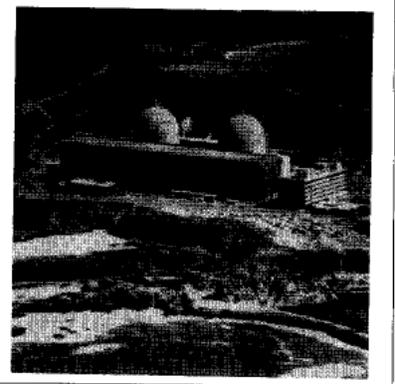
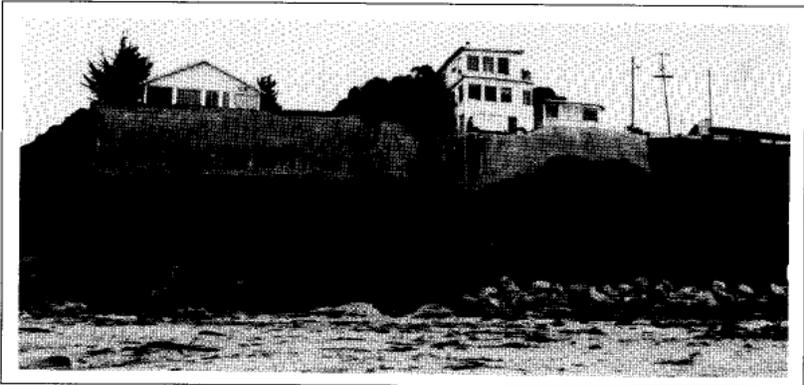


# Safety Element



# Safety Element

## Background

California General Plan law requires the Safety Element to address means of protecting the community from unreasonable risks associated with seismic hazards, slopes and cliff instability, subsidence, flooding, and urban and wild-land fires. This element also implements provisions of the California Coastal Act pertaining to minimizing hazard potential in the Coastal Zone.

The intent of the Safety Element is to establish policies that will minimize the potential of human injury and property damage by reducing the exposure of persons and property to natural hazards. The policies and actions included are based upon determinations as to the acceptable levels of exposure to risk for each type of hazard. The evaluations and policies necessarily involve judgments based upon such factors as the severity of the hazard; the likely frequency of damage-inducing events; the potential number of persons exposed to the risk; and the amounts of potential losses due to injuries, deaths, and damage to property.

Exposure to the hazards addressed in this element may or may not be voluntarily undertaken by individuals. Voluntarily taken risks, however, are not necessarily acceptable from a public point view. This is because property owners and residents frequently have expectations that public actions, such as building and zoning regulations or floodplain management, will provide a significant risk-reduction. For the various hazards, thresholds of unacceptable exposure to risks have been determined. These determinations are expressed in policies, which limit the intensity of development in high-risk areas, impose development standards, which will provide a measure of protection, or prohibit construction in areas with unacceptable risks.

In imposing any restrictions, it is the intent of the general plan to protect the public health, safety and welfare within the following framework: 1) individuals should not be permitted to develop land in a manner which would impose risks on their neighbors or the community at large; 2) future residents of subdivisions or other developments should not be placed in jeopardy through a failure of the City to require adequate risk- assessment when considering permits; and 3) a financial burden should not be imposed on the general taxpayer by allowing developments in hazard-prone areas which are likely to have unusually high costs for public services and for disaster relief.

The City of Pismo Beach has prepared, and is responsible for the maintenance of an Emergency Plan required by the California Emergency Services Act. Among the peacetime emergencies considered in the Plan are earthquakes, fires and floods.

This Element is based on; a) A Technical Report which contains the risk analysis of potential hazards (see Technical Appendix to General Plan); b) The larger County of San Luis Obispo Seismic Safety Element Study (see Technical Appendix to General Plan); c) The issue identification document of the City's 1981 Local Coastal Program (see Technical Appendix to General Plan).

Background material on cliff erosion, flooding and seismic issues are included in separate sections to follow. Fire and radiation hazards are briefly discussed below.

Fires in undeveloped areas that result from the ignition of accumulated brush and woody material are termed "wild-land fires" and represent a significant threat to safety in San Luis Obispo County and to some extent within the Pismo Beach.

Principal urban fire hazards in Pismo Beach result from (1) the influx of population during the tourist season, (2) existing and potential multi-story developments, and (3) the presence of U.S. Highway 101 and the Southern Pacific Railroad. The large tourist population of the city during the summer could impede efficient response by the city's fire department because of traffic congestion in the beach area. The problems could be compounded if large-scale evacuation were necessary. Multi-story structures represent potential hazards because of their dependence on internal support systems including ventilation, water, and elevator systems. Additional background on fire hazards is included in the technical report (see Appendix to General Plan).

An analysis of radiation hazards is not specifically required by the Government Code, but is included in the Safety Element for San Luis Obispo County (see Technical Appendix to General Plan), because of the presence of the Pacific Gas and Electric Company's nuclear power plant at Diablo Canyon. The evaluation of radiation hazards does not include an estimate of risk. The potential for hazardous situation arises from the presence and transport of highly radioactive nuclear fuel within the city limits. This hazard is recognized by utilities, government agencies and private citizens. Numerous steps have been taken to minimize the risk of release of high levels of radiation. Some level of risk, however small, does exist, though, and it is appropriate to plan for an accident. The emphasis of this element, with respect to radiation hazards, is on emergency response capabilities rather than on discussion of risk.

## ***Principles***

### **P-23 Protection of Life & Safety**

Pismo Beach shall develop policies to minimize injury and loss of life, to minimize damage to public and private property (particularly damage to critical facilities and structures where large numbers of people are apt to congregate at one time), and to minimize social and economic dislocations resulting from injuries, loss of life, and property damage.

### **P-24 Maintain Unique Physiographic Characters**

The unique physiographic character of Pismo Beach, including the City's sandy and rocky beaches, shall be maintained through the proper management of vegetal cover, natural surface water runoff patterns, and patterns of groundwater recharge. Management of these natural features will conserve soil resources and prevent excessive erosion due to wind and water.

## **Policies**

### **S-1 Risk Identification**

The City shall continually provide for the identification and evaluation of existing structural hazards, and abate those hazards to acceptable levels of risk. Specifically:

- a. Structures within the City's jurisdiction that are old, or suspect of hazards from fire, flooding and geologic events, including bluff retreat, should be inspected by qualified personnel to determine the degree of the hazards.  
Critical facilities should be inspected prior to non-critical facilities, and public-owned facilities prior to private owned facilities. Structural inspections are a major seismic concern. Susceptibility to damage from flooding should be determined based on the 100-year flood. Fire hazards are best evaluated on a building-by-building basis, by qualified inspection personnel.
- b. CALTRANS should review its facilities and roadways within the area to determine the potential impact of expected earthquakes and floods and should forward comments to the City.
- c. The Pacific Gas and Electric Company and the Southern California Gas Company should continue the review of their facilities and distribution/transmission networks and centers, especially with regard to fire and earthquake hazards to ensure adequate and safe service pursuant to the standard of construction, operation and maintenance mandated by the California Public Utilities Commission. Where local standards differ significantly with those of the Commission, the City should inform the commission accordingly in order that such differences be taken into consideration.
- d. Structures, which have been inspected and found to have a high degree of hazard from earthquake, landslide, fire or flooding should be brought up to an acceptable level of risk or mitigated to reduce the level of risk. Programs used to bring structures up to standards

- should include, but not be limited to, structural rehabilitation, flood proofing, occupancy reduction, and demolition and reconstruction.
- e. The City shall initiate abatement proceedings against structures found to be unsafe.

## **S-2 New Development**

New development within the City's jurisdiction shall be designed to withstand natural and man-made hazards to acceptable levels of risk by:

- a. Adoption of the most recent safety requirements in the Building and Fire Code.
- b. Using the planning and technical criteria presented in the Safety Element, as basic guidelines for all new public facilities.
- c. Evaluating new development, particularly industrial, commercial or utility development, to ensure that construction or operation of the project will not cause hazardous conditions at an unacceptable level of risk.
- d. Requiring new development to avoid portions of sites with high hazard levels.

## **Bluff Erosion/Instability**

### **Background**

Approximately five miles of the northwest portion of the city's shoreline consists of cliffs and bluffs ranging in height from ten to one hundred feet. The rapidly receding nature of this long cliff line has claimed, and continues to threaten, a broad range of public and private investments located near the edge. This bluff erosion has been caused by both natural events and human activities, including development and intrusion up and down the unprotected banks. Eight areas of the city suffered damage from severe storms in 1978.

The Coastal Act (Section 30253) addresses bluff erosion as follows:

"New development shall:

- (1) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.
- (2) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs."

Information regarding bluff erosion rates along the city's bluff areas is contained in the General Plan Technical Appendix.

The city completed a bluff erosion study addressing public oceanfront property in 1991. However, precise information regarding cliff retreat is not available for the majority of the privately owned coastline. More information on a site- to-site basis is needed regarding the erosion process, rates of erosion, and exact locales of most severe cliff or bluff-top erosion other than those identified by the City. Over the years, many types of protective structures have been built. No comprehensive information is available describing the devices, their maintenance requirements or long-term effects on the shoreline.

### **Policies**

#### **S-3 Bluff Set-Backs**

All structures shall be set back a safe distance from the top of the bluff in order to retain the structures for a minimum of 100 years, and to neither create nor contribute significantly to erosion, geologic instability or destruction of the site or require construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.

The City shall determine the required setback based on the following criteria:

- a. For development on single-family residential lots subdivided prior to January 23, 1981, the minimum bluff setback shall be 25 feet from the top of the bluff (bluff-top is defined as the point at which the slope begins to change from near horizontal to more vertical). A

geologic investigation may be required at the discretion of the City Engineer, and a greater setback may be applied as the geologic study would warrant.

- b. For all other development, a geologic study shall be required for any development proposed.

#### **S-4 Bluff-top Guidelines/Geologic Studies**

Site-specific geologic reports shall incorporate the information requirements contained in the State Coastal Commission's guidelines for Geologic Stability of Bluff-top Development, as adopted May 3, 1977 and updated on December 16, 1981. This guideline is included in the Appendix. The report shall consider, describe and analyze the following:

1. A site-specific erosion control plan to assure that the development would not contribute to the erosion or failure of any bluff face shall be prepared by a licensed engineer qualified in hydrology and soil mechanics for all bluff-top development.
2. Cliff geometry and site topography, extending the surveying work beyond the site as needed to depict unusual geomorphic conditions that might affect the site. (See guidelines in the Appendix.)
3. Historic, current and foreseeable cliff erosion, including investigation of recorded land surveys and tax assessment records in addition to the use of historic maps and photographs where available and possible changes in shore configuration and sand transport.
4. Geologic conditions, including soil, sediment and rock types and characteristics in addition to structural features, such as bedding, joints, and faults.
5. Evidence of past or potential landslide conditions, the implications of such conditions for the proposed development and the potential effects of the development on landslide activity.
6. Impact of construction activity on the stability of the site and adjacent area.
7. Ground and surface conditions and variations, including hydrologic changes caused by the development (i.e., introduction of irrigation water to the ground water system); alterations in surface drainage.
8. Potential erodibility of the site and mitigating measures to be used to ensure minimized erosion problems during and after construction (i.e., landscaping and drainage design).
9. Effects of marine erosion on seacliffs;
10. Potential effects of seismic forces resulting from a maximum credible earthquake; and
11. Any other factors that might affect slope stability.

#### **S-5 Development on Bluff Face**

No additional development shall be permitted on any bluff face, except engineered staircases or access-ways to provide public beach access, and pipelines for scientific research or coastal dependent industry. Drain- pipes shall be allowed only where no other less environmentally damaging drain system is feasible and the drainpipes are designed and placed to minimize impacts to the bluff face, toe and beach. Drainage devices extending over the bluff face shall not be permitted if the property can be drained away from the bluff face, toe and beach.

#### **S-6 Shoreline Protective Devices**

Shoreline protective devices, such as seawalls, revetments, groins, breakwaters, and riprap shall be permitted only when necessary to protect existing principal structures, coastal dependent uses, and public beaches in danger of erosion. If no feasible alternative is available, shoreline protection structures shall be designed and constructed in conformance with Section 30235 of the Coastal Act and all other policies and standards of the City's Local Coastal Program. Devices must be designed to eliminate or mitigate adverse impacts on local shoreline sand supply, and to maintain public access to and along the shoreline. Design and construction of protective devices shall minimize alteration of natural landforms, and shall be constructed to minimize visual impacts. The city shall develop detailed standards for the construction of new and repair of existing shoreline protective structures and devices. As funding is available, the city will inventory all existing shoreline protective structures within its boundaries.

## **S-7 Hazards Overlay Zone**

Areas where bluff-top hazards exist shall be included within and subject to the requirements of the Hazards Overlay Zone

## **Flood Hazards**

### **Background**

The City has two areas with potential flood hazards: the Pismo Creek/Price Canyon and Meadow Creek/Pismo Marsh drainage-ways. The last flood of major proportions occurred in 1971, which damaged private and city property along the two creeks. Since the floods, the city with the aid of the Army Corps of Engineers has made alterations to Pismo Creek channel to reduce flood hazard. Existing flood plain maps prepared prior to the recent creek improvements show that substantial developed areas in the city's commercial core and Pismo Creek Planning Areas could be subject to flooding from a 100-year storm.

The majority of the Meadow Creek flood plain within the city limits is contained within the State Department of Fish and Game controlled Pismo Lake Ecological Preserve (Pismo Marsh). The preserve is bounded on all sides by slopes, which rise over the 100-year level of flood, thus containing flooding within the preserve boundary. Meadow Creek leaves the preserve at State Highway 1, which crosses the creek via a low-lying bridge. The creek flows into the North beach Campground where it divides into two channels, one flowing into the ocean, and the other flowing southward into the Grover City area. The creek channel floods state Highway 1, the commercial property to the north of the creek at State Highway 1, and the North Beach Campground during periods of heavy storm flows. The level of flooding is affected by tidal conditions.

One hundred year flood plain maps have been prepared by the Army Corps of Engineers. Any proposed project within the existing mapped area should supply flood plain information prior to project construction in order to determine whether or not the property is subject to flooding.

<b>Policies</b>
-----------------

## **S-8 Flood Plain Zoning**

Areas subject to flooding shall be mapped within and subject to the requirements of the Flood Plain Overlay Zone.

## **S-9 Restrictions on Development Within the 100-Year Flood Plain**

1. No habitable structure shall be approved for construction within the area of the 100-year flood plain unless the applicant demonstrates that the finished floor elevations are at least one foot above the projected elevation of the 100-year flood, except as allowed by FEMA regulations.
2. No new fill, structure, or other obstruction shall be permitted to be placed or constructed within a flood-way unless a detailed hydrologic study has been prepared and approved by the City Engineer ensuring that the proposed project will not obstruct, in any way, passing floodwaters.
3. No new development shall be allowed in the 100-year flood plain which will contribute to or increase flood hazards on the same or other properties or which would require construction of flood control devices.
4. Any application for development on a parcel any portion of which is within the boundary of the 100-year floodplain shall be required to submit a hydrological engineer's report which assesses the nature of the flood risks, identifies the boundary of the 100-year flood plain and specifies the protective measures that should be undertaken to attain compliance with the city's flood plain zoning and with FEMA regulations.

# Geological/Seismic Hazards

## Background

The California State Legislature has placed specific responsibilities on local government for identification and evaluation of seismic hazards and the formation of programs and regulations to reduce risk.

Cities and counties must take seismic hazards into account in their planning programs. The basic objective is to reduce loss of life, injuries, damage to property, and economic and social dislocations resulting from future earthquakes.

The City of Pismo Beach is located in a seismically active area. However, no active faults are known to be present within or in the near vicinity of Pismo Beach and surface rupture resulting from fault movement is not considered a significant problem within the City. Additionally, the potential for landslides is considered to be negligible in rocks that underlie most of the city and its surrounding hills.

Ground shaking could occur in Pismo Beach, primarily from the San Andreas Fault. The Nacimiento fault is considered a secondary source of strong ground shaking but would have a negligible effect on Pismo Beach. This section of the Safety Element is a refinement of the larger County of San Luis Obispo Safety Element Study. The "Technical Report" from the County is to be considered an internal part of the General Plan and is included in the Technical Appendix. From analysis derived in the County's Technical Report it is recommended that the criteria on Table S-1 be utilized as a basis for determining acceptable risk in Pismo Beach.

Hazards that can be effectively evaluated as a part of individual site investigations are treated in a general manner with the intent that the results be used to facilitate the administration of public safety. The relationship and attendant responsibilities between this concept and the evaluation of specific seismic/geologic hazards is given on Table S-2.

The primary responsibility for evaluation of each aspect of a hazard is shown by an "XX". Those aspects for which either sector may commonly have a secondary responsibility are indicated by an "X". The intent is to show the distribution of responsibility for evaluation of a hazard.

The derivation of the twenty seismic zones for the entire County has been documented in the County Technical Report. They are expressive of the level of ground motion that can reasonably be anticipated from earthquakes on the principal fault systems affecting San Luis Obispo County. The characteristics of each seismic zone are represented by response spectra, which translate ground motion into displacement (inches); velocity (inches per second); and acceleration (inches per second expressed as a percent of the acceleration of gravity). These three factors, which are derived from mathematical analysis, are essentially the descriptors of each seismic zone.

The potential for liquefaction and landslides is present within and surrounding the city. Liquefaction areas are limited, however, to soils having relatively low compaction underlain by shallow groundwater (refer to Technical Appendix). Landslides are also limited, primarily to the hills flanking the City on the north.

Allocation of resources towards realizing the following policies will be a continuing consideration of decision-makers over a long period of time.

An earthquake of Richter Magnitude 8.0 to 8.5 can be expected in the future. Secondary seismic hazards could result from the interaction of ground shaking with existing soil and bedrock conditions, and include liquefaction, settlement, landslides, tsunamis or "tidal waves", and seiches (oscillating waves in lakes or reservoirs).

The State Legislature in 1986 passed SB.547 (Government Code Section 8875) requiring every local jurisdiction in Seismic Zone 4, which includes Pismo Beach, to identify and mitigate all "potentially hazardous buildings." These are defined as buildings constructed of brick or other masonry materials, and that are not reinforced. Pismo Beach has identified 21 hazardous buildings including City Hall.

**Table S-1  
Acceptable Risk Criteria**

Type of Facility	Fault System	Magnitude
Normal (Residences, commercial, light manufacturing, etc.)	San Andreas	8.0+
Critical (Hospitals, communication center, public building, etc.)	San Andreas	8.0+

**Table S-2  
Distribution of Responsibility For  
Evaluation of Seismic/Geologic Hazards**

Hazard	Public	Private
Fault Rupture: Evaluation of Fault	XX	
Location of Site		XX
Earthquake Shaking: Sources of Shaking	XX	
General Levels of Shaking	XX	X
Effects on Site		XX
Tsunami and Seiche: Risk of Occurrence	XX	
Effects on Site		XX
Dam Failures: Risk of Occurrence	XX	
Effects on Site		XX
Landslide: Risk of Occurrence	XX	X
Effects on Site		XX
Liquefaction, Settlement & Subsidence: Risk of Occurrence	XX <sup>1</sup>	
Effects on Site		XX

<sup>1</sup> Evaluation requires determination of expected shaking.  
 xx indicates primary responsibilities.  
 x indicates secondary responsibilities.

**Policies**

**S-10 Hazardous Overlay Zone**

Land areas subject to hazards associated with steep slope, slope instability and drainage problems shall be included within the Hazardous Overlay and Protection Zone. Generally, all lands in excess of 10% slope shall be included.

**S-11 Development Review in Hazardous Overlay Zone**

Geologic reports may be required and shall be re- viewed by the appropriate decision-making body, prior to approval of any development permits for projects located within the Hazardous Overlay Zone.

**S-12 Education Programs**

The City should develop an information program to familiarize citizens with seismic safety issues. School districts and agencies related to aged, handicapped and seismically susceptible industries should be encouraged to develop education programs relative to seismic awareness.

**S-13 Development Regulations**

- a. The Technical Appendix should be made available to developers for review and use when proposing land development projects.
- b. Development shall be prohibited in:
  1. landslide risk areas without site-specific slope stability investigations.
  2. areas of high potential liquefaction without site-specific analysis of liquefaction potential.

**S-14 Critical Facilities**

- a. All critical facilities constructed prior to 1948 should be reviewed by a structural engineer for potential hazards. Since many of these structures have regional impact, the source of funding for the inspection program ought to be at the regional level.
- b. All new critical facilities shall be designed to continue functioning after a major earthquake.
- c. Emergency communication centers, fire stations, and other emergency service facilities should be examined as to their earthquake resistant capacities. If found below acceptable standards, a program to mitigate potential hazards should be immediately established.

**S-15 Brick and Masonry Non-Reinforced Buildings**

The City shall adopt ordinance or other mitigation programs to reduce the hazards from brick or masonry non-reinforced buildings. Such regulations shall require building strengthening or demolition.

**S-16 Community Programs**

Community programs that train volunteers to assist police, fire, and civil defense personnel how to perform effectively after an earthquake, shall be supported.

**S-17 New Construction Across Faults Prohibited**

New construction directly astride or across known faults, or fault zones, shall be prohibited. Non-structural land uses, however, should not be prohibited.

## Wildland Fire Protection

Fires in undeveloped areas that result from the ignition of accumulated brush and woody material are termed "wildland fires". These fires represent a significant threat to safety in San Luis Obispo County and to some extent within the City of Pismo Beach.

**S-18 Wildland Fire Analysis**

The City shall require a wildland fire analysis and plan as part of all future annexations. Additionally, the city shall prepare a wildland fire analysis and plan prior to implementation of the required open space/park, Conservation Element Policy CO-8. At a minimum these plans shall specify:

- a. Appropriate fuel clearance areas
- b. Building set-backs from undeveloped areas
- c. Access to high hazard areas
- d. Standards for evaluation of areas
- e. Identified turnouts and helispots in road system
- f. Water supplies
- g. Manpower and equipment requirements.

# Emergency Preparedness Plan

Emergency Preparedness - San Luis Obispo County and incorporated cities peacetime emergency organizations rely heavily on the concept of mutual aid for responding to major disasters. While the basic planning framework and emergency inventories should be adequate for most disasters, they may prove insufficient when confronted with a major earthquake, widespread flooding, or a large fire.

Emergency communications between different agencies cooperating under mutual aid agreements may be impaired in a major disaster by the lack of a common emergency communication channel.

Risk - Given that certain natural hazards exist in San Luis Obispo County, it is necessary to decide whether the risks these hazards present are acceptable or whether action is necessary to reduce the level of risk. The Council on Intergovernmental Relations (CIR) defines "risk" from natural and man-made hazards in three categories:

1. Acceptable Risk: The level of risk below which no specific action by government is deemed to be necessary.
2. Unacceptable Risk: The level of risk above which specific action by government is deemed to be necessary to protect life and property.
3. Avoidable Risk: A risk which is not to be taken because the individual or public goals can be achieved at the same, or less, total "cost" by other means without taking the risk.

To determine levels of acceptable risk is to provide an answer to the question, "How safe is safe enough?" No environment is perfectly hazard-free. Natural and man-made hazards of some kind are always present, especially in urban environments. However, some hazards cause only minimal loss or occur so rarely that they need not be planned for at the community level. On the other hand, some events occur often enough, are large enough, and have the potential for major disruption of the community such that a community-wide response to the risk is called for. Deciding the level of response to natural hazards such as fire and flooding is a public process, which involves making a judgement, either explicit or implicit, about acceptable risk. Scientific expertise can determine the magnitude of the hazard and estimate the probable effects, but it cannot decide for the public how much risk to assume (or not assume by planning for loss-reduction). The determination for acceptable risk from hazardous events also involves differentiating among man-made structures according to their potential effect on the loss of life and their importance in terms of emergency response and continued community functioning.

A recommended list of critical facilities based on potential effects on loss of life and importance to continued community functions is contained in Table S-3.

The management and coordination of emergency preparedness and response efforts, related to the hazards discussed in the preceding sections, is shared by all levels of government. San Luis Obispo County and its cities rely heavily on the concept of mutual aid for responding to major disasters. The County's Office of Emergency Services is the agency designated to coordinate the responses to emergency situations which affect more than one agency.

Table S-3  
**Taxonomy of Critical Facilities**

	Potential Effect on Loss of Life	Required for Comm. Functioning
Electrical Sub-Stations		x
Schools, Colleges	x	
Fire Stations		x
Railroad Lines		x
Aqueducts, Pipelines		x
Utility Lines		x
Community Buildings	x	
City Buildings	x	
Hospitals	x	
Sewage Treatment Plants		x
Water Works		x
Radio Station		x
Television Stations		x
Highway Patrol Offices		x
Major Highways, Bridges	x	
Power Plants (Nuclear)	x	x
Power Plants (Fossil Fuels)		x
Civil Defense HQ		x
Theaters, Auditoriums, and other places of public assembly with over a 100 person capacity	x	

**S-19 Emergency Disaster Programs**

The city shall develop and maintain a multi-hazard emergency response plan, which conforms to state and federal requirements. Objectives of the plan should be:

- a. To save lives and protect property;
- b. To provide a basis for direction and control of emergency operations;
- c. To provide for the continuity of government;
- d. To repair and restore essential systems and services;
- e. To provide for the protection, use and distribution of remaining resources;
- f. To coordinate operations with the civil defense emergency operations or other jurisdictions;
- g. To enable the City to be self-sufficient in the weeks following a severe earthquake, such as a magnitude 8.5 event on the San Andreas Fault;
- h. To provide for emergency medical facilities, temporary shelter, emergency communications equipment and emergency water and food supplies.
- i. To establish a priority system for roads, services and other vital needs in the event of an earthquake disaster.
- j. To train volunteers to assist police, fire, and civil defense personnel after an earthquake.

The City should annually review its Emergency Plan to anticipate emergency services, which may be required under mutual aid agreements and in the event of major accidents, including a radiological accident at the Diablo Canyon Nuclear Power Generating Station. The city's Emergency Plan should also be reviewed and revised to anticipate an accident during the transportation of hazardous materials. Primary emphasis should be given to responding to an accident on the Southern Pacific rail line or U.S. Highway 101.

**S-20 Mutual Aid**

The City shall make arrangements with the County, other cities, the state, and other agencies for mutual aid in emergency situations. Emergency service plans and agreements shall be based on a realistic assessment of the limited resources available to the various agencies.

**S-21 Essential Public Services**

A program designed to coordinate, repair and restore essential public services and utility systems following disaster-caused interruptions shall be prepared and maintained.

**S-22 Hazardous Materials**

A use permit shall be required for any commercial or industrial use involving potentially hazardous materials. Hazardous waste management plans shall be required as a condition of approval for such permits.

**S-23 Evacuation Routes**

Highways generally most suitable as evacuation routes are Highway 101, Highway 1, and Price Canyon Road. The particular route and direction of evacuation shall be determined at the time of an emergency situation based upon an evaluation of conditions at that time by the county and city emergency operations centers.

**S-24 Analysis and Education Programs**

The City shall with the aid of the county and state, continue to provide for more detailed scientific analysis of natural and man-caused hazards impacting in the City. Specifically:

- a. In reviewing development proposals for future water impoundments, the City should require (1) an evaluation of the potential inundation areas and (2) design of the dam to withstand the earthquakes which can be expected in the area.
- b. Information on potential disasters, appropriate preparations and planned responses shall be disseminated as widely as possible to the media and general public. Special attention should be afforded to those groups particularly susceptible to seismic, fire and flooding hazards including, but not limited to, school districts, agencies involved with the aged, and agencies involved with handicapped persons. These agencies should be encouraged to develop educational programs of their own relative to hazard awareness.
- c. The city's Emergency Services Director should be responsible for establishing community programs that train volunteers to assist police, fire and civil defense personnel during and after a major earthquake, fire or flood.
- d. The City should continue to encourage programs in the lower grades using displays and demonstrations that would expose younger children to the nature and strength of fire. Such programs should tend to replace their natural curiosity with a sense of respect.
- e. The City should continue to support or sponsor exhibits and presentations in secondary schools which demonstrate the more involved aspects of fire dynamics, i.e., major contributing factors to fire hazard and the relationship of fire to the natural ecology, and encourage parental cooperation and assistance in overall fire education programs.

