RESOLUTION NO. _____

A RESOLUTION OF THE CITY OF SANTA CLARA, CALIFORNIA, MAKING FINDINGS REQUIRED BY SECTIONS 17958.5 AND 18941.5 OF THE CALIFORNIA HEALTH AND SAFETY CODE JUSTIFYING CERTAIN LOCAL MODIFICATIONS TO THE 2019 CALIFORNIA BUILDING CODE AND 2019 CALIFORNIA RESIDENTIAL CODE TO INCREASE BUILDING SAFETY

BE IT RESOLVED BY THE CITY OF SANTA CLARA AS FOLLOWS:

WHEREAS, the State of California recently adopted and amended the Model Codes of the International Code Council and related uniform code publishers, and they will become applicable to all California cities as the California Building Standards Code on January 1, 2020;

WHEREAS, pursuant to California Health and Safety Code sections 18941.5(b) and 17958.5, the City may adopt local amendments to the Model Codes;

WHEREAS, the City of Santa Clara ("City") has worked with other Bay Area jurisdictions and the International Code Council chapters to adopt local amendments which are necessary based upon our climatic, topographical or geological changes; and

WHEREAS, the City must set forth the justifications for those local amendments.

NOW THEREFORE, BE IT FURTHER RESOLVED BY THE CITY OF SANTA CLARA AS FOLLOWS:

1. That it finds and determines there is a need to adopt the changes or modifications because of local climatic, geological, and topographical conditions.

A. Climatic.

a. Precipitation. Average annual rainfall for the City is approximately 18.9 inches per year. The region continues to experience extended periods of drought. The most recent drought required implementation of the City's Water Shortage Contingency Plan in 2014. Following the 2016-2017 winter season, which brought record levels of rain and snow, the region experienced widespread flooding. This cyclical pattern of extreme weather is expected to continue, increasing the fire

and flood risk as the impacts of global warming intensify. Each of these cycles has the potential of adversely impacting the fire department's capabilities, from staffing to response times.

b. Relative Humidity. The average relative humidity ranges from 50% during daytime to 70% at night. It drops to approximately 40% during the summer months and occasionally exceeds 80% in the winter months.

c. Temperatures. Temperatures have been recorded as high as 109° F. and as low as 19°F. Average summer highs are in the 78°–82° F. range and winter lows average 28°–35° F.

d. Winds. Prevailing winds are from the Northwest. However, winds are experienced from virtually every direction throughout the year. Velocities are generally in the 5-mph to 15-mph range, with a mean speed of 5.8 mph, and gusts ranging from 7.4 mph to 30 mph, particularly during the summer months. Extreme winds, up to 60 mph, have been recorded.

e. Climatic Summary. These local climatic conditions affect the acceleration, intensity, and size of fires in the community. Times of little or no rainfall, low humidity, and high temperatures create extremely hazardous fire conditions, particularly as they relate to vegetation and combustible construction. These impacts are only expected to grow as the region's population increases and the effects of global warming intensify. The winds experienced in the Santa Clara area can have a tremendous impact upon structure fires where buildings are in close proximity to one another, which is commonly found in the City. During structure fires, winds can carry embers and burning brands to other structures, spreading the fire and posing the risk of conflagration. In building fires, winds can force fires back into the building and can create a "blowtorch effect," increasing the fire's intensity and speed of spread throughout the building.

B. Geological and Topographical

a. Geographic Location. The City of Santa Clara is located in Santa Clara Valley and is approximately 45 miles south of San Francisco and 382 miles north of Los Angeles.

b. Seismic Location. The City of Santa Clara is situated on alluvial soils between San Francisco Bay and the San Andreas Fault zone. The City's location makes its taller and older structures particularly vulnerable to damage caused by significant seismic events. The relatively young geological processes that created the San Francisco Bay Area are still active today. Seismically, the City sits between two active earthquake faults (San Andreas and the Hayward/Calaveras) and other potentially active faults. According to the Association of Bay Area Governments, the City of Santa Clara is located in a very high-risk seismic zone. This zone includes the City's industrial area, which contains the largest concentration of hazardous materials, and has seen a significant increase in high-density residential development.

c. Seismic Events, Fire and Hazardous Material Releases. Fire following an earthquake may potentially cause greater loss of life and damage than the earthquake itself. A large number of residential dwellings in the City have combustible roofs, which add significantly to the risk of structural fires after an earthquake. Should a significant seismic event occur, hazardous materials, particularly toxic gases, could pose the greatest threat to the largest number of people. In the event of a widespread catastrophic event, public safety service resources would be seriously impacted, and possibly unavailable to effectively respond to all emergencies.

d. Other variables increase the risk from fire and hazardous material releases after a major earthquake including:

1. The extent of damage to the water system;
2. The extent of isolation due to bridge and/or freeway overpass collapse;
3. The extent of roadway damage and/or amount of debris blocking the roadways;
4. Climatic conditions (hot, dry weather with high winds);
5. The time of day will influence the amount of traffic on roadways and could intensify the risk to life during normal business hours;
6. The availability of timely mutual aid or military assistance;
7. The concentration of combustible structures (wood frame) in the residential, mercantile and light industrial zones.

e. Soil Conditions. The City lies at the southern end of San Francisco Bay and is built atop the alluvial deposits that surround the margins of the Bay. The alluvium was created by the flooding of the many streams emptying into the San Francisco Bay depression, and from intermittent seawater inundation that has occurred over the last 2 or 3 million years. The areas closest to the Bay are overlain by unconsolidated fine silty clay, known as Bay Mud, which varies in thickness from a few feet to as much as 30 feet. Generally, the older, more stable alluvium is located to the south and the younger, less stable material is located to the north. Bedrock lies beneath the area at depths of 300 feet or more.

f. Topography. The topography is essentially flat, dropping from an elevation of 94 feet to sea level. The slope across the City is in a northeasterly direction from the high point in the southwest corner to the Bay. The average slope is approximately 0.9%.

g. Geographical and Topographical Summary. The stated local geological and topographical conditions increase the magnitude, exposure, accessibility

problems and fire hazards presented to the Fire Department. Beneath the City of Santa Clara are thick layers of sand, gravel and clay, known as alluvium, which amplify the effects of earthquakes. Based on the damage caused in Santa Clara Valley by the 1906 and 1989 earthquakes and the poor performance of alluvial deposits during earthquakes, the City of Santa Clara areas could be subject to severe damage as a result of a major earthquake.

C. Related City Information:

a. Size and Population. The City of Santa Clara is the third largest city in Santa Clara County. The City occupies a total of 19.3 square miles and has a population of 129,499 according to 2018 US census data. With the opening of the Levi's Stadium in 2014 we have seen the transitory population increase to more than 200,000 during events.

b. Future Development. The City is in the process of developing several sites North of the Bayshore Freeway. Over the next 10-20 years the number of residential units could grow by as many as 15,000 units. The City is also in the planning phase of two major Specific Plans that could see a significant increase in density, as well as much taller buildings over the next 20 years.

c. Public Safety. The Fire Department is comprised of 167 employees in ten stations located throughout the City. The City Fire Department Insurance Service Organization Classification (ISO Rating) is Class 2, with adjacent areas rated between Class 2 and Class 9.

d. Fire Prevention. The City's fire prevention and hazardous materials philosophy requires that fire detection and suppression occur as quickly as possible to minimize loss of life, property, and the environment. For these reasons, the most advanced fire detection, suppression, and hazardous materials alarms and mitigation measures (such as scrubbers) are required for most new

development within the City. The City has also participated in the County Fire Marshals Association code development process for more than four decades, developing local amendments specific to our needs while maintaining consistency within the county.

e. Traffic. The number of vehicle miles driven in the City has steadily increased over the past decade. Considerable effort is being made to improve conditions impacting traffic in order to ease the crush of commuters through the City. Due to the City's high concentration of jobs, much of the peak traffic (about 75%) consists of nonresidents travelling to or through Santa Clara. The impact of current and future planned developments on traffic conditions will continue to affect the delivery of emergency services.

f. Industry. The City of Santa Clara is the site of more than 1,000 regulated manufacturing, and research and development companies. In addition, to the Fire Code regulations, the Fire Department is a designated Certified Unified Program Agency (CUPA) by Cal-EPA. The largest of these regulated facilities produce a wide range of products, including but not limited to electronic equipment, communication equipment and fiberglass. Many of these manufacturing and research industries use toxic, flammable and explosive chemicals, and other materials in potentially hazardous combinations. Special precautions are required to minimize the risk to adjoining properties which have recently seen the development of high-density housing around many of these facilities.

g. Zoning. The City of Santa Clara is updating its Zoning Code. The City’s update will make the code consistent with state and federal law and the direction provided in the 2010–2035 General Plan. All property and land uses in the City are governed by the City's General Plan. The Santa Clara General Plan is a road map to the future that encompasses the hopes, aspirations, values and dreams

of the community. The time frame of the Plan is 2010-2035. The Plan contains the City's official policies on land use and community design, transportation, housing, environmental resources and health and safety.

h. Proximity of Industrial and Residential Uses. High-density residential uses are located near high-risk industries, necessitating specialized fire protection, and hazardous materials regulations being implemented to ensure an adequate level of safety for life, property and the environment.

i. Transportation. The City of Santa Clara is divided by an interstate highway, which could potentially negatively affect fire suppression response times during any nature disaster or significant event.

j. Buildings, Landscaping and Clearances. Many of the designs of the newer large buildings and building complexes greatly limit visibility, approach and accessibility by Public Safety resources. Many houses and other buildings with wood roofs and/or siding are so close together that fire can readily spread by both radiation and convection.

k. Water Supply. The City of Santa Clara supplies its own water for commercial and residential needs. Water services are provided to residents and businesses in the City of Santa Clara by the Water Utility. The Water System consists of approximately 335 miles of water mains, 26 wells and 7 storage tanks with approximately 28.8 million gallons of water capacity. Sources available to the City include an extensive local underground aquifer and imported water supplies delivered by two wholesale water agencies: the Santa Clara Valley Water District (SCVWD) and the San Francisco Hetch-Hetchy system.

l. Electric Power. The City of Santa Clara operates its own electric utility company, Silicon Valley Power (SVP). SVP currently provides over 40 percent of Santa Clara's electricity from carbon free renewable resources. In addition to

using green energy from large-scale wind, solar, geothermal and hydroelectric projects outside of the area, SVP employs innovative ways to locally produce electricity by capturing and burning methane gas from a closed city landfill and using power from solar generating systems on city-owned garages and vacant, unusable land. SVP participates in new technologies such as fiber optic networks, citywide Wi-Fi, advanced metering, digital substation controls, fuel cells, and server virtualization, working to enhance the electric utility.

D. **Specific Findings**. In addition to changes justified on administrative grounds or by all of the general findings, several substantive sections are justified specifically, as set forth below.

2. **2019 California Building Code, Chapter 9, Fire Protection and Life Safety Systems, Section 903, Automatic Sprinkler Systems, Subsection 903.2.8.1, Group R-3.** (Single family residences and duplexes; fire sprinklers.).

A. Text Change: Subsection 903.2.8.1, Group R-3, is hereby amended by adding the following text immediately following Section 903.2.8.1:

"Section 903.2.8.1.1 Additions to Group R3, Automatic Fire Sprinkler Systems. An automatic fire sprinkler system installed in accordance with Section 903.3.1.3, shall be provided throughout existing R3 occupancies, when additions are made that increase the R3 occupancy area to more than 3,600 square feet. An automatic sprinkler system shall be provided throughout all new basements regardless of size and throughout existing basements that are expanded by more than 50%."

B. General Finding: The weather, including high temperatures and winds, can significantly increase the chance that a structure fire can spread to neighboring properties. Automatic fire sprinkler systems have a proven track record for containing fires and allowing for the control of fires by fewer firefighters than structures not protected by fire sprinklers.

C. Climatic Findings: The local climatic conditions in the City of Santa Clara can

affect the acceleration, intensity, and size of fire in the community. Times of little or no rainfall, low humidity, and high temperatures create extremely hazardous fire conditions, particularly as they relate to wood shake and shingle roof fires. The winds experienced in the City of Santa Clara area can have a tremendous impact upon structure fires where buildings are in close proximity to one another, which is commonly found in the City of Santa Clara. During wood shake and shingle roof fires, or exposure fires, winds can carry sparks and burning brands to other structures, thus spreading the fire and causing conflagrations. In building fires, winds can literally force fires back into the building and can create a blowtorch effect, in addition to preventing "natural" ventilation and cross-ventilation efforts.

D. Geologic and Topographic Findings:

1. Seismic Location. The City is situated on alluvial soils between San Francisco Bay and the San Andreas Fault zone. The City's location makes its taller and older structures particularly vulnerable to damage caused by significant seismic events. The relatively young geological processes that have created the San Francisco Bay Area are still active today. Seismically, the City sits between two active earthquake faults (San Andreas and the Hayward/Calaveras) and other potentially active faults. According to the Association of Bay Area Governments, the City of Santa Clara is located in a very high-risk seismic zone.

2. Seismic Events. Fire following an earthquake has the potential of causing greater loss of life and damage than the earthquake itself. A large number of residential dwellings in the City of Santa Clara have combustible roofs which add significantly to the risk of structural fires after an earthquake. In the event of widespread catastrophic event, public safety service resources would be seriously impacted and maybe unavailable to effectively respond to all emergencies.

3. Other variables that increase the risk from fire after a major earthquake:

a. The extent of damage to the water system;

b. The extent of isolation due to bridge and/or freeway overpass

collapse;

c. The extent of roadway damage and/or amount of debris blocking the roadways;

d. Climatic conditions (hot, dry weather with high winds);

e. Time of day will influence the amount of traffic on roadways and could intensify the risk to life during normal business hours;

f. The availability of timely mutual aid or military assistance;

g. The concentration of combustible structures (wood frame) in the residential, mercantile and light industry zones.

3. **2019 California Building Code, Chapter 10, Means of Egress, Section 1011, Stairways, Subsection 1011.1, General.**

A. Text Change: Subsection 1011.1 General, is hereby amended by adding the following text immediately following Subsection 1011.1:

"Section 1011.1.1 Stairway Configuration. Stairways shafts which are part of a required means of egress and which are required to be fire rated enclosed on any side, shall be entirely vertical without horizontal offsets."

B. General Findings: The risk of fire for a building is usually greatest during its construction phase. The intensity of a fire involving a building under construction is directly influenced by challenging weather conditions, including but not limited to high temperatures, and winds. Since a building under construction does not generally have active fire protection systems, it is essential to have identified and unobstructed means of egress for the occupants to evacuate the building in an emergency.

C. Climatic Findings: The local climatic conditions in the City of Santa Clara can affect the acceleration, intensity, and size of fire in the community. Times of little or no rainfall, low humidity, and high temperatures create extremely hazardous fire conditions, particularly as they relate to wood shake and shingle roof fires. The winds experienced in the City of Santa

Clara area can have a tremendous impact upon structure fires where buildings are in close proximity to one another, which is commonly found in the City of Santa Clara. During wood shake and shingle roof fires, or exposure fires, winds can carry sparks and burning brands to other structures, thus spreading the fire and causing conflagrations. In building fires, winds can literally force fires back into the building and can create a blowtorch effect, in addition to preventing "natural" ventilation and cross-ventilation efforts.

D. Geologic and Topographic Findings:

1. Seismic Location. The City is situated on alluvial soils between San Francisco Bay and the San Andreas Fault zone. The City's location makes its taller and older structures particularly vulnerable to damage caused by significant seismic events. The relatively young geological processes that have created the San Francisco Bay Area are still active today. Seismically, the City sits between two active earthquake faults (San Andreas and the Hayward/Calaveras) and other potentially active faults. According to the Association of Bay Area Governments, the City of Santa Clara is located in a very high-risk seismic zone.

2. Seismic Events. Fire following an earthquake has the potential of causing greater loss of life and damage than the earthquake itself. A large number of residential dwellings in the City of Santa Clara have combustible roofs which add significantly to the risk of structural fires after an earthquake. In the event of widespread catastrophic event, public safety service resources would be seriously impacted and maybe unavailable to effectively respond to all emergencies.

3. Other variables that increase the risk from fire after a major earthquake:

a. The extent of damage to the water system;

b. The extent of isolation due to bridge and/or freeway overpass collapse;

c. The extent of roadway damage and/or amount of debris blocking the roadways;

d. Climatic conditions (hot, dry weather with high winds);

e. Time of day will influence the amount of traffic on roadways and could intensify the risk to life during normal business hours;

f. The availability of timely mutual aid or military assistance;

g. The concentration of combustible structures (wood frame) in the residential, mercantile and light industry zones.

4. 2019 California Building Code, Chapter 10, Means of Egress, Section 1016, Exit Access, Subsection 1016.1, General.

A. Text Change: Subsection 1016.1, General, is hereby amended by adding the following text immediately following Subsection 1016.1:

"Section 1016.1.1 Exit Access Configuration. Exit Access in multi-story buildings which are part of the required means of egress from a stairway, and which are required to be fire rated, shall be routed to the exterior of the building or structure in the shortest configuration possible."

B. General Findings: The risk of fire for a building is usually greatest during its construction phase. The intensity of a fire involving a building under construction is directly influenced by challenging weather conditions, including but not limited to high temperatures, and winds. Since a building under construction does not generally have active fire protection systems, it is essential to have identified and unobstructed means of egress for the occupants to evacuate the building in an emergency.

C. Climatic Findings: The local climatic conditions in the City of Santa Clara can affect the acceleration, intensity, and size of fire in the community. Times of little or no rainfall, low humidity, and high temperatures create extremely hazardous fire conditions, particularly as they relate to wood shake and shingle roof fires. The winds experienced in the City of Santa Clara area can have a tremendous impact upon structure fires where buildings are in close proximity to one another, which is commonly found in the City of Santa Clara. During wood

shake and shingle roof fires, or exposure fires, winds can carry sparks and burning brands to other structures, thus spreading the fire and causing conflagrations. In building fires, winds can literally force fires back into the building and can create a blowtorch effect, in addition to preventing "natural" ventilation and cross-ventilation efforts.

D. Geologic and Topographic Findings:

1. Seismic Location. The City is situated on alluvial soils between San Francisco Bay and the San Andreas Fault zone. The City's location makes its taller and older structures particularly vulnerable to damage caused by significant seismic events. The relatively young geological processes that have created the San Francisco Bay Area are still active today. Seismically, the City sits between two active earthquake faults (San Andreas and the Hayward/Calaveras) and other potentially active faults. According to the Association of Bay Area Governments, the City of Santa Clara is located in a very high-risk seismic zone.

2. Seismic Events. Fire following an earthquake has the potential of causing greater loss of life and damage than the earthquake itself. A large number of residential dwellings in the City of Santa Clara have combustible roofs which add significantly to the risk of structural fires after an earthquake. In the event of widespread catastrophic event, public safety service resources would be seriously impacted and maybe unavailable to effectively respond to all emergencies.

3. Other variables that increase the risk from fire after a major earthquake:

a. The extent of damage to the water system;

b. The extent of isolation due to bridge and/or freeway overpass collapse;

c. The extent of roadway damage and/or amount of debris blocking the roadways;

d. Climatic conditions (hot, dry weather with high winds);

e. Time of day will influence the amount of traffic on roadways and

could intensify the risk to life during normal business hours;

f. The availability of timely mutual aid or military assistance;

g. The concentration of combustible structures (wood frame) in the residential, mercantile and light industry zones.

5. 2019 California Building Code, Chapter 10, Means of Egress, Section 1022, Exits, Subsection 1022.1. (Interior Exit stairways and Ramps Configuration.)

A. Text Change: Subsection 1022.1, General is hereby amended by adding the following text immediately following Subsection 1022.1:

"Section 1022.1.1 Interior Exit Stairways and Ramps Configuration. Interior Exit Stairways and Ramps in multi-story buildings which are part of the required means of egress, and which are required to be fire rated, shall be routed to the exterior of the building or structure in the shortest configuration possible."

B. General Findings: The risk of fire for a building is usually greatest during its construction phase. The intensity of a fire involving a building under construction is directly influenced by challenging weather conditions, including but not limited to high temperatures, and winds. Since a building under construction does not generally have active fire protection systems, it is essential to have identified and unobstructed means of egress for the occupants to evacuate the building in an emergency.

C. Climatic Findings: The local climatic conditions in the City of Santa Clara can affect the acceleration, intensity, and size of fire in the community. Times of little or no rainfall, low humidity, and high temperatures create extremely hazardous fire conditions, particularly as they relate to wood shake and shingle roof fires. The winds experienced in the City of Santa Clara area can have a tremendous impact upon structure fires where buildings are in close proximity to one another, which is commonly found in the City of Santa Clara. During wood shake and shingle roof fires, or exposure fires, winds can carry sparks and burning brands to other structures, thus spreading the fire and causing conflagrations. In building fires, winds can

literally force fires back into the building and can create a blowtorch effect, in addition to preventing "natural" ventilation and cross-ventilation efforts.

D. Geologic and Topographic Findings:

1. Seismic Location. The City is situated on alluvial soils between San Francisco Bay and the San Andreas Fault zone. The City's location makes its taller and older structures particularly vulnerable to damage caused by significant seismic events. The relatively young geological processes that have created the San Francisco Bay Area are still active today. Seismically, the City sits between two active earthquake faults (San Andreas and the Hayward/Calaveras) and other potentially active faults. According to the Association of Bay Area Governments, the City of Santa Clara is located in a very high-risk seismic zone.

2. Seismic Events. Fire following an earthquake has the potential of causing greater loss of life and damage than the earthquake itself. A large number of residential dwellings in the City of Santa Clara have combustible roofs which add significantly to the risk of structural fires after an earthquake. In the event of widespread catastrophic event, public safety service resources would be seriously impacted and maybe unavailable to effectively respond to all emergencies.

3. Other variables that increase the risk from fire after a major earthquake:

a. The extent of damage to the water system;

b. The extent of isolation due to bridge and/or freeway overpass collapse;

c. The extent of roadway damage and/or amount of debris blocking the roadways;

d. Climatic conditions (hot, dry weather with high winds);

e. Time of day will influence the amount of traffic on roadways and could intensify the risk to life during normal business hours;

f. The availability of timely mutual aid or military assistance;

g. The concentration of combustible structures (wood frame) in the residential, mercantile and light industry zones.

6. **2019 California Residential Code, Chapter 3, Building Planning, Section R313, Automatic Fire Sprinkler Systems, Subsection R313.1, Townhouse Automatic Fire Sprinkler Systems.**

A. Text Change: Subsection R313.1, Townhouse Automatic Fire Sprinkler Systems, is hereby deleted and replaced with the following:

"Section R313.1. Townhouse automatic fire sprinkler systems. An automatic residential fire sprinkler system shall be installed in townhouses.

(a) An automatic sprinkler system shall be provided throughout existing townhouses, when additions are made that increase the townhouse area to more than 3,600 square feet.

(b) An automatic residential fire sprinkler system shall not be required where additions or alterations are made to existing townhouses that do not have an automatic residential fire sprinkler system installed where the additions or alterations will result in a townhouse area of 3,600 square feet or less.

(c) An automatic sprinkler system shall be provided throughout all new basements regardless of size and throughout existing basements that are expanded by more than 50%."

B. General Finding: The weather, including high temperatures and winds, can significantly increase the chance that a structure fire can spread to neighboring properties. Automatic fire sprinkler systems have a proven track record for containing fires and allowing for the control of fires by fewer firefighters than structures not protected by fire sprinklers.

C. Climatic Findings: The local climatic conditions in the City of Santa Clara can affect the acceleration, intensity, and size of fire in the community. Times of little or no rainfall, low humidity, and high temperatures create extremely hazardous fire conditions, particularly as

they relate to wood shake and shingle roof fires. The winds experienced in the City of Santa Clara area can have a tremendous impact upon structure fires where buildings are in close proximity to one another, which is commonly found in the City of Santa Clara. During wood shake and shingle roof fires, or exposure fires, winds can carry sparks and burning brands to other structures, thus spreading the fire and causing conflagrations. In building fires, winds can literally force fires back into the building and can create a blowtorch effect, in addition to preventing "natural" ventilation and cross-ventilation efforts.

D. Geologic and Topographic Findings:

1. Seismic Location. The City is situated on alluvial soils between San Francisco Bay and the San Andreas Fault zone. The City's location makes its taller and older structures particularly vulnerable to damage caused by significant seismic events. The relatively young geological processes that have created the San Francisco Bay Area are still active today. Seismically, the City sits between two active earthquake faults (San Andreas and the Hayward/Calaveras) and other potentially active faults. According to the Association of Bay Area Governments, the City of Santa Clara is located in a very high-risk seismic zone.

2. Seismic Events. Fire following an earthquake has the potential of causing greater loss of life and damage than the earthquake itself. A large number of residential dwellings in the City of Santa Clara have combustible roofs which add significantly to the risk of structural fires after an earthquake. In the event of widespread catastrophic event, public safety service resources would be seriously impacted and maybe unavailable to effectively respond to all emergencies.

3. Other variables that increase the risk from fire after a major earthquake:

a. The extent of damage to the water system;

b. The extent of isolation due to bridge and/or freeway overpass collapse;

c. The extent of roadway damage and/or amount of debris blocking

the roadways;

d. Climatic conditions (hot, dry weather with high winds);

e. Time of day will influence the amount of traffic on roadways and could intensify the risk to life during normal business hours;

f. The availability of timely mutual aid or military assistance;

g. The concentration of combustible structures (wood frame) in the residential, mercantile and light industry zones.

7. 2019 California Residential Code, Chapter 3, Building Planning, Section R313, Automatic Fire Sprinkler Systems, Subsection R313.2, One- and Two-Family Dwellings Automatic Fire Sprinkler Systems.

A. Text Change: Section R313.2, One- and Two-Family Dwellings Automatic Fire Sprinkler Systems, is hereby deleted and replaced with:

"Section R313.2. One- and two-family dwellings automatic fire sprinkler systems. An automatic residential fire sprinkler system shall be installed in one- and two-family dwellings.

1. An automatic sprinkler system shall be provided throughout existing One and Two Family Dwellings, when additions are made that increase the One and Two Family Dwelling area to more than 3,600 square feet. An automatic residential fire sprinkler system shall not be required for additions or alterations to existing buildings that are not already provided with an automatic residential sprinkler system where the additions or alterations will result in an area of 3,600 square feet or less. An automatic sprinkler system shall be provided throughout all new basements regardless of size and throughout existing basements that are expanded by more than 50%.

2. Accessory Dwelling Unit, provided that all of the following are met:

2.1. The unit meets the definition of an Accessory Dwelling Unit as defined in the Government Code Section 65852.2.

2.2. The existing primary residence does not have automatic fire sprinklers.

2.3. The accessory detached dwelling unit does not exceed 1,200 square feet in size.

2.4 The unit is on the same lot as the primary residence."

B. General Finding: The weather, including high temperatures and winds, can significantly increase the chance that a structure fire can spread to neighboring properties. Automatic fire sprinkler systems have a proven track record for containing fires and allowing for the control of fires by fewer firefighters than structures not protected by fire sprinklers.

C. Climatic Findings: The local climatic conditions in the City of Santa Clara can affect the acceleration, intensity, and size of fire in the community. Times of little or no rainfall, low humidity, and high temperatures create extremely hazardous fire conditions, particularly as they relate to wood shake and shingle roof fires. The winds experienced in the City of Santa Clara area can have a tremendous impact upon structure fires where buildings are in close proximity to one another, which is commonly found in the City of Santa Clara. During wood shake and shingle roof fires, or exposure fires, winds can carry sparks and burning brands to other structures, thus spreading the fire and causing conflagrations. In building fires, winds can literally force fires back into the building and can create a blowtorch effect, in addition to preventing "natural" ventilation and cross-ventilation efforts.

D. Geologic and Topographic Findings:

1. Seismic Location. The City is situated on alluvial soils between San Francisco Bay and the San Andreas Fault zone. The City's location makes its taller and older structures particularly vulnerable to damage caused by significant seismic events. The relatively young geological processes that have created the San Francisco Bay Area are still active today. Seismically, the City sits between two active earthquake faults (San Andreas and the Hayward/Calaveras) and other potentially active faults. According to the Association of Bay Area Governments, the City of Santa Clara is located in a very high-risk seismic zone.

2. Seismic Events. Fire following an earthquake has the potential of causing

greater loss of life and damage than the earthquake itself. A large number of residential dwellings in the City of Santa Clara have combustible roofs which add significantly to the risk of structural fires after an earthquake. In the event of widespread catastrophic event, public safety service resources would be seriously impacted and maybe unavailable to effectively respond to all emergencies.

3. Other variables that increase the risk from fire after a major earthquake:

a. The extent of damage to the water system;

b. The extent of isolation due to bridge and/or freeway overpass collapse;

c. The extent of roadway damage and/or amount of debris blocking the roadways;

d. Climatic conditions (hot, dry weather with high winds);

e. Time of day will influence the amount of traffic on roadways and could intensify the risk to life during normal business hours;

f. The availability of timely mutual aid or military assistance;

g. The concentration of combustible structures (wood frame) in the residential, mercantile and light industry zones.

4. Effective date. This resolution shall become effective immediately.

I HEREBY CERTIFY THE FOREGOING TO BE A TRUE COPY OF A RESOLUTION PASSED AND ADOPTED BY THE CITY OF SANTA CLARA, CALIFORNIA, AT A REGULAR MEETING THEREOF HELD ON THE ___ DAY OF _____, 2019, BY THE FOLLOWING VOTE:

AYES: COUNCILORS:

NOES: COUNCILORS:

ABSENT: COUNCILORS:

ABSTAINED: COUNCILORS:

ATTEST: _____

NORA PIMENTEL, MMC
ASSISTANT CITY CLERK
CITY OF SANTA CLARA

Attachments incorporated by reference: None