3 Size of piles. Piles shall not exceed 15 feet in height, 50 feet in width and 100 feet in length.
Exception: The fire code official is authorized to allow the pile size to be increased where a fire protection plan is provided for approval that includes, but is not limited to, the following:

1. Storage yard areas and materials-handling equipment selection, design and arrangement shall be based upon sound fire prevention and protection principles.
2. Factor that lead to spontaneous heating shall be identified in the plan, and control of the various factors shall be identified and implemented, including provisions for monitoring the internal condition of the pile.
3. The plan shall include means for early fire detection and reporting to the public fire department; and facilities needed by the fire department for fire extinguishment including a water supply and fire hydrants.
4. Fire apparatus access roads around the piles and access roads to the top of the piles shall be established, identified and maintained.
5. Regular yard inspections by trained personnel shall be included as part of an effective fire prevention maintenance program.

Additional fire protection called for in the plan shall be provided and shall be installed in accordance with this code. The increase of the pile size shall be based upon the capabilities of the installed fire protection system and features.

31-Section 2808.4 is amended in its entirety to read:
2808.4 Pile separation. Piles shall be separated from adjacent piles by a minimum distance of 20 feet. Additionally, piles shall have a minimum separation of 100 feet from combustible vegetation.

32-Section 2808.7 is amended in its entirety to read:
2808.7 Pile fire protection. Automatic sprinkler protection shall be provided in conveyor tunnels and combustible enclosures that pass under a pile. Combustible conveyor systems and enclosed conveyor systems shall be equipped with an approved automatic sprinkler system. Oscillating sprinklers with a sufficient projectile reach are required to maintain a 40% to 60% moisture content and wet down burning/smoldering areas.

33-Section 2808.9 is amended in its entirety to read:
2808.9 Material-handling equipment. All material-handling equipment operated by an internal combustion engine shall be provided and maintained with an approved spark arrester. Approved material-handling equipment shall be available for moving wood chips, hogged material, wood fines and raw product during fire-fighting operations.

34-A new Section 2808.11 is added to read:
2808.11 Temperature control. The temperature shall be monitored and maintained as specified in Sections 2808.11.1 and 2808.11.2.
2808.11.1 Pile temperature control. Piles shall be rotated when internal temperature readings are in excess of 165 degrees Fahrenheit.

2808.11.2 New material temperature control. New loads delivered to the facility shall be inspected and tested at the facility entry prior to taking delivery. Material with temperature exceeding 165 degrees Fahrenheit shall not be accepted on the site. New loads shall comply with the requirements of this chapter and be monitored to verify that the temperature remains stable.

35-A new Section 2808.12 is added to read:
2808.12 Water Availability. Facilities with over 2500 cubic feet shall provide a water supply. The minimum fire flow shall be no less than 500 GPM @ 20 psi for a minimum of 1 hour duration for pile heights up to 6 feet and 2 hour duration for pile heights over 6 feet. If there is no water purveyor, an alternate water supply with storage tank(s) shall be provided for fire suppression. The water supply tank(s) shall provide a minimum capacity of 2500 gallons per pile (maximum 30,000 gallons) for piles not exceeding 6 feet in height and 5000 gallons per pile (maximum 60,000) for piles exceeding 6 feet in height. Water tank(s) shall not be used for any other purpose unless the required fire flow is left in reserve within the tank at all times. An approved method shall be provided to maintain the required amount of water within the tank(s).

36-A new Section 2808.13 is added to read:
2808.13 Tipping areas shall comply with the following:
1. Tipping areas shall not exceed a maximum area of 50 feet by 50 feet.
2. Material within a tipping area shall not exceed 5 feet in height at any time.
3. Tipping areas shall be separated from all piles by a 20-foot-wide fire access lane.
4. A fire hydrant or approved fire water supply outlet shall be located within 150 feet of all points along the perimeter of the tipping area.
5. All material within a tipping area shall be processed within 5 days of receipt.

37-A new Section 2808.14 is added to read:
2808.14 Emergency Contact. The contact information of a responsible person or persons shall be provided to the Fire Department and shall be posted at the entrance to the facility for responding units. The responsible party should be available to respond to the business in emergency situation.

38-Section 4906.3 is amended in its entirety to read:
4906.3 Requirements. Hazardous vegetation and fuels around all applicable buildings and structure shall be maintained in accordance with the following laws and regulations:
1. Public Resources Code, Section 4291.
2. California Code of Regulations, Title 14, Division 1.5, Chapter 7, Subchapter 3, Section 1299 (see guidance for implementation "General Guideline to Create Defensible Space").
4. California Code of Regulations, Title 19, Division 1, Chapter 7, Subchapter 1, Section 3.07.

39-A new Section 4908 is added to read:
**4908 Fuel Modification Requirements for New Construction.** All new buildings to be built or installed in a Wildfire Risk Area shall comply with the following:

1. Preliminary fuel modification plans shall be submitted to and approved by the fire code official prior to or concurrently with the approval of any tentative map.

2. Final fuel modification plans shall be submitted to and approved by the fire code official prior to the issuance of a grading permit.


3.1 The fuel modification plan shall include provisions for the maintenance of the fuel modification in perpetuity.

4. The fuel modification plan may be altered if conditions change. Any alterations to the fuel modification areas shall have prior approval from the fire code official.

5. All elements of the fuel modification plan shall be maintained in accordance with the approved plan and are subject to the enforcement process outlined in the Fire Code.

40-Section 5001.5.2 is amended in its entirety to read:
**5001.5.2 Hazardous Materials Inventory Statement (HMIS).** Where required by the fire code official, an application for a permit shall include Orange County Fire Authority’s Chemical Classification Packet, which shall be completed and approved prior to approval of plans, and/or the storage, use or handling of chemicals on the premises. The Chemical Classification Packet 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.
7. Amount in storage.
8. Amount in use-closed systems.
9. Amount in use-open systems.

41-A new Section 5003.1.1.1 is added to read:
5003.1.1.1 Extremely Hazardous Substances. No person shall use or store any amount of extremely hazardous substances (EHS) in excess of the disclosable amounts (see Health and Safety Code Section 25500 et al) in a residential zoned or any residentially developed property.

42-A new Section 5608.2 is added to read:
5608.2 Firing. All fireworks display, regardless of mortar, device, or shell size, shall be electrically fired.

43-A new Section 5608.3 is added to read:
Section 5608.3 Application for Permit. A diagram of the grounds on which the display is to be held showing the point at which the fireworks are to be discharged, the fallout area based on 100 feet per inch of shell size, the location of all buildings, roads, and other means of transportation, the lines behind which the audience will be restrained, the location of all nearby trees, telegraph or telephone line, or other overhead obstructions shall be provided to OCFA.

44-A new Section 5701.1.1 is added to read:
Section 5701.1.1 Mobile fueling. On-demand mobile fueling of Class I, II, and III liquids into the fuel tanks of vehicles is prohibited.

45-Section 5801.1 is amended in its entirety to read:
Section 5801.1 Scope. The storage and use of flammable gases and flammable cryogenic fluids shall be in accordance with this chapter, NFPA 2 and NFPA 55. Compressed gases shall also comply with Chapter 53 and cryogenic fluids shall also comply with Chapter 55. Flammable cryogenic fluids shall comply with Section 5806. Hydrogen motor fuel-dispensing stations and repair garages and their associated above-ground hydrogen storage systems shall also be designed, constructed and maintained in accordance with Chapter 23. Mobile fueling of hydrogen-fueled vehicles shall comply with Section 5809. Mobile fueling of gaseous and liquid hydrogen, compressed natural gas (CNG), and liquefied natural gas (LNG) into the fuel tanks of vehicles is prohibited.

Exceptions:
1. Gases used as refrigerants in refrigeration systems (see Section 605).
2. Liquefied petroleum gases and natural gases regulated by Chapter 61.
4. Pyrophoric gases in accordance with Chapter 64.

Section 6.7.3 is amended in its entirety to read:

6.7.3 Fire department connections (FDC) shall be of an approved type. The
location shall be approved and be no more than 150 feet from a public hydrant.
The FDC may be located within 150 feet of a private fire hydrant when approved
by the fire code official. The size of piping and the number of 2\(\frac{1}{2}\) inlets shall be
approved by the fire code official. If acceptable to the water authority, it may be
installed on the backflow assembly. Fire department inlet connections shall be
painted OSHA safety red or as approved. When the fire sprinkler density design
requires more than 500 gpm (including inside hose stream demand), or a
standpipe system is included, four 2\(\frac{1}{2}\) inlets shall be provided.

Section 8.3.3.1 is amended in its entirety to read:

8.3.3.1 When fire sprinkler systems are installed in shell buildings of
undetermined use (Spec Buildings) other than warehouses (S occupancies), fire
sprinklers of the quick-response type shall be used. Use is considered
undetermined if a specific tenant/occupant is not identified at the time the fire
sprinkler plan is submitted. Sprinklers in light hazard occupancies shall be one of
the following:

1- Quick-response type as defined in 3.6.4.8
2- Residential sprinklers in accordance with the requirements of 8.4.5
3- Quick response CMSA sprinklers
4- ESFR sprinklers
5- Standard-response sprinklers used for modifications or additions to
existing light hazard systems equipped with standard-response
sprinklers
6- Standard-response sprinklers used where individual standard-
response sprinklers are replaced in existing light hazard systems

Section 8.15.1.2.7 is amended in its entirety to read:

8.15.1.2.7 Concealed spaces filled with noncombustible insulation shall not require
sprinkler protection when approved by fire code official.

new Section 11.1.1.1 is added to read:

11.1.1.1 When fire sprinkler systems are required in buildings of undetermined
use other than warehouses, they shall be designed and installed to have a fire
sprinkler density of not less than that required for an Ordinary Hazard Group 2
use, with no reduction(s) in density or design area. Warehouse fire sprinkler
systems shall be designed to Figure 16.2.1.3.2 (d) curve “G”. Use is considered
undetermined if a specific tenant/occupant is not identified at the time the
sprinkler plan is submitted. Where a subsequent use or occupancy requires a system with greater capability, it shall be the responsibility of the occupant to upgrade the system to the required density for the new use or occupancy.

50-NFPA 13, 2016 Edition, Standard for the Installation of Sprinkler Systems A new Section 11.2.3.1.1.1 is added to read:

11.2.3.1.1.1 The available water supply for fire sprinkler system design shall be determined by one of the following methods, as approved by the fire code official:
  1- Subtract the project site elevation from the low water level for the appropriate pressure zone and multiply the result by 0.433;
  2- Use a maximum of 40 psi, if available;
  3- Utilize the OCFA water-flow test form/directions to document a flow test conducted by the local water agency or an approved third party licensed in the State of California.

51-NFPA 13D 2016 Edition, Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes Section 7.1.2 is amended in its entirety to read:

7.1.2 The sprinkler system piping shall not have separate control valves installed unless supervised by a central station, proprietary, or remote station alarm service.

52-NFPA 14, 2013 Edition, Installation of Standpipe and Hose Systems Section 7.3.1.1 is amended in its entirety to read:

7.3.1.1 Class I and III Standpipe hose connections shall be unobstructed and shall be located not less than 18 inches or more than 24 inches above the finished floor. Class II Standpipe hose connections shall be unobstructed and shall be located not less than 3 feet or more than 5 feet above the finished floor.

53-NFPA 24, 2016 Edition, Standard for the Installation of Private Fire Service Mains and Their Appurtenances a new Section 6.2.8.1 is added to read:

6.2.8.1 All indicating valves controlling fire suppression water supplies shall be painted OSHA red.

Exceptions:

1. Brass or bronze valves on sprinkler risers mounted to the exterior of the building may be left unpainted.
2. Where OS&Y valves on the detector check assembly are the only control valves, at least one OS&Y valve shall be painted red.

54-NFPA 24, 2016 Edition, Standard for the Installation of Private Fire Service Mains and Their Appurtenances Section 6.2.9 amended in its entirety to read:

Section 6.2.9 All connections to private fire service mains for fire protection systems shall be arranged in accordance with one of the following so that they
can be isolated:

1. A post indicator valve installed not less than 40 ft (12 m) from the building

   (a) For buildings less than 40 ft (12 m) in height, a post indicator valve shall be permitted to be installed closer than 40 ft (12 m) but at least as far from the building as the height of the wall facing the post indicator valve.

2. A wall post indicator valve

3. An indicating valve in a pit, installed in accordance with Section 6.4

4. A backflow preventer with at least one indicating valve not less than 40 ft (12 m) from the building

   (a) For buildings less than 40 ft (12 m) in height, a backflow preventer with at least one indicating valve shall be permitted to be installed closer than 40 ft (12 m) but at least as far from the building as the height of the wall facing the backflow preventer.

5. Control valves installed in a fire-rated room accessible from the exterior

6. Control valves in a fire-rated stair enclosure accessible from the exterior

55-NFPA 24, 2016 Edition, Standard for the Installation of Private Fire Service Mains and Their Appurtenances A new Section 10.1.5 is added to read:

10.1.5 All ferrous pipe and joints shall be polyethylene encased per AWWA C150, Method A, B, or C. All fittings shall be protected with a loose 8-mil polyethylene tube or sheet. The ends of the tube or sheet shall extend past the joint by a minimum of 12 inches and be sealed with 2-inch-wide tape approved for underground use. Galvanizing does not meet the requirements of this section.

   Exception: 304 or 316 Stainless Steel pipe and fittings

56-NFPA 24, 2016 Edition, Standard for the Installation of Private Fire Service Mains and Their Appurtenances Section 10.4.1.1 is amended in its entirety to read:

10.4.1.1 All bolted joint accessories shall be cleaned and thoroughly coated with asphalt or other corrosion-retarding material after installation.

   Exception: Bolted joint accessories made from 304 or 316 stainless steel.

57-NFPA 24, 2016 Edition, Standard for the Installation of Private Fire Service Mains and Their Appurtenances a new Section 10.4.1.1.1 is added to read:
10.4.1.1.1 All bolts used in pipe-joint assembly shall be 316 stainless steel.

58-NFPA 24, 2016 Edition, Standard for the Installation of Private Fire Service Mains and Their Appurtenances Section 10.4.3.2 is amended in its entirety to read:

10.4.3.2 Where fire service mains enter the building adjacent to the foundation, the pipe may run under a building to a maximum of 24 inches, as measured from the interior face of the exterior wall to the center of the vertical pipe. The pipe under the building or building foundation shall be 304 or 316 stainless steel and shall not contain mechanical joints or it shall comply with 10.4.3.2.1 through 10.4.3.2.4.

9.60.020.070 EFFECT OF ADOPTION

The adoption of the City Building, Residential, Electrical, Mechanical, Plumbing, Fire Code and the repeal, addition or amendment of ordinances by this code shall not affect the following matters:

(A) Actions and proceedings which began the effective date of this code.

(B) Prosecution for ordinance violations committed before the effective date of this code.

(C) Licenses and penalties due and unpaid at the effective date of this code, and the collection of these licenses and penalties.

(D) Bonds and cash deposits required to be posted, filed or deposited pursuant to any ordinance.

(E) Matters of record which refer to or are connected with ordinances the substances of which are included in this code; these references shall be construed to apply to the corresponding provisions of the code.

9.60.020.080 PENALTY; VIOLATIONS

(A) General penalty; continuing violations. Every act prohibited or declared unlawful and every failure to perform an act required by this code is a misdemeanor or an infraction as set forth in the said respective pertinent sections of this code and any person causing or permitting a violation of any such section of said code shall be subject to the penalties ascribed to each such section as set forth herein.

(B) Violations including aiding, abetting, and concealing. Every person who causes, aids, abets or conceals the fact of a violation of this code is guilty of violating this code.

(C) Enforcement by civil action. In addition to the penalties provided herein, the said code may be enforced by civil action. Any condition existing in violation of this code is a public nuisance and may be summarily abated by the city.

9.60.040 Pool and Spa Code
9.60.040.010 INTERNATIONAL SWIMMING POOL AND SPA CODE ADOPTED BY REFERENCE AND AMENDED.

9.60.040.010.10 INTERNATIONAL SWIMMING POOL AND SPA CODE ADOPTED BY REFERENCE

(A) 2018 International Swimming Pool and Spa Code as published by International Code Council, is hereby adopted by reference pursuant to the provisions of Sections 50022.1 through 50022.10 of the Government Code of the State of California as though fully set forth herein, and made a part of the City of Seal Beach Municipal Code with the same force and effect as though set out herein in full, including all of the regulations, revisions, conditions and terms contained therein except that those certain sections thereof which are necessary to meet local conditions as hereinafter set forth in Section 9.60.040.020 of this Code are hereby repealed, added or amended to read as set forth therein.

The administration of the International Swimming Pool and Spa Code shall be as set forth in Section 9.60.010 of this Code.

(B) Not less than one copy of said 2018 International Swimming Pool and Spa Code together with any and all amendments thereto proposed by the City of Seal Beach, has been and is now filed in the office of the Community Development Department and shall be remain on file with Building Official, and shall collectively be known as the City of Seal Beach Swimming Pool and Spa Code and may be cited as Section 9.60.040.010 of the Seal Beach Municipal Code.

9.60.040.010.20 INTERNATIONAL SWIMMING POOL AND SPA CODE AMENDED

1. Chapter 1 is deleted in its entirety.

2. Chapter 2 the following definitions added to read:

In addition to the definitions specified in Chapter 2 Section 202 of this Code, the following certain terms, phrases, words and their derivatives shall be construed as specified in this section.

1. Where the term International Building Code is used it shall be replaced with the term California Building Code.
2. Where the term International Residential Code is used it shall be replaced with the term California Residential Code.
3. Where the term International Plumbing Code is used it shall be replaced with the term California Plumbing Code.
4. Where the term International Energy Conservation Code is used it shall be replaced with the term California Energy Code.
5. Where the term International Fire Code is used it shall be replaced with the term California Fire Code.
6. Where the term International Fuel Gas Code is used it shall be replaced with the term California Plumbing Code.

7. Where the term International Mechanical Code is used it shall be replaced with the term California Mechanical Code.

8. Where the term NFPA 70 is used it shall be replaced with the term California Electrical Code.

Section 3. Severability. If any section, subsection, sentence, clause, phrase or portion of this Ordinance is for any reason held out to be invalid or unconstitutional by the decision of any court of competent jurisdiction, such decision will not affect the validity of the remaining portions of this ordinance. The City Council of the City of Seal Beach hereby declares that it would have adopted this ordinance and each section, subsection, sentence, clause, phrase or portion thereof irrespective of the fact that any one or more sections, subsection, sentence clause, phrases or portions be declared valid or unconstitutionally.

Section 4. Continuity. To the extent the provisions of this Ordinance are substantially the same as previous provisions of the Seal Beach Municipal Code, these provisions will be construed as continuations of those provisions and not as amendments of the earlier provisions.

Section 5. Intent to Comply with Laws. The City Council intends this Ordinance to supplement, not to duplicate or contradict, applicable state and federal law and this Ordinance will be construed in light of that intent.

Section 6. Severability. If any section, subsection, sentence, clause, or phrase of this ordinance is for any reason held to be invalid or unconstitutional by a decision of any court of competent jurisdiction, such decision will not affect the validity of the remaining portions of this ordinance. The City Council hereby declares that it would have passed this ordinance and each and every section, subsection, sentence, clause, or phrase not declared invalid or unconstitutional without regard to whether any portion of the ordinance would be subsequently declared invalid or unconstitutional.

Section 7. Publication. The City Clerk is directed to cause this ordinance to be published in the manner required by law.

Section 8. Effective Date. This Ordinance will take effect on January 1st, 2020.
PASSED, APPROVED AND ADOPTED by the Seal Beach City Council at a regular meeting held on the 12th day of November 2019.

Thomas Moore, Mayor

ATTEST:

Gloria D. Harper, City Clerk

STATE OF CALIFORNIA   }  SS
COUNTY OF ORANGE   } SS
CITY OF SEAL BEACH   }

I, Gloria D. Harper, City Clerk of the City of Seal Beach, do hereby certify that the foregoing Ordinance was introduced for first reading at a regular meeting held on the 28th day of October, 2019 and was passed, approved and adopted by the City Council at a regular meeting held on the 12th day of November, 2019 by the following vote:

AYES:  Council Members: Kalmick, Moore, Massa-Lavitt, Sustarsic, Varipapa
NOES:  Council Members: None
ABSENT: Council Members: None
ABSTAIN: Council Members: None

Gloria D. Harper, City Clerk
ATTACHMENT A

LOCAL AMENDMENT FINDINGS
LOCAL AMENDMENT FINDINGS

I. Climatic Conditions
   A. Orange County is located in a semi-arid Mediterranean type climate. It annually experiences extended periods of high temperatures with little or no precipitation. Hot, dry (Santa Ana) winds, which may reach speeds of 70 M.P.H. or greater, are also common to the area. These climatic conditions cause extreme drying of vegetation and common building materials. Frequent periods of drought and low humidity add to the fire danger. This predisposes the area to large destructive fires (conflagration). In addition to directly damaging or destroying buildings, these fires are also prone to disrupt utility services throughout the County. Obstacles generated by a strong wind, such as fallen trees, street lights and utility poles will greatly impact the response time to reach an incident scene.

   B. The climate alternates between extended periods of drought and brief flooding conditions. Flood conditions may affect the Orange County fire Authority’s ability to respond to a fire or emergency condition. Floods also disrupt utility services to buildings and facilities within the County.

   C. Water demand in this densely populated area far exceeds the quantity supplied by natural precipitation; and although the population continues to grow, the already-taxed water supply does not. California is projected to increase in population by nearly 10 million over the next quarter of a century with 50 percent of that growth centered in Southern California. Due to storage capacities and consumption, and a limited amount of rainfall future water allocation is not fully dependable. This necessitates the need for additional and on-site fire protection features.

   D. These dry climatic conditions and winds contribute to the rapid spread of even small fires originating in high-density housing or vegetation. These fires spread very quickly and create a need for increased levels of fire protection. The added protection of fire sprinkler systems and other fire protection features will supplement normal fire department response by providing immediate protection for the building occupants and by containing and controlling the fire spread to the area of origin. Fire sprinkler systems will also reduce the use of water for firefighting by as much as 50 to 75 percent.

II. Topographical conditions
   A. Natural; slopes of 15 percent or greater generally occur throughout the foothills of Orange County. The elevation change caused by the hills creates the geological foundation on which communities with Orange County is built and will continue to build. With much of the populated
flatlands already built upon, future growth will occur on steeper slopes and with greater constraints in terrain.

B. Traffic and circulation congestion is an artificially created, obstructive topographical condition, which is common throughout Orange County.

C. These topographical conditions combine to create a situation that places fire department response time to fire occurrences at risk and makes it necessary to provide automatic on-site fire-extinguishing systems and other protection measures to protect occupants and property.

III. Geological Conditions

The Orange County region is a densely populated area that has buildings constructed over and near a vast and complex network of faults that are believed to be capable of producing future earthquakes similar or greater in size than the 1994 Northridge and the 1971 Sylmar earthquakes. Earthquake faults run along the northeast and southwest boundaries of Orange County. The Newport-Inglewood Fault, located within Orange County was the source of the destructive 1933 Long Beach earthquake (6.3 magnitude) which took 120 lives and damaged buildings in an area from Laguna Beach to Marina Del Rey to Whittier. In December 1989, another earthquake occurred in the jurisdiction of Irvine at an unknown fault line. Regional planning for reoccurrence of earthquakes is recommended by the state of California, Department of Conservation.

A. Previous earthquakes have been accompanied by disruption of traffic flow and fires. A severe seismic event has the potential to negatively impact any rescue or fire suppression activities because it is likely to create obstacles similar to those indicated under the high wind section above. The October 17, 1989, Santa Cruz earthquake resulted in one major fire in the Marina District (San Francisco). When combined with the 34 other fires locally and over 500 responses, the department was taxed to its fullest capabilities. The Marina fire was difficult to contain because mains supplying water to the district burst during the earthquake. This situation creates the need for both additional fire protection and automatic on-site fire protection for building occupants. State Department of Conservation noted in their 1988 report (Planning Scenario on a Major Earthquake on the Newport-Inglewood Fault Zone, page 59), "unfortunately, barely meeting the minimum earthquake standards of building codes places a building on the verge of being legally unsafe."

B. Road circulation features located throughout the County also make amendments reasonably necessary. Located through the County are major roadways, highways and flood control channels that create barriers and slow response times. Hills, slopes, street and storm drain design, accompanied by occasional heavy rainfall, causes roadway flooding and
landslides and at times may make an emergency access route impassable. There are areas in Orange County that naturally have extended emergency response times that exceed the 5-minute goal.

C. Soils throughout the County possess corrosive properties that reduce the expected usable life of water services when metallic pipes are in contact with soils.

Due to the topographical conditions of sprawling development separated by waterways and narrow and congested streets and the expected infrastructure damage inherent in seismic zones described above, it is prudent to rely on automatic fire sprinkler systems to mitigate extended fire department response time and keep fires manageable with reduced fire flow (water) resources available for a given structure. Additional fire protection is also justified to match the current resources of firefighting equipment and personnel within the Orange County Fire Authority.

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