

## 4.15 Wildfire

This section analyzes potentially significant impacts related to wildfire that could result from implementation of the project. This analysis relies on secondary source information including City programs and plans, and data available from the California Department of Forestry and Fire Protection (CAL FIRE) and other applicable agencies.

### 4.15.1 Existing Conditions

The majority of the city of Irvine (City) lies within a wide, level valley bordered by the Santa Ana Mountains and San Joaquin Hills, characterized by predominantly urbanized areas devoid of fire-prone vegetation. However, the northern and southern areas of the City feature canyons, ridges, and hillsides harbor dry grasses and woody shrubs highly susceptible to ignition. Despite the urban setting, the presence of flammable vegetation poses a persistent fire hazard in the City and the surrounding area.

#### 4.15.1.1 Wildfire Hazards

Threat from wildfire hazards is determined based on several factors, including fuel loading (vegetation); topography; climatic conditions, such as wind, humidity, and temperature; and the proximity of structures and urban development to fire hazards. Wildland fire hazards are most pronounced in wildland-urban interface areas, or where urban development is located close to open space areas where vegetation can serve as fuel. Generally, the periods of greatest risk for wildland fire are the late summer and early fall when vegetation is at its driest. Human activity, including residential and agricultural burning, campfires, and the use of fireworks can all trigger fires. Natural causes such as lightning strikes may also start fires.

To assist each fire agency in addressing its responsibility area, CAL FIRE uses a severity classification system to identify areas or zones of severity for fire hazards within the state. CAL FIRE is required to map these zones, which include moderate, high, and very high fire severity zones that were developed for community planning and real estate disclosure purposes and are meant to help limit wildfire damage to structures through planning, prevention, and the application of risk reduction measures. The mapped areas, or "zones," are based on factors such as fuel (e.g., flammable vegetation), slope, and fire weather. As shown in Figure 4.7-2 and detailed in Table 4.15-1, most of the City consists of urban areas that are not designated as a fire severity zone. Approximately 11,915 acres (approximately 28.22 percent) of the City are mapped as Very High Fire Hazard Severity Zone (FHSZ). The topography of the foothills of the Santa Ana Mountains and San Joaquin Hills in the City is extremely conducive to wildfires. The community is bordered by natural, undeveloped hillsides and mountains to the northeast and open space areas to the southwest. Most development within the City is located between these two areas. Approximately 11,915 acres of these natural, undeveloped areas are classified as Very High FHSZ by CAL FIRE. In the northeastern portion of the City, this zone extends throughout the Santa Ana Mountain range, which extends into Riverside County to the east. Additionally, approximately 1,875 acres of land located in Focus Area 3 are classified as Very High FHSZ by CAL FIRE.

Row Labels	Acres	Percentage
Moderate	-	-
High	-	-
Very High	11,915	28.22
No Rating	30,305	71.78
<b>TOTAL</b>	<b>42.220</b>	<b>100</b>

### 4.15.1.2 History of Wildfire

The City's Local Hazard Mitigation Plan (LHMP) documented past wildfire events as detailed in Table 4.15-2 below.

Year	Fire Name	Fire Description
2020	Silverado Fire	On October 26, 2020, sustained winds of 45 miles per hour (mph) with gusts to 75 mph, prompted a vegetation fire to erupt off Santiago Canyon Road and Limestone Ridge. Approximately 33 percent of the City was evacuated, but no structures were lost or damaged.
2017	Canyon Fire	A 2017 wildfire that burned in the Anaheim Hills area of Orange County. In total the fire burned 9,217 acres, destroyed 25 structures and damaged another 55. In total, 16,570 people were evacuated from their homes in Anaheim, Orange, and Tustin.
2008	Freeway Complex Fire	A 2008 wildfire that burned parts of Yorba Linda, Anaheim, Brea, Chino Hills, and Diamond Bar. Over 30,000 acres were burned destroying 314 homes, 43 outbuildings, and 4 commercial structures. No fatalities were reported during this event.
2007	Santiago Fire	Began on October 21, 2007, in the foothills north of the City and east of the City of Orange. Over 28,000 acres were burned, resulting in the destruction of 14 homes and 24 outbuildings. No fatalities were reported during this event.
1998	Blackstar/Santiago Canyon Fire	The Blackstar/Santiago Canyon Fire required precautionary activation of the Orange County Emergency Operations Center as smoke threatened the wildland/urban interface.
1997	Baker Canyon Fire	In 1997, the Baker Canyon fire just east of the City, burned 6,317 acres of vegetation. Strong Santa Ana winds prompted a decision to evacuate the City's Northwood community.
1993	Laguna Beach Firestorms	The Laguna Beach firestorms burned 400 acres of explosive hillside brush and chaparral in the City. Although no structures were destroyed, 4,000 people were evacuated to local shelters overnight.
1889	Santiago Canyon Fire	Dating back to 1889, this massive wildfire is one of the largest in the state's history. Totaling at least 300,000 acres, the conditions that contributed to the fire included a much longer and more severe annual drought than usual.

SOURCES: City of Irvine 2020, 2022.

### 4.15.1.3 Wildfire Preparedness

#### a. Service and Response

Details of fire protection services are provided in Section 4.12.1.1 of this Program Environmental Impact Report (PEIR). The following is a summary as it relates to wildfire preparedness.

Wildfire preparedness and education within the City is a joint effort between the Irvine Police Department's Office of Emergency Management, the City's Open Space and Wildland Management program, and the Orange County Fire Authority (OCFA). However, OCFA is the primary response agency for fires and provides a full range of fire prevention services including public education, code enforcement, plan check and inspection services for new and existing construction, and fire investigation.

OCFA has established a target response time of 5 minutes from dispatch to arrival for 80 percent of calls for first-in engines to arrive on-scene to medical aids and/or fires and first-in truck companies should arrive on-scene to fires within 12 minutes, 80 percent of the time.

Existing and proposed fire stations are shown on Figure 4.12-1 presented in Section 4.12 of this EIR. The 2023 Unit Strategic Plan outlines goals and strategies for fire protection services throughout the City, including facility needs and improvements, training requirements, and disaster preparedness.

## 4.15.2 Applicable Regulatory Requirements

### 4.15.2.1 Federal Regulations

#### a. Disaster Mitigation Act

The Disaster Mitigation Act of 2000 requires that a state mitigation plan, as a condition of disaster assistance, add incentives for increased coordination and integration of mitigation activities at the state level through the establishment of requirements for two different levels of state plans: "Standard" and "Enhanced." The Disaster Mitigation Act also established a new requirement for local mitigation plans. It states that jurisdictions that wish to be eligible for federal hazard mitigation grant funding must prepare a hazard mitigation plan that meets a certain set of guidelines and submit this plan to the Federal Emergency Management Agency (FEMA) for review and approval. These guidelines are outlined in the Code of Federal Regulations, Title 44, Part 201.

### 4.15.2.2 State Regulations

#### a. California Wildland-Urban Interface Code

On September 20, 2005, the California Building Standards Commission approved the Office of the State Fire Marshal's emergency regulations amending the California Building Code (CBC) (California Code of Regulations [CCR] Title 24, Part 2). Chapter 7A of the CBC includes regulations addressing

materials and construction methods for exterior wildfire exposure and applies to new buildings located in state responsibility areas or fire severity zones in local response areas.

## **b. California Fire Code**

The 2022 California Fire Code (Fire Code; CCR Title 24, Part 9) establishes regulations to safeguard the public health, safety, and general welfare from hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures, and premises. The Fire Code also establishes requirements intended to provide safety for and assistance to firefighters and emergency responders during emergency operations. The provisions of the Fire Code apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal, and demolition of every building or structure throughout California. The Fire Code includes regulations regarding fire-resistance-rated construction, fire protection systems such as alarm and sprinkler systems, fire services features such as fire apparatus access roads, means of egress, fire safety during construction and demolition, and wildland-urban interface areas. The City has adopted the Fire Code as Title 5, Division 9, Chapter 1 the Municipal Code.

## **c. California Public Resources Code**

### ***Public Resources Code Section 4201-4204 and Government Code Section 51175-89***

Public Resources Code (PRC) Section 4201-4204 and Government Code Section 51175-89 requires CAL FIRE to map areas of significant fire hazards and identifies fire hazard severity zones within the state. Fire hazard severity zones are identified as very high, high, and medium. Local agencies are required to designate very high fire hazard severity zones within their jurisdiction.

### ***Public Resources Code Section 4125-4137***

PRC Section 4125-4137 establishes a process for the state to identify lands that are state responsibility area fire severity zones and procedures associated with such areas.

### ***Public Resources Code Sections 4290 and 4291***

PRC Sections 4290 and 4291 require local jurisdictions to make specified findings that a subdivision is consistent with fire safety and defensible space regulations, and that fire protection and suppression services are available for the subdivision (Government Code Section 66474.02), before approving a tentative subdivision map or parcel map (for which a tentative map was not required) within a state responsibility area fire severity zone. Furthermore, regulations provide that local jurisdiction shall provide to CAL FIRE notices of applications for building permits, tentative parcel maps, tentative maps, and installation or use permits for construction or development within an area designated as a very high fire severity zone. These regulations do not require findings for these notices of applications.

## d. California Government Code

### *Senate Bill 379 California Government Code Section 65302 (g)(4)*

California Government Code Section 65302 (g)(4), also known as Senate Bill (SB) 379, requires that the safety element of a community's general plan address the hazards created or exacerbated by climate change. The safety element must identify how climate change is expected to affect hazard conditions in the community and include measures to adapt and be more resilient to these anticipated changes.

Because the LHMP can be incorporated into the safety element, including these items in the LHMP can satisfy the state requirement. SB 379 requires that climate change be addressed in the safety element when the LHMP is updated after January 1, 2017, for communities that already have an LHMP, or by January 1, 2022, for communities without an LHMP.

## 4.15.2.3 Local Regulations

### a. Existing General Plan (2000)

The current Safety Element's guidelines concerning wildland fire hazards encompass policies aimed at establishing fuel modification standards (Policy J-1 [c]) and mandating the review of new development proposals by OFCA (Policy J-1 [e]). The current Public Facilities and Services Element reinforces OCFA service standards, aligned with National Fire Protection Association guidelines, covering responses for fire and basic life safety, advanced life support, and other service priorities. Additional regulations are outlined in the City's Municipal Code, Zoning Ordinance, Building Code, and OCFA plans. The current general plan includes updated mapping in compliance with SB 1241, conducted concurrently with the previous housing element. However, the Board of Forestry and Fire Protection only implemented SB 1241 regulations in full in 2015. Subsequent guidelines from the Board and OPR General Plan Guidelines will necessitate revisions to the Irvine General Plan Safety Element, which will be reflected in the General Plan Update.

The existing General Plan Safety and Seismic elements include the following objectives and policies related to wildfire and associated risks:

#### *Safety Element*

**Objective J-1.** Hazard Occurrence. Identify actions that the City, in concert with other jurisdictions, must take to reduce the probability of hazard occurrence.

- **Policy (c):** Establish criteria for land development in hillside areas with emphasis on fire retardant materials, minimization of exposure risk to wildfire and adjacent structure fires, provision of access for fire fighting personnel and equipment, and removal of combustible vegetation.
- **Policy (e):** Require development proposals to be reviewed by the Orange County Fire Authority to ensure adequate fire protection and precautions occur.

*Objective J-2* Disaster Response. Identify actions that the City, in conjunction with other jurisdictions, must take to reduce the severity of disasters.

- **Policy (a):** Ensure that developments will be properly served by police and fire service.
- **Policy (b):** Ensure that each development will have adequate emergency ingress and egress.
- **Policy (c):** Phase the timing of development in relation to the City's ability to provide police and fire service.
- **Policy (d):** Continue to maintain and implement the City of Irvine's Emergency Plan.

### *Seismic Element*

*Objective D-1.* Potential Hazards. Take potential environmental hazards into account in the General Plan.

- **Policy (a):** Identify the locations of potential seismic hazards to minimize the effects of the potential hazard through special development constraints. Conduct a research program to develop more refined boundaries for seismic response areas, particularly for Seismic Response Area 1.

*Objective D-2.* Response to Hazards. Require appropriate measures to protect public health and safety and to respond to seismic hazards in all public and private developments.

- **Policy (g):** Require a detailed geological and soils study as needed, in accordance with the requirements of the City's Subdivision Ordinance, before approving development.
- **Policy (h):** Continue to require structures to conform to the seismic design requirements found in the Uniform Building Code.
- **Policy (i):** Ensure that the most recent adopted seismic standards are used for new construction.

## **b. Municipal Code**

The City regulates building safety and fire code through specific requirements in its Municipal Code. The following are sections of the Municipal Code that are relevant to the project related to wildfire and associated risks:

### *Title 5 (Planning), Division 9 (Building Regulations)*

The City adopted and amended California's building, residential, and fire codes, and amended the state code with local considerations. Refer to Chapter 1 Adoption of Building and Fire Code and Chapter 4 Amendments to Building and Fire Code Technical Regulations of Division 9 (Building Regulations).

### c. Zoning Ordinance

#### *Chapter 5-2 (Floodplain District)*

In all areas of special flood hazards, development would be required to be constructed with standards identified in Section 5-2-24 (Standards of construction for flood hazard zones) of the Zoning Ordinance, which include anchoring, constructing new development with materials and utility equipment resistant to flood damage below base floodplain elevations, using methods and practices that minimize flood damage, and with adequate drainage paths around structures on slopes to guide floodwaters around and away from proposed structures. Upon the completion of the structure, the elevation of the lowest floor, including basement, shall be certified by a registered professional engineer or surveyor, and verified by the City's Chief Building Official, to be properly elevated. Such certification or verification shall be provided to the Floodplain Administrator.

### d. Planning Commission Resolution No. 09-2968

Standard conditions are adopted by Planning Commission Resolution No. 09-2968. These conditions assist staff in applying standardized wording for frequently used conditions of approval for discretionary and subdivision applications. Standard conditions are applied on a case-by-case basis depending upon the specifics of the application. Companion conditions are cross-referenced and are required to be used together. The following standard conditions related to hazards and hazardous materials apply:

#### *City Standard Condition 2.19 (Open Space Fuel Modification)*

Prior to issuance of precise grading permits for any lots adjacent to open space, the applicant shall submit a fuel modification plan prepared to the satisfaction of the Director of Community Development for review and approval, in consultation with the Director of Community Services. The fuel modification plan shall be approved by OCFA. The requirements set forth in this condition do not apply to developed, irrigated park land required or provided as part of the project design for this project.

#### *City Standard Condition 3.14 (HOA/Fuel Modification)*

Prior to the issuance of building permits for any dwelling units on lots located adjacent to or within fuel modification zones, the applicant shall provide evidence that there is a requirement included in the CC&Rs that any changes to plant materials located within fuel modification zones must be approved by the Director of Community Development and be consistent with applicable OCFA requirements. For fuel modification zones adjacent to lands designated as Open Space, changes in plant materials shall also be reviewed by the Director of Community Services.

#### *Standard Condition 3.17 (Emergency Access Plan)*

Prior to the issuance of the first building permit, the applicant shall submit and have approved by the Chief of Police an Emergency Access Plan, which identifies and locates all Knox Boxes, Knox key switches, and Click2Enter radio access control receivers. Said plan shall be incorporated into the plan set approved for building permits.

***City Standard Condition 4.9 (Emergency Access Inspection)***

Prior to authorization to use, occupy, and/or operate, the applicant shall arrange for and have passed an inspection, to be performed by the Police Department and the OCFA, to ensure compliance with the Emergency Access Plan requirements. The inspector shall verify test acceptance and locations of all Knox boxes, key switches as depicted on the approved plan.

***City Standard Condition 2.11 (Special Flood Hazard Area)***

Prior to the issuance of a precise grading permit for any lot or parcel wholly or partially located within the Special Flood Hazard Area (SFHA, FP 2 District), the applicant shall submit one of the following:

- a) The final approved Letter of Map Revision (LOMR) to the Flood Plain Administrator, as designated by the City Engineer; or
- b) Preliminary Elevation Certificates (North American Vertical Datum [NAVD] 1988) for each proposed structure based on construction documents to the Chief Building Official; or
- c) For non-residential construction only, a preliminary Floodproofing Certificate based on construction documents to the Chief Building Official.

***City Standard Condition 3.4 (Special Flood Hazard Area)***

Prior to the issuance of a building permit for any structure wholly or partially located within the floodplain (FP 2 District) of the Special Flood Hazard Area (SFHA), the applicant shall submit one of the following:

- a) The final approved Letter of Map Revision (LOMR) to the Flood Plain Administrator, as designated by the City Engineer; or
- b) Preliminary Elevation Certificates (based on North American Vertical Datum [NAVD] 1988) for each proposed structure based on construction documents to the Chief Building Official; or
- c) For non-residential construction only, a preliminary Floodproofing Certificate for each building or structure based on construction documents showing floodproofing measures complying with adopted codes and standards and approved by the Chief Building Official.

***City Standard Condition 4.5 (Flood Certification for Finished Construction).***

Prior to authorization to use, occupy, and/or operate, for any structure wholly or partially located within the Special Flood Hazard Area (SFHA, FP 2 District), the applicant shall submit one of the following:

- a) The final approved Letter of Map Revision (LOMR) to the Flood Plain Administrator, as designated by the City Engineer; or
- b) Final Elevation Certificates (based on North American Vertical Datum [NAVD] 1988) for each structure based on finished floor construction to the Chief Building Official; or
- c) For non-residential construction only, a final Floodproofing Certificate for each building or structure based on completed construction.



### **e. Local Hazard Mitigation Plan**

The City's LHMP (2020) provides a comprehensive assessment of the threats posed by natural and human caused hazard events and includes coordinated strategy to reduce those threats. The LHMP is designed to identify the City's hazards, including threat of wildfire, especially for those portions of the City that are mapped within high fire hazard areas. The LHMP includes strategies for the minimization of damage from wildfires including the identification of high fire risk areas. The LHMP also contains the City's evacuation plan including the identification of evacuation centers and evacuation map.

### **f. Emergency Operations Plan**

The City's Emergency Operations Plan (EOP; 2022) provides a resiliency framework for the City to prepare for, respond to, recover from, and mitigate against all hazards including natural, human-caused, and technological disasters, and national security emergencies. It includes an overview of operational concepts, identifies components of the City's emergency management organization consistent with the Standardized Emergency Management System and the National Incident Management System, and describes the overall responsibilities of federal, state, and county entities, and the City for protecting life and property and assuring the overall well-being of the population. The plan identifies wildfire as a potential risk to life and property and identifies areas of concern. The plan provides a threat assessment and develops an approach to combatting wildfire, alerting, and warning, shelter and mass care, donation management, volunteer management, evacuation, damage assessment, as well as preventive measures.

### **g. Orange County Fire Authority 2023 Unit Strategic Fire Plan**

The OCFA 2023 Unit Strategic Plan addresses such topics as firefighter and public safety, Wildland Urban Interface challenges, impactful cost-effective solutions, community preparedness, prioritization, collaborative partnerships, program, project and policy evaluation and adaptability.

### **h. Existing Plans, Programs, and Policies**

Compliance measures are regulations imposed uniformly by the approving agency based on the proposed action taken and are required of the proposed project to reduce its potential environmental effects. Because these features are standard requirements, they do not constitute mitigation measures. The following measures are existing plans, programs, or policies (PPP) that apply to the project and will help to reduce and avoid potential impacts related to wildfires:

- PPP Wildfire-1: Compliance with City Standard Condition 2.19 (Open Space Fuel Modification)
- PPP Wildfire-2: Compliance with City Standard Condition 3.14 (HOA/Fuel Modification)
- PPP Wildfire-3: Compliance with City Standard Condition 3.17 (Emergency Access Plan)
- PPP Wildfire-4: Compliance with City Standard Condition 4.9 (Emergency Access Inspection)
- PPP Wildfire-5: Compliance with City Standard Condition 2.11 (Special Flood Hazard Area)
- PPP Wildfire-6: Compliance with City Standard Condition 3.4 (Special Flood Hazard Area)
- PPP Wildfire-7: Compliance with City Standard Condition 4.5 (Flood Certification for Finished Construction)

### *Proposed General Plan Strategies and Policies*

In addition to the above-listed PPPs, the following proposed goals, objectives, policies, and implementation actions are applicable to the analysis of wildfire and would replace existing goals, strategies, and policies outlined in the City's existing General Plan following project approval:

#### *Safety Element*

**Goal 1:** Protect and prepare the community for natural and human-caused hazards.

#### *Objective S-1. Hazard Preparedness and Occurrence:*

- **Policy (a):** Expand participation in the Irvine Community Emergency Response Team (CERT) program for residents and businesses, including offering training in a variety of languages.
- **Policy (b):** Coordinate with Caltrans and Orange County Transit Authority for inspection and maintenance of primary evacuation routes.
- **Policy (c):** Coordinate with regional transit providers to identify alternative routes, stops, and modes of transit if normal infrastructure is damaged or closed as a result of extreme events.
- **Policy (d):** Encourage collaboration with local and regional partners to support business resiliency through preparedness education, trainings, and resources.
- **Policy (e):** Update the City's Local Hazard Mitigation Plan every five years, to ensure consistency and relevancy of hazards and issues within the City, and to maintain consistency with State and/or federal legislation.
- **Policy (f):** Update the Irvine Power Outage Response Plan (annex to the Emergency Operations Plan) to identify back-up energy technologies that are more resilient to climate impacts and communications locations for critical facilities, critical infrastructure (e.g., traffic signals), sensitive uses, and community lifelines (including water, sewer, telecommunications).
- **Policy (g):** Continuously update response procedures for first responder departments to properly address new hazard events as they emerge.
- **Policy (h):** Encourage community members to sign-up for disaster alerts.
- **Policy (i):** Identify opportunities to expand access to emergency and evacuation notices via multiple sources, including voice, text, siren, radio, and outdoor broadcasts.
- **Policy (j):** Increase understanding of all energy storage technologies including critical features such as storage capacity, efficiency, duration of power, lifestyle impacts, and realistic function to provide long-term, reliable sources of power during grid outages.

**Goal 2:** Improve the community's resilience to seismic and geologic hazards by ensuring the integrity of the built environment.

#### *Objective S-2. Seismic and Geologic Hazards*

- **Policy (a):** Coordinate with Irvine Ranch Water District and Orange County Water District on emergency water storage and distribution following a liquefaction or landslide event.
- **Policy (b):** Coordinate groundwater management with Orange County Water District to avoid subsidence impacts in Irvine.
- **Policy (c):** Promote the strengthening of planned utilities, the retrofit and rehabilitation of existing weak structures and lifeline utilities, and the relocation or strengthening of certain

critical facilities to increase public safety and minimize potential damage from seismic and geologic hazards.

- **Policy (d):** Encourage replanting bare or disturbed areas after landslides to reduce erosion.

*Goal 3:* Anticipate the risks and mitigate the effects that flood hazards pose to the community.

*Objective S-3.* Flood Hazards

- **Policy (a):** Work with Orange County Flood Control District to ensure flood control facilities are adequately provided and maintained.
- **Policy (b):** Collaborate with partner agencies and municipalities to align green infrastructure projects (i.e., projects that allow for filtration of stormwater where it falls) and develop regulations for watersheds across jurisdictions to reduce impervious hard surfaces.
- **Policy (c):** Support efforts of other organizations and academic institutions to conduct studies of the impact combined riverine and coastal flooding, groundwater intrusion, and increased precipitation has on flood risk and vulnerability.
- **Policy (d):** Support efforts of other organizations and academic institutions to inventory and map vegetation on hillsides with a specific focus on improving hillside stability in the case of extreme rainfall and seasonal erosion.
- **Policy (e):** Develop or update a long-term plan to address current and future flood risk to critical facilities.
- **Policy (f):** Continue to partner with Orange County Public Works to proactively disseminate information from the “H2OC Stormwater Program” to educate home and small business owners on regulations and highlight the role that engaged residents can play to assist with community-based stormwater management.
- **Policy (g):** Ensure resilience and long-term functionality of stormwater and sewer systems.
- **Policy (h):** Encourage the use of climate-smart landscaped surfaces (e.g., permeable pavement, stormwater parks, green streets) in new and existing development to reduce runoff, minimize flood hazards, and maintain existing drainageways.
- **Policy (i):** Continue to encourage the implementation of low-impact development (e.g., rain gardens and rainwater harvesting) to reduce flood risk, filter pollutants, and replenish groundwater over time.
- **Policy (j):** Continue to promote the application of nature-based solutions (e.g., greenways, tree trenches) to improve resilience and preserve biodiversity.
- **Policy (k):** Coordinate with other agencies to increase the public awareness of flooding, stormwater management, and drought management issues and techniques for residents to mitigate those challenges on their property.

*Goal 4:* Safeguard the community from the threat of urban and wildfire hazards.

*Objective S-4.* Wildfire Hazards

- **Policy (a):** Coordinate with regional partners to explore and deploy fire detection cameras as part of a wildfire monitoring network.
- **Policy (b):** Coordinate with surrounding municipalities and Orange County to enhance evacuation and emergency management protocols, agreements, and processes.

- **Policy (c):** Coordinate with City of Irvine and Orange County Fire Authority first responders to create a rapid response plan to secure hospital, nursing, and assisted living facilities, especially those located within fire hazard severity zones.
- **Policy (d):** Work with the Irvine Ranch Water District to ensure the long-term integrity of water supplies for the City.
- **Policy (e):** Continue to work with the Orange County Health Care Agency Department of Public Health and other applicable health care agencies to convey notifications to the public regarding recommendations for outdoor activities, cancelled sporting events, and other recommendations for public health and safety during periods of poor air quality.
- **Policy (k):** Ensure that all new development and redevelopment in the Very High Fire Hazard Severity Zone is developed in compliance with minimum structural fire protection standards in the adopted edition of the California Fire and Building Codes, applicable state or local fire safety and defensible space regulations or standards, and any applicable fire protection or risk reduction measures identified in locally adopted plans. (See Action J-4-8 and Action J-4-15)
- **Policy (l):** Ensure future neighborhoods are designed with adequate fire access and evacuation egress in the event of an emergency. (See Action J-4-9)
- **Policy (m):** Avoid expanding new residential development, essential public facilities, and critical infrastructure in areas subject to extreme threat or high risk, such as Very High Fire Hazard Severity Zones, or areas classified by the California Department of Forestry and Fire Protection as having an Extreme Threat classification on Fire Threat Maps, unless all feasible risk reduction measures have been incorporated into project designs or conditions of approval. Example risk reduction measures include, but are not limited to, fuel modification zones or defensible space, structure hardening, enclosed foundations, and highly visible street signs and property addresses.
- **Policy (n):** Ensure adequate water supply for fire suppression and ensure that the water supply is protected from wildfire impacts, including providing back-up power, with priority for solar and battery storage back-up supplies.
- **Policy (o):** Ensure future neighborhoods are designed with sufficient water pressure to maintain fire flow. (See Action J-4-8 and Action J-4-16)
- **Policy p):** Encourage the use of underground power lines for new developments.
- **Policy (q):** Ensure that private development subject to the California Environmental Quality Act evaluate hazard impacts to ensure adequate evacuation in the event of an emergency, and if required, develop standards for the protection of the community.
- **Policy (r):** Review development proposals and coordinate with regional transportation agencies to ensure that multiple evacuation routes are available under a range of scenarios and identify alternative routes that are accessible to people without life-supporting resources.
- **Policy (s):** Coordinate with fire protection, emergency service, and water providers to reassess fire hazards and future availability of water supplies after wildfire events to adjust fire prevention and suppression needs, as necessary, for both short- and long-term fire prevention.
- **Policy (t):** Coordinate evaluations for redevelopment of areas that have been burned after a large fire.
- **Policy (u):** Continue the long-term maintenance of fire reduction projects; including but not limited to, a roadside fuel reduction plan, defensible space clearances (including fuel beaks)

around structures, subdivisions, and other development in the Very High Fire Hazard Severity Zone.

- **Policy (v):** Maintain established response time standards for fire and life safety service.
- **Policy (w):** Encourage the continued development, implementation, and public awareness of fire prevention programs.

### 4.15.3 Significance Determination Thresholds

The City has adopted Appendix G of the State California Environmental Quality Act (CEQA) Guidelines as the significance thresholds for wildfire. A project would normally have a significant effect on the environment if the project would:

- 1) Substantially impair an adopted emergency response plan or emergency evacuation plan;
- 2) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire;
- 3) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment; or
- 4) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

### 4.15.4 Methodology

The potential for significant impacts associated with the project has been determined based upon review of existing secondary source information and data relative to wildfires available for the City.

### 4.15.5 Topic 1: Emergency Response Plans

*Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?*

#### 4.15.5.1 Impact Analysis

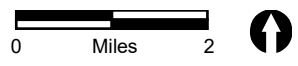
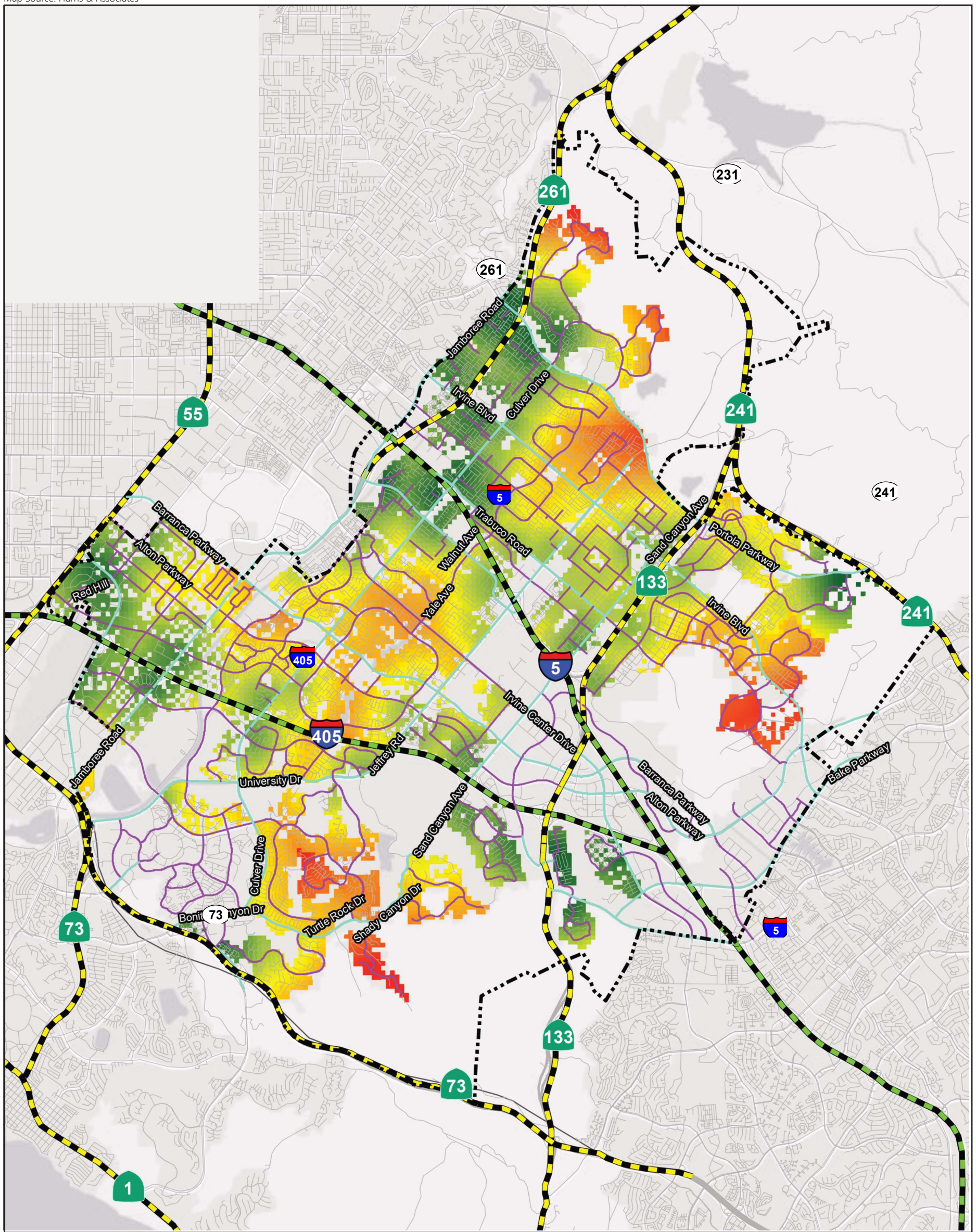
The project would facilitate future development consisting of residential uses required to meet the City's Regional Housing Needs Assessment (RHNA) requirement, nonresidential uses within the Great Park, continued development of nonresidential uses at the same intensities as permitted under the existing General Plan, and the extension of Ada roadway.

Consistent with the Best Practices for Analyzing and Mitigating Wildfire Impacts of Development Projects Under the California Environmental Quality Act Memorandum (Bonta Memo) (State of California Office of the Attorney General 2022), the City has assessed potential project impacts with respect to wildfire. Under Section IV C. Analyzing the Project's Impact on Evacuation and Emergency

Access, the Bonta Memo notes that a lead agency would be best positioned to ensure that a proposed development project facilitates emergency access and ease constraints on evacuation with an assessment of evacuation modelling and planning prior to project approval. As several historical wildfires in the Santa Ana Mountains and San Joaquin Hills have impacted Irvine, resulting in evacuations and indirect effects from smoke and traffic congestion, the City has prepared an Emergency Evacuation Route Analysis as part of the Safety Element to assess the impacts of buildout of the project on emergency access and evacuation. Figure 4.15-1 presents residential evacuation routes identified in the City.

Both the updated Safety Element and the 2022 EOP Evacuation Annex (City of Irvine 2019) include the Evacuation Zones Map for the City and are key resources in identifying emergency evacuation routes in the community based on evacuation zones. The Evacuation Zones Map in the EOP identifies appropriate evacuation routes based on pre-identified community areas (evacuation management zones) that may be evacuated in phases, but acknowledges that routes may not necessarily be used during an evacuation as circumstances may dictate alternate routes. Authorities would jointly determine evacuation routes and traffic flow direction based on incident circumstances. The 2020 LHMP (City of Irvine 2020) and the updated Safety Element also provide a comprehensive assessment of the threats the City faces from natural and human-caused hazard events and identifies a coordinated strategy to reduce the impacts of these threats to the City.

The Emergency Evacuation Route Analysis both in the LHMP and in the Safety Element build upon the evacuation management zones and LHMP and identify potential vulnerabilities in the City in the event of a wildfire. Evacuation route viability is largely determined by the location of the hazard. Because Irvine is surrounded by Very High FHSZs to the south, northeast, east, and north/northwest, the City considered the following four wildfire scenarios: (1) a fire originating in the south, (2) a fire originating in the northeast, (3) a fire originating in the east, and (4) a fire originating in the northwest. Residential parcels lacking at least two points of egress were also identified in the Emergency Evacuation Route Analysis to further identify potential vulnerabilities in Irvine. The results of the analysis indicate that residents closest to the southern, northern, and eastern extents of the City are most vulnerable given the distance and number of roads needed to access an outbound road. However, the City has identified adequate evacuation routes in various wildfire scenarios for the vulnerable residents because of modelling and would continue to identify evacuation locations on-site during emergency situations. Furthermore, consistent with Objective S-4 and Policy S-4(I), the City would ensure that future neighborhoods are designed with adequate fire access and evacuation egress in the event of an emergency. Prior to construction, future development projects would also be required to prepare and submit a plan check to the City for approval of adequate emergency access. Approval of new development throughout the City would be conditioned by Standard Condition 3.17 and Standard Condition 4.9 for review by the Irvine Police Department and OCFA to ensure adequate emergency access and compliance with the Emergency Access Plan requirements. Future development would also be designed, constructed, and maintained in accordance with applicable standards associated with the EOP and Emergency Access Plan, including vehicular access to ensure that adequate emergency access and evacuation would be maintained. This is consistent with Action S-4(6) of the updated Safety Element, which requires the City to continue to involve the Orange County Fire Authority in the review of development applications to minimize fire hazards.



- City Boundary
- Road Type**
- Collector
- Arterial
- Freeway
- Highway
- Residential Evacuation Vulnerability Score**
- Higher
- Lower

FIGURE 4.15-1 Residential Evacuation

Policy S-4(r) would also require the City to review development proposals and coordinate with regional transportation agencies to ensure that multiple evacuation routes are available under a range of scenarios and identify alternative routes that are accessible to people without life-supporting resources. The City's Safety Element also includes Policy S-4(q), which further requires that private development subject to the CEQA evaluates hazard impacts to ensure adequate evacuation in the event of an emergency, and if required, develop standards for the protection of the community. Furthermore, the Safety Element Update would include the objectives and policies that would further support the City's goal of providing adequate emergency response. For example, Objective S-1 aims to protect and prepare the community for natural and human-caused hazards, with supporting policies aimed at improving the City's response to such hazards (including wildfires). Therefore, because buildout of the project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan, impacts would be less than significant.

#### 4.15.5.2 Significance of Impacts

Impacts would be less than significant. No mitigation is required.

#### 4.15.5.3 Mitigation

Impacts would be less than significant. No mitigation would be required.

### 4.15.6 Topic 2: Wildfire

*Due to slope, prevailing winds, and other factors, would the project exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?*

#### 4.15.6.1 Impact Analysis

The project would facilitate future development consisting of residential uses required to meet the City's RHNA requirement, nonresidential uses within the Great Park, nonresidential uses at the same intensities as permitted under the existing General Plan, and the extension of Ada roadway.

As shown in Figure 4.7-2, most of the City consists of urban areas that are not designated as a fire severity zone. There is no land within Focus Areas 1 and 2 that are designated with a fire severity rating. Although approximately 1,875 acres of land located in Focus Area 3 is designated as Very High FHSZ, future housing development would not be located within this area of Focus Area 3. In the unlikely case that development near this area did occur, it would be designed to be consistent with all applicable fire safety requirements. Future development and redevelopment could also occur outside of the proposed focus areas, which may be located along the City boundaries adjacent to land identified as having Moderate, High, or Very High FHSZ designations. For instance, areas within the northeastern portion of the City, which extends through Orange County and into Riverside County to the east, are designated as Very High FHSZ. However, all new site-specific development in these areas is required to prepare a fuel modification plan before approval of tentative maps and grading permits, per City Standard Condition 2.19 Open Space Fuel Modification and Standard



Condition 3.14 HOA/Fuel Modification (PPPs Wildfire-1 and Wildfire-2). Furthermore, the Safety Element Update would include objectives and policies related to preventing and minimizing impacts that would further support the City's goal of responding to, and minimizing the effects of, wildfires. For example, Goal S-4 aims to safeguard the community from the threat of urban and wildfires with supporting policies aimed at improving responses to wildfires and using design techniques (such as fuel modification zones) to prevent urban and wildfires. Therefore, the project would not expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire, and impacts would be less than significant.

#### 4.15.6.2 Significance of Impacts

Impacts would be less than significant. No mitigation is required.

#### 4.15.6.3 Mitigation

Impacts would be less than significant. No mitigation would be required.

### 4.15.7 Topic 3: Infrastructure

*Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?*

#### 4.15.7.1 Impact Analysis

The proposed project would facilitate future development consisting of residential uses required to meet the City's RHNA requirement, nonresidential uses within the Great Park, continued development of nonresidential uses at the same intensities as permitted under the existing General Plan, and the extension of Ada roadway. Implementation of the Ada roadway extension would serve to improve circulation within this area of the City, which would improve emergency evacuation activities in the event of an emergency, including a fire.

As described in Section 4.14.5, utility infrastructure improvements that are anticipated to serve future development facilitated by the General Plan Update and buildout of the Great Park would be available in adjacent roadways. Per City Standard Condition 4.9 Emergency Access Inspection, the Police Department and the OCFA would ensure compliance with the Emergency Access Plan requirements which may result in the potential inclusion of new roadways with subsequent projects that would result in impacts to the environment or that may exacerbate fire risk. However, all impacts associated with infrastructure improvements, including any required measures to address fire safety, would be evaluated in their respective subsequent environmental documents for discretionary projects, including application of the City's Municipal Code and existing City building and fire code requirements. As detailed in Section 5-9-401 of the Municipal Code, new buildings located in any FHSZ or any Wildland-Urban Interface Fire Area would be subject to the materials and construction methods detailed in Chapter 7A of the CBC to reduce risks associated with wildfire exposure and would have a fuel modification plan reviewed and submitted to a Fire Code Official prior to approvals and permit issuance. This is consistent with City Standard Condition 2.19 Open Space Fuel

Modification, Standard Condition 3.14 HOA/Fuel Modification Standard Condition 3.17 Emergency Access Plan, and Standard Condition 4.9 Emergency Access Inspection (PPPs Wildfire-1 through Wildfire-4). All new development would also be subject to review to ensure that adequate defensible space and fuel management zones would be implemented to avoid potential ignition risks around the associated infrastructure, such as power lines or other utilities. Furthermore, the Safety Element Update would include objectives and policies further supporting the City's goal of ensuring adequate infrastructure with respect to wildfires. For example, Goal SE S-4 aims to safeguard the community from wildfire impacts, with supporting policies aimed at ensuring that new development within areas prone to wildfires are designed in a manner that such impacts would be minimized. Therefore, compliance with applicable PPPs would ensure that installation or maintenance of associated infrastructure associated with the project would not exacerbate fire risk, and impacts would be less than significant.

#### 4.15.7.2 Significance of Impacts

Impacts would be less than significant. No mitigation is required.

#### 4.15.7.3 Mitigation

Impacts would be less than significant. No mitigation is required.

### 4.15.8 Topic 4: Flooding or Landslide

*Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?*

#### 4.15.8.1 Impact Analysis

The proposed project would facilitate future development consisting of residential uses required to meet the City's RHNA requirement, nonresidential uses within the Great Park, nonresidential uses at the same intensities as permitted under the existing General Plan, and the extension of Ada roadway.

As described in Section 4.8 above, future development would be required to demonstrate that site-specific projects would be elevated out of the floodplain and would not affect the conveyance of flood waters through elevated building pads, and/or other compliance measures as specified by FEMA. City Standard Condition 2.11 (Special Flood Hazard Area), 3.4 (Special Flood Hazard Area), and 4.5 (Flood Certification for Finished Construction) (PPPs Wildfire-5 through Wildfire-7) would require that prior to the issuance of a precise grading permit for any lot or parcel within a FHSZ, the Floodplain Administrator and Chief Building Official would be sent a final approved Letter of Map Revision, Preliminary Elevation Certificates, and/or a floodproofing certificate. This would reduce risks associated with flooding. Moreover, local guidance prohibits development within a flood zone unless adequate assurances are provided against flood hazards (see Zoning Ordinance Section 5-2-24 Standards of construction for flood hazard zones). These include anchoring structures, constructing structures with materials and utility equipment resistant to flood damage, constructing the structure above the base flood elevation, and certification by a registered professional engineer or surveyor, and verification by the City's Chief Building Official. The Safety Element Update also includes

objectives and policies that further support the City's goals related to flood prevention. For example, Goal S-3 aims to anticipate the risks and mitigate the effects that flood hazards pose to the community, with supporting policies aimed at collaborating with local agencies to address flooding potential through long-range plan and infrastructure improvements.

As noted in Chapter 4.5, Geology and Soils, there is the potential for landslides in the steeper portions of the foothills of the Santa Ana Mountains to the northeast of the City and the San Joaquin Hills to the southwest of the City. Even these areas, however, are designated as having a low likelihood of a landslide under other conditions, such as post-fire instability. However, future development under the project would be required to adhere to safety requirements in the Municipal Code requirements related to the City's Building Code, Grading Code, and Grading Manual which would reduce impacts related to landslide to a level less than significant. Furthermore, the updated Safety Element includes Goal 2, which aims to improve the community's resilience to seismic and geologic hazards with supporting policies aimed at coordination with local water agencies to reduce liquefaction and subsidence events and to strengthen utilities to minimize such impacts to local infrastructure. As such, the updated Safety Element would further support the City's goals of addressing seismic hazards, including those related to liquefaction and subsidence, throughout the City and within its infrastructure. Therefore, compliance with applicable PPPs would ensure that the project would not increase risks associated with post-fire flooding or landslides, and impacts would be less than significant. Compliance with and goals, objectives, and policies in the updated Safety Element would serve to further lessen such impacts.

#### 4.15.8.2 Significance of Impacts

Impacts would be less than significant. No mitigation is required.

#### 4.15.8.3 Mitigation

Impacts would be less than significant. No mitigation would be required.

### 4.15.9 Cumulative Analysis

As defined in Section 15130 of the State CEQA Guidelines, cumulative impacts are the incremental effects of an individual project when viewed in connection with the effects of past, current, and probable future projects within the cumulative impact area for wildfire. The study area for the assessment of cumulative impacts related to wildfire is the City. New development throughout the City would be conditioned by Standard Condition 3.17 (Emergency access plan) and Standard Condition 4.9 (Emergency access test) for review by the Irvine Police Department and OCFA to ensure adequate emergency access and to ensure compliance with the Emergency Access Plan requirements. Future development would be designed, constructed, and maintained in accordance with applicable standards associated with the Safety Element Update, LHMP, EOP, and Emergency Access Plan, including vehicular access to ensure that adequate emergency access and evacuation would be maintained. Future development near a wildfire severity zone would be required to prepare a fuel modification plan before approval of tentative maps and grading permits. New development and redevelopment would also need to consider water supply, access, building ignition and fire resistance, fire protection systems and equipment, defensible space, and vegetation management,

and demonstrate consistency with the requirements of CBC Chapter 7A, the International Wildland-Urban Interface Code, and the City Municipal Code. All new development would also be subject to review to ensure that adequate defensible space and fuel management zones would be implemented to avoid potential ignition risks around the associated infrastructure, such as power lines or other utilities. Future development would also be required to demonstrate that they would not increase risks associated with post-fire flooding or landslides. Furthermore, the updated Safety Element includes goals, objectives, and policies addressing wildfires that would further support the City's goals of addressing wildfire events. Therefore, the project would not contribute to a cumulative impact related to wildfires.