City of Roseville 2011 Multi-Hazard Mitigation Plan

PART 3—MITIGATION STRATEGY

CHAPTER 20. MITIGATION ALTERNATIVES

During the initial plan development, the Steering Committee developed a catalog of mitigation alternatives through a facilitated process that looked at local strengths, weaknesses, obstacles, and opportunities. This session was used to validate catalogs of mitigation alternatives prepared by the planning team. The catalogs represent the comprehensive range of alternatives considered in compliance with 44CFR (Section 201.6.c.3.ii). During the plan update process, the Steering Committee reviewed the catalogs in conjunction with the findings of public outreach efforts, the newest risk assessment results and the recommendations of the annual progress reports from the initial performance period. The catalogs were enhanced based on this review and then used to select updated hazard mitigation initiatives.

The catalogs list initiatives that could manipulate a hazard, reduce exposure to a hazard, reduce vulnerability to a hazard, or increase the ability to respond to or be prepared for a hazard. The alternatives are categorized by responsibility for implementation (i.e., who would implement the initiative: individuals, businesses or government). The list is not exhaustive or site-specific. Its purpose is to provide a baseline of initiatives that are backed by a planning process, are consistent with the City's goals and objectives, and are within the capabilities of the City to implement.

It should be noted that some of these actions may not be feasible based on the City's selection criteria. The purpose of the catalog was to equip the Steering Committee with a list of what could be considered to reduce risk for each hazard of concern. All actions identified in Chapter 21 of this plan were selected based on the selection criteria identified in that chapter.

Catalogs for each hazard evaluated in this plan are listed in Tables 20-1 through 20-9.

TABLE 20-1. CATALOG OF MITIGATION ALTERNATIVES—DAM FAILURE							
Personal Scale	Corporate Scale	Government Scale					
Manipulate HazardNone	 Remove dams Remove levees Harden dams 	 Remove dams Remove levees Harden dams 					
 Reduce Exposure Relocate out of dam failure inundation areas. 	Replace earthen dams with hardened structures	 Replace earthen dams with hardened structures Relocate critical facilities out of dam failure inundation areas. Consider open space land use in designated dam failure inundation areas. 					
 Reduce Vulnerability Elevate home to appropriate levels. 	• Flood-proof facilities within dam failure inundation areas	 Adopt higher regulatory floodplain standards in mapped dam failure inundation areas. Retrofit critical facilities within dam failure inundation areas. 					
 Increase Preparation Learn about risk reduction for the dam failure hazard. Learn the evacuation routes for a dam failure event. Educate yourself on early warning systems and the dissemination of warnings. 	 or Response Capabi Educate employees on the probable impacts of a dam failure. Develop a Continuity of Operations Plan. 	 Map dam failure inundation areas. Enhance emergency operations plan to include a dam failure component. Institute monthly communications checks with dam operators. Inform the public on risk reduction techniques Adopt real-estate disclosure requirements for the re-sale of property located within dam failure inundation areas. Consider the probable impacts of climate in assessing the risk associated with the dam failure hazard. Establish early warning capability downstream of listed high hazard dams. Consider the residual risk associated with protection provided by dams in future land use decisions. 					

TABLE 20-2. CATALOG OF MITIGATION ALTERNATIVES—DROUGHT					
Personal Scale	Corporate Scale	Government Scale			
Manipulate Hazard None	None	Groundwater recharge through stormwater management			
Reduce Exposure None	None	Identify and create groundwater backup sources			
 Reduce Vulnerability 1. Drought-resistant landscapes 2. Reduce water system losses 3. Modify plumbing systems (through water saving kits) 	 Drought- resistant landscapes Reduce private water system losses 	 Water use conflict regulations Reduce water system losses Distribute water saving kits 			
 Increase Preparation Practice active water conservation 	 or Response Capabi Practice active water conservation 	 Public education on drought resistance Identify alternative water supplies for times of drought; mutual aid agreements with alternative suppliers Develop drought contingency plan Develop criteria "triggers" for drought-related actions Improve accuracy of water supply forecasts Modify rate structure to influence active water conservation techniques 			

TABLE 20-3. CATALOG OF MITIGATION ALTERNATIVES—EARTHQUAKE							
Personal Scale	Corporate Scale	Government Scale					
 Manipulate Hazard None Reduce Exposure Locate outside of hazard area (off sof soils) 	None • Locate or relocate mission-critical functions outside hazard area where possible	 None Locate critical facilities or functions outside hazard area where possible 					
 Reduce Vulnerability 1. Retrofit structure (anchor house structor to foundation) 2. Secure household it that can cause injury damage (such as way heaters, bookcases, other appliances) 3. Build to higher desired 	 Build redundancy for critical functions and facilities Retrofit critical y or buildings and areas there housing mission- and critical functions gn 	 Harden infrastructure Provide redundancy for critical functions Adopt higher regulatory standards 					
 Increase Preparation Practice "drop, cover and hold" Develop household mitigation plan, succ creating a retrofit savings account, communication capability with outs 72-hour self-sufficied during an event Keep cash reserves reconstruction Become informed of the hazard and risk reduction alternative available. Develop a post-disa action plan for your household 	or Response Capability er, 1. Adopt higher standard for new construction; h as consider "performance-based design" when building new ide, structures ency 2. Keep cash reserves for reconstruction for 3. Inform your employees on the possible impacts of earthquake and how es to deal with them at your work facility.	 Provide better hazard maps Provide technical information and guidance Enact tools to help manage development in hazard areas (e.g., tax incentives, information) Include retrofitting and replacement of critical system elements in capital improvement plan Develop strategy to take advantage of post-disaster opportunities Warehouse critical infrastructure components such as pipe, power line, and road repair materials Develop and adopt a Continuity of Operations Plan Initiate triggers guiding improvements (such as <50% substantial damage or improvements) Further enhance seismic risk assessment to target high hazard buildings for mitigation opportunities. 					

	TABLE 20-4. CATALOG OF MITIGATION ALTERNATIVES—FLOOD						
Personal Sca	ale C	orporate Scale	Go	overnment Scale			
 Manipulate Clear sto drains ar Institute impact developr techniqu property 	e Hazard formwater 1 nd culverts low- ment 2 es on	 Clear stormwater drains and culverts Institute low- impact development techniques on property 	1. 2. 3. 4. 5. 6.	Maintain drainage system Institute low-impact development techniques on property Dredging, levee construction, and providing regional retention areas Structural flood control, levees, channelization, or revetments. Stormwater management regulations and master planning Acquire vacant land or promote open space uses in developing watersheds to control increases in runoff			
 Reduce Exp 1. Locate on hazard a 2. Elevate on above bar elevation 3. Institute impact developm technique property 	posure utside of 1 rea utilities use flood 1 low 2 ment es on	 Locate business critical facilities or functions outside hazard area Institute low impact development techniques on property 	1. 2. 3. 4. 5. 6.	Locate or relocate critical facilities outside of hazard area Acquire or relocate identified repetitive loss properties Promote open space uses in identified high hazard areas via techniques such as: planned unit developments, easements, setbacks, greenways, sensitive area tracks. Adopt land development criteria such as planned unit developments, density transfers, clustering Institute low impact development techniques on property Acquire vacant land or promote open space uses in developing watersheds to control increases in runoff			
 Reduce Vul Retrofit (elevate above ba elevation Elevate i within he base floc elevation Build ne above ba elevation Flood-pr existing 	Inerability structures 1 structures use flood h) items ouse above od 2 h w homes use flood h roof structures	 Build redundancy for critical functions or retrofit critical buildings Provide flood- proofing measures when new critical infrastructure must be located in floodplains 	1. 2. 3 4. 5.	Harden infrastructure, bridge replacement program Provide redundancy for critical functions and infrastructure Adopt appropriate regulatory standards, such as: increased freeboard standards, cumulative substantial improvement or damage, lower substantial damage threshold; compensatory storage, non-conversion deed restrictions. Stormwater management regulations and master planning. Adopt "no-adverse impact" floodplain management policies that strive to not increase the flood risk on downstream communities.			

TABLE 20-4 (continued). CATALOG OF MITIGATION ALTERNATIVES—FLOOD							
Personal Scale	Corporate Scale	Government Scale					
 Increase Preparation 1. Buy flood insurance 2. Develop household mitigation plan, such as retrofit savings, communication capability with outside, 72 hr self- sufficiency during and after an event 	 or Response Capabili 1. Keep cash reserves for reconstruction 2. Support and implement hazard disclosure for the sale/re-sale of property in identified risk zones. 3. Solicit 'cost- sharing" through partnerships with other stakeholders on projects with multiple benefits. 	 ity Produce better hazard maps Provide technical information and guidance Enact tools to help manage development in hazard areas (stronger controls, tax incentives, and information) Incorporate retrofitting or replacement of critical system elements in capital improvement plan Develop strategy to take advantage of post-disaster opportunities Warehouse critical infrastructure components Develop and adopt a Continuity of Operations Plan Consider participation in the Community Rating System Maintain existing data and gather new data needed to define risks and vulnerability Train emergency responders Create a building and elevation inventory of structures in the floodplain Develop and implement a public information strategy Charge a hazard mitigation fee Integrate floodplain management policies into other planning mechanisms within the planning area. Consider the probable impacts of climate change on the risk associated with the flood hazard Consider the residual risk associated with structural flood control in future land use decisions 					

	TABLE 20-5. CATALOG OF MITIGATION ALTERNATIVES—HUMAN-CAUSED								
Pe	rsonal Scale	Corporate Scale			overnment Scale				
M	anipulate Hazar	d Nono		No					
INC		None		INC	lle				
Re No	educe Exposure	 Inc terr mit site of f Con in 1 fac 	corporate anti- rorism and security tigation measures in and layout design facilities nsider site security andscape design of ilities	1. 2.	Construct new critical facilities with Clear Zones. Retrofit existing Critical Facilities				
Re	educe Vulnerabi	itv							
None 1. Re im co 2. In		1. Res imp con 2. Inc	strict access by plementing ntrolled access zones rease security	1. 2. 3.	Restrict access by implementing controlled access zones Reduce single-point vulnerabilities such as: redundancy for critical lifelines and infrastructure Install physical barriers around critical facilities				
		3. Instaro aro 4. Em rest to r	asures tall physical barriers ound critical facilities aploy parking trictions as a means reduce vulnerability						
In	crease Preparati	on or H	Response Capability						
1.	Increase awareness of vulnerability to threats	1. Bec (sta mit pre	come a partner akeholder) in tigation and evention	1. 2.	Educate public on threats and vulnerability Enhance emergency response capability by contingency planning for specific events based on identified vulnerabilities				
2. 3. 4.	Neighborhood watch program Keep informed Develop an	 2. Edu 3. Dev resj 4. Dev 	ucate employees velop an emergency ponse plan velop a Continuity	3. 4.	Consider performance-based zoning as a land use alternative to mitigate impacts of human-caused hazards Employ Crime Prevention Through Environmental Design (CPTED techniques in design of public facilities				
5.	response plan Report suspicious activities	5. Use tecl and of u	e liberal signage hniques to inform l increase capability users of facilities	э.	Consider providing incentives for mitigation				

TABLE 20-6. CATALOG OF MITIGATION ALTERNATIVES—HUMAN HEALTH								
Personal Scale	Corporate Scale	Go	overnment Scale					
Manipulate Hazard None	None	•	Mosquito abatement					
 Reduce Exposure Eliminate or reduce environments on private property that favor mosquito infestation 	• Eliminate or reduce environments on private property that favor mosquito infestation	•	Eliminate or reduce environments on public property that favor mosquito infestation					
Reduce Vulnerability Immunization 	Immunize employees	•	Immunize employees					
Increase Preparation or • Get informed	 Response Capability Inform employees on human health hazards 	1. 2.	Collaborate with the Placer County Health Department to ensure the health and welfare of the community Public education on Mosquito Abatement and general human health issues					

TABLE 20-7. CATALOG OF MITIGATION ALTERNATIVES—LANDSLIDE							
Personal Scale	Corporate Scale	Government Scale					
 Manipulate Hazard Stabilize slope (dewater, armor toe) Reduce weight on top of slope Minimize vegetation removal and the addition of impervious surfaces. 	 Stabilize slope (dewater, armor toe) Reduce weight on top of slope 	 Stabilize slope (dewater, armor toe) Reduce weight on top of slope 					
 Reduce Exposure Locate structures outside of hazard area (off unstable land and away from slide-run out area) 	• Locate structures outside of hazard area (off unstable land and away from slide-run out area)	 Acquire properties located in high-risk landslide areas. Adopt land use policies that prohibit the placement of habitable structures in high-risk landslide areas. 					
Reduce VulnerabilityRetrofit home.	• Retrofit at-risk facilities.	 Adopt higher regulatory standards for new development within unstable slope areas. Armor/retrofit critical infrastructure against the impact of landslides. 					
Increase Preparation or	Response Capability						
 Institute warning system, and develop evacuation plan Keep cash reserves for reconstruction Educate yourself on risk reduction techniques for landslide hazards. 	 Institute warning system, and develop evacuation plan Keep cash reserves for reconstruction Develop a Continuity of Operations Plan Educate employees on the potential exposure to landslide hazards and emergency response protocol. 	 Produce better hazard maps Provide technical information and guidance Enact tools to help manage development in hazard areas: better land controls, tax incentives, information Develop strategy to take advantage of post-disaster opportunities Warehouse critical infrastructure components Develop and adopt a Continuity of Operations Plan Educate the public on the landslide hazard and appropriate risk reduction alternatives. 					

TABLE 20-8. CATALOG OF MITIGATION ALTERNATIVES—SEVERE WEATHER								
Personal Scale	Corporate Scale	Government Scale						
Manipulate Hazard None	None	None						
Reduce Exposure None	None	None						
 Reduce Vulnerability 1. Insulate house 2. Provide redundant heat and power 3. Insulate structure 4. Plant appropriate trees near home and power lines ("Right tree, right place" National Arbor Day Foundation Program) 	 Relocate critical infrastructure (such as power lines) underground Reinforce or relocate critical infrastructure such as power lines to meet performance expectations Install tree wire 	 Harden infrastructure such as locating utilities underground Trim trees back from power lines Designate snow routes and strengthen critical road sections and bridges 						
 Increase Preparation or I 1. Trim or remove trees that could affect power lines 2. Promote 72-hour self-sufficiency 3. Obtain a NOAA weather radio. 4. Obtain an emergency generator. 	 Response Capability 1. Trim or remove trees that could affect power lines 2. Create redundancy 3. Equip facilities with a NOAA weather radio 4. Equip vital facilities with emergency power sources. 	 Support programs such as "Tree Watch" that proactively manage problem areas through use of selective removal of hazardous trees, tree replacement, etc. Establish and enforce building codes that require all roofs to withstand snow loads Increase communication alternatives Modify land use and environmental regulations to support vegetation management activities that improve reliability in utility corridors. Modify landscape and other ordinances to encourage appropriate planting near overhead power, cable, and phone lines Provide NOAA weather radios to the public 						

CA	TABLE 20-9. TALOG OF MITIGATION ALTER	NATIVES—WILDFIRE
Personal Scale	Corporate Scale	Government Scale
 Manipulate Hazard Clear potential fuels on property such as dry overgrown underbrush and diseased trees 	• Clear potential fuels on property such as dry underbrush and diseased trees	 Clear potential fuels on property such as dry underbrush and diseased trees Implement best management practices on public lands.
 Reduce Exposure 1. Create and maintain defensible space around structures 2. Locate outside of hazard area 3. Mow regularly 	 Create and maintain defensible space around structures and infrastructure Locate outside of hazard area 	 Create and maintain defensible space around structures and infrastructure Locate outside of hazard area Enhance building code to include use of fire resistant materials in high hazard area.
 Reduce Vulnerability 1. Create and maintain defensible space around structures and provide water on site 2. Use fire-retardant building materials 3. Create defensible spaces around home 	 Create and maintain defensible space around structures and infrastructure and provide water on site Use fire-retardant building materials Use fire-resistant plantings in buffer areas of high wildfire threat. 	 Create and maintain defensible space around structures and infrastructure Use fire-retardant building materials Use fire-resistant plantings in buffer areas of high wildfire threat. Consider higher regulatory standards (such as Class A roofing) Establish biomass reclamation initiatives
 Increase Preparation or Ro Employ Firewise techniques to safeguard home Identify alternative water supplies for fire fighting Install/replace roofing material with non- combustible roofing materials. 	 esponse Capability Support Firewise community initiatives. Create /establish stored water supplies to be utilized for fire fighting. 	 More public outreach and education efforts, including an active Firewise program Possible weapons of mass destruction funds available to enhance fire capability in high- risk areas Identify fire response and alternative evacuation routes Seek alternative water supplies Become a Firewise community Use academia to study impacts/solutions to wildland fire risk Establish/maintain mutual aid agreements between fire service agencies. Create/implement fire plans Consider the probable impacts of climate change on the risk associated with the wildland fire hazard in future land use decisions

CHAPTER 21. MITIGATION INITIATIVES

21.1 INTRODUCTION

The steering committee has been monitoring the status of the initial action plan via the annual progress reporting process. The progress reports identified action plan revisions to be considered during the plan update process. Using these reports and guidance from the Steering Committee, the planning team developed an updated action plan to mitigate the hazards of concern evaluated in this plan. Each mitigation alternative was evaluated against the following criteria:

- **Social criteria**—Community acceptance of the mitigation activities (the public must support the overall implementation strategy and specific mitigation activities)
- **Technical criteria**—The technical feasibility of the mitigation activities to reduce losses in the long term with minimal secondary impact
- Administrative criteria—Anticipated staffing, funding, and maintenance required for each mitigation activity
- **Political criteria**—Decision-maker acceptance of the mitigation activities (local political leadership must support the overall implementation strategy and specific mitigation activities)
- Legal criteria—The City's legal authority to implement the mitigation activities
- Economic criteria—Budget constraints
- **Environmental criteria**—Environmental impacts caused by implementing specific mitigation activities.

A capability assessment was performed, the mitigation actions were prioritized, a benefit/cost review was performed, and implementation timeframes were evaluated. Particular attention was given to mitigation activities that address buildings and infrastructure. All mitigation activities presented in this chapter include, to the extent that information was available, implementation timelines, funding sources, and the jurisdictions responsible for carrying out the actions (all tables for this chapter are provided at the end of the chapter, beginning on page 21-5).

21.2 CAPABILITY ASSESSMENT

The planning team performed an inventory and analysis of the City's existing authorities and capabilities. This capability assessment is an update of the assessment performed under the initial plan. It creates an inventory of the City's mission, programs and policies, and evaluates its capacity to carry them out. Table 21-1 summarizes the legal and regulatory capability of the City of Roseville. Table 21-2 summarizes the City's administrative and technical capability. Table 21-3 summarizes fiscal capabilities.

21.3 PRIORITIZATION

The planning team and Steering Committee developed a prioritization methodology for the action plan that meets the needs of the City and the requirements of 44CFR (Section 201.6). The mitigation strategies were prioritized according to the following criteria:

- **High Priority**—A project that meets multiple plan objectives, has benefits that exceed cost, has funding secured under existing programs or authorizations or is grant-eligible, and can be completed in 1 to 5 years once project is funded (short-term project)
- **Medium Priority**—A project that meets at least one plan objective, has benefits that exceed cost, and can be completed in 1 to 5 years once project is funded, but for which funding has not been secured and would require a special funding authorization under existing programs, and grant eligibility is questionable
- Low Priority—A project that will mitigate the risk of a hazard and has benefits that exceed cost, but for which funding has not been secured, and the project is not grant-eligible or the timeline for completion is long-term (5 to 10 years).

These priority definitions are dynamic and can change from one category to another based on changes to a parameter such as availability of funding. For example, a project might be assigned a medium priority because of the uncertainty of a funding source, but the priority could be changed to high once a funding source has been identified. The prioritization schedule for this plan will be reviewed and updated as needed annually through the plan maintenance strategy described in Chapter 7.

21.4 BENEFIT/COST REVIEW

44CFR requires the prioritization of the action plan according to a benefit/cost analysis of the proposed projects and their associated costs (Section 201.6.c.3iii). The benefits of proposed projects were weighed against estimated costs as part of the project prioritization process. The benefit/cost analysis was not of the detailed variety required by FEMA for project grant eligibility under the Hazard Mitigation Grant Program (HMGP) and Pre-Disaster Mitigation (PDM) grant program. A less formal approach was used because some projects may not be implemented for up to 10 years, and associated costs and benefits could change dramatically in that time. Therefore, a review of the apparent benefits versus the apparent cost of each project was performed. Parameters were established for assigning subjective ratings (high, medium, and low) to the costs and benefits of these projects.

Cost ratings were defined as follows:

- **High**—Existing funding will not cover the cost of the project; implementation would require new revenue through an alternative source (for example, bonds, grants, and fee increases).
- **Medium**—The project could be implemented with existing funding but would require a reapportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years.
- **Low**—The project could be funded under the existing budget. The project is part of or can be part of an ongoing existing program.

Benefit ratings were defined as follows:

- **High**—Project will provide an immediate reduction of risk exposure for life and property.
- **Medium**—Project will have a long-term impact on the reduction of risk exposure for life and property, or project will provide an immediate reduction in the risk exposure for property.
- Low—Long-term benefits of the project are difficult to quantify in the short term.

Using this approach, projects with positive benefit versus cost ratios (such as high over high, high over medium, medium over low, etc.) are considered cost-beneficial and are prioritized accordingly.

For many of the strategies identified in this action plan, the City may seek financial assistance under the HMGP or PDM programs, both of which require detailed benefit/cost analyses. These analyses will be performed on projects at the time of application using the FEMA benefit-cost model. The City is committed to implementing a mitigation strategy with benefits that exceeds costs. For projects not seeking financial assistance from grant programs that require detailed analysis, the City reserves the right to define "benefits" according to parameters that meet the goals and objectives of this plan.

21.5 MITIGATION STRATEGY MATRICES

Tables 21-4 and 21-5 outline the hazard mitigation action plan identified by the planning team and steering committee. Table 21-4 identifies the following:

- Initiative number and summary description of the initiative
- Whether initiative was identified in initial plan (see Table 2-1)
- Whether the initiative applies to new or existing assets
- Hazards mitigated
- Objectives met by the initiative
- Department responsible for implementation of the initiative
- Estimated cost (if available)
- Possible sources of funding
- Timeline for completion.

Under timeline for completion, the City has identified the following parameters:

- **Ongoing:** Initiative is currently being implemented under existing programs and budgets.
- Short-term: Initiative can be completed within 1 to 5 years once funding has been secured.
- **Long-term:** Initiative will take 5 or more years to complete once funding has been secured.

Table 21-5 prioritizes the initiatives according to the parameters discussed in Sections 21.3 and 21.4. The priority matrix illustrates the following:

- Number of objectives met by the initiative
- Benefits of the project (high, medium, or low)
- Cost of the project (high, medium, or low)
- Do the benefits equal or exceed the costs?
- Is the project grant-eligible?
- Can the project be funded under existing programs and budgets?
- Priority (high, medium, or low).

21.6 ANALYSIS OF MITIGATION ACTIONS

The action plan was reviewed and each action was classified as one of the following mitigation types:

• **Prevention:** Government, administrative or regulatory actions or processes that influence the way land and buildings are developed and built. These actions also include public activities to

reduce hazard losses. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.

- **Property Protection:** Actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.
- **Public Education and Awareness:** Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and school-age and adult education programs.
- **Natural Resource Protection:** Actions that minimize hazard loss and also preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.
- **Emergency Services:** Actions that protect people and property, during and immediately following, a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities.
- **Structural Projects:** Actions that involve the construction of structures to reduce the impact of a hazard event by manipulation of the hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.

Table 21-6 shows the breakdown of the actions into these categories. Some initiatives can meet multiple categories.

21.7 2004 ACTION PLAN STATUS

A comprehensive review of the 2005 action plan was performed to determine which actions are completed, which should carry over to the 2011 plan, and which are no longer feasible and should be removed from the plan. Table 21-7 shows the results of this review. For additional information on the status of initiatives from the 2005 plan, see the 2010 annual progress report in Appendix D.

TABLE 21-1. LEGAL AND REGULATORY CAPABILITY								
Regulatory Tools (Codes, Ordinances, Plans)	Local Authority (Y or N)	Prohibitions (State or Federal)	Other Jurisdictional Authority (Y or N)	State Mandated (Y or N)	Comments			
1. Building Code	Y	NA	N	Y	Roseville Municipal Code (RMC) 16.04.100 adopts 2007 California Building Standards Code, incorporating by reference the 2006 International Building Code, the 2005 National Electrical Code, the 2006 Uniform Mechanical Code, the 2006 Uniform Plumbing Code and the 2006 Uniform Swimming Pool, Spa and Hot Tub Code as published by the International Association of Plumbing and Mechanical Officials. One copy of the code is on file in the office of the building official for use by public. (Ord. 4602 § 1, 2008: Ord. 3883 § 1, 2002: Ord. 3356 § 2 (part), 1999.)			
2. Zoning Ordinance	Y	NA	N	N	RMC, Title 19 (Ord. 3014 (part), 1996.)			
3. Subdivision Ordinance	Y	NA	N	Y	RMC Title 18 (Ord. 2747 § 1 (part), 1993.)			
4. Special Purpose Ordinances (floodplain management and critical or sensitive areas)	Y	N/A	Y	Y	The Roseville Zoning Ordinance incorporates combining or overlay of districts to regulate floodplain development, open space preservation, and other sensitive habitat. The Flood Damage Prevention Ordinance (RMC 9.80) regulates development in special flood hazard areas. Outside agencies with jurisdiction over sensitive habitats include the U.S. Army Corps of Engineers and California Department of Fish and Game.			
5. Growth Management	Y	NA	N	Y	Growth management strategies are incorporated into the land-use element of the General Plan.			
6. Floodplain Management or Basin Plan	Y	NA	N	N	RMC 9.80 and Safety Element of the General Plan			
7. Stormwater Management Plan/ Ordinance	Y	NA	Y	Y	City of Roseville 2004 Stormwater Management Plan. The plan is required by the State of California as part of the federal National Pollution Discharge Elimination System program. Outside jurisdictional authority is through the State Water Resources Control Board and Regional Water Quality Control Board (Central Valley Region).			
8. General Plan or Comprehensive Plan	Y	NA	N	Y	A comprehensive update to the General Plan was adopted by City Council on May 10, 2010 and is now the 2025 General Plan, which is implemented through nine specific plans (Southeast Roseville, Northeast Roseville, Northwest Roseville, North Central Roseville, North Roseville, Highland Reserve North, Stoneridge, Del Webb, and West Roseville) and one other planning area (North Industrial).			
9. CIP	Y	NA	N	Ν	The City has a 6-year CIP for roads, water, and sewer that is updated annually.			

TABLE 21-1 (continued). LEGAL AND REGULATORY CAPABILITY							
Regulatory Tools (Codes, Ordinances, Plans)	Local Authority (Y or N)	Prohibitions (State or Federal)	Other Jurisdictional Authority (Y or N)	State Mandated (Y or N)	Comments		
10. Site Plan Review Requirements	Y	NA	N	N	The Zoning Ordinance (RMC 19.74.010.C) requires a design review permit for all new construction except single-family and two-family residences. Site design, building architecture, landscape design, and lighting are reviewed through the design review permit. Design review permit are reviewed and approved by the City's Design Committee or Planning Commission.		
11. Habitat Conservation Plan	N	NA	N	N	There are no Habitat Conservation Plans within the City. However, preserve areas have been established as a condition of Section 404 permits and biological opinions of the U.S. Fish and Wildlife Service. The open space and conservation element of the City's general plan also contains policies relative to habitat conservation.		
12. Economic Development Plan	Y	NA	N	N	Current economic development strategy was adopted by the City Council on July 25, 2005. This document will guide the City for efforts related to business attraction, retention, expansion and creation.		
13. Emergency Response Plan	Y	NA	N	Y	The City of Roseville emergency operations plan was adopted by the City Council on July 21, 2004 (Resolution #04-301). The plan is mandated by the California Office of Emergency Services. The 2010 update to this plan was reviewed by the Steering Committee as part of this plan update process.		
14. Shoreline Management Plan	Y	NA	N	Y	This is not applicable to Roseville. Shoreline management plans are applicable to coastal communities and are incorporated into local coastal plans reviewed and approved by the California Coastal Commission.		
15. Post-Disaster Recovery Plan	N	NA	N	N	A post-disaster recovery plan is a recommendation of this plan.		
16. Post-Disaster Recovery Ordinance	N	NA	N	N	None at this time.		
17. Real Estate Disclosure Requirements	N	NA	Y	N	California Civil Code 1102 governs real estate and various disclosure laws and does not mandate disclosure at the local government level but does require local governments to make known information on natural hazards available to the real estate community.		
18. Hazard Mitigation Plan	Y	N	N	N	The Roseville Multi-Hazard Mitigation plan was adopted on July 20, 2005. The City received formal approval by FEMA on August 10, 2005.		

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TABLE 21-2. ADMINISTRATIVE AND TECHNICAL CAPABILITY							
Staff/ Personnel Resources	Available (Y or N)	Department or Agency (Positions)					
1. Planners or engineers with knowledge of land development and land management practices	Y	Planning and Redevelopment Department (13 Planners)					
2. Engineers or professionals trained in construction practices related to buildings and/or infrastructure	Y	Public Works, Engineering Division (7 Engineering Inspectors); Building Inspection Division (15 Building Inspectors); Environmental Utilities Department (5 Engineering Inspectors for Water/Sewer/Storm water)					
3. Planners or engineers with an understanding of natural hazards	Y	Planning and Redevelopment Department (13 Planners); Public Works (22 Engineers)					
4. Floodplain manager	Y	Public Works, Floodplain Management Division (Associate Engineer)					
5. Surveyors	N	No licensed surveyors on City staff. City can and has contracted for survey work on as needed basis.					
6. Personnel skilled or trained in GIS Applications	Y	Planning and Redevelopment Department (Planning Technicians); Public Works (Engineering Assistants); Fire Department (GIS Analysts); Environmental Utilities Department (Mapping Manager); Information Technology Division (GIS Manager)					
7. Scientist familiar with local natural hazards	N						
8. Emergency manager	Y	Fire Department (Emergency Preparedness Manager)					
9. Grant writers	Y	City Manager's Office (Government Relations Manager)					
10. Staff with expertise or training in benefit/cost analysis	Y	Finance Department (8 – administration and budget); City Manager's Office (Economic Development Team); Public Works; Environmental Utilities Department; Electric Department					

TABLE 21-3. FISCAL CAPABILITY

Financial Resources	Accessible or Eligible to Use (Y or N)
1. Community Development Block Grants	Y
2. Capital Improvements Project Funding	Y
3. Authority to Levy Taxes for Specific Purposes	Y
4. User Fees For Water, Sewer, Gas or Electric Service	Y
5. Impact Fees for Buyers or Developers of New Development/Homes	Y
6. Incur Debt through General Obligation Bonds	Y
7. Incur Debt through Special Tax Bonds	Y
8. Incur Debt through Private Activity Bonds	N
9. Could Withhold Public Expenditures in Hazard-Prone Areas	N
10. State-Sponsored Grant Programs	Y
11. Other	NA

	TABLE 21-4. HAZARD MITIGATION ACTION PLAN MATRIX										
Action Identified in Initial Plan (Y or N) #	Applies to new or existing assets	Hazards Mitigated	Objectives Met	Responsible Departments	Estimated Cost	Sources of Funding	Timeline				
DAM FAILUR	RE			-	_	-					
DF-1—Create response to the	DF-1—Create a dam failure element for the City's emergency response plan that includes a phased warning protocol in response to the findings of the Folsom Dam Containment Dike Risk Assessment.										
Y Action #F-22	New and existing	Dam Failure	2, 3, 4, 9	Police and Fire Departments	Medium	General Fund; Department of Homeland Security (DHS) grant funding	Short-term				
DROUGHT											
D-1—Perform groundwater re	D-1—Perform a groundwater recharge feasibility study to determine the most cost-effective way to replenish groundwater resources within Roseville.										
Y, Action #D-1	New and existing	Drought	5,6	Environmental Utilities District (EUD); Public Works	High	Water utility funds; General fund; Developer-based funding under specific plan requirements	Ongoing				
D-2—Impleme appropriate.	ent aquifer	storage ar	nd recovery	v program that uses dire	ct injectio	n technique in areas identified	l as				
Y Action # D-2	New and existing	Drought	6, 8	EUD	High	Water Construction Fund	Ongoing				
D-3—Continue to expand its co purple pipes co such as streetso landscape irrig City. Recycled	D-3—Continue to implement the Environmental Utility Department's recycled water program and seek all opportunities to expand its coverage, focusing first on the Sunset Industrial area. The City pumps recycled water through a system of purple pipes completely separate from potable (drinking water) pipes. The City pumps the recycled water to customers such as streetscapes, golf courses and parks, where it irrigates turf and shrubs. Using recycled water for uses such as landscape irrigation reduces demand on the potable water system, creating a more reliable water supply for the entire City. Recycled water is not subject to the effects of drought										
Y Action D-3	New and existing	Drought	6, 8	EUD	High	Water utility rates, developer-based fees under specific plan requirements	Ongoing				
D-4—Promote sponsored outr	active wat each projec	er conserverservers such as	vation tech	niques and strategies to edia and the City's web	private pr	operty owners through Rosev	ille-				
Y Action #D-4	New and existing	Drought	5,9	Roseville Communication Division	High	Currently funded by General Fund allocation	Ongoing				

	TABLE 21-4 (continued). HAZARD MITIGATION ACTION PLAN MATRIX										
Action Identified in Initial Plan (Y or N) #	Applies to new or existing assets	Hazards Mitigated	Objectives Met	Responsible Departments	Estimated Cost	Sources of Funding	Timeline				
EARTHQUA	٢E					-	-				
EQ-1—Perform building-specific, structural seismic vulnerability assessment of City-owned critical facilities constructed prior to 1980 (including infrastructure). Included in this assessment will be recommended mitigation alternatives that meet goals and objectives of this plan.											
Y Action #EQ-1	Existing	EQ	5, 10	Public Works	High	General Fund; Possible grant funding under PDM program	Short-term; Ongoing				
EQ-2—Incorpo such as printed	orate earthq media and	uake miti the City's	gation mea s website.	asures for private prope	erty into ex	isting City-sponsored outrea	ch programs				
Y Action # EQ-2	Existing	Flood	1, 9, 10, 11	Planning Department, City Council	Low	City General fund	Short-term				
EQ-3—Reassess the overall vulnerability to the earthquake hazard using the best available science and technology as it becomes available. State-sponsored programs, Seismic Hazards Mapping Act, and future FEMA-sponsored initiatives are anticipated to create a wealth of knowledge regarding this hazard that did not exist during the preparation of this plan undate.											
Y Action EQ-3	New and existing	EQ	1,5,7,9	Planning; Public Works	Medium	General Fund; Possible grant funding under PDM program	Short-term; Ongoing				
FLOOD											
F-1—The City shall be as spec shall be preserv dedication to th goals, policies, recreation elem	shall desig bified in the ved as speci- ne City. If n and implements of the	nate all ar floodplai ified in the eeded, me nentation City's ge	eas identif in designat e open spa odify the C measures neral plan.	ied as the 100-year floo ions section of this con ce and conservation ele City's ordinances to inc of the safety, land use,	odplain. The nponent of ement. Succionate lude flood popen space	the boundaries of the 100-yea the city's general plan. Floc h preservation may include plain use regulations consiste e and conservation, and park	r floodplain odplain areas required ent with the s and				
Y Action #F-1	New and Existing	Flood	1,6,7	Planning	Low	Currently funded by General Fund allocation	Ongoing				
F-2—Refer any comment. In ac Engineers, Cal Conservation I development re	F-2—Refer any development proposal that has a direct or indirect impact on flood protection to Public Works for comment. In addition, forward such proposals to other agencies as applicable, including the U.S. Army Corps of Engineers, California Reclamation Board, FEMA, California Department of Fish and Game, Placer County Resource Conservation District, and Placer County Flood Control District. Consider the comments of the agencies during the development review process										
Y Action # F-2	New and Existing	Flood	1, 5, 7,	Public Works; Planning	Low	Currently funded by General Fund allocation	Ongoing				
F 3—Continue Maintain the ci	City partic ty's curren	ipation in t CRS stat	the Nation	nal Flood Insurance Pro action's only Class 1 Cl	ogram and RS commu	the Community Rating Systen nity.	em (CRS).				
Y Action #F 3	New and existing	Flood	1, 5, 9	Public Works	Low	Currently funded by General Fund allocation	Ongoing				

	TABLE 21-4 (continued). HAZARD MITIGATION ACTION PLAN MATRIX										
Action Identified in Initial Plan (Y or N) #	Applies to new or existing assets	Hazards Mitigated	Objectives Met	Responsible Departments	Estimated Cost	Sources of Funding	Timeline				
FLOOD (continued)											
F 4—Maintain	Roseville's	s complia	nce and go	ood standing under t	he National Flo	ood Insurance program (NF	IP)				
N	New and Existing	Flood	2, 3, 4, 5, 10	Planning Department; Public Works; Building Department	Low	General Fund	Ongoing				
F 5—Continue help make the	the City's an aware of	outreach j the flood	program to threat and	flood-prone proper how best to deal wi	rty owners and ath them.	the citizens of Roseville to	program is to				
Y Action #F 4	New and existing	Flood	5, 9	Public Works	Low (\$5000/year)	Currently funded by General Fund allocation	Ongoing				
F 6—Continue Control Distric Continue to pa mitigation plan	F 6—Continue to pursue a regional approach to flood issues by remaining actively involved in the Placer Co Flood Control District. This involvement includes cooperation in the development of a comprehensive regional database. Continue to participate in regional flooding studies, including the Auburn Creek/Coon Creek/Pleasant Grove Creek flood mitigation plan and the Dry Creek watershed flood control plan.										
Y Action # F 5	New and Existing	Flood	1, 5, 7	Public Works	Low	Currently funded by General Fund allocation	Ongoing				
F 7—Continue adjacent jurisd and comment. Engineers, Cal Conservation I	e City coord ictions occu Continue C lifornia Rec District, and	ination wi irs throug ity cooper lamation l Placer Co	ith other a h several 1 ration with Board, FE ounty Floo	gencies on issues of nechanisms, includ n federal, state, and MA, California Dep od Control District.	f flood control. ing distribution local agencies, partment of Fisl	Coordination between the C of development proposals including the U.S. Army C h and Game, Placer County	City and for review orps of Resource				
Y Actions # F 6	New and existing	Flood	1, 5, 7	Planning ; Public Works	Low	Currently funded by General Fund allocation	Ongoing				
F 8—Continue systems with o	e to develop other local ju	, impleme irisdictior	ent, and ex as to form	pand the Flood Ale a regional warning	rt and Early Wa	arning Program systems and	l integrate the				
Y Action # F-7	New and existing	Flood	2, 3	Public Works	Low	General Fund; Possible grant funding (PDM, HMGP, and Flood Mitigation Assistance)	Ongoing				
F 9—Ensure that future specific plans and specific plan amendments are consistent with the goals and policies of the general plan. The specific plans shall include the designation and preservation of floodplain areas and adjacent habitat. Provisions shall be incorporated to ensure that public infrastructure, utilities, and emergency services remain functional during flood conditions. Such infrastructure and facilities include water, sewer and gas mains, telephone and electric lines, streets and bridges, hospitals, and fire and police stations. Financing mechanisms shall be explored to fund necessary flood protection improvements and maintenance. Development agreements may be used to secure implementation and funding provisions. (Specific plans have 100% cost recovery by developers).											
Action #F 8	existing			Works		cost recovery by developers	6				



	TABLE 21-4 (continued). HAZARD MITIGATION ACTION PLAN MATRIX										
Action Identified in Initial Plan (Y or N) #	Applies to new or existing assets	Hazards Mitigated	Objectives Met	Responsible Departments	Estimated Cost	Sources of Funding	Timeline				
FLOOD (cont	tinued)				_	-	-				
F 15—Analyze in the flood-pro Dry Creek f Area on Dr Linda Creel Cirby Creek	 F 15—Analyze alternative improvements to the Cirby/Linda/Dry Creek flood control project that may be cost effective in the flood-prone areas of Roseville: Dry Creek from Darling Way to Riverside Avenue Area on Dry Creek upstream of Folsom Road in the Columbia Avenue/Marilyn Avenue/Bonita Street area Linda Creek near Samoa Way/Hurst Way area Cirby Creek in the Trimble Way/Zien Court area 										
Y Action # F-14	Existing	Flood	6, 8, 10	Public Works	High (\$30,000 to \$100,000 per study)	General Funds; Developer- based funds, grant funding (PDM, HMGP, and FEMA) based on benefits exceeding costs	Long –term; depends on funding				
F 16—Replace This project is o	the Huntin overseen by	gton Driv ⁷ Public W	e/Cirby Cr Vorks depa	eek culvert with a rtment.	bridge to prote	ect Queens Court/Huntington	Drive area.				
Y Action # F-15	Existing	Flood	6, 10	Public Works	Medium (\$100,000)	General Fund; CIP, developer-based funds, grant funding (PDM, HMGP, and FEMA) based on benefits exceeding costs	Long-term; depends on funding				
F 17—Divert th that the existing Crestmont Ave	he main dra g system wi nue and nea	inage stor ll not exc arby home	rm drain sy eed capaci es will floo	stem down Crestr ty. If system capac d during major flo	nont Avenue to city is exceeded ood events.	Cirby Way and then into Dr d, the intersection on Cirby W	y Creek so ⁷ ay and				
Y Action #F-16	Existing	Flood	6, 10	Public Works	Medium (\$150,000)	General Fund; CIP, developer-based funds, grant funding (PDM, HMGP, and FEMA) based on benefits exceeding costs	Short-term				
F 18—Continu within Rosevill	e to promot le.	e and spo	nsor progra	ams to buy out, re	locate, and floo	od-proof existing flood-prone	structures				
Y Action #F-17	Existing	Flood	6, 10	Public Works	High	Grant funding (PDM, HMGP, and FEMA) based on benefits exceeding costs	Long-term; depends on funding				
F-19—Set back	c and raise t	he sewer	ponds leve	es at the Dry Cree	k Sewer Plant	so raw sewage will not enter	Dry Creek.				
Y Action # F-18	Existing	Flood	6, 10	Public Works; EUD	High (\$5 Million)	South Placer Wastewater Authority; Grant funding (PDM, HMGP, and FEMA) based on benefits exceeding costs	Short-term, ongoing				

	TABLE 21-4 (continued). HAZARD MITIGATION ACTION PLAN MATRIX										
Action Identified in Initial Plan (Y or N) #	Applies to new or existing assets	Hazards Mitigated	Objectives Met	Responsible Departments	Estimated Cost	Sources of Funding	Timeline				
FLOOD (con	tinued)					-					
F-20—Implem	ent recomn	nendation	of Downto	wn Roseville Spec	ific Plan to re	locate the Public safety Build	ing.				
N	Existing	Flood	6,10	Public Works	High (\$300,000)	Grant funding (PDM, HMGP, and FEMA) based on benefits exceeding costs	Long-term				
F-21—Retrofit damage should	t the city's I l Dry Creek	Downtown overspill	n library by the existing	sealing the exterion g floodwall.	or and installi	ng a flood door to protect agai	inst flood				
Ν	Existing	Flood	6, 10	Public Works	High	Grant funding (PDM, HMGP, and FEMA) based on benefits exceeding costs	Short-term; Ongoing				
F-22—Continu profit organiza slows storm wa	F-22—Continue the Tree Mitigation Fund program administered by the Open Space Division in conjunction with non- profit organizations. The planting of oak trees in the open spaces adjacent to riparian zones increases infiltration and slows storm water surges.										
Ν	New and Existing	Flood	1, 5, 7, 9	Open Space Division	Medium	General Fund	Ongoing				
F-23—Manag issue is impact includes establ Implement a st regulatory app most benign op	e beaver d s to floodw ishment of andard mor roval for be otions first.	am sites ater capac quantitati nitoring an aver mana	for flood c eity of creek ve and qual nd reporting agement tec	control protection s. Part of the desinitative "carrying c process to track b chniques such as b	and habitat re red comprehen apacity," inclu eaver dam loo iological cont	estoration after dam removal. (nsive approach to beaver man- uding acre-feet of flood capac cations, population, and impac rol and habitat manipulation u	One primary agement ity lost. cts. Gain using the				
Ν	New and existing	Flood	1, 6, 8	Open Space Division	Low	Currently funded by General Fund allocation	Ongoing				
				rublic works							
HC 1-Commit to fund its initi	support to satives	Sacramen	to Urban A	rea Security Initiat	ive; continue	to seek funding from other fe	deral sources				
Y Action # HC 2	New and existing	Human Caused	2, 7	Police/Fire	Medium	General Fund; DHS funding under Sacramento Urban Area Security Initiative	Short-term				
HC-2—Enhanovulnerabilities.	ce emergen	cy respon	se capabilit	y of City by contir	igency planni	ng for specific events based of	n identified				
Y Action # HC 3	New and existing	Human Caused	2, 3, 4, 9	Police and Fire Departments	Low	General Fund; DHS grant funding	Short-term, ongoing				
HC-3—Seek to the capabilities	o establish a s of the City	appropriat	e staffing le	evels of public safe	ety personnel	to address vulnerabilities iden	tified within				
Y Action # HC 4	New and existing	Human Caused	2, 4,	City Council	High	General Fund	Short Term; depends on funding				

	TABLE 21-4 (continued). HAZARD MITIGATION ACTION PLAN MATRIX									
Action Identified in Initial Plan (Y or N) #	Applies to new or existing assets	Hazards Mitigated	Objectives Met	Responsible Departments	Estimated Cost	Sources of Funding	Timeline			
HUMAN-CAU	SED (cor	ntinued)								
HC-4—Prepare and technology	HC-4—Prepare a site-specific vulnerability assessment of City-owned critical facilities that use the best available science and technology with regards human-caused hazards.									
Y Action # HC 5	Existing	Human Caused	2, 5, 7	Police, Fire, and Planning Departments	Medium	General Fund; DHS grant funding	Long-term			
HC-5—Addres EPA initiative.	HC-5—Address vulnerabilities identified in vulnerability assessment of water facilities performed by EUD in response to EPA initiative.									
Y Action # HC 8	Existing	Human Caused	5,7	EUD	High	EUD CIP, and EPA grant funding	Long-term			
HC 6-Maintain Energy Park wi	HC 6-Maintain compliance with California Energy Commission license conditions for the operations of the Roseville Energy Park with respect to Hazardous Material Management									
Ν	Existing	Human Caused	5,7	EUD	High	EUD CIP, General Fund	Ongoing			
HC 7-Establish Combustion Tu	and maint	ain compli on transfer	ance with of owners	state and local laws	and regulations and regulations and regulations and regulations and regulations and regulations are shown as the second sec	ons for the operation of the R ency to City.	oseville			
Ν	Existing	Human Caused	2,5,7	EUD	Medium	EUD CIP, General Fund	Ongoing			
HC-8-Maintain to plant operati	compliand	ce with No ge reportin	rth Ameri g and criti	can Electric Reliabi ical infrastructure pr	lity Corporati otection (cyb	on mandatory reliability stan er security.	dards related			
Ν	Existing	Human Caused	2,5,7	EUD	Medium	EUD CIP, General Fund	Ongoing			
HC 9—Protect limited to: Identity The Virus/Malw Network an Web site ha	 HC 9—Protect the city's data, technology infrastructure and staff against Cyber terrorism such as but not limited to: Identity Theft Virus/Malware/Spyware/Spam Network and system attacks Web site hacking N New and Human 2.5.7 City Council Medium General Fund Short Term: 									
	existing	caused	. /	÷			depends on funding			

	TABLE 21-4 (continued). HAZARD MITIGATION ACTION PLAN MATRIX										
Action Identified in Initial Plan (Y or N) #	Applies to new or existing assets	Hazards Mitigated	Objectives Met	Responsible Departments	Estimated Cost	Sources of Funding	Timeline				
HUMAN HEAI	LTH										
HH-1—Continu community	HH-1—Continue to collaborate with the Placer County Health Department to ensure the health and welfare of the community										
Y Action # HH 1	N/A	Human Health	5,6,7,9	Fire Department, Communication Division	Low	Currently budgeted for under the General Fund	Ongoing				
HH-2—Support District	t the publi	c educatior	n efforts o	f the Placer County	Health Depar	rtment and the Placer Mosquir	to Abatement				
Y Action # HH 2	N/A	Human Health	5,6,7,9	Communications Division, Fire Department,	Low	Currently budgeted for under the General Fun	Ongoing				
HH-3—Collabo conflict with hu	orate with man healt	the Placer (h protectio	County M n in the C	Iosquito Abatement Sity of Roseville and	District to review ork to reso	view resource protection polic lve these policy issues	vies that				
Y Action # HH- 3	N/A	Human Health	5,6,7,9	City Manager's Office	Low	Currently budgeted for under the General Fun	Short-term; Ongoing				
LANDSLIDE											
LS-1—Once Ca Mapping Act, re	alifornia G eassess lar	eological S ndslide haz	Survey co ard using	mpletes soils mappi best available data	ng for the Ro to gauge the t	seville vicinity under the Seis rue vulnerability to this hazar	mic Hazards d.				
Y Action LS #1	New and existing	Landslide	1, 5, 7	Public Works	Medium	General Fund; Developer- based funding and specific plan requirements	Long-term				
						Possible grant funding under PDM program					
LS-2—Continue steep slope area include the iden projects are sub	e to imple s of Rosev tified stee mitted,	ment polic ville. The C p slope are	ies adopte City of Ro as within	ed by the general pla seville Northeast Ro Roseville. Both pla	n that promo oseville Speci n areas have o	te open space land uses within fic Plan and Stoneridge Speci continuing development. Whe	n identified fic Plans en individual				
Y Action LS #3	New	Landslide	1, 6, 8	Planning	Low	General Fund; Developer- based funding and specific plan requirements	Ongoing				

	TABLE 21-4 (continued). HAZARD MITIGATION ACTION PLAN MATRIX										
Action Identified in Initial Plan (Y or N) #	Applies to new or existing assets	Hazards Mitigated	Objectives Met	Responsible Departments	Estimated Cost	Sources of Funding	Timeline				
SEVERE WE	ATHER			-	_		-				
SW-1—Contin	ue ongoing	g program o	of conver	rsion of overhead util	ities to under	ground service.					
Y Action # SW 1	New and	Severe	2, 10	Roseville Electric	Medium	CIP	Ongoing				
Action # Sw 1	existing	weather			(\$2 million /year)						
SW-2—Contin	ue the Sha	de Tree Pro	gram, ai	n energy conservatio	n rebate progr	ram provided by Roseville E	lectric				
Y Action # SW 3	New and Existing	Severe Weather	7, 9	Roseville Electric	Low	Roseville Electric operational budget	Ongoing				
SW-3—Contin hazards.	ue ongoing	g line cleari	ng and v	veed abatement of el	ectrical utilition	es to reduce exposure to seve	ere weather				
Y	New and	Severe	2	Roseville Electric	Low	CIP	Ongoing				
Action # SW 4	existing	Weather			(\$460,000/ year)						
SW-4—Contin	ue education	on/outreach	program	ns to improve winter	preparedness	and minimize loss of life or	injury.				
Y Action # SW 5	New and existing	Severe Weather	6, 9	Fire Department	Low	General Fund	Short-term, ongoing				
SW-5—Enhand	ce and imp	lement stra	tegies fo	r debris managemen	t and removal	during severe weather event	ts.				
Y	New and	Severe	6, 8	Public Works	Low	General Fund	Ongoing				
Action # SW 6	existing	Weather		Roseville Electric							
SW 6-Continue continuity durin	e to operate ng severe v	e the Rosev weather eve	ille Ener nts.	gy Park to support th	e City's elect	trical requirements and main	tain service				
N	Existing	Severe Weather	5,7	EUD	High	EUD CIP, General Fund	Ongoing				
SW 7-Take ove support the Cit	er ownersh y's electric	ip and oper al requirem	ation of ients and	the Roseville Combu l maintain service co	stion Turbing ntinuity durin	es from Northern CA Power.	Agency to				
N	Existing	Severe Weather	5,7	Public Works; Roseville Electric	Low	General Fund	Ongoing				

	TABLE 21-4 (continued). HAZARD MITIGATION ACTION PLAN MATRIX										
Action Identified in Initial Plan (Y or N) #	Applies to new or existing assets	Hazards Mitigated	Objectives Met	Responsible Departments	Estimated Cost	Sources of Funding	Timeline				
WILDFIRE					_						
WF-1—Contin weather hazard	ue ongoing s.	g line clear	ing and w	eed abatement of ele	ectrical utilition	es to reduce exposure to fire a	ind severe				
Y Action # WF 1	New and Existing	Wildland fire	2	Roseville Electric	Low	CIP	Ongoing				
WF-2—Contin wildfire. Imple and native plan	WF-2—Continue "Goat Grazing" program for removal of grassland in areas of Roseville potentially vulnerable to wildfire. Implement goat grazing in City open space and preserve areas for fire and invasive plant species management and native plant restoration.										
Y Action # WF 2	New and existing	Wildland Fire	6,9	Open Space Division	Low	General Fund; PDM grant funding	Ongoing				
WF-3—Enhand areas of concer	WF-3—Enhance existing City public outreach programs to include information on fire safety, defensible spaces, and areas of concern.										
Y Action # WF 3	New and existing	Wildland fire	6, 9	Fire Department	Low	General Fund; Grant funding under PDM program and HMGP	Short-term; Ongoing				
MULTIPLE H	AZARDS										
MH-1—Contin	ue to main	tain OES o	certificatio	on of all City inspect	ors for post-c	lisaster damage assessment.					
Y Action# MH-2	New and existing	Multi- hazard	2,7	City Manager's Office	Low	General Fund	Ongoing				
 MH-2—Contin The Hazard Hazard-spe Mitigation Emergency Links to content 	 MH-2—Continue to maintain the hazard mitigation page on City website that provides following types of information: The Hazard Management Plan and its progress reports Hazard-specific information Mitigation information by hazard, with specific emphasis on private property Emergency response and warning information Links to county state and federal related agencies 										
Y Action # MH- 3	New and Existing	Multi- hazard	2, 3, 5, 6, 9	Communications Division	Medium	General Fund; PDM grant funding	Ongoing				
 MH-3—Establish/maintain a post-disaster action plan to be part of the City Emergency operations plan that will include following elements: Procedures for public information Post-disaster damage assessment Grant writing Code enforcement Redundant operations 											
Y Action # MH- 5	New and existing	Multi- hazard	2, 3, 4, 7	Police, Fire, and Planning Departments	Medium	General Fund; PDM Grant Funding	Ongoing				

	TABLE 21-4 (continued). HAZARD MITIGATION ACTION PLAN MATRIX									
Action Identified in Initial Plan (Y or N) #	Applies to new or existing assets	Hazards Mitigated	Objectives Met	Responsible Departments	Estimated Cost	Sources of Funding	Timeline			
MULTIPLE H	AZARDS	(continu	ied)							
MH-4—Impler Develop "adop and the terms of participation.	MH-4—Implement an "Adopt an Open Space" program in coordination with the open space management program. Develop "adoption contracts" with neighborhoods, organizations, businesses, etc., describing the level of stewardship and the terms of the "adoption." Publicize these activities through online resource directory and other media to encourage participation.									
Y Action # MH- 7	New and existing	Multi- hazard	1, 5, 7, 9	Open Space Division	Medium	General Fund; PDM grant funding	Longterm			
MH-5—Develo space areas des (including vern demonstration backyard habit	MH-5—Develop and disseminate best practices information to private property owners whose land is adjacent to open space areas describing stewardship opportunities and owners' role in preserving beneficial uses of open space areas (including vernal pool grassland and creek or riparian uses). Offer classes to provide in-depth information, such as demonstration projects, techniques for ecologically friendly weed abatement and vegetation control, and creating a backward behittet compatible with open space									
Y Action # MH- 8	New and existing	Multi- hazard	1, 5, 7, 9	Open Space Division	Medium	General Fund; PDM grant funding	Short-term; Ongoing			
MH-6—Work promote ecolog limiting school	with the Ro gy-oriented s' abilities	oseville C curricula to more a	ity School l and stewar ctively part	District, local high dship activities. Id icipate in stewards	school district entify resourc hip, and work	ts, and non-profit organizatio e and administrative barriers collaboratively to identify so	ns to that may be olutions.			
Y Action # MH- 9	New and existing	Multi- hazard	1, 5, 7, 9	City Manager's Office	Medium	General Fund; PDM grant funding	Short-term; Ongoing			
MH 7—Strive	to mainta	in high a	vailability	of essential com	munication s	services				
Ν	New and Existing	Multi- hazard	2,3,4,7	EUD	Medium	EUD CIP, General Fund	Ongoing			
MH 8-Secure t	he city's ph	ysical loc	cations that	contain technology	infrastructur	e				
Ν	New and existing	Multi- hazard	2,3,4,7	EUD	Medium	EUD CIP, General Fund	Ongoing			

TABLE 21-5. ACTION PLAN PRIORITIZATION							
	No. of Objectives Met	Benefits	Costs	Benefits Equal or Exceed Costs (Y or N)	Grant- Eligible (Y or N)	Can Be Funded Under Existing Programs or Budgets (Y or N)	Priority
DF-1	4	Medium	Medium	V	N	V	High
D_{-1}	2	Medium	Medium	Y	Y	N	Medium
D-2	2	High	High	Y	Y	N	Medium
D-3	2	High	Medium	Ŷ	Y	Y	High
D-4	2	Low	Low	Ŷ	Y	Y	High
EO-1	2	High	High	Y	Y	N	Medium
EQ-2	2 4	Low	Low	Ŷ	N	Y	High
EQ-3	4	Medium	Medium	Ŷ	Y	N	Medium
F-1	3	High	Low	Y	N	Y	High
F-2	3	Medium	Low	Ŷ	N	Ŷ	High
F-3	3	Medium	Low	Ŷ	N	Ŷ	High
F-4	5	High	Low	Ŷ	N	Ŷ	High
F-5	2	Medium	Low	Ŷ	Y	Ŷ	High
F-6	3	Medium	Low	Y	Ν	Y	High
F-7	3	Low	Low	Y	Ν	Y	High
F-8	2	Medium	Low	Y	Ν	Y	High
F-9	4	Medium	Low	Y	Ν	Y	High
F-10	3	Medium	Medium	Y	Ν	Ν	Medium
F-11	3	Medium	Low	Y	Ν	Y	High
F-12	1	Medium	Low	Y	Ν	Y	Medium
F-13	1	Medium	Low	Y	Ν	Y	Medium
F-14	3	Medium	High	Ν	Y	Ν	Low
F-15	3	Medium	High	Ν	Ν	Ν	Low
F-16	2	High	Medium	Y	Y	Ν	High
F-17	2	High	Medium	Y	Y	Ν	High
F-18	2	High	High	Y	Y	Ν	High
F-19	2	High	High	Y	Y	Ν	High
F-20	2	High	High	Y	Y	Ν	Medium
F-21	2	High	High	Y	Y	Y	High
F-22	4	High	Medium	Y	Ν	Ν	Medium
F-23	3	High	Low	Y	Ν	Y	High
LS-1	3	Medium	Medium	Y	Y	Ν	Medium
LS-2	3	Low	Low	Y	Ν	Y	High

TABLE 21-5 (continued). ACTION PLAN PRIORITIZATION							
	No. of Objectives Met	Benefits	Costs	Benefits Equal or Exceed Costs (Y or N)	Grant- Eligible (Y or N)	Can Be Funded Under Existing Programs or Budgets (Y or N)	Priority
HC-1	2	High	Medium	Y	Y*	N	High
HC-2	4	Medium	Low	Y	Y*	Y	High
HC-3	2	High	High	Y	Y*	Ν	High
HC-4	3	Medium	Medium	Y	Y*	Ν	Medium
HC-5	2	High	High	Y	Y*	Ν	Medium
HC-6	2	High	High	Y	Y*	Y	High
HC-7	3	High	Medium	Y	Y*	Y	High
HC-8	3	High	Medium	Y	Y*	Y	High
HC-9	3	High	Medium	Y	Y*	Y	High
HH-1	4	Low	Low	Y	N	Y	High
HH-2	4	Low	Low	Y	Ν	Y	High
HH-3	4	High	Low	Y	Ν	Y	High
SW-1	2	Medium	Medium	Y	Ν	Y	High
SW-2	2	Medium	Low	Y	Ν	Y	High
SW-3	1	Medium	Low	Y	Ν	Y	High
SW-4	2	High	Low	Y	Y	Y	High
SW-5	2	Medium	Low	Y	Ν	Ν	Medium
SW-6	2	High	High	Y	Ν	Y	High
SW-7	2	High	Low	Y	Ν	Y	High
WF-1	1	Medium	Low	Y	N	Y	High
WF-2	2	Medium	Low	Y	Y	Y	High
WF-3	2	Low	Low	Y	Y	Y	High
MH-1	2	Low	Low	Y	N	Y	High
MH-2	5	Medium	Medium	Y	Y	Y	High
MH-3	4	Medium	Medium,	Y	Y	Y	High
MH-4	4	Medium	Medium	Y	Ν	Y	Medium
MH-5	4	Medium	Medium	Y	Y	Y	High
MH-6	4	Medium	Medium	Y	Ν	Y	Medium
MH-7	4	High	Medium	Y	Ν	Y	High
MH-8	4	High	Medium	Y	Ν	Y	High

* Projects that mitigate the impacts of human-caused hazards are not grant-eligible under FEMA programs such as the HMGP or PDM program. The "Y" entries indicated in this column refer to grant programs sponsored by the DHS that can be applied to human-caused hazards.

		ANALYS	TABLE 21 IS OF MITIGA	-6. TION ACTI	ONS	
	Prevention	Property Protection	Public Education and Awareness	Natural Resource Protection	Emergency Services	Structural Projects
Dam Failure			DF-1		DF-1	
Drought	D-1, D-3	N/A	D-1, D-3	D-1, D-3		D-2
Earthquake	EQ-1, EQ-2, EQ-3	EQ-1, EQ-2	EQ-2, EQ-3,			EQ-1
Flood	F-1, F-2, F-3, F-4, F-6, F-7, F-9, F-10, F-11, F-12, F-13, F- 20, F-23,	F-2, F-3, F-4, F-9, F-18, F-19, F-20, F-21,	F-2, F-3,F-4, F-5, F-9,	F-1, F-3, F-6, F-7, F-12, F-13, F-22, F-23	F-3, F-8,	F-3, F-6, F-7, F-11, F-14, F-15, F-16, F-17,
Human Caused	H-C1, H-C4, H-C6, H-C7	H-C1, H-C4, H-C5, H-C6, H-C8	H-C1, H-C3		H-C1, H-C2, H-C3, H-C4, H-C8	
Human Health	НН-1, НН-2, НН-3	N/A	НН-1, НН-2, НН-3		HH-1, HH-2, HH-3	
Landslide	LS-1, LS-2		LS-1. LS-2			
Severe Weather	SW-3, SW-5	SW-1, SW-5, SW-6, SW-7,	SW-2, SW-4,	SW-2	SW-5, SW-6, SW-7,	SW-1
Wildland Fire	WF-1, WF-2	WF-1, WF-2	WF-2, WF-3	WF-1, WF-2		
Multi- Hazard	MH-3, MH-6	MH-8	MH-2, MH-4, MH-5, MH-6	MH-4	MH-1, MH-3, MH-7	

TABLE 21-7. 2005 ACTION PLAN STATUS									
	Action Status								
		Carry Over	Removed;						
Action #	Completed	to 2011 Plan	No Longer Feasible	Comments					
" D 1	Completed		1 cusible						
D-1		· · · · · · · · · · · · · · · · · · ·							
D-2		· · · · · · · · · · · · · · · · · · ·							
D-3		······							
EQ-1		· · · · · · · · · · · · · · · · · · ·							
EQ-2		· · · · · · · · · · · · · · · · · · ·							
EQ-4	✓			On January 1, 2008, the City of Roseville adopted the 2007 edition					
				of the California Building Code (CBC), which is based upon the 2006 edition of the International Building Code (IBC). All permits					
				applied for on or after January 1, 2008 are now plan-checked and					
				inspected, based on this edition of the CBC and must meet the					
 F-1		✓		minimum requirements of this code.					
F_2		· · · · · · · · · · · · · · · · · · ·							
F-3		√							
F-4		√		Is now action # F-5					
F-5		✓		Is now action # F-6					
F-6		√		Is now action # F-7					
F-7		✓		Is now action # F-8					
F-8		\checkmark		Is now action # F-9					
F-9		√		Is now action # F-10					
F-10		✓		Is now action # F-11					
F-11		\checkmark		Is now action # F-12					
F-12		√		Is now action # F-13					
F-13		\checkmark		Is now action # F-14					
F-14		\checkmark		Is now action # F-15					
F-15		\checkmark		Is now action # F-16					
F-16		\checkmark		Is now action # F-17					
F-17		\checkmark		Is now action # F-18					
F-18		\checkmark		Is now action # F-19					
F-19			~	This alternative is no longer considered feasible. Action has been converted to a structural retrofit. See action # 21					
F-20		✓		This is now action # F-23.					

	TABLE 21-7 (continued).2005 ACTION PLAN STATUS							
		Action Status	5					
		Carry Over	Removed;					
Action		to 2011	No Longer					
#	Completed	Plan	Feasible	Comments				
F-21	✓			This action was completed as part of this plan update. See chapter 10.				
F-22		✓		This is now action # DF-1.				
F-23	✓			Together with the Dry Creek Conservancy, the City of Roseville installed 66 creek identification signs at 33 bridge crossings in the Dry Creek watershed. The City is also actively pursuing grant funding to install the signs in the Pleasant Grove watershed. As part of developing a comprehensive interpretive sign program, an interpretive sign style guide was recently completed.				
LS-1		\checkmark						
LS-2	✓			On January 1, 2008, the City of Roseville adopted the 2007 edition of the California Building Code (CBC), which is based upon the 2006 edition of the International Building Code (IBC). All permits applied for on or after January 1, 2008 are now plan-checked and inspected, based on this edition of the CBC and must meet the minimum requirements of this code.				
LS-3		✓		Is now action # LS-2				
HC-1	✓			On March 19, 2008, the City Council approved new Community Design Guidelines (Resolution 08-142) which incorporate the Crime Prevention through Environmental Design or CPTED principles. Planning is including these requirements in new development conditions as an ongoing practice. In addition, all planners have received CPTED training, and a planning manager carries a POST certificate in CPTED.				
HC-2		\checkmark		Is now action # HC-1				
HC-3		\checkmark		Is now action # HC-2				
HC-4		\checkmark		Is now action # HC-3				
HC-5		✓		Is now action # HC-4				
HC-6	✓			A Continuity of Operations Plan has been completed by the Roseville Police Department specifically related specifically to pandemic flu. According to Police staff, this plan could be applied in any situation, including where personnel were lost due to a human-caused hazard. The Police Department plan was reviewed in 2009 at the beginning of the H1N1 viral outbreak in this area. Training was conducted for all Police Department staff, and continues when new information becomes available. The Plan includes an estimate of percentages of personnel who would be unavailable and a plan for continuation of critical				
				services. The template developed for the pandemic flu scenario will be used to develop a more general plan for the City when staffing allows progress to be made.				

TABLE 21-7 (continued). 2005 ACTION PLAN STATUS									
	Action Status								
		Carry Over	Removed;						
Action	a	to 2011	No Longer						
#	Completed	Plan	Feasible	Comments					
HC-7	✓			Installation of surveillance cameras at the Roseville Energy Park is complete and is currently being used to enhance security at the Energy Park.					
HC-8		✓		Is now action # HC-5					
HH-1		\checkmark							
HH-2		\checkmark							
HH-3		\checkmark							
SW-1		\checkmark							
SW-2	√			Roseville Electric purchased a large mobile generator and limited smaller generators to loan to other departments. These are stored at Roseville Electric and are available by request and availability.					
SW-3		\checkmark		Is now action # SW-2					
SW-4		\checkmark		Is now action # SW-3					
SW-5		\checkmark		Is now action # SW-4					
SW-6		\checkmark		Is now action # SW-5					
WF-1		\checkmark							
WF-2		\checkmark							
WF-3		✓							
WF-4			✓	This action has been determined to be no longer feasible at this time by the Roseville Fire Department.					
WF-5			✓	The Fire Marshal and Chief Building Official reviewed the need for a citywide Class A roofing requirement. Given Roseville's location, the limited amount of urban wildland interface property, and current agreements at the specific plan level that address this issue quite extensively, the officials are stating that a citywide requirement is not necessary. Currently, a Class A roofing requirement is evaluated at the Specific Plan level, i.e., Stoneridge, and applied through a development agreement as appropriate.					
WF-6	1			All Fire Department wildland apparatus use Class A foam with additional supplies available for large incidents. The foam is kept in stock and all firefighters are trained in its use. The Fire Department will not use gel in the future due to costs to retrofit equipment and the lack of a need to use the gel.					

TABLE 21-7 (continued).2005 ACTION PLAN STATUS										
	Action Status									
		Carry Over	Removed;							
Action #	Completed	to 2011 Plan	No Longer Feasible	Comments						
MH-1	¥			On January 1, 2008, the City of Roseville adopted the 2007 edition of the California Building Code (CBC), which is based upon the 2006 edition of the International Building Code (IBC). All permits applied for on or after January 1, 2008 are now plan-checked and inspected, based on this edition of the CBC and must meet the minimum requirements of this code.						
MH-2		✓		Is now action # MH-1						
MH-3		✓		Is now action # MH-2						
MH-4	✓			An automatic aid agreement with all western Placer County Fire Departments was entered into in early 2006. This clearly enhances the level of support from other fire agencies into the City of Roseville in large-scale emergencies. In 2008, the Roseville Fire Department began a review of existing automatic and mutual aid agreements to ensure that our standards of coverage are adequate into the future and to explore expanding agreements with the Sacramento Metro Fire District to the south. Existing agreements are adequate. All existing agreements are reviewed on a biennial basis.						
MH-5		✓		Is now action # MH-3						
MH-6	✓			The City of Roseville primary EOC has been relocated to the library/community center/public access center at Mahany Park. The facility opened to the public on January 27, 2008 and the EOC is now fully functional. Annual exercises have been conducted in 2008, 2009 and 2010.						
MH-7		✓		Is now action # MH-4						
MH-8		✓		Is now action # MH-5						
MH-9		✓		Is now action # MH-6						
MH-10			~	This action has been determined to be no longer feasible by the Roseville City Manager's office.						