

3. Sonoma County Capability Assessment

One of the ways the County of Sonoma helps protect and maintain the health, safety and welfare of the community is by working to reduce the County's level of risk to natural disasters such as earthquakes, landslides, floods and wildland fires. The County can use a variety of different tools, assets, and authorities to effectively reduce or mitigate the impacts of natural disasters. These include voluntary and mandatory measures; individual and community efforts; private and public actions; and preventive as well as responsive approaches. Example mitigation activities include educating citizens, enforcing building and development codes, carrying out capital improvement projects, adopting plans setting forth goals, policies and actions, establishing incentive programs and, in some cases, improving emergency response and preparation.

The capabilities available to Sonoma County fall into the following broad categories: Agencies and People, Plans, Codes and Regulations, Programs and Mitigation Activities, and Financial Resources. The County's efforts to minimize harm to County residents caused by disasters go above and beyond many state and federal requirements, but there are some areas where the County may have the capability to do more. This capability assessment reviews how Sonoma County uses each of the capabilities available to mitigate its disaster risk. It discusses how each capability has been used in the past and analyzes the effectiveness of its use. This discussion provides a basis for proposing new mitigation activities, and for understanding whether current County activities need to be changed or enhanced.

The County's legal authority for disaster mitigation is established in the Sonoma County Code. The California Constitution grants local governments authority to protect the public's health, safety and moral welfare¹. This has long been recognized by the courts to include mitigation activities such as building codes, subdivision regulations, development standards and other regulatory approaches. Chapter 10 of the County Code, Emergency Management and Response, establishes County authority to provide for the mitigation of the effects of natural, man-made, or war-caused emergencies that result in conditions of disaster or extreme peril to life, property, or the resources of the County².

3.1 Agencies and People

Programs and policies are only meaningful if they are supported, enacted and enforced by motivated people with the time and resources to make them work. Sonoma County has a number of agencies that focus on disaster related issues, and it also benefits from the work of various state, federal, and non-governmental agencies. The most important players in Sonoma County mitigation activities are described below.

3.1.1 Local Agencies

County Agencies

The key County agencies involved in disaster mitigation and their role in managing disasters are presented in Table 3-1.

Table 3-1 County Departments and Staff Involved in Disaster Management

Department	Role in Disaster Mitigation and Management
<p>Permits & Resource Management Department</p> <p>Key Divisions:</p> <ul style="list-style-type: none"> - Building - Code Enforcement - Comprehensive Planning - Engineering - Environmental Review - Project Review - Well and Septic 	<ul style="list-style-type: none"> • Verifies compliance with Uniform Building Code through checking plans, issuing permits, and conducting field inspections. • Conducts comprehensive planning activities, including leading preparation of the General Plan • Develops zoning regulations • Prepares CEQA documents • Maintains GIS capability for County planning activities • Conducts site inspections to enforce permit and code requirements • Leads situation analysis, damage assessments and documentation during emergency response • Houses the County’s Floodplain Manager, who oversees floodplain management and mitigation programs • Makes flood elevation determinations • Participates in Emergency Operations Center operations
<p>Department of Emergency Services</p> <p>Key Divisions:</p> <ul style="list-style-type: none"> - Emergency Management - Fire Services - Hazardous Materials 	<ul style="list-style-type: none"> • Leads emergency response, including rescues, fire suppression and hazardous materials response. • Plans and coordinates response, recovery, and mitigation activities • Communicates with federal, state, and other local agencies • Develops emergency operation plans for the County, cities, and districts • Conducts emergency management and preparedness trainings • Provides plan check and inspection services for fire-related code compliance • Trains and oversees 15 volunteer fire agencies in unincorporated areas of the County • Oversees volunteers, such as the Auxiliary Communications Service volunteer ham radio operators
<p>Emergency Council</p>	<ul style="list-style-type: none"> • Established by County Code, Chapter 10 • Reviews/Recommends adoption of the Emergency Plan • Reviews/recommends mutual aid agreements • Annually reviews goals and objectives for the Operational Area
<p>Sheriff’s Department</p>	<ul style="list-style-type: none"> • Performs emergency response activities, including evacuation, security and coroner functions

Table 3-1 County Departments and Staff Involved in Disaster Management (Cont'd.)

Department	Role in Disaster Mitigation and Management
Transportation and Public Works Department Key Divisions: - Roads - Airport	<ul style="list-style-type: none"> • Provides road construction and maintenance services • Maintains the County airport, which has commercial and emergency uses • Conducts emergency repair services to transportation and public works systems • Maintains some drainage infrastructure
Department of General Services	<ul style="list-style-type: none"> • Designs, constructs, and maintains County owned buildings • Maintains insurance on County facilities
Community Development Commission	<ul style="list-style-type: none"> • Operates the County Redevelopment Agency and Housing Authority • Coordinates flood elevation programs • Coordinates Community Development Block Grants for low-income housing renovation
Human Services	<ul style="list-style-type: none"> • Coordinates care and shelter needs in emergencies, with the Red Cross
Department of Health Services	<ul style="list-style-type: none"> • Coordinates health and medical functions during disasters • Develops and distributes emergency preparedness and health risk information before and after floods, landslides and other emergencies
Information Systems Department	<ul style="list-style-type: none"> • Maintains emergency communication towers • Manages internal County communications
Sonoma County Water Agency (SCWA) <i>(SCWA is a Regional Agency)</i>	<ul style="list-style-type: none"> • Provides potable water, including for firefighting, to areas of the County • Constructs and manages flood control structures • Manages vegetation in key streams • Operates/maintains water treatment and sanitation facilities

Other Local Agencies

There are nine incorporated cities and towns in Sonoma County: Cloverdale, Cotati, Healdsburg, Petaluma, Rohnert Park, Santa Rosa, Sebastopol, Sonoma and the Town of Windsor. Each of these communities is responsible for managing its own disaster risk within its boundaries.

One County emergency management function that deserves a more in-depth look is fire management, because this responsibility is shared between County, state and local agencies. Managing fire risk in the unincorporated areas of Sonoma County is shared by nearly forty agencies. This includes 15 volunteer fire companies who are trained and supervised by the County Department of Emergency Services, 18 independent special fire protection districts, two independent community services districts, the State of California’s Department of Forestry and Fire Protection (CDF), and City Fire Departments. A listing of the fire districts and departments is included in Table 3-2. The areas served by each of these agencies is shown in Figure 2-11.

Table 3-2 Fire Districts and Departments

Community	Designation
Annapolis	Volunteer Fire Department
Bennett Valley	Fire Protection District
Bloomfield	Volunteer Fire Department
Bodega	Volunteer Fire Department
Bodega Bay	Fire Protection District
Camp Meeker	Volunteer Fire Department
California Department of Forestry	State Agency
Cazadero	Community Service District
Cloverdale	City Fire Department
Forestville	Fire Protection District
Fort Ross	Volunteer Fire Department
Geyserville	Fire Protection District
Glen Ellen	Fire Protection District
Gold Ridge	Fire Protection District
Graton	Fire Protection District
Healdsburg	City Fire Department
Kenwood	Fire Protection District
Knights Valley	Volunteer Fire Department
Lakeville	Volunteer Fire Department
Mayacamas	Volunteer Fire Department
Monte Rio	Fire Protection District
Mountain	Volunteer Fire Department
Occidental	Community Service District
Petaluma	City Fire Department
Rancho Adobe	Fire Protection District
Rincon Valley	Fire Protection District
Rohnert Park	Department of Public Safety
Russian River	Fire Protection District
San Antonio	Volunteer Fire Department
Santa Rosa	City Fire Department
Sea Ranch	Volunteer Fire Department
Sebastopol	City Fire Department
Sonoma County	Service Area #40
Sonoma Developmental Center/Eldridge	City Fire Department
Sonoma Valley	City Fire Department
Sotoyome	Volunteer Fire Department
Timber Cove	Fire Protection District
Two Rock	Volunteer Fire Department
Two Rock Coast Guard	Fire Department
Valley Ford	Volunteer Fire Department
Wilmar	Volunteer Fire Department
Windsor	Fire Protection District

The quality of and demand for emergency services provided by these fire districts varies widely in the County, with service standards declining in some areas. Many of the fire protection districts serving unincorporated areas of the County are staffed largely by volunteer fire fighters from the community. These districts report increasing difficulty retaining an adequate number of

trained volunteers. Many fire agencies face fiscal stress due to reduced state-level resources and increasing demands and costs.

In August 2005, a Municipal Services Review (MSR) was conducted of the Sonoma County Fire Protection Service Providers for the Sonoma County Local Agency Formation Commission (LAFCO). The review was prepared in accordance with the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000, which assigns responsibility to LAFCO's for conducting MSRs on service districts, including fire districts. The purpose of the review is to identify measures that can be taken to improve emergency response and coordination ahead of time. Each review must identify and assess nine factors related to various aspects of financing, management, infrastructure, and future growth projections. The ninth factor specifically reviews government structure options, including the advantages and disadvantages of consolidation or reorganization of service providers. The MSR for Sonoma County Fire Protection Service Providers concluded that "the existing number and configuration of fire protection agencies may be less than optimal."³

The Fire Services Division of the Department of Emergency Services coordinates fire services in unincorporated areas of the County. It also manages one fire district, County Service Area 40 (CSA 40), which is made up of fifteen volunteer fire companies that contract with the County. Each of these fire companies has its own facilities and equipment, but the County carries insurance to cover risk to their buildings, vehicles, workers' compensation, liability, and liability for their management boards.

The many agencies involved in managing fire risk in the unincorporated areas of the County carry different levels of responsibility when it comes to mitigation. For example, responsibility for vegetation management of key development and roads in high wildfire hazard areas is shared by property owners, local fire districts, the County fire marshal, the County PRMD, and the CDF. The County enforces vegetation management by private property owners in all new development in State Responsibility Areas (described in detail in section 3.3). Vegetation management regulations are enforced by each fire district based on individual district priorities. Factors influencing level of enforcement include accessibility, and budget and staffing constraints.

3.1.2 Regional Agencies

Association of Bay Area Governments (ABAG)

ABAG is a regional planning agency that provides assistance and financing to address regional issues such as land use, housing, environmental quality, economic development, and disaster risk. ABAG provides extensive resources about natural disasters in the area, including maps, estimates of losses, and preparedness information. Its website is <http://www.abag.ca.gov>.

Bay Area Air Quality Management District (BAAQMD)

BAAQMD is a regional planning agency that monitors and protects air quality. The southern portion of Sonoma County lies within the district boundaries. BAAQMD enforces regulations and issues permits for agricultural and vegetation management burns. Permit limitations can impede county vegetation management initiatives for fire safety. Regulations specific to burn permits are found at <http://www.baaqmd.gov/dst/regulations/rq0500.pdf>.

3.1.3 State Agencies

A number of state agencies are involved in disaster issues in Sonoma County. The roles of key state agencies involved in mitigation are described below. Many more agencies are involved in other disaster issues, such as emergency response or rebuilding activities.

Governor's Office of Emergency Services (OES)

The OES serves as the lead state agency for emergency management in California. Among many other activities, it administers federal mitigation programs in the state, prepares the State Multihazard Mitigation Plan, and supports and oversees hazard mitigation planning activities of local governments. The OES website is <http://www.oes.ca.gov/>.

California Geological Survey (CGS)

The CGS develops and disseminates technical studies and advice about geologic hazards. For example, it maps zones with risk of fault rupture, liquefaction, landslide and amplified shaking for regulatory purposes. Its website is <http://www.consrv.ca.gov/cgs/>.

Department of Forestry and Fire Protection (CDF)

The CDF, in addition to being the lead agency responding to wildland fires in the state, oversees a number of programs to promote fire prevention and loss mitigation. These include vegetation management programs, technical studies of fire risk, and training and education programs. The CDF provides for fire response in the State Responsibility Areas of Sonoma County, shown in Figure 3-1. Its website is <http://www.fire.ca.gov/>.

Department of Water Resources (DWR)

The Department of Water Resources (DWR) is the state agency with primary responsibility for the management of water in California, and for flood disaster preparedness and response. The DWR coordinates the National Flood Insurance Program (NFIP) in the state, as well as coordinating the Floodplain Management Task Force. Under contract with FEMA, DWR performs Community Assistance Visits (CAVs) for certain communities. The most recent CAV for Sonoma County was completed in January 2004. Additionally, DWR delivers floodplain management workshops for local officials in subjects such as compliance with NFIP floodplain management criteria, preparation of elevation certificates, and flood-resistant construction. DWR also conducts studies to meet these needs; and conducts studies of flood hazards using FEMA funds and its own resources.

The Department of Water Resources, Division of Safety of Dams, is responsible for approving the design and observing maintenance of major dams in the County with regard to their ability to withstand flood flows and earthquake hazards. The DWR website is <http://www.water.ca.gov/>.

Seismic Safety Commission

The Commission investigates earthquakes, researches earthquake-related issues, and recommends to the Governor and Legislature policies and programs needed to reduce earthquake risk. In particular, the Commission oversees the County's compliance with state regulations for un-reinforced masonry buildings (URMs). Its webpage is <http://www.seismic.ca.gov>.

Department of Transportation (Caltrans)

Caltrans is responsible for planning, designing, building, operating and maintaining California's state highway system. This includes ensuring that new and existing state highway infrastructure are resistant to natural disasters. Caltrans has evaluated and strengthened thousands of state and local bridges at risk of damage in earthquakes, including a number of County bridges. Its webpage is <http://www.dot.ca.gov>.

Division of the State Architect (DSA)

The DSA provides design and construction oversight for K-12 schools and community colleges in the state. It ensures that all new public schools in California meet stringent disaster-resistant design and construction standards. It conducts site inspections during construction to verify proper implementation of the rules. Its webpage is <http://www.dsa.dgs.ca.gov>.

Office of Statewide Health Planning and Development (OSHPD)

OSHPD, among other activities, monitors compliance of California hospitals with Senate Bill 1953. This regulation requires all existing hospital with specific structural deficiencies to upgrade their structures to defined seismic safety levels. County progress in meeting the requirements of this law is discussed in section 2.2.4. OSHPD's webpage is <http://www.oshpd.cahwnet.gov>.

Coastal Commission

The Commission plans for and regulates land and water use in the state's coastal zone consistent with the policies of the Coastal Act. This includes regulating development in coastal hazard zones, such as flood, landslide and tsunami risk areas. Its webpage is <http://www.coastal.ca.gov>.

3.1.4 Federal Agencies

The roles of key federal agencies involved in hazard mitigation are described below. Many additional agencies are involved in other disaster issues, such as emergency response and rebuilding. These include the Army National Guard and Army Reserve, among others.

Federal Emergency Management Agency (FEMA)

FEMA, part of the U.S. Department of Homeland Security's Emergency Preparedness and Response Directorate, is the key federal agency with responsibility to help communities prepare for, prevent, respond to, and recover from disasters. The Flood Insurance and Mitigation

Division of FEMA administers the National Flood Insurance Program (NFIP). As part of the management of the NFIP, FEMA conducts a Community Assistance Visit (CAV) every 5 years for each community participating in the NFIP to ensure that the community is implementing the minimum floodplain management criteria of the NFIP. FEMA last performed a CAV for Sonoma County in January 2004. FEMA requested additional venting and structural information for 25 residential properties be provided to confirm NFIP and Sonoma County ordinance compliance.

FEMA also provides mitigation funds to state and local governments through a variety of grant programs, including the Hazard Mitigation Grant Program (HMGP), the Flood Mitigation Assistance Program (FMA) and the Pre-Disaster Mitigation Program (PDM). Sonoma County has benefited from FEMA grants and guidance to mitigate its risks and to prepare this plan, as well as relying on assistance from FEMA after significant disasters. FEMA's website is <http://www.fema.gov>.

The US Army Corps of Engineers (USACE)

The USACE, San Francisco District, has responsibility for civil works, flood control, flood fighting, environmental restoration, and Clean Water Act regulatory activities for a geographic area in the western United States that covers approximately 40,000 square miles, including Sonoma County. The USACE is responsible for constructing, operating, and maintaining major flood control facilities, such as the Russian River dams and the Petaluma Flood Control project. The USACE was responsible for building Warm Springs Dam, which forms Lake Sonoma. The Corps manages flood control releases from the Coyote Valley Dam, which creates Lake Mendocino in Mendocino County, and Warm Springs Dam, which creates Lake Sonoma on Dry Creek, a Russian River tributary. The County controls releases for other reasons, such as maintaining fish species. Additionally, the USACE conducts studies, including a recent investigation of the impacts of increased sedimentation on flood control capacity of the Laguna de Santa Rosa⁴, and current watershed restoration studies along the Russian River and Sonoma Creek for San Pablo Bay. The USACE website is <http://www.usace.army.mil/>.

Natural Resources Conservation Service (NRCS)

The U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) addresses natural resource conservation on private lands. NRCS works closely with local resource conservation districts and resource conservation and development councils. In California, the NRCS provides outreach, management support, engineering, resource technology, technical soil services, and watershed planning services.

The NRCS provides three types of technical and financial assistance programs for watersheds: Emergency Watershed Protection Program and Floodplain Easement Component; Watershed Protection and Flood Prevention Program; and Watershed Rehabilitation. Flood issues addressed by these programs include: watershed protection; flood prevention; erosion and sediment control; water supply; water conservation; wetland and water storage capacity; upstream flood damages; and wetland creation and restoration. Additionally, the NRCS develops conservation-related surveys and plans, including watershed plans, river basin surveys and studies, flood hazard analyses, and floodplain management assistance.

The NRCS is currently working with the counties of Sonoma and Marin to develop a small watershed plan for the Stemple Creek Watershed.⁵ Also, a project agreement was recently signed by the Sonoma County Water Agency and the NRCS to obligate about \$1.9 million in federal funds for an additional reach of the Santa Rosa Creek Restoration Project in Sonoma

County.⁶ The Southern Sonoma County Resource Conservation District, in partnership with the US Army Corp of Engineers, is seeking \$1million to fund a study to reduce flooding in the Schellville area, which is frequently flooded by Sonoma Creek.⁷ <http://www.nrcs.usda.gov>.

US Geological Survey (USGS)

The USGS researches natural science issues and provides data and maps valuable for mitigation activities. For example, the USGS develops probabilities for future earthquake events, and has produced maps indicating locations where landslides and liquefaction are likely to occur in the County. Its website is <http://www.usgs.gov>.

US Forest Service (USFS)

The Forest Service is an agency of the U.S. Department of Agriculture. The Forest Service manages public lands in national forests and grasslands. The Fire and Aviation Management part of the USDA Forest Service works to advance technologies in fire management and suppression; maintain and improve mobilization and resource tracking systems used in emergency response; and support fire safety standards and community education programs at the federal, state and local level. Its website is <http://www.fs.fed.us>.

3.1.5 Non-Governmental Organizations

There are numerous non-government groups that contribute to disaster management in Sonoma County. By working with these groups, the County can extend its resources and personnel to more effectively reach its mitigation goals. Some of the most active groups are described below.

Fire Safe Sonoma

The Fire Safe Sonoma organization is a private, nonprofit organization of fire protection professionals, representatives of community action groups, homeowners and other concerned individuals. Its primary purposes are to educate, exchange information, foster fire prevention and fire safety practices, promote vegetation management, obtain grants, support local fire agency efforts and involve everyone who works, lives or recreates in rural areas. It works with community groups on issues including sudden oak death and vegetation management. Important stakeholders such as Pacific Gas & Electric, insurance companies and others work together through this group. Fire Safe Sonoma maintains an educational website at <http://www.firesafesonoma.org>.

Sonoma County Chapter of the American Red Cross

The Sonoma County Chapter of the American Red Cross meets immediate emergency disaster-caused needs by providing shelter, food, clothing, and health and mental health services to address basic human needs. The Red Cross also feeds disaster victims and emergency workers, handles inquiries from concerned family members outside the disaster area, provides blood and blood products to disaster victims, and helps those affected by disaster to access other available resources. The County has an agreement with the Red Cross to provide training and operate shelters in times of disasters. The Red Cross maintains a list of 170 potential shelters and contacts in Sonoma County. During non disaster times, the Red Cross supports the County Office of Emergency Services by conducting emergency preparedness training and

public education presentations, including providing CERT training County-wide. Its website is <http://www.sonomacounty.redcross.org/>.

National Voluntary Organizations Active in Disasters (NVOAD)

Faith based organizations and service clubs have historically been active in disaster preparation and relief activities. Groups such as the Salvation Army participate on the County Emergency Coordinators Group and provide support following local, state, and federal emergencies in the County.

Homeowner Groups

Homeowner associations can contribute significantly to reducing disaster risk. Fountaingrove II is one example of this type of association, located outside of Santa Rosa. It has put significant effort into managing vegetation to reduce wildfire risk. Their programs are described at <http://www.fountaingrove2.org>. Other groups, such as the Fitch Mountain Neighborhood Association, have worked for years with CDF to implement community defense fire protection projects. The Oakmont Homeowners Group, located within the Santa Rosa City limits, actively participates in emergency preparedness programs like CERT.

Media

Sonoma County 2000 airs a quarterly program dealing with emergency preparedness issues. The program in October 2004 focused on the Sonoma County Hazard Mitigation Plan and aired on the Community Media Access Channel 70, KRCB-TV Channel 22 and Viacom Cable Channel over a period of weeks. Other local network stations, including KFTY, KPIX, KRON, KTVU, and NBC11, also provide pre and post disaster emergency public information.

Emergency public information is broadcast over various radio outlets as well. KCBS is responsible for the Bay Area EAS (Emergency Alert System). KZST, a locally owned and operated station serves as the local EAS, in the event KCBS has transmission problems. Additionally, KZST willingly will interrupt normal programming to transmit emergency information at the County's request.

The County Office of Emergency Services maintains a close relationship with the Press Democrat, the daily newspaper covering local issues. This includes providing up to date information on pre and post disaster topics. Recent articles include the tsunami risk and County preparedness, and the potential for rain induced landslides in the County. Bay Cities News, a local wire service also provides pre and post emergency information as do a number of other local newspapers.

There are also many other community groups and residents the County can work with to meet disaster management goals. Public interest groups, businesses organizations, civic clubs, specific industries (e.g. the construction industry), professional societies (e.g. the Earthquake Engineering Research Institute) and others often have the same interests in keeping Sonoma disaster resilient as the government.

3.2 Plans

Sonoma County has numerous plans that address disaster management in the County. These plans define important County policies and support the ordinances and activities described previously. Some of them directly relate to hazard mitigation, such as the Public Safety Element of the General Plan. Others focus on different aspects of disaster management such as emergency response. Still others do not focus directly on disaster issues but have implications that are relevant to hazard mitigation, such as plans related to spending on public facilities and storage of hazardous materials. This section reviews County plans and highlights the elements that are relevant to disaster mitigation and can support future implementation of mitigation actions identified in this plan.

3.2.1 The General Plan

All counties in California are required to adopt a General Plan that lays out major policy goals. The General Plan includes elements, which are sections that address a variety of important topics. The element most closely related to this Hazard Mitigation Plan is the Public Safety Element, which focuses on reducing geologic, flood and wildfire risks. Other elements also provide guidance relevant to mitigation, including the Land Use, Open Space, Resource Conservation, Housing, Public Facilities and Services, and the Circulation and Transit elements. For example, the Land Use Element restricts land uses and density in hazardous areas, thereby limiting the number of people and buildings exposed to hazards. At least five of the elements (land use, housing, open space, resource conservation, and public safety) include measures to reduce the impacts of flooding in the County. Sonoma County is currently updating the General Plan.

The Public Safety Element

The aim of the Public Safety Element is to reduce the potential risk of death, injury, property damage, and economic and social dislocation resulting from fires, floods, earthquakes, landslides, and other hazards. The Safety Element identifies all significant hazards and risks in a community and defines policies to mitigate and respond to those risks. Key policies from the current Public Safety Element appear in Table 3-2, along with a discussion of whether and how these policies have been implemented in the intervening years.

The Public Safety Element is being updated by the GP2020 Citizens' Advisory Committee based on policy recommendations from County staff and feedback from the public. This Hazard Mitigation Plan will be completed concurrently with the update of the Public Safety Element, and will contain consistent objectives and policies.

Table 3-3 Key Public Safety Element Mitigation Policies and Implementation

POLICY	IMPLEMENTATION
<i>Geologic Hazards Policies</i>	
PS-1e. Prepare a “geologic hazard area” combining district . Consider establishing limits on permissible uses and including standards for permitted development.	The “G Geologic Hazard Area Combining District” has been designated in County zoning regulations. All new development in this zone must conduct geologic studies and include measures to mitigate their risk from landslides, earthquakes, and other geologic hazards.
PS-1f. Require and review geologic reports prior to decisions on any project which would subject property or persons to significant risks from the geologic hazards ⁸ .	Geologic reports are required for subdivision and building permits in areas where geologic hazards may pose risks. Mitigation measures may be required.
PS-1g. Prohibit structures intended for human occupancy within 50 feet of the surface trace of any active or potentially active fault.	This requirement is included in the “G Geologic Hazard Area Combining District,” established in accordance with PS-1e.
PS-1i. Require dynamic analysis of structural response to earthquake forces prior to County approval of building permits for structures whose irregularity or other factors prevent reasonable load determination and distribution by static analysis.	This requirement has been included in the County’s building regulations. This type of structure has not been proposed for construction within the County since the Public Safety Element was adopted.
PS-1k. Roads, public facilities and other County projects should incorporate measures to mitigate identified geologic hazards to acceptable levels.	The County has undertaken numerous capital improvement projects since 1989 for buildings, bridges, fuel tanks, and other structures. All of these meet disaster-resistant code standards of the time of improvement.
<i>Flood Policies</i>	
PS-2c. Base land use planning and development review on FEMA maps and data or parcel specific scaled interpretations of these maps and site specific elevation data.	This requirement is included in the County Zoning Regulations, F1 and F2 Combining Districts and the Flood Damage Prevention Ordinance.
PS-2g. Regulate development, water diversion, vegetation removal, grading and fill to minimize any increase in flooding and related damage to people and property.	This policy is addressed through project review and implementation of the Drainage and Stormwater Management Ordinance which requires permits for activities that potentially impact stormwater flows.
PS-2l. Consider the potential risk of damage from flooding in the design and review of projects, including those which could facilitate floodplain development.	This policy is addressed through the F1 and F2 Combining Districts which regulate development of properties in the floodway or floodplain.

Table 3-3 Key Public Safety Element Mitigation Policies and Implementation (Cont'd.)

POLICY	IMPLEMENTATION
PS-2n. Continue to enforce county code requirements on construction in flood hazard areas and other adopted regulations which implement the NFIP.	In 1996, the County adopted the Flood Damage Prevention Ordinance to address development within the floodplain in accordance with NFIP regulations.
PS-2p. Limit filling in areas which could retain a significant amount of floodwater.	Since 1996, PRMD has applied a “zero net fill” rule to all development within a floodplain. However, the County only requires compliance for properties in the Laguna de Santa Rosa.
<i>Wildfire Policies</i>	
PS-3d. Require on-site detection and suppression, including automatic sprinkler systems, where available services do not provide acceptable levels of protection.	An automatic fire extinguishing system is required in nearly all new buildings in the unincorporated areas of the County, regardless of size. These changes were adopted on February 25, 2003 through ordinances 5402 and 5373.
PS-3f. The Department of Fire Services shall offer assistance to local agencies in adoption and enforcement of fire safety regulations ⁹ .	Now the Department of Emergency Services, the County conducts plan and site inspections for development in most unincorporated areas of the County.
PS-3i. Incorporate the fire safety standards recommended in CDF’s “Fire Safety Guides” into County development standards ¹⁰ .	In 1994, The County adopted <i>County Fire Safe Standards</i> that outline development standards concerning emergency access, water supply, and vegetation management, among other provisions. These standards go above and beyond <i>California Fire Code</i> standards.

3.2.2 Local Coastal Plan

The Coastal Plan, implemented through the Coastal Zoning Ordinance, Chapter 26C of the Sonoma County Code, sets site development and erosion control standards in regards to drainage, flooding and landslides for coastal areas. According to the ordinance, projects that involve drainage alterations, ponding, or filling must be approved by the Permit and Resource Management Department before commencing operations, except dams designed or approved by the federal government or the state. The ordinance provides standards for sediment basins, settling ponds, ditches, levees, dikes, culverts, and other structures as well as erosion control and streambank protection measures. It also encourages resource use and requires geologic studies and mitigation activities for development in areas at-risk of landslides. The Plan is currently being updated by the County.

3.2.3 Russian River Redevelopment Plan

The County Board of Supervisors approved the Russian River Redevelopment Plan on July 18, 2000. The Plan states twenty-three Specific Goals and Objectives that include: restoration and expansion of the Project Area as a desirable visitor and tourist destination; revitalization, as appropriate, of the Project Area’s businesses and business districts; enhancement and protection of the physical environment and sensitive habitat areas; preservation and enhancement of architecturally and historically interesting buildings and neighborhoods;

improvement of substandard housing conditions; improvement of streets to ensure safe motor vehicle, bicycle and pedestrian movements; upgrading and improvement of utility services to reduce power outages; assistance in the repair, expansion or development of sewer facilities; and assistance to public safety entities in the provision of capital facilities and equipment to serve the Project Area and environs¹¹. It is important to note that a high percentage of properties located in the Russian River Redevelopment Area are in the mapped Special Flood Hazard Area, and the vulnerability of those properties must be considered in any future development strategies.

3.2.4 Flood Mitigation Plan

The Sonoma County Permit and Resource Management Department prepared, and the Department of Emergency Services submitted, the Flood Hazard Mitigation Plan to the State Office of Emergency Services in May 1995. The plan includes measures to reduce the effects of floods, including identifying and developing sites for minor detention runoff, adopting more stringent regulatory standards for construction in floodplains, ensuring that potential buyers of property in flood prone areas are aware of the risk, and requiring new structures to have a safe egress from flood prone areas. The plan also outlines measures to improve the County's response to floods, such as a real time telemetry system and the adoption of an ordinance requiring evacuation during periods of flooding. Finally, the plan called for investigations and studies of flood damage reduction measures for the Fife Creek Watershed and throughout the County¹². This plan enabled Sonoma County to apply for and receive federal Hazard Mitigation Grant Program funds for the Russian River Flood Elevation Program. When completed, this Local Hazard Mitigation Plan will supercede the Flood Mitigation Plan.

3.2.5 Capital Project Plan

On an annual basis, the Capital Project Plan (CPP) presents the County's plan for adding or upgrading public facilities. The CPP includes general government buildings, transportation and public works structures, park facilities and water agency facilities. Individual projects in each of these areas are categorized by whether they require major repair or reconstruction or less significant improvements, whether funding is available for the project, and whether the projects will definitely occur during the five year plan or are currently under consideration. Some projects are identified as specifically including seismic upgrades or flood protection measures. The CPP is updated annually. Projects slated for seismic evaluation or upgrade in the current CPP include: Hall of Justice Seismic Evaluation; Casa Manana Seismic/Renovations; Hood House Seismic Retrofit; and Santa Rosa Veterans Memorial Hall Major Renovation.

The CPP also includes an initiative to develop a master plan for the County Administration Center. Many of the buildings at this site are nearing the end of their useful life and are overcrowded. The master plan will examine various aspects of existing buildings, including functional obsolescence and whether earthquakes and fire pose life safety risks. A key goal will be to accommodate future growth. Depending on the conclusions of the evaluations, retrofit work, if required, will be coordinated and scheduled with remodeling projects.

The County has been limited by funding in the amount of natural hazard retrofit work it can do on its existing buildings. Each year, approximately \$4 million is allocated to all capital improvement projects in the County. One seismic upgrade project can consume many times that amount.

3.2.6 Sonoma County/Operational Area Emergency Operations Plan (EOP)

The County serves as the Operational Area for all County and local jurisdictions within the County. It created a comprehensive emergency operations plan using the Standardized Emergency Management System (SEMS). This plan covers all County departments. Several times a year, personnel responsible for overseeing emergency management issues meet to coordinate their activities. The EOP addresses the planned response to extraordinary emergency situations associated with large-scale disasters affecting the Sonoma County Operational Area.

The EOP establishes policies and procedures and assigns responsibilities to ensure the effective management of emergency operations within the Sonoma Operational Area. It provides information on the Sonoma Operational Area's emergency management structure and how the emergency management team is activated.

Additionally, the plan includes threat assessments that provide a brief analysis of sixteen hazards and how those hazards could affect the Operational Area. Included are seven natural hazards: major earthquake, winter storm, flood, landslide, wildland urban-interface fire, tsunami and drought. The nine technological or man-made hazards include: hazardous material incident, transportation accident (air/train/truck), dam failure, explosion, terrorism, civil unrest, national security emergency, radiological incident, and pandemic influenza.

The document serves as the legal and conceptual framework for emergency management in the Sonoma Operational Area. Support materials include the Emergency Operations Center (EOC) Manual, the Recovery Operations (ROC) Handbook, the Local Assistance Center (LAC) Handbook, and the Emergency Information Hotline Call-takers Handbook.

3.2.7 Other Local Plans

Lower Russian River Response Plan

The Russian River Flood Response Plan is a functional annex to the Sonoma County/Operational Area Emergency Operations Plan. It establishes general procedures and organizational structures for emergency response to flood conditions on the Russian River in the Forestville to Jenner Area. The plan is based upon six stages as determined by Russian River water levels and the expected activities that result from the various water levels.

Hazardous Material Incident Response Plan

This plan defines response procedures for all levels of possible hazardous materials incidents in the County. The County Hazardous Materials Response team meets for regular drills.

Dam Failure Response Plan

This plan deals with the procedures and policy for failure of the Warm Springs Dam on the south corner of Lake Sonoma in the north central area of Sonoma County. The plan identifies inundation areas, warning and evacuation procedures, and emergency contacts.

Tsunami Response Plan

The County Department of Emergency Services has prepared a draft tsunami response plan, however the plan can not be finalized until tsunami inundation and evacuation maps are provided to the County. These maps are currently being developed by the National Oceanic and Atmospheric Administration (NOAA).

Oil Spill Contingency Plan

This plan lays out the structure and procedures to respond to an oil spill event. The plan addresses issues such as on-scene coordination of the response; identifying a responsible party; reporting and notification; responding to impacts on natural and economic resources; funding; and cleanup procedures.

Auxiliary Communication Services Plan

This plan, most recently revised in 2004, outlines policy and procedures for the County Auxiliary Communications Service (ACS) Volunteers. This group of more than 135 amateur radio operators assists with two way radio communications and message handling during times of emergency. The group functions under the direction of the Emergency Services Coordinator to serve the public and supplement professional law, fire, medical, public works, health, and other functions throughout the County.

Animal Emergency Response Plan

This plan sets policy and procedures to deal with animal safety during local emergency situations. The plan addresses shelter, feeding, and care procedures to assist animal owners with their responsibility for taking care of livestock or other animals in any emergency. The plan lays out procedures and contacts for the Sonoma County Animal Regulation Division (SCAR), the Redwood Empire Veterinary Medical Association (REVMA), the Humane Society and others.

3.2.8 State Plans

The State has numerous programs housed in many different agencies addressing natural disasters. The most notable state plans on this topic are discussed below.

The State of California Multi-Hazard Mitigation Plan

The State of California is required to adopt a federally-approved State Multi-Hazard Mitigation Plan to be eligible for certain disaster assistance and mitigation funding. The overall intent of the plan is to reduce or prevent injury and damage from natural hazards in the State. It identifies past and present mitigation activities, current policies and programs, and mitigation strategies for the future. The primary hazards addressed in the plan include: earthquake, landslide, fire and flood. The plan can be accessed at <http://www.oes.ca.gov>.

The California Earthquake Loss Reduction Plan

The state's mitigation plan for seismic hazards was most recently updated and signed by the governor in 2002. It expresses the state's priorities for earthquake hazard mitigation, with the goals to advance learning about earthquakes, building for earthquakes and our ability to live with earthquakes. The plan can be accessed from <http://www.seismic.ca.gov/>.

The California Fire Plan

The goal of this plan is to reduce the total costs and losses from wildland fire in the state by protecting at-risk assets through pre-fire management and initial attack success. The California Fire Plan is a cooperative effort between the State Board of Forestry and Fire Protection and the California Department of Forestry and Fire Protection (CDF). The California Fire Plan can be accessed from <http://www.fire.ca.gov/>.

Sonoma Lake Napa Unit 2004 Fire Management Plan

The LNU Fire Management Plan reflects the wildfire situation in the CDF Unit by identifying high-risk and high-value areas where potential exists for costly and damaging wildfires. The four basic components of the fire plan assessment are: assets at risk; vegetation fuel hazards; fire history and frequency of severe fire weather; ignition workload assessment and management prioritization. The plan also includes strategies for reducing the fire risk in priority areas.

The State Flood Hazard Mitigation Plan

A statewide flood mitigation plan was approved by FEMA in 1996 following severe winter storms in 1995. This plan lays out priorities for managing flood risk at the state level and was developed with local cooperation.

3.3 Codes and Regulations

The County has adopted codes and regulations to govern development, construction and land use activities. They include construction standards, siting requirements, use limitations, study requirements and mitigation requirements which help directly or indirectly minimize the exposure of people and property to loss or injury resulting from disasters. As such, they are an effective tool and capability which the County may continue to use to reduce the amount of damage or harm arising from disasters. This plan provides an opportunity to review existing regulations to determine if they are effective or whether they need to be revised in certain areas to more adequately prevent loss or injury from disasters. Some codes address multiple hazards while other focus on specific hazards. A brief summary description of each body of regulations is described in this section along with any general regulations applying to specific hazards. Some apply only to new construction and development while others apply to existing development as well.

3.3.1 Subdivision Regulations

The County subdivision ordinance, chapter 25 of the Sonoma County Code, establishes standards to regulate the division and merger of land, defines minimum lot sizes, densities and development standards, and regulates land use in hazardous areas.

Applications for subdivisions in areas with geologic hazards must prepare geologic reports analyzing the site. Sites that warrant geological investigation need to identify areas of the site that can use standard foundation and construction techniques, areas that require mitigating construction techniques, and areas that require additional geologic testing to determine suitability for building. Recommended mitigation actions must be included in all reports. Based on these requirements, subdivision approval may include conditions such as limiting areas that can be built on and requiring geologic mitigation in construction. Subdivision maps must include seismic and geologic risks. Leach fields are restricted in areas with landslide risk.

Subdivision regulations also establish standards to regulate the division of land and eliminate the creation of building sites in areas where flooding may create hazards to life or property.

When lots are subdivided, the developer is required to provide adequate access for firefighters and storage of water for fire fighting. In general, a minimum of 2,000 gallons per lot must be stored in tanks, ponds or other forms. A fire management plan must accompany all applications for subdivisions. Plans include identifying fire hazards on site, the impact of development on fire hazard, and maintenance commitments for water storage facilities.

3.3.2 Zoning Regulations

The County Zoning Ordinance establishes various base districts in the County and designates the lawful permitted uses allowed in each along with the required review and approval procedures and siting and design criteria. It also establishes several combining districts which further modify or restrict the requirements that otherwise apply on a parcel in order to minimize risks from natural hazards.

One such district is the “G” (Geologic) combining district which was implemented in 1993 and is applied on those areas near one of the major fault zones identified by the State Alquist-Priolo Act. It imposes additional geologic study and design requirements on new construction and development proposed within these areas to limit the risk of fault rupture to structures. It also prohibits structures from being placed within fifty feet of the surface trace of any fault.

The “F1” (Floodway) and the “F2” (Floodplain) combining districts are applied to different portions of the 100-year flood plain identified by FEMA. The F1 zone is the most restrictive. It is applied to the “floodway “ which is the main portion of the channel and adjacent flood plain that must be reserved and kept free of development so that the 100-year flood can be discharged without raising more than one foot as a result of flood plain development or encroachment. The F1 districts prohibits the construction, erection, moving, conversion, alteration or enlargement of any building or structure in the floodway, and any other condition which would tend to cause significant stream channel alteration or adversely effect the carrying or storage capacity of a floodway, or otherwise constitute a threat to life and property.

The F-2 (Flood plain district) is applied to the floodplain fringe. That is areas outside of the floodway but within the 100-year flood zone which generally is expected to receive less frequent and/or less severe levels of flooding. The F-2 district does not prohibit development or construction otherwise allowed by the base zoning but it does require that any such development meet the development standards set forth in Chapter 7B of the County Code. These standards typically require the first floor elevation to be at least one foot above the 100-year flood elevation in addition to other flood resistant design criteria.

3.3.3 Coastal Zoning

The County’s coastal zoning requirements are spelled out in Chapter 26C of the County Code. The ordinance regulates the location, design and operation of land use and/or development proposals in the Coastal Zone consistent with the Coastal Plan and State Coastal Act.

Structures designed for human occupancy in coastal areas of high landslide risk¹³ require special review and approval of activities such as grading, site preparation, drainage, and foundation plans by a registered engineer. The ordinance provides standards for sediment basins, settling ponds, ditches, levees, dikes, culverts, and other structures as well as erosion control and streambank protection measures. The county is currently updating the ordinance.

3.3.4 Drainage and Stormwater Management

This ordinance is designed to maintain the free flow of flood waters through waterways and channels by restricting construction, deposition of materials, or any other act, which would obstruct or diminish the flood flows. It requires a permit be issued for any project that could potentially impair, impede or obstruct the natural flow of storm waters or other water running in a defined channel, natural or man-made, or cause the obstruction of any such channel. The ordinance also requires a permit for any activity that deposits any material in the channel, or alters the land surface in a way that reduces the channel carrying capacity. Additional provisions include requiring a permit to construct, alter or repair any storm water drainage structure, facility or channel.

3.3.5 Building Regulations

The County enforces disaster-resistant development through the application of the state-mandated California Building Code, chapter 7 of the Sonoma County Code. The code must be applied to all new construction and to substantial renovations. It includes up-to-date standards for site preparation, design, materials, and construction methods to minimize risk from earthquakes, floods, fire and landslides.

Above and beyond the state code requirements, the County requires dynamic structural analysis for complex structures. This is a state-of-the-art analysis technique that determines the strength of earthquake forces on a structure. This policy has never been applied because no complex structures requiring this type of analysis have been proposed for construction within the County since this requirement was enacted.

3.3.6 Flood Damage Prevention Ordinance

Chapter 7B of the Sonoma County Code is titled Flood Damage Prevention. It was adopted to reduce flood hazards in the SFHA by regulating and restricting development in such areas by establishing specific review requirements and performance standards in conformance with the NFIP regulations. The NFIP regulations recommend minimum requirements but the County could consider additional or revised measures where needed as long as the minimum NFIP requirements continue to be met. The Sonoma County Permit and Resource Management Department is the governmental agency responsible for ensuring compliance with the ordinance. The California Department of Water Resources reviews the County’s compliance with the minimum standards every five years for FEMA through a CAV.

The ordinance addresses the construction, location, extension, conversion, or alteration of structures or land in special flood hazard zones. These regulations apply to both new development and construction and existing structures. The ordinance requires a development permit to be obtained before the beginning of new construction or development within any special flood hazard zone; and the development must be designed and constructed according to specific standards, which include requirements for elevation of residential construction above the base flood elevation by at least one foot. Existing structures are subject to the same requirements if the criteria for substantial damage or substantial improvement, as defined in the County Code and stated below, have been met. It should be noted that as “market value” increases, findings of substantial damage decrease.

“Substantial damage” means damage of any origin sustained by a structure whereby the cost of restoring the structure to its before-damaged condition would equal or exceed fifty percent (50%) of the market value of the structure before the damage occurred.

“Substantial improvement” means any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds forty percent (40%) for residential structures and fifty percent (50%) for nonresidential structures of the market value of the structure before the start of construction of the improvement. This term includes structures which have incurred substantial damage regardless of the value or actual cost of repair work performed. Any combination of damage repair and improvement to the structure where the cost to repair the damage and construct the improvement equals or exceeds fifty percent (50%) of the market value of the structure before the start of construction of the improvement shall be considered substantial improvement.

3.3.7 Fire Safety Regulations

Like many communities in the state, the County adopts the California Fire Code to regulate the fire safety of development in unincorporated areas of the County. This is chapter 13 of the Sonoma County Code. This code is based on national standards, including the Uniform Fire Code Standards and the National Fire Code. In addition, Sonoma County has chosen to supplement these standard codes with its own, more stringent development regulations because of the severe fire risk in many areas of the County, including requirements for automatic fire extinguishing systems¹⁴, vegetation management plans¹⁵, access and water flow for fire fighting.

3.3.8 Environmental Quality Act

Chapter 23A of the Sonoma County Code implements the state California Environmental Quality Act (CEQA). It requires all discretionary development plans and/or land use proposals to be reviewed to identify the potential adverse environmental impacts (including increased risk from natural hazards and impact on public safety response time) that could result from the proposal and, where feasible, mitigation measures which would avoid, prevent or minimize the adverse impacts. The CEQA review process discloses whether the proposed project site is in an area of flood, fire or geologic hazards or whether it would cause or contribute to an increased level of risk from these hazards. Though its role is primarily one of disclosure, it is an effective tool for decision-makers because once informed, they can deny land use and development proposals which result in unacceptable hazard risks or they can require project modifications and mitigations to minimize the risks to an acceptable level.

3.3.9 Civil Defense and Disaster Regulations

Sonoma County Code Chapter 10 includes provisions to protect people and property within the County in the event of an emergency, in accordance with the California Emergency Services Act. It authorizes the mitigation of effects of natural or man-made hazards. It also establishes Sonoma County as an Operational Area and empowers the Emergency Council.

3.3.10 Hazardous Materials Regulations

Sonoma County regulates the storage, handling and management of hazardous materials in County Code chapter 29. Standards from the California Fire Code and the Uniform Fire Code are referenced in Sonoma County's hazardous materials management standards.

3.3.11 Surface Mining Regulations

Sonoma County's mining operations supply construction aggregate, fill and specialty products used in construction or landscaping. The three types of surface mining are hardrock quarries, terrace pit mining and instream bar-skimming. Chapter 26A of the Sonoma County Code regulates surface mining and reclamation operations consistent with the State Surface Mining and Reclamation Act. The code includes slope stability standards to prevent landslides or slope failure and storm water management requirements to prevent excess runoff. Currently, bar skimming is allowed only in designated areas of the Russian River and other area streams. Bar skimming can provide a secondary benefit by helping to maintain flood channel capacity and alleviate lateral bank erosion caused by flooding. Quarries can provide rip-rap used to stabilize banks from the erosive forces of flooding. Terrace Pits have the secondary benefit of providing

some additional flood water retention capacity on the flood plain; however, pits close to the river could be a flood risk if they are intercepted by the river during floods.

3.3.12 State and Federal Requirements

There are a number of state and federal laws that require counties in California to implement certain measures relating to disaster risk. These are described, along with Sonoma County's implementation, in Tables 3-4 and 3-5.

Table 3-4 Sonoma County Implementation of State Requirements

State Requirement	County Implementation
<i>Multiple Hazards</i>	
<p><u>Safety Element and General Planning Requirement:</u> State law requires all cities and counties to adopt and keep current a General Plan. Part of the plan is the "Public Safety Element," which defines the community approach to disaster preparedness and mitigation.</p>	<p>Sonoma County is in the process of updating its General Plan, including the Public Safety Element. GP 2020 will replace the existing plan. The planning process was initiated in 2001, and is expected to be complete in 2006. This Hazard Mitigation Plan will coordinate closely with policies to be included in the Public Safety Element.</p>
<p><u>The California Environmental Quality Act (CEQA):</u> CEQA requires that all discretionary development proposals are reviewed for environmental impacts, including natural disaster risk. When problems are identified, mitigation actions must be proposed and implemented.</p>	<p>County staff conduct CEQA reviews for all discretionary development in unincorporated areas of the County, including examining impacts on flood, fire, earthquake and landslide risk.</p>
<p><u>Coastal Zone Act:</u> The state Coastal Commission has developed policies that address the effect of hazards in the coastal zone on new developments.</p>	<p>The County Local Coastal Plan and Zoning Ordinance sets site development and erosion control standards in regards to drainage, flooding, and landslides for coastal areas. Projects that impact these hazards require special review by relevant County departments.</p>
<p><u>State Historical Building Code:</u> The State Historical Building Code provide regulations and standards for the rehabilitation, preservation, restoration or relocation to all historical buildings. In addition to preserving historical, architectural or cultural importance, the code provides for reasonable safety from fire, seismic forces or other hazards for occupants and users of such "buildings, structures and properties".</p>	<p>County Zoning regulations (Article 68 HD Historic Combining District) prohibits alterations (including demolition) in the exterior of a structure within the boundaries of a historic district and states that no zoning permits authorizing construction of a new building within the boundaries of a historic district shall be granted unless approval has been granted by the County Landmarks Commission.</p>
<i>Earthquake</i>	
<p><u>The Riley Act:</u> Passed after the 1933 Long Beach earthquake, this Act requires local governments to have building departments and issue permits for new construction and alterations of existing buildings. It also requires minimum building safety standards.</p>	<p>The County inspects all building plans, sites, and construction projects. It has adopted and enforces the California Building Code. The County adopts updated codes as they become available.</p>
<p><u>The Hospital Seismic Retrofit and Replacement Program:</u> Hospitals are required to undertake nonstructural retrofits of emergency and surgical rooms by 2002, retrofits of structures with the potential to collapse in earthquakes by 2008, and be able to be functional after a major disaster by 2030. The Office of Statewide Health Planning and Development (OSHPD) enforces this act.</p>	<p>The County owns the County Hospital complex on Chanate Road but contracts with Sutter Health Care for operations of the hospital and family practice. The hospital building was constructed in 1936 and lies on the Rodgers Creek Fault. On October 26, 2004, the County Board of Supervisors approved Sutter Health to draft plans for a replacement hospital to be constructed near Highway 101 and Mark Springs Road, in lieu of strengthening the hospital building. There are nine additional private hospitals in the County; their progress in complying with this law is discussed in section 2.2.4.</p>

Table 3-4 Sonoma County Implementation of State Requirements (Cont'd.)

<p><u>Seismic Hazards Mapping Act:</u> The state maps areas prone to liquefaction, earthquake-induced landslides, and amplified shaking. Local governments must require geotechnical investigations before permitting most development within these zones.</p>	<p>The state has not yet mapped these hazard zones in Sonoma County. The California Geological Survey estimates that work on the Sonoma County maps will not begin for 3-5 years. It is expected to take a number of years before maps with official regulatory zones are available for the County.</p>
<p><u>Alquist-Priolo Earthquake Fault Zoning Act:</u> The state has mapped zones indicating the surface traces of active faults. Before issuing building permits in these zones, counties must require a geologic investigation to ensure that structures are not built across active faults.</p>	<p>Sonoma County requires geologic studies to be conducted for all proposed development in Alquist-Priolo zones. Plans must include measures to mitigate risk from earthquakes, landslides, and other geologic hazards. No construction is allowed within 50 feet of the surface trace of an active fault.</p>
<p><u>Essential Services Building Seismic Safety Act:</u> Passed in 1986, this act requires enhanced regulatory oversight when essential service facilities are constructed. These include police and fire stations, and emergency communications and operations centers.</p>	<p>The County recently constructed a new headquarters for the Sheriff that meets the strict seismic safety standards required by this act. The seismic safety of other essential buildings in the County is discussed in section 2.2.4.</p>
<p><u>CalTrans State Bridge Inspection Program:</u> State personnel examine County bridges and rank them using fixed criteria as to their condition and eligibility to qualify for Federal Rehabilitation Funds, using matching funds from the State Highway Account (SHA).</p>	<p>CalTrans inspected 27 County-owned bridges in the mid 1990's. Thirteen of these bridges were seismically strengthened or replaced. Others require strengthening or replacement but have not yet been addressed. More details are provided in section 3.4.2.</p>
<p><u>Unreinforced Masonry Building Law:</u> The state required all jurisdictions to identify unreinforced masonry (URM) buildings, to notify owners regarding the expected performance of these buildings, and to adopt a plan to deal with the threat.</p>	<p>Sonoma County identified 315 URM structures in the unincorporated areas of the County and notified the owners. The County adopted voluntary standards for how these buildings should be retrofit. As of 2004, 247 structures still require strengthening. More details are provided in section 2.2.4. and section 3.4.1</p>

Table 3-5 Sonoma County Implementation of Federal Requirements

Federal Requirement	County Implementation
<i>Multiple Hazards</i>	
<p><u>Stafford Act and Disaster Mitigation Act of 2000 (DMA 2000)</u>: The Stafford Act provides grants for mitigation projects after presidential disaster declarations. The DMA requires communities to prepare a Local Hazard Mitigation Plan prior to a disaster to be eligible for those funds.</p>	<p>This plan will place Sonoma County in compliance with the DMA 2000, making it eligible to receive future pre- and post-disaster mitigation grants.</p>
<i>Flood</i>	
<p><u>National Flood Insurance Program and the Community Rating System</u>: The NFIP is a congressionally authorized program to reduce the costs and impact of flooding across the United States. Under this program, the Federal government makes affordable flood insurance available to homeowners, business owners, and renters in participating communities. In exchange, those communities must adopt and enforce minimum floodplain management regulations to reduce the risk of damage from future floods.</p> <p>Under the Community Rating System communities receive credit for implementing floodplain management measures that go beyond the minimum criteria of the NFIP.</p>	<p>Sonoma County complies with the NFIP requirements to adopt and enforce minimum floodplain management regulations through the Flood Damage Prevention Ordinance.</p> <p>The County does not currently participate in the Community Rating System.</p>

3.4 Programs and Mitigation Activities

3.4.1 County Activities

Unreinforced Masonry Buildings (URMs) Program

In 1986, Senate Bill 547 was signed by the governor, requiring local jurisdictions to address the life safety risks posed by unreinforced masonry (URM) buildings that were constructed before the adoption of seismic-resistant buildings codes. Local governments were mandated to inventory the number of URMs in their jurisdiction, to notify owners regarding the expected performance of these buildings, and were urged to adopt programs to strengthen those buildings.

In response to the state mandate, the County created an inventory of all 315 URM buildings in the unincorporated areas of Sonoma. See section 2.2.4 for more details on the inventory process. The Board of Supervisors adopted a resolution directing officials to inform building owners of the risk they faced and creating an Ad Hoc committee to propose further measures¹⁶. The Ad Hoc committee recommended that the County mandate all URMs to be seismically strengthened, but an ordinance requiring this was never adopted. The County developed standards for how owners should retrofit URM buildings, and distributes information through the PRMD, but evaluation and retrofits remain voluntary. Most URMs in the unincorporated County are privately owned; however, many house important emergency or assembly functions. The structures with public safety functions that have not been retrofit as of the writing of this plan include ten fire stations, one public utility building and multiple school buildings, including classrooms and assembly areas. See section 2.2.4 for additional details.

Many other jurisdictions have made retrofit of URMs mandatory, or have created incentives to encourage building owners to improve their structures. The cities of Santa Rosa, Sebastopol, Sonoma and Petaluma all have required URMs to be strengthened. In Sonoma County, 78% of URM buildings covered by the law remain unstrengthened. Sonoma County lags both state and Bay Area averages in addressing the risks of its URM buildings.

Building Evaluations and Retrofits

The County has an ongoing practice of evaluating County owned buildings for seismic performance as part of major remodeling projects and in conjunction with facility planning as funding becomes available. In the past few decades, several buildings have been retrofitted in compliance with these evaluations, including all of the Veteran's Buildings, the Administration Building, the Permit and Resource Management Department building, La Plaza and others. A more comprehensive assessment of the seismic safety of County-owned buildings is planned as part of the Capital Project Plan, described in section 3.2.6.

Some County buildings that were seismically strengthened a number of years ago may not meet current acceptable safety standards. For example, all of the Veteran's Memorial Buildings were seismically upgraded in the 1980's. Recently, however, while in the course of ongoing maintenance, the County discovered that the Santa Rosa Veteran's Building had significant structural weaknesses that could be life threatening. Temporary repairs were made to this building, and a more detailed seismic analysis is planned. It is possible that other Veteran's Buildings in the County, which were retrofit in the same time period as the Santa Rosa building, could have similar seismic safety concerns.

Landslide Maintenance

No special actions are taken by the County to prevent landslides along key roads because of the large number of potential landslide sites, and the lack of information on which of those sites have the highest probability of occurring in any given year. Approximately 50 landslides occur each winter that block County roads¹⁷. These range from large slides that impede traffic for a couple of days, to minor slides that can be cleared in a short period of time. More information about where slides occur is in section 2.3. The Department of Transportation and Public Works clears landslides and debris falls that obstruct any County roads and repairs structures as needed. When a road in the County is blocked, crews are sent from one of the County's seven road yards to clear the debris. Debris must be cleared to a location where it will not impact water quality, particularly for threatened fish species in the County. The County spends an estimated average of \$150,000 on landslide clean-up per year¹⁸, which is considered more cost-effective than attempting to mitigate the large number of potential landslides.

Flood Elevation Program

Following extensive flooding in 1995, the County established the Sonoma County Flood Elevation Program to assist homeowners with mitigation for flood-damaged homes. Since its inception, the program has received \$9.3 million from FEMA through three HMGP grants. FEMA's HMGP funds 75% of the cost of elevation. The County provided the required 25% match with local Community Development Block Grant (CDBG) funds, County Flood Zone 5A and Transient Occupancy Tax funds, Housing and Urban Development (HUD) Disaster Recovery Initiative grants to assist low-income households, and with funds from owners who were higher income. The Sonoma County Community Development Commission implements the SCFEP. The program provides financial grants of \$49,333 and staff assistance to homeowners to meet program requirements.

Lists of houses eligible for the program were created after each flood. Assistance was provided to those properties occupied on a year-round basis by both owners and tenants, which were affected by the 1995 or 1997 floods, and that needed to be elevated above the 100-year flood level. Priority was given to those properties that experienced the highest level of floodwater, had the highest percentage of damage in relation to the value of the structure, and appear on the NFIP's repetitive loss list.

To date, the Flood Elevation Program has completed 205 of the 238 grant-funded elevations. The first grant (Phase I), consisting of \$3.45 million dollars in support of 90 elevations, was completed in June 2001. The second grant (Phase II), funded for \$2.06 million with 53 elevations, was completed in March 2002. Phase III, the third grant funded for 95 elevations with \$3.75 million dollars, had elevated 62 additional properties as of 12/31/05. The program received an extension from FEMA and additional properties will be elevated through 12/31/07.

The Federal Emergency Management Agency engaged a consultant to prepare a technical report analyzing repetitive loss properties in Sonoma County and proposing a methodology to prioritize future elevation or acquisition projects. Of the 800 repetitive loss properties identified by FEMA in January 2004, the report identifies a total of 177 properties that have been mitigated¹⁹. The 24 recently completed repetitive loss property elevations increases that total to 201.

With a total of 599 repetitive loss properties remaining, and an average cost of \$63,000 per elevation, the total funds needed to mitigate all properties could exceed \$37 million. Depending on market conditions and inflation, these costs could increase significantly.

Flood Control Projects

Following floods in the 1930s, the USACE concluded that two dams were necessary to control flood flows on the Russian River. The Coyote Valley Dam, which holds back the East Fork of the Russian River to create Lake Mendocino, was constructed in the late 1950s; and Warm Springs Dam, which holds back Dry Creek to create Lake Sonoma, was constructed in the 1980s. These facilities, which have a combined drainage area of 235 square miles and storage capacity of 450,230 acre-feet, artificially augment low summer flows and diminish peak winter flows. In fact, these facilities have been credited with reducing floodwaters by 4 feet in the Guerneville area during the February 1986 storm. Additionally, Warm Springs Dam has significantly reduced the risk posed by the 100-year flood downstream of the dam on Dry Creek.

The Russian River is also confined by levees in the vicinity of Cloverdale. These levees are designed to provide protection from the 100-year flood.

The Central Sonoma Watershed project includes five reservoirs on tributaries to the Russian River that reduce flooding in the Santa Rosa area – Santa Rosa Creek (also known as Spring Lake), Matanzas Creek, Piner Creek, Brush Creek Middle Fork, and Spring Creek. The Sonoma County Water Agency (SCWA) constructed these reservoirs in the 1960s in cooperation with the U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS; then known as the Soil Conservation Service). These facilities have reduced the threat of flooding significantly in the historically floodprone Santa Rosa plain.

Floods along the Russian River are also attenuated by the Laguna de Santa Rosa. This complex of wetlands, a natural waterway and overflow basin of Mark West Creek, contains flow from approximately 250 square miles (approximately 10 percent of the Russian River watershed). During floods, the Laguna can act as a huge reservoir, storing up to 80,000 acre-feet of water. It is estimated that during the floods of 1964, the Laguna lowered flood levels at Guerneville by 14 feet. In recent years, increased sedimentation and upstream development have decreased the Laguna's capacity for flood attenuation. A recent study completed by the USACE indicates that the Laguna filled in by approximately 1.5 feet between 1956 and 2002, representing a loss of flood storage of 54 acre feet per year. Most sediment is coming from Santa Rosa Creek, followed by the upper Laguna tributaries near Cotati. Projections for future sedimentation indicate that over the next 50 years, the flood elevation in the Laguna will increase by 2.5-3.0 feet.²⁰

The USACE, working with the City of Petaluma, is currently completing work on the Petaluma River Flood Control project. The project, which consists of construction of a flood control channel and flood walls, replacement of bridges that cause flow constrictions, and re-vegetation of channel banks, is designed to provide residents of the Payran area with protection from the 100-year flood. The project is scheduled for completion in September 2005.

National Pollutant Discharge Elimination Systems (NPDES)

Sonoma County, the City of Santa Rosa, and the Sonoma County Water Agency (SCWA) jointly have addressed urban development pollutant load, volume, and velocity of runoff through the National Pollutant Discharge Elimination Systems (NPDES) permit for the Santa Rosa Area. In September 2002, the three entities developed a Standard Urban Storm Water Mitigation Plan (SUSMP) to address post-development storm water pollution and peak flows from new

development and redevelopment projects. The goals of the SUSMP include: prevent pollutants generated at developed or redeveloped sites; limit storm water flows from post-development sites to predevelopment quantities; and conserve natural areas of a development site to the maximum extent practicable. Implementation of the SUSMP Best Management Practices on applicable projects, including development and infrastructure projects that create one acre or more of new impervious surface, and development and redevelopment projects located directly adjacent to a waterway, will begin in late June 2005. Though the focus of the program is water quality, the secondary benefit is that requirements for storm water retention and settling ponds and infiltration may reduce or delay storm runoff, thereby helping to reduce flooding.

3.4.2 Activities by Other Agencies Which Support Mitigation

Risk Assessment of SCWA Facilities

The SCWA water supply and transmission system is made up of transmission pipelines (aqueducts), collector wells, booster pump stations, storage tank reservoirs, and other facilities that allow the agency to supply water for drinking and fire fighting, manage flood risk, and maintain health of key watersheds. The Agency also manages two major reservoirs impounded by dams which are owned by the Army Corps of Engineers, and one inflatable dam. SCWA is a water wholesaler, meaning that it provides water to government agencies and private companies that distribute the water to residents and businesses in the County. Its water serves about 570,000 people in Sonoma and Marin counties²¹.

SCWA is currently conducting a multi-year, multi-hazard reliability assessment of its water supply and transmission system. Phase I of the project identifies the most significant hazards and apparent system vulnerabilities.²² Earthquakes were identified as the primary hazard to the water system, followed by floods. The study revealed potential vulnerabilities of water storage tanks to earthquake shaking, and resulted in a follow up study that provided a detailed seismic assessment of the expected performance of the tanks from a magnitude 7.0 earthquake on the Rodgers Creek Fault. The assessment included recommendations for mitigating the vulnerabilities including a priority ranking.²³ Phase II of the reliability assessment will include a more detailed assessment of the SCWA water supply and transmission system and propose mitigation schemes. Final recommendations from Phase I and Phase II will not be available prior to completion of this mitigation plan, but can be incorporated in future updates.

The SCWA was originally established as the Sonoma County Flood Control and Water Conservation District, as a response to a series of major floods between 1935 and 1945. While the agency now plays many roles in managing the water resources in the County, flood control has always been one of its key responsibilities. The current natural hazard assessment does not address the SCWA flood control facilities. A separate study addresses the ability of Santa Rosa Creek to convey a 100-year flood. To assist in this assessment, the Santa Rosa Creek watershed topography has been remapped, and SCWA will work with the Army Corps of Engineers to conduct a hydrologic and hydraulic assessment.

Retrofit of County Bridges

CalTrans examined twenty-seven County-owned bridges for seismic safety concerns during the 1990's. These bridges were selected by CalTrans, as part of an ongoing seismic safety program authorized and funded by various senate and assembly bills and voter-approved state bond measures. Thirteen of these twenty-seven were seismically strengthened by 2003. One

bridge is currently being replaced (2006), five bridges still require seismic strengthening, and another eight still require bridge replacement. Ten of the remaining seismic projects have been subject to delays due to state funding restriction beginning in 2003 and continuing in 2004. In 2005, the Federal Bridge Program (HBRR) increased the funding by an additional 8.53%, reducing state and local match required by 43%. Ten delayed projects will be projects will be prioritized in the County's 5-Year Capital Project Program, dated 2006 to 2011. The status of these bridges is shown in Table 3-6. Other bridges owned by the County have not been assessed for their seismic safety, and their risk is unknown.

Table 3-6 Status of Bridges Assessed by CalTrans Local Bridge Seismic Retrofit Program

Bridge Location	Status
Guerneville Rd at Laguna de Santa Rosa	Retrofit completed 2002
Boyes Blvd at Sonoma Creek*	Bridge replacement planned 2007-08
Petaluma Blvd at Petaluma River	Retrofit completed 2002
Crocker Rd at Russian River*	Retrofit planned 2006
Moscow Rd at Russian River	Retrofit completed 2003
Bohemian Hwy at Russian River (Monte Rio)	Funding not yet available (replacement)
Stewarts Point Rd at Dry Creek	Retrofit completed 2002
W. Dry Creek Rd at Pena Creek	Funding not yet available (replacement)
Annapolis Rd at Gualala River	Retrofit planned 2006
Stewarts Point Rd at House Creek	Retrofit completed 2002
Alexander Valley Rd at Russian River	Superstructure retrofit finished 1994
Rockpile Rd at Warm Springs Creek	Retrofit completed 2001
Hauser Bridge Rd at S. Fork Gualala River	Retrofit completed 2002
King Ridge Rd at Big Austin Creek	Funding not yet available (retrofit)
Nestrath Rd at S. Fork Gualala River	Low priority (retrofit)
Freezeout Rd at Freezeout Creek	Retrofit completed 2002
Freestone Flat Rd at Salmon Creek	Retrofit completed 2001
Wohler Rd at Russian River	Funding not yet available (retrofit)
Wohler Rd at Mark West Creek	Funding not yet available (replacement)
Watmaugh Rd at Sonoma Creek	Funding not yet available (replacement)
Geysers Rd at Big Sulphur Creek	Funding not yet available (replacement)
Riverside Dr at Sonoma Creek	Replacement under construction 2005-06
Chalk Hill Rd at Macama Creek	Funding not yet available (replacement)
Lambert Bridge Rd at Dry Creek	Funding not yet available (replacement)
Yoachim Bridge Rd at Dry Creek	Retrofit completed 2001
River Rd at Russian River (Hacienda Bridge)	Retrofit completed 2002
Westside Rd at Dry Creek	Retrofit completed 2000

* Bridge retrofit included in County's Capital Projects Plan for 2006-2011.

Hospital Seismic Safety Programs

There are ten private hospitals with acute care beds in Sonoma County, most having multiple buildings. The county owns one hospital complex on Chanate Road but contracts with Sutter Health Care to operate the Community Hospital and Family Practice parts of the complex. The original hospital building was constructed in 1936 and lies on the Rodgers Creek Fault. On October 26, 2004, the County Board of Supervisors approved Sutter Health to develop a

business plan for a replacement hospital to be constructed near Highway 101 and Mark Springs Road.

For additional details, see section 2.2.4. Five other hospitals – Healdsburg General Hospital, North Coast Health Care Center in Sotoyome, Santa Rosa Memorial Hospital, Sonoma Valley Hospital, and Warrack Medical Center Hospital – do not meet state seismic safety standards for some of their buildings. Although these hospitals are not owned or operated by Sonoma County, they do serve residents of the unincorporated areas of the County, and their ability to remain functional following a regional disaster is important.

National Flood Insurance Program

The NFIP is a congressionally authorized program to reduce the costs and impact of flooding across the United States. Under this program, the Federal government makes affordable flood insurance available to homeowners, business owners, and renters in participating communities. In exchange, those communities must adopt and enforce minimum floodplain management regulations to reduce the risk of damage from future floods. Sonoma County meets the requirements for NFIP compliance through Chapter 7B of the County Code.

Flood insurance reduces the cost of Federal disaster assistance – according to FEMA, every 3 dollars paid in flood insurance reduces disaster assistance payments by one dollar. However, the NFIP achieves its greatest fiscal impact by encouraging communities to reduce flood risks. FEMA estimates that sound floodplain management practices reduce flood damage by \$1 billion annually; and that buildings constructed in compliance with NFIP requirements are likely to suffer 80 percent less damage annually than non-compliant buildings.

To encourage communities to increase the effectiveness of floodplain management programs, FEMA has implemented the Community Rating System. Under the Community Rating System, communities receive credit for implementing floodplain management measures that go beyond the minimum criteria of the NFIP. For example, when a community moves from a Level 10 (the basic level of participating) to Level 9, flood insurance policy holders receive a five percent discount on their insurance premiums. The CRS grants credits for eighteen different activities that fall under four categories: Public Information (six activities); Mapping and Regulations (five activities); Flood Damage Reduction (four activities); and Flood Preparedness (three activities). The maximum premium reduction a community can receive under the CRS is 45%. Currently, Sonoma County does not participate in the Community Rating System; however, there may be existing programs and activities underway in Sonoma County that would qualify for reductions under the CRS if the county were to pursue an application to the program. As of December 2004, there were 2602 NFIP policies in effect in the unincorporated areas of Sonoma County, amounting to \$443,915,000 in coverage, at a total annual premium of \$1,670,807.²⁴

Small Watershed Program

The Small Watershed Program, authorized under Federal law in 1944 and 1954, is administered by NRCS. This funding program serves three general purposes: 1) to prevent damage from erosion, floodwater, and sediment; 2) to further the conservation development and disposal of water; and 3) to promote the conservation and proper utilization of land. The Small Watershed Program achieves these goals through watershed surveys and planning and watershed and flood prevention operations and construction.

The Small Watershed Program, which is limited to watersheds of 250,000 acres or smaller, has been used primarily for flood control, agricultural water management, and watershed protection work in California. Over the past 25 years, over \$100 million was spent in the state under the SWP program. The NRCS is currently working with the counties of Sonoma and Marin to develop a small watershed plan for the Stemple Creek Watershed.

Community Wildfire Protection Plans (CWPP)

The Healthy Forests Restoration Act of 2003 emphasizes the need for federal authorities to work collaboratively with communities in developing hazardous fuel reduction programs, especially at the wildlands/urbanland interface (WUI). It gives priority to those areas and fuel reduction strategies identified by the communities in Community Wildfire Protection Plans (CWPP's). The CWPP's must be prepared with input from Local State and Federal agencies as well as stakeholders such as homeowners, community groups, insurance agencies, etc., must address local forest and fuel conditions, identify WUI areas and values at risk, and recommend and prioritize measures that the community and/or individuals can undertake to reduce fuel loads and decrease the risk of structural damage and personal injury from wildland fires. Communities with an adopted CWPP are eligible to apply for grant funding to carry out the mitigation measures identified in the CWPP.

Fire Safe Sonoma is a non profit agency whose primary purpose is to educate, exchange information, foster fire prevention and fire safety practices, promote vegetation reduction projects, obtain grants, support local fire agency efforts. Fire Safe Sonoma has received a grant from the California Firesafe Council and the Bureau of Land Management to create a CWPP. Since the CWPP would apply to the entire County it would include those fire districts under the county's authority in CSA 40 as well as fire districts in the County but independent of the County. The grant starts up in November 2006 and will last 18 months. Though the grant will cover the costs of preparing a CWPP, additional funding may be sought to carry out certain fuel reduction mitigations identified in the CWPP during the SCHMP five-year implementation period.

3.5 Financial Resources

While some mitigation activities can be carried out without significant cost, others need a substantial expenditure. The financial resources listed below are potentially available to the County to pursue the hazard mitigation measures identified in this plan.

A variety of funding sources are accessible to the County, from local, state and federal sources. The County has a history of successfully using funds from many different sources for mitigation. Some mitigation funding sources are available prior to a disaster; others become available after a disaster, to support mitigation activities to limit damage in the *next* event to strike a community. Funds to support mitigation activities differ from post-disaster relief funds, which are used to cover emergency response and rebuilding costs. Mitigation funds, even those that open up after a disaster event, are earmarked to prevent future damage, not to repair damage that has already occurred.

3.5.1 Hazard Mitigation Grant Program (HMGP)

This FEMA administered program provides grants to states and local governments following a presidential disaster declaration. The funds can be used to implement long-term hazard mitigation measures. According to the Disaster Mitigation Act of 2000, communities must have a Local Hazard Mitigation Plan (LHMP) approved to receive HMGP funds after May 1, 2005. Funds will be granted only to projects that conform to local and state mitigation plans. Federal grant funds can provide 75% of a project's total cost; other sources must provide 25% matching funds. After any federally declared disaster, up to 7.5% of the amount spent by FEMA on disaster response and relief costs is made available in the form of HMGP grants to communities in the affected state.

Following the devastating floods of 1995 and 1997, Sonoma County applied for and received federal HMGP funds to elevate flood damaged homes throughout the County, primarily along the Russian River. Additional HMGP funds were received following the 1998 El Nino landslides in Rio Nido to acquire 45 damaged and at risk homes in four communities. Approximately \$13 million in HMGP funds have been received for projects in the unincorporated County. Cities in Sonoma County also received HMGP funds for flood mitigation projects.

3.5.2 Pre-Disaster Mitigation Program (PDM)

FEMA developed the PDM program to coincide with the requirements of the Disaster Mitigation Act of 2000 that requires communities to prepare local hazard mitigation plans, such as this plan. In fiscal year 2005, \$255 million was available for PDM competitive grants, technical assistance and program support. FEMA grants can fund 75 percent of a project; other non-federal sources must provide 25 percent matching funds. Funds are only granted to communities with an approved LHMP, and supported projects must be identified in those plans.

To date, PDM grants have been awarded to aid mitigation plan preparation. Preparation of this plan was aided by a PDM grant awarded to the County in 2004.

3.5.3 Flood Mitigation Assistance Program (FMA)

FMA is a program under the National Flood Insurance Program (NFIP) that provides funding for states and communities to prepare Flood Mitigation Plans and conduct flood mitigation projects.

Communities are encouraged to prioritize projects relating to repetitive loss properties. A community must have a Flood Mitigation Plan to receive a FMA grant, and only projects specified in that plan are eligible for grants. FEMA contributes 75 percent of a project's cost; other non-federal sources must provide 25 percent matching funds.

3.5.4 Repetitive Flood Claims (RFC) Grant Program

The Repetitive Flood Claims Program Grant Program provides funding to reduce or eliminate the long-term risk of flood damage to structures insured under the NFIP that have had one or more claims payments for flood damages. RFC funds may only mitigate structures that are located within a State or community that cannot meet the requirements of the Flood Mitigation Assistance (FMA) Program (described above), for either cost share or capacity to manage the activities. The long-term goal of the RFC is to reduce or eliminate claims under the NFIP through mitigation activities that are in the best interest of the NFIP. The RFC Program was launched by FEMA in 2006, at a funding level of \$10 million nationwide. Only mitigation projects for acquisition of insured properties that have one or more claim payments for flood damages, and either demolition or relocation of structures, with conversion of property to deed restricted open space uses, are eligible for FY 2006 RFC funds. All RFC grants are eligible for up to 100% Federal assistance.²⁵

3.5.5 Increased Cost of Compliance

Increased Cost of Compliance (ICC) provides NFIP-insured property owners with substantial flood damage with up to \$30,000 to bring a home or business into compliance with the local floodplain ordinance through elevation, floodproofing, relocation, or demolition. Eligible properties must have sustained "repetitive damage", or damage by flooding twice in the past 10 years, where the cost of repairing the flood damage, on average, equaled or exceeded 25 percent of the property market value at the time of each flood. Also, there must have been flood insurance claim payments for each of the two flood losses and the community's floodplain management ordinance must have a repetitive loss provision. Through a separate claim process, owners of flood damaged property may apply for up to \$30,000 to help pay for flood mitigation projects carried out in compliance with local floodplain ordinance requirements, including: floodproofing, relocation, elevation, or demolition.

Property owners may file ICC claims if: 1) the local community determines the home or business meets the substantial damage criteria (outlined in the county flood damage protection ordinance); or, 2) the community must have a repetitive loss provision in its floodplain management ordinance, and must determine that the home or business meets the eligibility criteria listed above. Because of increasing property market values, more properties may qualify under the substantial damage criteria than the repetitive loss criteria.

3.5.6 Community Development Block Grants

Block grants are administered by the Department of Housing and Urban Development to fund housing, economic development, public works, community facilities and public service activities serving lower income people. These funds can be used for mitigation works. CDBG funds are considered local funds once they are received, and thereby were eligible to provide the 25 percent local match required for receipt of the HMGP funds for the flood elevation program and the landslide acquisition program.

3.5.7 Emergency Watershed Program Assistance

The Natural Resources Conservation Service (NRCS) implements the Emergency Watershed Protection Program, in response to emergencies caused by natural disasters. The program offers emergency assistance to jurisdictions and special districts after a disaster causes impairments in a watershed. The program works on a 75 percent Federal and 25 percent local match cost-sharing basis. Eligible activities include bank reinforcement, levee and structural repair, reseeding of damaged areas, and debris removal from stream channels, road culverts and bridge abutments.

3.5.8 Assistance to Firefighter Grant Program

The purpose of these grants is to assist state, regional, national or local organizations to address fire prevention and safety. Funds can be used to purchase equipment or fund planning, vegetation management and other preparedness activities. These grants are administered by the Office for Domestic Preparedness and the U.S. Fire Administration, both part of the Department of Homeland Security. Communities must match the federal grant with a 30 percent contribution.

3.5.9 Other Federal Programs

There are numerous other federal programs that can provide resources for mitigation activities. Some of these programs are listed below.

- USACE, for flood control projects
- U.S. Small Business Administration Funding, low interest loans for mitigation to businesses
- U.S. Department of Agriculture programs, loans for essential facilities and support for volunteer fire districts
- Natural Resources Conservation Service, environment and watershed programs
- Federal programs identified by the California Fire Alliance Guide, such as Volunteer Fire Assistance, State Fire Assistance, Economic Action Program, Community Protection Programs, and others.
- Bureau of Land Management, Firewise Community Workshops

There are other federal programs that support emergency and rebuilding costs in communities, such as FEMA's Public and Individual Assistance Programs which are activated following federally declared disasters. These funds primarily support repair projects, but may also include the cost of code upgrades or other mitigation measures as part of the repair if they are cost effective.

3.5.10 State Programs

The state has a variety of programs that can fund or subsidize local mitigation projects. Some important funding organizations and programs are listed below.

- CalTrans, for evaluating and strengthening local bridges
- Infrastructure State Revolving Fund, provides low-cost financing for some infrastructure projects
- Proposition 50 funds, administered by the Water Resources Control Board, for a variety of water projects
- Clean Water State Revolving Fund, low-interest loans related to water treatment
- Watershed Protection Program, grants for watershed management plans and projects
- Urban Streams Restoration Program, grants for low-cost flood control activities
- Flood Protection Corridor Program, grants for flood protection, including acquisitions

3.5.11 Seismic Safety New Construction Exclusions

The State Revenue and Taxation Code was amended in 2001 to provide property tax relief to property owners who undertake seismic retrofit projects. Sections 70(d) provides a 15-year new construction exclusion for improvements to unreinforced masonry buildings undertaken to comply with local ordinances on seismic safety. If the property changes ownership during the 15-year period, a new base value must be established and enrolled for the entire property. Section 74.5 provides a new construction exclusion for seismic retrofitting improvements and improvements utilizing earthquake hazard mitigation technologies for existing structures other than unreinforced masonry buildings. When a property changes ownership it must be reappraised at its current full cash value.²⁶

The new construction exclusion removes one of the financial disincentives for property owners to make seismic improvements to their buildings by allowing that portion of the construction or remodeling project to be exempt from a reappraisal and increase in property taxes for the specified period of time. This is critical to the successful implementation of locally mandated ordinances, where costly seismic retrofit projects will provide an increased measure of life safety, but not necessarily an increase in market value of the property.

3.5.12 Local Tax Revenues

Sonoma County's General Funds support the ongoing mitigation activities of the County, such as enforcing disaster resistant building codes and other regulations described earlier in this chapter. Most of the County's General Fund is raised through property and sales taxes. Many of the proposed mitigation strategies outlined in this plan can be implemented through existing staff resources. Other efforts will require temporary redirection of staff or funding allocations through the County's annual departmental budget process. Additionally, the County's 5-Year Capital Project Plan supports building and infrastructure improvement projects, which may include mitigation measures. However, it is recognized that external funding sources, such as federal or state grants will be required to support local funding sources.

3.5.13 Potential Local Funding Sources

Other local governments in the Bay Area have relied on general obligation and revenue bonds, special tax assessment districts, transfer tax funds, permit fee waivers, resource or reductions, creating resource funding pools, and other techniques to raise money and/or provide incentives to support community safety programs. These opportunities are available to and under consideration as potential strategies for public and private mitigation programs.

Local businesses and non-government organizations can contribute to projects through contributions, fees, and other forms. For example, local property owners contribute to ongoing mitigation efforts by bearing the costs of CEQA studies and remediations.

Although the County is not responsible for funding the many agencies that fight fires in the unincorporated areas of Sonoma, under-funding of these groups is a concern to the County if it leads to less effective service over time. The major source of revenue for fire fighting comes from property taxes, but chronic under-funding leads to a dire need for secondary fund raising activities for essential equipment and training needs. The majority of districts are staffed by salaried firefighters and supplemented by volunteers. Fire districts throughout the County report that the cost of operations is increasing more rapidly than tax revenue for the districts. Volunteer firefighters are difficult to recruit and retain because of increasingly busy lives, fewer persons working in the districts and the necessity for additional training requiring a greater commitment of time.

¹ California Constitution, Article 11, Section 7

² County Code 10-1, enacted through Ordinance Number 1593, Section 2.

³ Final Report, County of Sonoma Fire Protection Service Providers Municipal Providers Municipal Service Review. Prepared for Sonoma Local Agency Formation Commission by Economic & Planning Systems, Inc. August 2005

⁴ Sediment Sources, Rate and Fate in the Laguna de Santa Rosa, Sonoma County, California, Volume II, Prepared for the U.S. Army Corps of Engineers, San Francisco District, by PWA, March 2004

⁵ Draft Repetitive Loss Report produced by URS

⁶ NRCS California Update 2004

⁷ Article appearing in the Sun, January 13, 2005.

⁸ The full text of PS-1f is, "Require and review geologic reports prior to decisions on any project which would subject property or persons to significant risks from the geologic hazards shown on Figures PS-1a through PS-1i (pages 257 through 273) and related file maps and source documents. Geologic reports shall describe the hazards and include mitigation measures to reduce risks to acceptable levels. Where appropriate, require an engineer's or geologist's certification that risks have been mitigated to an acceptable level and, if indicated, obtain indemnification or insurance from the engineer, geologist, or developer to minimize County exposure to liability."

⁹ The full text of PS-3f is, "The Department of Fire Services shall offer assistance to local agencies in adoption and enforcement of fire safety regulations and shall work with local agencies to develop proposed improvements to county codes and standards."

¹⁰ The full text of PS-3i is, "Incorporate the fire safety standards recommended in CDF's "Fire Safety Guides" into County development standards when adopted by the Board of Supervisors."

¹¹ Sonoma County Community Development Commission website

¹² Draft Repetitive Loss Report prepared by URS

¹³ These areas are defined in the Special Report 120 of the California Division of Mines and Geology. High landslide risk zones are the slope stability categories "Landslides", "C" and "Bf".

¹⁴ Ordinances No. 5373 and 5402

¹⁵ State Responsibility Areas, designated by the state, are lands exclusive of cities and federal lands regardless of ownership, classified by the State Board of Forestry as areas in which the primary financial responsibility for preventing and suppressing fires is that of the State. These are lands covered wholly or in part by timber, brush, undergrowth or grass, whether of commercial value or not, which protect the soil from erosion, retard runoff of water or accelerated percolation, and lands used principally for range or forage purposes.

¹⁶ Resolution 89-2390, passed on December 12, 1989.

¹⁷ Estimate provided by Ken Giovanetti of Sonoma County Transportation and Public Works through personal communication on December 7, 2004.

¹⁸ In the fiscal year 2003-2004, the County spent \$130,000. In fiscal year 2002-2003, it spent \$185,000. These figures were provided by Ken Giovanetti of Sonoma County Transportation and Public Works.

¹⁹ Sonoma County Repetitive Loss Report, prepared for the Federal Emergency Management Agency by the URS Corporation, April 2005.

²⁰ Sediment Sources, Rate and Fate in the Laguna de Santa Rosa, Sonoma County, California

²¹ Sonoma County Water Agency Staff Report on Nov. 1, 2004 Water Supply Workshop, p2. Available at <http://www.scwa.ca.gov/>

²² Sonoma County Water Agency Draft Report – Phase I for Natural Hazard Reliability Assessment of the Water Supply and Transmission System

²³ Sonoma County Water Agency Draft Report for Seismic Assessment of Water Storage Tanks and Rodgers Creek Fault Deformation Zone

²⁴ FEMA NFIP statistics as of 12/31/04; <http://www.fema.gov/nfip/10110412.shtm#cat>

²⁵ Federal Emergency Management Agency, FY 2006 Repetitive Flood Claims (RFC) Program Overview

²⁶ Chapter 330, Statutes of 2001, Revenue and Taxation Code section 70(d) and 74.5.