

# DISASTER PREPAREDNESS AND SAFETY ELEMENT

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## ELEMENT OBJECTIVES

The policies and actions of the Disaster Preparation and Safety Element are intended to achieve the following six objectives:

1. Establish and maintain an effective emergency response program that anticipates the potential for disasters, maintains continuity of life-support functions during an emergency, and institutes community-based disaster response planning, involving businesses, non-governmental organizations, and neighborhoods.
2. Improve and develop City mitigation programs to reduce risks to people and property from natural and man-made hazards to socially and economically acceptable levels.
3. Plan for and regulate the uses of land to minimize exposure to hazards from either natural or human-related causes and to contribute to a “disaster-resistant” community.
4. Reduce the potential for loss of life, injury, and economic damage resulting from earthquakes and associated hazards.
5. Reduce the potential for loss of life, injury, and economic damage resulting from urban and wildland fire.
6. Reduce the potential for loss of life and property damage in areas subject to flooding.

## POLICIES AND ACTIONS

### EMERGENCY PREPAREDNESS AND RESPONSE

#### **Policy S-1 Response Planning**

Ensure that the City’s emergency response plans are current and incorporate the latest information on hazards, vulnerability, and resources. (*Also see Transportation Policy T-28.*)

Actions:

- A. Test, maintain, and revise the City’s disaster response plan(s) consistent with the California Standardized Emergency Management System (SEMS) and establish clear coordination of roles and expectations with the County Office of Emergency Services, the University of California, the Berkeley Unified School District, neighboring jurisdictions, and other agencies.
- B. Designate and publicize evacuation routes, shelter locations, and emergency service locations (hospitals, fire stations, etc.) within the city and subregion. Include existing city pathways and other pedestrian right-of-ways in the published designated evacuation route map. Prioritize undergrounding of utilities for designated routes to make them more reliable.

- C. Designate and publicize emergency access routes with the city and subregion. Prioritize undergrounding of utilities to enhance reliability of emergency access routes and minimize conflagration hazards from fallen power lines.
- D. City departments shall conduct an appropriate level of staff training addressing emergency readiness, evacuation routes, first aid, staging areas and procedures, continuity of services, and response and recovery operations and including CERT training for all City employees.
- E. Establish facilities and provide equipment that may be used by citizens during the first days immediately after a major disaster until such time as City services become available.
- F. Prepare an annual report in consultation with the Fire Safety Commission and other relevant Commissions and Boards on the state of preparedness in Berkeley.
- G. Conduct coordinated planning and training between local and regional police, fire, and public health agencies in preparation for natural and man-made disasters, and ensure that the City's disaster response communication technologies are compatible with regional agency communication technologies.

**Policy S-2 Neighborhood Preparation and Education**

Continue to provide education, emergency preparedness training and supplies to the community at the neighborhood level to support neighborhood- and community-based disaster response planning.

Actions:

- A. Enhance the Community Emergency Response Training (CERT) program to provide disaster preparedness training to the community at the neighborhood level. Work with the Berkeley Unified School District to develop and implement a CERT curriculum.
- B. Work with neighborhood associations and other community groups to organize disaster preparedness and other training activities on a block-by-block basis.
- C. Map existing neighborhood disaster preparedness groups and seek to fill gaps with new or extended groups. Establish central locations within each neighborhood for aid and information exchanges.
- D. Continue to enforce restrictions on illegal window bars.
- E. Explore implementation of a siren system, combined with reverse calling and other methods as a way to warn neighborhoods about problems.

**Policy S-3 Public Information**

Publicize disaster preparedness efforts (such as CERT) and expand public awareness of specific hazards and risks by making available all relevant information including mapping and reports on various hazards, information on vulnerability and risk reduction techniques, evacuation routes, and emergency services, and information on financial and technical assistance resources.

Actions:

- A. Continue to provide emergency preparedness and planning information to citizens through libraries, the City website, radio, and other locations.

- B. Explore possible programs that would enable, encourage, or require landlords, property managers, and realtors to provide information to new tenants and new homeowners about emergency preparedness, evacuation routes, and home safety.

**Policy S-4 Special Needs Communities**

Continue to work with the social service community to ensure the safety of special needs populations.

Actions:

- A. Encourage partnerships between public safety, public health, and community services providers to develop and implement community safety and community service programs.
- B. Work closely with area hospitals to encourage hospital preparation and coordinate disaster recovery plans.

**Policy S-5 The City's Role in Leadership and Coordination**

Ensure that the City provides leadership and coordination of the private sector, public institutions, and other public bodies in emergency preparedness.

Actions:

- A. Promote information sharing and seek to coordinate and implement collaborative mitigation and response planning and information gathering efforts with neighboring cities, Alameda and Contra Costa Counties, the East Bay Regional Park District, other agencies, non-profit organizations, businesses and industries, educational institutions, and residents.
- B. Promote information sharing and seek to coordinate and implement collaborative mitigation and response planning and information gathering efforts.

**Policy S-6 Damage Assessment**

Establish and maintain a rapid damage assessment capability.

Action:

- A. Formulate and adopt damage assessment protocols, and train appropriate inspection and other personnel to implement these protocols.

**Policy S-7 Emergency Water Supply**

Protect life and property in the event of an earthquake by evaluating alternate drinking water and fire-fighting water supply in the event of failure of the East Bay Municipal Utility District (EBMUD) water supply.

**Policy S-8 Continuity of Operations**

Provide for the continuation of City government and services following a major disaster.

Action:

- A. Establish plans including such aspects as emergency supplies sufficient to carry out assigned disaster responsibilities.

**Policy S-9 Pre-Event Planning**

Establish pre-event planning for post-disaster recovery as an integral element of the emergency preparedness programs of the City Council and each of the City departments.

Actions:

- A. Establish a framework and process for recovery planning that specifies roles, priorities and responsibilities of various departments within the City organization, and that outlines a structure and process for policy-making involving elected officials and appointed advisory committee(s).
- B. Prepare a basic Recovery Plan that outlines the major issues and tasks that are likely to be the key elements of community recovery. Examine issues such as debris removal, provision of shelter, interim housing, restoration of services, interim business resumption facilities, protection of historic resources, standards for replacement of non-conforming structures and uses, and restoring neighborhood and community character.
- C. Integrate recovery planning as an element of the Community-Based Disaster Response Plan. Identify possible roles for community organizations, business representatives, and neighborhoods in the recovery process.

#### **Policy S-10 Sustaining Mitigation Initiatives**

Improve public awareness and establish new public/private partnerships to implement mitigation initiatives in the community and region through programs such as Project Impact.

Actions:

- A. Analyze and evaluate the benefits of formulating City plans and programs for short-term and long-term mitigation.
- B. Perform appropriate seismic analysis based on current and future use for all city-owned facilities and structures.
- C. Request and encourage neighboring cities, other agencies, non-profit organizations, neighborhood and citizen groups, business organizations and the University of California also to formulate and implement complementary mitigation action plans.

#### **Policy S-11 Historic Structures**

Encourage and support the long-term protection of historic or architecturally significant structures to preserve neighborhood and community character. *(Also see Urban Design and Preservation Policy UD-7.)*

Actions:

- A. Create incentives for owners of historic or architecturally significant structures to undertake mitigation to levels that will minimize the likelihood of demolition and maximize the ability to repair or avoid damage in the event of a natural disaster.
- B. Consistent with public safety and acceptable risk determinations, seek all feasible means to avoid demolition of historic or architecturally significant structures following a disaster by pursuing repair, rehabilitation, and preservation of structures, facades, or other features.

### **Policy S-12 Utility and Transportation Systems**

Improve the disaster-resistance of utility and transportation systems to increase public safety and to minimize damage and service disruption following a disaster.

Actions:

- A. Support and encourage efforts undertaken by Caltrans, the East Bay Municipal Utility District, Pacific Gas & Electric, telephone and telecommunications companies, Amtrak, the Union Pacific Railroad, AC Transit, and the Bay Area Rapid Transit System to plan for and finance seismic retrofit and other disaster-resistance measures.
- B. Work closely with the utility companies to facilitate undergrounding of utilities.
- C. Urge the Public Utilities Commission, utilities, and oil companies to strengthen, relocate, or otherwise safeguard natural gas and other pipelines where they extend through areas of high liquefaction potential, cross potentially active faults, or traverse potential landslide areas, or areas that may settle differentially during an earthquake.

## DISASTER-RESISTANT LAND USE PLANNING

### **Policy S-13 Hazards Identification**

Identify, avoid and minimize natural and human-caused hazards in the development of property and the regulation of land use.

Actions:

- A. Maintain and make publicly available up-to-date hazard maps identifying areas subject to heightened risk from potential seismic hazards (including fault rupture, ground failure, ground shaking, and liquefaction), and fire, flood, landslide, and other hazards, such as toxic contamination and radioactive release.
- B. Improve the understanding of identified hazards and mitigation needs via area-specific studies such as microzonation studies.

### **Policy S-14 Land Use Regulation**

Require appropriate mitigation in new development, in redevelopment/reuse or in other applications. *(Also see Land Use Policies LU-4, LU-6, and LU-7.)*

Actions:

- A. When appropriate utilize the environmental review process to ensure avoidance of hazards and/or adequate mitigation of hazard-induced risk.
- B. Require soil investigation and/or geotechnical reports in conjunction with development/redevelopment on sites within designated hazard zones such as areas with high potential for soil erosion, landslide, fault rupture, liquefaction and other soil-related constraints.
- C. Place structural design conditions on new development to ensure that recommendations of the geotechnical/soils investigations are implemented.

- D. Encourage owners to evaluate their buildings' vulnerability to earthquake hazards, fire, landslides, and floods and to take appropriate action to minimize the risk.
- E. Develop criteria for disaster-resistant land use regulations to ensure that new construction reduces rather than increases risk of all kinds.

**Policy S-15 Construction Standards**

Maintain construction standards that minimize risks to human lives and property from environmental and human-caused hazards for both new and existing buildings.

Actions:

- A. Periodically update and adopt the California Building Standards Code with local amendments to incorporate the latest knowledge and design standards to protect people and property against known fire, flood, landslide, and seismic risks in both structural and non-structural building and site components.
- B. Ensure proper design and construction of hazard-resistant structures through careful plan review/approval and thorough and consistent construction inspection.

**Policy S-16 Residential Density in the Hills**

Consider changes to the existing residential zoning in high risk, residential areas, such as the Hazardous Hill Fire Area to reduce the vulnerability of these areas to future disasters. *(See the Hazardous Hill Area map on page S-10.)*

Actions:

- A. Consider zoning amendments to prevent future development, including the prohibition of new second units, in these areas or sites in these areas that are particularly vulnerable to natural disaster. *(Also see Housing Policy H-17.)*
- B. Consider fire safety, evacuation, and emergency vehicle access when reviewing secondary unit or other proposals to add residential units in these areas.

SEISMIC HAZARDS

**Policy S-17 Residential Seismic Retrofitting Incentive Program**

Maintain existing programs such as the Residential Seismic Retrofitting Incentive Program to facilitate retrofit of potentially hazardous structures.

Action:

- A. Expand public awareness of the program and take other actions to publicize and improve the effectiveness of the program.

**Policy S-18 Public Information**

Establish public information programs to inform the public about seismic hazards and the potential hazards from vulnerable buildings.

**Policy S-19 Risk Analysis**

Understand and track changes in seismic risk utilizing the best available information and tools.

Actions:

- A. Make maximum use of new available information to update maps that depict seismic hazards.
- B. Encourage building owners (including public sector agencies and local jurisdictions) to install instruments to record earthquake shaking in conjunction with the State's Strong Motion Instrumentation Program.

**Policy S-20 Mitigation of Potentially Hazardous Buildings**

Pursue all feasible methods, programs, and financing to mitigate potentially hazardous buildings.

Actions:

- A. Implement an effective Un-Reinforced Masonry (URM) Program to retrofit all remaining non-complying buildings. Work with owners of potentially hazardous buildings to obtain structural analyses of their buildings and to undertake corrective mitigation measures to improve seismic resistance or to remove the buildings and replace them with safer buildings.
- B. Create a program similar to the URM Program to reduce risks to people and property for all potentially hazardous buildings in Berkeley, with a priority on multi-family soft-story buildings.
- C. Consider requiring disclosure of potential hazards to occupants and residents of potentially hazardous buildings, along with mitigation and safety information and technical assistance.
- D. Investigate and adopt financial, procedural, and land use incentives and provide technical assistance for owners of potentially hazardous structures, such as soft-story buildings, to facilitate retrofit.
- E. Investigate and adopt retrofit guidelines and building codes that address structural and nonstructural mitigation to facilitate the retrofit of all types of existing buildings.
- F. Consider the formulation and adoption of a retrofit standard for single-family homes.
- G. Evaluate the ability of essential public facilities to maintain structural integrity and remain operational in the event of a strong earthquake. Those facilities unable to remain operational should be modified to bring them into conformance. Emergency guidelines shall be developed for buildings for which structural (and/or non-structural) modification and provision of back-up utility services are not feasible.
- H. Establish a prioritized program for seismic retrofit of the remaining unreinforced public structures.

## FIRE HAZARDS

**Policy S-21 Fire Preventive Design Standards**

Develop and enforce construction and design standards that ensure new structures incorporate appropriate fire prevention features and meet current fire safety standards.

Actions:

- A. Strengthen performance review and code enforcement programs.

- B. Promote the installation of built-in fire extinguishing systems and early warning fire alarm systems.
- C. Maintain City standards for minimum width and vertical clearance, and ensure that new driveways and roadways meet minimum standards of the Uniform Fire Code or subsequent standards adopted by the City.
- D. Provide adequate water for fire suppression for new development in accordance with City standards for minimum volume and duration of flow.
- E. Establish criteria for the installation of gas shutoff valves in new and existing construction, to reduce the risk of post-earthquake fires.

**Policy S-22 Fire Fighting Infrastructure**

Reduce fire hazard risks in existing developed areas.

Actions:

- A. Develop proposals to make developed areas more accessible to emergency vehicles and reliable for evacuation. Consider restricting on-street parking, increasing parking fines in hazardous areas, and/or undergrounding overhead utilities. Require that all private access roads be maintained by a responsible party to ensure safe and expedient passage by the Fire Department at any time, and require approval of all locking devices by the Fire Department. Ensure that all public pathways are maintained to provide safe and accessible pedestrian evacuation routes from the hill areas. *(Also see Transportation Policies T-28 and T-52.)*
- B. Evaluate existing access to water supplies for fire suppression. Identify, prioritize, and implement capital improvements and acquire equipment to improve the supply and reliability of water for fire suppression. Continue to improve the water supply for fire fighting to assure peak load water supply capabilities. Continue to work with EBMUD to coordinate water supply improvements. Develop aboveground, (transportable) water delivery systems.
- C. Provide properly staffed and equipped fire stations and engine companies. Monitor response time from initial call to arrival and pursue a response time goal of four minutes from the nearest station to all parts of the city. Construct a new hill area fire station that has wildland fire fighting equipment and ability.

**Policy S-23 Property Maintenance**

Reduce fire hazard risks in existing developed areas by ensuring that private property is maintained to minimize vulnerability to fire hazards.

Actions:

- A. Continue and expand existing vegetation management programs.
- B. Property owners shall be responsible for maintaining their structures at a reasonable degree of fire and life safety to standards identified in adopted codes and ordinances.

- C. Promote smoke detector installation in existing structures. Require the installation of smoke detectors as a condition of granting a permit for any work on existing residential and commercial buildings and as a condition for the transfer of property.
- D. Promote fire extinguisher installation in existing structures, particularly in kitchens, garages, and workshops.
- E. Require bracing of water heaters and gas appliances and the anchoring of houses to foundations to reduce fire ignitions following earthquakes.

**Policy S-24 Mutual Aid**

Continue to fulfill legal obligations and support mutual aid efforts to coordinate fire suppression within Alameda and Contra Costa Counties, Oakland, the East Bay Regional Park District, and the State of California to prevent and suppress major wildland and urban fire destruction.

Actions:

- A. Work with inter-agency partners and residents in vulnerable areas to investigate and implement actions to improve fire safety, using organized outreach activities and councils such as the Hills Emergency Forum and the Diablo Fire Safe Council.
- B. Establish close coordination with the California Department of Forestry to minimize the risk of wildland fire in the hill areas.

**Policy S-25 Fire Safety Education**

Use Fire Department personnel to plan and conduct effective fire safety and prevention programs.

Actions:

- A. Provide fire safety presentations and programs to local schools, community groups, and neighborhoods.
- B. Provide fire safety classes for high-occupancy institutional land uses, and commercial and industrial occupancies.
- C. Develop and implement a program to improve public awareness and disseminate appropriate warnings during times of high fire danger.

FLOOD HAZARDS

**Policy S-26 Flood Hazards Mitigation**

Reduce existing flood hazards in Berkeley.

Actions:

- A. Conduct periodic evaluation of reservoir safety and undertake actions necessary to mitigate the potential for dam failure.
- B. Continue to rehabilitate the City’s storm drain system to reduce local flooding caused by inadequate storm drainage.

- C. Continue and significantly strengthen programs promoting storm drain maintenance by public and private sectors.
- D. Continue to work with the East Bay Municipal Utility District to complete the planned seismic improvements to the Berryman Reservoir.

**Policy S-27 New Development**

Use development review to ensure that new development does not contribute to an increase in flood potential.

Actions:

- A. Regulate development in the Waterfront flood-prone areas consistent with the Berkeley Waterfront Specific Plan.
- B. Ensure that new development conforms to requirements and guidelines of the National Flood Insurance Program (NFIP).
- C. Require new development to provide for appropriate levels of on-site detention and/or retention of storm water.
- D. Regulate development within 30 feet of an exposed streambed as required by the Preservation and Restoration of Natural Watercourses (Creeks) Ordinance. (*Also see Environmental Management Policy EM-27.*)

**Policy S-28 Flood Insurance**

Reduce the cost of flood insurance to property owners in the city.

Actions:

- A. Identify, prioritize, and implement activities necessary to qualify for a high Community Rating System (CRS) evaluation under the National Flood Insurance Program (NFIP).
- B. Update and revise flood maps for the city.
- C. Incorporate FEMA guidelines and suggested activities into City plans and procedures for managing flood hazards.