

## SECTION 7 COUNTY MITIGATION STRATEGY

*At Milestone Meeting #2 on March 2, 2011, the MAC reviewed the 2004 goals and objectives collaboratively and discussed the County’s current and ongoing mitigation priorities. Throughout the planning process the MAC circulated a spreadsheet tracker to report on the progress of previously identified mitigation actions and note new mitigation actions for inclusion in this plan. The results of the updated hazard profiles and vulnerability assessment were used to inform the development of new mitigation actions as well as to prioritize the comprehensive list of actions within this plan. This section details the process the MAC underwent to revise the goals and objectives, report on mitigation progress, identification of new mitigation actions, and a prioritized implementation approach.*

### 7.1 MITIGATION PRIORITIES

The following goals and objectives are revised from 2004 plan to accomplish the following:

- Present a simpler, more consolidated approach to tracking mitigation progress,
- Incorporate an all-hazard approach to mitigating risk,
- Remove redundancies, and
- Re-validate the County’s priorities.

Additional details regarding the rationale for the revisions from the previous goals and objectives are documented in Appendix 7A. The goals and objectives were originally developed by considering the risk assessment findings, localized hazard identification and loss/exposure estimates, and an analysis of the County’s capabilities assessment. These goals, objectives and actions represent a vision of long-term hazard reduction throughout the County. The term “local government” is used to refer to city, county, and special districts.

**Table 7.1 Goals and Objectives**

<b>Goal 1: Promote disaster-resistant future development.</b>
<i>Objective 1.A: Facilitate the development or updating of the County’s Comprehensive Plan, City General Plans and zoning ordinances to limit (or ensure safe) development in hazard areas.</i>
<i>Objective 1.B: Facilitate the adoption of building codes and development regulations that protect existing assets and require disaster resistant design for new development in hazard areas.</i>
<i>Objective 1.C: Facilitate consistent enforcement of the comprehensive plan, zoning ordinances, and building and fire codes.</i>
<i>Objective 1.D: Address identified data limitations regarding the lack of information about new development and build-out potential in high hazard areas.</i>
<i>Objective 1.E: Educate the professional community on design and construction techniques that will</i>

<i>minimize damage from the identified hazards</i>
<p>Notes: This goal focuses on the programmatic/policy approaches to reducing risk to future new development.</p> <p>Building codes are updated on a regular basis in California. The MAC agreed the objectives for this goal are ongoing to ensure that the best and most recent building and fire codes are adopted in each of the participating jurisdictions. New building and fire codes were adopted in January 2011.</p>
<b>Goal 2: Build and support capacity and commitment for existing assets, including people, critical facilities/infrastructure, and public facilities, to become less vulnerable to hazards.</b>
<i>Objective 2.A: Increase awareness and knowledge of hazard mitigation principles and practice among local government officials.</i>
<i>Objective 2.B: Provide technical assistance to local governments to implement their mitigation plans.</i>
<i>Objective 2.C: Address data limitations identified in Hazard Profiling and Risk Assessment</i>
<i>Objective 2.D: Decrease the vulnerability of public infrastructure including facilities, roadways, and utilities.</i>
<i>Objective 2.E: Protect existing structures with the highest relative vulnerability to the effects of identified hazards through structural mitigation projects.</i>
<p>Notes: This goal focuses on the programmatic and structural approaches to reducing risk to existing development.</p> <p>The term “local government” is used to refer to city, county, and special districts.</p>
<b>Goal 3: Enhance hazard mitigation coordination and communication.</b>
<i>Objective 3.A: Educate the public to increase awareness of hazards, potential impact, and opportunities for mitigation actions.</i>
<i>Objective 3.B: Monitor and publicize the effectiveness of mitigation actions implemented countywide.</i>
<i>Objective 3.C: Participate in initiatives that have mutual hazard mitigation benefits for the County, cities, state, tribal, and federal governments.</i>
<i>Objective 3.D: Encourage other organizations, within the public, private, and non-profit sectors, to incorporate hazard mitigation activities into their existing programs and plans.</i>
<i>Objective 3.E: Continue partnerships between the state, local, and tribal governments to identify, prioritize, and implement mitigation actions.</i>
<i>Objective 3.F: Continuously improve the County’s capability and efficiency at administering pre- and</i>

<i>post-disaster mitigation programs, including providing technical support to cities and special districts.</i>
<i>Objective 3.G: Support a coordinated permitting activities process and consistent enforcement.</i>
Note: This goal focuses on communication and coordination required for successful mitigation of risk.

## 7.2 MITIGATION PROGRESS

The County MAC participants reviewed the mitigation actions listed in the 2004 plan to determine the status of each action. This following table includes only the actions that have been completed or were underway as of June 2011. The implementation strategies for these actions as shown in the 2004 plan have been included in Appendix 7B for reference purposes.

Ultimately, all of these projects will be completed and are no longer necessary for consideration by the MAC members regarding implementation approaches. Mitigation actions identified for future implementation are presented in the following section 7.3.

Some notable items of mitigation progress include a new Adopted Procurement Policy and Mutual Aid Plan for public works for all of the Cities. These accomplishments are a result of the Disaster Recovery Manager working with the Office of Emergency Management.

<b>Table 7.2 Completed and In-Progress Mitigation Actions</b>				
<b>2004 Plan Action #</b>	<b>Mitigation Action Description</b>	<b>Status</b>	<b>Completion Date</b>	<b>Comments</b>
LSD/CE-10	Goleta Beach Parking Areas Reinforcement	<b>Completed</b>		PW-2207 FEMA-1577 permitted 75,000 CY of Sand which raised the elevation of the overall beach.
CE-11	Geotechnical Investigation and Rehabilitation of Beach Access Stairways in Isla Vista	<b>Completed</b>		Completed in June 2011
GEN- 6	Critical Facility Audits	<b>Completed</b>	2009	Alliance appraisals of facilities from Risk Manager
FLD-3	Enhance Floodplain Management Ordinance	<b>Completed</b>	2008	
FLD-5	Carneros and San Pedro Creek Debris Barriers (Goleta)	<b>Completed</b>	2008	
FLD-8	Thornwood Drive Storm Drainage Improvements (Goleta)	<b>Completed</b>	2009	
FLD-10	West Side Storm Drainage Construction (Santa Barbara)	<b>Completed</b>	2008	

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<b>2004 Plan Action #</b>	<b>Mitigation Action Description</b>	<b>Status</b>	<b>Completion Date</b>	<b>Comments</b>
FLD-11	Sycamore Creek Culvert Additions (Santa Barbara)	<b>Completed</b>	2010	
FLD-17	Construct Orcutt Regional Detention Basins	<b>Completed</b>		This Basin was installed by a Contractor as a mitigation measure for the housing projects they are doing across the Bradley "dip". This basin is 100% completed and paid for by private funds and dedicated (gifted) back to the County under Parks and Flood Control's maintenance measures.
FLD-25	Cachuma Lake Recreational Area Rip-rap installation around water intake	<b>Completed</b>		
FLD-30	Richardson Park Pedestrian Bridge Replacements	<b>Completed</b>		
FLD-32	Replace, Repair and Upgrade of Existing Undersized Culverts That Create Adverse Flooding Conditions	<b>Completed</b>		Mohawk is complete others are pending
FLD-33	Santa Barbara Bowl Storm Drainage Improvements	<b>Completed</b>	2009	
FLD-38	Miguelito Park Embankment and Bridge Protection	<b>Completed</b>		
FLD-41	Santa Rosa Park Culvert Replacement	<b>Completed</b>		
FLD-43	Loon Point Beach Access Trail Erosion Protection	<b>Completed</b>	Dec-2010	Major drainage improvements funded by neighbor.
EQ-3	Obtain Liquefaction Hazard Data for Vulnerability Analysis	<b>Completed</b>		Completed in City of Santa Barbara
TSN/CS-1	Re-evaluate Tsunami Hazard Identification and Risk Assessment In Subsequent Updates to this Plan	<b>Completed</b>	Jan-2009	Updated Tsunami Hazard Maps were developed in cooperation with CalEMA, CA State Geological Survey, USC Tsunami Center, and SB OEM. Assessment visit by CalEMA was conducted in early 2008. Tsunami Hazard Area Maps were generated and disseminated in early 2009 for all impacted coastal communities.
GEN-2	Enhance the dissemination of risk data	<b>In Progress</b>		

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<b>2004 Plan Action #</b>	<b>Mitigation Action Description</b>	<b>Status</b>	<b>Completion Date</b>	<b>Comments</b>
GEN-3	Obtain better data on the impacts of hazards on future development	In Progress		
GEN-5	Enhance Post-Disaster Damage Inspections to Include Mitigation Strategies	In Progress		
EQ-2	Seismic Rehabilitation of Existing Bridge Structures	In Progress		Caltrans has identified all bridge structures requiring upgrades - Currently the Bridges are being brought up to code by FHWA and CalTrans programs and funding.
FLD-1	Increase Participation in Floodplain Re-mapping Initiative	In Progress		
FLD-2	Floodplain Management and Flood Mitigation Education and Outreach	In Progress		
FLD-4	Adding Community Volunteers to Creek Walk Committees	In Progress		
FLD-6	Atascadero Creek Channel Liner Improvements (Goleta)	In Progress		
FLD-7	Las Vegas and San Pedro Creeks Culvert Additions	In Progress		
FLD-9	Mission Creek Channel Improvements (Santa Barbara)	In Progress		
FLD-12	San Ysidro Creek Realignment	In Progress		
FLD-13	Padaro Lane Ditch Improvements	In Progress		
FLD-14	Foster Road Storm Drainage Improvements	In Progress		
FLD-15	Santa Maria Levee Protection Project	In Progress		Project started 2010
FLD-16	Los Alamos Storm Drainage Project	In Progress		
FLD-18	Expand Kovar Regional Basin	In Progress		
FLD-19	San Antonio Creek Improvements	In Progress		
FLD-20	Monitor RL properties for Substantial Improvement	In Progress		
FLD-21	Repetitive Loss Structure Voluntary Audits	In Progress		

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<b>Table 7.2 Completed and In-Progress Mitigation Actions</b>				
<b>2004 Plan Action #</b>	<b>Mitigation Action Description</b>	<b>Status</b>	<b>Completion Date</b>	<b>Comments</b>
FLD-22	Provide Incentives for RL and other flood prone property owners to retrofit homes to be safer from flooding or to construct new homes to higher standards	In Progress		
WDF-1	Update Fire Hazard Severity Zone Mapping	In Progress		Map adopted by State and County in 2007; will be reviewed and updated by the State of California with input from local jurisdictions in the future (ongoing process). Need to change title to "Update Fire Hazard Severity Zone Mapping" (see attached word document for further)
WDF-3	Evaluate Enhancements to Defensible Space Program	In Progress		Changes have been made to the Hazard Reduction Program both locally and at the State Level over the last five years. The title Hazard Reduction Program needs to be changed " <i>Defensible Space Program</i> ". Policy is currently under review.
WDF-4	Continue Update to Santa Barbara County Fire Unit Fire Plan	In Progress		Current Plan came out in 2005 but requires major updating. New CAL Fire Template being produced, plan will be updated to meet new State and Federal guidelines. Rename County Wildfire Management Plan to "Santa Barbara County Fire Unit Fire Plan or Unit Strategic Fire Plan".(see attached word document for further)
WDF-5	Increase GIS Capabilities within Fire Department	In Progress		County Fire has acquired some hardware and is utilizing GIS in its day to day operations. Still need permanent staffing to create a GIS section within the Department.(see attached word document for further)

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<b>2004 Plan Action #</b>	<b>Mitigation Action Description</b>	<b>Status</b>	<b>Compl etion Date</b>	<b>Comments</b>
TSN/CS-2	Tsunami Plan Consistency and Outreach	In Progress	Jun- 2011	A draft county-wide plan was drafted in 2008. Key components still working are signage placement for impacted jurisdictions and notification protocols for response agencies and the public. A Tsunami Working Group and Executive Committees continue to address planning issues and possible solutions.

### 7.3 MITIGATION ACTIONS

The MAC used the STAPLE/E Criteria (Social, Technical, Administrative, Political, Legal, Economic, and Environmental) to evaluate the mitigation actions identified in the 2004 plan which have not been completed or implemented (noted as deferred) in addition to newly identified mitigation actions. The social, technical, administrative, political, legal, economic, and environmental aspects of each project were ranked using the following scale.

- 0 = Poor (negative impacts)
- 1 = Fair (neutral or no impacts)
- 2 = Good (positive impacts)
- 3 = Excellent (very favorable impacts)

This process was used to help ensure that the most equitable and feasible actions would be undertaken based on available resources. Table 7.3 presents the STAPLE/E criteria.

**Table 7.3 STAPLE E REVIEW AND SELECTION CRITERIA FOR ALTERNATIVES**

SOCIAL
<ul style="list-style-type: none"> <li>• IS THE PROPOSED ACTION SOCIALLY ACCEPTABLE TO THE COMMUNITY?</li> <li>• ARE THERE EQUITY ISSUES INVOLVED THAT WOULD MEAN THAT ONE SEGMENT OF THE COMMUNITY ARE TREATED UNFAIRLY?</li> <li>• WILL THE ACTION CAUSE SOCIAL DISRUPTION?</li> </ul>
TECHNICAL
<ul style="list-style-type: none"> <li>• WILL THE PROPOSED ACTION WORK?</li> <li>• WILL IT CREATE MORE PROBLEMS THAN IT SOLVES?</li> <li>• DOES IT SOLVE A PROBLEM OR ONLY A SYMPTOM?</li> <li>• IS IT THE MOST USEFUL ACTION IN LIGHT OF OTHER COMMUNITY GOALS?</li> </ul>
ADMINISTRATIVE
<ul style="list-style-type: none"> <li>• CAN THE COMMUNITY IMPLEMENT THE ACTION?</li> <li>• IS THERE SOMEONE TO COORDINATE AND LEAD THE EFFORT?</li> <li>• IS THERE SUFFICIENT FUNDING, STAFF, AND TECHNICAL SUPPORT AVAILABLE?</li> <li>• ARE THERE ONGOING ADMINISTRATIVE REQUIREMENTS THAT NEED TO BE MET?</li> </ul>
POLITICAL
<ul style="list-style-type: none"> <li>• IS THE ACTION POLITICALLY ACCEPTABLE?</li> <li>• IS THERE PUBLIC SUPPORT BOTH TO IMPLEMENT AND TO MAINTAIN THE PROJECT?</li> </ul>
LEGAL
<ul style="list-style-type: none"> <li>• IS THE COMMUNITY AUTHORIZED TO IMPLEMENT THE PROPOSED ACTION? IS THERE A CLEAR LEGAL BASIS OR PRECEDENT FOR THIS ACTIVITY?</li> <li>• ARE THERE LEGAL SIDE EFFECTS? COULD THE ACTIVITY BE CONSTRUED AS A TAKING?</li> <li>• IS THE PROPOSED ACTION ALLOWED BY THE GENERAL PLAN, OR MUST THE GENERAL PLAN BE AMENDED TO ALLOW THE PROPOSED ACTION?</li> <li>• WILL THE COMMUNITY BE LIABLE FOR ACTION OR LACK OF ACTION?</li> <li>• WILL THE ACTIVITY BE CHALLENGED?</li> </ul>
ECONOMIC
<ul style="list-style-type: none"> <li>• WHAT ARE THE COSTS AND BENEFITS OF THIS ACTION?</li> <li>• DO THE BENEFITS EXCEED THE COSTS?</li> <li>• ARE INITIAL, MAINTENANCE, AND ADMINISTRATIVE COSTS TAKEN INTO ACCOUNT?</li> </ul>

**Table 7.3 STAPLE E REVIEW AND SELECTION CRITERIA FOR ALTERNATIVES**

- HAS FUNDING BEEN SECURED FOR THE PROPOSED ACTION? IF NOT, WHAT ARE THE POTENTIAL SOURCES (PUBLIC, NON-PROFIT, AND PRIVATE)?
- HOW WILL THIS ACTION AFFECT THE FISCAL CAPABILITY OF THE COMMUNITY?
- WHAT BURDEN WILL THIS ACTION PLACE ON THE TAX BASE OR LOCAL ECONOMY?
- WHAT ARE THE BUDGET AND REVENUE EFFECTS OF THIS ACTIVITY?
- DOES THE ACTION CONTRIBUTE TO OTHER COMMUNITY GOALS, SUCH AS CAPITAL IMPROVEMENTS OR ECONOMIC DEVELOPMENT?
- WHAT BENEFITS WILL THE ACTION PROVIDE?

**ENVIRONMENTAL**

- HOW WILL THE ACTION AFFECT THE ENVIRONMENT?
  - WILL THE ACTION NEED ENVIRONMENTAL REGULATORY APPROVALS?
  - WILL IT MEET LOCAL AND STATE REGULATORY REQUIREMENTS?
- ARE ENDANGERED OR THREATENED SPECIES LIKELY TO BE AFFECTED?

The following table presents the 44 prioritized actions to be considered and implemented during the life of this plan update (as of June 2011). The actions which were deferred from the 2004 plan have been given a new action number in the format of 2011 - # to allow all of the current actions to be numbered in order of their priority score. As actions are added in future updates they may be numbered in similar format to allow for tracking which year each action was added to the list. For reference purposes the 2004 plan action number is noted in the status column where applicable. These actions and their status will be tracked and updated as appropriate by the Office of Emergency Services in an excel spreadsheet.

Implementation strategies for the high priority projects which received a priority score of 12 or greater are included following the table in Section 7.4. Following those, project descriptions for the remaining deferred projects are included from the 2004 plan for reference convenience should the MAC decide to implement them during the life of this Plan.

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Table 7.4 Mitigation Actions for Future Implementation												
Action #	Mitigation Action Description	Status	Responsible Department	Comments	Priority Score	S	T	A	P	L	E	E
2011 - 1	Tecolote Tunnel rebuild	New in 2011	COMB-PW	Replace/rebuild aging water delivery piping for So Coast cities	15	3	2	2	2	1	3	2
2011 - 2	Seismic Retrofit of 14 County Courthouse Facilities	Deferred EQ-1 from 2004	General Services Robert Ooley & Jill Van Wee	2006/2007/2008 On Going - with General Services Robert Ooley & Jill Van Wee - 4 Facilities Completed under FEMA-1505-45-19; FEMA-1505-44-18; FEMA-1505-43-17 (Completed)Ongoing is FEMA-1731-51-21R	13	2	3	2	1	2	2	1
2011 - 3	Inventory of Un-reinforced Masonry Structures	Deferred EQ-6 from 2004			13	2	3	2	1	2	2	1
2011 - 4	Bradley Channel Improvements,	New in 2011			12	2	3	2	1	1	2	1
2011 - 5	'A' Street Basin	New in 2011			12	2	3	2	1	1	2	1
2011 - 6	Unit II Ditch Improvements	New in 2011			12	2	3	2	1	1	2	1
2011 - 7	Laguna County Sanitation District Earthquake Retrofit Project 1	Deferred EQ-4 from 2004			12	2	3	2	1	1	2	1
2011 - 8	Laguna County Sanitation District Earthquake Retrofit/Analysis Project 2	Deferred EQ-5 from 2004			12	2	3	2	1	1	2	1
2011 - 9	Seismic Safety and Mitigation Outreach and Education	Deferred EQ-7 from 2004			12	2	3	2	1	1	2	1
2011 - 10	Laguna County Sanitation District Flood Analysis and Protection	Deferred FLD-34 from 2004			12	2	3	2	1	1	2	1
2011 - 11	Evaluate Expansion of Flood Warning System	Deferred FLD-40 from 2004			12	2	3	2	1	1	2	1
2011 - 12	GIS Multi-Hazard Disaster Management Information System	Deferred GEN-1 from 2004			12	2	3	2	1	1	2	1

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<b>Action #</b>	<b>Mitigation Action Description</b>	<b>Status</b>	<b>Responsible Department</b>	<b>Comments</b>	<b>Priority Score</b>	<b>S</b>	<b>T</b>	<b>A</b>	<b>P</b>	<b>L</b>	<b>E</b>	<b>E</b>
2011 - 13	Old San Marcos Road Geotechnical Survey of Slope Stability	Deferred LSD/WDF-2 from 2004			12	2	3	2	1	1	2	1
2011 - 14	South County Geotechnical Survey of Slope Stability	Deferred LSD-3 from 2004			12	2	3	2	1	1	2	1
2011 - 15	North County Geotechnical Survey of Slope Stability	Deferred LSD-4 from 2004			12	2	3	2	1	1	2	1
2011 - 16	Ongoing Wildfire Education Campaign	New in 2011		Implementation and continual update of the "Ready! Set! Go!" program. (see attached word document for further)	12	2	3	2	1	1	2	1
2011-17	Staffing of Operations Division of Fire Department	Deferred WDF-6 from 2004		Vegetation and fuel management is a high priority. Population growth into the wildland-urban interface increases the loss of life & property.	12	2	3	2	1	1	2	1
2011 – 18	Incorporate Dam inundation Area "Information Only" Layer in FEMA DFIRM Map Modernization Initiative	Deferred DF-1 from 2004			11	2	2	1	2	1	2	1
2011 – 19	Construct Storm Drainage Improvements at Toro Canyon Park	Deferred FLD-23 from 2004			11	2	2	1	2	1	2	1
2011 – 20	Tucker's Grove Park Interior Access Road Creek Crossing Improvements	Deferred FLD-24 from 2004			11	2	2	2	1	1	2	1
2011 – 21	Cachuma Lake Mohawk Trail Bridge and Dock Abutment Rehabilitation and Access Improvements	Deferred FLD-26 from 2004			11	2	2	2	1	1	2	1
2011 - 22	Cachuma Lake Mohawk Camping Area Bridge Abutment Protection	Deferred FLD-27 from 2004			11	2	2	2	1	1	2	1

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Table 7.4 Mitigation Actions for Future Implementation												
Action #	Mitigation Action Description	Status	Responsible Department	Comments	Priority Score	S	T	A	P	L	E	E
2011 – 23	Enhancements to Annual Culvert Inspection Program to Include Mitigation Strategies	Deferred FLD-31 from 2004			11	2	2	2	1	1	2	1
2011 – 24	University Circle Open Spaces Berkely Bike/Pedestrian Bridge Removal and Replacement	Deferred FLD-35 from 2004			11	3	2	2	1	1	1	1
2011 – 25	Jalama Beach Park Waterline Protection	Deferred FLD-36 from 2004			11	2	2	2	1	1	2	1
2011 – 26	Live Oak Camp Access Road Protection	Deferred FLD-37 from 2004		Temporary emergency measures (gabions) installed. Permanent solution is required.	11	2	2	2	1	1	2	1
2011 – 27	Bridge Scour Abatement Program	Deferred FLD-44 from 2004			11	2	2	2	1	1	2	1
2011 – 28	Investigation of Low Capacity Bridges to Determine Appropriate Long-Term Solutions	Deferred FLD-45 from 2004			11	2	2	2	1	1	2	1
2011 – 29	Goleta Beach Park Embankment Protection for Park Maintenance Facilities	Deferred LSD/CE-5 from 2004	Parks	\$300,000 estimated cost. Project protects the rear of the Park and structures adjacent to the Goleta Slough.	11	2	2	2	1	1	2	1
2011 – 30	Wallace Avenue Bluff Re-Vegetation and Stabilization	Deferred LSD/CE-7 from 2004		Cost is estimated to be \$650,000, of which \$150,000 is currently budgeted from residual income from a dissolved community services district. Bluff failure would likely cause losses to the parking lot that would exceed the cost of the project and would present a serious public safety hazard.	11	2	2	2	1	1	2	1

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<b>Table 7.4 Mitigation Actions for Future Implementation</b>												
<b>Action #</b>	<b>Mitigation Action Description</b>	<b>Status</b>	<b>Responsible Department</b>	<b>Comments</b>	<b>Priority Score</b>	<b>S</b>	<b>T</b>	<b>A</b>	<b>P</b>	<b>L</b>	<b>E</b>	<b>E</b>
2011 – 31	Mountainous Road Rockfall Hazard Geotechnical Surveys	Deferred LSD/WDF-8 from 2004			11	2	2	2	1	1	2	1
2011 – 32	Parks - Guadalupe Dunes Park Entrance Road	New in 2011			11	2	2	2	1	1	2	1
2011 – 33	Santa Barbara Bowl - Service Road Improvements (N. End Drive- Service Road off of Newton Rd) Entrance	New in 2011		Service Rd into and out of North Entrance to Bowl has severe AC damage (in access of 750 LF) , no drainage, and unsuitable to be used as an emergency evacuation or Fire entrance for vehicles in the event of an emergency.	11	2	2	2	1	1	2	1
2011 – 34	Toro Canyon Park Gazebo Access Road Drainage	Deferred FLD-39 from 2004			10	2	2	1	1	1	2	1
2011 – 35	Obtain National Weather Service "Storm Ready" Designation	Deferred FLD-42 from 2004			10	2	2	1	1	1	2	1
2011 – 36	Jalama Road Geotechnical Survey of Slope Stability	Deferred LSD/WDF-9 from 2004		Perform Annual Inclinometer Readings and quarterly Surface Crack Measurements \$2.5 Million estimated costs	10	2	2	1	1	1	2	1
2011 – 37	Relocate the Hearts Adaptive Riding Center	New in 2011	Resource Recovery Division of Public Works	The Closed Foothill Landfill is a receiver site for Flood Control maintenance activities in the Goleta Slough. In the case of an emergency, the site may also become a receiver site for soil debris from other Flood Control or road maintenance activates (e.g. landslide debris). Relocate the Hearts Adaptive Riding Center currently on the land somewhere else where this riding club may still be active and the county may carry out debris plans at location	10	2	2	1	1	1	2	1

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<b>Action #</b>	<b>Mitigation Action Description</b>	<b>Status</b>	<b>Responsible Department</b>	<b>Comments</b>	<b>Priority Score</b>	<b>S</b>	<b>T</b>	<b>A</b>	<b>P</b>	<b>L</b>	<b>E</b>	<b>E</b>
2011 – 38	Geotechnical Engineered Solution of Slope Failure on Glen Annie Road (South County)	Deferred LSD-1 from 2004	PW - Transportation	Preliminary Stability Analyses Completed by Edison. PW Estimated Project Cost \$100,000	11	2	2	1	3	1	1	1
2011 – 39	Cachuma Lake Recreational Area Public Access Ramp Protection	Deferred FLD-29 from 2004		Need new log boom	7	1	1	1	1	1	1	1
2011 – 40	Cachuma Lake Water Treatment Plant Relocation	Deferred FLD-28 from 2004		Currently pursuing funds through the Bureau of Reclamation; In Funding queue	7	1	1	1	1	1	1	1
2011 – 41	Develop a Debris Management Plan for All Hazards	Deferred GEN-4 from 2004	Public Works		7	1	1	1	1	1	1	1
2011 – 42	Goleta Beach Park Pier Abutment Protection	Deferred LSD/CE-6 from 2004	Parks	Appeal pending regarding California Coastal Commission permitting; County installation of Rock Revetment or Piles at base of pier. Estimated at \$75,000	11	2	2	2	1	1	2	1
2011 – 43	Enhance Fire Weather Forecasting and Predictive Services Program	Deferred WDF-2 from 2004		County Fire currently has obtained two portable units. The necessity of additional units is a high priority, deferred due to funding limitations.	7	1	1	1	1	1	1	1
2011 – 44	Firewise Community Planning and Prevention Techniques Training	Deferred WDF-7 from 2004		Good program hasn't been implemented due to time and fiscal constraints. Hope to pursue in the near future.	7	1	1	1	1	1	1	1

## 7.4 IMPLEMENTATION PLAN

<b>Mitigation Action # 2011 -1</b>		
<b>Project Description:</b> Tecolote Tunnel rebuild - Replace/rebuild aging water delivery piping for South Coast cities. The project provides 80% of the potable water to the south coast. The purpose of the project is to increase the operational flexibility, reliability, and capacity of the South Coast Conduit. Estimated project cost is \$9,165,000.		
<b>Applicable Hazards</b>		
<b><u>Significant</u></b>	<b><u>Moderate</u></b>	<b><u>Limited</u></b>
<input checked="" type="checkbox"/> Flooding (including coastal surge) <input type="checkbox"/> Wildfire <input type="checkbox"/> Agriculture (pests and disease) <input checked="" type="checkbox"/> Earthquake	<input checked="" type="checkbox"/> Landslide / Coastal Erosion	<input type="checkbox"/> Dam Failure <input type="checkbox"/> Tsunami
<b>Existing and Potential Resources:</b> FEMA PDM-C, and HMGP Grants		
<b>Responsible Department:</b> Cachuma Operation and Maintenance Board (COMB) -		
<b>Target Completion Date:</b> Two (2) years after environmental studies are completed and project funding provided.		
<b>Additional Comments / Status Report:</b> Project description provided from February 2008 COMB Engineering Services Task Order 24, South Coast Conduit 2008 – 2010, O&M Reliability Program Initial Project Report by Boyle Engineering Corporation.		

<b>Mitigation Action # 2011 – 2</b>		Deferred EQ-1 from 2004
<b>Project Description:</b> Seismic Retrofit of 14 County Courthouse Facilities		
<p>There are fourteen court facilities within the County inventory, some with non-court related functions. One facility, the Santa Barbara Courthouse is designated as a State Historic Landmark (no. 1037) and under consideration as a National Historic Landmark. The majority of the structures are two story, plaster with clay tile roofs. The scope of seismic deficiency range from lack of positive roof to wall attachment; missing or undersized wall or roof diaphragms; height to wide ratio of shear walls; weak vertical steel column to horizontal beam connections; moment frame connections; attachment of decorative details; heavy interior ceiling attachment and cross bracing; mechanical equipment anchoring; wall to foundation attachments; shear wall to foundation attachments and cross framing member lateral transfers. The primary reason for these deficiencies results from lack of local, state or federal mandate to retrofit buildings whose occupancy use has not changed.</p>		
<b>Applicable Hazards</b>		
<p><b><u>Significant</u></b></p> <p><input type="checkbox"/> Flooding (including coastal surge)</p> <p><input type="checkbox"/> Wildfire</p> <p><input type="checkbox"/> Agriculture (pests and disease)</p> <p><input checked="" type="checkbox"/> Earthquake</p>	<p><b><u>Moderate</u></b></p> <p><input type="checkbox"/> Landslide / Coastal Erosion</p>	<p><b><u>Limited</u></b></p> <p><input type="checkbox"/> Dam Failure</p> <p><input type="checkbox"/> Tsunami</p>
<b>Existing and Potential Resources:</b> FEMA PDM-C, and HMGP Grants, General Fund. Current work is being completed through FEMA-1731-51-21R		
<b>Responsible Department:</b> General Services		
<b>Target Completion Date:</b> ongoing.		
<b>Additional Comments / Status Report:</b>		
4 facilities have been completed in 2006-2008 under FEMA 1505-45-19; FEMA-1505-44-18; and FEMA-1505-43-17.		

<b>Mitigation Action # 2011 – 3</b>		Deferred EQ-6 from 2004
<b>Project Description: Inventory of Un-reinforced Masonry Structures</b>		
There is no solid inventory of all un-reinforced masonry structures in the unincorporated areas of Santa Barbara County. Such information would be helpful in targeting outreach and training and in identifying future mitigation projects.		
<b>Applicable Hazards</b>		
<b><u>Significant</u></b>	<b><u>Moderate</u></b>	<b><u>Limited</u></b>
<input type="checkbox"/> Flooding (including coastal surge) <input type="checkbox"/> Wildfire <input type="checkbox"/> Agriculture (pests and disease) <input checked="" type="checkbox"/> Earthquake	<input type="checkbox"/> Landslide / Coastal Erosion	<input type="checkbox"/> Dam Failure <input type="checkbox"/> Tsunami
<b>Existing and Potential Resources:</b> General Fund, FEMA PDM-C, HMGP Grants, and Community Development funds.		
<b>Responsible Department:</b> General Services, County Assessors' Office, Public Works – GIS Services		
<b>Target Completion Date:</b> To be determined		
<b>Additional Comments / Status Report:</b>		

**Mitigation Action # 2011 – 4**

**Project Description: Bradley Channel Improvements** Bradley Channel Improvement is in 3 locations (1) Bradley Creek @ the Levee needs a permanent pilot channel 1000 feet long X nine feet side and 4 feet deep made of creek rock pick from the creek so that the embankments at that area of where the Levee starts will not “blowout” or “fail” but give security to the farmers, agriculture farming along with County and Caltrans roads in that area.” Cost upwards of \$100,000 (2) Bradley Channel Lining needs to be upgraded to newer concrete panels that have cracked and need replacing. Rains and floods have torn up the creek lining that protects valuable farming and agriculture areas in Santa Maria; (3) Bradley Basin at Hwy “101” drainage inlet and outlet studied for enlargement and stronger concrete protection. Cost \$150,000. During FEMA-1952-DR, this area failed and, if there is a massive failure, could shut down Hwy “101” traffic North and South at the Bridge that divides San Luis Obispo and Santa Barbara Counties. Cost \$250,000

**Applicable Hazards**

**Significant**

- Flooding (including coastal surge)
- Wildfire
- Agriculture (pests and disease)
- Earthquake

**Moderate**

- Landslide / Coastal Erosion

**Limited**

- Dam Failure
- Tsunami

**Existing and Potential Resources:** FEMA PDM-C, and HMGP Grants, General Fund

**Responsible Department:** County Public Works – Flood Control

**Target Completion Date:** Between June 2012 and August 2015

**Additional Comments / Status Report:** This project has medium to high priority and, now that all three locations have been involved with a formal disaster declaration the County will be looking for funding sources as the opportunity arises.

<b>Mitigation Action # 2011 – 5</b>		
<p><b>Project Description: “A’ Street Basin”</b> - Located in the South West portion of Santa Maria just West of Betteravia Street the ‘A’ Street Basin gathers debris from residents and business/s in the surrounding area. After the December 2010 flood, much of the concrete lined spillway is cracked (not because of 2010 flood but normal wear and tear, the floods added extra materials that made the situation of replacement necessary. Additionally, the current capacity needs to be increased as development in the area has added additional run-off into the basin. The basin measures approximately 15 feet deep X 40 feet across, X 10 feet high, the size would be doubled costing approximately \$200,000.</p>		
<b>Applicable Hazards</b>		
<p><b><u>Significant</u></b></p> <p><input checked="" type="checkbox"/> Flooding (including coastal surge)</p> <p><input type="checkbox"/> Wildfire</p> <p><input type="checkbox"/> Agriculture (pests and disease)</p> <p><input type="checkbox"/> Earthquake</p>	<p><b><u>Moderate</u></b></p> <p><input type="checkbox"/> Landslide / Coastal Erosion</p>	<p><b><u>Limited</u></b></p> <p><input type="checkbox"/> Dam Failure</p> <p><input type="checkbox"/> Tsunami</p>
<p><b>Existing and Potential Resources:</b> FEMA PDM-C, and HMGP Grants, General Fund</p>		
<p><b>Responsible Department:</b> County Public Works-Flood Control</p>		
<p><b>Target Completion Date:</b> July 2012</p>		
<p><b>Additional Comments / Status Report:</b></p>		

**Mitigation Action # 2011 – 6**

**Project Description: Unit II Ditch Improvements -** Located in North Santa Maria along side of the Levee Unit 11 “Tailwater” Ditch is washing out due to the extensive rains and needs to be re-hydro seeded and with new plants and seeding with the hillside re- compacted approximately 15,000 feet long X 30 feet down to 10 feet down in various locations. Basically, reshaping the ditch and seeding along with netting the hillside. Cost approximately \$50,000 (this project would be group with another like project concerning cost to make \$100,000). If the Ditch is not regularly maintained, then the Levee would be in jeopardy and flooding would occur damaging 200 to 400 residents in N. Santa Maria along with freeway stoppage due to mud and debris.

**Applicable Hazards**

**Significant**

- Flooding (including coastal surge)
- Wildfire
- Agriculture (pests and disease)
- Earthquake

**Moderate**

- Landslide / Coastal Erosion

**Limited**

- Dam Failure
- Tsunami

**Existing and Potential Resources:** FEMA PDM-C, and HMGP Grants, General Fund

**Responsible Department:** County Public Works-Flood Control

**Target Completion Date:** December 2014

**Additional Comments / Status Report:**

<b>Mitigation Action # 2011 – 7</b>		Deferred EQ-4 from 2004
<p><b>Project Description: Laguna County Sanitation District Earthquake Retrofit Project 1 -</b> The Laguna County Sanitation District is a county sanitation district formed in 1958 pursuant to the county sanitation district act (Section 4700 et seq of the California Health &amp; Safety Code). The District is a dependent special district with the County Board of Supervisors acting as its ex-officio board of directors. The District’s reclamation plant treats wastewater collected from the unincorporated community of Orcutt and unincorporated portions of Santa Maria, which is primarily domestic with small commercial contributions. The plant is located in the proximity to known earthquake faults. The proximity to Orcutt (a.k.a. Solomon) Creek also contributes to high ground water conditions. Recent data indicates that the closest active fault is the Casmalia-Orcutt fault 2 miles away with a maximum credible event of 7.5. For reference, the San Simeon Earthquake on December 22, 2003 caused minor damage to the plant, was approximately 65 miles away and was a magnitude 6.5. Earthquake impacts could include damage to structures, piping and equipment. Center baffles are fiberglass and not compatible with lateral movement of water during earthquakes.</p> <p>Replace existing baffles with stainless steel or other products made to sustain greater lateral forces due to ground and water movement. Upgrade connections to match new baffle material. Upgrade existing secondary clarifier center baffles.</p>		
<b>Applicable Hazards</b>		
<p><b><u>Significant</u></b></p> <p><input type="checkbox"/> Flooding (including coastal surge)</p> <p><input type="checkbox"/> Wildfire</p> <p><input type="checkbox"/> Agriculture (pests and disease)</p> <p><input checked="" type="checkbox"/> Earthquake</p>	<p><b><u>Moderate</u></b></p> <p><input type="checkbox"/> Landslide / Coastal Erosion</p>	<p><b><u>Limited</u></b></p> <p><input type="checkbox"/> Dam Failure</p> <p><input type="checkbox"/> Tsunami</p>
<b>Existing and Potential Resources:</b> FEMA PDM-C, and HMGP Grants, General Fund		
<b>Responsible Department:</b> Public Works - Resource Recovery & Waste Management Division		
<b>Target Completion Date:</b>		
<p><b>Additional Comments / Status Report:</b> (unable to get funding)</p> <p>Cost of the project is estimated at \$150,000.00. Closure of clarifier would result in bypass of material to the holding pond that feeds the Zee Weed ultra filtration system worsening the feed water quality and reducing filtration capacity. For a single event, down time to repair could be up to one week.</p> <p>Labor and equipment costs:     \$ 30,000</p> <p>Bypass systems:                     \$ 8,000</p> <p><u>Replacement costs:</u>               \$ 150,000</p> <p>Total estimated loss:               \$ 188,000</p>		

<b>Mitigation Action # 2011 – 8</b>		Deferred EQ-5 from 2004								
<p><b>Project Description: Laguna County Sanitation District Earthquake Retrofit/Analysis Project 2 -</b>                  The secondary digester (original primary digester) was constructed in 1959 and the primary digester was constructed in 1974. Today, revised seismic standards exist, and the impact and proximity of earthquake faults have provided new information on seismic threats. It is unknown how stable these facilities are under lateral loadings associated with an earthquake.                  Commission a structural analysis of the digesters. Implement mitigation measures.</p>										
<b>Applicable Hazards</b>										
<p><b><u>Significant</u></b></p> <p><input type="checkbox"/> Flooding (including coastal surge)</p> <p><input type="checkbox"/> Wildfire</p> <p><input type="checkbox"/> Agriculture (pests and disease)</p> <p><input checked="" type="checkbox"/> Earthquake</p>	<p><b><u>Moderate</u></b></p> <p><input type="checkbox"/> Landslide / Coastal Erosion</p>	<p><b><u>Limited</u></b></p> <p><input type="checkbox"/> Dam Failure</p> <p><input type="checkbox"/> Tsunami</p>								
<p><b>Existing and Potential Resources:</b> FEMA PDM-C, and HMGP Grants, General Fund</p>										
<p><b>Responsible Department:</b> Public Works - Resource Recovery &amp; Waste Management Division</p>										
<p><b>Target Completion Date:</b> to be determined</p>										
<p><b>Additional Comments / Status Report:</b> (unable to get funding)</p> <p>Estimated cost: \$50,000 for analysis, \$350,000 for mitigation measures and replacement of demolished digesters in the event of an earthquake. It may take three months to demo and construct new digesters. A significant impact would be the need to provide temporary digester facilities.</p> <table style="width: 100%; border: none;"> <tr> <td style="padding: 5px;">Labor and equipment:</td> <td style="padding: 5px; text-align: right;">\$ 500,000</td> </tr> <tr> <td style="padding: 5px;">Bypass systems:</td> <td style="padding: 5px; text-align: right;">\$ 250,000</td> </tr> <tr> <td style="padding: 5px;"><u>Replacement costs:</u></td> <td style="padding: 5px; text-align: right;"><u>\$1,000,000</u></td> </tr> <tr> <td style="padding: 5px;">Total estimated loss:</td> <td style="padding: 5px; text-align: right;">\$1,750,000</td> </tr> </table>			Labor and equipment:	\$ 500,000	Bypass systems:	\$ 250,000	<u>Replacement costs:</u>	<u>\$1,000,000</u>	Total estimated loss:	\$1,750,000
Labor and equipment:	\$ 500,000									
Bypass systems:	\$ 250,000									
<u>Replacement costs:</u>	<u>\$1,000,000</u>									
Total estimated loss:	\$1,750,000									

<b>Mitigation Action # 2011 – 9</b>		Deferred EQ-7 from 2004
<b>Project Description: Seismic Safety and Mitigation Outreach and Education</b>		
Develop comprehensive earthquake awareness and outreach programs concentrating on the following areas: <ul style="list-style-type: none"> <li>• Understanding of Risk</li> <li>• Understanding of Retrofit Actions, Mitigation and Construction Techniques</li> <li>• Overview of grant funding programs available to assist</li> </ul> Target training to the following audiences: <ul style="list-style-type: none"> <li>• Owners of un-reinforced masonry buildings</li> <li>• Contractors</li> <li>• The Business Community</li> <li>• County and City employees with mitigation, construction and development related job duties</li> </ul>		
<b>Applicable Hazards</b>		
<u><b>Significant</b></u>  <input type="checkbox"/> Flooding (including coastal surge) <input type="checkbox"/> Wildfire <input type="checkbox"/> Agriculture (pests and disease) <input checked="" type="checkbox"/> Earthquake	<u><b>Moderate</b></u>  <input type="checkbox"/> Landslide / Coastal Erosion	<u><b>Limited</b></u>  <input type="checkbox"/> Dam Failure <input type="checkbox"/> Tsunami
<b>Existing and Potential Resources:</b> General Fund		
<b>Responsible Department:</b> General Services		
<b>Target Completion Date:</b> Develop Program within 2 years of plan adoption, repeat sessions annually		
<b>Additional Comments / Status Report:</b> Relatively inexpensive, benefit not quantifiable for full benefit/cost analysis.		

**Mitigation Action # 2011 – 10**

Deferred FLD-34 from 2004

**Project Description: Laguna County Sanitation District Flood Analysis and Protection** - The Laguna County Sanitation District is a county sanitation district formed in 1958 pursuant to the county sanitation district act (Section 4700 et seq of the California Health & Safety Code). The District is a dependent special district with the County Board of Supervisors acting as its ex-officio board of directors. The District's reclamation plant treats wastewater collected from the unincorporated community of Orcutt and unincorporated portions of Santa Maria, which is primarily domestic with small commercial contributions. The plant is located in the proximity of known earthquake faults. The proximity to Orcutt (a.k.a. Solomon) Creek also contributes to high ground water conditions. The plant is located adjacent to the Orcutt Creek flood plain. FEMA maps show the plant to be located in Zone-A, areas subject to 100-year flood. However, further reports indicate the plant site to be just out of most 100-year flood reaches. Actual flood waters have breached the adjacent creek and washed around the plant site causing damage to the access road to the plant. Therefore, flood damage is possible. The plant, as with most wastewater plants, was constructed downstream of its collection systems as a way to economically transport wastewater to the plant by gravity. This generally results in placement of trunk collector lines and wastewater plants near major water courses since water courses follow lower lying areas. At the time the plant was constructed, regulations for development within potential floodways did not exist, as FEMA maps and flood impacts from development were not available until 1979. However, to date a comprehensive flood study has not been conducted. Potential damage includes sediment deposition, flooding, and wash-outs of all below grade facilities.

- Commission flood study and implement recommended corrective measures such as levee construction and drainage improvements.
- Implement recommendations of the study

**Applicable Hazards**

<u>Significant</u>	<u>Moderate</u>	<u>Limited</u>
<input checked="" type="checkbox"/> Flooding (including coastal surge) <input type="checkbox"/> Wildfire <input type="checkbox"/> Agriculture (pests and disease) <input type="checkbox"/> Earthquake	<input checked="" type="checkbox"/> Landslide / Coastal Erosion	<input type="checkbox"/> Dam Failure <input type="checkbox"/> Tsunami

**Existing and Potential Resources:** FEMA PDM-C, and HMGP Grants, General Fund

**Responsible Department:** Public Works - Resource Recovery & Waste Management Division

**Target Completion Date:** Within 3 years, depending on funding.

**Additional Comments / Status Report:** Cost is estimated at \$50,000 for study and \$500,000 for mitigation measures. Potential impacts includes damage to the influent pumping station, grit chamber, primary clarifiers, secondary clarifier, six ponds, the basements in the lab and power distribution buildings as well as damage to the access road to the plant. Costs to repair damage and resume plant operations would include labor and equipment costs expected to exceed the costs of this project in a single event. Loss of plant operations could be as much as one month after initial damage. In addition, back-up systems would need to be implemented in order to maintain minimal treatment levels. Replacement and or reconstruction of several processes or structures would also be required.

Labor and equipment costs: \$ 500,000  
 Back-up systems: \$ 500,000  
Replacement costs: \$2,000,000  
 Total estimated loss: \$3,000,000

<b>Mitigation Action #2011 -11</b>		Deferred FLD-40 from 2004
<p><b>Project Description: Evaluate Expansion of Flood Warning System:</b> The County will evaluate expanding the flood warning system. The ALERT system is located throughout the County, but most areas that experience flash flooding events are difficult to predict. The County will evaluate ways to disseminate warning information to the public (i.e., Reverse 911). Explore a linking the flood warning system, critical facility and Repetitive Loss audit information to instruct homeowners what proper actions to take to protect their property will be examined.</p> <ul style="list-style-type: none"> <li>• Create a short report detailing alternatives, feasibility and costs for achieving this strategy</li> </ul>		
<b>Applicable Hazards</b>		
<b><u>Significant</u></b>	<b><u>Moderate</u></b>	<b><u>Limited</u></b>
<input checked="" type="checkbox"/> Flooding (including coastal surge) <input type="checkbox"/> Wildfire <input type="checkbox"/> Agriculture (pests and disease) <input type="checkbox"/> Earthquake	<input type="checkbox"/> Landslide / Coastal Erosion	<input type="checkbox"/> Dam Failure <input checked="" type="checkbox"/> Tsunami
<b>Existing and Potential Resources:</b> Public Works Budget		
<b>Responsible Department:</b> Public Works - Flood Control and Water Conservation District		
<b>Target Completion Date:</b> to be determined		
<b>Additional Comments / Status Report:</b>		

<b>Mitigation Action # 2011 -12</b>		Deferred GEN-1 from 2004
<p><b>Project Description: Increase GIS Capabilities and Hazard Related Applications and Support Santa Barbara County's Multi-Hazard Disaster Management Information System</b> - As noted in Section 5.3, the County is developing a GIS system for managing information related to hazards. Goleta would like to expand its GIS capability and capacity to feed data related to vulnerability analysis and mapping, future disaster damage and mitigation projects into the County's system. By enhancing GIS capabilities, Goleta will also be better positioned to use applications such as FEMA's HAZUS software during updates to this plan. The system envisioned would be the basis of monitoring progress, updating and continuously improving the quality of this document.</p> <p>The following activities will be conducted to develop, implement and maintain the system:</p> <ul style="list-style-type: none"> <li>• Procure the appropriate hardware and software needed to design and implement the system</li> <li>• Identify dedicated staff and associated funding</li> <li>• Establish inter-departmental committee to design the scope of the system</li> <li>• Coordinate with the county to identify ways to develop parallel systems in a way that Goleta's system could eventually feed the county system for a centralized disaster data clearinghouse</li> <li>• Design web-based interface application that would be made available to county and city users.</li> <li>• Develop a brief data stewardship plan</li> <li>• Identify potential integration (multi-beneficial uses) between the system and HAZUS and DFRIM production for map modernization</li> </ul>		
<b>Applicable Hazards</b>		
<b><u>Significant</u></b>	<b><u>Moderate</u></b>	<b><u>Limited</u></b>
<input checked="" type="checkbox"/> Flooding (including coastal surge) <input checked="" type="checkbox"/> Wildfire <input checked="" type="checkbox"/> Agriculture (pests and disease) <input checked="" type="checkbox"/> Earthquake	<input checked="" type="checkbox"/> Landslide / Coastal Erosion	<input checked="" type="checkbox"/> Dam Failure <input checked="" type="checkbox"/> Tsunami
<p><b>Existing and Potential Resources:</b> University of California, Santa Barbara Campus (UCSB) geography interns, General Fund, Government Accountability Statement Board, Document 34 (GASB-34), DHS, Homeland Security Grants, DHS-FEMA, Fire Grants and Mitigation programs (e.g. PDM-Planning)</p>		
<p><b>Responsible Department:</b> Planning and Environmental Services Department and Community Services Department, in coordination with SBC Public Works</p>		
<p><b>Target Completion Date:</b> Develop system within 2 years of adoption of this plan (funding dependent). Maintenance and use are ongoing and require annual funding needs.</p>		
<p><b>Additional Comments / Status Report:</b> Total start-up costs are estimated at \$20,000 for hardware, software and training of existing staff. Annual maintenance costs of approximately \$5000 are expected. B/C ratio is currently unknown.</p>		

**Mitigation Action # 2011 – 13**      Deferred LSD/WDF-2 from 2004

**Project Description: Old San Marcos Road Geotechnical Survey of Slope Stability** - Old San Marcos Road is a well-used local access road that serves residential and commercial needs, as well as is used as an alternative and important transportation route between State Highway 154 and Cathedral Oaks Road and State Route 192. This road is an important route for emergency service vehicles and State Department of Transportation vehicles to maintain and clear (slide) debris from State Highway 154. During the declared Storm Disaster of 1998, this road was the primary access route for maintenance and construction vehicles accessing a large landslide problem. San Marcos Road is also a key fire suppression and maintenance access way and is located in a very high fire threat area. This is an area of reoccurring slope instability, with long stretches of road actively subject to movement.

In order to better evaluate the problem, the County will undertake Geotechnical Survey of Slope Stability of Old San Marcos Road in order to determine extent of instability, and appropriate long-term solutions. Phase II of this project would implement analysis and findings into a design plan for a permanent fix, and enable the construction phase.

**Applicable Hazards**

<u>Significant</u>	<u>Moderate</u>	<u>Limited</u>
<input type="checkbox"/> Flooding (including coastal surge) <input checked="" type="checkbox"/> Wildfire <input type="checkbox"/> Agriculture (pests and disease) <input type="checkbox"/> Earthquake	<input checked="" type="checkbox"/> Landslide / Coastal Erosion	<input type="checkbox"/> Dam Failure <input type="checkbox"/> Tsunami

**Existing and Potential Resources:** FEMA (401, 404, PDM), CalEMA, Capital Budget

**Responsible Department:** Public Works Department - Transportation

**Target Completion Date:** Initial survey activities will be undertaken within 3 years of adoption of this Plan, depending upon the successful securing of funding through Grant Application(s).

**Additional Comments / Status Report:** The benefits of roadway reconstruction, relating to reducing threats to life and safety and protecting against less easily quantifiable secondary impacts, such as disruption of commerce are expected to significantly exceed the cost of proactively studying and designing mitigation strategies. Having designs in place will put the County in a position to immediately construct mitigation projects when funding becomes available. A more detailed Benefit/Cost analysis will be performed at project development phase.

<b>Mitigation Action # 2011 – 14</b>		Deferred LSD-3 from 2004
<p><b>Project Description: South County Geotechnical Survey of Slope Stability</b> - As indicated in subsection 4.3.5.1, there are numerous locations throughout the County where slope stability problems are reoccurring, causing disaster damage to roadways, public safety access issues and potential economic losses from disruption of commerce. In order to better evaluate the problem, the County will undertake Geotechnical Survey of Slope Stability of Existing Roadways in order to determine appropriate long-term solutions.</p> <p>Explore strategies to determine cost-effective solutions to recognized geologic erosion hazards affecting County-maintained roadway and structures in the southern half of the County. Particular emphasis will be placed on areas of reoccurring landslides such as those listed in subsection 4.3.5.1. Due to the unique topography and climate in the County, numerous portions of the County-maintained roadway system are within areas that are prone to landslide damage.</p>		
<b>Applicable Hazards</b>		
<b><u>Significant</u></b>	<b><u>Moderate</u></b>	<b><u>Limited</u></b>
<input type="checkbox"/> Flooding (including coastal surge) <input type="checkbox"/> Wildfire <input type="checkbox"/> Agriculture (pests and disease) <input type="checkbox"/> Earthquake	<input checked="" type="checkbox"/> Landslide / Coastal Erosion	<input type="checkbox"/> Dam Failure <input type="checkbox"/> Tsunami
<b>Existing and Potential Resources:</b> FEMA (401, 404, PDM), CalEMA, County Measure D Revenues		
<b>Responsible Department:</b> Public Works Department - Transportation		
<b>Target Completion Date:</b> Initial Studies will be undertaken within 1 year of adoption of this Plan, dependent upon successful securing of funding through Grant Application(s).		
<b>Additional Comments / Status Report:</b> The quantifiable cost of roadway reconstruction, potential threats to life and safety and less easily quantifiable secondary impacts on commerce are expected to significantly exceed the cost of proactively studying and designing mitigation strategies for known hazards. Having designs in place will put the County in a position to immediately construct mitigation projects when funding becomes available. A more detailed Benefit/Cost analysis will be performed at project development phase.		

<b>Mitigation Action # 2011 – 15</b>		Deferred LSD-4 from 2004
<p><b>Project Description: North County Geotechnical Survey of Slope Stability</b> - As indicated in subsection 4.3.5.1, there are numerous locations throughout the County where slope stability problems are reoccurring, causing disaster damage to roadways, public safety access issues and potential economic losses from disruption of commerce. In order to better evaluate the problem, the County will undertake Geotechnical Survey of Slope Stability of Existing Roadways in order to determine appropriate long-term solutions.</p> <p>Explore strategies to determine cost-effective solutions to recognized geologic erosion hazards affecting County-maintained roadway and structures in the southern half of the County. Particular emphasis will be placed on areas of reoccurring landslides such as those listed in subsection 4.3.5.1. Due to the unique topography and climate here in the County, numerous portions of the County-maintained roadway system are within areas that are prone to landslide damage.</p>		
<b>Applicable Hazards</b>		
<b><u>Significant</u></b>	<b><u>Moderate</u></b>	<b><u>Limited</u></b>
<input type="checkbox"/> Flooding (including coastal surge) <input type="checkbox"/> Wildfire <input type="checkbox"/> Agriculture (pests and disease) <input checked="" type="checkbox"/> Earthquake	<input checked="" type="checkbox"/> Landslide / Coastal Erosion	<input type="checkbox"/> Dam Failure <input type="checkbox"/> Tsunami
<b>Existing and Potential Resources:</b> FEMA (401, 404, PDM), CalEMA, County Measure D Revenues		
<b>Responsible Department:</b> Public Works Department - Transportation		
<b>Target Completion Date:</b> Initial Studies will be undertaken within 1 year of adoption of this Plan, depending on the successful procurement of funding through Grant Application(s).		
<b>Additional Comments / Status Report:</b> The quantifiable cost of roadway reconstruction, potential threats to life and safety and less easily quantifiable secondary impacts on commerce are expected to significantly exceed the cost of proactively studying and designing mitigation strategies for known hazards. Having designs in place will put the County in a position to immediately construct mitigation projects when funding becomes available. A more detailed Benefit/Cost analysis will be performed at project development phase.		

<b>Mitigation Action # 2011 -16</b>		
<p><b>Project Description: Ongoing Wildfire Education Campaign</b> – The “Ready! Set! Go!” Campaign was launched in May of 2009. This campaign is a new approach to educating Southern California residents about the year-round threat of wildfire. This public education program seeks to gain active public involvement in reducing life and property loss caused by wildfires. The program was developed by agencies in California Regional Mutual Aid Regions 1 and 6 to convey a unified message. The program is designed to be used by any agency and can be modified to meet a specific jurisdiction’s needs.</p>		
<b>Applicable Hazards</b>		
<b><u>Significant</u></b>	<b><u>Moderate</u></b>	<b><u>Limited</u></b>
<input type="checkbox"/> Flooding (including coastal surge) <input checked="" type="checkbox"/> Wildfire <input type="checkbox"/> Agriculture (pests and disease) <input type="checkbox"/> Earthquake	<input type="checkbox"/> Landslide / Coastal Erosion	<input type="checkbox"/> Dam Failure <input type="checkbox"/> Tsunami
<b>Existing and Potential Resources:</b> General Fund, DHS-Firefighter Assistance Grants		
<b>Responsible Department:</b> County Fire Department, Public Information Officer		
<b>Target Completion Date:</b> Ongoing. Continually update education materials and provide educational programs to the public on an annual basis.		
<b>Additional Comments / Status Report:</b> Best way to prepare the public for emergencies is to provide education. This program covers everything from preparing your home to the actual evacuation.		

<b>Mitigation Action # 2011 -17</b>		Deferred WDF-6 from 2004
<p><b>Project Description: Staffing of Operations Division of Fire Department</b> – County fire is lacking in its ability to actually complete projects that result in mitigation benefits. For example, if fuel breaks are needed, the projects to cut them are typically grant funded. It is very difficult to fund positions with variable grant funds. The County needs fire hand crews in the Operations Division.</p>		
<b>Applicable Hazards</b>		
<b><u>Significant</u></b>	<b><u>Moderate</u></b>	<b><u>Limited</u></b>
<input type="checkbox"/> Flooding (including coastal surge) <input checked="" type="checkbox"/> Wildfire <input type="checkbox"/> Agriculture (pests and disease) <input type="checkbox"/> Earthquake	<input type="checkbox"/> Landslide / Coastal Erosion	<input type="checkbox"/> Dam Failure <input type="checkbox"/> Tsunami
<p><b>Existing and Potential Resources:</b> General Fund, DHS-Firefighter Assistance Grants, Additional staff resources to seek funding sources</p>		
<p><b>Responsible Department:</b> County Fire Department</p>		
<p><b>Target Completion Date:</b> Ongoing.</p>		
<p><b>Additional Comments / Status Report:</b> A crew was created and staffed starting in 2005. The current budget doesn't provide funding for this program, although it remains a high priority to reinstate.</p>		

**Mitigation Action # 2011- 18**

Deferred DF-1 from 2004

**Project Description: Incorporate Dam inundation Area “Information Only” Layer in FEMA DFIRM Map Modernization Initiative** – As noted in Action FLD-2, the County will increase participation in FEMA’s floodplain re-mapping initiative. The basis for a sound floodplain management program is the quality of the risk information upon which development decisions are made. The FEMA FIRMs are the best available depiction of overall flooding risk in the County and the primary tool that citizens and businesses use to make development decisions in flood prone areas. FEMA’s flood map modernization initiative is focused on producing seamless digital flood maps on a countywide basis nationwide. The digital maps will provide a platform from which updated flood data (hydrologic, topographic and hydraulic analysis and coastal storm surge modeling) can be added at a fraction of the cost and time previously required. FEMA Region IX has begun a process of scoping mapping needs in Santa Barbara County. The County will seek an increased role in the remapping process via a Cooperating Technical Partnership (CTP) agreement with FEMA to ensure the accuracy and quality of new countywide mapping. As part of that role, the County will encourage the inclusion of Dam Failure inundation mapping as an “information only” layer on the new DFIRMs.

- Establish meeting with FEMA Region IX and Cal EMA
- Obtain conceptual support from FEMA and Cal EMA for including informational Dam Inundation Layer
- Work with FEMA contractor to incorporate inundation layer through CTP agreement with FEMA

*Public Works – Flood Control and Water Conservation District*

**Mitigation Action # 2011- 19**

Deferred FLD-23 from 2004

**Project Description: Construct Storm Drainage Improvements at Toro Canyon Park** - Large canyon drains to an undersized culvert under Toro Canyon Park Road resulting in silt and debris over road and erosion of the road embankment on the outlet side of the pipe. Public Assistance money has been paid in previous disasters to make the road passable. The County will replace the culvert with one of adequate size to pass the 100-year event.

- Identify funding
- Hire Engineering firm to perform watershed analysis, design and permit the project
- Replace Culvert

Cost is estimated to be approximately \$100,000 and is expected to reach that amount for debris and roadway clearing in only a few events.

*Santa Barbara County Parks*

<b>Mitigation Action # 2011- 20</b>	Deferred FLD-24 from 2004
<p><b>Project Description: Tucker’s Grove Park Interior Access Road Creek Crossing Improvements</b> Existing “Arizona Crossing” and associated low flow culverts silt in storm events and cause erosion of the road embankment on the upstream and down stream sides of the crossing and dangerous flooding conditions on the roadway. The County will remove the crossing and replace it with a bridge for pedestrian and vehicle access. This will avoid repeat damage, facilitate fish passage and improve safety conditions.</p> <ul style="list-style-type: none"><li>• Identify Funding</li><li>• Hire Engineering firm to design and permit protection</li><li>• Construct bridge</li></ul> <p>Cost is estimated to be approximately \$300,000. It is anticipated that more than this will be avoided in future repairs.</p> <p><i>Santa Barbara County Parks</i></p>	

<b>Mitigation Action # 2011- 21</b>	Deferred FLD-26 from 2004
<p><b>Project Description: Cachuma Lake Mohawk Trail Bridge and Dock Abutment Rehabilitation and Access Improvements</b> – During a 2001 flooding event this pedestrian bridge over Tequepis Creek was undermined, eliminating access for public fishing area and floating dock. The County will design and repair the bridge to endure wave action and move the trail to a safer area and re-establish land connection to floating dock.</p> <p>Design is in place, identify funding and construct project</p> <p>Cost is estimated at approximately \$100,000.</p> <p><i>Santa Barbara County Parks</i></p>	

**Mitigation Action # 2011- 22**

Deferred FLD-27 from 2004

**Project Description: Cachuma Lake Mohawk Camping Area Bridge Abutment Protection** – Traffic bridge over Tequepis Creek to Mohawk Camping Area experiences scour at its abutments during high creek flows, threatening the integrity of the bridge abutments. The County will reinforce the bridge and protect the abutments with rip-rap or similar material.

- Hire Engineering firm to design and permit protection
- Construct improvements

Cost is estimated to be approximately \$200,000. B/C Unknown. Not implementing will result in erosion of the abutment, which could lead to bridge failure. Bridge replacement estimated at \$500,000.

*Santa Barbara County Parks*

**Mitigation Action # 2011- 23**

Deferred FLD-31 from 2004

**Project Description: Enhancements to Annual Culvert Inspection Program to Include Mitigation Strategies** – SBCO Public Works, Transportation Division currently implements an annual culvert inspection program to monitor structural condition, debris clogging, and general conveyance. Culverts within the unincorporated county are inventoried with GPS coordinates and mapped as a GIS layer. Attributes currently include type of culvert, size, diameter, length, inspection date, condition, and replacement recommendations when applicable. The Transportation Division will work with Flood Control to continuously update the inventory and add flood carrying capacity of the culverts to the attributes inventoried. This will allow the development of a systematic replacement program that will include consideration of flood loss reduction.

As part of the ongoing annual inspection program, the size (length, volume, condition, etc.) have been collected and inventoried in a GIS environment. This survey and data collection program allows for the budgeting of repairs and replacements. To enhance the existing program, the two divisions will work together to implement the following steps:

- From the existing size inventory, work with Flood Control to determine the ability of key culverts to pass the 100-year design event.
- Capture findings as a GIS attribute associated with the mapped points
- Produce a brief implementation plan to ensure that attribute database will remain updated as part of the overall GIS system in the County.

*Public Works Department – Transportation, Flood Control*

<b>Mitigation Action # 2011- 24</b>	Deferred FLD-35 from 2004
<b>Project Description:</b> University Circle Open Spaces Berkeley Bike/Pedestrian Bridge Removal and Replacement – Pedestrian/bike bridge is not capable of passing significant storm events, resulting in upstream backwater flooding. This could cause the bridge to fail, and causes access problems across the creek in that area, which is heavily traveled by County residents. The County will replace the bridge with one capable of passing 100 year flows. <ul style="list-style-type: none"><li>• Identify funding</li><li>• Hire Engineering firm to design and permit protection</li><li>• Construct bridge</li></ul> <p>Cost is estimated to be approximately \$120,000 and is expected to save more than that amount in avoided future damages.</p> <p><i>Santa Barbara County Parks</i></p>	

<b>Mitigation Action # 2011- 25</b>	Deferred FLD-36 from 2004
<b>Project Description:</b> Jalama Beach Park Waterline Protection – Well and primary water supply line to park crosses private properties. Erosion of ranch roads during storms, (e.g. 1998) have undermined and exposed the water line, threatening service and potentially costly repairs. The County will mitigate repeat damage by installing drainage improvements on the roadways in the areas of the line crossing. <ul style="list-style-type: none"><li>• Complete in house design</li><li>• Construct improvements</li></ul> <p>Cost is estimated to be \$50,000 and is expected to save more than that amount via avoided damages.</p> <p><i>Santa Barbara County Parks</i></p>	

<b>Mitigation Action # 2011- 26</b>	Deferred FLD-37 from 2004
<b>Project Description: Live Oak Camp Access Road Protection</b> – Access road to camp is adjacent to the bank of the Santa Ynez River. Relocation is not a feasible alternative due to topography. During high stream flows, erosion is occurring in the road embankment. The County will install gabion retaining walls and erosion control systems along a 200 foot reach to protect from erosion. <ul style="list-style-type: none"><li>• Complete in house design and obtain permits</li><li>• Identify funding</li><li>• Construct project</li></ul> Cost is estimated to be approximately \$300,000. <i>Santa Barbara County Parks</i>	

<b>Mitigation Action # 2011- 27</b>	Deferred FLD-44 from 2004
<b>Project Description: Bridge Scour Abatement Program</b> - Explore strategies to determine cost-effective solutions to recognized geologic erosion hazards (especially scour) affecting County-maintained bridge structures. The County has a unique topographic and climatic setting that leads to relatively large amounts of water flow and materials to be transported over a relatively short distance to the ocean. Due to constricting of creek channels, decreased infiltration rates, and increased run-off from cultivated areas as well as urban development, creek channels are incised and continue to degrade. This increases the local and long term scour at several bridges throughout the County (see subsection 4.3.5.1).  The County will conduct initial investigations to determine appropriate long term solutions to prevent substantial scour damage and eventual structural failure. Phase II of the project would be to seek funding to design and construct scour mitigation projects.  <i>Public Works Department - Transportation</i>	

<b>Mitigation Action # 2011- 28</b>	Deferred FLD-45 from 2004
<b>Project Description: Investigation of Low Capacity Bridges to Determine Appropriate Long-Term Solutions</b> – A few bridges throughout the County (see 4.3.1.1. for representative sample) do not have the capacity to pass storms of very low recurrence intervals (less than 25-year) causing backwater flooding and potential damage to the structures, commerce, transportation and agricultural lands.	
Explore strategies to determine cost-effective solutions to mitigate flooding from low capacity bridges. Initial strategy will be for feasibility studies to determine the most beneficial course of action to remedy the observed lack of capacity to handle very low recurrence events and increase the capacity of these bridges to pass a 100-year storm event. Phase II will be to seek funding through grant application to design and construct permanent solutions.	
<i>Public Works Department - Transportation</i>	

<b>Mitigation Action # 2011- 29</b>	Deferred LSD/CE-5 from 2004
<b>Project Description: Goleta Beach Park Embankment Protection for Park Maintenance Facilities</b> High flows are eroding creek banks and threaten facilities adjacent to the Goleta Slough. Current top of bank is within three feet of facilities. Facilities are used for ranger residences and park maintenance storage facilities. Evaluate alternative means to protect the facilities either through hard structures or other means and proceed to construction.	
<ul style="list-style-type: none"><li>• Identify funding</li><li>• Hire Engineering firm to design and permit protection</li><li>• Construct protection along approximately 300 linear feet.</li></ul>	
Cost is at \$300,000 based on similar past projects. Damage to facilities is expected to significantly exceed that amount if left unmitigated.	
<i>Santa Barbara County Parks</i> - The project is in our CIP on page B-91 as Goleta Slough Slope Protection to distinguish it from any of the GB 2.0 work.	

**Mitigation Action # 2011- 30**

Deferred LSD/CE-7 from 2004

**Project Description: Wallace Avenue Bluff Re-Vegetation and Stabilization** – Bluff is eroding during coastal storms and heavy rain events, threatening the public beach access parking lot on the top of the bluff. Portions of the parking lot have already been lost to previous storm events. The County would like to stabilize the bluff by re-vegetation and relocation inland of the parking lot away from the bluff. Preliminary design has been completed.

Identify funding, construct retaining wall, relocate parking lot and re-vegetate the bluff.

Cost is estimated to be \$650,000, of which \$150,000 is currently budgeted from residual income from a dissolved community services district. Bluff failure would likely cause losses to the parking lot that would exceed the cost of the project and would present a serious public safety hazard.

*Santa Barbara County Parks*

**Mitigation Action # 2011- 31**

Deferred LSD/WDF-8 from 2004

**Project Description: Mountainous Road Rockfall Hazard Geotechnical Surveys** - Several mountainous roads within the unincorporated area are frequently used local access roads that serve residential and commercial needs, as well as providing important routes for emergency service vehicles for fire access and other hazard mitigation/response uses. Due to the highly fractured nature of the geologic materials, and the near vertical slope face, these are areas of reoccurring slope instability, with long stretches of road actively subject to movement. In particular, Gibraltar Road, Stagecoach Road, and Painted Cave Road have been identified as highly hazardous areas. There is a history of occasional damage to public property, and endangerment of the traveling public.

In order to better evaluate the problem, the County will undertake Geotechnical Survey of Slope Stability of pre-defined roadway segments in order to determine extent of instability, and appropriate long-term solutions. Phase II of this project would implement analysis and findings into a design plan for a permanent fix, and enable the construction phase.

*Public Works Department - Transportation*

**Mitigation Action # 2011- 32**

**Project Description: Guadalupe Dunes Park Entrance Road**

This road was washed out due to the 2011 March Storm and has been approved as a “disaster location” by Gov. Brown’s Emergency Declaration to FEMA. As of June 14, 2011 DHS/FEMA has not approved any of California a disaster area.

Floodwaters washed out over 3,250 LF X 22’ Wide roadway that was alongside of the Santa Maria River that went to the Guadalupe Dunes Parking area. The County would request approximately \$450,000 for the roadway to be restored using Type A Asphalt (approx. 1,265 tons) after the SunGard (approx. 91,500 SF including shoulders) were repairs and after installation of 6” of class 2 Baserock (approx. 2,558 tons) was added for the Class A asphalt. Additionally, install baserock shoulder backing @ 3” wide. Cost for roadway \$500 - \$650,000.

*Santa Barbara County Parks*

**Mitigation Action # 2011- 33**

**Project Description: Santa Barbara Bowl – Service Road Improvements (N. End Drive – Service Road off of Newton Rd) Entrance**

This project will take place at the Newton Road extension (Santa Barbara County Bowl, “Bowl”) located at the northern section of the Bowl. Flooding, rains, and freezes have nearly destroyed this roadway facility and the local drainage attached to the road. Scope of Work will be R&R approximately 763 LF of AC, clean up and haul broken AC debris, but hill along narrow point of road to create a 16’ width, (currently at 8’ to 10’ in width’)scarily, grade and compact subgrade with sheep foot roller and install 6” class II road base, grade and compact (16’ wide) Install 3” new hot asphalt 16” wide, compact and roll finish smooth and install 260 LF and asphalt berm for drainage. The current roadway is not suitable for emergency vehicles which would get stuck in a fire emergency or evacuation. Currently the only suitable fire access is at 1122N. Milpas Street. Cost , including design, project admin, CE, survey, \$100,000.

*Santa Barbara County Public Works – Administration Project Manager*

<b>Mitigation Action # 2011- 34</b>	Deferred FLD-39 from 2004
<b>Project Description:</b> <b>Toro Canyon Park Gazebo Access Road Drainage</b> – Dirt road lacks adequate drainage and is severely eroded in flooding events. The County will construct drainage facilities including water bars and drainage culverts to prevent future erosion and continuous repair.	
Identify funding, conduct in house design and construct drainage project.	
Cost is estimated to be \$300,000 for an area of approximately ¾ of a mile. Previous damage and repairs have been in the \$50-60 thousand range per event.	
<i>Santa Barbara County Parks</i>	

<b>Mitigation Action # 2011- 35</b>	Deferred FLD-42 from 2004
<b>Project Description:</b> <b>Obtain National Weather Service “Storm Ready” Designation</b>	
<ul style="list-style-type: none"><li>• Arrange meeting of FMPC and National Weather Service to review criteria for designation against the programs and actions outlined in this plan</li></ul>	
<i>Public Works and County OEM</i>	

<b>Mitigation Action # 2011- 36</b>	Deferred LSD/WDF-9 from 2004
<b>Project Description:</b> <b>Jalama Road Geotechnical Survey of Slope Stability</b> - Several sections of roadway along this road is showing evidence of continuing failure. This road is the only access point for the Jalama Beach County Park, for several residences, and for nearby farming and ranching operations. This area was severely damaged in the 1995 and 1998 declared disaster storm events. During the summer of 2004 this area experienced significant wildfire activity, demonstrating its need for continued access for fire suppression vehicles. Several areas are in need of stabilization in order to prevent a larger failure during an intense storm event. Such an event could cause a lengthy road closure, adversely impact the public health and safety, and have negative impacts on the local commerce and economy.	
In order to better evaluate the problem, the County will undertake Geotechnical Survey of Slope Stability of pre-defined roadway segments in order to determine extent of instability, and appropriate long-term solutions. Phase II of this project would implement analysis and findings into a design plan for a permanent fix, and enable the construction phase.	
<i>Public Works Department - Transportation</i>	

**Mitigation Action # 2011- 37**

**Project Description:**                    **Relocate the Hearts Adaptive Riding Center** - The Closed Foothill Landfill is a receiver site for Flood Control maintenance activities in the Goleta Slough. In the case of an emergency, the site may also become a receiver site for soil debris from other Flood Control or road maintenance activities (e.g. landslide debris). Relocate the Hearts Adaptive Riding Center currently on the land somewhere else where this riding club may still be active and the county may carry out debris plans at location

*Resource Recovery Division of Public Works*

**Mitigation Action # 2011- 38**

Deferred LSD-1 from 2004

**Project Description:**    **Geotechnical Engineered Solution of Slope Failure on Glen Annie Road (South County)** - Increased erosion of the creek slope has eroded away the shoulder and support as well as a portion of the roadway for Glen Annie Road. Road width has been diminished, as to only allow one travel lane, with alternating traffic. This road is the only access point for the Goleta Water District water treatment plant at the north end of Glen Annie Road. This sole access way is used to transport water treatment chemicals necessary to the continuous operations of the treatment plant, which serves over 80,000 people in the Goleta and Santa Barbara City and County Area.

Based on developed Engineering Design Plans and Specifications, the County will seek to construct a permanent solution to this ever-increasing problem (most likely a mid slope retaining wall as identified as a feasible alternative in the design plans).

The engineer's Estimate for this project is approximately \$100,000.00, and provides an extremely good Benefit vs. Cost estimate. Should the road be further damaged, the water treatment plant would be inaccessible and would drastically affect water quality and availability to the Goleta and Santa Barbara area. Initial grant applications will be to secure funding for construction in accordance with the design and specs.

*Public Works Department - Transportation*

**Mitigation Action # 2011- 39**

Deferred FLD-29 from 2004

**Project Description: Cachuma Lake Recreational Area Public Access Ramp Protection** - With increased water surface elevations (3') associated with flood retention, combined with storm waves, access to boat mooring area is inundated, precluding public access during the period of inundation. Period of inundation could be up to five months. The County will install a construction retaining wall to relocate access way to higher area.

- Hire Engineering firm to design and permit protection
- Identify funding
- Construct project

Cost is estimated to be approximately \$300,000.

*Santa Barbara County Parks*

**Mitigation Action # 2011- 40**

Deferred FLD-28 from 2004

**Project Description: Cachuma Lake Water Treatment Plant Relocation** – In addition to water supply, Lake Cachuma is used for flood retention. Lake surcharges will be increased by 3 feet to allow spring release for steelhead salmon spawning season. The County will relocate the existing water treatment plant and two sewer lift stations to address increased flooding levels, which when combined with storm waves on the lake will threaten existing facilities with erosion, inundation, loss of water services, and potential sewerage spills into the lake. Relocation will be to an area outside of the inundation zone.

- Lift Station relocation has been designed and preliminary designs for the water treatment facility are in place
- Complete final designs
- Receive permits
- Construct

Cost to relocate lift stations is estimated to be \$1,000,000 for both lift stations and approximately \$3,000,000 for the treatment plant. \$200,000 funding for the lift station relocation is currently budgeted. Not implementing could result in loss of facilities due to flooding. The utilities serve residences as well as public facilities.

*Santa Barbara County Parks*

<b>Mitigation Action # 2011- 41</b>	Deferred GEN-4 from 2004
<b>Project Description:      Develop a Debris Management Plan for All Hazards:</b> All of the hazards identified throughout this plan could pose a serious need for processing of debris in a post-disaster environment. The County is lacking a comprehensive all hazards debris management plan.	
<ul style="list-style-type: none"><li>• Form small working group to evaluate existing solid waste capacity and post-disaster debris management actions</li><li>• Model anticipated debris from different event scenarios</li><li>• Write and seek public approval for a comprehensive all-hazard debris management plan</li></ul>	
<i>Public Works – Resource Recovery and Waste Management Division, in consultation with Planning &amp; Development environmental staff.</i>	

<b>Mitigation Action # 2011- 42</b>	Deferred LSD/CE-6 from 2004
<b>Project Description:      Goleta Beach Park Pier Abutment Protection</b> – Where pier connects to land, high storm waves erode the sandy beach area exposing abutments and threatening failure. The County will place revetment around threatened piers. Design will be completed in-house.	
Design project in house, identify funding, seek permits and construct project	
Cost is estimated to be \$75,000. Should the abutments become entirely eroded and the pier fail the cost would significantly exceed this amount and threaten public safety.	
<i>Santa Barbara County Parks</i>	

<b>Mitigation Action # 2011- 43</b>	Deferred WDF-2 from 2004
<b>Project Description: Enhance Fire Weather Forecasting Program</b> – The current fire weather program is based on the U.S. Forest Service system, which includes only 4 remote automated weather stations throughout the county. The stations are in areas that are not representative of the micro-climates that exist within the county. A larger and better network would allow the county to focus fire prevention efforts from year to year in the most accurate and threatened locations.	
<ul style="list-style-type: none"><li>• Acquire 7 permanent and 4 portable automated fire weather stations</li><li>• Site the stations at optimum locations throughout the County, with the flexibility of moving the portables on an annual basis.</li></ul>	
Cost is anticipated to be approximately \$190,000 for 11 new stations and a budget of approximately \$12,000 per year for maintenance will be needed. With more accurate forecasting, limited resources could be applied to more targeted locations for prevention and operational activities resulting in significant cost savings and likely losses avoided due to prevention activities.	
<i>County Fire</i>	

<b>Mitigation Action # 2011- 44</b>	Deferred WDF-7 from 2004
<b>Project Description: Firewise Community Planning and Prevention Techniques Training</b> – Outside of the County Fire Department, there is more of an emphasis on fire suppression than on activities individual property owners can undertake to prevent fires from destroying their buildings. The National Fire Protection Association’s (NFPA) Firewise Communities program provides training to local government officials (including planners outside of fire agencies) on fire mitigation at the site specific level. While most of the training includes action on the behalf of property owners that are already required or recommended, those actions may not be familiar to many owners and local government officials.	
<ul style="list-style-type: none"><li>• Contact the National Fire Protection Association about opportunities to participate in its Firewise Communities training program.</li><li>• Identify funding to train not only Fire Department staff and Forrest Managers, but planning and environmental staff as well, including the 8 Cities</li><li>• Distribute invitations to citizens living in Extremely High threat areas</li><li>• Rotate training around county</li></ul>	
<i>County Fire</i>	