

City of Long Beach

Natural Hazards Mitigation Plan

Final Working Document

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Prepared under contract with:

***Emergency Planning Consultants
San Diego, California
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Special Recognition

The Disaster Management Area Coordinators (DMAC) of Los Angeles County prepared a plan template that was utilized by the City of Long Beach in preparing this Natural Hazards Mitigation Plan. The City extends special recognition to AREA-G DMAC Coordinator Michael Martinet for his editing contributions to the Hazard-Specific Sections of the Template. The DMAC template was based on the Mitigation Plan from Clackamas County, Oregon. The City is grateful to the DMAC's and the Clackamas County Natural Hazards Mitigation Committee for their contributions to this project.

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City of Long Beach

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- Fady Mattar, Director, Planning & Building, Committee Co-Chair
- Rich Brandt, Hazard Mitigation Coordinator, Fire Department, Committee Facilitator
- Casey Chel, Disaster Management/Area-F Coordinator
- Stephen Scott, City Manager's Office
- Diana Ambriz, Financial Management
- Tina Dickinson, Technology Services – GIS
- Janet Mullen, Technology Services - GIS
- Larry Rich, Planning & Building
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- John Benedetti, Police Department
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- Ginger Alhadeff

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Mapping

Other than Internet-sourced maps, the City of Long Beach provided all of the maps included in this Plan.

Consulting Services

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Note: The maps in this plan were provided by the City of Long Beach or were acquired from public Internet sources. Care was taken in the creation of these maps, but they are provided "as is". The City of Long Beach cannot accept any responsibility for any errors, omissions or positional accuracy, and therefore, there are no warranties that accompany these products (the maps). Although information from land surveys may have been used in the creation of these products, in no way does this product represent or constitute a land survey. Users are cautioned to field verify information on this product before making any decisions.

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Executive Summary: Hazard Mitigation Action Plan

The City of Long Beach Natural Hazards Mitigation Plan includes resources and information to assist City residents, public and private sector organizations, and others interested in participating in planning for natural hazards. The mitigation plan provides a list of activities that may assist City of Long Beach in reducing risk and preventing loss from future natural hazard events. The action items address multi-hazard issues, as well as activities for earthquakes, flooding, earth movement, windstorms, and tsunamis.

How is the Plan Organized?

The Mitigation Plan contains a Mitigation Actions Matrix, background on the purpose and methodology used to develop the mitigation plan, a profile of City of Long Beach, sections on five natural hazards that occur within the City, and a number of appendices. All of the sections are described in detail in Section 1, Introduction.

Who Participated in Developing the Plan?

The City of Long Beach Natural Hazards Mitigation Plan is the result of a collaborative planning effort between City of Long Beach, citizens, public agencies, non-profit organizations, the private sector, and regional and state organizations. Public participation played a key role in development of goals and action items. Interviews were conducted with stakeholders across the City, and public outreach activities were conducted to include City of Long Beach residents in plan development. The Natural Hazards Mitigation Advisory Committee guided the process of developing the plan.

The Natural Hazards Mitigation Advisory Committee was comprised of the following representatives:

City of Long Beach	Dave Ellis, Fire Chief, Committee Co-Chair
	Fady Mattar, Director of Planning & Building, Committee Co-Chair
	Rich Brandt, Hazard Mitigation Coordinator, Fire Department, Committee Facilitator
	Casey Chel, Disaster Management
	Stephen Scott, City Manager's Office
	Diana Ambriz, Financial Management
	Tina Dickinson, Technology Services – GIS
	Janet Mullen, Technology Services - GIS

	Larry Rich, Planning & Building
	Dale Wiersma, Planning & Building
	Miguel Madrigal, Planning & Building
	Craig Chalfant, Planning & Building
	Johnny Vallejo, Community Development
	Laurie Browning, Parks, Recreation & Marine
	John Benedetti, Police Department
	Torben Beith, Police Department
	Linden Nishinaga, Public Works
	Octavius Covington, Harbor Department – Port of Long Beach Security
	Bob Berg, Water Department
	Mike Alio, Human Resources
	Margaret Shobert, Human Resources
	Hanan Obeidi, Health & Human Services
American Red Cross Response Services	Peggy Brutsche
	Bill Clausen
Long Beach Memorial Hospital	Ginger Alhadeff
Pacific Hospital of Long Beach	Luis Gonzalez
Long Beach Unified School District	Cathy Coy
Department of Veterans Affairs	Theodore Gegoux
Emergency Planning Consultants	Carolyn J. Harshman, President

What is the Plan Mission?

The mission of the City of Long Beach Natural Hazards Mitigation Plan is to establish and promote a comprehensive mitigation policy and program to protect citizens, employees, businesses and industries lives, property and facilities, the infrastructure and the environment from natural hazards.

What are the Plan Goals?

The plan goals describe the overall direction that City of Long Beach agencies, organizations, and citizens can take to work toward mitigating risk from natural hazards. The goals are stepping-stones between the broad direction of the mission statement and the specific recommendations outlined in the action items.

Protect Life and Property

Identify natural hazards that threaten life and property in the City of Long Beach.

Implement programs and projects that assist in protecting lives by making infrastructure, critical facilities, and other property more resistant to losses from natural hazards.

Protect life and property by adopting state-of-the-art standards, codes and construction procedures.

Reduce losses and repetitive damages for chronic hazard events while promoting insurance coverage for catastrophic hazards.

Improve hazard assessment information to make recommendations for discouraging new development in high hazard areas and encouraging preventative measures for existing development in areas vulnerable to natural hazards.

Increase Public Awareness

Increase public awareness of existing threats and the means to reduce these threats by conducting educational and outreach programs to all the various community groups in the City of Long Beach.

Provide information on tools; partnership opportunities, and funding resources to assist in implementing mitigation activities.

Strengthen Partnerships

Strengthen communication and coordinate participation among and within public agencies, residents, non-profit organizations, business, and industry to gain a vested interest in implementation of mitigation measures.

Encourage and support leadership within public and private sector, non-profit agencies and community based organizations to promote and implement local hazard mitigation activities.

Environmental & Historical Preservation

Balance land use planning with natural hazard mitigation to protect life, property and the environment.

City Emergency Services

Establish policy to ensure the importance of mitigation programs and projects for critical facilities, services, and infrastructure.

Continue providing emergency services with training and equipment to address all identified hazards.

Continue developing and strengthening inter-jurisdictional coordination and cooperation in the area of emergency services.

How are the Action Items Organized?

The action items are a listing of activities in which City agencies and citizens can be engaged to reduce risk. Each action item includes an estimate of the timeline for implementation.

The action items are organized within the following Matrix, which lists all of the multi-hazard and hazard-specific action items included in the mitigation plan. Data collection and research and the public participation process resulted in the development of these action items (see Appendix B: Public Participation). The Matrix includes the following information for each action item:

Coordinating Organization. The coordinating organization is the public agency with regulatory responsibility to address natural hazards, or that is willing and able to organize resources, find appropriate funding, or oversee activity implementation, monitoring, and evaluation. Coordinating organizations may include local, county, or regional agencies that are capable of or responsible for implementing activities and programs.

Timeline. Action items include both short and long-term activities. Each action item includes an estimate of the timeline for implementation.

Plan Goals Addressed. The plan goals addressed by each action item are included as a way to monitor and evaluate how well the mitigation plan is achieving its goals once implementation begins. The plan goals are organized into the following five areas:

Protect Life and Property
Increase Public Awareness
Strengthen Partnerships
Environmental & Historical Preservation
City Emergency Services

How Will the Plan be Implemented, Monitored, and Evaluated?

The Plan Maintenance Section (Section 2) of the Plan details the formal process that will ensure that the City of Long Beach Natural Hazards Mitigation Plan remains an active and relevant document. The plan maintenance process includes a schedule for monitoring and evaluating the Plan annually and producing a plan revision every five years. This section describes how the City will integrate public participation throughout the plan maintenance process. Finally, this section includes an explanation of how the City of Long Beach government intends to incorporate the mitigation strategies outlined in this Plan into existing planning mechanisms such as the City's General Plan, Capital Improvement Plans, and Building & Safety Codes.

Plan Adoption

Adoption of the Natural Hazards Mitigation Plan by the local jurisdiction's governing body is one of the prime requirements for approval of the plan. Once the plan is completed, the City Council will be responsible for adopting the City of Long Beach Natural Hazards Mitigation Plan. The City Council has the responsibility and authority to promote sound public policy regarding natural hazards. The City Manager (or designee) will have the authority to periodically need to re-adopt the plan as it is revised to meet changes in the natural hazard risks and exposures in the community. The approved Natural Hazards Mitigation Plan will be significant in the future growth and development of the community.

Coordinating Body

The City Manager will appoint a City Manager's Executive Committee consisting of department managers. The Executive Committee will be responsible for providing leadership and guidance to the Natural Hazards Mitigation Advisory Committee (Mitigation Committee). The Mitigation Committee will be responsible for implementation of Plan action items and coordinating the formal review process.

Convener

Upon approval of the Plan by the City Council, the City Manager (or designee) will convene a joint meeting of the City Manager's Executive Committee and the Mitigation Committee. The purpose of the joint meeting will be to clarify the roles and responsibilities of the two Committees, as well as to establish an annual schedule and assign tasks for implementing the Plan. The Mitigation Committee will serve as a working committee, while the Executive Committee will be ultimately responsible for implementation and evaluation of the Natural Hazards Mitigation Plan.

Implementation through Existing Programs

City of Long Beach addresses statewide planning goals and legislative requirements through the City's General Plan, Capital Improvement Plans, and City Building & Safety Codes. The Natural Hazards Mitigation Plan provides a series of recommendations that are closely related to the goals and objectives of these existing planning programs. The City of Long Beach will have the opportunity to implement recommended mitigation action items through existing programs and procedures.

Economic Analysis of Mitigation Projects

The Federal Emergency Management Agency's approaches to identify costs and benefits associated with natural hazard mitigation strategies or projects fall into two general categories: benefit/cost analysis and cost-effectiveness analysis. Conducting benefit/cost analysis for a mitigation activity can assist communities in determining whether a project is worth undertaking now, in order to avoid disaster-related damages later. Cost-effectiveness analysis evaluates how best to spend a given amount of money to achieve a specific goal. Determining the economic feasibility of mitigating natural hazards can provide decision makers with an understanding of the potential benefits and costs of an activity, as well as a basis upon which to compare alternative projects.

Formal Review Process

The City of Long Beach Natural Hazards Mitigation Plan will be evaluated on an annual basis to determine the effectiveness of programs, and to reflect changes in land development or programs that may affect mitigation priorities. The evaluation process includes a firm schedule and timeline, and identifies the local agencies and organizations participating in plan evaluation. The City Manager (or designee) will be responsible for contacting the Executive Committee members and organizing the meeting for the annual review of the Plan. The Executive Committee will be responsible for monitoring and evaluating the progress of the mitigation action items identified in the Plan.

Continued Public Involvement

The City of Long Beach is dedicated to involving the public directly in the continual review and updates of the Natural Hazards Mitigation Plan. Copies of the plan will be catalogued and made available at the City Libraries, the City Clerk's Office located in City Hall and on the City website. The existence and location of these copies will be publicized in City newsletters. The Plan also includes the address and the phone number of the City's Hazard Mitigation Coordinator who is responsible for keeping track of public comments on the Plan. In addition, copies of the Plan and any proposed changes will be posted on the City website. This site will also contain an email address and phone number.

City of Long Beach Mitigation Actions Matrix

Natural Hazard	Action Item	Coordinating Organization	Timeline	Plan Goals Addressed					
				Protect Life and Property	Increase Public Awareness	Environmental & Historical Preservation	Strengthen Partnerships	City Emergency Services	
Multi-Hazard Action Items									
MH #1-1	Integrate the goals and action items from the Natural Hazards Mitigation Plan (Plan) into existing regulatory documents and programs, where appropriate.	Natural Hazards Mitigation Advisory Committee (Mitigation Committee)	Immediate	X	X	X	X	X	
MH #1-2	Identify and pursue funding opportunities to develop and implement local mitigation activities.	Mitigation Committee	Immediate	X	X	X	X	X	

City of Long Beach Mitigation Actions Matrix

Natural Hazard	Action Item	Coordinating Organization	Timeline	Plan Goals Addressed				
				Protect Life and Property	Increase Public Awareness	Environmental & Historical Preservation	Strengthen Partnerships	City Emergency Services
MH #1-3	Establish a formal role for the City Manager's Executive Committee to develop a sustainable process for implementing, monitoring, and evaluating citywide mitigation activities. Committee would likely include Fire Chief, Director of Planning & Building, Technology Services, Public Works, and Deputy City Manager.	Co-Chairs of the Mitigation Committee	Immediate	X	X	X	X	X
MH #1-4	Identify, improve, and sustain collaborative programs focusing on the real estate and insurance industries, public and private sector organizations, and individuals to avoid activity that increases risk to natural hazards.	Mitigation Committee	Ongoing	X	X	X	X	X

City of Long Beach Mitigation Actions Matrix

Natural Hazard	Action Item	Coordinating Organization	Timeline	Plan Goals Addressed				
				Protect Life and Property	Increase Public Awareness	Environmental & Historical Preservation	Strengthen Partnerships	City Emergency Services
MH #1-5	Develop public and private partnerships to foster natural hazard mitigation program coordination and collaboration in the City.	Disaster Management	Ongoing	X	X	X	X	X
MH #1-6	Expand inventories of at-risk buildings and infrastructure and prioritize mitigation projects.	Planning & Building	1-5 Years	X			X	
MH #1-7	Strengthen emergency services preparedness and response by linking emergency services with natural hazard mitigation programs and enhancing public education on a local scale.	Disaster Management	Ongoing	X	X		X	X

City of Long Beach Mitigation Actions Matrix

Natural Hazard	Action Item	Coordinating Organization	Timeline	Plan Goals Addressed				
				Protect Life and Property	Increase Public Awareness	Environmental & Historical Preservation	Strengthen Partnerships	City Emergency Services
MH #1-8	Develop, enhance, and implement education programs aimed at mitigating natural hazards, and reducing the risk to residents, public agencies, private property owners, businesses, and schools.	Mitigation Committee	Ongoing	X	X		X	
MH #1-9	Use technical knowledge of natural ecosystems and events to link natural resource management and land use organizations to mitigation activities and technical assistance.	Planning & Building	Ongoing			X		
MH #1-10	Update Public Safety Element and Seismic Safety Element of the City's General Plan	Planning & Building	1-5 years	X	X	X	X	X
MH #1-11	Ensure SEMS-mandated plans, training and exercises are updated and implemented.	Disaster Management	Ongoing	X	X		X	X

City of Long Beach Mitigation Actions Matrix

Natural Hazard	Action Item	Coordinating Organization	Timeline	Plan Goals Addressed				
				Protect Life and Property	Increase Public Awareness	Environmental & Historical Preservation	Strengthen Partnerships	City Emergency Services
MH #1-12	Expand Mitigation Plan to include man-made hazards (HAZMAT, terrorism, etc.)	City Manager's Executive Committee	1-5 years	X	X	X	X	X
MH #1-13	Incorporate the building inventory into the hazard assessment.	Planning & Building	1-5 years	X	X			
MH #1-14	Ensure compliance to rebuilding in conformance with applicable codes, specifications, and standards.	Planning & Building	Ongoing	X		X		
MH #1-15	Ensure repairs or construction funded by Federal disaster assistance conform to applicable codes and standards.	Planning & Building	Ongoing	X				
MH #1-16	Review existing regulations to ensure adequacy in reducing the amount of future development in identified hazard areas.	Planning & Building	1-5 years	X				

City of Long Beach Mitigation Actions Matrix

Natural Hazard	Action Item	Coordinating Organization	Timeline	Plan Goals Addressed				
				Protect Life and Property	Increase Public Awareness	Environmental & Historical Preservation	Strengthen Partnerships	City Emergency Services
MH #1-17	Improve hazard assessment information to make recommendations for discouraging new development and encouraging preventative measures for existing development in areas vulnerable to natural hazards.	Planning & Building	1-5 years	X	X	X		X
MH #1-18	Use the Mitigation Plan to help the City's General Plan meet State regulations designed to protect life and property from natural disasters and hazards through planning strategies that restrict development in areas of known hazards. (California Coastal Commission, State Lands Commission)	Planning & Building	Ongoing	X	X	X		X

City of Long Beach Mitigation Actions Matrix

Natural Hazard	Action Item	Coordinating Organization	Timeline	Plan Goals Addressed				
				Protect Life and Property	Increase Public Awareness	Environmental & Historical Preservation	Strengthen Partnerships	City Emergency Services
MH #1-19	Coordinate and integrate natural hazard mitigation activities, where appropriate, with Multi-Hazard Functional Plan (MHFP) and emergency response procedures.	Disaster Management	Ongoing	X	X	X	X	X
MH #1-20	Identify, improve, and sustain collaborative programs focusing on the real estate and insurance industries, public and private sector organizations, and individuals to avoid activity that increases risk to natural hazards.	Community Development	Ongoing	X	X	X	X	X
MH #1-21	Maintain list of critical facilities at risk from natural hazards events.	Planning & Building	Ongoing	X	X	X	X	X
MH #1-22	Recommend revisions to requirements for development within the floodplain, where appropriate.	Planning & Building	Ongoing	X			X	X

City of Long Beach Mitigation Actions Matrix

Natural Hazard	Action Item	Coordinating Organization	Timeline	Plan Goals Addressed				
				Protect Life and Property	Increase Public Awareness	Environmental & Historical Preservation	Strengthen Partnerships	City Emergency Services
MH #1-23	Encourage construction and subdivision design that can be applied to steep slopes to reduce the potential adverse impacts from development.	Planning & Building	Ongoing	X	X	X		X
MH #1-24	Identify bridges at risk from flood or earthquake hazards, identify enhancements, and implement projects needed to reduce the risks.	Public Works	Ongoing	X	X	X		X
MH #1-25	Ensure communication and dissemination of natural hazard mitigation information.	Mitigation Committee	Ongoing	X	X	X	X	X
MH #1-26	Review protocol for communication between utility providers and emergency services to assure rapid restoration of transportation capabilities.	Disaster Management	Ongoing	X			X	X

City of Long Beach Mitigation Actions Matrix

Natural Hazard	Action Item	Coordinating Organization	Timeline	Plan Goals Addressed				
				Protect Life and Property	Increase Public Awareness	Environmental & Historical Preservation	Strengthen Partnerships	City Emergency Services
MH #1-27	Review strategy to maintain alternative communications facilities should natural hazards events cause damages.	Technology Services	1-2 years	X	X		X	X
MH #1-28	Review Preliminary Damage Assessment process to ensure efficiency and effectiveness. Improve communication and protocols between transportation entities (i.e. Public Works, Caltrans, LA County) to prioritize and identify strategies to deal with road problems.	Disaster Management	1-3 years	X	X		X	X
MH #1-29	Provide new home and property buyers with information on quality redevelopment and safe housing development.	Public Works	1-3 years	X	X		X	
MH #1-30		Planning & Building	1-2 years	X	X		X	X

City of Long Beach Mitigation Actions Matrix

Natural Hazard	Action Item	Coordinating Organization	Timeline	Plan Goals Addressed				
				Protect Life and Property	Increase Public Awareness	Environmental & Historical Preservation	Strengthen Partnerships	City Emergency Services
MH #1-31	Review City zoning regulations to ensure adequacy of restrictions to reduce future development in high hazard areas.	Planning & Building	3 years	X	X		X	X
MH #1-32	Compile a directory of out-of-area contractors to help with repairs/reconstruction so that restoration occurs in a timely manner.	Disaster Management	3 years	X			X	
MH #1-33	Partner with other organizations and agencies in the community to identify grant programs and foundations that may support mitigation activities.	City Manager's Executive Committee	Ongoing	X			X	
MH #1-34	Allocate City resources and assistance to mitigation projects when possible.	City Manager's Executive Committee	Ongoing	X			X	

City of Long Beach Mitigation Actions Matrix

Natural Hazard	Action Item	Coordinating Organization	Timeline	Plan Goals Addressed						
				Protect Life and Property	Increase Public Awareness	Environmental & Historical Preservation	Strengthen Partnerships	City Emergency Services		
MH #1-35	Identify all organizations within the jurisdiction that have programs or interests in natural hazards mitigation.	Mitigation Committee	1-2 years	X			X			
MH #1-36	Identify new sources of support such as philanthropic foundations, community organizations such as the Urban Land Institute or American Planning Association who might be able to provide technical or financial support for recovery planning.	Mitigation Committee	1-2 years	X			X			

City of Long Beach Mitigation Actions Matrix

Natural Hazard	Action Item	Coordinating Organization	Timeline	Plan Goals Addressed				
				Protect Life and Property	Increase Public Awareness	Environmental & Historical Preservation	Strengthen Partnerships	City Emergency Services
MH #1-37	Identify additional opportunities for partnering with citizens, private contractors, and other jurisdictions to increase availability of equipment and manpower for efficiency of response efforts.	Mitigation Committee	1-2 years	X	X		X	X
MH #1-38	Encourage development of additional Community Emergency Response Teams (CERT).	Fire Department	Ongoing	X	X		X	X
MH #1-39	Familiarize public officials of requirements regarding public assistance for disaster response.	City Manager's Executive Committee	Immediate	X	X	X	X	X
MH #1-40	Repeat the Community Hazards Mitigation & Preparedness Questionnaire in five years (coincide with Plan update).	Mitigation Committee	5 years	X	X		X	X
MH #1-41	Develop strategies for debris management for natural disaster events.	Public Works	1 year	X	X		X	X

City of Long Beach Mitigation Actions Matrix

Natural Hazard	Action Item	Coordinating Organization	Timeline	Plan Goals Addressed				
				Protect Life and Property	Increase Public Awareness	Environmental & Historical Preservation	Strengthen Partnerships	City Emergency Services
MH #1-42	Enhance weather monitoring to attain earlier severe storm warnings.	Disaster Management	Ongoing	X	X	X	X	X
MH #1-43	Improve communication among the adjoining transportation entities in order to improve coordination of emergency transportation route maintenance.	Public Works	1-2 years	X	X		X	X
MH #1-44	Establish a committee representative of all areas of the City that will include vets, pet store owners, the Humane Society, animal shelters, the Animal Control Division and other interested parties to work on animal-specific evacuation and sheltering needs.	Health & Human Services	5 years	X	X		X	X

City of Long Beach Mitigation Actions Matrix

Natural Hazard	Action Item	Coordinating Organization	Timeline	Plan Goals Addressed				
				Protect Life and Property	Increase Public Awareness	Environmental & Historical Preservation	Strengthen Partnerships	City Emergency Services
MH #1-45	Develop informational literature on animal disaster plans and supply kits and have them available in veterinary clinics and pet stores.	Health & Human Services, American Red Cross	1-2 years	X				
MH #1-46	Incorporate the training goals and objectives used by Fire/EMS, Police, Public Works, Health and Human Services in order to foster unified command relationships.	Fire Department	1-4 years	X	X		X	X
MH #1-47	Develop mitigation strategies to protect identified at-risk historic properties.	Planning & Building	1-3 years	X	X		X	X
MH #1-48	Conduct a full review of the Mitigation Plan every 5 years by evaluating mitigation successes, failures, and areas that were not addressed.	City Manager's Executive Committee	5 years	X	X		X	X

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Natural Hazard	Action Item	Coordinating Organization	Timeline	Plan Goals Addressed				
				Protect Life and Property	Increase Public Awareness	Environmental & Historical Preservation	Strengthen Partnerships	City Emergency Services
MH #1-49	Establish and implement the National Incident Management System (NIMS) in each agency/department.	Fire Department	1-3 years	X	X		X	X
MH #1-50	Identify water resources management and conservation opportunities.	Water Department	Ongoing	X	X		X	X
MH #1-51	Develop a strategy to ensure vehicle access routes to key health care facilities will be protected from blockage as a result of a disaster.	Police Department	1-2 years	X	X		X	X
MH #1-52	Develop inventory of backup power resources (generators) of City's critical facilities, hospitals, and nursing homes. Encourage upgrading of resources, as necessary.	Fire Department	1-2 years	X	X		X	X

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Natural Hazard	Action Item	Coordinating Organization	Timeline	Plan Goals Addressed				
				Protect Life and Property	Increase Public Awareness	Environmental & Historical Preservation	Strengthen Partnerships	City Emergency Services
MH #1-53	Enhance emergency services to increase the efficiency of mutual aid wildfire response and recovery activities.	Fire Department	1-3 years	X	X		X	X
MH #1-54	Enhance response capability of City fire, police, and emergency medical services personnel to special populations.	Disaster Management	1-2 years	X	X		X	X
MH #1-55	Ensure preventive maintenance of the community's infrastructure will be done to minimize the potential for system failure because of or during a disaster.	Public Works	1-5 years	X	X		X	X

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Natural Hazard	Action Item	Coordinating Organization	Timeline	Plan Goals Addressed				
				Protect Life and Property	Increase Public Awareness	Environmental & Historical Preservation	Strengthen Partnerships	City Emergency Services
MH #1-56	Publicize the Emergency Management Institute's Independent Study Courses available to the public to include but not limited to Emergency Preparedness USA, Hazardous Material: Citizen Orientation, Animals in Disaster, Disaster Mitigation for Homeowners.	Disaster Management	1-2 years	X	X		X	X
MH #1-57	Teach CERT classes to interested citizens in the City to assist their neighbors during emergencies. These courses will be taught in various locations throughout the City, utilizing the staff resources including EMS, Fire, Police and external resources including American Red Cross.	Fire Department	Ongoing	X	X		X	X

City of Long Beach

Mitigation Actions Matrix

Natural Hazard	Action Item	Coordinating Organization	Timeline	Plan Goals Addressed				
				Protect Life and Property	Increase Public Awareness	Environmental & Historical Preservation	Strengthen Partnerships	City Emergency Services
MH #1-58	Conduct annual tabletop disaster exercises with police, fire, emergency management, and other disaster response departments and agencies.	Disaster Management	Yearly	X	X		X	X
MH #1-59	Pre-position first response equipment and personnel at large venues.	Fire Department, Police Department	Ongoing	X	X		X	X
MH #1-60	Work with the organizations involved in shelter management (ARC and schools) to share information about local shelters.	Mitigation Committee	1-5 years	X	X		X	X
MH #1-61	Obtain and deliver information to all City residents on "sheltering in place".	Fire Department, American Red Cross	1-2 years	X	X		X	X
MH #1-62	Utilize Neighborhood Resource Centers for distribution of natural hazard public awareness materials.	Community Development	Ongoing	X	X		X	

City of Long Beach Mitigation Actions Matrix

Natural Hazard	Action Item	Coordinating Organization	Timeline	Plan Goals Addressed				
				Protect Life and Property	Increase Public Awareness	Environmental & Historical Preservation	Strengthen Partnerships	City Emergency Services
MH #1-63	Develop public awareness materials that address weather-related natural hazards.	Mitigation Committee, American Red Cross	1 year	X	X			
MH #1-64	Distribute weather-related disaster preparedness literature to all property owners. Include information on tropical storms, high winds, drought, severe storms, etc.	Mitigation Committee	Ongoing	X	X			
MH #1-65	Continue to distribute letters to all property owners on the importance of water conservation and availability of water saving devices for homes.	Water Department	Ongoing	X	X		X	
MH #1-66	Provide business continuity workshops for business owners to learn the importance of disaster mitigation and how to create an emergency operations plan for their businesses.	Disaster Management	1-3 years	X	X		X	X

City of Long Beach

Mitigation Actions Matrix

Natural Hazard	Action Item	Coordinating Organization	Timeline	Plan Goals Addressed				
				Protect Life and Property	Increase Public Awareness	Environmental & Historical Preservation	Strengthen Partnerships	City Emergency Services
MH #1-67	Train EMS, Fire, Police, Public Works, Health & Human Services and other support personnel in Unified Command using the Incident Management System identified in the City's Multi-Hazard Functional Plan. By understanding the role of each discipline will result in a cohesive performance of their assigned tasks yielding an overall emergency response that is not only effective, but rapid with optimal outcome.	Fire Department	1-5 years	X	X		X	X
MH #1-68	Distribution of information on fire safety, smoke alarms and sprinkler systems to homeowners of structures built before 1980.	Fire Department	Ongoing	X	X			

City of Long Beach Mitigation Actions Matrix

Natural Hazard	Action Item	Coordinating Organization	Timeline	Plan Goals Addressed				
				Protect Life and Property	Increase Public Awareness	Environmental & Historical Preservation	Strengthen Partnerships	City Emergency Services
MH #1-69	Maintain and publicize availability of preparedness materials at Fire Stations and City Hall. The locations will stock materials that may include: Emergency Preparedness Guidebook, FEMA's Are You Ready, and other brochures on disaster supplies kits and plans, etc.	Fire Department, American Red Cross	Ongoing	X	X			
MH #1-70	Consider expanding the Region I (Local Emergency Preparedness Committee's (LEPC) responsibilities to include mitigation planning and disaster preparedness education activities.	Disaster Management	1-2 years	X	X		X	X
MH #1-71	Utilize the media for the distribution and publication of hazard information.	All PIOs	Ongoing	X	X		X	

City of Long Beach Mitigation Actions Matrix

Natural Hazard	Action Item	Coordinating Organization	Timeline	Plan Goals Addressed				
				Protect Life and Property	Increase Public Awareness	Environmental & Historical Preservation	Strengthen Partnerships	City Emergency Services
MH #1-72	<p>Strategize on merging existing preparedness booths to include "how to" mitigation materials. The new booth could include pictures and information, such as those contained in FEMA's Retrofitting for Homeowners Guide, Elevating Your Flood Prone Home, how to elevate critical structures and utilities and information on the NFIP.</p> <p>Integrate the Mitigation Plan with the Capital Improvement Plans to ensure that development does not encroach on known hazard areas.</p> <p>Establish priorities for restoration of the community's infrastructure and vital public facilities following a disaster.</p>	Mitigation Committee	1-4 years	X	X		X	X
MH #1-73		Public Works	Yearly	X	X	X	X	X
MH #1-74		Mitigation Committee	Ongoing	X	X	X	X	X

City of Long Beach Mitigation Actions Matrix

Natural Hazard	Action Item	Coordinating Organization	Timeline	Plan Goals Addressed				
				Protect Life and Property	Increase Public Awareness	Environmental & Historical Preservation	Strengthen Partnerships	City Emergency Services
MH #1-75	Enhance Fire Department's Speaker's Bureau to include natural hazard topics.	Fire Department, American Red Cross	1-3 years	X	X		X	X
MH #1-76	Create a database with information to track the status of City-owned or occupied facilities repairs or reconstruction. Prepare a policy that identifies which types of repairs and/or reconstruction, if any, would be exempt from local codes, particularly zoning and land development codes.	Public Works	Following Disaster	X	X		X	X
MH #1-77	Determine capacity in local construction and debris landfills to absorb the estimated inflow of disaster/restoration debris.	City Manager's Executive Committee	1-5 years	X	X		X	X
MH #1-78		Long Beach Energy	1-2 years	X	X		X	X

City of Long Beach Mitigation Actions Matrix

Natural Hazard	Action Item	Coordinating Organization	Timeline	Plan Goals Addressed				
				Protect Life and Property	Increase Public Awareness	Environmental & Historical Preservation	Strengthen Partnerships	City Emergency Services
MH #1-79	Coordinate with American Red Cross to deliver a variety of courses, including: CPR, Basic First Aid, Introduction to Disaster Services, Mass Care, Shelter Operations, babysitting, Healthcare Provider, and pet first-aid at locations throughout the City.	Fire Department	Ongoing	X	X		X	
MH #1-80	Develop a program to educate the public on existing disaster-related self-help agencies available within the City.	Mitigation Committee	1-2 years		X		X	
MH #1-81	Establish website links with outside disaster relief agencies such as the Hospital and County Social Services.	Technology Services	1 year		X		X	
MH #1-82	Post the Mitigation Plan on the City's website.	City PIO	Upon approval	X	X		X	X

City of Long Beach Mitigation Actions Matrix

Natural Hazard	Action Item	Coordinating Organization	Timeline	Plan Goals Addressed				
				Protect Life and Property	Increase Public Awareness	Environmental & Historical Preservation	Strengthen Partnerships	City Emergency Services
MH #1-83	Utilize the City's website for media releases and public displays to advertise agencies such as the American Red Cross, CERT, the LEPC Committee, and Volunteer Organizations Active in Disaster.	Disaster Management	1 year	X			X	
MH #1-84	Educate the public about hazards prevalent to their area.	Community Development, American Red Cross	1-2 years	X	X		X	X

City of Long Beach Mitigation Actions Matrix

Natural Hazard	Action Item	Coordinating Organization	Timeline	Plan Goals Addressed				
				Protect Life and Property	Increase Public Awareness	Environmental & Historical Preservation	Strengthen Partnerships	City Emergency Services
MH #1-85	Enhance, improve and create additional displays for children's programs that teach safety. Examples of information to be used would be similar to that on the FEMA for Kids CD, the Sparky Fire Safety Program, and/or the American Red Cross's Masters of Disasters program. These displays can be used in conjunction with "Safetyville", the library's children's section, etc.	Fire Department	Ongoing	X	X		X	X
MH #1-86	Enhance boater safety materials that are targeted toward severe storms. Distribute the materials at all local marinas in the City.	Parks, Recreation & Marine	1-2 years	X	X		X	X

City of Long Beach Mitigation Actions Matrix

Natural Hazard	Action Item	Coordinating Organization	Timeline	Plan Goals Addressed				
				Protect Life and Property	Increase Public Awareness	Environmental & Historical Preservation	Strengthen Partnerships	City Emergency Services
MH #1-87	Work with the Visitor & Convention Bureau and others to alert tourists to the potential of natural hazard areas and what to do if a natural hazard occurs during their visit to the City.	Mitigation Committee	Ongoing	X	X		X	X
MH #1-88	Develop and distribute media releases to local newspapers and radio stations about pre-disaster information.	City PIO	1-3 years	X	X		X	X
MH #1-89	Establish public service announcements on preparedness and mitigation steps and strategies.	Fire Department	1-2 years	X	X		X	X
MH #1-90	Maintain supplies and training associated with use of ATC-20 standards (building inspections following disaster).	Planning & Building	Ongoing	X	X		X	X

City of Long Beach Mitigation Actions Matrix

Natural Hazard	Action Item	Coordinating Organization	Timeline	Plan Goals Addressed					
				Protect Life and Property	Increase Public Awareness	Environmental & Historical Preservation	Strengthen Partnerships	City Emergency Services	
MH #1-91	Promote CERT through the Chamber of Commerce to gain business participation.	Fire Department	1-2 years	X	X		X	X	
MH #1-92	Develop training on the Mitigation Plan for the Planning Commission and others involved in the development process.	Planning & Building	1-2 years	X	X		X	X	
MH #1-93	Develop an e-mail list of training coordinators for Fire/EMS, Police, Public Works, and Health & Human Services staff and other support personnel to forward all training announcements and updates.	Disaster Management	Ongoing	X	X		X	X	
MH #1-94	Ensure adequacy and functionality of the alternate ECOC.	City Manager's Executive Committee	11/20/03	X	X		X	X	
MH #1-95	Build a new Emergency & Operations Center (ECOC).	Fire Department, Police Department	Completed	X	X	X	X	X	

City of Long Beach Mitigation Actions Matrix

Natural Hazard	Action Item	Coordinating Organization	Timeline	Plan Goals Addressed				
				Protect Life and Property	Increase Public Awareness	Environmental & Historical Preservation	Strengthen Partnerships	City Emergency Services
MH #1-96	Maintain database in existing hazard GIS system of all previous loss properties in the City to be used in future mitigation activities.	Technology Services	Ongoing	X	X	X	X	X
MH #1-97	Continue collection of HAZMAT reports from local facilities to enhance and prepare emergency responders in the event of a "secondary impact" incident at these facilities.	Health & Human Services	Ongoing	X	X	X	X	X
MH #1-98	Determine how, when, and under what circumstances government will demolish structures.	City Manager's Executive Committee	2 years	X	X			X
MH #1-99	Retrofit bridges and tunnels.	Public Works	Ongoing	X	X			X
MH #1-100	Incorporate new Mitigation Plan Hazard Analysis into the MHFP Threat Assessment update.	Disaster Management	1-2 years				X	X

City of Long Beach Mitigation Actions Matrix

Natural Hazard	Action Item	Coordinating Organization	Timeline	Plan Goals Addressed				
				Protect Life and Property	Increase Public Awareness	Environmental & Historical Preservation	Strengthen Partnerships	City Emergency Services
MH #1-101	Update the MHFP to conform with State 3-year review requirements	Disaster Management	1 year				X	X
MH #1-102	Incorporate the mitigation activities identified in the City's General Plan into the Mitigation Plan.	Mitigation Committee	1 year			X		
MH #1-103	Continue public education activities relating to natural hazards.	Fire Department	Ongoing		X			
MH #1-104	Revise the Zoning and/or Subdivision Ordinance to require the utilization of various pervious surfaces within the floodplain in order to reduce storm water runoff. This should include utilizing the use of various pervious surfaces in parking lots in recreational areas near the floodplain.	Planning & Building	5 years	X	X			

City of Long Beach Mitigation Actions Matrix

Natural Hazard	Action Item	Coordinating Organization	Timeline	Plan Goals Addressed				
				Protect Life and Property	Increase Public Awareness	Environmental & Historical Preservation	Strengthen Partnerships	City Emergency Services
MH #1-105	Upgrade the existing generator and electrical systems at Long Beach Airport.	Public Works	Tentative FY 2005	X				X
MH #1-106	Install new public address system at Long Beach Airport.	Public Works	Tentative FY 2005	X				X
MH #1-107	Replace Long Beach Airport's existing 1,500 gallon Aircraft Rescue Firefighting vehicle with a 3,000 gallon vehicle and replacement of the existing rapid response fire fighting vehicle with a new rapid response vehicle.	Fire Department	Ordered FY 2004 Completed FY 2005	X				X
MH #1-108	Construct Americans with Disabilities Act (ADA) building upgrades in various locations throughout the City.	Planning & Building	1 year	X				
MH #1-109	Various structural repairs and improvements to existing critical facilities.	Public Works	1 year	X				X

City of Long Beach Mitigation Actions Matrix

Natural Hazard	Action Item	Coordinating Organization	Timeline	Plan Goals Addressed				
				Protect Life and Property	Increase Public Awareness	Environmental & Historical Preservation	Strengthen Partnerships	City Emergency Services
MH #1-110	Design and construct Emergency Communications & Operations Center (ECOC)	Public Works	1 year	X			X	X
MH #1-111	Repair residential streets to correct drainage problems and pavement failure.	Public Works	1 year	X		X		
MH #1-112	Install Opticom units on traffic signals at prioritized intersections in order to enhance emergency vehicle response times and operational safety by allowing emergency vehicles to pre-empt signal timing.	Public Works	Ongoing	X				X
MH #1-113	Update Natural Hazards Mitigation Plan on an annual basis.	Mitigation Committee	Yearly	X	X	X	X	X
MH #1-114	Consider incorporating man-made and technological hazards in future updates to the Mitigation Plan.	Mitigation Committee	1-5 years	X	X	X	X	X

City of Long Beach Mitigation Actions Matrix

Natural Hazard	Action Item	Coordinating Organization	Timeline	Plan Goals Addressed				
				Protect Life and Property	Increase Public Awareness	Environmental & Historical Preservation	Strengthen Partnerships	City Emergency Services
MH #1-115	Identify opportunities and funding to establish a Hazardous Materials Team.	Fire Department	1-5 years	X	X	X	X	X
MH #1-116	Develop tabletop exercise with assistance from Public Safety in order to better identify mapping needs for emergency response situations and EOC activations.	Technology Services - GIS	1-2 years	X	X	X	X	X
MH #1-117	Coordinate community education activities with the American Red Cross and utilize information published by the National Disaster Education Coalition in "Talking About Disasters: Guide for Standard Messages". http://www.disastereducation.org/	Mitigation Committee, American Red Cross	Ongoing	X	X		X	
MH #1-118	Develop a forum for interagency communication and cooperative planning and preparedness activities (Disaster Committee).	Disaster Management	Ongoing	X	X	X	X	X

City of Long Beach Mitigation Actions Matrix

Natural Hazard	Action Item	Coordinating Organization	Timeline	Plan Goals Addressed				
				Protect Life and Property	Increase Public Awareness	Environmental & Historical Preservation	Strengthen Partnerships	City Emergency Services
MH #1-119	Prepare pre-scripted messages for use in emergency response and recovery.	Health & Human Services	Ongoing	X	X	X	X	X
MH #1-120	Include Health & Human Services in all City-wide disaster exercises.	Disaster Management	Ongoing	X	X		X	X
MH #1-121	Identify funds for specialized equipment for public health emergency response activities.	Health & Human Services	Ongoing	X				X
MH #1-122	Conduct pharmaceutical stockpile exercise.	Health & Human Services	1 year	X	X	X	X	X
MH #1-123	Conduct regional forums on public health disasters.	Health & Human Services	1-5 years		X		X	
MH #1-124	Maintain and regularly exercise Health and Human Services staff and functions.	Health & Human Services	yearly	X				X

City of Long Beach Mitigation Actions Matrix

Natural Hazard	Action Item	Coordinating Organization	Timeline	Plan Goals Addressed				
				Protect Life and Property	Increase Public Awareness	Environmental & Historical Preservation	Strengthen Partnerships	City Emergency Services
MH #1-125	Train Health and Human Services staff on ICS and SEMS.	Health & Human Services	1-2 years	X	X		X	X
MH #1-126	Train community on Public Health's role in a disaster.	Health & Human Services	1-2 years	X	X		X	
MH #1-127	Train first responders on Public Health's role in first responder and disaster responsibilities.	Health & Human Services	1-2 years	X	X	X	X	X
MH #1-128	Prepare Mental Health response plan to disasters.	Health & Human Services	1-5 years	X	X	X	X	X
MH #1-129	Develop a Memorandum of Understanding with the American Red Cross on mutual aid with Public Health.	Health & Human Services	1 year	X			X	
MH #1-130	Enhance public health communications to meet City's first response standards.	Health & Human Services	1-2 years	X		X	X	X

City of Long Beach Mitigation Actions Matrix

Natural Hazard	Action Item	Coordinating Organization	Timeline	Plan Goals Addressed				
				Protect Life and Property	Increase Public Awareness	Environmental & Historical Preservation	Strengthen Partnerships	City Emergency Services
MH #1-131	Work with first responders on force protection issues for pharmaceutical distribution sites.	Health & Human Services	1-5 years	X	X	X	X	X
MH #1-132	Exercise Health Department evacuation capacity to a natural disaster event.	Health & Human Services	yearly	X			X	X
MH #1-133	Exercise Health Department's Department Operations Center in response to natural disaster evacuation exercise.	Health & Human Services	yearly	X				X
MH #1-134	Maintain Health Department Safety Committee and provide appropriate staff training as determined by City's Safety Department.	Health & Human Services	Ongoing	X				X
MH #1-135	Develop a platform for intra-departmental and inter-agency cooperation.	Disaster Management	Completed 11/2004	X	X	X	X	X

City of Long Beach Mitigation Actions Matrix

Natural Hazard	Action Item	Coordinating Organization	Timeline	Plan Goals Addressed				
				Protect Life and Property	Increase Public Awareness	Environmental & Historical Preservation	Strengthen Partnerships	City Emergency Services
MH #1-136	Develop a process to ensure coordination between PIOs from all City departments.	Disaster Management	Completed	X	X	X	X	X
MH #1-137	Seek funding to enhance existing USAR capabilities (done through grants).	Disaster Management	Completed FY 2004					X
MH #1-138	Upgrade existing EOC with technology to better communicate with the operational area and the public.	Disaster Management	Ongoing	X	X	X	X	X
Earthquake Action Items								
EQ #2-1	Integrate new earthquake hazard mapping data for the City and improve technical analysis of earthquake hazards.	GIS/Technology Services	Ongoing	X	X		X	X
EQ #2-2	Identify funding sources for structural and nonstructural retrofitting of structures that are identified as seismically vulnerable.	Mitigation Committee	Immediate		X		X	

City of Long Beach Mitigation Actions Matrix

Natural Hazard	Action Item	Coordinating Organization	Timeline	Plan Goals Addressed				
				Protect Life and Property	Increase Public Awareness	Environmental & Historical Preservation	Strengthen Partnerships	City Emergency Services
EQ #2-3	Conduct seismic strength evaluations of critical facilities in the City to identify vulnerabilities for mitigation of City-owned and occupied, and public infrastructure to meet current seismic standards.	Public Works	1-2 years	X	X	X	X	X
EQ #2-4	Encourage reduction of nonstructural and structural earthquake hazards in homes, schools, businesses, and government offices.	Planning & Building	1-2 years	X	X		X	
EQ #2-5	Research and evaluate possibility of adopting retrofitting requirement for different classes of structures.	Planning & Building	1-5 years	X				

City of Long Beach Mitigation Actions Matrix

Natural Hazard	Action Item	Coordinating Organization	Timeline	Plan Goals Addressed				
				Protect Life and Property	Increase Public Awareness	Environmental & Historical Preservation	Strengthen Partnerships	City Emergency Services
EQ #2-6	Rehabilitate bridges and coordinate seismic deficiencies noted in the Los Angeles County's Annual Bridge Inspection Report.	Public Works	Tentative FY 2008	X				X
EQ #2-7	Seek funding to update the City's Seismic Safety Element of the General Plan.	Planning & Building	Annually	X	X		X	X
EQ #2-8	Input historical bore locations to complete Earthquake Fault GIS data for use in future Threat Assessments.	Technology Services - GIS	Ongoing	X		X		
EQ #2-9	Identify and require seismic retrofitting of unreinforced masonry buildings.	Planning & Building	Ongoing	X				
EQ #2-10	Promote and provide technical information for voluntary retrofitting of existing structures.	Planning & Building	Ongoing	X	X			

City of Long Beach Mitigation Actions Matrix

Natural Hazard	Action Item	Coordinating Organization	Timeline	Plan Goals Addressed				
				Protect Life and Property	Increase Public Awareness	Environmental & Historical Preservation	Strengthen Partnerships	City Emergency Services
Flood Action Items								
FLD #3-1	Develop better flood warning systems.	Public Works, Planning & Building	1-3 years	X	X	X	X	X
FLD #3-2	Enhance data and mapping for floodplain information within the City and identify and map flood-prone areas outside of designated floodplains.	Technology Services	Ongoing	X	X	X	X	X
FLD #3-3	Analyze each repetitive flood property within the City and identify feasible mitigation options.	Public Works, Property Management, Planning & Building	2 years	X			X	
FLD #3-4	Recommend revisions to requirements for development within the floodplain, where appropriate.	Planning & Building	2 years	X		X	X	
FLD #3-5	Identify surface water drainage obstructions for all parts of the City.	Public Works	2 years	X	X	X		X

City of Long Beach Mitigation Actions Matrix

Natural Hazard	Action Item	Coordinating Organization	Timeline	Plan Goals Addressed				
				Protect Life and Property	Increase Public Awareness	Environmental & Historical Preservation	Strengthen Partnerships	City Emergency Services
FLD #3-6	Continue to compile and coordinate surface water management plans and data throughout the City.	Public Works	Ongoing	X	X	X		X
FLD #3-7	Enact a local ordinance that prohibits draining, filling, or construction of buildings, roads, or other infrastructure in designated wetlands. This would help to protect the flood-control function of the wetland, preserve water quality, and ensure adequate in-stream flow.	Planning & Building	1 year	X	X	X	X	X
FLD #3-8	Research and prepare a policy that identifies measures intended to minimize the risk of erosion.	Planning & Building	2-4 years	X	X	X		
FLD #3-10	Distribute information on the National Flood Insurance Program to local businesses in or near the floodplain.	City PIO	2 years	X	X		X	

City of Long Beach Mitigation Actions Matrix

Natural Hazard	Action Item	Coordinating Organization	Timeline	Plan Goals Addressed				
				Protect Life and Property	Increase Public Awareness	Environmental & Historical Preservation	Strengthen Partnerships	City Emergency Services
FLD #3-11	Coordinate in-house training sessions on the regulations associated with NFIP.	Public Works	1-3 years	X	X		X	
FLD #3-12	Review the City's floodplain ordinance to be sure it is in full compliance with the NFIP.	Public Works	1-3 years	X	X		X	
FLD #3-13	Encourage development of acquisition and management strategies to preserve open space for flood mitigation, bird habitats, and water quality in the floodplain.	Planning & Building	2 years			X		
FLD #3-14	Identify surface water drainage obstructions for all parts of the City.	Public Works	3 years	X		X		X
FLD #3-15	Improve drainage systems for the runways at Long Beach Airport.	Public Works	Tentative FY 2005	X				X

City of Long Beach Mitigation Actions Matrix

Natural Hazard	Action Item	Coordinating Organization	Timeline	Plan Goals Addressed				
				Protect Life and Property	Increase Public Awareness	Environmental & Historical Preservation	Strengthen Partnerships	City Emergency Services
FLD #3-16	Perform a feasibility study for assistance in restoring the estuarine ecosystem of the Colorado Lagoon, improving water quality, managing storm water, and supporting environmental education, safe public recreation, and coastal access.	Public Works	Tentative FY 2007	X	X	X	X	
FLD #3-17	Maintain and repair seawalls located in Downtown, Alamitos Bay and Naples Island.	Public Works	Ongoing through FY 2008	X		X		
FLD #3-18	Complete structural improvements to stormwater/urban runoff systems.	Public Works	Tentative FY 2008	X				
FLD #3-19	Regulate construction in designated floodplains via elevation of structures or flood proofing.	Planning & Building	Ongoing	X	X			

City of Long Beach

Mitigation Actions Matrix

Natural Hazard	Action Item	Coordinating Organization	Timeline	Plan Goals Addressed				
				Protect Life and Property	Increase Public Awareness	Environmental & Historical Preservation	Strengthen Partnerships	City Emergency Services
Earth Movement Mitigation Actions Items								
EM #4-1	Improve knowledge of earth movement hazard areas and understanding of vulnerability and risk to life and property in hazard-prone areas.	Planning & Building	Ongoing	X	X	X	X	X
EM #4-2	Research and evaluate possible landslide warning system.	Disaster Management	3-5 years	X			X	X
EM #4-3	Limit activities in identified potential and historical landslide areas through regulations and public outreach.	Planning & Building	Ongoing	X	X			
EM #4-4	Improve knowledge of earth movement hazard areas and understanding of vulnerability and risk to life and property in hazard-prone areas.	Public Works	2-4 years	X				X

City of Long Beach Mitigation Actions Matrix

Natural Hazard	Action Item	Coordinating Organization	Timeline	Plan Goals Addressed				
				Protect Life and Property	Increase Public Awareness	Environmental & Historical Preservation	Strengthen Partnerships	City Emergency Services
Windstorm Action Items								
WS #5-1	Continue to enhance programs to keep trees from threatening lives, property, and public infrastructure during windstorm events.	Public Works, Parks, Recreation & Marine	Ongoing	X			X	X
WS #5-2	Encourage electrical utilities to use underground construction methods where possible to reduce power outages from windstorms.	City Manager's Executive Committee	Immediate			X	X	
WS #5-3	Increase public awareness of windstorm mitigation activities.	City PIO	1-2 years	X	X		X	
WS #5-4	Develop codes relating to wind-resistant building siting and construction.	Planning & Building	1-2 years	X	X			
Tsunami Action Items								
TSU #6-1	Secure funding to contract with a consultant to conduct a technical analysis of the tsunami threat.	Planning & Building	1 year	X		X	X	X

City of Long Beach

Mitigation Actions Matrix

Natural Hazard	Action Item	Coordinating Organization	Timeline	Plan Goals Addressed				
				Protect Life and Property	Increase Public Awareness	Environmental & Historical Preservation	Strengthen Partnerships	City Emergency Services
TSU #6-2	Implement findings of special research on tsunami threat to Long Beach coastal areas. Amend codes and regulations, as necessary.	Planning & Building	1-2 years	X			X	X
TSU #6-3	Train regulatory and response staff in tsunami threat.	Planning & Building	1-2 years	X			X	X
TSU #6-4	Develop and conduct training and exercises relating to tsunami response.	Disaster Management	3-5 years	X			X	X
TSU #6-5	Develop a warning system in the City to notify residents of impending tsunami activity.	Fire Department, Police Department	2-3 years	X			X	X
TSU #6-6	Develop a tsunami education campaign to prepare residents.	Mitigation Committee, American Red Cross	2-3 years	X			X	