

8. Safety Element

Introduction

The Safety Element addresses natural conditions and human activities that can potentially threaten public health and safety. Natural hazards in Calaveras County include the potential for flooding, wildland fire, earthquakes and their associated hazards, and other geologic conditions including unstable or erosive soils and landslides. Understanding these hazards and preparing to deal with them on both an incident-related and ongoing basis are important objectives. The Safety Element is intended to reduce the risks associated with these hazards and help the County prepare for and avoid emergency situations.

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SAF 1.1 Background and Setting, Associated Plans and Documents

Overview

Potential safety hazards in Calaveras County include:

- Flood Hazards
- Fire Hazards
- Geotechnical Hazards
- Hazardous Materials

Safety-related issues addressed elsewhere in the General Plan include:

- Bicycle and Pedestrian Safety (See Circulation Element)

- Airport Safety (see Land Use Element)

Required components of the Safety Element inapplicable to Calaveras County are: military installations (none currently exist in the County) and tsunamis.

The Calaveras County Office of Emergency Services (OES) responds to major incidents associated with floods, fire, geotechnical hazards and hazardous materials using the Standardized Emergency Management System (SEMS) and National Incident Management System (NIMS). Calaveras County is part of the California Emergency Management Agency Inland Region (Region IV). The Commander/Chief Officer of the Calaveras County Sheriff's Office, Office of Emergency Services (OES) is responsible for implementing the Emergency Operations Plan (EOP) through the efforts of the Calaveras County Sheriff's Department Special Operations Bureau.

Associated Plans and Documents

The following plans address emergency preparedness and response to floods, fires, geotechnical hazards, and hazardous materials in Calaveras County. These plans are updated periodically. Current versions of each plan can be found at the Calaveras County Sheriff's Office OES at the Government Center, 1045 Jeff Tuttle Drive, San Andreas, CA.

Local Hazard Mitigation Plan (LHMP). The LHMP identifies hazards and methods to reduce threats and/or eliminate long-term risks to people and property from multiple hazards. It contains an initial earthquake performance evaluation of public facilities providing essential services, shelter and critical governmental functions; an inventory of private facilities that are potentially hazardous; and a plan to reduce the potential risk to private and governmental facilities in the event of a disaster. The General Plan Safety Element reflects the analyses and recommendations of the LHMP. In addition to availability at the Sheriff's office, the adopted LHMP can be found on the California Emergency Management Agency's (CALEMA) website.

Calaveras County Emergency Operations Plan (EOP). The EOP outlines the functions, responsibilities, and regional risk assessments of Calaveras County for large scale emergencies (i.e. wildland fires, hazardous materials incidents, flooding, dam failure, light airplane crashes, etc.) and sets forth the planned response for managing these incidents. The plan addresses initial and extended emergency response and the recovery process.

Other Emergency Operation Plans. In addition to the LHMP and EOP, the Calaveras County Sheriff's Office also maintains the Calaveras County Sheriff's Office Animal Emergency Plan, Calaveras County Mass Fatality Plan, Calaveras County Radio Amateur Civil Emergency Services (RACES) Plan, and Calaveras County Terrorism Plan.

Flood Hazards

Background and Setting: Flood Hazards

At least nine damaging floods occurred between 1950 and 2006 indicating a 16% annual chance of a destructive flood, or one detrimental flood every 6± years, in Calaveras County. Past flood events have caused evacuations and damaged roads, bridges, public facilities, private property, and businesses.

\$94± million in improved property is located in special flood hazard areas countywide per the 2010 LHMP. Four properties have repeatedly flooded in the County accounting for 66% of the \$748,269 paid in losses through the National Flood Insurance Program (NFIP). Essential public facilities located in flood hazard areas in Calaveras County include a water treatment facility, Sheriff's substation, evacuation site, and a scour critical bridge.

In Calaveras County, flooding may occur from heavy rainfall on saturated soils, rapid snowmelt, or a combination of both. Flooding typically occurs in the winter, but also may result from summer

thunderstorms. Riverine flooding along the main channels of the Mokelumne and Stanislaus Rivers, mid-elevation tributaries of the Mokelumne River, and the upper reaches of the Calaveras River usually results from heavy snowmelt combined with heavy rainfall. In the western County, flooding occurs from heavy rainfall associated with repeated winter storms and saturated soils. The western quarter of Calaveras County contains the majority of properties and facilities that could be impacted by flooding. However, sustained heavy rains, particularly when combined with warm temperatures, can create riverine and/or flash flooding conditions throughout the central and eastern portions of the County.

Agencies responsible for flood protection in Calaveras County are: The Federal Emergency Management Agency (FEMA), the California Department of Water Resources, and the Calaveras County Flood Prevention Officer (Community Development Department). The Calaveras County Office of Emergency Services (OES) responds to major incidents associated with floods.

Dam Failure Inundation

The National Inventory of Dams (NID) has classified 42 County dams based on the degree of potential hazard posed to downstream areas in the event of dam failure or faulty operations. Seven high hazard dams (probable loss of life), 30 significant hazard dams (possible loss of life, likely significant property/environmental destruction) and seven low hazard dams (no probable loss of human life and low economic and/or environmental losses) are identified. Per FEMA, areas with the greatest threat from dam inundation are located downstream of New Hogan and New Melones Lakes and Pardee, Camanche, and Tulloch Reservoirs in the western County. FEMA flood risk evaluations also indicate a potential flood hazard in areas immediately adjacent to Camanche, New Hogan, and New Melones, and in the vicinity of creeks and rivers countywide. Similarly, threats from seiche also are possible adjacent to County lakes and reservoirs.

Associated Plans and Documents: Flood Hazards

The County maintains the following text, maps and diagrams identifying the history, location and nature of the County's flood hazards. Text, maps and diagrams are updated on a regular basis. Current versions available at the Calaveras County Planning Department at 891 Mountain Ranch Road, San Andreas, CA 95249, include:

- Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM)/ Flood Boundary and Floodway Map (FBFM). These include the National Flood Insurance Program (NFIP) Maps published by FEMA.
- CA Dpt. of Water Resources Awareness Floodplain maps. Also available at: http://www.water.ca.gov/floodmgmt/lrafmo/fmb/fes/awareness_floodplain_maps/calaveras/san_andreas.cfm
- Historical data on flooding (*General Plan Background Report*)
- Existing essential public facilities in flood hazard zones (*General Plan Background Report*)
- Existing structures, roads, and utilities in flood hazard zones (*General Plan Background Report*)
- Areas subject to repeated damage by flooding (*General Plan Background Report*)
- Dams in Calaveras County (*General Plan Background Report*)
- Dam failure inundation maps, Office of Emergency Services (*General Plan Background Report Confidential File – Unavailable for Public Review due to Homeland Security Issues*)
- Geographic Relationship of the Central Valley Flood Protection Plan Target Facilities and Actions to Calaveras County (*General Plan Background Report*)
- Calaveras County Flood Damage Prevention Ordinance (Calaveras County Code Chapter 15.06)

The County does not maintain:

- Maps of levee protection zones or areas subject to inundation in the event of failure of project or nonproject levees or floodwalls (the County has no Levee Protection Zones identified by the Department of Water Resources or Central Valley Flood Protection Board¹),
- Calaveras County flood information from the US Army Corps of Engineers. USACE works with the CA Department of Water Resources evaluating levees. As described above and verified in the National Levee Database <http://nld.usace.army.mil/> no levee protection areas are identified in the County.
- California Department of Water Resources 200-year floodplain maps (Calaveras County does not contain urban areas with 10,000 or more people for which 200-year floodplains are mapped),
- Central Valley Flood Protection Board (CVFPP) Designated floodway maps (no such floodways are designated in Calaveras County).

Central Valley Flood Protection Plan (CVFPP). The CVFPP promotes achieving a minimum 200-year (0.5% annual chance) flood protection standard. Calaveras County traditionally has been considered part of the “Central Valley” because the Mokelumne, Calaveras and Stanislaus Rivers flow through Calaveras County into the Sacramento and San Joaquin Rivers in the Central Valley. Each county in the Sacramento-San Joaquin Valley must reflect CVFPP improvements and policies in its general plan. However, CVFPP improvements and policies do not apply to Calaveras County for the following reasons:

- The CVFPP identifies no proposed flood improvements in the County
- The CVFPP contains no data or analysis pertinent to flooding or flood improvements in the County
- The California Department of Water Resources “Central Valley” jurisdictional boundaries only apply to a small portion of the north bank of the Stanislaus River below Goodwin Dam in Calaveras County. 200-year floodplains have not been determined for this or other locations in the County and are unlikely to be determined for Calaveras County by the state. Based on the preceding, the 200-year floodplain provisions of the CVFPP are practically and realistically inapplicable to Calaveras County and no general plan provisions reflecting the CVFPP are necessary.²

Calaveras County remains subject to FEMA’s 100-year floodplain regulations.

Fire Hazards

Background and Setting – Fire Hazards

Fire hazards in Calaveras County include wildland and structure (aka “urban”) fires. Local fire districts, the Angels Camp Fire Department (ACFD), the California Department of Forestry and Fire Protection (CAL FIRE), the State Office of Emergency Services, and the United States Forest Service work together to provide mutual aid for structure fires, wildland fires, vehicle accident extrication, and mass casualty incidents.

Wildland Fire. Visiting, living and working in Calaveras County often means building homes, businesses or enjoying recreational facilities near or in forests, grasslands, shrub lands, and other natural areas (i.e., wildlands). The intersection of human development, natural terrain, and flammable vegetation coupled with conditions conducive to a high risk of wildland fire is called the Wildland Urban Interface (WUI). As development encroaches farther into high fire-hazard natural lands, the costs and regulatory

¹ One levee, located along Cosgrove Creek was filled.

² Personal Communication, Steve Dawson, Operations Chief, Permitting Division, California Department of Water Resources, (916) 574-0648, September, 2013. It was further clarified that references to jurisdictional boundaries along the Calaveras River from “San Joaquin to New Hogan Dam” encompass the dam on the Calaveras River upstream of Escalon-Bellota Road in San Joaquin County and do not extend into Calaveras County. Similarly, references to CVFPP jurisdiction along the “Mokelumne River – Sacramento and San Joaquin Counties to Comanche Reservoir” include only those areas along the Mokelumne River *below* Comanche Reservoir and outside of Calaveras County.

requirements associated with reducing fire risk and protecting homes, human lives, and natural resources increases.

The majority of wildland fire protection in the County is provided by CAL FIRE. CAL FIRE maintains four battalions and twelve stations distributed throughout the County and provides dispatch services to local fire districts and the ACFD through the Fire Protection Emergency Command Center in San Andreas. Approximately 80% of the County's land area is in CAL FIRE'S Tuolumne Calaveras Unit (TCU) State Responsibility Area (SRA). SRAs are lands where the State Board of Forestry and Fire Protection has determined that the financial responsibility of preventing and suppressing fires is primarily a state responsibility. Within the SRAs, state-designated Fire Hazard Severity Zones indicate the relative threat of wildland fire. As of 2010, over 89% of the County is classified as having either a High or Very High fire risk. The 2010 LHMP states that over 15,000 improved parcels and \$2.2 billion in improvements, including schools, medical centers, water/wastewater facilities, fire stations, police stations and evacuation sites, are in a Very High fire hazard zone.

U.S. Forest Service lands in the eastern County are included in Federal Responsibility Areas (FRAs) and are protected by the Stanislaus National Forest Fire Management Unit.

Structural Fire. San Andreas and the City of Angels Camp are located in Local Responsibility Areas (LRAs). Local fire districts within LRAs primarily fight structural ("urban") fires, but also provide wildfire fire protection, mutual aid for other fire agencies, hazardous material response, medical aid and other emergency services.

Associated Plans and Documents – Fire Hazards

The County maintains the following text, maps and diagrams identifying the location and nature of the County's fire hazards. Text, maps and diagrams are updated on a regular basis. Current versions can be found at the Calaveras County Planning Department at 891 Mountain Ranch Road, San Andreas, CA 95249 and include:

- Historical data on wildfires (*General Plan Background Report*)
- SRA Fire Hazard Severity Map (*General Plan Background Report*)
- General location and distribution of existing and planned land uses in very high fire hazard severity zones (*General Plan Background Report*)
- The general location and boundaries of local, state and federal agencies with responsibility for fire protection (*General Plan Background Report*)
- SRA Fire Safe Regulations - Calaveras County Code Chapter 8.10 - Fire and Life Safety
- Fire Hazard Areas – Calaveras County Code Chapter 8.08 to provide safeguards to prevent the occurrence of fires which might be caused by recreational, residential, commercial, industrial or other activities conducted in any hazardous fire area
- Road construction standards (including emergency ingress/egress) – Chapter 12.02 Road Construction Standards
- California Building Code - Wildland Urban Interface (WUI) Construction Requirements – Calaveras Code Section 15.04.040 (adopting state code)

In addition, County staff accesses the interactive United States Geological Survey (USGS) wildfire hazard data, including historic wildfire occurrences, fuels, and projected wildfire return intervals and related wildland fire information, available online at: <http://landfire.cr.usgs.gov/>. Documents consulted also include: *Fire Hazard Planning, General Technical Advice Series, Governor's Office of Planning and Research* available online at http://opr.ca.gov/docs/Fire_Hazard_Planning-Final_Report.pdf.

Tuolumne - Calaveras Unit (TCU) Strategic Fire Plan (SFP). Prepared by CAL FIRE, the SFP provides an assessment of the threats and challenges presented by wildland fire and the current status of projects and programs focused on reducing that threat and increasing community safety and awareness. The SFP is updated periodically. The current version of the SFP can be found on CAL FIRE's website.

Calaveras County Community Wildfire Protection Plan (CWPP). Prepared under the guidance of the Calaveras Foothill Fire Safe Council, the CWPP includes the Glencoe/Rich Gulch Community Wildfire Protection Plan. The CWPP is updated periodically. The current CWPP can be found online at the Calaveras Foothill Fire Safe Council's website.

Geotechnical Hazards

Background and Setting – Geotechnical Hazards

Geotechnical hazards in Calaveras County include seismic (earthquake) hazards, soil-related hazards and their associated effects and volcanoes.

Seismic

Calaveras County is in an area of historically low seismic activity within the Sierra Block of Seismic Risk Zone 3. The County is not in, adjacent to, or crossed by, an Alquist-Priolo Earthquake Fault Zone. The County's potentially active faults include the Bear Mountain and Melones Fault Zones, part of the Foothills Fault System, which pass through the western County near Valley Springs, Mokelumne Hill and south of Copperopolis. More distant is the Sierra Frontal Fault System along the eastern edge of the Sierra Nevada Range with a low likelihood of generating seismic activity in the County. The 2010 LHMP concludes that the most likely impacts to the County from earthquakes are associated with an overload of communication systems due to falling trees, landslides, and damage to electrical substations. Indirectly, a flood of evacuees from a major quake in the San Francisco metropolitan area could create a strain on local infrastructure, basic goods and medical capacity in the County as a result of activity along faults located south and across the Central Valley.

Liquefaction generally occurs in conjunction with seismically-induced ground shaking. Because no portion of Calaveras County is located in a Seismic Hazard Zone, Calaveras County is not considered to be at risk from liquefaction hazards.

Soil-Related Hazards

Soil-related hazards that have or may occur in the County include landslides, erosion, unstable slopes, mudslides, debris flows, rockfalls, expansive soils, asbestos-containing soils and related hazards. Calaveras County contains a wide range of soils that have varying levels of susceptibility to erosion, ranging from slight to extremely high (NRCS 2007; Calaveras County Farm Advisor's Office 1982). Areas with slopes greater than 20 percent may be susceptible to erosion, instability, or landslides -- especially during periods of high rainfall or snowmelt. In addition, steep slopes recently affected by wildfires can be the site of fast-moving, highly destructive debris flows in response to heavy rains. Several soil types in the County include potentially expansive materials (e.g., clay). Serpentinite, a type of rock with a high potential to contain asbestos, also is found throughout various portions of the County.

The 2010 LHMP reports a lack of previous occurrences of subsidence countywide and limited or no conditions existing in the county associated with land subsidence (e.g., soil types conducive to subsidence, high surface pressure due to loading from high rise buildings, high water table and large scale groundwater or oil extraction). Therefore, subsidence is considered unlikely to occur in Calaveras County. Should large scale groundwater or other extractions begin to occur in the County, the potential risks from subsidence should be re-evaluated.

Volcanoes

The State of California Multi-Hazard Mitigation Plan identifies the Long Valley Caldera (Mono County) as a slight, but potential hazard to Calaveras County. Specifically, the County could be impacted by ash fall of less than 5 cm thick in most areas and 5-20 cm in the eastern County.

Associated Plans and Documents - Geotechnical Hazards

The County maintains the following text, maps and diagrams identifying the existing or potential location and nature of the County's geotechnical hazards. Text, maps and diagrams are updated on a regular basis. Current versions can be found in the *General Plan Background Report* available at the Calaveras County Planning Department at 891 Mountain Ranch Road, San Andreas, CA 95249 or in the Calaveras County Code available online.

- Calaveras County Regional Faults
- Calaveras County Ground Shaking Potential Map
- Earthquake Hazard Severity by County
- Volcanic Hazard Map, Calaveras County
- Calaveras County Soils Susceptible to Severe Erosion
- Potentially Unstable Slopes (Slopes Exceeding 20%), Calaveras County
- Chapter 15.05 Grading and Drainage Ordinance (Calaveras County Code)
- Identified Hazardous Materials or Hazard Sources in Calaveras County
- Abandoned Mines with Identified Hazards or Hazardous Materials Recognized by the Department of Conservation Office of Mine Reclamation, Calaveras County
- Acid Rock Drainage (ARD) Hazards from Abandoned Mines
- Arsenic Hazards from Abandoned Mines
- Mercury Hazards from Abandoned Mines (Placer Mines)

Calaveras County Grading, Drainage and Erosion Control Design Manual. Prepared by the Calaveras County Public Works Department, the manual provides procedures, standards, and requirements necessary to safeguard public health, safety, and welfare from geotechnical related hazards. The manual is updated periodically. The current version of the manual can be found at the Calaveras County Public Works Department.

Hazardous Materials

Background and Setting – Hazardous Materials

Threats from hazardous materials in the County are generally associated with their use, storage and transport. Primary sources of hazardous materials in the County include: water treatment plants, hazardous material transport along major highways, methamphetamine drug labs, medical facilities, leaking underground fuel tanks (LUFTs), underground storage tanks (USTs), landfills, industrial sites, mines and utility corridors.

The Calaveras County Environmental Health Department (EHD) is certified by Cal/EPA to implement the state's Unified Program as a Certified Unified Program Agency (CUPA). As a CUPA, EHD consolidates, coordinates and makes consistent the administrative requirements, permits, inspection activities, enforcement activities, and hazardous waste and hazardous materials fees countywide. EHD regulates establishments that use hazardous materials, dispose of hazardous wastes, or have USTs and/or above-ground storage tanks. Local businesses handling hazardous materials must prepare a business plan that provides emergency response guidelines for the release of hazardous materials. Local fire districts retain these records to help identify hazardous materials likely to be present on site during emergency response situations (e.g., fires, spills, leaks) and formulate an appropriate response. As of 2011, more than 200 businesses were permitted for hazardous materials in the County.

EHD also maintains public information on the County's website to assist in identifying, managing and disposing of hazardous materials for households and smaller businesses. Residents in Calaveras and Alpine Counties can dispose of household hazardous wastes at the Rock Creek Solid Waste Facility, a dual landfill and transfer station, in Milton. The Rock Creek Transfer Station building is a Waste Recovery and Transfer Center with a permanent hazardous waste facility permitted to accept hazardous waste from households and businesses generating less than 100 kilograms of hazardous waste monthly. A waste removal contractor transports hazardous waste out of the County after pick up. Transfer stations also are located in San Andreas, Wilseyville, Paloma, Copperopolis, Red Hill and Avery, within two miles or less of

92% of County residents. The California Asbestos Monofill (CAM) is located in Copperopolis and is permitted to landfill asbestos-containing waste and to accept/store used tires. CAM also accepts waste generated from outside the County.

Associated Plans and Documents

The previously referenced *Calaveras County Emergency Operations Plan* (EOP) identifies multi-agency, multi-disciplinary and multi-jurisdictional resources to respond to hazardous material emergencies. The County's Hazardous Materials Response Team (HMRT) is managed by the Calaveras County Sheriff's Department.

The *Calaveras County Hazardous Materials Area Plan* provides the response guidelines for hazardous materials incidents in compliance with state law. The plan is updated regularly. Copies of the plan are available at the Calaveras County Sheriff's Office.

SAF 1.2 Goals and Policies

Goal and Policies: General

Goal

SAF-1 People, property, economy, and natural resources safe from the risks of natural and man-made hazards.

Policies

- SAF 1.1** Ensure that discretionary actions involving new development will not prevent the implementation of emergency response plans or the viability of evacuation routes established by local, state or federal agencies.
- SAF 1.2** Require new development to incorporate design features that minimize vulnerability to natural and man-made hazards.
- SAF 1.3** Ensure that discretionary actions involving new development will not result in a reduction in the pre-project levels of service provided by emergency responders.
- SAF 1.4** Evaluate the public costs that would be incurred if emergency or remedial actions become necessary prior to approving new development in identified hazardous areas.
- SAF 1.5** Require new development to provide for the long-term maintenance and operation of essential facilities installed in conjunction with the new development during emergency situations (e.g. channel maintenance or debris removal adjacent to bridges along critical evacuation routes).
- SAF 1.6** Require new development to identify, and have available, an emergency water supply sufficient to maintain a minimum three day water supply to serve the development during emergency situations.
- SAF 1.7** Streamline the permitting process for the provision of communications systems to enhance emergency response and for post-disaster recovery.
- SAF 1.8** Locate new essential public facilities, utilities, and services away from identified hazard areas.
- SAF 1.9** Coordinate planning efforts between local, state and federal public safety and law enforcement agencies; the community; and other stakeholders to ensure cooperative, efficient and effective planning to minimize the risks associated with natural and man-made hazards.
- SAF 1.10** Continue to make available public education materials to assist residents and visitors in planning and responding to emergency situations.

Goal and Policies: Flood Hazards

Goal

SAF-2 Communities protected from unreasonable risks of death, injuries, property damage and economic and social dislocation resulting from floods, including flooding caused by seiches and dam failure.

Policies

SAF 2.1 Apply consistent development standards for new development proposed in designated flood hazard zones, or areas identified by a qualified professional as flood-prone, to reduce potentially significant adverse impacts related to flooding.

SAF 2.2 Deny discretionary or ministerial entitlements that place people or property at risk within identified flood hazard zones unless (1) findings can be made in accordance with California Government Code Section 65962(a) and (2) measures are identified and implemented to minimize flood hazards prior to occupancy.

SAF 2.3 Ensure that post-development, off-site peak flow drainage from the area being developed does not exceed pre-development peak flow drainage.

Goal and Policies: Fire Hazards

Goal

SAF-3 Communities protected from unreasonable risks of death, injuries, property damage and economic and social dislocation resulting from fires.

Policies

SAF 3.1 Apply consistent standards for new development commensurate with the severity of the fire hazard as reflected in designated fire hazard zones and as necessary to reduce potentially significant adverse impacts related to structural (urban) and wildland fires.

SAF 3.2 Ensure that new development, including essential public facilities, complies with adopted fire codes and standards for fire protection.

SAF 3.3 Review new development proposals in coordination with CAL FIRE and individual fire districts to ensure that impacts to fire protection districts are identified and, where necessary, require new development, including essential public facilities, to mitigate those impacts consistent with state law.

SAF 3.4 All new development shall meet any applicable standards for access by emergency vehicles and egress by residents.

SAF 3.5 Include professional fire planning experts, to the maximum extent feasible, in the planning review process for projects located in High and Very High Fire Hazard Areas to consistently evaluate fire safe design, potential impacts related to fire safety, and to identify effective measures to minimize potential impacts related to wildland fire.

- SAF 3.6** The County shall support the review and update of fire district impact fees to adequately fund minimum levels of service and staffing to meet the fire protection needs of existing and future residents and businesses.

Goal and Policies: Geotechnical Hazards

Goal

- SAF-4** Communities protected from unreasonable risks of death, injuries, property damage and economic and social dislocation resulting from geotechnical hazards including seismic hazards, unstable slopes and soil-related hazards.

Policies

- SAF 4.1** Require new development to demonstrate that the site is physically suitable for the project and that projects will neither create nor significantly contribute to geological instability and will not unreasonably expose people or property to geological hazards.
- SAF 4.2** Avoid extreme topographic modification, and restore natural contours and vegetation after grading and other land disturbances in conjunction with new development.
- SAF 4.3** Require new development on land with grades of 20% or steeper to demonstrate during the discretionary review process that the project can adequately control surface water runoff, erosion, and other potential geologic hazards.
- SAF 4.4** Locate high occupancy structures and essential public facilities outside of identified geological hazard zones unless they can meet design standards eliminating or minimizing risks associated with geological hazards to a level of less-than-significant.
- SAF 4.5** Require site-specific geological studies, where warranted, to verify the presence or absence and extent of geological hazards on properties proposed for new development and to identify measures to reduce those hazards to an acceptable level in conjunction with the review of discretionary entitlements and as part of review of ministerial permits in accordance with California Building Code.

Goal and Policies: Hazardous Materials

Goal

- SAF-5** Communities protected from unreasonable risks of death, injuries, property damage and economic and social dislocation resulting from the use, transport, treatment and disposal of hazardous materials and wastes.

Policies

- SAF 5.1** Evaluate proposed new development for potential long-term risks related to hazardous materials to people, property, existing and planned land uses in the vicinity of the proposed use.

- SAF 5.2** Work cooperatively with local, state and federal agencies to manage the use, transport, treatment and disposal of hazardous materials.
- SAF 5.3** Strive to maintain the County’s Certified Unified Program Agency (CUPA) “No deficiencies observed” status.
- SAF 5.4** Require new development to incorporate adequate separation between areas using or storing hazardous materials and sensitive land uses³.

SAF 1.3 Implementation Programs

Programs: General

- SAF 1-A** **Local Hazard Mitigation Plan**
Include Planning Department and/or Public Works representation in the LHMP planning process to ensure that LHMP safety criteria applicable to the design of new development is fashioned in a manner that facilitates incorporation into County codes and conditions of project approval.
- SAF 1-B** **Level of Service**
In consultation with emergency responders and other stakeholders, define criteria for, identify, and adopt a county-wide level of service threshold(s) for fire protection, ambulance service, EMS, and related emergency response providers to be met by new development.
- SAF 1-C** **Evacuation Routes, Sites and Centers**
Identify evacuation routes included in adopted emergency response plans on the County GIS or equivalent, to assist planners in evaluating if a new development will impair or physically interfere with an adopted emergency evacuation plan when considering discretionary entitlements subject to CEQA.
- SAF 1-D** **Post-Disaster Recovery**
Amend the County Code to streamline permitting procedures for repairing or reconstructing structures, infrastructure, and facilities destroyed or damaged as a result of an emergency affecting Calaveras County as declared by the Board of Supervisors or the State of California. As feasible, address safety improvements to prevent, or reduce the likelihood of, a reoccurrence of similar damage following natural disaster.
- SAF 1-E** **Emergency Provider Impact Fee**
Investigate adopting a fire protection district building permit fee in compliance with the Mitigation Fee Act, Govt. Code section 66000 et. seq. to mitigate new development impacts to fire protection districts.
- SAF 1-F** **Water Supply Inventory**
Inventory the County’s major water storage facilities and map their locations to identify potential water supplies available during emergencies. Include locations of high-

³ The following land uses are considered sensitive receptors for the purpose of exposure to hazardous materials: residentially designated land uses; hospitals, nursing/convalescent homes and similar board and care facilities; hotels and lodging; schools and day care centers; and neighborhood parks. Home occupations (i.e., Rural home industries) are excluded.

production wells and, where feasible, investigate the feasibility of using abandoned mines and the use of untreated or semi-treated (i.e., Title 22) water.

SAF 1-G **Current Information**

Continue to monitor, maintain and update natural hazard information as it becomes available. Monitor flood mapping activities undertaken by state and federal agencies and provide comments on draft maps to ensure accuracy. Continue to monitor the California Department of Conservation, California Geological Survey website and related seismic and geological information centers for release of updated ground shaking maps, geotechnical data and soils information for Calaveras County. Update emergency plans, the general plan and the County Code, as necessary, in response to the release of new data.

SAF 1-H **Public Safety Information**

Continue to provide and expand the availability of safety hazard reduction information on the County website and via handouts available at the Building Department (e.g., flood hazard prevention information, links on the County’s website to other sites, fire-resistant building materials and best practices in building a fire safe zone around homes and buildings, fire-resistant plants and vegetation clearing methods, emergency response preparedness for residents including emergency evacuation plans, and the identification, reduction, recycling and proper disposal of hazardous materials.)

Programs: Flood Hazards

SAF 2-A **Flood Damage Prevention Ordinance**

Continue to maintain a Flood Damage Prevention Ordinance consistent with state law. The Flood Damage Prevention Ordinance shall continue to be used to evaluate whether (and if so, where and how) new development, including essential public facilities, shall be located in a flood hazard zone and to identify construction or other methods to minimize damage to new development in flood hazard zones.

SAF 2-B **Zoning**

Avoid incompatible new development in flood prone areas through appropriate zoning.

SAF 2-C **Project-Specific Run-off Management Standards**

Update existing development standards to offset cumulative direct and indirect impacts of runoff from individual projects and their subsequent contribution to increased stormwater, flood hazards and overtaxing County drainage systems.

SAF 2-D **Storm Water Run-Off and Storm Drainage Facility Management Strategy**

Pursue funding for and, if successfully funded, prepare a Storm Water Management Strategy including, but not limited to, a Drainage Basin Master Plan and Storm Drainage Facilities Management Plan or their equivalents. Collaborate with responsible local, state and federal agencies and stakeholders, including the Department of Water Resources, to the extent feasible. The Plan(s) should evaluate run-off on a regional scale that cannot readily and economically be addressed by individual development projects.

SAF 2-E **Bridge Damage**

Amend the Calaveras County Code and/or associated documents to require new pedestrian and vehicular bridges to incorporate design features that reduce or avoid damage during major flood events, to the extent feasible (e.g., pedestrian bridges designed to pivot at an upstream corner and break away to reduce debris collection).

Programs: Fire Hazards

- SAF 3-A** **Calaveras Code Consistency with Adopted Fire Code**
Review the County Code (e.g., Chapters 8.08, 8.10, 12.02, 15.04.050) for consistency with the County's adopted International Fire Code, 2009 Edition, and as may be amended⁴ (hereinafter, "**Fire Code**") and adopt or otherwise integrate the Fire Code standards as specified for: water supply, fire flow, fire sprinklers (including a residential fire sprinkler ordinance), fire alarms, fire hydrants, water delivery systems for fire suppression facilities; fire safe roads, driveways, and emergency access standards; premises identification standards; built-in fire suppression equipment and other applicable standards. Where applicable, modify the Fire Code standards to reflect unique County conditions that achieve the same or increased levels of fire protection as required in the Fire Code.
- SAF 3-B** **Calaveras Code Consistency with State Fire Safety Standards**
Review the County Code for consistency with state fire safety regulations. Adopt and integrate CAL FIRE's Fire Hazard Severity Zone Map for State Responsibility Areas and their associated standards. Amend the County Code to implement uniform defensible space standards consistent with Public Resources Code 4291 for State Responsibility Areas. Include provisions for defensible space exceptions, maintenance, reduced fuel zones, and establishing building setbacks or easements for all new construction to allow for adequate defensible space. Continue to update Title 15 of County Code to incorporate fire protection measures required by the current editions of the California Building Code and the California Fire Code for new construction. Amend the County Code to implement uniform defensible space standards consistent with Government Code Section 51182 for land designated as a very high fire hazard severity zone in a Local Responsibility Area⁵
- SAF 3-C** **Local Fire Safety Standards**
Review applicable fire safety standards adopted by local fire districts and assess their consistency with adopted County fire safety regulations. .
- SAF 3-D** **Comprehensive Fire Safety Standards**
Create a comprehensive fire safety standard(s) reference for use by planners and applicants to facilitate incorporating these standards in new development, including new essential public facilities, to the extent feasible.
- SAF 3-E** **Exception Procedures for Fire Hazard Management**
Continue to maintain the provisions of County Code Section 8.10.840 (Exceptions) recognizing the value of the "same practical effect" or "exception" process when the letter of the law may not be practically applied, but the intent of the law may be achieved, through application of other measures to achieve the same or improved level of protection.
- SAF 3-F** **Fire Fuel Treatments for County Rights of Way**
Maintain and improve fuel treatments within County rights of way. Continue to pursue funding for maintaining and improving fuel treatments for County rights-of-way (e.g., Federal Fuels Grant Program). Continue coordination efforts between the Calaveras County Department of Public Works, the Calaveras Foothills Fire Safe Council and local fire districts to create public roadway fire breaks with an emphasis on improving fire

⁴ The International Fire Code, also known as the "California Fire Code –California Code of Regulations Title 24, Part 9, California Building Standards Commission, Based on the 2009 International Fire Code" [Calaveras County Code 15.04.050(F)]

⁵ San Andreas and Angels Camp are located in Local Responsibility Areas.

safety in the wildland urban interface and incorporating provisions for maintaining fuel treatments along roadways in conjunction with new development.

SAF 3-G

Fire Safety Committee

Consider forming a Fire Safety Committee, or equivalent, bringing together the multiple local, state and federal fire districts and agencies countywide to review the effectiveness of the fire protection policies in the General Plan and Calaveras County Code at least once every five years.

SAF 3-H

Coordinated Fire Prevention and Response Planning Efforts

Continue to participate in and support coordinated fire prevention and response planning efforts. Improve interdepartmental communications to enhance coordinated fire emergency response and planning between the Calaveras County Sheriff's Office of Emergency Services, the County's multiple fire districts, CAL FIRE, the U.S. Forest Service, Planning, Public Works, the Calaveras Council of Governments and other affected agencies. Keep apprised of recommendations contained in the CAL FIRE, *Tuolumne/Calaveras Unit Strategic Fire Plan* and *Calaveras County Community Wildfire Protection Plan*. Coordination efforts should include evaluations of proposed road improvements in the County's Circulation Element and Regional Transportation Plan that may improve emergency evacuation routes. Support may be in the form of hosting a strategic planning session for emergency response personnel and planners.

SAF 3-I

Fire Protection District Funding

Assist, as needed, with local fire protection district impact fee review and adoption to support minimum levels of service.

Programs: Geotechnical Hazards

SAF 4-A

New Soils Information

Update the County's soils data when the United States Department of Agriculture Natural Resources Conservation Service completes the updated County soil survey (estimated in 2015). When available, incorporate hazardous soil locations on the County's GIS maps, if feasible.

SAF 4-B

Grading, Drainage and Erosion Control Manual and Grading Ordinance

Continue to update and maintain the County's *Grading, Drainage and Erosion Control Manual* (December, 2012, as may be amended) and consider incorporating portions of the manual into the Calaveras Code Grading Ordinance. Continue to update and maintain grading standards as contained in the Chapter 15.05 of the Code. Together, both documents shall continue to address: procedures, standards, and requirements necessary to safeguard public health, safety, and welfare from geotechnical related hazards; implementing and maintaining erosion and sediment control measures to reduce offsite sediment discharge; grading on slopes; controlling drainage and runoff; standards for consultants qualified to prepare geological and soils related technical studies and testing; and the required contents of geological and soils related technical studies.

SAF 4-C

Geological Hazards Risks

Update the County's *Grading, Drainage and Erosion Control Manual* to:

- Include provisions for when or if geotechnical evaluations of potential geological hazards will be required in conjunction with the environmental review process
- Require geological evaluations for critical use and high occupancy structures (e.g., schools, hospitals, dams)

- Illustrate best management practices (e.g., erosion and sediment control methods)

SAF 4-D

Hillside Management Guidelines

Draft a Hillside Management Ordinance and Hillside Development Guidelines addressing:

- Standards for avoiding or minimizing extreme topographic modifications,
- Appropriate slope-related densities,
- Flexible alternatives for hillside construction to reduce grading and, where feasible, reduce project costs,
- Vegetation retention,
- Minimizing runoff,
- Visual impacts,
- Retaining wall design,
- Fire-safe construction and design
- Best management practices for hillside development,
- Minimizing the potential to create geotechnical hazards, including mudslides and landslides,
- Restoring natural contours, where necessary,
- Reducing potentially significant adverse environmental impacts to a level of less-than-significant, and
- Other provisions as necessary to determine that the site is physically suitable for the proposed development and will neither create nor significantly contribute to geological instability and will not unreasonably expose people or property to geological hazards.

SAF 4-E

Development on 20% Slopes

Development applications on slopes of 20% or greater shall be required to include geotechnical and engineering data to identify what improvements will be necessary to control erosion and surface water runoff and address the potential for landslides, mudslides, and other geologic hazards.

SAF 4-F

Historical Mine Hazards

Acquire maps of historical mines to assist in identifying potential hazards to existing and new development related to collapse or hazardous materials and to alert property owners to areas with potential subsidence issues [e.g., Office of Mine Reclamation, Abandoned Mine Lands Unit, Government Land Office (GLO) maps, United States Geological Survey topographical maps, Sanborn maps].

Programs: Hazardous Materials

SAF 5-A

Hazardous Material Data Consolidation

Initiate a program consolidating hazardous materials information from multiple agencies in a single location (e.g., local hazardous materials business plans, historic mine locations, state and federal sources). Ensure that emergency response agencies and planners have access to this data to facilitate emergency response, facilitate environmental review, and guide decisions on future development.

SAF 5-B

Developing and Remediating Contaminated Sites

Update the Calaveras Code to require development projects proposed on sites known or likely to be contaminated by hazardous materials and/or that are identified in local, state or federal databases as likely to contain hazardous materials, to be assessed and, if

necessary, remediated to a level appropriate for the proposed land use in accordance with all local, state, and federal regulations prior to development.

SAF 5-C **Certified Unified Program Agency (CUPA)**

Continue to maintain the County's status as a CALEPA-Certified Unified Program Agency (CUPA) as implemented through the Calaveras County Environmental Health Department.

SAF 5-D **Local, State, and Federal Hazardous Materials Management Regulations**

Continue to monitor changes in state and federal regulations and enforce local, state and federal regulations governing land uses involving the use or production of hazardous materials including, but not limited to, the Surface Mining and Reclamation Act (SMARA) as it pertains to the use and clean-up of hazardous materials associated with mining.

SAF 5-E **Plans Addressing Hazardous Materials Management**

Continue to maintain, update, and implement County emergency response plans and the County's hazardous waste management plan as necessary to protect lives and property from risks associated with hazardous materials including, but not limited to the Calaveras County Operational Area Hazardous Materials Response Plan (Area Plan); Calaveras County Emergency Operations Plan (hazardous materials incidents and hazmat emergency response plans) and Calaveras County Hazardous Waste Management Plan.

SAF 5-F **Land Use Compatibility**

Review Chapter 17.49 (Specified Hazardous Waste Facilities Combining Zone) and, if necessary, identify best management practices that may be implemented to address compatibility between hazardous materials and sensitive land uses.

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