

General Plan Safety Element Assessment

Board of Forestry and Fire Protection



Table of Contents

Purpose and Background.....	1
Methodology for Review and Recommendations.....	2
Safety Element Assessment.....	3
Sample Safety Element Recommendations.....	6
Fire Hazard Planning in Other Elements of the General Plan	8

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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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: Mariposa County	Notes:	CAL FIRE Unit: MMU	Date Received: 7/8/2019
County: Mariposa County	LUPP Reviewer: Kevin Lindo FC	UNIT CONTACT: John Morgan BC	Date Reviewed: 7/16/2019

Background Information Summary			
Specific background information about fire hazards in each jurisdiction. 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.			
	Yes	No	Comments/Recommendations
Are Fire Hazard Severity Zones Identified? <i>CAL FIRE or Locally Adopted Maps</i>	X		CAL FIRE Hazard Severity Zone Maps are identified: -Figure 13-2 Technical Background Report -Appendix C Hazard Figures, Figure C-8, Mariposa LHMP Recommend adopting CAL FIRE Hazard Severity Zone Maps by ordinance.
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		-P. 16-2 thru 16-4 Safety Element -P. 4-22 thru 4-24 -Appendix C Hazard Figures, Figure C-7, Mariposa LHMP
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		- Appendix C Hazard Figures, Figure C-12, Mariposa LHMP
Have local, state, and federal agencies with responsibility for fire protection, including special districts and local offices of emergency services, been identified?	X		-P. 13-5 Technical Background Report
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		-P. 16-1,16-2, & 16-5 Safety Element
Any other relevant information regarding fire hazards in SRAs or VHFHSZs?			

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
Land Use				
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?	X			-Title 8 Health and Safety Ch. 8.26, Mariposa County Code - Mariposa County cooperates with CAL FIRE MMU in the review and approval of development within SRAs.
Are there goals and policies to avoid or minimize new residential development in VHFHSZs?	X			-P. 16-19 Safety Element, Policy: 16-1b
Has fire safe design been incorporated into future development requirements?	X			-P. 16-4 & 16-5 Safety Element - P. 16-19 Safety Element, Policy: 16-1b
Are new essential public facilities located outside high fire risk areas, such as VHFHSZs, when feasible?		X		Recommend developing a policy that encourages essential public facilities located outside high fire risk areas, such as VHFHSZs, when feasible since the life of a General Plan is 15-20 years. - Mariposa commented that there are no new essential public facilities planned in high risk areas currently.
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		-Mariposa County currently has no plans to mitigate Existing non-conforming development. -Mariposa County requires damaged or destroyed structures to conform to all current standards when rebuilding takes place.
Does the plan include policies to evaluate re-development after a large fire?	X			-Title 18 Mariposa County Code, Ch. 18.05 Post Disaster Recovery.
Fuel Modification				
Is fuel modification around homes and subdivisions required for new development in SRAs or VHFHSZs?	X			-P. 16-19 Safety Element, Policy 16-1b, IM 16-1b(2) -P. 7-8 Mariposa County LHMP, Table 7-3 No. 24
Are fire protection plans required for new development in VHFHSZs?		X		Recommend developing an ordinance to require fire protection plans for new development in SRA or VHFHSZs.
Does the plan address long term maintenance of fire hazard reduction projects, including community fire breaks and private road and public road clearance?	X			-P. 16-5 Safety Element -P. 16-19 Safety Element, Policy 16-1b, IM 16-1b(2) -P. 7-8 LHMP, Table 7-3 No. 24
Access				
Is there adequate access (ingress, egress) to new development in VHFHSZs?	X			-P. 16-19 Safety Element, Policy: 16-1b
Are minimum standards for evacuation of residential areas in VHFHSZs defined?	X			-P. 16-13 & 16-14 Safety Element
If areas exist with inadequate access/evacuation routes, are they identified? Are mitigation measures or improvement plans identified?	X			-P. 7-2 Mariposa County LHMP, Table 7-2 No. 8 - The adopted, Countywide Community Wildfire Protection Plan, which has been incorporated into the Safety Element by reference, addresses ingress/egress routes and evacuation for

			13 identified communities in the County. Two areas in the county have been identified under development review as having inadequate access/evacuation routes. Mitigation is considered during environmental review for projects requiring discretionary permits.
Are there policies or programs promoting public outreach about defensible space or evacuation routes? Are there specific plans to reach at-risk populations?	X		-P. 16-20 Safety Element, Policies: 16-2a, 16-2b -P. 7-8 LHMP, Table 7-3 No. 21 & 23
Fire Protection			
Does the plan identify future water supply for fire suppression needs?	X		-P. 16-19 Safety Element, Policy 16-1b
Does new development have adequate fire protection?	X		-P. 16-18 & 16-20 Safety Element, Policies: 16-1a,16-3a
Develop adequate infrastructure if a new development is located in SRAs or VHFHSZs.			

	Yes	No	N/A	Comments/Recommendations
Does the plan identify adequate infrastructure for new development related to:				
Water supply and fire flow?	X			-P. 16-4 & 16- Safety Element -P. 16-19 Safety Element, Policy: 16-1b
Location of anticipated water supply?	X			-P. 16-19 Safety Element, Policy: 16-1b -P. 5-33 Land Use Element, Sec. 5.3.02E(4) & E(5)
Maintenance and long-term integrity of water supplies?	X			-P. 9-11 Circulation Element Policy 9-5a. - Mariposa County is primarily served by private wells and State-permitted systems.
Evacuation and emergency vehicle access?	X			-P. 16-4 & 16-5 Safety Element -P. 16-19 Safety Element, Policy: 16-1b
Fuel modification and defensible space?	X			-P. 16-4 & 16-5 Safety Element -P. 16-19 Safety Element, Policy: 16-1b
Vegetation clearance maintenance on public and private roads?	X			-P. 16-4 & 16-5 Safety Element -P. 16-19 Safety Element, Policy: 16-1b
Visible home and street addressing and signage?	X			-P. 16-4 & 16-5 General Plan -P. 16-19 Safety Element, Policy: 16-1b
Are community fire breaks identified in the plan? Is there a discussion of how those fire breaks will be maintained?	X			-P. 16-5 Safety Element -P. 16-19 Safety Element, Policy: 16-1b -P. 7-8 Mariposa County LHMP, Table 7-3 No. 24

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			-P. 6-25 thru 6-29 Technical Background Report Sec 6.2.05 -(Information is on two maps) Appendix C Hazard Figures, Figures C-8 and C-12, Mariposa County LHMP

Does the plan include an assessment and projection of future emergency service needs?	X			-P. 6-22 Technical Background Report Sec. 6.2.05 -P. 16-20 & 21 Safety Element, Goal 16-3, Policy 16-3a, IMs 16-3a(1 through 4)
Are goals or standards for emergency services training described?	X			-P. 6-22 & 6-23 Technical Background Report Sec. 6.2.05
Does the plan outline inter-agency preparedness coordination and mutual aid multi-agency agreements?	X			-P. 6-20 Technical Background Report Sec. 6.2.05

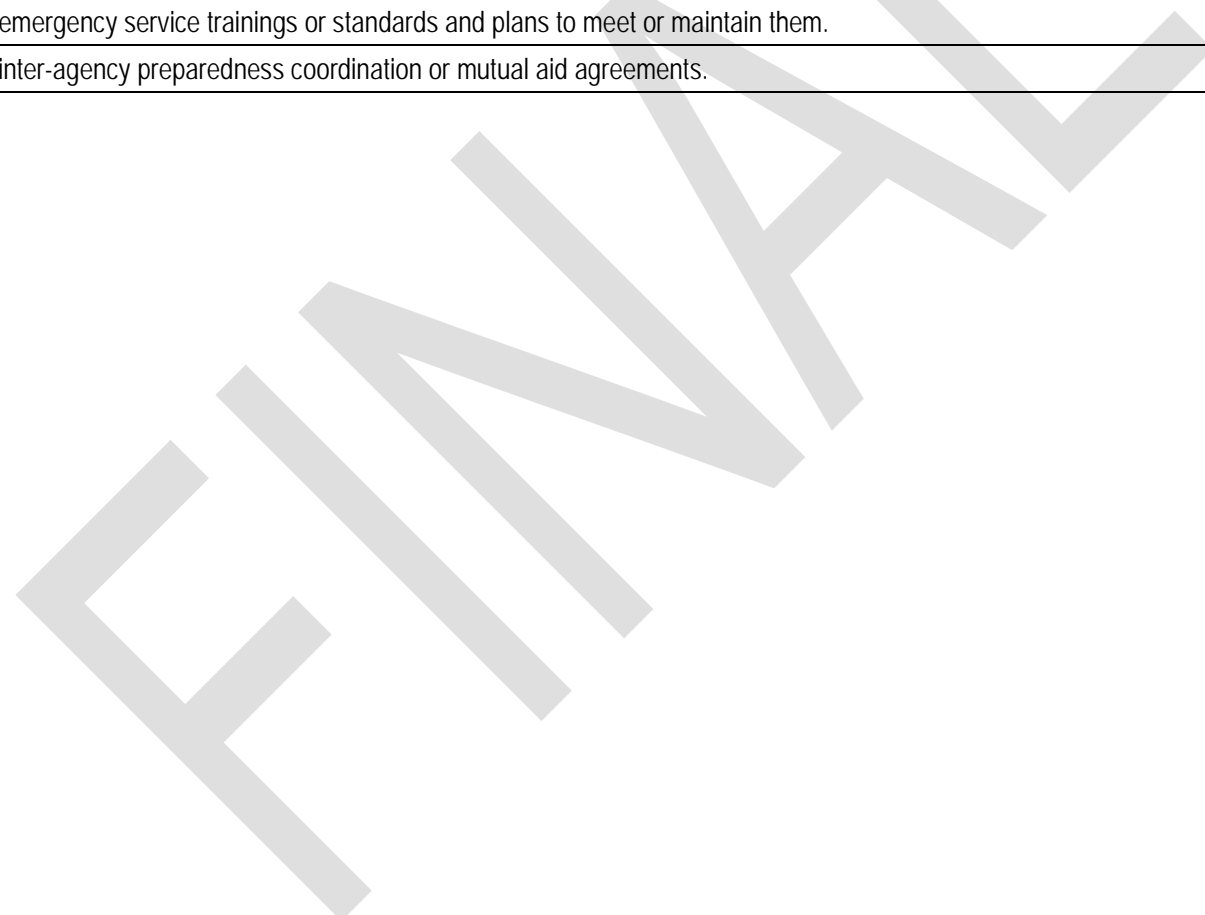
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Sample Safety Element Recommendations

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.

16 SAFETY

The Safety Element identifies issues and delineates programs related to safety in the County.

16.1

SAFETY ISSUES AND SUMMARY OF FINDINGS

Fire, flood, seismic and geologic hazards, winter storms, as well as airport operations and use or transport of hazardous materials may create hazards for people and property in the County. It is the County's intent to reduce the risk of loss of life, injuries, damage to property, and economic and social dislocations from those hazards to the smallest amount or degree within practical limitations.

This Safety Element incorporates by reference the Local Hazard Mitigation Plan (LHMP) dated February 2015 that was prepared in accordance with the federal Disaster Mitigation Act (DMA) of 2000 and adopted by the Board of Supervisors on June 23, 2015. This plan has been approved by the Federal Emergency Management Agency (FEMA). (Subsequent LHMPs are also incorporated by reference into this Element.) This DMA amended the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988 (Title 42 of the United States Code Section 5121 et seq.) by repealing the Act's previous mitigation planning section (409) and replacing it with a new mitigation planning section (322). This new section emphasizes the need for state, tribal, and local entities to closely coordinate mitigation planning and implementation efforts. This new section also provides the legal basis for FEMA's mitigation plan requirements for mitigation grant assistance. The provisions of this plan are summarized within the appropriate sections of this element.

The LHMP and its incorporation into this Safety Element satisfies the requirements of state Senate Bill (SB) 1241, which went into effect on January 1, 2013. This legislation mandated that safety elements, upon the next revision of the Housing Element on or after January 1 2014 be reviewed as necessary to address the risk of fire for State Responsibility Areas (SRAs) and very high fire hazard severity zones including review of fire hazard severity zone maps. (Appendix C in the adopted LHMP contains such mapping.) SB 1241 requires that Safety Elements must minimize fire risks and provide guidance on local decision-making to achieve this goal. The approval of tentative maps, or parcel maps for which a tentative map is not required must include three specific findings relating to the provision of adequate fire protection for projects in a SRA and/or an area of high fire danger.

SB 1241 requires cities and counties with fire safety plans adopted separately from the General Plan to attach such plans to the General Plan or reference them in the General Plan. Mariposa County adopted a fire hazard plan in 2010. This plan, a Community Wildfire Protection Plan specifically titled “Mariposa Countywide Community Wildland Fire Protection Plan,” contains protection plans for 13 communities or areas within Mariposa County. This plan and subsequent revisions to the plan are incorporated into the Safety Element of the General Plan by reference.

Mariposa County is served by the Madera-Mariposa-Merced Unit of CAL FIRE. A fire management plan for this area, which includes Battalions 1 and 2 covering Mariposa County, was adopted by CAL FIRE in 2015. CAL FIRE also adopted a Fire Hazard Severity Zone map for State Responsibility Areas in Mariposa County. The map, adopted on November 7, 2007, was prepared under CAL FIRE’s Fire and Resource Assessment Program.

The Safety Element addresses the safety of people and property in Mariposa County in coordination with other local, state, tribal and federal agencies. Issues addressed in this Element include:

- fire hazard,
- flood hazard,
- geologic hazards,
- seismic hazards,
- airport safety,
- hazardous materials and hazardous waste,
- emergency management and evacuation plans, and
- winter storms

16.1.01 FIRE HAZARD

Uncontrolled wildfires damage life, property, and critical natural resources, including scenic resources. Uncontrolled wildfires also damage grazing lands, public infrastructure and local businesses. The potential risk from wildfire depends upon the amount of flammable vegetation and other fuel sources in an area, combined with meteorological and topographic factors. The risk of wildfire is high in a large portion of Mariposa County because the County is covered by a combination of grasslands, chaparral, and forests that can become very flammable during dry weather. The wind and heat from June to September contribute to the fire danger. Even during the winter months the fire danger persists, because the drying effects of several days of wind can reduce the water content of brush to a level that makes it susceptible to burning. Various factors, including humidity, wind speed and direction, fuel load and fuel type, and topography, contribute to the intensity and spread of wildland fires.

Every community in Mariposa County has been threatened by major wildland fires within the past 200 years. Since 1854, the town of Mariposa has burned down several times. The

original county seat, Agua Fria, was destroyed by fire in the 1800s and was not rebuilt. Structures that have survived for more than 100 years, except for the Mariposa County Courthouse, have steel roofs, steel shutters for doors and windows, and adobe, stone, or brick walls. Other structures that have survived are located in areas that were defensible from wildland fires and had some sort of defensible space such as pastures, orchards, or recent clearance around the structure.

The most notable fire in Mariposa's history is the Harlow Fire of July 1961. Its notability is due to the rapidity of its spread; in two hours it burned 20,000 acres making it one of the fastest burning fires recorded in the United States. The fire eventually burned 43,329 acres, destroyed 104 structures and claimed two lives. One of the most active and destructive fire seasons for Mariposa County occurred in 2008. The Telegraph Fire in July of that year, a 50-year fire event, consumed 18,000 acres in the first day and a half alone. It eventually burned 32,000 acres. The Carsten's Fire in June 2013 burned 1,708 acres. The Detwiler Fire in July 2017 burned 81,826 acres and destroyed 63 residences, 67 minor structures and one commercial structure.

There is a distinction between wildland fires and non-wildland fires involving homes, businesses, and other improvements. The Mariposa County Fire Department has the responsibility of determining the threat and mitigation measures needed for non-wildland fires. The California Department of Forestry and Fire Protection (CAL FIRE), the USDA Forest Service, the Department of Interior National Park Service, and Bureau of Land Management have responsibility for wildland fires within their jurisdictions. The threats, the mitigation, and the approaches are different.

While wildfires are caused by both natural and human means, human error has historically been the cause of most large fires in Mariposa County. The threat of wildfires is greatest in the central, northeast, and southeast portions of the County because these areas consist primarily of chaparral and conifer communities and are prone to high winds. These areas are the most developed in the County (Mariposa Town and Coulterville are located here) and are where the largest amount of future development is likely to occur. Topography, fuel and weather are three factors that contribute most significantly to wildland fire behavior and can be used to identify wildland fire hazard areas.

The LHMP displays the locations of past wildland fires throughout Mariposa County and illustrates the wildland fire hazard areas based upon fuel rank. As illustrated by both figures, the entire County is susceptible to wildland fires, but the central portion of the County is most susceptible, falling in the very high hazard zone.

According to CAL FIRE, 443,891 acres in Mariposa County, the vast majority located in the central and western portion of the county, are located within the State Responsibility Area. The State Responsibility Area (SRA) is the area of the state where the State of California is financially responsible for the prevention and suppression of wildfires.

The LHMP provides information regarding the total acres burned and the perimeter of past wildland fires. The Plan illustrates fuel rank; this map is based on the California Fire and Resources Assessment Program fuel rank model. This model ranks the fuel type, slope, brush density (ladder), and tree density (crown cover) present.

As the fuel loading increases in the County the potential for more firefighter and civilian fatalities also increases. There has been a significant improvement in prevention that has dramatically reduced the number of human caused fires. For instance, CAL FIRE/USDA Forest Service Team Teaching in elementary schools has reduced the number of children-caused fires to almost zero within the past 25 years. Lightning is the number one natural threat to Mariposa County and historically it is lightning-caused fires that have been the most costly.

Based on previous occurrences, Mariposa County can expect a wildland fire of over 3,000 acres to occur about every other year, a 60 percent chance per year (12 years out of 20 years have had large wildland fires of over 3,000 acres.)

According to CAL FIRE, CAL FIRE and the U.S. Forest Service responded to over 300 wildland fires in Mariposa County from 1950-2011.

The 2002 Standards of Coverage prepared by Mariposa County Fire Department create a system to increase fire prevention and protection opportunities for property owners. The Standards of Coverage ensure the County is able to maintain its Insurance Services Office (ISO) ratings. As the ISO ratings number decreases (improvement to fire protection services), the cost of property insurance costs also decrease. Further implementation of the concentric development pattern policies of the General Plan implement the Standards.

Basically, residential development needs to occur in areas where fire protection can be supplied. The County has standards of response time and coverage for fire protection. There are 15 county fire stations countywide; these include Co# 21 Midpines, Co# 22 MPUD Mariposa, Co# 23 Catheys Valley, Co# 24 Don Pedro, Co# 25 Mt. Bullion Airport, Co# 26 Coulterville, Co # 27 Mormon Bar, Co# 28 Bridgeport, Co# 29 Lushmeadows, Co# 31 Greeley Hill, Co# 32 Ponderosa Basin, Co# 33 Fish Camp, Co# 34 El Portal, Co# 36 Hunters Valley, and Co# 37 Bootjack. The Mariposa Public Utilities District (MPUD), which serves the community of Mariposa, provides fire protection within its service area boundaries.

To maintain quality fire protection and not lose ISO ratings, development potential is tempered by the available ISO rating. Communities with hydrant systems are classed as ISO Rural 5 or 6. MPUD's service area is currently assigned an ISO rating of 3. Outlying rural areas are classified as ISO Rural 8, 9, or 10. ISO 8 is within the coverage response time of a fire station. ISO 9 areas have fire protection, but longer response times. Areas rated as ISO 10 are considered unprotected. Appendix B of the General Plan includes the 2005 Mariposa County ISO Rating map. In 2005, the County had an ISO rating of "5."

From CAL FIRE's perspective, the ISO ratings assist with determining mitigation for structures, but the Fire Hazard Preplanning conducted by CAL FIRE provides the planning for wildfire. CAL FIRE needs to be able to manage fuel breaks through the wildland-urban interface. When new subdivisions are created, CAL FIRE's review of the project can result in mitigation measures requiring fuel breaks, fire roads, limited dead end road lengths, increased setback areas from property lines adjacent to USFS lands, and other methods of protecting property from wild fire. Establishing these fire management features requires long-term maintenance efforts by property owners and CAL FIRE. Such requirements are incorporated into the development process. Development projects are subject to all applicable state fire safe standards, including Public Resources codes 4290 and 4291. CAL

FIRE professional staff review and inspect all development projects, parcel maps, use permits and building permits for state fire safe standards compliance.

In addition, all construction in Mariposa County (for all occupancies, other than those in a Special Occupancy Park or a public school facility) is required to comply with all state Uniform Building Code and Fire Code requirements.

The Local Hazard Mitigation Plan, which is incorporated into this Safety Element by reference, contains potential mitigation actions to address potential hazards described within that document, including wildfire. This element contains the goal of implementing the mitigation actions contained in the LHMP.

16.1.02

FLOOD HAZARD

Flooding and resulting flood hazards to life and property have been relatively rare in Mariposa. Flooding can cover roads and makes transportation hazardous. Flood hazard areas have been defined by the Department of Housing and Urban Development in the populated areas of Mariposa, El Portal, Coulterville, Wawona, and Hornitos.

In Mariposa County two types of flooding occur; riverine flooding, also known as overbank flooding due to excessive rainfall, and localized flooding. Riverine floodplains range from narrow, confined channels in the steep valleys of mountainous and hill regions to wide, flat areas in plains and coastal regions. Flooding in steep, mountainous areas is usually confined, strikes with less warning time, and has a short duration. Localized flooding may occur outside of recognized drainage channels or delineated floodplains due to a combination of locally heavy precipitation, increased surface runoff, and inadequate facilities for drainage and storm water conveyance.

There have been two major floods within the County's limits since 1950. In January 1997, the largest flood in over 80 years occurred on the Merced River. The river ran over its banks and inundated most of Yosemite Valley; all roads within the valley were under several feet of water. All bridges on the Merced River were covered with water. The cost for damages due to this flood was in excess of \$194 million.

In April 2006 floods were not as damaging, but were more widespread throughout the County. The floods caused significant damage to several small communities and led to a landslide that closed State Route 140. This incident had a cost of damage estimate of \$4.1 million.

According to the National Climatic Data Center's Storm Event Database, from 1995 to the present, there have been 28 different flooding events that affected Mariposa County. Damages for the County and additional affected counties was \$3 million.

Floodplains in Mariposa County encompass important resource values. These include natural moderation of floods; water quality maintenance; groundwater recharge; habitat and food for fish, wildlife and plants; open space and natural beauty; outdoor education and recreation; and economic value for agriculture, aquaculture, and forestry. Flooding is increased when

obstructions such as sediment, vegetation, and constructed structures and facilities occur in the floodway.

The major areas of concern for flood hazards in Mariposa County are:

- damage to homes and other structures that already exist in floodplains,
- increasing development pressures within floodplains or along watershed drainage channels,
- erosion along established stream channels and sedimentation of instream channels caused by cut and fill activities,
- potential development below dams which might be subject to inundation caused by dam failure, and
- lack of adequate access for emergency equipment during periods of flooding.

Floods are described in terms of their extent (including the horizontal area affected and the vertical depth of floodwaters) and the related probability of occurrence. Factors ranging from rainfall intensity to availability of sediment for transport contribute to the frequency and severity of riverine flooding.

The magnitude of flood used as the standard for floodplain management in the U.S. is a flood having a probability of occurrence of 1 percent in any given year, also known as the 100-year flood or base flood. The most readily available source of information regarding the 100-year flood is the system of Flood Insurance Rate Maps (FIRM) prepared by FEMA. The FIRMs show 100-year floodplain boundaries for identified flood hazards. These areas are also referred to as Special Flood Hazard Areas and are the basis for flood insurance and floodplain management requirements. FEMA has prepared a FIRM for Mariposa County and prepared a digital FIRM (DFIRM), effective September 25, 2009. Figure C-2 in Appendix C of the LHMP shows the locations of the 100-year floodplains in Mariposa County; per the FEMA Flood Insurance Rate Maps (FIRMs) there are no 500-year floodplains in Mariposa County.

Almost 80 percent of the total annual precipitation for Mariposa County occurs between November and March. The mean annual precipitation for the County is just under 34 inches. In the last 19 years Mariposa County has experienced seven flood events that have caused more than \$10K in damage (a 7 in 19 years chance of occurring.); therefore, the probability of future flooding in Mariposa County is roughly a 37 percent chance per year.

Local area plans in Mariposa County contain standards for protection of creeks and floodplains within plan boundaries. The Mariposa Town Plan contains setbacks from major and minor drainages and prohibits buildings, fill placements and additional development within the 100-year floodway of Mariposa and Stockton Creeks. The Coulterville Town Plan restricts development within the 100-year flood level of Maxwell Creek. The Fish Camp Town Planning Area Specific Plan contains standards for the protection of Big Creek and restricts development within the creek's flood channel. The Wawona Town Planning Area Specific Plan contains an overlay district for the South Fork of the Merced River which prohibits new dwelling units and subdivisions within its boundaries. The Coulterville Community Plan mandates the development of setback standards for the flood prone areas of blue line drainages.

The Local Hazard Mitigation Plan, which is incorporated into this Safety Element by reference, contains potential mitigation actions to address potential hazards described within that document, including flood. This element contains the goal of implementing the mitigation actions contained in the LHMP.

16.1.03

GEOLOGIC HAZARDS

The most common geologic hazards in Mariposa County are landslides and rock falls. Much of the landslide activity in Mariposa County is associated with the process of liquefaction, which occurs when very wet sediment behaves like a liquid. Landslide is a general term for the dislodgement and fall of a mass of soil or rocks along a sloped surface or for the dislodged mass itself. The term is used for varying phenomena, including mudflows, mudslides, debris flows, rock falls, rockslides, debris avalanches, debris slides, and slump-earth flows. Landslides may result from a wide range of combinations of natural rock, soil, or artificial fill. The susceptibility of hillside and mountainous areas to landslides depends on variations in geology, topography, vegetation, and weather. Landslides may also occur because of indiscriminate development of sloping ground or the creation of cut-and-fill slopes in areas of unstable or inadequately stable geologic conditions. Landslides can also occur together with other natural hazards, such as seismic activity and wildfires.

In April 2006 one of the most costly landslides in the County occurred on State Route 140; 7.6 miles west of El Portal in the Merced River canyon. Known as the Ferguson Rock Slide, this event completely buried the highway necessitating rerouting of the roadway to the opposite side of the canyon.

Each year small landslides/rockslides affect Mariposa County, though few impact communities or the infrastructure. Historically, landslide/significant soil movement has occurred in the Merced River drainage or along steep cut banks on roads in the central southwest areas of the County.

In 2011 the California Geological Survey developed a landslide map for the State of California which illustrates the susceptibility to deep-seated landslides. The map shows the relative likelihood of deep landsliding based on regional estimates of rock strength and steepness of slopes. Based upon this study, much of Mariposa, specifically the western portion of the County, falls into the low landslide susceptibility range. However, the mountainous areas in the eastern portion of the County along the Merced River canyon and in Yosemite Valley reach the high landslide susceptibility range.

The extent of size of a landslide will vary depending on the proportion of and type of material it carries, the geology of the area, and the initial cause of the slide. Landslides triggered by rainfall are smaller (usually 100-5,000 cubic yards) than those resulting from earthquakes. The hazard potential is greatest in areas with steep slopes and certain geologic and soil conditions, such as expansive soils. The risk of injury or property damage increases when houses and roads are constructed in these areas.

Such hazards can also block evacuation and emergency response routes (see the discussion of Emergency Management and Evacuation Plans below), or damage structures, such as septic systems, causing them to release pathogens or other hazardous substances to the environment.

The hazard potential is greatest in areas with steep slopes and certain geologic and soil conditions, such as expansive soils (clay soils that expand when wet). The risk of injury or property damage increases when houses and roads are constructed in these areas. Human activities may further increase the risk by removing or disturbing soil-stabilizing vegetation to construct building pads and roads.

Landslides in the foothill and mountain areas of Mariposa County, such as in the steep slopes of the Sierra Nevada, are typically deep-seated landslides which are hundreds to thousands of feet in length or width and only move fractions of an inch per year. However, during heavy rainfall events, a landslide can move several yards a minute or faster.

In 1974 a Five County Seismic Safety Element was developed for the general plans for Fresno, Kings, Madera, Mariposa and Tulare counties. This effort involved a generalized landslide risk appraisal and found that there was minimal risk of landslides caused by earthquakes in areas of low relief. The study found moderate to high risk in the remaining mountainous areas of the County. Most of the soils found in the County have minimal amounts of clay and low shrink-swell potential and do not result in landslide hazards. However, the soils found in the hills along Highway 49 North (HaG-Henneke extremely rock clay loam) have a high risk of sliding and are a special concern. The middle and eastern portions of Yosemite National Park are closer to the Owens Valley Fault and were also found to be at a greater risk of landslide hazards.

Landslides in Mariposa County are generally a secondary hazard resulting from winter storms and heavy rain. Every landslide event reported in Mariposa County has followed a winter storm/rain event; therefore it is assumed that probability of a future landslide event will be highly tied to winter/rain events. Based upon history of events (7 occurrences in the last 10 years) the probability of a future winter storm/rain induced landslide is a 70 percent chance per year.

Landslides are also a secondary hazard resulting from an earthquake. However, Mariposa has a low susceptibility to earthquake damage and historically there have been no reported earthquake induced landslides in Mariposa County. Therefore, the probability of an earthquake induced landslide is less than 10 percent per year.

The Local Hazard Mitigation Plan, which is incorporated into this Safety Element by reference, contains potential mitigation actions to address potential hazards described within that document, including landslide. This element contains the goal of implementing the mitigation actions contained in the LHMP.

The County addresses old mine shafts, vents, and adits when new subdivisions are created. Part of the California Environmental Quality Act (CEQA) process is to identify such hazards and incorporate appropriate mitigation measures.

16.1.04

SEISMIC HAZARDS

Historic earthquake activity in Mariposa County has been low. Secondary seismic hazards are listed in Table 16-1 of this Element; no significant damage related to seismic activity has been recorded. Nevertheless, the Foothills Fault System, which terminates in mid-County, is

seismically active. This system includes the Bear Mountain fault and the Melones fault. The system is bound on the east by the northward trending Melones fault zone and on the west by the northwestward trending Bear Mountain fault zone. The Foothills Fault system is 360km long and the maximum magnitude earthquake from the system is assumed to be 6.5 on the Richter magnitude scale. The northern portion of the system produced a magnitude 5.7 earthquake near Oroville in 1975. A few days after the Oroville earthquake, a magnitude 4.1 earthquake was centered south of Catheys Valley. This smaller earthquake reportedly caused no damage.

The Five-County Seismic Safety Study considered Mariposa County only in light of its distance from the San Andreas Fault to the west and the Owens Valley Fault System to the east. Based on information known at the time of that study, the major part of Mariposa County was shown in Seismic Zone S-1. Zone S-1 is described as having general features of hard rock, alluvium on valley floors, and weathered bedrock in mountain meadows. The zonal characteristics of Seismic Zone S-1 indicate that there is a low damage potential from generalized ground shaking.

Table 16-1: Secondary Seismic Hazards

Hazard	Damage potential
Landslide	Moderate to high
Subsidence/settlement	Minimal
Liquefaction	Minimal
Seiches	Low

Source: Mariposa County, 2005.

Only the mid to eastern portions of Yosemite National Park were shown in Seismic Zones S-2 and S-3, both of which are subject to more severe primary and secondary hazards due to the area's proximity to the Owens Valley Fault Zone.

The LHMP shows the level of ground motion that has an annual probability of being exceeded in 50 years. As such, this map shows that Mariposa County is susceptible to strong shaking, but does not reach the severe to violent shaking that most counties within the state are susceptible to.

Over past years a group called the Working Group on California Earthquake Probabilities (WGCEP), a multi-disciplinary collaboration of scientists and engineers developed earthquake forecasts for California. In 2007, the WGCEP was commissioned to develop the Uniform California Earthquake Rupture Forecast (UCERF) – the first comprehensive framework for comparing earthquake likelihoods throughout all of California. UCERF provided important new information for improving seismic safety engineering, revising building codes, setting insurance rates, and helping communities prepare for inevitable future earthquakes.

Taking into account the earthquake histories and relative rates of motion on many faults, the UCERF study concluded that there is a probability of more than 99 percent that in the next 30 years California will experience one or more magnitude 6.7 or greater quakes, as illustrated by Figure 4-1 in the LHMP.

This study, however, also illustrates that for Mariposa County the probability is significantly less. For Mariposa County the probability of having a nearby earthquake rupture (within 3 to 4 miles) of 6.7 or greater in the next 30 years is less than .1 percent and in most areas of the County closer to .01 percent.

The Local Hazard Mitigation Plan, which is incorporated into this Safety Element by reference, contains potential mitigation actions to address potential hazards described within that document, including earthquake. This element contains the goal of implementing the mitigation actions contained in the LHMP.

16.1.05 AIRPORT SAFETY

The Mariposa-Yosemite Airport, located on Highway 49 North approximately four miles northwest of Mariposa, is the only public airport in Mariposa County. It serves Mariposa County and the eastern half of Madera County. It is classified as a General Aviation Basic Utility Airport and has one runway with an adjacent full-length taxiway. The most common types of aircraft using the airport are single engine fixed-wing general aviation with some use by twin-engine aircraft and helicopters.

The principal concerns associated with the Mariposa-Yosemite Airport are the safety of the general public in over flight areas during take-off and landing and noise compatibility. To reduce the safety risk, the Federal Aviation Administration requires runway protection zones and height limits on structures near airports. In addition, airport planning boundaries define areas near airports within which safety or noise restrictions are imposed. Development around the airport must comply with the Mariposa-Yosemite Airport Comprehensive Land Use Plan and Airport Overlay Zone regulations (Chapter 17.64, Mariposa County Code).

Land use compatibility standards have been established by the Mariposa-Yosemite Airport Comprehensive Land Use Plan to provide consistency with the requirements of the County General Plan and the Mount Bullion Town Planning Area, within which the airport is located. Land uses have been classified into three safety zones surrounding the Airport. These safety zones are intended to protect people from hazards and prevent property damage. They restrict building height and ensure compatible uses in areas surrounding the airport.

To be consistent with the County standard, a 55-Community Noise Equivalent Level (CNEL) noise contour has been established extending approximately 3,200 feet east and 5,700 feet west of State Highway 49. This contour is intended to protect residents from potential harm of excessive noise. There are 250 acres zoned Mountain Home (MH) located between the 55 and 60 CNEL (between Old Toll Road and Mt. Bullion Town Planning Area).

Airport safety issues are critical in order to attain the facility's maximum economic development potential. Mariposa-Yosemite Airport is a major component of the County's economic diversity opportunities if its uses are allowed to continue and expand.

16.1.06

NATURALLY-OCCURRING ASBESTOS³¹

Asbestos is a term used for several types of naturally-occurring fibrous minerals found in many parts of California. The most common type of asbestos is chrysotile, but other types are also found in California. Serpentine rock often contains chrysotile asbestos. Serpentine rock, and its parent material, ultramafic rock, is abundant in the Sierra foothills, the Klamath Mountains, and Coast Ranges. Serpentine rock is typically grayish-green to bluish-black in color and may have a shiny appearance.

Asbestos is commonly found in ultramafic rock, including serpentine, and near fault zones. The amount of asbestos that is typically present in these rocks range from less than 1% up to about 25%, and sometimes more. Asbestos is released from ultramafic and serpentine rock when it is broken or crushed. This can happen when cars drive over unpaved roads or driveways which are surfaced with these rocks, when land is graded for building purposes, or at quarrying operations. It is also released naturally through weathering and erosion. Once released from the rock, asbestos can become airborne and may stay in the air for long periods of time.

All types of asbestos are hazardous and may cause lung disease and cancer. Health risks to people are dependent upon their exposure to asbestos. The longer a person is exposed to asbestos and the greater the intensity of the exposure, the greater the chances for a health problem. Asbestos-related disease, such as lung cancer, may not occur for decades after breathing asbestos fibers. Cigarette smoking increases the risk of lung cancer from asbestos exposure.

There are many laws pertaining to asbestos. The California Air Resources Board adopted two statewide control measures which prohibits the use of serpentine or ultramafic rock for unpaved surfacing and controls dust emissions from construction, grading, and surface mining in areas with these rocks.

16.1.07

HAZARDOUS MATERIALS AND HAZARDOUS WASTE

Hazardous materials and hazardous waste are a potential hazard to County residents primarily through upsets or accidental releases to the environment. The risk of exposure increases when hazardous materials or waste facilities are located near where people live; when facilities are located in areas that contain other hazards (e.g., floodplains, landslide areas, and wildland fire areas); or when hazardous materials or waste are transported. For these reasons, the State and Federal governments closely regulate the storage, handling, and transport of hazardous materials and waste.

³¹ California Environmental Protection Agency, Air Resources Board, January 2002.

Hazardous materials are generally classified by their primary health effects on humans. Some common types include the following:

- Asphyxiants, substances that interfere with normal breathing and can cause suffocation.
- Flammables, combustibles and explosives.
- Corrosives and irritants causing burns or irritation to body tissues such as eyes, nose, throat, lungs, or skin.

The County Health Department is responsible for enforcing State and Federal hazardous waste regulations and is the Certified Unified Program Agency (CUPA) for the County. The CUPA is responsible for implementing six hazardous materials related programs; Hazardous Materials Business Plans, Hazardous Waste Generators, Underground Storage Tanks, Above Ground Storage Tanks, California Accidental Release Prevention, and for maintaining the County's Area Plan for Emergency Response to Hazardous Materials Incidents. The Plan is a guide for emergency response to hazardous materials related incidents within the County.

There are several sites within the County where there have been reported releases of hazardous materials or wastes to the environment. The most common among these are leaking underground storage tanks (USTs) at former or active service stations. The County Health Department has an underground storage tanks program, which is responsible for ensuring that all USTs meet current state regulations and are inspected and permitted on an annual basis.

The County has taken steps to reduce the generation of hazardous waste by businesses and homeowners in the County. Household waste reduction has been addressed through public information and education about conservation and re-use. There are also bi-annual household hazardous waste collection days that have yielded positive results and will continue to be implemented.

Mobile Incident

Mobile incidents include those that occur on a roadway or a rail facility. For the years 1993-2012, 12 mobile incidents were reported by the County Health Department. In Mariposa County, a mobile hazardous material event is most likely to occur along highways 140 and 49. Trucks and cars that use these transportation corridors commonly carry a variety of hazardous materials, including gasoline, other petroleum products, and other chemicals known to cause human health problems, including fertilizers, pesticides, and industrial chemicals. Sections of State Route 132, State Route 120, and State Route 41 also run through Mariposa County. A hazardous material event could potentially occur on one of these routes, but highways 140 and 49 are of greatest concern to the County.

Comprehensive information on the probability and magnitude of a hazardous material event along transportation corridors is not available. Wide variations among the characteristics of hazardous material sources and among the materials themselves make such an evaluation difficult. As such, the potential extent of a hazardous material mobile incident is unknown.

Based on previous occurrences, mobile hazardous material events are relatively common, and occur almost every year (12 occurrences in 11 years). While incidents do not occur every year, the average number of events by year led to a probability of 100 percent likely per year.

Fixed Incident

The release of hazardous substances from stationary sources can be caused by human error, equipment failure, intentional dumping, acts of terrorism, or natural phenomena. Earthquakes pose a particular risk, because they can damage or destroy facilities containing hazardous substances. The threat posed by a hazardous-material event can be amplified by restricted access, reduced fire suppression and spill containment capability, and even complete cutoff of response personnel and equipment.

Mariposa County is home to many businesses that use and store hazardous materials and generate hazardous wastes. Most of them are small to mid-sized operations such as automotive shops and maintenance yards. Gas stations, public facilities, fire stations, and water and wastewater treatment operations also comprise a large portion of regulated facilities with the potential for hazardous material releases. Much of the hazardous waste produced in Mariposa County is waste oil. The County collects waste oil at the Mariposa County Airport, the Mariposa County Landfill, and the Don Pedro transfer station for recycling.

There are no hazardous waste treatment facilities in the County, therefore all other hazardous materials must be disposed of through a licensed hazardous waste hauler or through a County Household Hazardous Waste Collection event. The County has two Permanent Household Hazardous Waste Collection facilities, one at the County landfill and one at the Don Pedro transfer station. These facilities are severely limited by funding and therefore there is still a large unmet need for household hazardous waste disposal in Mariposa County.

According to the Mariposa County Health Department, 68 fixed site incidents occurred between 1993-2012.

Comprehensive information on magnitude of a hazardous material event at fixed locations is not available due to unpredictable factors such as equipment maintenance, operator training, natural phenomena, and weather. As such, the extent of a potential hazardous material fixed incident is unknown.

Since 2002 Mariposa County has experienced 47 hazardous material spills at a fixed location. Based on previous occurrences, fixed hazardous material events are very common and are expected to continue to occur yearly (47 occurrences in 11 years). The potential for a hazardous material spill is greater than 100 percent likely per year.

The Local Hazard Mitigation Plan, which is incorporated into this Safety Element by reference, contains potential mitigation actions to address potential hazards described within that document, including hazardous material. This element contains the goal of implementing the mitigation actions contained in the LHMP.

16.1.08

EMERGENCY MANAGEMENT AND EVACUATION PLANS

Mariposa County manages and coordinates its emergency response activities in conjunction with the California State Standardized Emergency Management System (SEMS). The State Office of Emergency Services administers the SEMS, which provides a framework for

coordinating multi-agency emergency response. Among other things, SEMS incorporates mutual aid agreements, establishes lines of communication during emergencies, and standardizes incident command structures. By participating in SEMS, Mariposa County is eligible for reimbursement of response costs under disaster assistance programs.

The Draft Evacuation Plan of Mariposa County is part of the County's Draft Emergency Plan (August 2003), which also includes initial response operations, extended response operations, recovery operations, and provides guidance for field responders for initial response to emergencies. The Evacuation Plan is updated annually by the local Office of Emergency Services and Sheriff's Department. In depth evacuation staging areas and sheltering locations were updated in 2012 in a cooperative effort with the American Red Cross. The Plan includes a general response checklist for the initial response operations at the field level in order to standardize emergency response procedures. The field response level is where emergency response personnel and resources, under the command of an appropriate authority, carry out tactical decisions and activities in direct response to an incident or threat. SEMS requires the use of an Incident Command System (ICS) and the Incident Commander to coordinate with the Emergency Operations Center.

In addition, the Evacuation Plan provides an evacuation procedure including the establishment of evacuation staging areas. Evacuation is a short-term method to gather evacuees in the case of a fire, flood, or other disaster. The need for an evacuation shall be determined by an authority having jurisdiction. Predetermined sites will be used as staging areas for evacuees and citizens seeking information.

The Evacuation Plan provides for emergency response agencies, such as the Sheriff's Office, County Fire/OES, Human Services, Red Cross, and others as appropriate, to set up a public information center at the sites and continue the operation until the particular incident is under control. If an actual shelter operation becomes necessary, the Evacuation Plan provides for the Department of Human Services to request and coordinate the opening of congregate care facilities with the Merced/Mariposa Chapter of the American Red Cross. The County Department of Human Services Staff would also contact the Salvation Army and other organizations involved in disaster services.

The Mariposa County Fairgrounds has been determined to be the main shelter site for large-scale disasters. If that location is utilized by emergency operations, it may not be available for shelter use. In that instance, other safe locations will need to be found. The Draft Evacuation Plan provides Emergency Alert System (EAS) Guidelines, which include the procedures from Emergency Communications Areas (EC Areas) that cover the Mariposa Operational Area. They are intended to standardize the format for communicating basic information needed by the public in an emergency.

Mapping

On July 7 2015, the Board of Supervisors authorized the distribution (and regular updating) of the Mariposa County Road Atlas for First Responders. This Atlas was prepared to provide first responders with current, accurate and comprehensive information for use in responding to emergencies as quickly as possible and in planning for emergency evacuations. The value of this Atlas is unprecedented as there was previously no other single data source available in the county which contains all of the information potentially needed by a first responder during an emergency. It is intended that the Atlas information be available to local first responders as well as to strike teams from out of the county, assisting during fire season.

This Atlas is available in hard copy, and georeferenced PDFs of the Atlas are also available for use on tablets and smartphones.

Preparation of the Atlas was a cooperative effort and included input and data from many sources, including Madera County, Merced County, Stanislaus County, Tuolumne County, the Mariposa County Agricultural Commissioner, the Mariposa County Health Department, the Mariposa County Planning Department, the Mariposa County Public Works Department, the Mariposa County Sheriff's Department, the Mariposa County Surveyor, the Mariposa County SCOPE Program, Mariposa County Technical Services, the Bureau of Land Management (BLM), CAL FIRE, the National Park Service (NPS), the United States Forest Service (USFS) Sierra National Forest, the United States Forest Service (USFS) Stanislaus National Forest and the United States Army Corps of Engineers.

The Atlas contains locational information regarding all county parcels, all roads in county (regardless of maintenance) and road names, parcel addresses (if assigned), drainages, named rapids on the Merced River, landmarks, fire hydrants, structures, locked gates, bridges with weight limits, narrow roads, boundaries of USNPS, USFS and BLM lands and other topographic features. The Atlas also contains an index, mileage table and emergency water source information.

16.1.09 WINTER STORMS

The time period between mid-autumn to mid-spring comprises the rainy season for California's Central Valley (roughly October to April). During these months winter storms, characterized by freezing temperatures, snowfall and high winds, may occur. Winter storms can lead to high winds. Winter storm events from 2000 to the present (2015), as identified by the National Climatic Data Base, were characterized by heavy snowfall. However, strong winds have caused damage. There are six events that resulted in property damage (one even included crop damage as well); five were wind events and the sixth was a winter storm event that included wind.

The LHMP shows that the entire County is susceptible to the hazards of winter storms. The areas, however, that are most susceptible to all aspects of winter storm, including freezing temperatures, snowfall and high winds, are the higher elevations in the eastern half of the County.

All of Mariposa County experiences temperatures of 32 degrees F or below. The coldest portions of the County, on average, experience more than 121 days per year of freeze, while the warmest portions of the County experience less than 30 days of freeze per year. Areas in the County most susceptible to snowfall can average over 72 inches per year, while the areas least susceptible average less than 3 inches per year.

The areas in the County most susceptible to wind experience between 41 and 51 days of high wind per year; the less windy areas experience between 31 and 41 days of high wind per year.

Power disruption is a sub-hazard of a winter storm. Minor power outages from time to time are inevitable; more significant incidents are typically caused by winter storms. Disruptions that have affected Mariposa County have been caused by winter storm events. An event in January 2010 left 10,000 residents without power blacking out over 50% of the County and a

March 2011 snow storm forced a closure of Yosemite National Park. Nine-thousand residents in Mariposa and Madera counties were left without power, some for hours and some for days.

The probability of a major winter storm is roughly 71 percent per year. Since every winter storm does not lead to a major power disruption the probability of future events is unknown, but it is less than a 71 percent chance per year.

The Local Hazard Mitigation Plan, which is incorporated into this Safety Element by reference, contains potential mitigation actions to address potential hazards described within that document, including winter storms. This element contains the goal of implementing the mitigation actions contained in the LHMP.

16.1.10

LOCAL HAZARD MITIGATION PLAN MITIGATION STRATEGY

The LHMP includes a mitigation strategy which identifies four steps to be taken in accordance with the federal Disaster Mitigation Act. They are identifying local mitigation goals; identification and analysis of mitigation actions; implementation of mitigation actions; and identification and analysis of mitigation actions for National Flood Insurance Program (NFIP) compliance. Mariposa County does not currently participate in the NFIP.

Local Mitigation Goals:

The LHMP shows the mitigation goals designed to reduce or avoid long-term vulnerability to each hazard included in the vulnerability analysis of the LHMP, including flood, hazardous material event, landslide (including earthquake), wildlife, and winter storm (including power disruption). (Note: These issues identified in the LHMP are in addition to, or augment discussion of, the issues identified and discussed in other sections of the Safety Element.) The LHMP identifies five broad-based public policy statements upon which the mitigation goals are based:

- Represent basic desires of the community;
- Encompass all aspects of community, public and private;
- Are nonspecific, in that they refer to the quality (not the quantity) of the outcome;
- Are future-oriented, in that they are achievable in the future; and
- Are time independent, in that they are not scheduled events

Mitigation Goals:

- | | |
|------------|--|
| Goal No.1: | Reduce the possibility of damages and losses due to seismic hazards, landslide and ground shaking. |
| Goal No. 2 | Reduce the possibility of damages and losses due to weather-related hazards, including flood and winter storms. |
| Goal No. 3 | Reduce the possibility of damages and losses due to other hazards, including wildfire, power disruption and hazardous material events. |
| Goal No. 4 | Reduce the possibility of damages and losses due to public health emergencies. |

Mitigation Actions:

Mitigation actions are activities, measures, or projects that help achieve the goals of the mitigation plan. Mitigation actions are usually grouped into five broad categories: prevention, property protection, public education and awareness, natural resource protection, and structural projects.

The LHMP includes potential mitigation actions that used the following criteria:

- 2011 Hazard Mitigation Assistance project criteria eligibility
- Disaster Mitigation Act 2000 requirements for the identification and analysis of mitigations actions
- Results of the 2014 LHMP vulnerability analysis

For each potential mitigation action, the following information is listed in the adopted LHMP: mitigation action description; mitigation action category; hazard(s) addressed; and type of development affected by mitigation action.

Implementation of Mitigation Actions:

Five criterion were considered to determine which mitigation actions should become part of the County’s Mitigation Plan. They are as follows:

- A. A local jurisdiction department or responsible agency currently exists or can be identified
- B. The action can be implemented during the 5-year lifespan of the LHMP
- C. The action may reduce expected future damages and losses (a positive cost-benefit analysis appears likely)
- D. The action mitigates a high-risk hazard
- E. The action mitigates multiple hazards

The Mitigation Action Plan consists of a description of each mitigation action; prioritization criteria for selecting each action; the potential facility or facilities to be mitigated by the action (if known); the department or agency responsible for implementing the action; and the implementation time frame for the action. Each of the mitigation actions met prioritizing criteria shown in B, C, and E above. Timeframes for implementation range from 12 months to 72 months from the adoption date of the LHMP.

Identification and Analysis of Mitigation Actions: NFIP Compliance:

Mariposa County does not participate in the National Flood Insurance Program (NFIP). The County is mapped by FEMA for flood involvement though it has never participated in NFIP. The governing body, departments, and identified communities have not shown repetitive loss nor have they shown significant damage due to rising water. Severe flooding has been documented along the Merced River, though due to its status as a Wild and Scenic River very little development can take place.

Monitoring, Evaluating, and Updating the LHMP:

Monitoring the Plan

The Mariposa Office of Emergency Services (OES), or an identified point of contact will continue to coordinate all local efforts to monitor, evaluate and update the LHMP. This

Safety Element will be reviewed in conjunction with the LHMP and updated and amended accordingly and if necessary, at five-year intervals.

The local Planning Committee for the LHMP will have the opportunity to evaluate the Plan through an Annual Review Questionnaire every 12 months under the auspices of the Mariposa OES, or a point of contact. Responses to questionnaires will help determine if the LHMP needs updating to address new or more threatening hazards, new technical reports or findings, and new or better-defined mitigation projects.

Evaluating the Plan

Evaluation of progress can be achieved by monitoring changes in vulnerabilities identified in the Plan. Changes in vulnerability can be identified by noting:

- Decreased vulnerability as a result of implementing recommended actions;
- Increased vulnerability as a result of failed or ineffective mitigation actions; and/or
- Increased vulnerability as a result of new development (and/or annexation).

Additionally, mitigation actions will be monitored and evaluated through the use of the Mitigation Project Progress Report. During each annual review, each department or agency currently administering a mitigation project will submit a progress report to Mariposa County OES to review and evaluate. For projects that are being funded by a FEMA mitigation grant, FEMA quarterly reports may be used as the preferred reporting tool. The progress report will discuss the current status of the mitigation project, including any changes made to the project, identify implementation problems, and describe appropriate strategies to overcome them. After considering the findings of the submitted progress reports, Mariposa County OES may request that the implementing department or agency meet to discuss project conditions.

Updating the Plan

In addition to the Annual Review Questionnaire, Mitigation Project Progress Report or FEMA quarterly reports, and any annual meetings, the Planning Committee will meet to update the LHMP every five years.

16.2 GENERAL PLAN IMPLEMENTATION

Goal 16-1: Enforce development standards lessening fire hazard danger.

Policy 16-1a: Non-residential development activity shall be within acceptable fire department response time limits and coverage areas; or a development project shall provide its own on-site fire protection facilities and firefighters as approved by the County Fire Department.

Implementation Measure 16-1a(1): Establish appropriate standards for development projects wishing to provide alternative, on-site fire protection services.

Timing:	Intermediate-term.
Responsibility:	Fire Department.
Fiscal Impact:	Staff time and preparation costs to develop appropriate fire safety standards.
Consequences:	Alternative means for developers to satisfy fire protection safety.

Policy 16-1b: Establish attainable standards for new subdivisions and development for fire safety.

Implementation Measure 16-1b(1): Enact amendments to the Mariposa County Code to implement fire safe standards. The ordinance(s) shall include the following requirements:

- Minimum construction standards or template (width, grade, and surfacing) for public roads, private roads, and private driveways sufficient for emergency vehicles access.
- Requirements for connecting and maintaining a circulation system within a road system using roads connecting through other parcels or developed secondary routes dedicated for emergency access.
- Minimum emergency water supply standards for firefighting purposes.
- Standards for siting of flammables.
- Signage and address standards providing easy identification of roads, driveways and buildings.
- Site design specifications for buildings in locations of extremely high fire danger.

Timing: Short-term.
Responsibility: Fire Department.
Fiscal Impact: Staff resource cost and possible outside costs for ordinance preparation and hearing process.
Consequences: Fire protection.

Implementation Measure 16-1b(2): Implement the countywide Community Wildfire Protection Plan, which includes standards for fire prevention, fuel management, and fire suppression, including but not limited to the following:

- Requirements for development in areas with high and very high fuel hazards, including adequate emergency access and water supply; “defensible space” standards; and the use of fire-resistant exterior construction materials, such as fire safe roofing and fire-resistant plants.
- Wildland fire management activities such as controlled burning, fuel removal, vegetation management, and firebreaks.
- Specific fire protection and prevention requirements for hillside, open space, and rural area development.
- Public wildfire safety education through the Mariposa County Fire Safe Council (MFSC).
- Standards specific to geographic areas in the County based on fire hazard potential.

Timing: Intermediate-term.
Responsibility: Fire Department.
Fiscal Impact: Staff resource cost and possible outside costs .
Consequences: Fire protection

Policy 16-1c: All subdivisions and development projects shall conform to adopted fire code and other fire prevention regulations.

Implementation Measure 16-1c(1): Amend, if necessary, the County Subdivision code to ensure formal review of subdivisions by the Fire Agencies.

Timing: Short-term.
Responsibility: Mariposa County Planning Department, Fire Department.
Fiscal Impact: Initial Staff time and ongoing review time; to be incorporated into the update of Title 17, Zoning.
Consequences: Fire protection.

Goal 16-2: Utilize the most efficient multi-level fire prevention and protection system.

Policy 16-2a: Develop and maintain cooperative arrangements with CAL FIRE to maximize the efficient deployment of fire prevention and protection resources.

Implementation Measure 16-2a(1): Cooperate with CAL FIRE in providing advice to landowners on vegetation management programs keeping forest fuel values at acceptable levels.

Timing: Ongoing.
Responsibility: Fire Department.
Fiscal Impact: Ongoing.
Consequences: Fire protection.

Policy 16-2b: Support programs to involve and educate County residents in fire prevention.

Implementation Measure 16-2b(1): Continue to work with the Mariposa County Fire Safe Council or other appropriate agency or group as a major avenue for educating residents and coordinating citizen efforts in fire prevention.

Timing: Ongoing.
Responsibility: Fire Department.
Fiscal Impact: Staff time and incidental costs.
Consequences: Fire protection.

Goal 16-3: Sustain adequate fire protection service levels.

Policy 16-3a: Adopt a strategic plan for fire safety.

Implementation Measure 16-3a(1): Adopt a strategic plan for fire safety incorporating the Standards of Cover for the Mariposa County Fire Department identifying current and future fire service areas and standards.

Timing: Short-term.
Responsibility: Fire Department.
Fiscal Impact: Staff time and preparation costs.
Consequences: Fire protection.

Implementation Measure 16-3a(2): The strategic plan shall identify the long term capital improvements, rolling stock, equipment and supplies, and other major purchase items needed to maintain and improve fire safety.

Timing: Short-term.
Responsibility: Fire Department.

Fiscal Impact: Staff time and preparation costs.
Consequences: Fire protection.

Implementation Measure 16-3a(3): The strategic plan shall identify thresholds and capital facility needs for each of the existing and future service areas.

Timing: Short-term.
Responsibility: Fire Department.
Fiscal Impact: Staff time and preparation costs.
Consequences: Fire protection.

Implementation Measure 16-3a(4): Revise and update the “Standards of Cover” and its service area maps.

Timing: Short-term.
Responsibility: Fire Department.
Fiscal Impact: Staff time and preparation costs.
Consequences: Fire protection.

Policy 16-3b: Increase emergency response personnel training opportunities.

Implementation Measure 16-3b(1): Enable facilities for “heavy” fire suppression helicopter operations at the Mariposa Yosemite Airport.

Timing: Short-term.
Responsibility: Fire Department and Public Works.
Fiscal Impact: Capital improvement—potential construction costs; ongoing operating costs.
Consequences: Fire protection.

Goal 16-4: Reduce the risk of flood loss to preserve property and save lives.

Policy 16-4a: Control development in flood hazard areas.

Policy 16-4b: All new construction in a flood hazard area shall be flood proofed.

Implementation Measure 16-4a and b(1): Adopt a comprehensive County Flood Protection Ordinance that includes at a minimum the following requirements:

- All structures in flood hazard areas are constructed with materials and equipment resistant to flood damage.
- All mobile homes shall be anchored by providing over-the-top and frame ties to ground anchors.
- All new and replacement water systems shall be designed to prevent infiltration of floodwaters into the system.
- On-site sewage disposal systems shall be located to avoid impairment to them or contamination from them during flooding.

Timing: Short-term.
Responsibility: Mariposa County Planning Department, Public Works Department.
Fiscal Impact: Cost of ordinance preparation.
Consequences: Increased preparation and protection from flood event.

Policy 16-4c: Control development in dam inundation areas.

Implementation Measure 16-4c(1): The update to Title 17, Mariposa County Code, Zoning shall include a dam inundation overlay district.

Timing: Intermediate-term.
Responsibility: Mariposa County Planning Department.
Fiscal Impact: Part of the development of updates to Title 17, Mariposa County Code, Zoning.
Consequences: Increased preparation and protection from flood event.

Goal 16-5: Minimize the impact of floods on the people and businesses of Mariposa County.

Policy 16-5a: Ensure adequate capacity is maintained in flood plains and drainage channels to handle flood flows.

Implementation Measure 16-5a(1): Enact an ordinance to require a hydrologic evaluation for subdivisions and development projects located within flood plains and drainage channels to ensure potential flood hazard is minimized.

Timing: Short-term.
Responsibility: Public Works Department.
Fiscal Impact: Ordinance development costs.
Consequences: Increased preparation and protection from flood event.

Implementation Measure 16-5a(2): Subdivision parcel and final maps and building permit site plans shall provide for on-site detention for normal storm water flows in excess of the capacity of natural drainage courses receiving runoff from the development.

Timing: Ongoing review standard.
Responsibility: Building Department.
Fiscal Impact: Has the potential to add cost to project review and site development.
Consequences: Minimized flooding impacts from increased development.

Policy 16-5b: Minimize the loss of access across floodways and in flood hazard areas.

Implementation Measure 16-5b(1): Amend Title 16 of the Mariposa County Code, Subdivisions, to require subdivision parcels and development projects to provide at least one means of vehicular access not crossing a flood hazard area, or be constructed above the maximum flood elevation.

Timing: Short-term.
Responsibility: Mariposa County Planning Department.
Fiscal Impact: Incorporated into the costs of updating Title 17.
Consequences: Increased preparation and protection from flood event.

Policy 16-5c: Water retention facilities shall be constructed to prevent flooding and to ensure that pre-development off- and on-site surface flows are maintained with no net increase.

Implementation Measure 16-5c(1): Enact an ordinance requiring ponds and facilities for retaining water to be designed to prevent downstream flooding.

Timing: Short-term.
Responsibility: Building Department and Director of Public Works.
Fiscal Impact: Ordinance development.
Consequences: Increased preparation and protection from flood event.

Goal 16-6: Preserve the values of floodplains as natural features.

Policy 16-6a: Retain flood plains within project design in such a way as to ensure that no net change occurs upstream or downstream.

Implementation Measure 16-6a(1): Amend Title 17 of the Mariposa County Code, Zoning, to require flood and drainage channels to be designed into landscaping plans.

Timing: Short-term.
Responsibility: Mariposa County Planning Department.
Fiscal Impact: Incorporated into the update of Mariposa County Code Title 17.
Consequences: Minimized flooding impacts from increased development.

Implementation Measure 16-6a(2): Land use maps shall maintain low intensity zoning in floodplain areas.

Timing: Short-term.
Responsibility: Mariposa County Planning Department.
Fiscal Impact: Ongoing.
Consequences: Minimized flooding impacts from increased development.

Goal 16-7: Protect life and property endangered by landslides and rockfalls.

Policy 16-7a: Reduce risk of injury or property damage by landslides and rockfalls.

Policy 16-7b: Avoid development in geologic hazard areas.

Implementation Measure 16-7a and b(1): Site inspections and maps (topographic, soils and geologic) will be used to identify geologic hazard areas (e.g., landslide-prone areas) in the County. The maps will be retained and available in the County Planning Department.

Timing: Ongoing review standard.
Responsibility: Mariposa County Planning Department.
Fiscal Impact: Staff time and administrative costs.
Consequences: Public safety.

Implementation Measure 16-7a and b(2): The County Building Official will review plans for new construction in geologic hazard areas and will determine whether engineering studies, including structural and soils analyses, are required prior to issuing permits for construction in these areas.

Timing: Ongoing review standard.
Responsibility: Mariposa County Planning Department, Building Department.
Fiscal Impact: Staff time and administrative costs.
Consequences: Public safety.

Goal 16-8: Protect life and property endangered by seismic activity.

Policy 16-8a: Develop and enforce standards to reduce risk of injury or property damage by seismic activity.

Implementation Measure 16-8a(1): New development projects in or near a seismic risk area (fault zone) or geologic hazard area shall be discouraged or designed to such standards as to minimize or eliminate such risk.

Timing: Ongoing review standard.

Responsibility: Mariposa County Planning Department, Building Department.

Fiscal Impact: Staff time and administrative costs.

Consequences: Public safety.

Policy 16-8b: Avoid seismic dangers for public facility construction.

Implementation Measure 16-8b(1): Public facilities shall be sited to avoid known seismic dangers and shall be constructed to meet seismic safety requirements of Title 24, California Code of Regulations.

Timing: Ongoing review standard.

Responsibility: Building Department.

Fiscal Impact: Staff time and administrative costs.

Consequences: Public safety.

Goal 16-9: Engineer and locate development in areas not endangered by secondary seismic effect to protect life and property.

Policy 16-9a: Develop and enforce standards to reduce risk of injury or property damage by secondary effects of seismic activity.

Implementation Measure 16-9a(1): Review development and subdivision proposals to avoid building sites in areas subject to secondary seismic effects.

Timing: Ongoing review standard.

Responsibility: Mariposa County Planning Department.

Fiscal Impact: Staff time and administrative costs.

Consequences: Public safety.

Goal 16-10: Provide a safe airport environment to ensure its success and expansion.

Policy 16-10a: Implement the Mariposa-Yosemite Airport Comprehensive Land Use Plan.

Implementation Measure 16-10a(1): No land development incompatible with the airport land use plan shall be permitted in the airport's area of influence.

Timing: Ongoing review standard.

Responsibility: Mariposa County Planning Department; Planning Commission.

Fiscal Impact: Staff time and administrative costs.

Consequences: Airport protection.

Goal 16-11: Manage hazardous materials and hazardous waste to prevent unnecessary exposure and risk.

Policy 16-11a: Maintain the effectiveness of the Comprehensive Hazardous Waste Management Plan.

Implementation Measure 16-11a(1): Enforce the requirements of the County's Comprehensive Hazardous Waste Management Plan.

Timing: Ongoing review standard.

Responsibility: Mariposa County Health Department.

Fiscal Impact: Staff time and administrative costs.

Consequences: Public safety.

Goal 16-12: Minimize risks to people and property during emergencies through pre-planning.

Policy 16-12a: Coordinate local and State emergency response efforts.

Implementation Measure 16-12a(1): Review and update the Mariposa County Emergency Management Plan every five years.

Timing: Ongoing.

Responsibility: Emergency Services.

Fiscal Impact: Staff time, administrative costs, training costs.

Consequences: Enhanced emergency preparation.

Implementation Measure 16-12a(2): Undertake full operation emergency situation drills and training periodically.

Timing: Ongoing.

Responsibility: Emergency services.

Fiscal Impact: Creates a mandated program with higher than normal training costs.

Consequences: Enhanced emergency preparation

9 CIRCULATION, INFRASTRUCTURE, AND SERVICES

This element identifies circulation and infrastructure needs in the County. The Element provides guidance for transportation and capital facilities planning. General Plan circulation elements typically address transportation issues related to roadways, airports, and rail. State law recognizes that a circulation element can include more than the transport of people, goods, and materials on roadways, waterways, rail, and air routes. Mariposa County has decided to include the full range of circulation issues in this Element, including public and private utility systems, as well as other infrastructure and services.

The following County planning and policy documents relate to or implement the Circulation, Infrastructure, and Services Element.

Airport Land Use Plan. The Airport Land Use Plan is a document prepared by the Airport Authority (Mariposa County Department of Public Works) for airport development, improvement, and expansion of facilities. The Airport Land Use Plan contains additional restrictions and conditions on land uses in areas surrounding the Mariposa-Yosemite Airport that address noise and safety issues and supplement those of the General Plan. To obtain funding for the airport through the State, the Airport Land Use Plan must be consistent with the General Plan.

Mariposa County Bicycle, Pedestrian, and Equestrian Facilities Plan. The Mariposa County Bicycle, Pedestrian, and Equestrian Facilities Plan was presented to the public in September 2001 but has not been adopted by the Board of Supervisors. The Plan designates the locations of existing and proposed paths and trails for non-motorized travel and recommends improvement standards, classification systems, and funding mechanisms for acquisition, operation, and maintenance of the County's trail system. The Plan also contains policies regarding public-private partnerships and coordination with property owners where trails cross, or are adjacent to, private lands.

Mariposa County Road Condition Inventory and Pavement Management System. This report identifies the conditions and signage on each road within the County. The County uses the inventory to prioritize expenditures on road maintenance, improvements, and replacement.

Regional Transportation Plan (RTP). The Regional Transportation Plan is a document prepared by the Local Transportation Commission to identify, prioritize, and plan for road construction and improvement projects. The RTP must be consistent with the General Plan. No project identified in the General Plan should be carried out until it is incorporated into the RTP. Similarly, no project identified in the RTP should be carried out if it conflicts with a policy of the General Plan.

Yosemite Area Regional Transportation System (YARTS) Transit Development Plan. YARTS provides regional transit for Mariposa County and adjacent counties focused on transportation for visitors and employees of Yosemite National Park. The Transit Development Plan provides the program for the growth, expansion, and implementation of the regional transit system.

Road Maintenance Program. The Road Maintenance Program is comprised of the policies and procedures for creating road maintenance for purposes of maintaining public roads not within the County-maintained road system. The road standards adopted for these zones of benefit must be consistent with the General Plan policies even if the roads covered by the program are not part of the County-maintained road system.

9.1 CIRCULATION, INFRASTRUCTURE AND SERVICES ISSUES, AND SUMMARY OF FINDINGS

Utilities and public services are essential for communities. Public services and utilities provide transport of water, wastewater, solid waste, emergency medical, and law enforcement services. Private utilities carry electricity, gas, and communications within the County.

Mariposa County is unique because its lands are not solely under the jurisdiction of the County. Since much of the County is federally owned, public services may be operated solely by the federal government in some areas, while other areas offer federal, state, and local services. The following issues are addressed in this Element.

- Roadways
- Transit
- Non-motorized Transportation
- Airports
- Water and Wastewater
- Solid Waste
- Schools
- Electrical and Telecommunication Services
- Emergency and Law Enforcement Services

9.1.01 ROADWAYS

Land use and circulation planning decisions must be closely coordinated for the County to achieve orderly and rational development. Circulation system service levels and improvement needs are a direct result of land use planning and development decisions that determine the location, type, and density of development.

Similarly, circulation system improvements that create capacity beyond the short-term needs of current land uses often stimulate pressures for further development. Circulation system improvements can create demands for changes in land uses that are not supported without improvements. Land use policies and development decisions affect the circulation system demands, policies, and decisions.

Mariposa County has over 700 miles of roads. The existing roadway network is made up of state, County, and private facilities (Figure 9-1). The state routes typically provide for regional and sub-regional trips in and out of the County. State routes also facilitate the movement of local traffic between the population centers of Mariposa County. County roadways provide both direct property access connecting private roadways to state routes and local circulation within larger residential areas. Private roads may serve a single parcel or clusters of parcels. Most private roads connect to County facilities, while some private roads connect directly to state facilities. A low population base, constrained funding, and sparse density contribute to the condition of some County roads.

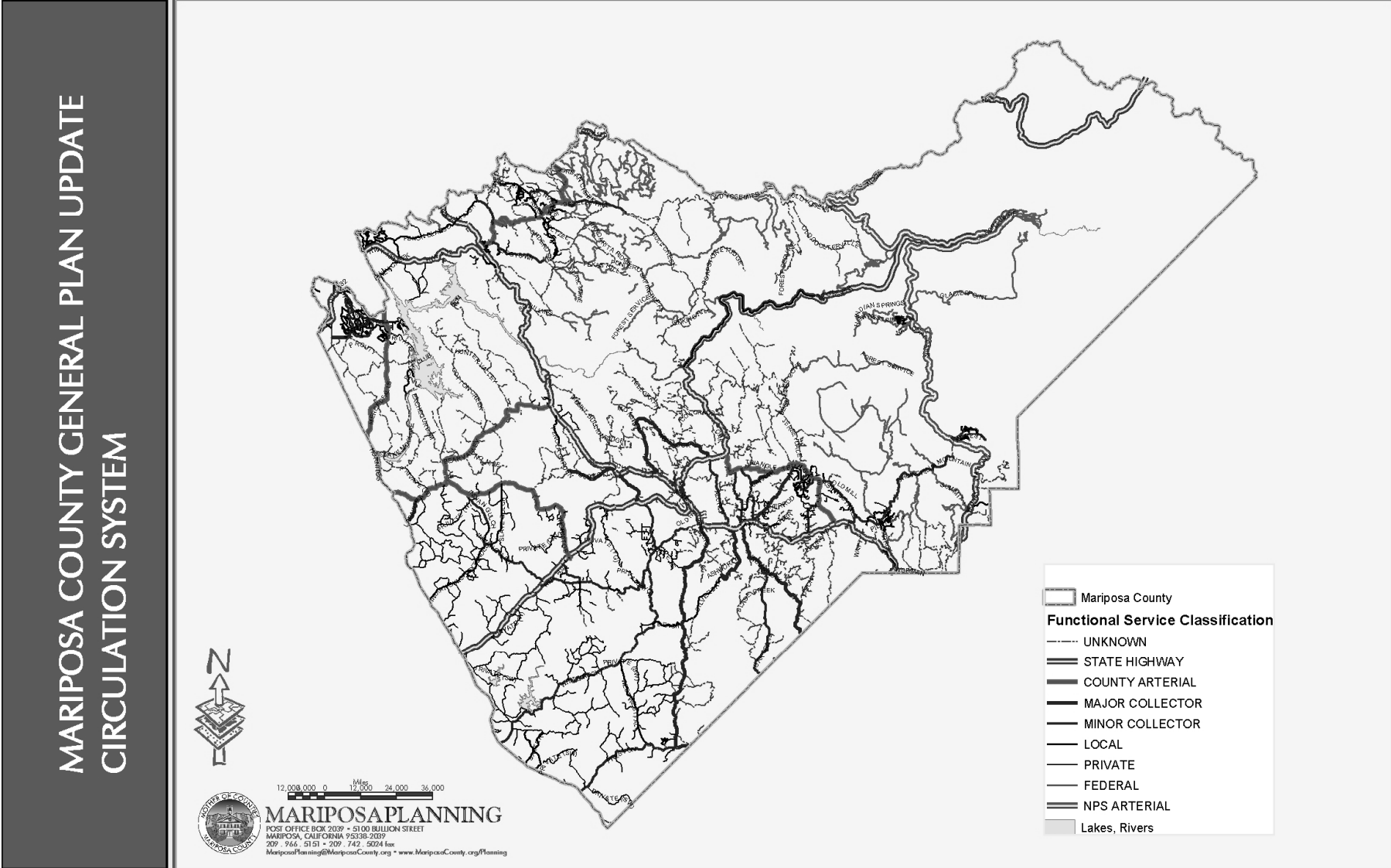


Figure 9 1: County of Mariposa Circulation System

In addition to County maintained roads, the County has extensive road mileage in roads with public access maintained with a zone of benefit or private maintenance agreements. Other roads within the County are private roads that may or may not have shared maintenance agreements between owners or users. Historic policies on access to subdivision lots have resulted in the creation of a road system separate from the County system. This system is composed of nonexclusive easements, most of which have an irrevocable offer of dedication to the County. Current improvement standards require these easements to be improved, sometimes up to full County standards, with the level of required improvements depending upon potential intensity of use. County policy currently is to not accept these roads into the County road system. Present development policies call for private maintenance agreements by homeowner associations or the establishment of special assessment districts to maintain and/or improve the subdivision roads.

9.1.02 TRANSIT

Public and group transit in Mariposa County has traditionally focused on visitor-serving needs and on the needs of Yosemite employees. With growth and development countywide, the need for public and group transit serving local residents and workers has increased. These needs include expanded operating hours and increasing the number of stops, communities served, and the service routes to Yosemite National Park.

Mariposa County anticipates that land use and economic development trends under the General Plan will result in a need for increased visitor-oriented transit. In the past, visitor-oriented transit has focused on moving tourists from outside Mariposa County to Yosemite. During the timeframe of the General Plan, the County anticipates greater demand for visitor-oriented transit linking communities and events not associated with Yosemite.

9.1.03 NON-MOTORIZED TRANSPORTATION

An assessment of non-motorized needs is quantified in the Mariposa County Bike, Pedestrian, and Equestrian Plan (September 2001). This document provides an extensive review of these three non-motorized modes of travel, along with specific goals and objectives and recommended projects.

9.1.04 AIRPORT

The Yosemite-Mariposa Airport primarily serves Mariposa County, eastern Madera County, and visitors to Yosemite Park. The airport has no scheduled air service and most of the operations support private owners and tourism. The Airport is sometimes used as a back-up landing site for Fresno air traffic when there is poor visibility due to fog in the Central Valley. The Airport has the potential to expand its role in serving local residents and tourists and acting as a transportation hub for commercial and industrial firms.

9.1.05 WATER AND WASTEWATER

Most of Mariposa County is not within the service area of public water and wastewater treatment providers. Therefore, most development in the County must provide for its own water and wastewater treatment through on-site means or small, private communal systems.

The largest service areas of public water or wastewater systems are those of the Mariposa Public Utility District (MPUD) and the Lake Don Pedro Community Service District (LDPCSD).

MPUD provides water and sewer services to a portion of the Mariposa Town Planning Area. The existing sources of water have the potential to provide an adequate supply for the next 10 to 20 years within the Town Planning Area, depending on growth and water quality/quantity requirements. The treatment facility operates at nearly peak capacity during peak water use days; and therefore, will require expansion to serve future development. The MPUD wastewater treatment plant has the capability to serve additional development. However, portions of the collection system are in need of repair or are at capacity and need to be replaced.

The LDPCSD supplies potable water to 1,250 customer connections (October 2004) for much of the Lake Don Pedro Town Planning Area, but does not operate a wastewater facility. The water treatment plant operates at 85 to 90 percent of capacity. The LDPCSD reserves 5,160 acre-feet per year from the Merced Irrigation District (MID) from Lake McClure, but uses approximately 600 acre-feet of water, leaving an unused allocation that could serve additional connections. The Merced Irrigation District Board of Directors has never denied the request of water from LDPCSD, although LDPCSD's water agreement with MID is a "surplus and saleable" water contract, which is not a definitive right of water. Negotiations are underway, October 2004, between LDPCSD and MID to secure a "firm" water supply agreement.

Other portions of the County are served by small public systems. Three public water systems provide domestic water to portions of the Fish Camp area through surface springs and groundwater wells. Sewage disposal in the Fish Camp area relies on individual septic tanks and underground leach field systems. Water and sewer service is provided to residents of Coulterville by the Coulterville service area. Water is drawn from a local well system. Mariposa Pines has community sewer service, while Ponderosa Basin has community water service. Wawona and El Portal have community sewer and water service. Within Yosemite National Park, 20 public water systems and five wastewater treatment plants serve the needs of visitors and park employees.

9.1.06 SOLID WASTE

The Mariposa County Department of Public Works operates solid waste disposal facilities in the County. In addition to the County landfill, there are four solid waste transfer stations and one auto dismantling station in the County. Based on current and projected rates of solid waste generation, the County estimates that the remaining life of the landfill is seven to eight years. The co-composting facility to be located at the landfill is expected to increase the useful life of the landfill to between 30 and 35 years.

9.1.07 SCHOOLS

The Mariposa County Unified School District is the primary provider of K-12 educational services in Mariposa County, although the Bass Lake Unified School District in Madera County provides K-6 education for a small number of Mariposa County children. Much of the County's population growth is anticipated to occur in areas in which schools are already

over-enrolled, at capacity, or nearing capacity (that is, those where enrollment equals 75 percent or more of capacity). The schools primarily affected are those that serve students from Mariposa, Bootjack, Catheys Valley, and Lake Don Pedro.

Mariposa County Unified School District's enrollment has decreased by approximately 166 K-12 students over the past three years, and 232 students over the past ten years. In October, 2001, enrollment was 2,613. In October 2002, enrollment was 2,560. By October 2003, enrollment declined four percent to 2,488. Current enrollment status, as of October 2004, recorded 2,447 students.

9.1.08 ELECTRICAL AND TELECOMMUNICATION SERVICES

Mariposa County generally has adequate utility connections to provide basic electrical and communications service to its residents, except for those living in the most remote parts of the County. Due to the County's overall small population size and generally low density, access to high-speed Internet and wireless communications service is limited.

9.1.09 EMERGENCY AND LAW ENFORCEMENT SERVICES

Emergency response times and access in and near town planning areas is generally sufficient in Mariposa County. However, emergency medical transport, law-enforcement response times, and service levels depend on the location and distance of residents to existing facilities and the concentration of people or activities that may require these services. Remote areas of the County, particularly those located away from existing points of emergency transport services may not have adequate access to emergency services. Some properties located in or near town planning areas may have inadequate access due to the condition of private roads and driveways. Although one of the trade-offs for rural living is limited access to community services, the County strives to provide as much access to emergency services as feasible for the County's residents.

9.2 GENERAL PLAN IMPLEMENTATION

Goal 9-1: All development shall have safe and adequate access.

Policy 9-1a: Level of Service (LOS) shall be used as a measure of capacity for major collector and arterial roads.

Implementation Measure 9-1a(1): A publicly-maintained road with an LOS of "A" through "D" shall be deemed to have adequate capacity to serve the needs of the road systems.

Timing: Ongoing review standard

Responsibility: Mariposa County Planning Department, Public Works Department.

Fiscal Impact: Ongoing review.

Consequences: It establishes the traditional Level of Service –but allows LOS as low as "D," which covers most County roads and State Highways. This requires a change in the Regional Transportation Plan.

Implementation Measure 9-1a(2): In order to facilitate provision of needed long-range (2015-2025) improvements to state highways serving Mariposa County, and particularly to those state routes where projected capacity would be less than LOS “D,” the County shall:

- Prepare and implement a program to evaluate Development Impact Fees for state highway intersection facilities needed to adequately service new growth. Such local funding would ensure the improvements are accomplished in the needed timeframe and would substantially benefit the economic development of the County.
- Maintain a close working partnership with the State to solve state highway capacity deficiencies and funding limitations.
- Monitor State activities in responding to the long-term transportation needs in the County and provide input to the state concerning the priorities for state highway improvements based on capacity below LOS standards, including timing of long-term Project Study Reports (PSR) for priority projects and their inclusion in the STIP in the needed timeframe.

Timing: Short-term
Responsibility: Mariposa County Planning Department, Public Works Department.
Fiscal Impact: Ongoing review.
Consequences: Establishes program for development impact fees.

Policy 9-1b: Road capacity shall be the basis for determining the adequacy of access for all new development within the County.

Implementation Measure 9-1b(1): The County shall define the capacity of all roads.

Timing: Short-term
Responsibility: Public Works Department.
Fiscal Impact: Planning costs.
Consequences: Improved planning.

Policy 9-1c: Roads shall have adequate capacity to serve respective road needs.

Implementation Measure 9-1c(1): The density of land for development purposes within an area shall be based on the capacity of the road divided by the average daily traffic of the permitted uses.

Timing: Ongoing review standard
Responsibility: Public Works Department.
Fiscal Impact: Planning costs.
Consequences: This action, in effect, will define densities in the Residential land use classification. Subdivisions will only be permitted to the number of lots within the capacity of the road—thus when roads are improved, the capacity increases and the number of new lots may also be increased.

Implementation Measure 9-1c(2): A traffic study prepared by a professional appropriately licensed in the State of California shall be required if traffic calculations show that the proposed project will significantly increase traffic volumes.

Timing: Ongoing review standard
Responsibility: Mariposa County Planning Department, Public Works Department.
Fiscal Impact: Ongoing review.
Consequences: This is an up-front environmental threshold.

Implementation Measure 9-1c(3): The capacity of a county road must be assessed for its capability to meet existing and new uses when the aggregate potential development will increase the utilization of the road by more than 25%.

Timing: Ongoing review standard
Responsibility: Mariposa County Planning Department, Public Works Department.
Fiscal Impact: Ongoing review.
Consequences: This is an up-front environmental threshold.

Policy 9-1d: Road improvement requirements shall be based on road capacity.

Implementation Measure 9-1d(1): No subdivision or discretionary project shall be approved if the traffic generated by the proposed project will exceed the capacity of the road systems which provide access from the nearest County major collector or State highway unless mitigation is required.

Timing: Ongoing review standard
Responsibility: Mariposa County Planning Department, Public Works Department.
Fiscal Impact: Ongoing review.
Consequences: This is an up-front environmental threshold.

Policy 9-1e: Adopt comprehensive standards for all County roadways.

Implementation Measure 9-1e(1): The County shall incorporate standards and specifications applicable to roads under County jurisdiction, which will include:

- a requirement that all roads serving road systems shall have an all-weather surface,
- all new roads shall be constructed to fire safe standards,
- all new non-County maintained roads shall be contained within mandatory road maintenance associations or zones of benefit,
- all road construction shall be inspected and approved by the Public Works Department, and
- road circulation within a system shall be designed to be interconnecting and cul-de-sac or dead-end roads shall be designed to be safe.

Timing: Short-term
Responsibility: Public Works Department.
Fiscal Impact: Staff time.

Consequences: These standards provide a basis for the road ordinance update.

Goal 9-2: Maintain an effective transit system.

Policy 9-2a: Implement the County’s transit plan.

Implementation Measure 9-2a(1): The County shall implement the Transit Plan.

Timing: Short-term
Responsibility: Local Transportation Commission.
Fiscal Impact: Staff time.
Consequences: Ensured Plan implementation.

Implementation Measure 9-2a(2): Annually report on implementation of the Transit Plan.

Timing: Ongoing
Responsibility: Public Works Department.
Fiscal Impact: Staff time.
Consequences: Incorporates the transit plan into the annual report process.

Implementation Measure 9-2a(3): Update the transit plan concurrently with the next scheduled update of the Regional Transportation Plan.

Timing: Short-term
Responsibility: Public Works Department.
Fiscal Impact: Staff time.
Consequences: Brings transit plan in line with Circulation Element.

Goal 9-3: Create a bicycle, pedestrian, and equestrian system for recreation and transportation use.

Policy 9-3a: Adopt and implement the Bicycle, Pedestrian, and Equestrian Facilities Plan.

Implementation Measure 9-3a(1): The County should adopt and implement the Bicycle, Pedestrian, and Equestrian Facilities Plan.

Timing: Intermediate-term
Responsibility: Local Transportation Commission.
Fiscal Impact: Staff time; possible consulting cost.
Consequences: Requires this Plan to be updated; statutory requirement.

Implementation Measure 9-3a(2): The County shall update the Bicycle, Pedestrian and Equestrian Plan to create a comprehensive system of transportation and recreation trails.

Timing: Intermediate-term
Responsibility: Local Transportation Commission.
Fiscal Impact: Staff time; possible consulting cost.
Consequences: Pre-schedule updates.

Goal 9-4: Maximize the Yosemite-Mariposa Airport as an economic asset.

Policy 9-4a: Improve and expand the airport.

Implementation Measure 9-4a(1): The County shall continue systematic implementation of the Airport Master Plan.

Timing: Ongoing
Responsibility: Public Works Department.
Fiscal Impact: FAA funded program.
Consequences: The County has an adopted airport plan, but implements it on a sporadic basis. Sometimes capital needs change, but the Plan has not been amended. Systematically establishing Plan implementation into the County’s CIP review will ensure tracking and accomplishment.

Policy 9-4b: Coordinate development permit decisions with the Airport Land Use Plan.

Implementation Measure 9-4b(1): No projects should be approved within the Airport Land Use Planning Area unless consistent with the Plan.

Timing: Ongoing review standard
Responsibility: Mariposa County Planning Department.
Fiscal Impact: Ongoing review.
Consequences: Sets a project review standard.

Goal 9-5: Adequate water and wastewater services shall be provided to properties in the County.

Policy 9-5a: New projects and subdivisions should be served by basic water and wastewater infrastructure.

Implementation Measure 9-5a(1): No project shall be approved unless it is shown to have access to an approved source for wastewater treatment and disposal and a potable water supply meeting Health Department requirements.

Timing: Ongoing review standard
Responsibility: Mariposa County Planning Department.
Fiscal Impact: Ongoing review.
Consequences: This requires basic infrastructure for all projects. It does not say what the wastewater treatment is to be or how water is to be provided, but establishes as standard that there be approved systems for development to occur. It also affects subdivision approval.

Goal 9-6: Provide adequate solid waste disposal.

Policy 9-6a: Increase waste disposal facility life.

Implementation Measure 9-6a(1): Design, permit, and construct a co-composting facility.

Timing: Intermediate-term
Responsibility: Public Works Department.
Fiscal Impact: Significant capital cost.
Consequences: This enables the co-composting facility.

Goal 9-7: Collaborate with the Mariposa County Unified School District for facilities.

Policy 9-7a: Work with the school district on siting facilities.

Implementation Measure 9-7a(1): The Board of Supervisors shall meet periodically with the Board of Trustees for the school district to coordinate capital facility planning.

Timing: Ongoing
Responsibility: Board of Supervisors.
Fiscal Impact: Staff time.
Consequences: This policy allows the County to share with the District where the two agencies can leverage better facilities in partnership than if separate facilities were constructed.

Implementation Measure 9-7a(2): County Staff shall work with school district administration to share information and assist in facilities development.

Timing: Ongoing
Responsibility: Public Works Department, Mariposa County Planning Department.
Fiscal Impact: Staff time.
Consequences: This policy allows the County to share with the District where the two agencies can leverage better facilities in partnership than if separate facilities were constructed.

Implementation Measure 9-7a(3): The County will cooperate with the MUSD, to the extent feasible and permitted by state law, to explore methods for securing adequate funding of new school facilities, which may include the development of local funding mechanisms as well as the utilization of state funds when available. For any project or subdivision where the MUSD determines that adequate school facilities are not available to serve the proposed development, the County will work with the MUSD in securing project sponsored mitigation to the extent permitted by state law.

Timing: Short-term
Responsibility: Public Works Department, Mariposa County Planning Department.
Fiscal Impact: Staff time.
Consequences: This policy allows the County to share with the District where the two agencies can leverage better facilities .

Goal 9-8: Coordinate private utility services to meet County economic needs.

Policy 9-8a: The County should share information and plans with private utilities to coordinate service delivery.

Implementation Measure 9-8a(1): County Staff should maintain technical and planning liaison with private utilities to ensure appropriate infrastructure accomplishing economic development goals.

Timing: Ongoing
Responsibility: Mariposa County Planning Department, Planning Director.
Fiscal Impact: Ongoing.
Consequences: This program allows the County to coordinate with utility providers to ensure that the County's development patterns don't out-strip the ability to provide services.

Goal 9-9: Maintain quality emergency service delivery.

Policy 9-9a: Define acceptable service standards and create a comprehensive plan to attain and maintain service delivery.

Implementation Measure 9-9a(1): Prepare an emergency services plan.

Timing: Short-term
Responsibility: Mariposa County Sheriff, Fire Chief.
Fiscal Impact: Plan development cost.
Consequences: This policy requires that a broad and comprehensive emergency services plan be developed. The result of this plan would be establishing levels of service to be maintained (examples are patrol deputies per 1,000 population; response time for fire departments).

Implementation Measure 9-9a(2): Implement the emergency services plan.

Timing: Ongoing
Responsibility: Mariposa County Sheriff, Fire Chief.
Fiscal Impact: Capital improvement and operational costs.
Consequences: This Measure requires the Plan to be in implementation within five years.

13 SAFETY AND HAZARDS

This Chapter presents data on the extent of flooding, fire, and seismic hazards, as well as on airport safety, hazardous waste and materials, and emergency evacuation. Additional topics related to safety and hazards are discussed in Chapter 8.2 Public Services and Facilities (fire and police protection), Chapter 8.3 Utilities (water supply and delivery system), Chapter 10.2 Geology and Soils, and Chapter 10.3 Hydrology and Water Quality.

13.1 FLOODING

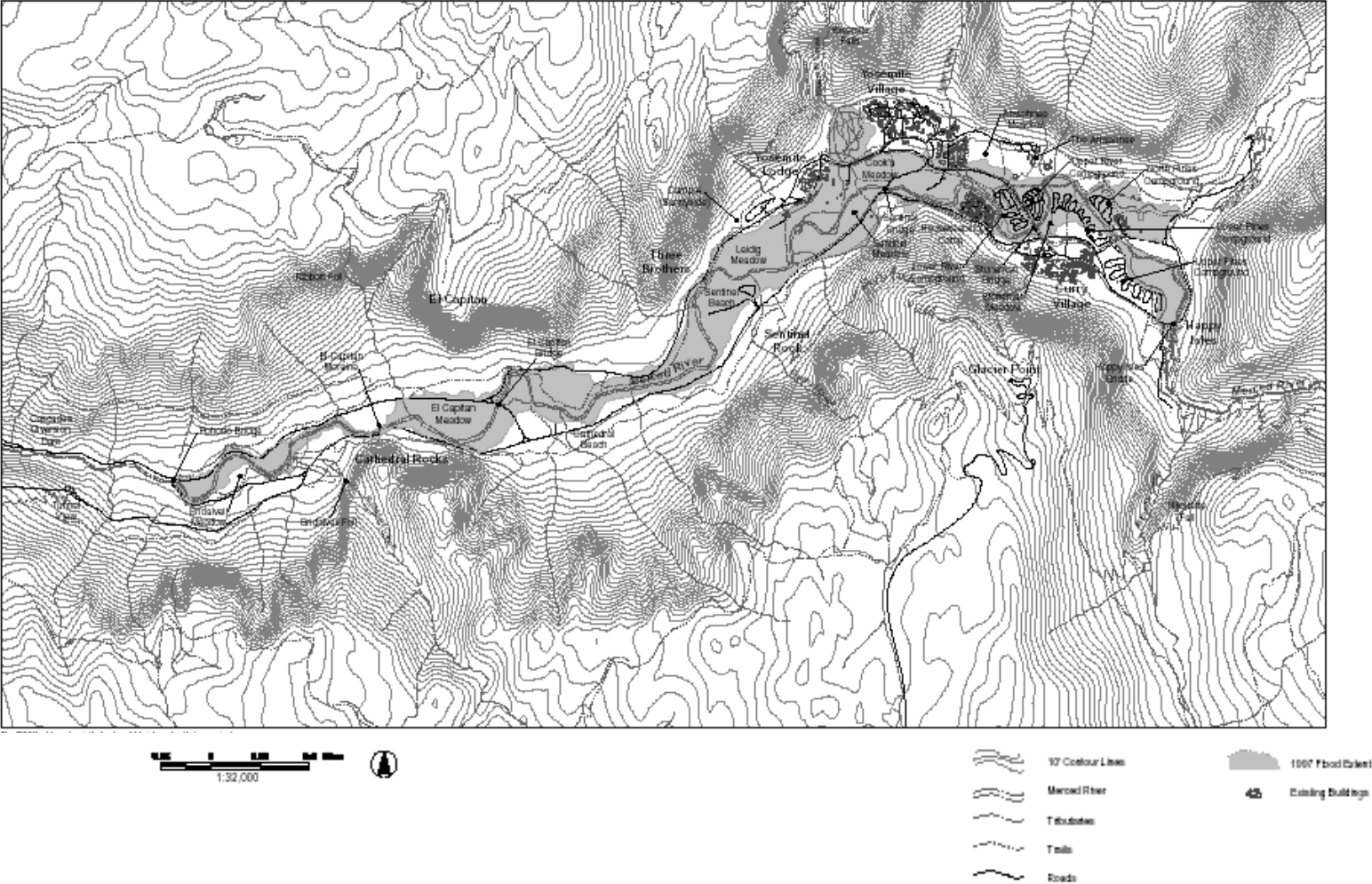
Mariposa County is part of the western Sierra Nevada watershed. The northern part of the county drains to the Merced River and its tributaries while the remainder of the county drains to Mariposa, Bear, and Owens Creeks. Due to the steep terrain, hazards from flooding are relatively low in the County. However, there has been localized flooding in areas of low elevation and in areas where stream channels are not well defined. Snowmelt run-off and heavier-than-usual rains increase the possibility of flooding in these areas. Maps published in September 5, 1990 by the Federal Emergency Management Agency (FEMA) have delineated potential flood hazard areas. The Model Mountain County Development Program, prepared by Mariposa County during 1979 and 1980 to evaluate physical development constraints, identified possible flood hazard areas have been identified in the urbanized areas of Mariposa, El Portal, Coulterville, Wawona, and Hornitos.

Floodplains are defined as low-lying level lands adjacent to ponds, lakes, and rivers that could overflow. When rivers are constricted to channels, the height and velocity of the water will rise rapidly in response to storms. However, when a river overflows its banks and enters a floodplain, the floodwaters spread out - losing most of their velocity and capacity for rising in the process. The floodplains defined in the maps published by FEMA refer to those areas where there is a one-percent chance of a flood occurring in any given year (100-year flood). The area impacted by the 1997 flood in the Yosemite Valley is provided in Figure 13-1.

If a floodplain is undeveloped, the hazards of flooding to humans are usually limited. However, when human development is present, floodwaters can threaten property and personal safety. In addition to causing a potential hazard to people and property, development in flood prone areas can affect river flows upstream and downstream. FEMA encourages local agencies to adopt the policy of avoiding development in the 100-year floodplain unless it is the only practical development alternative.

Potential flooding concerns include: possibility of damage to homes and other structures that already exist in floodplains; increasing urbanization and development pressures within floodplains or along watershed drainage channels; further erosion along established stream channels; sedimentation into stream channels caused by cut and fill activities associated with structural and road development; and, potential development below dams, which might be subject to flooding caused by dam failure.

Figure 13-1: 1997 Flood Extent in Yosemite Valley



In January 1997, the largest flood in over 80 years occurred on the Merced River. In addition to a heavier-than-normal snowmelt, the flood was the result of a series of tropical storms that dropped over ten inches of rain from December 29 to January 3. The force of the flood damaged roads, sewer lines and campgrounds within Yosemite National Park. Yosemite formed a multi-agency incident team to evaluate the consequences of the flood and to prepare a plan to address flood hazards. The team determined that although floods are a natural occurrence, the 1997 flood was “tempered somewhat by the impacts to human developments in the floodplain” (Smillie, Jackson, and Martin).

The flood brought scrutiny to the practice of human occupation and development in floodplains. In accordance with the National Park Service (NPS), which has specific management policies for preservation of floodplains and wetlands and local, county, and state requirements, the Yosemite Valley Plan EIR/EIS (November 1999, Section 4, paragraphs 16 and 17) presents standards for evaluating development in flood-prone areas. The Final Yosemite Valley Plan EIR/EIS follows the methods for minimizing flood damage in the National Flood Insurance Program “Floodplain Management Criteria for Flood-Prone Areas” (44 CFR 60.3). As a result of the evaluation of the 1997 flood, the Park decided to use the January 1997 flood line to determine the 100-year floodplain in the west end of Yosemite Valley.

13.2 DAMS

Exchequer Dam was built on McClure Lake in the 1920’s, approximately five miles from Merced Falls. In 1965 and 1966, the capacity of the Exchequer reservoir was enlarged from less than 400,000 acre-feet to over 1,000,000 acre-feet. Flood control dams have been built on Mariposa, Owens, Bear and Burns Creeks to prevent storm damage to lands in Merced County. In addition, there are the Green Valley Dam, Hendricks Dam, Mariposa Pines Dam, McMahan Dam, McSwain Dam, Metzger Dam and the Stockton Creek Dam. All of these dams have been identified as requiring monitoring for downstream development. The dam at Lake Don Pedro, although not within Mariposa County, is located just outside the northwestern portion of the County, and dam failure at Don Pedro would impact portions of Mariposa County..

13.3 FIRE

Wildfires are an essential part of many wilderness ecosystems in California. Wildland vegetation must burn periodically in order to survive and grow by cleansing the forest of disease and insects, thinning stands of wood, recycling nutrients otherwise held in vegetation, and creating snags that serve as wildlife habitat.

Although fires are a necessary part of many ecosystems, they nevertheless can be imminently dangerous to human populations. In addition, wildfires increase the potential for soil erosion and sedimentation and impact air quality.

The greatest risk of wildfires occurs when people choose to live in fire prone areas. While wildfires are caused by both natural and human means, human error has historically been the cause of most large fires in Mariposa County. Human activities that can cause fires include brush clearing, campfires, automobiles, cigarettes, and arson. Lightning is the most common natural cause of fires. Table 13-1 describes the causes of large fires (greater than 300 acres) that occurred in 1999 and 2000 in Mariposa County (California Department of Forestry).

With only one exception (an incident that is still under investigation), all of the fires are known to be caused by human activities.

Table 13-1: 1999-2000 Large Fires

Ranger Unit	Fire Name	Start Date	Acres Burned	Cause	Structures Damaged
Madera/ Mariposa	Andrews	01/09/99	5,000	Vehicle	0
Madera/ Mariposa/ Merced	Romero	06/18/99	2,000	Under Investigation	0
Madera/ Mariposa/ Merced	Roadside 9323	07/08/99	2,400	Arson	0
Madera/ Mariposa/ Merced	49	07/13/99	395	Electric Power	0
Madera/ Mariposa/ Merced	Coulterville	8/30/99	700	Arson	0
Mariposa	Granite	07/02/00	2,000	Shooter	0
Mariposa	Hunter	8/27/00	8,084	Equipment Use	6

Source: California Department of Forestry, January 3, 2001.

Most of the wildfires in Mariposa County occur in areas where developed land borders the wilderness. These areas are typically overgrown, creating large amounts of combustible fuel that will feed fires. The County has programs to limit fuel levels, clear and manage overgrown brush, and educate the community on fire prevention. The County Fire Safe Council works with local communities to discuss and implement fire prevention and management strategies. In addition, the California Department of Forestry has established minimum fire safety standards for all new construction (19 CCR §§ 1.00-2352) that include road standards for fire equipment access, standards for signs identifying streets, roads, and buildings, minimum private water supply reserves for emergency fire use, and fuel brakes and greenbelts.

Terrain and vegetation type can also play an important role in the frequency of fires. Isolated mountainous areas can hinder fire-fighter response times, and canyons and ravines can act as fire corridors. Mariposa County is covered by a combination of grasslands, chaparral, and forests that become very flammable in dry months. Fire is a natural component of chaparral communities, with an average “fire-cycle” of once every 30-35 years (Barro, 1987). Fire danger in the County is also present in winter months due to the wind’s ability to evaporate moisture from chaparral within a few days.

13.3.01 CALIFORNIA DEPARTMENT OF FORESTRY

The California Department of Forestry and Fire Protection (CDF) has mapped the fire hazard areas in the County, delineating wildland areas that may contain substantial forest fire risks and hazards, and also areas that are in very high fire hazard severity zones (1992-1993 Session of the California State Legislature).⁵ Approximately half of the county lies in areas

⁵ An act to add Chapter 6.8 Very High Fire Hazard Severity Zone (commencing with Section 51175) to Part 1 of Division 1 of Title 5 of Government Code, and to amend Section 13108.5 of the Health and Safety Code, relating to fire protection.

that may contain substantial forest fire risks and hazards, namely the southern and southwest portion of the county (see

Figure 13-2). This portion of the county consists primarily of chaparral communities and is prone to high winds.

The majority of development has occurred in the southern and southwest part of the county, including the towns of Mariposa and Coulterville, and lies within the areas delineated in the CDF map as potentially containing substantial forest fire risks and hazards.

FIRE SERVICES

Loss of property and life due to wildland and domestic fires is a primary concern of the local, state and federal agencies that share Mariposa County's wildlands fire protection responsibilities. The CDF is responsible for fire protection in all privately owned lands that are wildlands, grasslands, or timber production areas. At the federal level, the U.S. Forest Service and the National Park Service protect the national forests and Yosemite National Park at the federal level. The Federal, State, and County agencies have an agreement to mutually assist each other in cases of fires located on the boundaries of their jurisdictions. Mariposa County Fire Department protects the developed population centers. The County Fire Department provides management, training, and inspection services. The actual fire protection activities are carried out by County volunteer fire departments, the Mariposa Public Utility District within the district's boundaries inside the Mariposa Town Planning Area, and the CDF. However, services from the CDF could be limited at times. The CDF reassigns their firefighters during the summer months to major out-of-County fires and reduces their staff during the wet season.

There is concern regarding the multi-agency arrangement due to increasing population and development. Development of lands further from population centers and towns increases response time for fire services. There is great demand for development of land beyond the 15-minute response time of existing fire services. Proximity to volunteer fire units is a key factor in rural areas served by unimproved roads.

The level of service currently provided by the County's all-volunteer fire-fighting force, as well as the adequacy of water supply and delivery for fire protection, are primary concerns in areas subject to wildland fires. Please see Section 8.2, Public Services for a more detailed discussion of fire-fighting levels of service, and Section 8.3, Utilities for a discussion of the adequacy of the water supply and delivery system.

13.4 SEISMIC HAZARDS

The potential for earthquakes and related seismic hazards exist throughout Mariposa County. Evidence of the geological forces that cause earthquakes is abundant in the hills and mountains that define most of the County. Earthquake hazards include ground shaking, land and mudslides, seiche (large waves in closed bodies of water), and liquefaction (loss of structural integrity of sediments below the water table). In the major canyons where granite formations and outcroppings occur, earthquakes also have the potential to cause rockslides and sloughing.

The California Department of Conservation is mandated by the Seismic Hazards Act of 1990 to identify and map the state's most prominent earthquake hazards in order to help avoid damage resulting from earthquakes. The Department's Seismic Hazard Zone Mapping Program charts areas prone to liquefaction (failure of water-saturated soil) and earthquake-induced landslides throughout California's principal urban and major growth areas. Areas identified and mapped by the Department are commonly referred to as "Special Studies Zones," which must be identified in the General Plan. According to the Department of Conservation, there are no special study zones mapped in the County.

There are two fault zones located in the County, the Bear Mountain on the western edge and the Melones on the eastern edge. These comprise the Foothills Fault System and were thought to be inactive until the Oroville Earthquake occurred in 1975 along the Bear Mountain Fault zone. Based on the Oroville Earthquake, and other geologic findings in the northern part of the system, the Foothills Fault System is considered active. The Five-County Seismic Safety Study, developed in July, 1974, by Fresno, Kings, Madera, Mariposa and Tulare Counties, reported three other faults known to be active near Mariposa County: the San Andreas fault to the West, the Owens Valley fault to the east, and possibly the White Wolf fault to the south. According to the Study, the three faults may cause small periodic local earthquakes (see Figure 13-3).

The Bear Mountain Fault zone runs under Lake McClure and a portion of Exchequer Dam ending about 2 ½ miles east of Hornitos. The Melones Fault Zone runs through the County along Highway 49 through Coulterville, Bagby, east of Bear Valley, Mt. Bullion, and the town of Mariposa, terminating in the Mormon Bar area. Additionally, mapping indicates a fault running southeasterly from Texas Hill Road to Mariposa Pines (see Figure 13-3).

The Modified Mercalli Intensity Scale is shown on Table 13-2. This scale describes the effects on property, the environment, and human perceptions of the intensity of ground shaking at increasing levels of earthquake induced motion. The Modified Mercalli Intensity Scale has been used for several decades as a way of gauging the effects of earthquakes.

Almost all of Mariposa County falls within the lowest earthquake hazard zone of 10-20 percent probability. As shown in Figure 13-4, the northeastern-most portion of the County falls within the second lowest hazard zone of 20-30 percent earthquake probability. No earthquakes with a magnitude above 5.0 have occurred in Mariposa County between 1800 and the present. There were a number of earthquake incidents in 1997, but all were of magnitude 2.7 or less. The majority of the County falls within the low-risk category for seismic activity.

Figure 13-2: Fire Hazard Map

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Figure 13-3: Earthquake Fault System

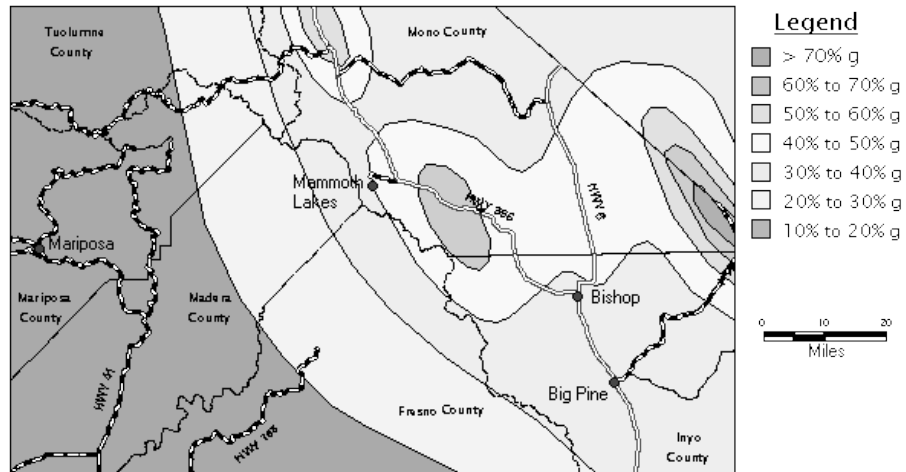
Do to the size of this image; Figure 13-3 has been created as a separate file

Table 13-2: Modified Mercalli Intensity Scale

Rating	Description of Damage or Human Perception
I.	Not felt except by a very few under especially favorable circumstances.
II.	Felt only by a few persons at rest, especially on upper floors of buildings. Delicately suspended object may swing.
III.	Felt quite noticeably indoors, especially on upper floors of buildings, but many people do not recognize it as an earthquake. Standing motorcars may rock slightly. Vibration similar to the passing of a truck. Duration estimated.
IV.	During the day felt indoors by many, outdoors by few. At night, some awakened. Dishes, windows, doors disturbed; walls make creaking sound. Sensation like heavy truck striking building. Standing motorcars rocked noticeably.
V.	Felt by nearly everyone, many awakened. Some dishes, windows, and so on broken; cracked plaster in a few places; unstable objects overturned. Disturbances of trees, poles, and other tall objects sometimes noticed. Pendulum clocks may stop.
VI.	Felt by all, many frightened and run outdoors. Some heavy furniture moved; a few instances of fallen plaster and damaged chimneys. Damage slight.
VII.	Everybody runs outdoors. Damage negligible in buildings of good design and construction; slight to moderate in well built ordinary structures; considerable in poorly built or badly designed structures; some chimneys broken. Noticed by persons driving cars.
VIII	Damage slight in specially designed structures; considerable in ordinary substantial buildings with partial collapse; great in poorly built structures. Panel walls thrown out of frame structures. Fall of chimneys, factory stacks, columns, monuments, and walls. Heavy furniture overturned. Sand and mud ejected in small amounts. Changes in well water. Persons driving cars disturbed.
IX.	Damage considerable in specially designed structures; well designed frame structures thrown out of plumb; great in substantial buildings, with partial collapse. Buildings shifted off foundations. Ground cracked conspicuously. Underground pipes broken.
X.	Some well built wooden structures destroyed; most masonry and frame structures destroyed with foundations; ground badly cracked. Rails bent. Landslides considerable from river banks and steep slopes. Shifted sand and mud. Water splashed, slopped over banks.
XI.	Few, if any, (masonry) structures remain standing. Bridges destroyed. Broad fissures in ground. Underground pipelines completely out of service. Earth slumps and land slips in soft ground. Rails bent greatly.
XII.	Damage total. Waves seen on ground surface. Lines of sight and level distorted. Objects thrown into the air.

¹Abridged Modified Mercalli Intensity Scale (1956 version)

Figure 13-4: Probabilistic Seismic Hazards
 Peak Ground Acceleration Atlas



Source: <http://www.conservation.ca.gov/dmg/rghm/psha/atlas/Mariposa.htm>

There are a few areas of moderate risk on the western border and an area of high risk near the town of Mariposa, extending northwest to Tuolumne County. These areas are considered moderate to high-risk areas because the Foothills Fault System, New Melones Fault Zone, and Bear Mountain Fault Zone are located in central and western portions of the County (California Geological Survey). In addition to the potential result of fault zone movement, ground shaking, landslide and seiches, Mariposa County also has more frequent occurrences of landslides and rockslides caused by excessive saturation of loosely compacted soils during the wet months, usually on steep grades or road cuts.

13.4.01 SECONDARY HAZARDS

Secondary hazards are created after the initial earthquake has struck. These hazards include ground shaking, landslides, liquefaction and seiches. Although the Five County Seismic Safety Study considered the secondary seismic hazards to be minimal, they did report that significant geological problems exist in some sub-regions and should be investigated. Since Mariposa County has frequent landslides and rockslides during the wet months, secondary hazards are a concern.

GROUND SHAKING

According to the Five County Study, wood frame structures less than two stories may be considered safe; masonry structures built prior to 1933 may be considered dangerous; and in all cases, unreinforced masonry buildings may be considered hazardous. The Uniform Building Code⁶ classifies mortar construction requirements, in terms of seismic risk load resistance, for Seismic Zones 0 through 4. The Seismic Zone S-1 and S-2 mortar mixture is appropriate for groundshaking in areas of low to moderate in damage potential. For areas in close proximity to the Owens Valley Fault, the potential hazard is moderate to high and would require mortar construction of S-3 or higher.

² Evaluation Report, ER-3759, reissued December 1, 1998, International Conference of Building Officials.

LANDSLIDES AND MUDSLIDES

Landslides are primarily a wet season hazard along County Roads and State Highways, although they are also a hazard for any development near steep slopes. Other landslide factors include rock types that are susceptible to sliding; steep, irregular hill slopes; thick accumulations of expansive soils; heavy rainfalls during winter months; slopes that have been modified by development activity; undermining of slopes by streams and rivers; and earthquakes. Landslides on roads can cut off emergency evacuation routes, impede access to emergency vehicles, and strand residents in or away from their homes.

The Five County Study performed a generalized landslide risk appraisal and found that there was minimal risk of landslides caused by earthquakes in areas of low relief. The study found moderate to high risk in the remaining mountainous areas of the County. Most of the soils found in the County have minimal amounts of clay and low shrink-swell potential and do not result in landslide hazards. However, the soils found in the hills along Highway 49 (HaG – Henneke extremely rocky clay loam) have a high risk of sliding, and are a special concern. The middle and eastern portions of Yosemite National Park are closer to the Owens Valley Fault and were also found to be at a greater risk of landslide hazards.

The Department of Conservation (California Geological Survey) is responsible for mapping landslide hazard area, which are primarily located along coastal areas and coastal mountain ranges, for use with timber harvesting plans. No mapping of landslide hazards has been completed for Mariposa County.

LIQUEFACTION

Liquefaction is a process by which sediments below the water table temporarily lose strength and behave as a viscous liquid rather than a solid. Liquefaction usually occurs due to an earthquake, when there is a sudden but temporary increase in the fluid pressure between the soil grains. When the soil is acting as a liquid, structures are in danger of sinking or tilting. The amount the structures move depends on how viscous the liquefied soil is and how long it remains liquefied. All available data indicate that the dangers of liquefaction are minimal in Mariposa County.

SEICHE

A seiche is a periodic oscillation of a body of water such as a river or lake resulting from seismic or other causes. The period of the oscillation may vary from a few minutes to several hours. Lake McClure is the only large body of water in Mariposa County that could potentially be affected. In addition, the effect from a seiche at Lake Don Pedro, though outside the County, would impact the local area. There are several private residences near the lake, however the Model Mountain County Development Program reported damage potential primarily to boats or houseboats. If any of the dams in the county were either improperly constructed or in bad repair, seiches have the potential of intensifying those weaknesses.

AIRPORT SAFETY

13.4.02 LOCATION AND TYPE

Serving Mariposa County and the eastern half of Madera County, the Mariposa-Yosemite Airport is the only public airport located in Mariposa County. It is in the west central portion of the County, approximately four miles northwest of the Town of Mariposa. It is classified in the National Plan of Integrated Airport Systems as a General Aviation – Basic Utility Airport. The airport has one runway with an adjacent full-length taxiway. It caters primarily to aircraft with single-wheel landing gear that weigh up to 12,000 pounds; however, heavier aircraft have used the runway. While the most common type of aircraft using the airport is single engine fixed-wing general aviation aircraft, some twin-engine aircraft and helicopters also utilize it.

According to the Mariposa-Yosemite Airport Comprehensive Land Use Plan, the Airport operates under Visual Flight Rules (VFR) conditions and is equipped with Visual Approach Slope Indicators (VASI-2) on both runway ends. The Mariposa-Yosemite Airport is an uncontrolled airport in uncontrolled Class G airspace extending from the surface up to the overlying controlled Class E airspace with begins 1,200 feet above the surface.

13.4.03 LAND USE

The airport is located within the Mount Bullion Town Planning Area (TPA) and the airport is the major land use in the TPA. Agriculture also occupies large areas in the vicinity of the airport; however, that use has been declining in recent years it has been replaced by rural residential and recreational development. The airport influences development policies in the TPA, restricting building height, and ensuring compatible uses in areas surrounding the airport. Land uses outside the TPA are designated by the County General Plan. The areas immediately north and east of the TPA allow residential development on 20 to 40 acre parcels. In the areas south and west of the airport are residential uses on smaller 2.5 to 5 acre parcels are allowed (see Figure 13-5).

13.4.04 SAFETY ZONES

Land use compatibility standards have been established in the Mariposa-Yosemite Airport Comprehensive Land Use Plan to provide consistency with the County General Plan. The land uses, described in the following table, have been classified into three safety zones surrounding the Airport. These safety zones are intended to protect people from hazards and prevent property damage.

Table 13-3: Safety Zones

Safety Zone	Permitted Land Uses	Specifically Excluded Land Uses
A	Golf courses (but not club houses) and agricultural operations (other than forestry or livestock farms).	No structures are allowed.
B	Agricultural, commercial and industrial uses provided maximum structural coverage is less than 50 percent of total land area and population density is no more than 50 persons per acre at any time. Residential uses are allowed at densities up to one residential unit per 2.5 acres. Clustering of development is encouraged to avoid placing structures within the Zone.	Industries involved in flammable materials or processes, major public utility distribution centers, hotels, motels, restaurants, bars, schools, hospitals, government services, concert halls, auditoriums, stadiums, arenas or other use intended as a place for the general public to gather.
C	Generally, all uses permitted by existing zoning are allowed. Residential uses are allowed at densities up to four residential units per acre. Residential uses and places of public assembly should be clustered so as to avoid placing structures under the most heavily used flight patterns.	

Source: Mariposa-Yosemite Airport Comprehensive Land Use Plan, Aries Consultants Ltd., April 1995.

Figure 13-5 illustrates the Safety Zone boundaries. Zone A covers the area 200 feet from each of the runway ends. It is intended to protect people and property from potential accidents during take off and landing. The zone requires that the area be clear of structures and incompatible objects and activities. Zone B addresses safety concerns in the approach and departure corridor. The intent is to create an open space corridor on the ground under the major flight tracks in case of an emergency landing. This zone begins at the ends of Zone A and extends out approximately 5,200 feet. Zone C addresses safety concerns under the aircraft traffic pattern and over-flight areas. While flying in this zone, the planes should be at an elevation of approximately 1,000 feet and would have more time to execute an emergency landing.

13.4.05 NOISE

According to the Land Use Plan, hearing damage from airport noise is not considered to be a hazard for nearby neighbors because noise levels are not of sufficient intensity to cause such damage. To be consistent with the County standard, a 55 Community Noise Equivalent Level (CNEL) noise contour has been established extending approximately 3,200 feet east and 5,700 feet west of State Highway 49. This contour is intended to protect residents from potential harm of excessive noise. There are 250 acres zoned Mountain Home (MH) located between the 55 and 60 CNEL (between Old Toll Road and Mt. Bullion TPA). Even if this area realized full build-out potential of 50 residential units, this use is still compatible with County guidelines.

13.5 HAZARDOUS MATERIALS AND HAZARDOUS WASTE

The Mariposa County Comprehensive Hazardous Waste Management Plan and Environmental Impact Report was prepared for the County Health Department in November 1988. The County Health Department is responsible for the enforcement of hazardous waste regulations and related laws. The Management Plan is intended to be a guide for the reduction, treatment, recycling, and disposal of hazardous waste generated in Mariposa County. Mariposa County has a County Landfill and four transfer stations; however, none of these sites accept hazardous waste. Due to the fact that there are no commercial or public hazardous waste treatment, storage, disposal, or recycling facilities within Mariposa County, all hazardous waste is exported out of the county.

Pursuant to the California Code of Regulations (19 CCR §2729-2732) and §25503 of the Health and Safety Code, the Mariposa County Health Department has developed a Hazardous Material Business Plan program. The program tracks businesses and facilities that handle hazardous materials or mixtures containing hazardous materials if they exceed 500 pounds of solid, 55 gallons of liquid, or 200 cubic feet of gas. The Business Plans are kept on file in both the County Health Department and the Fire Department. The Fire Department uses the plans in the case of an emergency to inform fire personnel of any potential hazards present. In March 2001, there were 123 businesses and facilities with Hazardous Material Business Plans.

Figure 13-5: Land Uses and Airport Safety Zones

Do to the size of this image; Figure 13-5 has been created as a separate file

13.5.01 WASTE GENERATION

In 1986, according to the Hazardous Waste Management Plan, Mariposa County produced approximately 99 tons of hazardous waste. While there are no recent estimates of the amount of hazardous waste produced in the County, it is likely that the amount has increased significantly. Because there are no hazardous waste treatment facilities in the County, all of the waste is exported to the Merced County Landfill. Sixty-six percent of the hazardous waste in 1986 was waste oil coming from internal combustion engines and small quantity generators. Recognizing that the majority of waste produced in the County is from automobiles and other internal combustion engines, the County created centralized waste oil collection centers at the Don Pedro transfer station and at the County Landfill. In the 1998-1999 period, 7,950 gallons of waste oil was collected and it is estimated that 8,300 gallons of waste oil will be collected in the 2000-2001 period (County Public Works). The County contracts with Evergreen, a recycling company based in Richmond, California, to recycle the collected waste oil.

Small quantity generators are businesses that create less than 1,000 kilograms (approximately one ton) per month of hazardous waste. There are two small quantity industrial waste generators in the County. Both the Tavis Corp (EPA# CAD983630781) and Mariposa County (EPA# DAC983665506) have an agreement with Merced County to export their hazardous waste to the Merced County Landfill. Merced collects the waste bi-annually at the same time the household waste collection occurs. Yosemite Concession Service is the only large quantity generator in the county.

Household waste accounted for approximately 15.6 tons, with the major waste being oil and lubricants. The County landfill received approximately 11,668 tons of solid waste in the 1999-2000 period while the four transfer stations accepted 448 tons. A small portion of this waste could be considered hazardous, such as paint thinner cans and waste oil.

13.5.02 TRANSPORTATION

For the most part, Mariposa County is removed from the major transportation routes of hazardous waste in the state. Although Highway 120 and Highway 49 bisect the County, the rugged terrain and lack of secondary access routes (in case of emergency) are not convenient or safe for trucking. In addition, commercial trucks are prohibited from using any State highway through Yosemite National Park.

13.5.03 CONTAMINATED SITES

Although there are no contaminated sites that are on the EPA's National Priority List of Superfund sites, there have been several small, contaminated sites located within the County (Figure 13-6). Two sites were discovered in 1987 when fires uncovered the remains of an old logging/lumber operation. The primary contaminant on the sites was hydrocarbon residues in the soils. Yosemite Concession Services within the National Park has also identified several potential contaminated sites.

Underground storage tanks (USTs) are another concern regarding contaminated sites. The County Health Department has an underground storage tanks program. The program ensures that all USTs meet current state regulations and are inspected and permitted on an annual

basis. In March 2001, there were 87 USTs, each with its own identification number. The County Health Department is responsible for identification of any leaking USTs.

13.5.04 WASTE REDUCTION

The County has taken steps to reduce hazardous waste although there are no specific programs in place. Household waste reduction has been addressed through public information and education about conservation and re-use. There are also bi-annual household hazardous waste collection days that have yielded positive results and will continue to be implemented.

Figure 13-6: USEPA Superfund Sites in Mariposa County

Do to the size of this image; Figure 13-6 has been created as a separate file

13.6 EMERGENCY EVACUATION

Mariposa County has prepared a Draft Evacuation Plan (March 2001), and is working on a Comprehensive Emergency Management Plan to meet the requirements of Government Code §8607(a) in accordance with the California State Standardized Emergency Management System (SEMS) to manage and regulate the responses of multi-agency and multi-jurisdiction emergencies.

The County created a General Response (Field) Checklist in order to standardize the emergency response procedures. It has also established evacuation staging areas (short-term method to gather evacuees in the advance of a fire, flood, or other disaster). Accordingly, the Evacuation Plan provides that:

Should the need for an evacuation be determined by an Authority Having Jurisdiction (AHJ), the following [Agency] sites shall be used as staging areas for evacuees and citizens seeking information. Affected agencies, (Sheriff’s Office, County Fire/OES, Human Services, Red Cross, etc. as appropriate) shall set up a public information center at this site and continue the operation until the incident is demobilized. Should a shelter operation become necessary, the Department of Human Services will request and coordinate the opening of congregate care facilities with the Merced/Mariposa Chapter of the American Red Cross. Salvation Army and other organizations involved in disaster services will also be contacted and coordinated by the Department of Human Services staff. Table 13-4 lists the County's evacuation staging areas.

Table 13-4: Evacuation Staging Areas

Community Service Area	Staging Area
Midpines	Midpines Fire Station , Fairgrounds, Cedar Lodge
Catheys Valley	McCay Hall
Airport-Mt. Bullion	Fairgrounds & Bear Valley Store
Coulterville	Coulterville Park
Bridgeport	Fairgrounds & McCay Hall
Buck Meadows	Groveland Park, Greeley Hill Store
Lushmeadows	Lushmeadows Community Center, Woodland Store
Greeley Hill	Greeley Hill Market, Coulterville Park
Ponderosa Basin	Ponderosa Chapel, Woodland Store
El Portal	Cedar Lodge, El Portal Community Center
Fish Camp	Tenaya Lodge, Wawona Hotel, Station 12 (Oakhurst)
Hunters Valley	Bear Valley Store, Hornitos Post Office
Mariposa	
Bootjack	Bootjack Market, Fairgrounds

Source: Draft Evacuation Plan, Mariposa County, March 2001

If the situation should arise that one of the pre-determined sites is inappropriate to use due to the nature of the disaster, AHJ may decide to utilize another site. The alternate site must be the next closest safe location. The Mariposa County Fairgrounds has been determined to be the main shelter site for large scale disasters. If that location is utilized by emergency operations, it may not be available for shelter use. In that instance, other safe locations will need to be found.