



APPENDIX A: PLANNING PROCESS

Last Name	First Name	Agency	Address	Phone	E-mail
Western Hazard Mitigation Planning Committee members					
Woodford	David	City of Colfax	P.O. Box 702, Colfax, CA	530-346.-2313	salexander@foothill.net
Wight	Don	Nevada Irrigation District	1036 West Main, Grass Valley	530-273-6185	wight@nid.dst.ca.us
Markey	Larry	Nevada Irrigation District	"	"	markey@nidwater.com
Fragiao	Bob	Town of Loomis	6140 Horseback, Loomis		bfragiao@loomis.ca.gov
Neishi	Darren	Town of Loomis		916-652.-1840	dneishi@loomis.ca.gov
Ward	Rick	CA Highway Patrol (Newcastle)	6140 Indian Hill, Newcastle	916-663-3344	rward@chp.ca.gov
Leftwich	Ray	City of Lincoln (Public Works)	600 6th St., Lincoln	916-434-2400	rleftwich@ci.lincoln.ca.us
Nockles- Lockwood	Marianne	City of Lincoln (Public Works)	"	916-434-2470	mlockwood@ci.lincoln.ca.us
Norton	Amanda	City of Lincoln (Public Works)	"	916-434-2470	anorton@ci.lincoln.ca.us
Rivers	Tony	City of Lincoln (Public Works)	"	916-434-2450	trivers@ci.lincoln.ca.us
Whitt	Dave	City of Lincoln (Fire Dept)	126 Joiner Parkway, Lincoln, CA 95648	916.-645-4040	dwhitt@ci.lincoln.ca.us
Brown	Chris	PC CDRA (GIS)		530-745-3071	cbrown@placer.ca.gov
Berger	Kelly	PC CDRA (GIS)		530-745-3083	kberger@placer.ca.gov
Keating	Brian	PC Flood Control District	3091 County Center Dr., Auburn, CA		bkeating@placer.ca.gov
Darrow	Andrew	PC Flood Control District	"	530-745-7541	adarrows@placer.ca.gov
Fortner	Janelle	PC CDRA Eng & Surveying	"	530-745-7568	jfortner@placer.ca.gov
Harris	Mike	PC CDRA Building		530.-745-3052	mharris@placer.ca.gov
Toms	Rhiannon	PC Assessor		530-889-4300	rtoms@placer.ca.gov
D'Ambrogi	Mark	City of Auburn (Fire Dept)	1225 Lincoln Way, Auburn, CA	530.-823-4211	mdambrogi@auburn.ca.gov
Gow	Ian	Placer Hills Fire Protection Dist.	P.O. Box 350, Meadow Vista, CA	530-878-0405	iangow@usamedia.tv
Newcomb	Bryant	PCWA	P.O. Box 6520, Auburn, CA	530-823.-4957	bnewcomb@pcwa.net

Last Name	First Name	Agency	Address	Phone	E-mail
Alves	George	Placer County (CWPP)	630 Fulweiler Rd, Auburn, CA	916-408-2775	galves.pcs@earthlink.net
Dowling	Luana	Foresthill Fire Dept	P.O. Box 1099, Foresthill, CA	530-367-2465	ldowling@foresthillfiredept.org
Reed	Kurt	Foresthill PUD	P.O. Box 1056, Foresthill, CA 95631	530-367-2511	kreed@foresthillpud.com
Hanson	Chris	PC Environmental Engineering	11476 "C" Avenue, Auburn, CA	530-886.-4965	chanson@placer.ca.gov
Corado	Tony	South Placer Fire	6900 Eureka Rd, Granite Bay, CA 95746	916-791-7059	tcorado@southplacerfire.org
Richardson	Bob	South Placer Fire	"		brichardson@southplacerfire.org
Shelton	John	City of Rocklin (Fire Dept)	4060 Rocklin Rd, Rocklin, CA 95677	916-625-5300	john.shelton@rocklin.ca.us
Booth	George	(Public - reside in Sac Co)			gboothge@saccounty.net
Eicher	Jim	Bureau of Land Mgt (Folsom)	63 Natomas St, Folsom, CA 96762	916.-985-4474	jeicher@ca.blm.gov
Huntsinger	Joshua	PC Agricultural Commission		530-889.-7374	jhuntsin@placer.ca.gov
Taber	Kevin	DPW Road Maintenance		530.-745-7595	ktaber@placer.ca.gov
Lake	Ken	PC Office of Education	"	530-745-1333	klake@placercoe.k12.ca.us
Berry	Kris	(PC) LAFCO		530-889-4097	kberry@placer.ca.gov
Walburn	Marc	USFS - Tahoe National Forest	20540 Foresthill Rd, Foresthill, CA 95631	530-367-2224	mwalburn@fs.fed.us
					admin@mhcwd.org
Borden	Kevin	PCSO	2929 Richardson Dr., Auburn, CA	530-889-7803	kborden@placer.ca.gov
Owens	Dana	CA EMA	3650 Schaefer	845-8482	dana.owens@oes.ca.gov
Allen	Jody	South Placer M.U.D	PO Box 45, Loomis, CA	871-3008	jallen@spmud.ca.gov
Warmerdam	Pete	CHP - Auburn	9440 Indian Hill, Newcastle, CA	916-663-3346	rward@chp.ca.gov
MacDonald	Bob	NID	1036 W Main St, Grass Valley	530-273-6185	
Van Dyke	Darrin	ARD	123 Recreation	503-308-8769	
Milligan	Doug	CHP	9440 Indian Hill, Newcastle, CA	916-663-3346	dmilligan@chp.ca.gov
Martino	Bob	Placer County Building Department	3091 County Center Dr. #160, Auburn	630-745-3032	dmartino@placer.ca.gov

Last Name	First Name	Agency	Address	Phone	E-mail
Morse	Elizabeth	National Weather Service	3310 El Camino #228, Sacramento	916-979-3041	elizabeth.morse@noaa.gov
Lee	Lawrence	Sierra Joint Community College	5000 Rocklin Rd, Rocklin	916-781-7185	llee@sierracollege.edu
Tiffany	Jason	Midway Height CWD	PO Box 596	530-878-8096	admin@mhcwd.org
Fisher	Andy	Placer County Parks	11476 C Ave, Auburn	530-889-6819	afisher@placer.ca.gov
Olson	R.	ROA Consultants	Folsom	916-989-6201	roa1@comcast.net
Osburn	Julie	North Tahoe Fire Protection District	Box 5879, Tahoe City	530-583-6911	osburn@ntfire.net

Eastern Hazard Mitigation Planning Committee members

Bryant	Bob	Tahoe City PUD		530-583-3796 X13	
Marrow	Steven	Tahoe City PUD		530-583-3796	smarrow@tcpud.org
Rivera	Todd	Tahoe Truckee Unified School Dist	11839 Donner Pass Rd, Truckee, CA 96161	530-582-2541	trivera@ttusd.org
Britto	John	"	"	530-582-2545	jbritto@ttusd.org
McGraw	Jesse	Squaw Valley Public Service Dist	Box 2026, Olympic Valley, CA 96146	530-583-4692	jmcgraw@svpsd.org
Simons	Steve	North Tahoe Fire Protection Dist	P.O. Box 5879, Tahoe City, CA 96145	530-583-6911	simons@ntfire.net
Thomas	Chuck	Truckee Fire Dept.	10049 Donner Pass Rd, Truckee, CA	530-582-7853	crthomas@sbcglobal.net
Collins	John	Alpine Springs Water Dist	PO Box 1879, Tahoe City, CA 96145	530-583-2343	john@alpinesprings.org
Shadowens	Mark	Northstar Fire/Community Svcs Dist	910 Northstar Dr, Truckee, CA 96161	530-562-1212	mshadowens@northstarfire31.com
Schegg	Lee	North Tahoe PUD			lschegg@ntpod.org

**LOCAL HAZARD MITIGATION PLAN
DATA COLLECTION GUIDE**

For

**PLACER COUNTY
HAZARD MITIGATION PLANNING COMMITTEE (HMPC)**

Prepared by

AMEC Earth and Environmental, Inc.

August 2007

OVERVIEW

The contents of this workbook have been designed to assist Placer County in collecting necessary background information to support the hazard mitigation planning process pursuant to the Federal Disaster Mitigation Act (DMA) of 2000. This includes a hazard identification and vulnerability assessment, an assessment of Placer County's current hazard mitigation capabilities, and an identification of potential mitigation projects that, if undertaken, could prevent or reduce future losses.

The essential information needed to support the planning process includes background information about Placer County; plans, technical studies, and data related to hazards and risks; current governing codes, ordinances, regulations, and procedures whose intent is to minimize future losses; and an assessment of Placer County's technical and organizational capabilities to perform hazard mitigation/loss prevention functions. It is important that the plan shows what Placer County is doing now to limit future disaster losses.

The planning process is heavily dependent on existing data to be supplied by each of the participants represented on the Hazard Mitigation Planning Committee (HMPC). The DMA plan development process does not require the development of new data, but requires *existing data only*.

The goal of this process is to produce a hazard mitigation plan that meets Placer County's needs, as well as the requirements of DMA 2000 and that contains a list of projects that may be eligible for streamlined federal mitigation funding pre or post disaster.

PARTICIPATION

The DMA planning regulations and guidance stress that each entity seeking the required FEMA approval of their mitigation plan must:

- Participate in the process;
- Detail areas within the planning area where the risk differs from that facing the entire area;
- Identify specific projects to be eligible for funding; and
- Have the governing board formally adopt the plan.

For HMPC members, 'participation' means the planning committee representatives will:

- Attend and participate in HMPC meetings;
- Provide available data that is requested of the HMPC coordinator;
- Review and provide/coordinate comments on the draft plans;
- Advertise, coordinate and participate in the public input process; and
- Coordinate the formal adoption of the plan by the governing board.

DATA COLLECTION GUIDE

This guide contains an explanation of the types of hazard mitigation/loss prevention data that is needed for the hazard mitigation planning process. This guide identifies specific requirements for the Risk Assessment Process, which includes the Hazard Identification, Vulnerability, and Capability Assessments as well as defines requirements for development of the Mitigation Strategy.

The worksheets have been developed to assist with the data collection. These need to be completed by each person participating on the HMPC and will serve two purposes:

- 1) They will help facilitate the collection of the necessary information, and
- 2) They will function as evidence of “participation” in the planning process.

The Risk Assessment Process

The risk assessment process includes three components: 1) Hazard Identification; 2) Vulnerability Assessment; and 3) Capability Assessment. Data needs and worksheets for each of the risk assessment components are included in the following pages.

**Placer County Local Hazard Mitigation Plan
WORKSHEET #1: HAZARD IDENTIFICATION**

Name of Department/Jurisdiction: _____

Use this worksheet to identify possible hazards that may impact your jurisdiction. Please rank according to the guidelines that follow the table. Use the Hazard Event Worksheet #2 to provide evidence to justify your conclusions.

Hazard	Frequency of Occurrence	Spatial Extent	Potential Magnitude	Significance	Hazard Map? (paper/GIS/ source)
Agricultural					
Avalanche					
Dam Failure					
Drought					
Earthquake					
Extreme Temperatures					
Flood 100-year					
Flood Stormwater					
Fog					
Health Hazards West Nile Virus					
Health Hazards West Nile Virus					
Heavy Rains/ Storms/Wind/ Lightning					
Landslide					
Soil Hazards: Erosion					
Soil Hazards: Expansive					
Tornado					
Winter Storms					
Wildfire					
Volcano					

Guidelines

Frequency of Occurrence:

Highly Likely: Near 100 percent probability in next year.
Likely: Between 10 and 100 percent probability in next year or at least one chance in ten years.
Occasional: Between 1 and 10 percent probability in next year or at least one chance in next 100 years.
Unlikely: Less than 1 percent probability in next 100 years.

Potential Magnitude

Catastrophic: More than 50 percent of area affected
Critical: 25 to 50 percent
Limited: 10 to 25 percent
Negligible: Less than 10 percent

Spatial Extent

Limited: Less than 10 percent of planning area
Significant: 10-50 percent of planning area
Extensive: 50-100 percent of planning area

Significance (your subjective opinion)

Low, Medium, High

Prepared by:

Phone:

Email:

**Placer County Local Hazard Mitigation Plan
WORKSHEET #2: HISTORIC HAZARD EVENT**

Name of Department/Jurisdiction: _____

Please fill out one sheet for each significant hazard event with as much detail as possible. Attach supporting documentation, photocopies of newspaper articles, or other original sources.

Type of event	
Nature and magnitude of event	
Location	
Date of event	
Injuries	
Deaths	
Property damage	
Infrastructure damage	
Crop damage	
Business/economic impacts	
Road/school/other closures	
Other damage	
Insured losses	
Federal/state disaster relief funding	
Opinion on likelihood of occurring again	
Source of information	
Comments	

Prepared by: _____

Phone: _____

Email: _____

Date: _____

Please return worksheets by mail, email, or fax to:

Jeanine Foster, AMEC Earth & Environmental

355 S. Teller St, Suite 300

Lakewood, CO 80226

**Placer County Local Hazard Mitigation Plan
WORKSHEET #3: VULNERABILITY ASSESSMENT**

Name of Department/Jurisdiction: _____

The purpose of this worksheet is to assess the vulnerable buildings, populations, critical facilities, infrastructure, and other important assets in your community by using the best available data to complete the table and questions that follow. Use the table on the next page to compile a detailed inventory of specific assets at risk including critical facilities and infrastructure; natural, cultural, and historical assets; and economic assets as defined below. These may include hospitals, fire stations, or historic buildings. Attach supporting documentation, such as photographs, reports, or plans if possible. In the hazard specific column of the asset inventory table, indicate if there is a specific hazard to which the asset is at risk.

Critical Facilities

FEMA generally defines four kinds of critical facilities:

- Structures or facilities that produce, use, or store highly volatile, flammable, explosive, toxic, and/or water-reactive materials
- Hospitals, nursing homes, and housing likely to have occupants who may not be sufficiently mobile to avoid injury or death during a hazard event
- Police stations, fire stations, vehicle and equipment storage facilities, and emergency operations centers that are needed for emergency response activities before, during, and after a hazard event
- Public and private utility facilities that are vital to maintaining or restoring normal services to hazard areas before, during, and after a hazard event

FEMA’s HAZUS-MH loss estimation software uses the following three categories of critical assets. ‘Essential facilities’ are those that if damaged would have devastating impacts on disaster response and/or recovery. ‘High potential loss facilities’ are those that would have a high loss or impact on the community. Transportation and lifeline facilities are third category of critical assets; examples are provided below.

Essential Facilities	High Potential Loss Facilities	Transportation and Lifeline
<ul style="list-style-type: none"> ▪ Hospitals and other medical facilities ▪ Police stations ▪ Fire station ▪ Emergency Operations Centers 	<ul style="list-style-type: none"> ▪ Power plants ▪ Dams/levees ▪ Military installations ▪ Hazardous material sites ▪ Schools ▪ Shelters ▪ Day care centers ▪ Nursing homes ▪ Main government buildings 	<ul style="list-style-type: none"> ▪ Highways, bridges, and tunnels ▪ Railroads and facilities ▪ Bus facilities ▪ Airports ▪ Water treatment facilities ▪ Natural gas facilities and pipelines ▪ Oil facilities and pipelines ▪ Communications facilities

Natural, Cultural, and Historical Assets

Natural resource assets may include wetlands, threatened and endangered species, or other environmentally sensitive areas. Historical assets include state and federally listed historic sites.

Economic Assets

Economic assets at risk may include major employers or primary economic sectors, such as agriculture, whose losses or inoperability would have severe impacts on the community and its ability to recover from disaster.

Additional Vulnerability Questions

1. Number of flood insurance policies

2. Number of repetitive loss properties

3. Average depth of 100-year floodplain

4. Number of unreinforced masonry buildings

5. Hospitals built before 1973

6. Describe any hazard-related concerns or issues regarding the vulnerability of special needs populations, such as the elderly, disabled, low-income, or migrant farm workers.

7. Describe development trends and expected growth areas and how they relate to hazard areas and vulnerability concerns/issues.

Prepared by: _____

Phone: _____

Email: _____

Date: _____

Please return worksheets by mail, email, or fax to:
Jeanine Foster, AMEC Earth & Environmental

355 S. Teller St, Suite 300

Lakewood, CO 80226

Placer County Local Hazard Mitigation Plan WORKSHEET #4: CAPABILITY ASSESSMENT

Name of Department/Jurisdiction: _____

Capabilities are the programs and policies currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. Please complete this worksheet and provide supporting documentation if possible.

Regulatory

The following planning and land management tools are typically used by local jurisdictions to implement hazard mitigation activities. Please indicate which of the following your jurisdiction has in place. If your jurisdiction does not have this capability or authority, please indicate in the comments column if a higher level of government has the authority. Also use the comments column to indicate how we can obtain a copy of the plan or document (i.e. available on the web, will put on ftp, will email or mail).

Regulatory Tool (ordinances, codes, plans)	Y/N	Comments
General plan		
Zoning ordinance		
Subdivision ordinance		
Growth management ordinance		
Floodplain ordinance		
Other special purpose ordinance (stormwater, steep slope, wildfire)		
Building code		Version:
BCEGS Rating		
Fire department ISO rating		Rating:
Erosion or sediment control program		
Stormwater management program		
Site plan review requirements		
Capital improvements plan		
Economic development plan		
Local emergency operations plan		
Other special plans		
Flood insurance study or other engineering study for streams		
Elevation certificates		
Other		

Administrative/Technical

Identify the technical and personnel resources responsible for activities related to hazard mitigation/loss prevention within your jurisdiction. For smaller jurisdictions without local staff resources, if there are public resources at the next higher level government that can provide technical assistance, please indicate so in the comments column.

Personnel Resources	Yes/No	Department/Position	Comments
Planner/Engineer with knowledge of land development/land management practices			
Engineer/Professional trained in construction practices related to buildings and/or infrastructure			
Planner/Engineer/Scientist with an understanding of natural hazards			
Personnel skilled in GIS			
Full time building official			
Floodplain Manager			
Emergency Manager			
Grant writer			
Other personnel			
GIS Data – Hazard areas			
GIS Data - Critical facilities			
GIS Data – Building footprints			
GIS Data – Land use			
GIS Data – Links to Assessor's data			
Warning Systems/Services (Reverse 9-11, cable override, outdoor warning signals)			
Other			

Fiscal

Identify whether your jurisdiction has access to or is eligible to use the following financial resources for hazard mitigation

Financial Resources	Accessible/Eligible to Use (Y/N)	Comments
Community Development Block Grants		
Capital improvements project funding		
Authority to levy taxes for specific purposes		
Fees for water, sewer, gas, or electric services		
Impact fees for new development		
Incur debt through general obligation bonds		
Incur debt through special tax bonds		
Incur debt through private activities		
Withhold spending in hazard prone areas		
Other		

Additional Capabilities Questions

1. Does your community have any hazard-related certifications, such as Storm Ready certification or Firewise Communities certification?
2. List any past or ongoing public education or information programs, such as for responsible water use, earthquake or fire safety, household preparedness, or environmental education.
3. List any other past or ongoing projects or programs designed to reduce disaster losses. These may include projects to protect critical facilities.

Prepared by: _____

Phone: _____

Email: _____

Date: _____

Please return worksheets by mail, email, or fax to:
Jeanine Foster, AMEC Earth & Environmental

355 S. Teller St, Suite 300

Lakewood, CO 80226

The Mitigation Strategy

One of the planning process' last activities will be for HMPC members to prepare brief descriptions of proposed mitigation projects that would effectively reduce future disaster losses. This section provides guidance on the categories of mitigation measures to be considered and a mitigation project outline with one example projects.

Categories of Mitigation Measures

PREVENTION: Preventive measures are designed to keep the problem from occurring or getting worse. Their objective is to ensure that future development is not exposed to damage and does not increase damage to other properties.

- *Planning*
- *Zoning*
- *Open Space Preservation*
- *Land Development Regulations*
 - *Subdivision regulations*
 - *Building Codes*
 - *Fire-Wise Construction*
 - *Floodplain development regulations*
 - *Geologic Hazard Areas development regulations (for roads too!)*
- *Storm Water Management*
- *Fuels Management, Fire-Breaks*

EMERGENCY SERVICES measures protect people during and after a disaster. A good emergency services program addresses all hazards. Measures include:

- *Warning* (flooding, tornadoes, winter storms, geologic hazards, fire)
 - NOAA Weather Radio
 - Sirens
 - “Reverse 911” (Emergency Notification System)
- *Emergency Response*
 - *Evacuation & Sheltering*
 - *Communications*
 - *Emergency Planning*
 - Activating the EOC (emergency management)
 - Closing streets or bridges (police or public works)
 - Shutting off power to threatened areas (utility company)
 - Holding/releasing children at school (school district)
 - Passing out sand and sandbags (public works)
 - Ordering an evacuation (mayor)
 - Opening emergency shelters (Red Cross)
 - Monitoring water levels (engineering)
 - Security and other protection measures (police)

-
- ***Critical Facilities Protection (Buildings or locations vital to the response and recovery effort, such as police/fire stations, hospitals, sewage treatment plants/lift stations, power substations)***
 - Buildings or locations that, if damaged, would create secondary disasters, such as hazardous materials facilities and nursing homes
 - Lifeline Utilities Protection
 - **Post-Disaster Mitigation**
 - Building Inspections
 - ID mitigation opportunities & funding before reconstruction

PROPERTY PROTECTION: Property protection measures are used to modify buildings subject to damage rather than to keep the hazard away. A community may find these to be inexpensive measures because often they are implemented by or cost-shared with property owners. Many of the measures do not affect the appearance or use of a building, which makes them particularly appropriate for historical sites and landmarks.

- ***Retrofitting/disaster proofing***
 - ***Floods***
 - Wet/Dry floodproofing (barriers, shields, backflow valves)
 - Relocation/Elevation
 - Acquisition
 - Retrofitting
 - ***High Winds/Tornadoes***
 - Safe Rooms
 - Securing roofs and foundations with fasteners and tie-downs
 - Strengthening garage doors and other large openings
 - ***Winter Storms***
 - Immediate snow/ice removal from roofs, tree limbs
 - “Living” snow fences
 - ***Geologic Hazards (Landslides, earthquakes, sinkholes)***
 - Anchoring, bracing, shear walls
 - Dewatering sites, agricultural practices
 - Catch basins
 - ***Drought***
 - Improve water supply (transport/storage/conservation)
 - Remove moisture competitive plants (Tamarisk/Salt Cedar)
 - Water Restrictions/Water Saver Sprinklers/Appliances
 - Grazing on CRP lands (no overgrazing-see Noxious Weeds)
 - Create incentives to consolidate/connect water services
 - Recycled wastewater on golf courses
 - ***Wildfire, Grassfires***
 - Replacing building components with fireproof materials
 - Roofing, screening
 - Create “Defensible Space”
 - Installing spark arrestors

-
- Fuels Modification
 - *Noxious Weeds/Insects*
 - Mowing
 - Spraying
 - Replacement planting
 - Stop overgrazing
 - Introduce natural predators
 - *Insurance*

NATURAL RESOURCE PROTECTION: Natural resource protection activities are generally aimed at preserving (or in some cases restoring) natural areas. In so doing, these activities enable the naturally beneficial functions of floodplains and watersheds to be better realized. These natural and beneficial floodplain functions include the following:

- storage of floodwaters
- absorption of flood energy
- reduction in flood scour
- infiltration that absorbs overland flood flow
- groundwater recharge
- removal/filtering of excess nutrients, pollutants, and sediments from floodwaters
- habitat for flora and fauna
- recreational and aesthetic opportunities

Methods of protecting natural resources include:

- *Wetlands Protection*
- *Riparian Area/Habitat Protection/Threatened-Endangered Species*
- *Erosion & Sediment Control*
- *Best Management Practices*

Best management practices (“BMPs”) are measures that reduce nonpoint source pollutants that enter the waterways. Nonpoint source pollutants come from non-specific locations. Examples of nonpoint source pollutants are lawn fertilizers, pesticides, and other farm chemicals, animal wastes, oils from street surfaces and industrial areas and sediment from agriculture, construction, mining and forestry. These pollutants are washed off the ground’s surface by stormwater and flushed into receiving storm sewers, ditches and streams. BMPs can be implemented during construction and as part of a project’s design to permanently address nonpoint source pollutants. There are three general categories of BMPs:

Avoidance: setting construction projects back from the stream.

Reduction: Preventing runoff that conveys sediment and other water-borne pollutants, such as planting proper vegetation and conservation tillage.

Cleanse: Stopping pollutants after they are en route to a stream, such as using grass drainageways that filter the water and retention and detention basins that let pollutants settle to the bottom before they are drained

- *Dumping Regulations*
- *Set-back regulations/buffers*
- *Fuels Management*
- *Water Use Restrictions*
- *Landscape Management*
- *Weather Modification*

STRUCTURAL PROJECTS have traditionally been used by communities to control flows and water surface elevations. Structural projects keep flood waters away from an area. They are usually designed by engineers and managed or maintained by public works staff. These measures are popular with many because they “stop” flooding problems. However, structural projects have several important shortcomings that need to be kept in mind when considering them for flood hazard mitigation:

- They are expensive, sometimes requiring capital bond issues and/or cost sharing with Federal agencies, such as the U.S. Army Corps of Engineers or the Natural Resources Conservation Service.
- They disturb the land and disrupt natural water flows, often destroying habitats or requiring Environmental Assessments.
- They are built to a certain flood protection level that can be exceeded by a larger flood, causing extensive damage.
- They can create a false sense of security when people protected by a structure believe that no flood can ever reach them.
- They require regular maintenance to ensure that they continue to provide their design protection level.

Structural measures include:

- *Detention/Retention structures*
- *Erosion and Sediment Control*
- *Basins/Low-head Weirs*
- *Channel Modifications*
- *Culvert resizing/replacement/Maintenance*
- *Levees and Floodwalls*
- *Anchoring, grading, debris basins (for landslides)*
- *Fencing (for snow, sand, wind)*
- *Drainage System Maintenance*
- *Reservoirs(for flood control, water storage, recreation, agriculture)*
- *Diversions*

-
- *Storm Sewers*

PUBLIC INFORMATION: A successful hazard mitigation program involves both the public and private sectors. Public information activities advise property owners, renters, businesses, and local officials about hazards and ways to protect people and property from these hazards. These activities can motivate people to take protection

- *Hazard Maps and Data*
- *Outreach Projects* (mailings, media, web, speakers bureau, displays)
- *Library Resources*
- *Real Estate Disclosure*
- *Environmental Education*

Mitigation Action Worksheet

Instructions: Use this guide to record potential mitigation projects (1 page per project) identified during the planning process. Provide as much detail as possible and use additional pages as necessary. These will be collected following HMPC meetings on mitigation goals and measures and included in the plan.

Jurisdiction:

Mitigation Project Title:

Hazards Addressed:

Issue/Background:

Existing Planning Mechanism(s) through which Action Will Be Implemented:

Responsible Office:

Cost Estimate:

Benefits (Losses Avoided):

Potential Funding:

Schedule:

Worksheet Completed by:

Name and Title:

Phone:

Mitigation Action Worksheet - EXAMPLE

Action #12: Elevate Remaining 95 Homes in the Dry Creek Watershed

Issue/Background: Historically, flooding in the Dry Creek watershed has been a major concern. The February 1986 flood caused widespread damage in most of the Dry Creek watershed. Nearly all bridges and culverts were overtopped, with 30 sustaining embankment damages and one crossing washing out; two bridges over Dry Creek were damaged, street cave-ins occurred at a number of locations, and over 125 homes flooded. Of the 145 homes subject to historical flooding within the Watershed, 95 structures remain non-elevated. Of these 95 remaining homes, 25-30 declined initial grant money for elevation as did the three repetitive loss structures. Placer County is not only concerned with existing flooding problems, but with future problems resulting from increased growth and development in the area. According to the 1992 Dry Creek Watershed, Flood Control Plan, substantial flood damages will occur with the 100-year flood under existing conditions. Areas with the most extensive and frequent damages include areas in the location of the 95 homes. The report indicates that some of these areas are susceptible to flooding from storms as frequent as the 10-year storm. Elevating the remaining 95 homes will reduce future flood-related losses.

Other Alternatives: No Action

Responsible Office: Placer County Flood Control and Water Conservation District, in conjunction with its member agencies including the cities of Rocklin, Loomis, and Roseville.

Priority (H, M, L): Medium

Cost Estimate: The cost to elevate is estimated at \$40 per square foot. Homes need to be elevated anywhere from one to six feet. Of the 95 homes where elevating is feasible, it is estimated to cost \$6 million or \$50 to \$60 K per home.

Benefits (Losses Avoided): Life Safety; Reduction in Property Loss.

Potential Funding: HGMP, PDM, Dry Creek Trust Fund

Schedule: Within three years

PLACER COUNTY MULTI-HAZARD MITIGATION PLAN

MITIGATION ACTION STATUS SUMMARY WORKSHEET

Participating agency/organization: _____

Contact representative: _____

Placer County completed its initial Multi-Hazard Mitigation Plan in January 2005. Federal law requires that the plan be reviewed and updated every five years so the County remains eligible for various Federal financial assistance programs. The current plan update project is underway with a target completion date of December 2008. The County is being assisted again by the same planning consultants that helped with the original plan: AMEC Earth & Environmental and Robert Olson Associates.

The 2005 plan contains a total of 74 specific hazard mitigation/loss prevention actions that members of the local Hazard Mitigation Planning Committee (HMPC) defined as important to accomplish. The HMPC was composed of representatives of most county and local agencies, special districts, and some state and local agencies and private firms. The HMPC is being reconstituted to support the plan update process.

The 2009 plan must summarize progress made since the 2005 was approved and adopted. This worksheet is being used to collect information about the status of mitigation actions in the 2005 plan. It can also be used to capture information about other hazard mitigation actions that were recently accomplished but not listed in the original 2005 plan.

Instructions: Please review the attached table of actions and complete the following status summary worksheet for each action that your agency is responsible for. Be sure to include a worksheet description for any other mitigation actions that might have been implemented since the 2005 plan, even though they are not identified on the attached table.

Mitigation Action Status Summary Worksheet

1. Title of project:

Progress to date:

Were any significant barriers or problems encountered?

What aspects made the action effective or successful?

Should the task be changed or revised? What further actions are planned (if any)?

If the action has not been completed, should it be included in the updated plan? If yes, how could it be improved?

Does your agency have a suggestion(s) for a new mitigation action or project for the plan update?

Additional comments or information:

2. [Ditto for as many projects listed for this agency]

Worksheet Completed by:

Name and Title:

Jurisdiction:

Phone:

E-mail:

Date:

Placer County Multi-Hazard Mitigation Plan Update

2005 Plan Mitigation Action List

PLACER COUNTY

Wildfire

Action #1 – Develop a Community Wildfire Prevention Plan (CWPP) for the Western Slope of Placer County.

Action #2 – Maintenance on shaded fuel breaks and demonstration fuel breaks.

Action #3 – Annual Defensible Space Inspections Program in the unincorporated County.

Action #4 – Ongoing County Chipper Program operation funds.

Action #5 – Establish additional Fire Safe Councils on the Western Slope.

Action #6 – Enhance enforcement of county building codes to increase compliance with SB 1369 defensible space and other fire safe requirements in the unincorporated County.

Action #7 – Ensure that all homes in the Placer County foothills have PRC 4290 compliant address signs.

Action #8 – Modify County code (UBC) to require Class A roofing assembly on a countywide basis.

Action #9 – Develop the following GIS layers for emergency services within Placer County: Fire Ignitions layer, Critical Facilities layer, and Fire Hydrants/Water Sources layer.

Action #10 – Develop and fund an enforceable weed abatement ordinance.

Action #11 – Add an exit from eastbound Interstate 80 onto Cape Horn Road for use by emergency vehicles only.

Flood

Action #12 – Elevate remaining 95 homes in the Dry Creek watershed.

Action #13 – Pursue regional detention and retention projects within the Dry Creek and Cross Canal watersheds.

Action #14 – Implementation of identified bridge and culvert replacement projects.

Action #15 – Elevate Highway 89, Lake Tahoe area, in two places.

Action #16 – Upgrade of flood warning system to include additional gage locations and flood forecasting capabilities.

Action #17 – Update hydrology and hydraulic models within the critical Dry Creek and Cross Canal watersheds.

Agricultural

Action #18 – Develop a noxious weed ordinance.

Action #19 – Continue and maintain noxious weed eradication program.

Other

Action #20 – Research, develop, and conduct a multi-hazard, seasonal public awareness/education program that provides citizens and businesses with accurate information describing the risk and vulnerability to natural hazards as well as measures for mitigating the effects of identified risks.

FOREST HILL FIRE DEPARTMENT

Action #1 – Foresthill Biomass Project.

Action #2 – Todd Valley evacuation plan – Foresthill Fire Protection District (FFPD) and cooperative agencies.

Action #3 – Assess and enhance Foresthill Fire Protection District (FFPD) new subdivision, hazard fuels clearing, and maintenance ordinance. Put programs in place with homeowners associations in CC&R's and maintenance contracts.

Action #4 – Todd Valley shaded fuel break.

NORTH TAHOE FIRE PROTECTION DISTRICT

Action #1 – Completion of fuels management projects on various parcels in the North Tahoe Fire Protection District, as outlined in the North Tahoe Community Fire Protection Plan.

PLACER COUNTY FIRE CHIEF'S ASSOCIATION

Action #1 – Cooperative Fire Service Response Agreement for the western side of all Placer County fire agencies.

Action #2 – Annual multi-agency wildland fire drill.

Action #3 – Acquisition and implementation of an additional command frequency for fire dispatch on the Western Slope.

PLACER COUNTY OFFICE OF EDUCATION

Action #1 – Purchase NOAA weather radios for all district sites.

Action #2 – Install E-POP notification at all Placer County Office of Education sites and all school/district sites.

Action #3 – Improve community emergency management capability: communication systems for incident command team; crisis response boxes and materials; portable command center.

PLACER COUNTY WATER AGENCY

Action #1 – Maintain and enhance canal systems by converting earthen canals to gunite-lined canals in critical areas.

Action #2 – Replace wooden flume structures with steel structures.

Action #3 – De-silt reservoirs.

PLACER HILLS FIRE PROTECTION

Action #1 – Assess and enhance Placer Hills Fire Protection District onsite water requirements for minor lot splits.

Action #2 – Annual defensible space inspections program for the Placer Hills Fire Protection District.

SIERRA JOINT COMMUNITY COLLEGE DISTRICT

Action #1 – Fire prevention in 100+ acres nature area.

Action #2 – Improved emergency response capabilities through an up-to-date crisis response plan and multi-jurisdictional training drills.

SQUAW VALLEY PUBLIC SERVICE DISTRICT

Action #1 – Increased staffing of fire personnel to provide greater community service.

Action #2 – Develop a community-wide emergency notification system capable of providing information to both residents and visitors by utilizing permanent, roadside changeable message boards and a low-power radio transmitter.

CITY OF AUBURN

Action #1 – Completion of the private lands portion (within the City of Auburn) of a multi-jurisdictional shaded fuel break on public/private lands along the interface of the American River Canyon and the City of Auburn.

Action #2 – Residential home inspections for compliance of fire safe standards; defensible space.

Action #3 – Public education of the results of a wildfire in a community and what can be done by citizens in developing safeguards.

Action #4 – Maintenance of the private lands portion of the shaded fuel break along the rim of the American River Canyon and the Auburn State Recreation Area (ASRA).

Action #5 – GIS based mapping of pertinent information that can be used by all agencies in the development of pre-planning and during emergency incidents.

Action #6 – Implementation of storm water treatment plan.

Action #7 – Electric street diversion project.

Action #8 – Old Town Auburn storm drain system.

Action #9 – Identify the unreinforced masonry buildings in compliance with California State Law and the UCBC.

CITY OF COLFAX

Action #1 – City of Colfax – Continue annual weed abatement ordinance enforcement.

Action #2 – City of Colfax – Obtain funding for a residential fire protection program.

Action #3 – City of Colfax – Evaluate the need and feasibility of improving fire prevention for the Historic Business District.

CITY OF LINCOLN

Action #1 – Flood warning system.

Action #2 – State Route 65: Auburn Ravine Bridge – reconstruct bridge.

Action #3 – State Route 193: Auburn Ravine Bridge – additional 110' span.

Action #4 – Regional Volumetric Mitigation Basin – phase 2.

Action #5 – Regional Volumetric Mitigation Basin – phase 3.

Action #6 – North Lincoln Regional Volumetric Mitigation Improvements – phase 1.

Action #7 – North Lincoln Regional Detention Basin Improvements – phase 1.

Action #8 – Gladding Parkway, State Route 65, McCourtney Road stream restoration and culvert improvements.

Action #9 – “O” Street drainage improvements.

Action #10 – 7th Street drainage improvements.

Action #11 – Auburn Ravine at State Route 193 Bridge.

Action #12 – Auburn Ravine at State Route 65 Bridge.

Action #13 – Auburn Ravine at Joiner Parkway and Union Pacific Railroad bridges.

Action #14 – Ingram Slough – Orchard Creek return channel.

Action #15 – Markham Ravine – Updated FEMA analysis and mapping.

Action #16 – Markham Ravine drainage improvements – Union Pacific Railroad and State Route 65 crossings.

Action #17 – Auburn Ravine stream restoration projects (analysis and repairs).

Action #18 – Markham Ravine streambed restoration projects (analysis only).

Action #19 – Coon Creek streambed restoration projects (analysis only).

TOWN OF LOOMIS

Action #1 – Raise flood-prone houses along Loomis Creek.

CITY OF ROCKLIN

Action #1 – GIS based mapping of pertinent information that can be used by all departments and agencies in the development of pre-planning and during emergency incidents.

Action #2 – Implementation of storm water treatment plan.

AGENDA

Placer County Local Hazard Mitigation Planning Project

HMPC #1 Kickoff Meeting

August 22 and 23, 2007

1. Introductions
2. Mitigation, Mitigation Planning, & the Disaster Mitigation Act Requirements
3. Overview of the current Placer County Local Hazard Mitigation Plan (LHMP)
4. Discussion of what has been done since adoption of the LHMP
5. Discussion of objectives for the LHMP update
6. The Role of the Hazard Mitigation Planning Committee (HMPC)
7. Planning for Public Input
8. Coordinating with Other Agencies
9. Introduction to Hazard Identification
10. Data Collection Needs (Handout)
11. Schedule
12. Questions and Answers/Adjourn

AGENDA

Placer County Local Hazard Mitigation Planning Project

HMPC #2

November 6 & 7, 2007

1. Introductions
2. Mitigation Action Status Summary (2005 Plan) Work Session
3. Mitigation Action Items (Plan Update)
4. Data Collection Worksheets - Status
5. Discussion of priority objectives for the LHMP update
6. Questions and Answers/Adjourn

AGENDA

Placer County Local Hazard Mitigation Planning Project

HMPC #3

May15 & 16, 2008

1. Introductions
2. LHMP Project Status
3. Risk Assessment Update
4. Data Collection Worksheets – Status
5. Schedule Overview
6. Questions and Answers/Adjourn

AGENDA

Placer County Local Hazard Mitigation Project

Team Meetings #4 & 5

October 2 & 3, 2008

October 2: Morning

- 1) Introductions
- 2) Status of the DMA Planning Process
- 3) Review of Risk Assessment Summary
- 4) Develop Plan Goals and Objectives

October 2: Afternoon

- 1) Finalize Goals and Objectives
- 2) Review Mitigation Alternatives
- 3) Review Mitigation Selection Criteria
- 4) Identify Mitigation Projects
- 5) Prioritize Mitigation Projects
- 6) Develop Mitigation Projects
- 7) Review of Schedule/Data Needs

October 3: Morning

- 1) Continue with Prioritization and Development of Mitigation Projects