

General Plan Safety Element Assessment

Board of Forestry and Fire Protection



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Purpose and Background

Upon the next revision of the housing element on or after January 1, 2014, the safety element is required to be reviewed and updated as necessary to address the risk of fire for land classified as state responsibility areas and land classified as very high fire hazard severity zones. (Gov. Code, § 65302, subd. (g)(3).)

The safety element is required to include:

- Fire hazard severity zone maps available from the Department of Forestry and Fire Protection.
- Any historical data on wildfires available from local agencies or a reference to where the data can be found.
- Information about wildfire hazard areas that may be available from the United States Geological Survey.
- The general location and distribution of existing and planned uses of land in very high fire hazard severity zones (VHFHSZs) and in state responsibility areas (SRAs), including structures, roads, utilities, and essential public facilities. The location and distribution of planned uses of land shall not require defensible space compliance measures required by state law or local ordinance to occur on publicly owned lands or open space designations of homeowner associations.
- The local, state, and federal agencies with responsibility for fire protection, including special districts and local offices of emergency services. (Gov. Code, § 65302, subd. (g)(3)(A).)

Based on that information, the safety element shall include goals, policies, and objectives that protect the community from the unreasonable risk of wildfire. (Gov. Code, § 65302, subd. (g)(3)(B).) To carry out those goals, policies, and objectives, feasible implementation measures shall be included in the safety element, which include but are not limited to:

- Avoiding or minimizing the wildfire hazards associated with new uses of land.
- Locating, when feasible, new essential public facilities outside of high fire risk areas, including, but not limited to, hospitals and health care facilities, emergency shelters, emergency command centers, and emergency communications facilities, or identifying construction methods or other methods to minimize damage if these facilities are located in the SRA or VHFHSZ.
- Designing adequate infrastructure if a new development is located in the SRA or VHFHSZ, including safe access for emergency response vehicles, visible street signs, and water supplies for structural fire suppression.
- Working cooperatively with public agencies with responsibility for fire protection. (Gov. Code, § 65302, subd. (g)(3)(C).)

The safety element shall also attach or reference any fire safety plans or other documents adopted by the city or county that fulfill the goals and objectives or contains the information required above. (Gov. Code, § 65302, subd. (g)(3)(D).) This might include Local Hazard Mitigation Plans, Unit Fire Plans, Community Wildfire Protection Plans, or other plans.

There are several reference documents developed by state agencies to assist local jurisdictions in updating their safety elements to include wildfire safety. The Fire Hazard Planning, General Plan Technical Advice Series from the Governor's Office of Planning and Research, referenced in Government Code section 65302, subdivision (g)(3) and available at

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(916) 322-2318

https://www.opr.ca.gov/docs/Final_6.26.15.pdf

provides policy guidance, information resources, and fire hazard planning examples from around California that shall be considered by local jurisdictions when reviewing the safety element of its general plan.

The Board of Forestry and Fire Protection (Board) utilizes this Safety Element Assessment in the Board's review of safety elements under Government Code section 65302.5. At least 90 days prior to the adoption or amendment of their safety element, counties that contain SRAs and cities or counties that

contain VHFHSZs shall submit their safety element to the Board. (Gov. Code, § 65302.5, subd. (b).) The Board shall review the safety element and respond to the city or county with its findings regarding the uses of land and policies in SRAs or VHFHSZs that will protect life, property, and natural resources from unreasonable risks associated with wildfires, and the methods and strategies for wildfire risk reduction and prevention within SRAs or VHFHSZs. (Gov. Code, § 65302.5, subd. (b)(3).)

The CAL FIRE Land Use Planning team provides expert fire protection assistance to local jurisdictions statewide. Fire captains are available to work with cities and counties to revise their safety elements and enhance their strategic fire protection planning.

Methodology for Review and Recommendations

Utilizing staff from the CAL FIRE Land Use Planning team, the Board has established a standardized method to review the safety element of general plans. The methodology includes

- 1) reviewing the safety element for the requirements in Government Code section 65302, subdivision (g)(3)(A),
- 2) examining the safety element for goals, policies, objectives, and implementation measures that mitigate the wildfire risk in the planning area (Gov. Code, § 65302, subd. (g)(3)(B) & (C)), and
- 3) making recommendations for methods and strategies that would reduce the risk of wildfires (Gov. Code, § 65302.5, subd. (b)(3)(B)).

The safety element will be evaluated against the attached Assessment, which contains questions to determine if a safety element meets the fire safety planning requirements outlined in Government Code, section 65302. The reviewer will answer whether or not a submitted safety element addresses the required information, and will recommend changes to the safety element that will reduce the wildfire risk in the planning area. These recommended changes may come from the list of sample goals, policies, objectives, and implementation measures that is included in this document after the Assessment, or may be based on the reviewer's knowledge of the jurisdiction in question and their specific wildfire risk. By answering the questions in the Assessment, the reviewer will determine if the jurisdiction's safety element has adequately addressed and mitigated their wildfire risk. If it hasn't, any specific recommendations from the reviewer will assist the jurisdiction in revising the safety element so that it does.

Once completed, the Assessment should provide clear guidance to a city or county regarding any areas of deficiency in the safety element as well as specific goals, policies, objectives, and implementation measures the Board recommends adopting in order to mitigate or reduce the wildfire threat in the planning area.

General Plan Safety Element Assessment

Jurisdiction: Villa Park	Notes:	CAL FIRE Unit: Riverside	Date Received: 09/03/2019
County: Orange	LUPP Reviewer: Marcus Hernandez	UNIT CONTACT: Chief Bratcher	Date Reviewed: 09/03/2019

Background Information Summary Specific background information about fire hazards in each jurisdiction. <i>Indicate whether the safety element includes the specified information. If YES, indicate in the comments where that information can be found; if NO, provide recommendations to the jurisdiction regarding how best to include that information in their revised safety element.</i>			
	Yes	No	Comments/Recommendations
Are Fire Hazard Severity Zones Identified? <i>CAL FIRE or Locally Adopted Maps</i>	X		<ul style="list-style-type: none"> Exhibit VI-3: Very High Fire Hazard Severity Zones - Villa Park (Page VI-10) Exhibit VI-2: Very High Fire Hazard Severity Zones - Orange County (Page VI-9)
Is historical data on wildfires or a reference to where the data can be found, and information about wildfire hazard areas that may be available from the United States Geological Survey, included?	X		<ul style="list-style-type: none"> "Orange County has an extensive history with wildland fire." (Page VI-6) Historical data about wildfires for Orange County can be found in the LHMP. (Figure 6 - Large Fires in Orange County 1914-2015) (Page 63-64) "The Orange County Local Hazard Mitigation Plan (OCLHMP)4 prepared in 2015 by the County of Orange and the Orange County Fire Authority (OCFA) includes a thorough analysis of wildland fire hazard issues (Section 3.2 beginning on p. 50) and is incorporated by reference into this Villa Park Safety Element." (Page VI-7)
Has the general location and distribution of existing and planned uses of land in very high fire hazard severity zones (VHFHSZs) and in state responsibility areas (SRAs), including structures, roads, utilities, and essential public facilities, been identified?	X		<ul style="list-style-type: none"> "The Very High FHSZ within Villa Park is limited to approximately 42 acres in the northern portion of the city, south of E. Cerro Villa Drive. This area is zoned for low-density residential use and is developed with single-family homes." (Page VI-7)
Have local, state, and federal agencies with responsibility for fire protection, including special districts and local offices of emergency services, been identified?	X		<ul style="list-style-type: none"> "The Orange County Fire Authority (OCFA), a joint powers agency, provides fire protection within Villa Park under contract to the City as a member agency." (Page VI-7)
Are other fire protection plans, such as Community Wildfire Protection Plans, Local Hazard Mitigation Plans, CAL FIRE Unit or Contract County Fire Plans, referenced or incorporated into the Safety Element?	X		<ul style="list-style-type: none"> "The Orange County Local Hazard Mitigation Plan (OCLHMP)4 prepared in 2015 by the County of Orange and the Orange County Fire Authority (OCFA) includes a thorough analysis of wildland fire hazard issues (Section 3.2 beginning on p. 50) and is incorporated by reference into this Villa Park Safety Element." (Page VI-7) OCFA Unit Strategic Fire Plan (Page VI-8)

Any other relevant information regarding fire hazards in SRAs or VHFHSZs?	<ul style="list-style-type: none"> • The City of Villa Park is fully-developed in the VHFHSZ. • The City of Villa Park is completely encapsulated by the City of Orange.
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Goals, Policies, Objectives, and Feasible Implementation Measures
A set of goals, policies, and objectives based on the above information to protect the community from unreasonable risk of wildfire and implementation measures to accomplish those stated goals, policies, and objectives.
Critically examine the submitted safety element and determine if it is adequate to address the jurisdiction's unique fire hazard. Answer YES or NO appropriately for each question below. If the recommendation is irrelevant or unrelated to the jurisdiction's fire hazard, answer N/A. For NO, provide information in the Comments/Recommendations section to help the jurisdiction incorporate that change into their safety element revision. This information may utilize example recommendations from Sample Safety Element Recommendations and Fire Hazard Planning in Other Elements of the General Plan below, may indicate how high of a priority this recommendation is for a jurisdiction, or may include other jurisdiction-specific information or recommendations.

Avoiding or minimizing the wildfire hazards associated with new uses of land.

	Yes	No	N/A	Comments/Recommendations
<p>Land Use</p> <p>Does local ordinance require development standards that meet or exceed title 14, CCR, division 1.5, chapter 7, subchapter 2, articles 1-5 (commencing with section 1270) (SRA Fire Safe Regulations) and title 14, CCR, division 1.5, chapter 7, subchapter 3, article 3 (commencing with section 1299.01) (Fire Hazard Reduction Around Buildings and Structures Regulations) for SRAs and/or VHFHSZs?</p>	X			<ul style="list-style-type: none"> • "Although Villa Park is nearly built-out, new development must comply with OCFA Guideline B-09 Fire Master Plans for Commercial & Residential Development or Guideline B-09A Fire Safe Development in State Responsibility Areas, and Guideline C-05 Vegetation Management Guideline Technical Design for New Construction Fuel Modification Plans and Maintenance Program, which establish requirements for reducing fire risk." (Page VI-8) • CODE OF ORDINANCES City of VILLA PARK, CALIFORNIA Chapter XI - FIRE PREVENTION, Sec. 11-1.3. – Amendments, Section 4906.3
<p>Are there goals and policies to avoid or minimize new residential development in VHFHSZs?</p>			X	<ul style="list-style-type: none"> • "The Very High FHSZ within Villa Park is limited to approximately 42 acres in the northern portion of the city, south of E. Cerro Villa Drive. This area is zoned for low-density residential use and is developed with single-family homes. No essential public facilities or infrastructure is within this area." (Page VI-7) • Villa Park is built-out in the VHFHSZ.
<p>Has fire safe design been incorporated into future development requirements?</p>	X			<ul style="list-style-type: none"> • Page VI-8: "Although Villa Park is nearly built-out, new development must comply with OCFA Guideline B-09 Fire Master Plans for Commercial & Residential Development or Guideline B-09A Fire Safe Development in State

				<p>Responsibility Areas, and Guideline C-05 Vegetation Management Guideline Technical Design for New Construction Fuel Modification Plans and Maintenance Program, which establish requirements for reducing fire risk.”</p> <ul style="list-style-type: none"> • Policy S #10: Continue to identify and evaluate new potential fire hazards, fire hazard areas, and fire prevention strategies and practices based upon current fire hazard mapping and State regulations, and mitigate existing non-conforming development to contemporary fire-safe and OCFA standards, including road standards and vegetative hazards where feasible. (Page VI-16) • CODE OF ORDINANCES City of VILLA PARK, CALIFORNIA, Chapter IX - CALIFORNIA CODES, ARTICLE 9-1. - CALIFORNIA CODES, Sec. 9-2.4. - Amendments to California Building Code
Are new essential public facilities located outside high fire risk areas, such as VHFHSZs, when feasible?	X			<ul style="list-style-type: none"> • “The Very High FHSZ within Villa Park is limited to approximately 42 acres in the northern portion of the city, south of E. Cerro Villa Drive. This area is zoned for low-density residential use and is developed with single-family homes. No essential public facilities or infrastructure is within this area.” (Page VI-7) • Villa Park is built-out in the VHFHSZ.
Are there plans or actions identified to mitigate existing non-conforming development to contemporary fire safe standards, in terms of road standards and vegetative hazard?	X			<ul style="list-style-type: none"> • Policy S #10: Continue to identify and evaluate new potential fire hazards, fire hazard areas, and fire prevention strategies and practices based upon current fire hazard mapping and State regulations, and mitigate existing non-conforming development to contemporary fire-safe and OCFA standards, including road standards and vegetative hazards where feasible. (Page VI-16)
Does the plan include policies to evaluate re-development after a large fire?	X			<ul style="list-style-type: none"> • Policy S #10: Continue to identify and evaluate new potential fire hazards, fire hazard areas, and fire prevention strategies and practices based upon current fire hazard mapping and State regulations, and mitigate existing non-conforming development to contemporary fire-safe and OCFA standards, including road standards and vegetative hazards where feasible. Evaluate redevelopment after a large fire. (Page VI-16)
Fuel Modification				

<p>Is fuel modification around homes and subdivisions required for new development in SRAs or VHFHSZs?</p>	<p>X</p>			<ul style="list-style-type: none"> • Policy S #10: Continue to identify and evaluate new potential fire hazards, fire hazard areas, and fire prevention strategies and practices based upon current fire hazard mapping and State regulations, and mitigate existing non-conforming development to contemporary fire-safe and OCFA standards, including road standards and vegetative hazards where feasible. (Page VI-16) • Action Program 6: Continue to implement the current requirements of the California Building Code and the Orange County Fire Authority related to fire protection in all construction. (Page VI-17) • OCFA Guideline C-05 Vegetation Management Guideline Technical Design for New Construction Fuel Modification Plans and Maintenance Program: "The interior portions of a community and roadsides may not be standard FMZs, but are subject to planting restrictions, irrigation, and maintenance requirements." • CODE OF ORDINANCES City of VILLA PARK, CALIFORNIA, Chapter XI - FIRE PREVENTION, Sec. 11-1.3. - Amendments., Chapter 3 General Requirements, 304.1.2 Vegetation. Type, amount, or arrangement of weeds, grass, vines or other growth that is capable of being ignited and endangering property needing to comply with OCFA Guidelines, shall be cut, thinned, and removed by the owner or occupant of the premises in accordance with OCFA Guideline C-05 "Vegetation Management Guideline—Technical Design for New Construction, Fuel Modification Plans, and Maintenance Program. Vegetation clearance requirement in urban-wildland interface areas shall be in accordance with Chapter 49.
<p>Are fire protection plans required for new development in VHFHSZs?</p>			<p>X</p>	<ul style="list-style-type: none"> • "The Very High FHSZ within Villa Park is limited to approximately 42 acres in the northern portion of the city, south of E. Cerro Villa Drive. This area is zoned for low-density residential use and is developed with single-family homes." (Page VI-7) • Villa Park is built-out in the VHFHSZ.
<p>Does the plan address long term maintenance of fire hazard reduction projects, including community fire breaks and private road and public road clearance?</p>	<p>X</p>			<ul style="list-style-type: none"> • Policy S #10: Continue to identify and evaluate new potential fire hazards, fire hazard areas, and fire prevention strategies and practices based upon current fire hazard mapping and State regulations, and mitigate

				<p>existing non-conforming development to contemporary fire-safe and OCFA standards, including road standards and vegetative hazards where feasible. (Page VI-16)</p> <ul style="list-style-type: none"> • Action Program 6: Continue to implement the current requirements of the California Building Code and the Orange County Fire Authority related to fire protection in all construction. (Page VI-17) • OCFA Guideline C-05 Vegetation Management Guideline Technical Design for New Construction Fuel Modification Plans and Maintenance Program: "The interior portions of a community and roadsides may not be standard FMZs, but are subject to planting restrictions, irrigation, and maintenance requirements."
Access				
Is there adequate access (ingress, egress) to new development in VHFHSZs?	X			<ul style="list-style-type: none"> • "The street circulation system is adequate to handle any necessary deployment of emergency vehicles and evacuation of residents." (Page VI-14) • Policy S #10: Continue to identify and evaluate new potential fire hazards, fire hazard areas, and fire prevention strategies and practices based upon current fire hazard mapping and State regulations, and mitigate existing non-conforming development to contemporary fire-safe and OCFA standards, including road standards and vegetative hazards where feasible. (Page VI-16) • Action Program 6: Continue to implement the current requirements of the California Building Code and the Orange County Fire Authority related to fire protection in all construction. (Page VI-17) • OCFA Guideline B-09 Fire Master Plans for Commercial & Residential Development SECTION 2: FIRE ACCESS ROADWAYS
Are minimum standards for evacuation of residential areas in VHFHSZs defined?	X			<ul style="list-style-type: none"> • OCFA Guideline B-09: Fire Access Roadways (4) "Width of Fire Access Roads - The minimum width of a fire access roadway is 20 feet. If a center median is included, the required width shall be provided on both sides of the median. CFC 503.2.1, 503.2.2, 503.4" • "The street circulation system is adequate to handle any necessary deployment of emergency vehicles and evacuation of residents." (Page VI-14)

<p>If areas exist with inadequate access/evacuation routes, are they identified? Are mitigation measures or improvement plans identified?</p>			X	<ul style="list-style-type: none"> • “The street circulation system is adequate to handle any necessary deployment of emergency vehicles and evacuation of residents.” (Page VI-14) • No areas have been identified with inadequate access or evacuation in the City of Villa Park.
<p>Are there policies or programs promoting public outreach about defensible space or evacuation routes? Are there specific plans to reach at-risk populations?</p>	X			<ul style="list-style-type: none"> • Policy S #9: Maintain an Insurance Service Organization (ISO) rating of 3 or less. (Page VI-16) • Action Program 7: Make available fire hazard safety information, including defensible space and evacuation routes, for residents and developers in electronic format. (Page VI-17) • OCFA participates in the Ready, Set, Go program.
Fire Protection				
<p>Does the plan identify future water supply for fire suppression needs?</p>	X			<ul style="list-style-type: none"> • “Local water storage is adequate in quantity and well-located. Fire hydrant distribution meets or exceeds all applicable codes.” (Page VI-14) • Policy S #8: Maintain an adequate level of fire protection services. (Page VI-16) • Policy S #9: Maintain an Insurance Service Organization (ISO) rating of 3 or less. (Page VI-16) • Action Program 6: Continue to implement the current requirements of the California Building Code and the Orange County Fire Authority related to fire protection in all construction. (Page VI-17) • OCFA Guideline B-09 Fire Master Plans for Commercial & Residential Development SECTION 8: HYDRANT AND WATER AVAILABILITY REQUIREMENTS
<p>Does new development have adequate fire protection?</p>	X			<ul style="list-style-type: none"> • Policy S #8: Maintain an adequate level of fire protection services. (Page VI-16)
Develop adequate infrastructure if a new development is located in SRAs or VHFHSZs.				
	Yes	No	N/A	Comments/Recommendations
<p>Does the plan identify adequate infrastructure for new development related to:</p>				
<p>Water supply and fire flow?</p>	X			<ul style="list-style-type: none"> • Policy S #8: Maintain an adequate level of fire protection services. (Page VI-16) • Policy S #9: Maintain an Insurance Service Organization (ISO) rating of 3 or less. (Page VI-16)

				<ul style="list-style-type: none"> • Action Program 6: Continue to implement the current requirements of the California Building Code and the Orange County Fire Authority related to fire protection in all construction. (Page VI-17) • OCFA Guideline B-09 Fire Master Plans for Commercial & Residential Development SECTION 8: HYDRANT AND WATER AVAILABILITY REQUIREMENTS • "Local water storage is adequate in quantity and well-located. Fire hydrant distribution meets or exceeds all applicable codes." (Page VI-14)
Location of anticipated water supply?	X			<ul style="list-style-type: none"> • Policy S #8: Maintain an adequate level of fire protection services. (Page VI-16) • Policy S #9: Maintain an Insurance Service Organization (ISO) rating of 3 or less. (Page VI-16) • Action Program 6: Continue to implement the current requirements of the California Building Code and the Orange County Fire Authority related to fire protection in all construction. (Page VI-17) • OCFA Guideline B-09 Fire Master Plans for Commercial & Residential Development SECTION 8: HYDRANT AND WATER AVAILABILITY REQUIREMENTS • "Local water storage is adequate in quantity and well-located. Fire hydrant distribution meets or exceeds all applicable codes." (Page VI-14)
Maintenance and long-term integrity of water supplies?	X			<ul style="list-style-type: none"> • Policy S #8: Maintain an adequate level of fire protection services. (Page VI-16) • Policy S #9: Maintain an Insurance Service Organization (ISO) rating of 3 or less. (Page VI-16)
Evacuation and emergency vehicle access?	X			<ul style="list-style-type: none"> • "Although Villa Park is nearly built-out, new development must comply with OCFA Guideline B-09 Fire Master Plans for Commercial & Residential Development or Guideline B-09A Fire Safe Development in State Responsibility Areas, and Guideline C-05 Vegetation Management Guideline Technical Design for New Construction Fuel Modification Plans and Maintenance Program, which establish requirements for reducing fire risk." (Page VI-8)

				<ul style="list-style-type: none"> • "The street circulation system is adequate to handle any necessary deployment of emergency vehicles and evacuation of residents." (Page VI-14)
Fuel modification and defensible space?	X			<ul style="list-style-type: none"> • OCFA Guideline C-05 Vegetation Management Guideline Technical Design for New Construction Fuel Modification Plans and Maintenance Program • Villa Park Municipal Code: Chapter XI - FIRE PREVENTION, Sec. 11-1.3. – Amendments, Section 4906.3
Vegetation clearance maintenance on public and private roads?	X			<ul style="list-style-type: none"> • Policy S #10: Continue to identify and evaluate new potential fire hazards, fire hazard areas, and fire prevention strategies and practices based upon current fire hazard mapping and State regulations, and mitigate existing non-conforming development to contemporary fire-safe and OCFA standards, including road standards and vegetative hazards where feasible. (Page VI-16) • Action Program 6: Continue to implement the current requirements of the California Building Code and the Orange County Fire Authority related to fire protection in all construction. (Page VI-17) • OCFA Guideline C-05 Vegetation Management Guideline Technical Design for New Construction Fuel Modification Plans and Maintenance Program: "The interior portions of a community and roadsides may not be standard FMZs, but are subject to planting restrictions, irrigation, and maintenance requirements."
Visible home and street addressing and signage?	X			<ul style="list-style-type: none"> • Action Program 6: Continue to implement the current requirements of the California Building Code and the Orange County Fire Authority related to fire protection in all construction. (Page VI-17) • OCFA Guideline C-05 4. Premises Identification CBC 501.2, CFC 505.1 C. The numbers shall be a minimum of 4 inches or more in height for single family residential structures/duplexes, or individual unit numbers in multifamily residential structures and 6 inches or more for commercial structures or the primary building address or address range posted on multi-family residential structures. The 6-inch numbers shall have a one inch stroke and the 4-inch numbers shall have a ½-inch stroke,

				or as required by local ordinance, whichever is more restrictive. (OCFA Guideline C-05 page 11)
Are community fire breaks identified in the plan? Is there a discussion of how those fire breaks will be maintained?			X	<ul style="list-style-type: none"> No fire breaks or plans for fire breaks are identified for the City of Villa Park. “Although Villa Park is nearly built-out, new development must comply with OCFA Guideline B-09 Fire Master Plans for Commercial & Residential Development or Guideline B-09A Fire Safe Development in State Responsibility Areas, and Guideline C-05 Vegetation Management Guideline Technical Design for New Construction Fuel Modification Plans and Maintenance Program, which establish requirements for reducing fire risk.” (Page VI-8) Villa Park is built-out.

Working cooperatively with public agencies responsible for fire protection.

	Yes	No	N/A	Comments/Recommendations
Is there a map or description of existing emergency service facilities and areas lacking service, specifically noting any areas in SRAs or VHFHSZs?	X			<ul style="list-style-type: none"> (Description) “The nearest fire station serving Villa Park is OCFA Station 23, located on the south side of Villa Park Road east of Hewes Street.” (Page VI-7) “In the event of a fire, current emergency response providers state that services are provided 80% of the time within 7 minutes 20 seconds from receipt of call to on scene arrival.” (Page VI-8) The Orange County Local Hazard Mitigation Plan (OCLHMP) Map 4 – Orange County Critical Facilities (OCLHMP page 20)
Does the plan include an assessment and projection of future emergency service needs?	X			<ul style="list-style-type: none"> Policy S #8: Maintain an adequate level of fire protection services. (Page VI-16) Policy S #9: Maintain an Insurance Service Organization (ISO) rating of 3 or less. (Page VI-16) “The nearest fire station serving Villa Park is OCFA Station 23, located on the south side of Villa Park Road east of Hewes Street.” (Page VI-7) Villa Park is built-out.
Are goals or standards for emergency services training described?	X			<ul style="list-style-type: none"> Policy S #9: Maintain an Insurance Service Organization (ISO) rating of 3 or less. (Page VI-16) OCFA is responsible for setting the goals and standards for emergency services training. Villa Park is a member agency of OCFA.

<p>Does the plan outline inter-agency preparedness coordination and mutual aid multi-agency agreements?</p>	<p>X</p>			<ul style="list-style-type: none"> • "The Orange County Local Hazard Mitigation Plan (OCLHMP)4 prepared in 2015 by the County of Orange and the Orange County Fire Authority (OCFA) includes a thorough analysis of wildland fire hazard issues (Section 3.2 beginning on p. 50) and is incorporated by reference into this Villa Park Safety Element." (Page VI-7) • Policy S# 11: Continue to adopt and honor agreements with adjacent communities for mutual automatic aid assistance. (Page VI-16)
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Sample Safety Element Recommendations

These are examples of specific policies, objectives, or implementation measures that may be used to meet the intent of Government Code sections 65302, subdivision (g)(3) and 65302.5, subdivision (b). Safety element reviewers may make recommendations that are not included here.

A. Maps, Plans and Historical Information
1. Include or reference CAL FIRE Fire Hazard Severity Zone maps or locally adopted wildfire hazard zones.
2. Include or reference the location of historical information on wildfires in the planning area.
3. Include a map or description of the location of existing and planned land uses in SRAs and VHFHSZs, particularly habitable structures, roads, utilities, and essential public facilities.
4. Identify or reference a fire plan that is relevant to the geographic scope of the general plan, including the Unit/Contract County Fire Plan, Local Hazard Mitigation Plan, and any applicable Community Wildfire Protection Plans.
5. Align the goals, policies, objectives, and implementation measures for fire hazard mitigation in the safety element with those in existing fire plans, or make plans to update fire plans to match the safety element.
6. Create a fire plan for the planning area.
B. Land Use
1. Develop fire safe development codes to use as standards for fire protection for new development in SRAs or VHFHSZs that meet or exceed the statewide minimums in the SRA Fire Safe Regulations.
2. Adopt and have certified by the Board of Forestry and Fire Protection local ordinances which meet or exceed the minimum statewide standards in the SRA Fire Safe Regulations.
3. Identify existing development that do not meet or exceed the SRA Fire Safe Regulations or certified local ordinances.
4. Develop mitigation measures for existing development that does not meet or exceed the SRA Fire Safe Regulations or certified local ordinances or identify a policy to do so.
C. Fuel Modification
1. Develop a policy to communicate vegetation clearance requirements to seasonal, absent, or vacation rental owners.
2. Identify a policy for the ongoing maintenance of vegetation clearance on public and private roads.
3. Include fuel breaks in the layout/siting of subdivisions.
4. Identify a policy for the ongoing maintenance of existing or proposed fuel breaks.
5. Identify and/or map existing development that does not conform to current state and/or locally adopted fire safety standards for access, water supply and fire flow, signing, and vegetation clearance in SRAs or VHFHSZs.
6. Identify plans and actions for existing non-conforming development to be improved or mitigated to meet current state and/or locally adopted fire safety standards for access, water supply and fire flow, signing, and vegetation clearance.
D. Access
1. Develop a policy that approval of parcel maps and tentative maps in SRAs or VHFHSZs is conditional based on meeting the SRA Fire Safe Regulations and the Fire Hazard Reduction Around Buildings and Structures Regulations, particularly those regarding road standards for ingress, egress, and fire equipment access. (See Gov. Code, § 66474.02.)
2. Develop a policy that development will be prioritized in areas with an adequate road network and associated infrastructure.
3. Identify multi-family housing, group homes, or other community housing in SRAs or VHFHSZs and develop a policy to create evacuation or shelter in place plans.

4. Include a policy to develop pre-plans for fire risk areas that address civilian evacuation and to effectively communicate those plans.
5. Identify road networks in SRAs or VHFHSZs that do not meet title 14, CCR, division 1.5, chapter 7, subchapter 2, articles 2 and 3 (commencing with section 1273.00) or certified local ordinance and develop a policy to examine possible mitigations.
E. Fire Protection
1. Develop a policy that development will be prioritized in areas with adequate water supply infrastructure.
2. Plan for the ongoing maintenance and long-term integrity of planned and existing water supply infrastructure.
3. Map existing emergency service facilities and note any areas lacking service, especially in SRAs or VHFHSZs.
4. Project future emergency service needs for the planned land uses.
5. Include information about emergency service trainings or standards and plans to meet or maintain them.
6. Include information about inter-agency preparedness coordination or mutual aid agreements.

Fire Hazard Planning in Other Elements of the General Plan

When updating the General Plan, here are some ways to incorporate fire hazard planning into other elements. Wildfire safety is best accomplished by holistic, strategic fire planning that takes advantage of opportunities to align priorities and implementation measures within and across plans.

Land Use Element
Goals and policies include mitigation of fire hazard for future development or limit development in very high fire hazard severity zones.
Disclose wildland urban-interface hazards, including fire hazard severity zones, and/or other vulnerable areas as determined by CAL FIRE or local fire agency.
Design and locate new development to provide adequate infrastructure for the safe ingress of emergency response vehicles and simultaneously allow citizen egress during emergencies.
Describe or map any Firewise Communities or other fire safe communities as determined by the National Fire Protection Association, Fire Safe Council, or other organization.
Housing Element
Incorporation of current fire safe building codes.
Identify and mitigate substandard fire safe housing and neighborhoods relative to fire hazard severity zones.
Consider diverse occupancies and their effects on wildfire protection (group housing, seasonal populations, transit-dependent, etc).
Open Space and Conservation Elements
Identify critical natural resource values relative to fire hazard severity zones.
Include resource management activities to enhance protection of open space and natural resource values.
Integrate open space into fire safety planning and effectiveness.
Mitigation for unique pest, disease and other forest health issues leading to hazardous situations.
Circulation Element
Provide adequate access to very high fire hazard severity zones.
Develop standards for evacuation of residential areas in very high fire hazard severity zones.
Incorporate a policy that provides for a fuel reduction maintenance program along roadways.

VI. SAFETY

INTRODUCTION AND BACKGROUND

General Plan Legislation

In 1970, the State made the Safety Element a mandatory element of the General Plan. The provision for a Safety Element was partly a reaction to damaging wildfires that occurred in September and October of 1970. Following the San Fernando Earthquake in 1971, the State Legislature enacted legislation requiring counties and cities to adopt a Seismic Safety Element as part of the comprehensive General Plan. In 1984, there were revisions in General Plan legislation pertaining to these two elements. The Seismic Safety and Safety Elements were combined into a single element that contained essentially the same information previously included in the two elements.

Additional revisions to State general plan law related to the Safety Element were adopted in 2007 (AB 162 regarding flood hazards and stormwater management), 2012 (SB 1241 regarding wildland fire hazards) and 2015 (SB 379 regarding climate change adaptation). In 2017 the Governor’s Office of Planning and Research (OPR) adopted revised General Plan Guidelines, and advisory document intended to assist local governments in preparing their general plans.

According to §65302(g) of the Government Code, the Safety Element is described in the following terms:

(g)(1) A safety element for the protection of the community from any unreasonable risks associated with the effects of seismically induced surface rupture, ground shaking, ground failure, tsunami, seiche, and dam failure; slope instability leading to mudslides and landslides; subsidence; liquefaction; and other seismic hazards identified pursuant to Chapter 7.8 (commencing with Section 2690) of Division 2 of the Public Resources Code, and other geologic hazards known to the legislative body; flooding; and wildland and urban fires. The safety element shall include mapping of known seismic and other geologic hazards. It shall also address evacuation routes, military installations, peakload water supply requirements, and minimum road widths and clearances around structures, as those items relate to identified fire and geologic hazards.

Purpose and Function

The purpose of the Safety Element is to identify hazards within Villa Park and initiate precautions to protect the community. The Element is principally a preventative planning document that will reduce natural and manmade hazards to acceptable levels of risk.

Relationship to Other General Plan Elements

Some community safety concerns overlap or are associated with the issues considered by the Open Space and Land Use Elements. According to Government Code §65560(h)(4), the Safety Element is linked to the implementation of a local open space plan. For instance, as a means of protecting public health and safety, open space land may be set aside for these purposes in circumstances that need special regulation and management. Undeveloped land devoted to open space use may include area set aside because of hazardous conditions such as earthquake fault zones, unstable soil areas and flood plains. In addition, a community’s Land Use Element usually incorporates the findings and recommendations relative to public safety and open space lands.

INVENTORY OF EXISTING CONDITIONS

Geologic and Seismic Hazards

Orange County, situated on the California south coastal plain, covers an area of approximately 782 square miles. It is bounded by Los Angeles and San Bernardino Counties to the north, Riverside County to the East, San Diego County to the south, and the Pacific Ocean to the west. Folding and faulting of the earth’s crust during the Tertiary Period produced topographic features visible today. The western portion of the County is a series of broad sloping plains (Downey and Tustin Plains) formed from alluvium transported from the mountains by the Santa Ana River, Santiago Creek and other local streams. The Puente/Chino Hills, which identify the northern limit of the valley, extend for 22 miles and reach a peak height of 1,780 feet. To the east and southeast of the valley are the Santa Ana Mountains, which have a peak height of 5,961 feet. North of the City of Villa Park are the Peralta Hills, exceeding a height of 1,500 feet. To the south is the Lomas de Santiago ridgeline with elevations as high as 1,700 feet.

The City of Villa Park is located in the low foothills on the west flank of the Santa Ana Mountains, and is southeast of the Santa Ana River. Along its southeastern boundary runs a portion of Santiago Creek. The majority of the community is located on older sedimentary rock overlaid with alluvial material deposited by the Santa Ana River and Santiago Creek. The eastern portion of the community consists of volcanic rock deposited in the late Miocene time period.

The El Modena and Peralta Hills Faults are nearest to Villa Park. Both are smaller north-northwest trending reverse faults located along the west flank of the Santa Ana Mountains, about two miles northeast of the El Modena community. The El Modena and Peralta Hills faults are approximately 6 miles in length. Little impact is anticipated from these faults. With no recent record of activity, prevailing scientific thought is that neither is anticipated to be capable of generating significant earthquakes.

There are several other faults that could potentially affect Villa Park as shown in **Table VI-1**.

**Table VI-1
Local Faults**

Fault	Approximate Distance from Villa Park
Whittier	8.5 miles N.E.
Los Alamitos	10 miles S.E.
Chino	11 miles N.E.
San Jose	13 miles N
Newport/Inglewood	14.0 miles S.E.
Sierra Madre	23 miles N
Red Hills	25 miles N.E.
San Jacinto/Coyote Creek	34.0 miles N.E.
San Andreas	38.0 miles N.W.
San Fernando	52 miles N.W.

Most of the loss of life, injuries, and damages that occur during an earthquake are related to the collapse of hazardous buildings or structures. Villa Park continues to apply the most recent Building Codes that assist in reducing hazards from earthquakes.

Slope Stability

Slope stability in the area is affected by three interrelated factors. These include surface and subsurface water, geologic structure and rock types, and the degree of slope. Water moving over or under the land surface erodes, steepens, and undercuts slopes, thus removing lateral support. Much of the City’s surface flows are directed to subsurface stormdrain infrastructure. Stability is also dependent on the specific properties and combination of materials forming the slope. Moderate slopes occur in the northeastern portion of the City. Exposure to such hazards can be increased with the urbanization of hilly areas. Development densities in this area are low and grading plans were required to address slope and surface water issues. Finally, extensive landscaping assists in the reduction of surface erosion.

Erosion

Land erosion is a natural process by which soil is removed from one area and transported to other areas largely by means of wind, gravity, and moving water. If water moves over level areas, little physical damage occurs to structures. However, if the flow of water is constricted or the slope is steepened, the velocity increases and deep gullies may result. Accelerated erosion within an urbanized area can cause damage by undermining structures, depositing silt, sand, or mud in roads and streets, and blocking storm sewers. In Villa Park this threat has

been greatly reduced through code-based development, landscape requirements, and storm drain infrastructure improvements.

Flooding

Hazards associated with flooding can result from two sources – a natural occurring weather event or the result of a failure at a water storage facility such as a water storage tank or dam.

Stormwater flood hazards

The City’s participation in the National Flood Insurance Program (NFIP), a component of the Federal Emergency Management Agency (FEMA), has mitigated the potential for flood hazards in new development/substantial improvement construction by requiring corrective and preventative measures. These measures take a variety of forms and generally include requirements for zoning, subdivision or building regulations, and special-purpose floodplain ordinances.

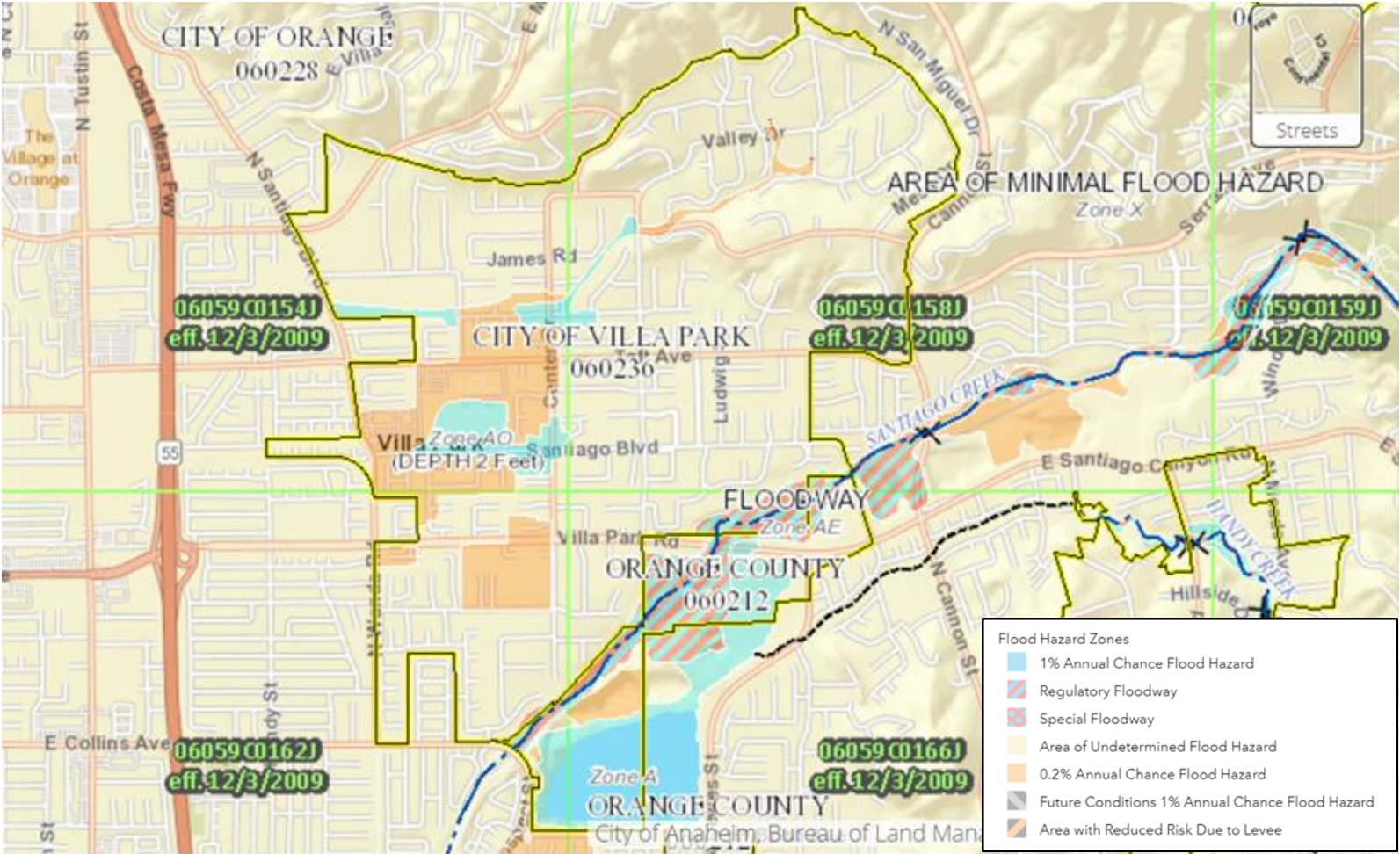
Flood hazard areas are identified on maps prepared by FEMA. Areas designated “100-year flood hazard zone” have a 1 percent chance of flooding in a given year, while areas within the “500-year flood hazard zone” have a 0.2 percent chance of flooding in a given year. Villa Park has areas designated as 100- and 500-year flood hazard areas (**Exhibit VI-1**), which are the maximum levels of water expected to occur during these storm events (more detailed maps showing flood hazard areas are available at City Hall).¹ Mitigation measures implemented by City Ordinance require all new construction or substantial improvement within the Flood Zone AO (100-year Special Flood Hazard) to have a finished floor elevation constructed at least one foot above the 100-year storm level. Additionally, the City continues to make improvements to its storm water collection system, thereby conveying surface flows to channels and nearby basins.

Dam/reservoir inundation hazards

Two dams are located along Santiago Creek upstream of Villa Park – Villa Park Dam and Santiago Creek Dam. These dams are within the jurisdiction of the California Division of Safety of Dams (DSOD). Information regarding the size and status of these dams published by DSOD is as follows.²

¹ Flood hazard maps are also available on the FEMA website at <https://msc.fema.gov/portal/home>
² <https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/All-Programs/Division-of-safety-of-dams/Files/Publications/Dams-Within-Jurisdiction-of-the-State-of-California-Alphabetically-by-County.pdf>

Exhibit VI-1
Flood Hazard Zones - Villa Park



Source: <https://msc.fema.gov/portal/search?AddressQuery=Villa%20park%2C%20CA#searchresultsanchor>
Note: A larger copy of this map is available for review at City Hall

Villa Park Dam, owned by the County of Orange, is an earthen embankment structure built in 1963 for flood control purposes for water flows from Irvine Lake. The dam has a height of 118 feet and a capacity of 15,600 acre-feet. The dam is certified by DSOD and is categorized as having an extremely high downstream hazard, which is based solely on potential downstream impacts to life and property should the dam fail when operating with a full reservoir. This hazard is not related to the condition of the dam or its appurtenant structures. The definitions for downstream hazard are based upon the Federal Guidelines for Inundation Mapping of Flood Risks Associated with Dam Incidents and Failures (FEMA P-946, July 2013). FEMA categorizes the downstream hazard potential into three categories in increasing severity: Low, Significant, and High. DSOD adds a fourth category of “Extremely High” to identify dams that may impact highly populated areas or critical infrastructure, or have short evacuation warning times. The dam’s condition is rated as “satisfactory” meaning that no existing or potential dam safety deficiencies are recognized, and acceptable performance is expected under all loading conditions (static, hydrologic, seismic) in accordance with the applicable regulatory criteria or tolerable risk guidelines.

Santiago Creek Dam, which is owned by Serrano Water District and Irvine Ranch Water District, is an earthen embankment structure built in 1933. The dam has a height of 136 feet and a capacity of 25,000 acre-feet. The dam is also certified by DSOD and is categorized as having an extremely high downstream hazard. The dam’s condition is also rated as “satisfactory.”

During years with heavy precipitation, release gates in Santiago Reservoir can be operated to prevent water from overflowing the face of the dam. Villa Park Reservoir then meters these heavy flows to prevent flooding of low-lying areas downstream. Normally there is no water behind Villa Park Reservoir.

Locally there is one in-ground water storage facility owned by Serrano Water District near the intersection of Sycamore Street and Taft Avenue that poses no threat to the City.

Wildland Fire Hazards

Orange County has an extensive history with wildland fire.³ *Public Resources Code* §4201-4204 and *Government Code* §51175-89 direct the California Department of Forestry and Fire Protection (CAL FIRE) to map areas of significant fire hazards based on fuels, terrain, weather, and other relevant factors. These zones, referred to as Fire Hazard Severity Zones (FHSZs), are represented as very high, high, or moderate. FHSZ maps were created using data and models describing development patterns, potential fuels over a 30- to 50-year time horizon, expected fire behavior, and expected burn probabilities. The maps are divided into local responsibility areas and state responsibility areas. *Local responsibility areas* (LRAs) generally include cities, cultivated

³ 2015 Orange County Local Hazard Mitigation Plan, p. 63

agriculture lands, and portions of the desert. LRA fire protection is typically provided by city fire departments, fire protection districts, and counties, and by CAL FIRE under contract to the local government. *State responsibility area* (SRA) is a legal term defining the area where the state has financial responsibility for wildfire protection. Incorporated cities and federal ownership are not included in SRAs. The prevention and suppression of fires in all areas that are not SRAs are primarily the responsibility of federal or local agencies. **The Orange County Fire Authority (OCFA), a joint powers agency, provides fire protection within Villa Park under contract to the City as a member agency.** The nearest fire station serving Villa Park is OCFA Station 23, located on the south side of Villa Park Road east of Hewes Street.

Exhibits V-1 and V-2 show the Very High FHSZ areas in and adjacent to Villa Park. Areas to the north and east of the city are within the Very High FHSZ, and includes portions of Villa Park, Orange, Orange Park Acres and Anaheim Hills. **The Very High FHSZ within Villa Park is limited to approximately 42 acres in the northern portion of the city, south of E. Cerro Villa Drive. This area is zoned for low-density residential use and is developed with single-family homes.** No essential public facilities or infrastructure is within this area.

The Orange County Local Hazard Mitigation Plan (OCLHMP)⁴ prepared in 2015 by the County of Orange and the Orange County Fire Authority (OCFA) includes a thorough analysis of wildland fire hazard issues (Section 3.2 beginning on p. 50) and is incorporated by reference into this Villa Park Safety Element. Key findings and recommendations of the OCLHMP include the following:

- The major objective of wildland fire defense planning is to prevent wildland fires from starting and, if unsuccessful, to minimize the damage to natural resources and structures. Some of the more successful programs currently in effect which contribute to the success of wildland fire prevention activities are:
 - ✓ Closure of public access to land in hazardous fire areas.
 - ✓ Building Code prohibition of most combustible roof covering materials.
 - ✓ Local amendments requiring “special construction features,” e.g. boxed eaves, Class A roof, dual paned or tempered glass windows.
 - ✓ Construction and maintenance of community and private fuel modification zones.
 - ✓ Vegetative Management Program (controlled burning).
 - ✓ Weed Abatement Program.
 - ✓ Fire Prevention Education Programs.

⁴ http://cams.ocgov.com/Web_Publisher/Agenda07_12_2016_files/images/O00216-000668A.PDF

As a member of OCFA the City of Villa Park works cooperatively with OCFA staff to reduce wildland fire hazards.

In 2019 OCFA prepared an updated Unit Strategic Fire Plan in accordance with the California Fire Plan. Orange County’s Unit Strategic Fire Plan was first collaboratively developed as a planning and assessment tool in 2010, in conjunction with key stakeholders and partner organizations, with the goal of reducing total government costs and citizen losses from wildfire in Orange County. This plan addresses such topics as firefighter and public safety, Wildland Urban Interface (WUI) challenges, impactful cost-effective solutions, community preparedness, prioritization, collaborative partnerships, program, project and policy evaluation and adaptability.

Risk from other types of fire hazards has also been reduced within the City. The age and condition of the majority of the existing housing stock, the type of construction, requiring roofing materials to have a minimum class “A” rating, and the absence of major industrial or commercial structures greatly reduce the risk of fire hazards.⁵ In the event of a fire, current emergency response providers state that services are provided 80% of the time within 7 minutes 20 seconds from receipt of call to on scene arrival. Villa Park also utilizes a highly successful core of volunteer fire fighters to supplement and support fire services.

Although Villa Park is nearly built-out, new development must comply with OCFA Guideline B-09 *Fire Master Plans for Commercial & Residential Development* or Guideline B-09A *Fire Safe Development in State Responsibility Areas*, and Guideline C-05 *Vegetation Management Guideline Technical Design for New Construction Fuel Modification Plans and Maintenance Program*, which establish requirements for reducing fire risk.

Hazardous Materials

Transportation of hazardous materials and flammable liquids along the arterial highways of Villa Park represents only a slight hazard as there are few users within the City and arterial transportation routes make up a very small portion of all transportation routes within the City. Truck limits and permit requirements restrict the movement of hazardous materials on residential streets. There are no industrial developments within Villa Park and only one small commercial center that may use such materials. Contract Police and Fire services have emergency response plans in place if a hazardous materials situation were to occur in Villa Park.

⁵ Class A is the highest rating, offering the highest resistance to fire, and unrated is the worst. Examples of a Class A roof covering include concrete or clay roof tiles, fiberglass asphalt composition shingles and metal roofs. (<http://articles.extension.org/pages/23741/fire-ratings-for-roofing-material>)

Climate Change

The scientific community has documented that increasing levels of greenhouse gases (GHGs) in the earth’s atmosphere are contributing to rising global average temperatures. The most abundant GHG is carbon dioxide (CO₂), which is a bi-product of fossil fuel combustion. CO₂ is removed from the atmosphere through sequestration by vegetation and dissolution into the ocean. Carbon sequestration is the absorption or removal from the air of carbon dioxide by plants or other natural processes. These sequestration processes happen naturally, but human-generated emissions have outpaced these removal processes, resulting in excessive GHG concentrations accumulating in the atmosphere, and leading to a subsequent trend of unnatural global warming.

**Exhibit VI-2
Very High Fire Hazard Severity Zones - Orange County**

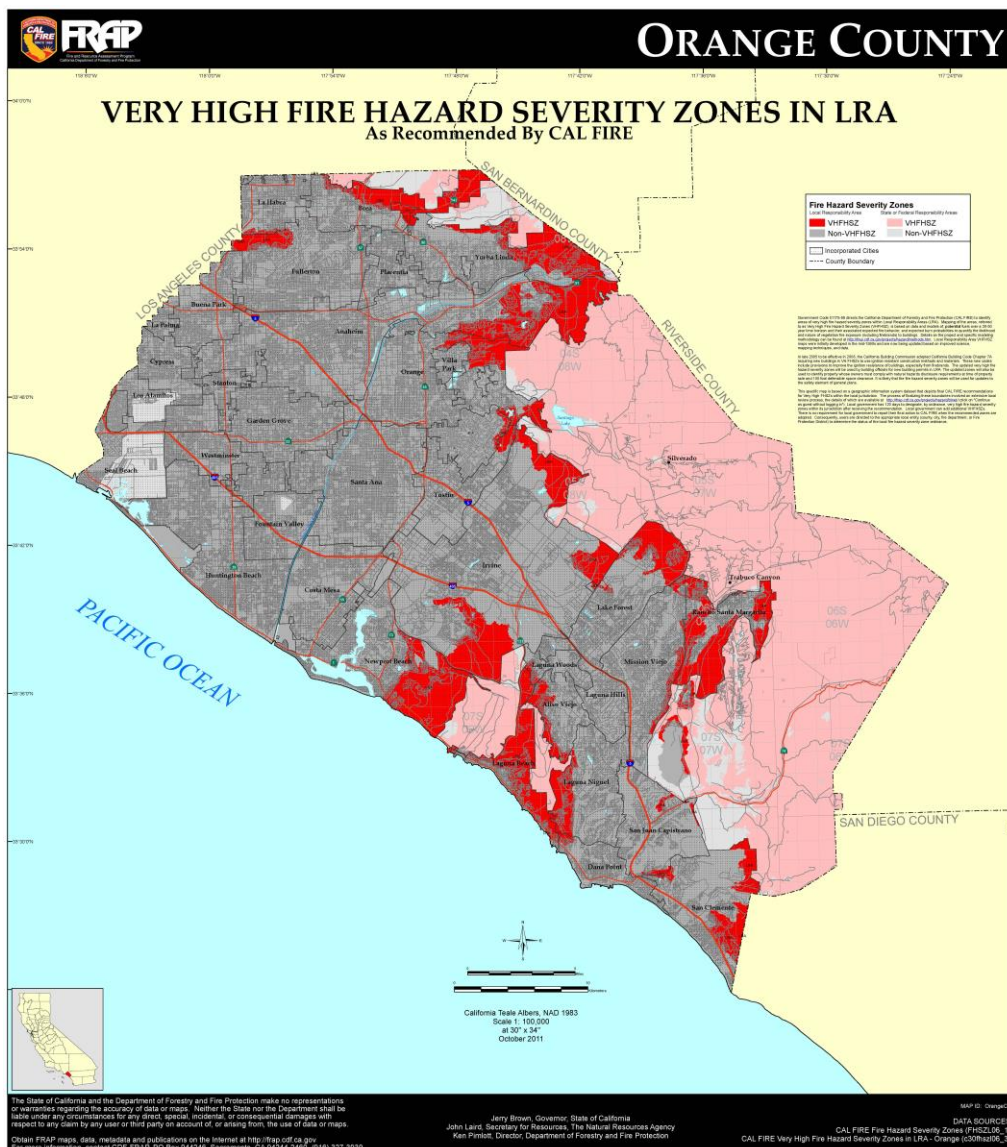
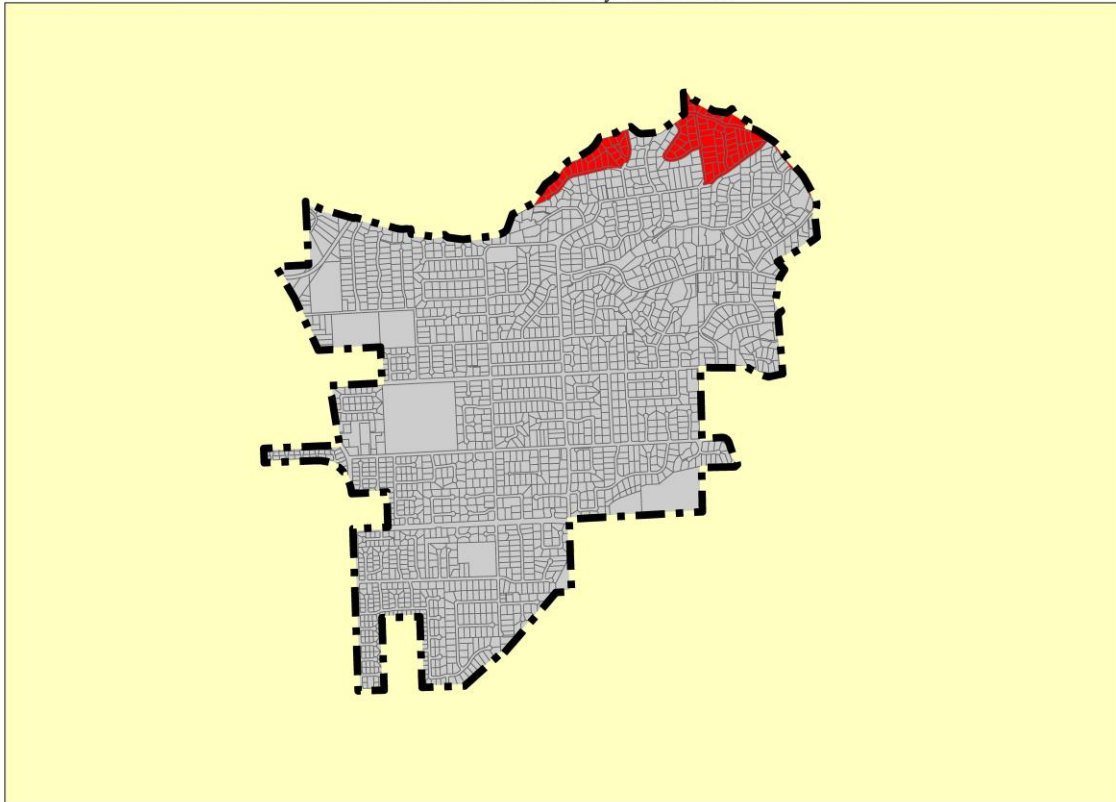


Exhibit VI-3
Very High Fire Hazard Severity Zones - Villa Park



Villa Park

Very High Fire Hazard Severity Zones in LRA
As Recommended by CAL FIRE



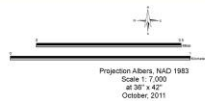
Fire Hazard Severity Zones

Very High	High
Non-VHFHSZ	Non-VHFHSZ

City Boundary
 Parcel
 County Boundary

Copyright 2011 by CAL FIRE, Fire Protection Agency, Department of Forestry and Fire Protection, 1515 Capitol Mall, Sacramento, CA 95833. All rights reserved. This map is a derivative work of the CAL FIRE Fire Hazard Severity Zones (FHSZ) data. The data was provided by CAL FIRE and is the property of CAL FIRE. This map is for informational purposes only and does not constitute a contract or warranty. The State of California and the Department of Forestry and Fire Protection make no representations or warranties regarding the accuracy of data or maps. Neither the State nor the Department shall be liable under any circumstances for any direct, special, incidental, or consequential damages with respect to any claim by any user or third party on account of, or arising from, the use of data or maps.

This map was developed using data products such as parcel and city boundaries provided by local government agencies. In certain cases, this includes copyrighted geographic information. The maps are for display purposes only - questions and requests related to parcel or city boundary data should be directed to the appropriate local government entity.



The State of California and the Department of Forestry and Fire Protection make no representations or warranties regarding the accuracy of data or maps. Neither the State nor the Department shall be liable under any circumstances for any direct, special, incidental, or consequential damages with respect to any claim by any user or third party on account of, or arising from, the use of data or maps.

DATA SOURCES
CAL FIRE Fire Hazard Severity Zones (FHSZ) 06_11
CAL FIRE Very High Fire Hazard Severity Zones in LRA - Orange 10/06/10_01

Jerry Brown, Governor, State of California
John Laird, Secretary for Resources, The Natural Resources Agency
Ken Pirock, Director, Department of Forestry and Fire Protection

MAP ID: VillaPark
For more information, contact CAL FIRE FRAP, PO Box 94246, Sacramento, CA 94244-2460, (916) 327-3039

The 2015 OCLHMP⁶ addresses the issue of climate change and identifies the following issues that are relevant to Villa Park.⁷

- Water supply and demand. Drinking water supply for Orange County is approximately half local and half imported. The Metropolitan Water District of Southern California (MWD) provides Orange County with imported water, which is obtained from the State Water Project (SWP) and from the Colorado River Aqueduct. Water from both sources is purified and tested at the Diemer Filtration Plant in Yorba Linda then piped to the various water districts in Orange County. The groundwater basin is recharged with recycled water, natural recharge, Santa Ana River base flows, and storm flow. According to data from the Orange County Water District (OCWD), the demand for groundwater has more than doubled in the last 60 years; however, basin storage must be managed within limits or risk adverse impacts.

Because of the importance of imported water supply to Orange County, the potential impacts of climate change on water resources must be considered over a region broader than the Orange County area. Changes in observed climatic variables over the past 50 years indicate warming in the mountains of western North America that has led to a higher rain-to-snow ratio, lower snow water content, a decline in March snow cover, and a shift toward earlier annual snowmelt. These observations strongly support the need for incorporating climate change into long-term water resources planning efforts.

Based on projected climate change conditions for the region, comprehensive analyses for both the California and the Colorado basins are severely water constrained indicating it will be challenging to meet current allocations in future years. Projections indicate there will be years where deliveries will sometimes fall short of allocations over planning horizons that range from 20 to 50 years into the future with assumptions that no changes are made to the existing operational infrastructure of the system. Population growth and anticipated increases in municipal demands must be addressed in the dual challenge of reduced supplies and increased demand. Looking forward, it is expected that these plans will be updated as better information on climate projections, including extreme events, become available and impacts to other sectors such as water quality and habitats will be similarly evaluated.

- Flood hazards. Past El Nino events have resulted in significant financial damages and exposed large numbers of people to flooding hazards. Flooding having a significant impact in the canyon areas and along flood

⁶ Section 3.8 beginning on p. 126

⁷ A major issue related to climate change in Orange County is sea level rise. However, since Villa Park is not a coastal city, this issue does not directly impact property in Villa Park although some public facilities serving the city could be affected (e.g., wastewater treatment facilities).

control channels also creates challenges for wastewater utilities as they receive increased flows in their systems. Climate change will likely exacerbate these impacts with larger waves and higher water levels. Coastal erosion and sediment transport patterns will be impacted by larger and longer duration of winter waves and increased exposure to tropical weather systems.

- Vulnerability and Risk. Climate change has the possibility of producing impacts that span many sectors of the economy and reach well beyond the area of experiencing physical sea level rise or long-term temperature rise. The impacts would be complex and can be direct or indirect. Examples of potential direct impacts include decreased productivity from agriculture; increased fire hazard; decreased drinking water availability; and increased wildlife mortality rates and damage to wildlife and fish habitat. The consequences of these impacts may result in reduced income for businesses, increased prices for food and resources, unemployment, reduced tax revenues due to reduced expenditures, increased crime, foreclosures on bank loans to businesses, and migration. The web of impacts would be complex making it challenging to come up with financial estimates of damages. The impacts of climate change can be categorized as economic, environmental, or social.

Social impacts involve public safety, health, reduced quality of life, and inequities in the distribution of impacts and disaster relief. Many of the impacts specified as economic and environmental have social components as well. We could see migration out of the coastal areas where increasing pressure on the social infrastructure could result.

Municipalities will have to make decisions about which critical assets to protect, relocate, or remove and what is economically feasible. It will be challenging to achieve multiple goals such as protection of critical infrastructure, sustained coastal recreation, and ecosystem protection. Agencies need to recognize there could be conflicts and develop priorities while working with the regulatory agencies.

Aircraft Traffic

The Orange County John Wayne Airport (JWA) is located approximately 9 miles south of Villa Park. More than 200,000 commercial air carrier and general aviation operations occur each year at the airport, and in 2016, over 10 million commercial airline passengers were served.⁸

According to reports prepared for JWA, Villa Park does not lie within the “crash zones” of the airport. These areas surround the immediate landing and take-off

⁸ John Wayne Airport, 2018 (<https://www.ocair.com>)

zones. However, the concentration of small private aircraft in the vicinity of JWA increases the risk of mid-air collisions.

Military air traffic, air traffic associated with regional agencies and helicopter traffic in particular present safety hazards in terms of both noise and potential aircraft failure as flight patterns are often within the immediate vicinity of Villa Park and surrounding communities.

In 1985 a settlement agreement was entered into regarding operations at JWA. The agreement was amended in 2003 and in 2014, and currently extends through 2030.⁹ Noise concerns are discussed in the Noise Element. The City monitors all developments regarding the operation of John Wayne Airport and through City Council action, will respond accordingly to any change proposed.

Community Emergency Response Team

The Community Emergency Response Team (CERT) program was developed in California in the mid-1980s as a way to train people to better prepare for emergency situations in their communities. Since then, it has become a national model for helping people respond to emergencies. When emergencies happen, CERT members can give critical support to first responders and provide immediate assistance to victims. CERT members can also help with non-emergency projects that improve the safety of the community. The Villa Park CERT program is designed to augment the overall emergency response for the City. The Villa Park CERT team conducts periodic training, executes training drills, and helps educate the residents on safety preparedness items.

Critical Facilities

Facilities critical to government response and recovery activities (i.e., life safety and property and environmental protection) include 911 centers, emergency operations centers, police and fire stations, public works facilities, communications centers, sewer and water facilities, hospitals, bridges and roads, and shelters. Critical and essential facilities are those facilities vital to the continued delivery of key government services or having significant impact on the community's ability to recover from an emergency.

ISSUES AND OPPORTUNITIES

Issues

- Ground shaking may occur as a result of movement along any one of Southern California's large regional faults such as the San Andreas, Newport-Inglewood, or Whittier-Elsinore. Movement along

⁹ Ibid (<https://www.ocair.com/communityrelations/settlementagreement/keyprovisions>)

any of these fault zones has the potential to cause damage in Villa Park.

- Expansive soil conditions require specialized grading techniques or foundation treatment to control uplift characteristics of these materials. Settlement due to structural loading within areas underlain by compressible materials, such as thick topsoil, alluvium, and/or terrace deposits is a potential problem within the lower elevations of the community.
- The settlement agreement with John Wayne Airport regarding passenger limitations and curfews was amended in 2014 and extends through 2030.
- Scientific data indicates that global climate change is affecting natural process such as the water cycle and sequestration, which are resulting in depleted water supplies, higher temperatures, higher probabilities of wildfires, more intense rainfall events, and increased CO₂ levels in the atmosphere.
- With the loss of the former Marine Corps Air Station El Toro as a potential site for a second commercial airport in Orange County, John Wayne Airport will sustain the burden of being the single airport to meet the increasing demand for air transportation services.

Opportunities

- The City maintains the most current development standards within its ordinances, codes, and requirements pertaining to public safety hazards, including building and fire codes, the Grading Ordinance, Zoning Ordinance, Subdivision Ordinance, and State Health and Safety Codes.
- The City's fire, police, public works department and emergency organizations are all well-rated and take advantage of new methods, equipment, and techniques in the performance of their duties. The City maintains an active Community Emergency Response Team and emphasizes emergency preparedness.
- Local water storage is adequate in quantity and well-located. Fire hydrant distribution meets or exceeds all applicable codes.
- The street circulation system is adequate to handle any necessary deployment of emergency vehicles and evacuation of residents.

GOALS, POLICIES AND PROGRAMS

Safety Goal #1: Protect life and property from geologic hazards.

Policies:

S #1: Continue to coordinate with the State and agencies within the County to assist in the mitigation of geologic and seismic hazards.

S #2: Continue to participate in the Orange County Emergency Management Organization (OCEMO) and its program to maintain an Emergency Operating Center radio network.

Action Programs:

1. Continue to implement the most current seismic requirements of the California Building Code with periodic updates.
2. Require geotechnical studies to be prepared for development projects located in areas containing known or suspected geologic hazards, consistent with the guidelines established by the State of California Division of Mines and Geology.

Safety Goal #2: Protect life and property from the hazards of flooding.

Policies:

S #3: Enforce the requirements of the Federal Emergency Management Agency (FEMA) to mitigate flood hazards.

S #4: Support Orange County Flood Control District and Army Corp of Engineers efforts to monitor and upgrade regional and local flood control facilities.

S #5: Educate the public about flood related hazards.

Action Programs:

3. Continue to require compliance with FEMA standards of flood proofing for substantial improvement projects located within the 100-year floodplain.

- 4. Make available flood hazard and response information to residents when requested and if applicable via electronic methods.

Safety Goal #3: Protect life and property from water related hazards as a result of seismic rupture of dams/reservoirs.

Policies:

- S #6: Annually request and review California Department of Water Resources – Division of Safety of Dams (DSOD) inspection reports for both Villa Park and Santiago Reservoirs.
- S #7: Continue to prepare, review, revise, and update emergency response plans and programs between the City, dam/reservoir owners/operators, and Federal, State, and local agencies responsible for dam safety and disaster response.

Action Program:

- 5. Provide available emergency evacuation information to the public.

Safety Goal #4: Protect life and property from fire.

Policies:

- S #8: Maintain an adequate level of fire protection services.
- S #9: Maintain an Insurance Service Organization (ISO) rating of 3 or less.
- S #10: Continue to identify and evaluate new potential fire hazards, fire hazard areas, and fire prevention strategies and practices based upon current fire hazard mapping and State regulations, and mitigate existing non-conforming development to contemporary fire-safe and OCFA standards, including road standards and vegetative hazards where feasible. Evaluate redevelopment after a large fire.
- S #11: Continue to adopt and honor agreements with adjacent communities for mutual automatic aid assistance.

Action Programs:

- 6. Continue to implement the current requirements of the California Building Code and the Orange County Fire Authority related to fire protection in all construction.
- 7. Make available fire hazard safety information, including defensible space and evacuation routes, for residents and developers in electronic format.
- 8. Actively promote the installation of smoke detectors in all dwelling units.
- 9. Review the City’s ability to reduce square footage requirements for fire sprinkler installation and retrofit.

Safety Goal #5: Protect life and property from risks associated with the transportation of hazardous materials.

Policy:

S #12: Assess any risks involved in the transportation of hazardous materials within the City.

Action Programs:

- 10. Support the efforts of the City’s fire protection service provider to enforce State “right-to-know” laws.
- 11. Ensure that travel routes through the City for vehicles transporting hazardous materials are clearly delineated.

Safety Goal #6: Maintain an adequately manned police force and relevant crime prevention programs.

Policy:

S #13: Support neighborhood meetings and community programs on crime prevention and education.

Action Program:

- 12. Continue to implement “Neighborhood Watch” programs, involve the efforts of the City’s police services provider, and encourage increased volunteer service in community watch programs.

Safety Goal #7: **The City will prepare for and adapt to the effects of climate change and promote practices that decrease the City’s contribution to climate change.**

Policies:

S #14: Evaluate the potential effects of climate change on the City’s human and natural systems and prepare strategies that allow the City to appropriately respond and adapt.

S #15 In cooperation with other public agencies and utility providers, review critical facilities and infrastructure serving Villa Park to assess their vulnerability to the effects of climate change and develop appropriate mitigation strategies.

Safety Goal #8: **The City will recognize and work to minimize safety impacts associated with the operation of John Wayne Airport.**

Policy:

S #16: Participate in the Corridor City Coalition (Coalition) with the intent to protect the City from effects of air traffic utilizing John Wayne Airport.

Safety Goal #9: **The City will recognize and work to mitigate the safety hazards associated with civilian and military air traffic.**

Policies:

S #17: Work with FAA, Orange County Airport officials and other agencies to establish aircraft corridors which minimize the exposure of Villa Park residents to air traffic related hazards.

S #18: Work with military and other government officials to minimize the impact of military helicopter and airplane traffic on Villa Park residents.