

## **X. SAFETY ELEMENT**

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### ***Purpose***

The purpose of the safety element is to reduce the potential risk of death, injuries, property damage, and economic and social dislocation resulting from fires, floods, earthquakes and other hazards. This element is required to include mapping of known seismic and other geologic hazards and also to address other locally relevant safety issues such as:

- hazardous materials spills;
- hazardous and toxic materials storage and disposal;
- wildland and urban fires;
- emergency response capacity;
- flooding, storm drainage; and
- potable water quality.

A second purpose of this element is to guide land use planning and policy decisions in order to achieve an acceptable level of public safety from known natural and man-made hazardous events.

### ***Geologic and Seismic Hazards***

#### **SEISMIC HAZARDS**

Earthquakes originate as movement or slippage occurring along an active fault. These movements generate shock waves that result in ground shaking. Structures of all types, if not designed or constructed to withstand ground shaking, may suffer severe damage or collapse. Likewise, some slopes will collapse due to the soil or geological characteristics resulting in hazard both in terms of collapse of structures located thereon, or collapse of structures within the path of resulting land slides.

The severity of damage to buildings from earthquakes is related to the intensity of groundshaking, soils and geologic characteristics, and the type of building construction used. High risk areas in Lakeport do not have any critical facilities such as high-occupancy buildings, hospitals, or schools. The land use pattern that has evolved in Lakeport has, in general, avoided high-risk areas.

Lakeport is located in a highly active earthquake area and the potential exists for a significant seismic event in the future. Immediately east of the city, between the city limits and Clear Lake, there is a potentially active rupture zone. Potentially active rupture zones are faults which have been active in the past 2,000 years. Little is known about this shoreline fault rupture zone, however, it represents a potentially significant hazard and must be taken into consideration when development occurs in the vicinity. Within the past 200 years, no major earthquakes have occurred along faults in Lake County.

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To the west of the city lie the San Andreas fault and the Healdsburg fault, 30 and 15 miles away, respectively. Both of these faults have been responsible for moderate to major seismic events in the past. The maximum earthquake magnitudes observed to date are 8.5 for the San Andreas fault and 6.75 (Richter Scale<sup>1</sup>) for the Healdsburg fault.

Figure 17 shows the 2001 Fault-Rupture Hazard Zones maps prepared by the California Geological Survey. Most of the ground shaking which has occurred in past years in the Lakeport area has come from faults in the Mayacamas and Mt. Konocti area. Additionally, fault zones run diagonally in a southeast to northwest direction through the Potato Hill, Lake Pillsbury and Sanhedrin areas. In the far southeastern corner of the County there is a fault zone in the Jericho Valley, an area that runs along the Lake/Napa County line.

Communities containing structures built with unreinforced masonry walls are particularly susceptible to damage from earthquakes. The Unreinforced Masonry Law passed by the State Legislature in 1986 [SB 547], requires all cities and counties in Seismic Zone 4 to identify potentially hazardous unreinforced masonry buildings. The City has complied with this legislation and identified several unreinforced masonry buildings. Implementation of an inspection and reinforcement program was carried out to help mitigate hazards associated with seismic effects on structures. A comprehensive structural rehabilitation program was not carried out city-wide.

In addition to unreinforced masonry buildings, other key community structures are also considered at-risk in the occurrence of a seismic event.

- All critical emergency buildings (city hall, county courthouse, police and fire stations);
- High priority buildings (theaters, schools, limited care facilities)
- The majority of high-use buildings (commercial and office buildings, large apartment buildings, and churches);

A major earthquake would be expected to cause considerable damage to transportation systems. Roads, bridges and highway overpasses all cross various earthquake faults as well as areas susceptible to ground failure.

## **LIQUEFACTION**

Liquefaction is a phenomenon in which the strength and stiffness of the soil is reduced by earthquake shaking or other rapid loading. Liquefaction and related phenomena have been responsible for tremendous amounts of damage in earthquakes around the world.

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<sup>1</sup> Seismic waves are the vibrations from earthquakes that travel through the Earth; they are recorded on instruments called seismographs. Seismographs record a zigzag trace that shows the varying amplitude of ground oscillations beneath the instrument. Sensitive seismographs, which greatly magnify these ground motions, can detect strong earthquakes from sources anywhere in the world. The time, locations, and magnitude of an earthquake can be determined from the data recorded by seismograph stations. The Richter magnitude scale was developed in 1935 by Charles F. Richter of the California Institute of Technology as a mathematical device to compare the size of earthquakes.

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Liquefaction occurs in saturated soils, that is, soils in which the space between individual particles is completely filled with water. This water exerts a pressure on the soil particles that influences how tightly the particles themselves are pressed together. Prior to an earthquake, the water pressure is relatively low. However, earthquake shaking can cause the water pressure to increase to the point where the soil particles can readily move with respect to each other. When liquefaction occurs, the strength of the soil decreases and, the ability of a soil deposit to support foundations for buildings and bridges is reduced. Liquefied soil also exerts higher pressure on retaining walls, which can cause them to tilt or slide. This movement can cause settlement of the retained soil and destruction of structures on the ground surface. Increased water pressure can also trigger landslides and cause the collapse of dams. Because liquefaction only occurs in saturated soil, its effects are most commonly observed in low-lying areas near bodies of water such as rivers, lakes, bays, and oceans. Soils in and around Lakeport, especially near the lake shore, are susceptible to liquefaction during a seismic event.

## **SEICHES OR DAM FAILURES**

A significant seismic event near Lakeport could potentially cause large waves to form on Clear Lake called a seiche. Seiching is the formation of standing waves in a water body due to wave formation and subsequent reflections from the ends. These waves may be incited by earthquake motions (similar to the motions caused by shaking a glass of water), impulsive winds over the surface, or due to wave motions entering the basin. The various modes of seiching correspond to the natural frequency response of the water body.

A seiche inundation zone has been identified, which is an area between the normal shoreline of Clear Lake and ten feet above flood stage, which is approximately at the 1,431 ft. contour elevation (see [Figure 18](#)). The risks associated with seiche are considered to be relatively low compared to the risks from earthquake and liquefaction within the Lakeport area.

The City of Lakeport Municipal Sewer District (CLMSD) maintains an earthen dam in the south west part of the Planning Area, near the intersection of Highways 29 and 175, for the retention of treated wastewater. The dam will store a total of 660 acre feet of water and has been approved by the State. The possibility of catastrophic collapse of this dam is remote. Should this occur, however, the spill-out would result in a relatively minor inundation that would probably be contained by existing drainage courses, with a low probability of loss of life or property damage. Nonetheless, the City should require the CLMSD to prepare inundation maps, a warning system and drainage plans in case of a seismic event when new construction or expansion to this facility occurs.

## **LANDSLIDES**

Landslides are a significant geologic constraint to development in the Lakeport Planning Area. The landslide potential of an area is a function of the area's hydrology, geology, and seismic characteristics. Clay soils, which underlie many hillsides in Lakeport are particularly susceptible to sliding. Although landslides generally occur in areas with steep slopes, they may occur on slopes with a grade of 20% or less in geologically unstable areas. Since zones of moderate to high landslide potential exist in Lakeport, soils tests carried out by a registered soils engineer or geologist are essential wherever landslide potential is indicated or suspected. Foundations for

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structures built in areas with steep slopes in excess of 20% must be carefully engineered to avoid increasing landslide risk.

## ***Flooding***

Flooding has historically been one of Lakeport's major safety concerns. Clear Lake and its tributary drainages have a long history of flooding. In the past twenty years, federal disasters due to flooding were declared six times in the City of Lakeport during 1983, 1986, 1995 (twice), 1997, and 1998. Flooding in Lakeport historically results from two distinct types of events: shoreline flooding due to high lake levels and wind velocity, and stream bank flooding caused by high intensity cloudburst storms over one or more of the drainage areas. Conditions in the winter tend to be conducive to both types of flood conditions at the same time.

Stream bank flooding affects most drainage within the city. Cloudburst storms lasting as long as three hours can occur in the watersheds of Lakeport practically anytime during the fall, winter, and spring and may occur as an extremely severe sequence in a general rainstorm. Cloudbursts are high-intensity storms that can produce floods characterized by high peak flows, short duration, and relatively small volume of runoff. In small drainage basins, such as those existing in the Planning Area, cloudbursts can produce peak flows substantially larger than those of general rainstorm runoff.

Lakeport is traversed by several streams and drainage areas which flow into Clear Lake. The development that has occurred during the past twenty years has accentuated existing drainage problems and has increased the potential for flooding. Continued construction of new buildings increases the area of impermeable surface and thus the amount of storm water that flows through the city's storm drain system.

## ***Water Supply Quality***

The health of the entire community is dependent on a supply of potable water that is consistently free from organic wastes, chemical contamination and other impurities. Lakeport obtains its potable water from Clear Lake and from four wells located in the Planning Area. Potential sources of contamination of the City's drinking water from agricultural runoff, chemical spills, and groundwater contamination must be prevented. Ongoing monitoring of the quality of potable water supplies for both coliform as well as trace quantities of chemical pollutants must be carried out on a regular basis. The policies and implementation programs in this element focus on both prevention of potable water contamination and water quality monitoring.

## ***Asbestos Risk***

The primary risk of exposure to asbestos in Lakeport comes from the disruption of naturally occurring serpentine soil throughout the area (see [Figure 19](#)). The word asbestos refers to several types of fibrous minerals. In its natural state, asbestos occurs throughout much of the world, and is found in two-thirds of the rocks in the earth's crust. Asbestos fibers are released into the air by construction and farming activities which agitate the soil, and are also released naturally by erosion.

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Asbestos is also used as an insulating material in public buildings and can pose a potential health hazard. The Lakeport Unified School District has determined that public schools within the City's Planning Area are in compliance with the 1986 Federal and State Building Codes for asbestos insulation.

### ***Emergency Preparedness***

The City has an adopted Emergency Operations Plan. The purpose of this plan is to ensure that the City will be prepared and respond effectively in the event of emergencies to save lives and restore and protect property; repair and restore essential public services; provide for the protection and distribution of medical, food, water and other vital supplies; and coordinate operations with Civil Defense emergency organizations and other jurisdictions to maintain continuity of government.

The County of Lake has prepared a comprehensive countywide emergency plan which will provide the basis for an integrated and multi-jurisdictional response to large scale emergency situations associated with natural and man-made disasters and Civil Defense operations.

### ***Wildland and Urban Fire Hazards***

The combination of vegetation, topography, climate and population density create a significant potential for hazards from wildfires within the Lakeport Planning Area. There are many vacant and undeveloped areas within the City and its Sphere of Influence, particularly on the west side of Highway 29 and the northern portions of the City, including mobile home parks. Rugged topography and highly flammable vegetation make residential development potentially unsafe unless adequate fire safety measures are taken.

Urban fire hazards occur principally in older structures with common walls and attics and where rear access is not possible. There are a number of older buildings in the downtown area which have a high fire potential for these reasons.

The area within the City is served by the Lakeport Fire Protection District/County Fire Protection District. Any location within City limits can be reached within three to five minutes. Locations within the Sphere of Influence can be reached in five to seven minutes. This rapid response time can be attributed to the combination of full-time staff and emergency personnel in the Lakeport Fire Protection District and a large number of volunteers.

### ***Police Protection***

The Lakeport Police Department continues to maintain adequate staffing levels and equipment to provide protection of persons and property in Lakeport. This is accomplished through annual reviews of the police budget, which takes into account increases in demand for services resulting from additional mandates and a changing service area. Traffic-related activity, however, has increased substantially in recent years relative to other police activities. The volume of traffic which passes through Lakeport is increasing, irrespective of locally-generated land use and traffic changes occurring within the City's Planning Area. Traffic enforcement requires an

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increasing police presence on city streets. Similarly, as unincorporated areas develop, and/or become annexed to the City, increasing demands will be placed on available personnel and equipment.

### ***Transportation and Storage of Hazardous Materials***

There exist potential public safety hazards in the Lakeport Planning Area associated with hazardous materials transported by truck, the storage of hazardous materials, asbestos insulation in public buildings and potential contamination of drinking water by hazardous materials.

The transportation and storage of hazardous materials is clearly a regional problem. A large quantity of hazardous products are transported on highways where the potential for release of this material into the environment represents a potentially significant public health risk. The policies and programs dealing with hazardous materials in this element incorporate and build on other relevant portions of the Safety Element of the Lake County General Plan.

Radioactive materials are distinguished from other hazardous materials and specific federal and state regulations have been developed for these substances. The use and storage of radioactive materials in Lakeport is limited to medical facilities, since no other primary users of radioactive materials, such as research laboratories, nuclear power plants or military facilities, are located within the Planning Area. The principal potential danger to Lakeport residents from these materials is related to the possibility of a truck accident whereby containers holding radioactive materials would rupture.

### ***Aviation Hazards***

Lampson Field Airport potentially affects land uses in Lakeport in the form of noise and safety impacts, although it is located outside of the Planning Area. The County owns and operates this general aviation airport and has prepared a Master Plan that reflects anticipated growth in general aviation activity for the next 20 years. The Master Plan attempts to prohibit and/or reduce obstacles to air navigation, exposure of persons on the ground to accident and crash hazards, and noise impacts through building height restrictions, land use limitations and building standards to reduce interior noise.

The County's Airport Land Use Commission (ALUC) regulates land use in an area surrounding Lampson Field which includes a portion of Lakeport's Planning Area. The City must submit projects within the County's ALUC referral area for their review and determination of consistency with the policies of the Airport Master Plan. In addition, the City's General Plan must be consistent with the policies established by the Airport Master Plan for the referral area.

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## **OBJECTIVES, POLICIES & PROGRAMS**

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**OBJECTIVE S 1: TO PROTECT THE COMMUNITY FROM INJURY, LOSS OF LIFE AND PROPERTY DAMAGE RESULTING FROM NATURAL CATASTROPHES AND ANY HAZARDOUS CONDITIONS RELATING TO SEISMIC, GEOLOGIC, AND FLOODING HAZARDS.**

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**Policy S 1.1: Seismic Hazards.** Reduce the risk of loss of life, personal injury and damage to property resulting from seismic hazards.

**Program S 1.1-a:** Require geotechnical reports by a state registered geologist for development proposals on sites in seismically and geologically hazardous areas and for all critical structures. These reports should include, but not be limited to: evaluation of and recommendations to mitigate the effects of fault displacement; ground shaking; landslides; expansive soils; and subsidence and settlement.

Responsibility: Community Development and Public Works Departments

**Program S 1.1-b:** Comply with the provisions of the State *Alquist-Priolo Act* and seismic safety criteria established by the City of Lakeport.

Responsibility: Community Development and Public Works Departments

**Program S 1.1-c:** Require, as conditions of approval, measures to mitigate potential seismic and geologic safety hazards for structures as recommended by the geotechnical report.

Responsibility: Community Development and Public Works Departments

**Program S 1.1-d:** Require professional inspection of foundation and excavation, earthwork and other geotechnical aspects of site development during construction on those sites specified in soils, geologic, and geotechnical studies as being prone to moderate levels of seismic hazard.

Responsibility: Building Department

**Program S 1.1-e:** Monitor and review existing critical, high priority buildings to ensure structural compliance with seismic safety standards.

Responsibility: Building and Public Works Departments

**Policy S 1.2: Building Limitations in High Risk Zones.** Discourage construction of high density residential, other critical, high occupancy or essential services buildings in high risk zones such as Active Fault Displacement Study Areas, wildland fire areas, flood areas, and landslide areas.

**Program S 1.2-a:** Review and revise General Plan designations and/or the Zoning Ordinance as necessary to relocate high density zoning to areas outside high risk zones.

Responsibility: Community Development, Building and Public Works Departments

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**Program S 1.2-b:** Prohibit building of structures within 50 feet of a suspected fault line or fault trace unless determined to be appropriate after completion of a geologic engineering study approved by the City.

Responsibility: Community Development, Building and Public Works Departments

**Policy S 1.3: Slope Instability.** Minimize the risk of personal injury and property damage resulting from slope instability.

**Program S 1.3-a:** Enforce and strengthen development standards, grading requirements and erosion control measures for hillside areas.

Responsibility: Community Development, Building and Public Works Departments

**Program S 1.3-b:** Designate properties in areas with severe sliding and soils conditions for low intensity uses such as open space, low density residential, and agriculture.

Responsibility: Community Development Department

**Program S 1.3-c:** Evaluate slopes over 20 percent and/or unstable land for safety hazards prior to issuance of any discretionary approvals and develop appropriate mitigation measures.

Responsibility: Community Development and Public Works Departments

**Policy S 1.4: Updated FIRM Maps.** Utilize the U.S. Army Corps of Engineers Flood Insurance Rate Maps (FIRM) to: reduce risk of flooding; identify 100 Year Flood Zones; implement the Flood Damage Prevention Ordinance; and calculate flow rates within identified stream channels.

**Program S 1.4-a:** Continue to implement the Flood Damage Prevention Ordinance to reduce the risk of flooding.

Responsibility: Community Development and Building Departments

**Policy S 1.5: Cooperate with the County of Lake.** Continue to work with the County of Lake to ensure that additional storm drainage runoff resulting from development occurring in unincorporated areas upstream from drainage channels in the Lakeport Planning Area is adequately mitigated through improvements on site and/or downstream.



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**Program S 1.5-a:** Request that the County refer all development proposals located in the drainage basins identified in the Storm Drainage Master Plan be referred to the City of Lakeport.

Responsibility: Community Development Department

**Program S 1.5-b:** Develop, in collaboration with the County, specific plans, a Hazard Mitigation Plan, funding mechanisms and an implementation schedule for creek clearing to remove vegetation and debris and the construction of flood control facilities in the Scotts Creek and Forbes Creek stream channels and other drainage basins.

Responsibility: Community Development Department.

**Policy S 1.6: Clear Lake Shoreline Flooding.** Work with the County to develop strategies for reducing flooding along the shoreline of Clear Lake.

**Program S 1.6-a:** Consider participation in action to remove flow limitations on Cache Creek and/or develop alternative flood mitigation policies.

Responsibility: Community Development and Public Works Departments and City Council

**Program S 1.6-b:** Implement the *City of Lakeport Floodplain Mitigation Plan* (2003).

Responsibility: Community Development and Public Works Departments.

**Program S 1.6-c:** Organize City-led stream clean up projects in coordination with community groups, volunteer organizations and citizens.

Responsibility: Community Development and Public Works Departments.

**Policy S 1.7: Funding Sources.** Continue to pursue all available sources of funding such as, but not limited to, low interest loans, FEMA funds, FMHA funds, and Redevelopment Agency tax increment funds to finance improvements to storm drainage facilities.

**Policy S 1.8: Flood Hazards.** Minimize the risk of personal injury and property damage due to flooding.

**Program S 1.8-a:** Prohibit all development in the 100 year flood zone unless mitigation measures meeting Federal Flood Insurance Administration criteria are provided. Continue to enforce the Flood Damage Prevention Ordinance.

Responsibility: Community Development Department

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**Program S 1.8-b:** Work with the Lake County Watershed Protection District in the project review process to ensure that adequate measures are implemented to prevent flooding, to establish and maintain effective storm drainage systems and collect the required mitigation fees.

Responsibility: Community Development and Public Works Departments

**Program S 1.8-c:** Continue to participate in the National Flood Insurance program.

Responsibility: Community Development and Public Works Departments

**Program S 1.8-d:** Require new development to prepare hydraulic storm drainage studies defining the net increase in storm water run-off resulting from construction and require on-site detention/retention structures or improvements that ensure post-project flows are less than or equal to pre-project flows.

Responsibility: Community Development and Public Works Departments

**Program S 1.8-e:** Update, as necessary, the Flood Damage Prevention Ordinance and the Storm Drainage Master Plan.

Responsibility: Community Development and Public Works Departments

**Policy S 1.9: Storm Drainage System.** Maintain unobstructed water flow in the storm drainage system.

**Program S 1.9-a:** Enforce measures to minimize soil erosion and volume and velocity of surface runoff both during and after construction through application of the erosion control guidelines.

Responsibility: Building and Public Works Departments

**Program S 1.9-b:** Continue the annual inspection of the drainage systems and informing residents and property owners of illegal structures and debris that must be removed.

Responsibility: Public Works Department

**Program S 1.9-c:** Continue to develop, update and implement a City Capital Improvement Program for drainage and work with the Lake County Watershed Protection District to eliminate the most important drainage problems in the Lakeport Planning Area and to ensure that drainage channels can handle 100-year flood events.

Responsibility: Community Development and Public Works Departments

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**Program S 1.9-d:** Require, where necessary, construction of siltation retention ponds which are incorporated into the design of development projects.

Responsibility: Community Development and Public Works Departments

**Program S 1.9-e:** Require that construction within the Seiche Inundation Zone as identified in Figure 18 be designed to reduce wave impacts as determined by the City.

Responsibility: Community Development and Public Works Departments

**Policy S 1.10: Asbestos.** New development of property found or expected to contain asbestos-contaminated soil in the Lakeport Planning Area must mitigate the potential impact. This mitigation may include capping, excavation, disposal and backfill, landscaping, or a combination of all three. Reference Policy C 3.3 and Program C 3.3-a for additional requirements.

**OBJECTIVE S 2: TO REDUCE THE IMPACT OF POLLUTION AS WELL AS HAZARDOUS MATERIALS AND HAZARDOUS WASTE ON THE WELL-BEING AND HEALTH OF THE COMMUNITY.**

**Policy S 2.1: Water Quality Protection.** Protect the water quality of Clear Lake and the Scotts Valley aquifer from degradation.

**Program S 2.1-a:** Require all development projects to address water quality impacts through the CEQA review process and through strict enforcement of the City's Erosion Control Ordinance to prevent siltation of water courses. Condition development projects to ensure protection of groundwater and watercourses by using Best Management Practices (BMPs). BMPs may include the following:

- Provide vegetative swale or buffer areas, which could be incorporated into landscaped areas to slow down runoff velocities and allow sediments and other pollutants to settle.
- Provide in-line storage of stormwater to reduce peak discharge, allow settling of pollutants, and reduce potential for downstream erosion.
- Perform street and parking lot cleaning to remove potential debris and pollutants that could be picked up and conveyed by stormwater.
- Design parking lots to direct stormwater to storm drains inlets and away from garbage disposal areas.

Responsibility: Community Development and Public Works Departments

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**Program S 2.1-b:** Work with the County to review all development proposals within the City's Planning Area for their impact on water quality. Attempt to ensure that projects eliminate water borne contaminants from entering the Clear Lake Basin or the Scotts Valley aquifer.

Responsibility: Community Development and Public Works Departments

**Program S 2.1-c:** Discourage construction during wet months to prevent siltation.

Responsibility: Community Development and Public Works Departments

**Policy S 2.2: Agricultural Contamination of Potable Water Supplies.** Reduce agricultural contamination of potable water supplies in the Clear Lake Basin and the Scotts Valley aquifer by working with the County Community Development Department, County Environmental Health Department and Agricultural Commissioner to identify the impacts of farming operations and the use of herbicides, pesticides and fertilizers on the City's domestic water supply.

**Program S 2.2-a:** Monitor twice per year, during the dry and wet seasons, Lakeport's potable water supply for trace chemicals and other potential contaminants. Utilize updated industry-wide standards for evaluating potable water quality. Alert the County Environmental Health Department, City Council and the public if water quality hazards are identified. Develop and implement mitigating measures to protect the public health.

Responsibility: Public Works Departments

**Program S 2.2-b:** Require adherence to all waste discharge requirements and report any violations to the State Water Resources Control Board for enforcement.

Responsibility: Public Works Departments

**Policy S 2.3: Hazards of Transportation, Storage and Disposal of Hazardous Wastes.** Provide measures to protect the public health from the hazards associated with the transportation, storage and disposal of hazardous wastes [TSD Facilities].

**Program S 2.3-a:** Continue to facilitate land use and transportation decisions and other programs in accordance with the County's Hazardous Waste Management Plan.

Responsibility: Community Development Department

**Program S 2.3-b:** Support and improve the convenience of, and attempt to obtain permanent funding for a household hazardous waste disposal program.

Responsibility: Community Development and Public Works Departments

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**Program S 2.3-c:** Consider adoption of a Hazardous Materials and Waste Ordinance that defines hazardous waste; hazardous materials; facilitates implementation of State and County hazardous materials and hazardous waste regulations and management programs; and require, as a condition of City approvals, that the Fire Protection District be notified of all hazardous substances that are transported, stored, treated or released accidentally into the environment.

Responsibility: Community Development and Public Works Departments

**Policy S 2.4: CEQA Review of Proposed TSD Facilities.** Facilitate thorough environmental review for Hazardous Waste Transportation, Storage and Disposal (TSD) Facilities proposed in the Lakeport Planning Area and throughout the County, since the potentially significant, widespread and long-term impacts on public health and safety of these facilities do not respect jurisdictional boundaries.

**Program S 2.4-a:** Request that the Environmental Review of proposed hazardous waste TSD facilities shall, at a minimum, contain the following analysis and information:

- a) A worst case generic description, estimating the number, type, scale, scope, location and operating characteristics of proposed TSD facility(ies) based on the projected volumes and types of hazardous waste. Data from existing facilities regarding the probability of accidents, spills, and explosions should be documented and include:
- b) An assessment of risk resulting from the accidental release, fire, and explosion of hazardous waste. This assessment should take into account all phases of operation including transport, storage, and treatment. The assessment of risk should include the probability of occurrence and magnitude of impact;
- c) Quantitative estimates of air emissions, by applying emissions rates of existing facilities to the future volumes of hazardous waste, and identifying emissions for incinerator facilities under worst case circumstances;
- d) An assessment of non-incineration alternatives for hazardous waste treatment such as chemical dechlorination for the detoxification of PCB's, dioxins, solvents and pesticides; photolysis; and biological treatment; and
- e) Review of the operating characteristics of proposed TSD facilities, taking into account maintenance and operating procedures, emissions monitoring and safety devices to assure the ongoing enforceability of the mitigating measures that are required.

Responsibility: Community Development and Public Works Departments

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**Program S 2.4-b:** Continue to implement the City's Household Waste and Source Reduction Element and Hazardous Waste Element.

Responsibility: Community Development and Public Works Departments

**Policy S 2.5: Secondary Containment Facilities.** Ensure that industries and businesses which store or process hazardous materials provide secondary containment facilities and a buffer zone between the installation and property boundaries sufficient to protect the public health and safety.

**Program S 2.5-a:** Revise the Zoning Ordinance to require secondary containment facilities and a buffer zone adequate to protect public health and safety on properties with hazardous materials storage and/or processing activities.

Responsibility: Community Development Department

**Policy S 2.6: Transportation and Storage of Hazardous Materials.** Minimize the risks to public health and safety due to the transportation and storage of hazardous materials.

**Program S 2.6-a:** Strictly regulate the storage of hazardous materials under California Administrative Code Title 19 requirements.

Responsibility: Community Development Department and Fire Protection District

**Policy S 2.7: Truck Routes for Hazardous Material Transport.** Develop, in cooperation with the County, regulations prohibiting through-transport by truck of hazardous materials on the local street systems and requiring that this activity be limited to State highways.

**Program S 2.7-a:** Consider establishing consistent regulations in cooperation with Lake County limiting truck traffic of hazardous materials to State highways.

Responsibility: Community Development and Public Works Departments, City Council

**Program 2.7-b:** Consider establishing and enforcing a Local Hazardous Material Route Plan and install signage and publicize routes for hazardous materials transport in the Lakeport Planning Area. Adopt an ordinance designating specific routes within the Planning Area for transport of hazardous materials.

Responsibility: Community Development and Police Departments

**Policy S 2.8: Lampson Field Airport.** Minimize the risk to lives and property due to hazards associated with the operation of Lampson Field Airport.

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**Program S 2.8-a:** Deny any development which creates any air navigation hazards due to electrical interference, smoke, glare, intrusion into established height referral area in the County Airport Land Use Commission [ALUC] General Referral Area.

Responsibility: Community Development Department

**Program S 2.8-b:** Refer all General Plan Amendments, Rezone applications, Specific Plan Amendments within the Lampson Field Airport Referral Area to the ALUC.

Responsibility: Community Development Department

**Policy S 2.9: County Airport Planning.** Continue to monitor and actively participate in the County's planning efforts for Lampson Field Airport to ensure that the health and safety of Lakeport residents are protected.

**Program S 2.9-a:** Closely monitor on an ongoing basis environmental and planning documents, proposed lease agreements with air taxi operators and other related information pertaining to Lampson Field and recommend actions to facilitate the health and safety of residents of Lakeport.

Responsibility: Community Development Department

**Program S 2.9-b:** Request that the County of Lake continue to inform the City of proposed plans and changes in operations for the Clear Lake seaplane landing area.

Responsibility: Community Development Department

**OBJECTIVE S 3: TO MAINTAIN AN EFFECTIVE EMERGENCY RESPONSE SYSTEM.**

**Policy S 3.1: Emergency Preparedness Plan.** Cooperate with Lake County in implementing the County's Emergency Preparedness Plan.

**Policy S 3.2: Updated Emergency Operations Plan.** Update the City's Emergency Operations Plan, as needed.

**Program S 3.2-a:** Revise, as appropriate, the City's Emergency Operations Plan to comply with the County's plan and changing conditions within the Lakeport Planning Area.

Responsibility: Community Development and Public Works Departments

**Policy S 3.3: Emergency Facilities.** Identify essential emergency facilities and ensure that they will function in the event of a disaster.

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**Program S 3.3-a:** Identify specific facilities and lifelines critical to effective emergency/disaster response and evaluate their abilities to survive and operate efficiently immediately after a disaster. Designate alternative facilities for post-disaster assistance in the event that the primary facilities have become unusable.

Responsibility: Police and Public Works Departments and the Lakeport Fire Protection District.

**Policy S 3.4: Public Information.** Inform the public of what actions to take in the event of an emergency or disaster.

**Program S 3.4-a:** Designate an existing administrative employee as the City's Public Information Officer to respond to the public in the case of a natural disaster.

Responsibility: Community Development and Police Departments

**Policy S 3.5: Emergency Evacuation Routes.** Designate the following as emergency evacuation routes to provide a means to evacuate the community and to provide a route to or through the community from other areas:

- Highway 29 • Lakeport Boulevard • Main St.
- 11th Street • High Street
- Hartley Street • Lakeshore Boulevard
- Martin Street • Clear Lake Avenue

**Program S 3.5-a:** Inform the Lakeport Police Department and the County Sheriffs Department of the emergency evacuation routes as well as of any changes in these routes, within the Lakeport Planning Area.

Responsibility: Community Development Department

**Program S 3.5-b:** Maintain designated evacuation routes in a passable condition at all times.

Responsibility: Public Works and Police Departments

**Policy S 3.6: Fire Hazard Severity Scale.** Reduce the Risk of Damage and Destruction from Wildland Fires.

**Program S 3.6-a:** Adopt and utilize the Fire Hazard Severity Scale for the classification of fire hazard in wildland areas.<sup>2</sup>

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<sup>2</sup> This scale was developed by the U.S. Forest Service and the State Department of Forestry which has proved to be useful for identifying areas with a high risk of wildfire due to flammable vegetation, rugged terrain and other factors.



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**Policy S 3.7: Development Projects Fire Risks.** Review all development proposals for fire risk and require mitigation measures to reduce the probability of fire.

**Program S 3.7-a:** The Lakeport County Fire Protection District shall review all development proposals and recommend measures to reduce fire risk.

Responsibility: Community Development Department and Fire Protection District

**Program S 3.7-b:** Proposed developments not located within a five-minute response time of a fire station should be discouraged, unless acceptable mitigation measures are provided.

Responsibility: Community Development Department and Fire Protection District

**Program S 3.7-c:** Enforce the Fire Safety Ordinance requiring sprinkling of certain structures.

Responsibility: Community Development and Building Departments

**Policy S 3.8: Weed Abatement.** Promote the use of defensible space in order to reduce the risk of structure fires.

**Program S 3.8-a:** Work with the Fire District to implement a more effective and environmentally sound weed abatement program and utilize the CDF defensible space standards and recommendations.

**Program S 3.8-b:** Consider the following methods of weed abatement: use of mechanical rather than chemical removal of weeds; reseeded with native bunchgrass varieties in sloping disturbed soils; and limiting weed abatement activities in areas with known endangered plant and animal species.

Responsibility: Public Works Department and Fire Protection District

**Program S 3.8-c:** Prepare a brochure describing techniques to achieve effective defensible space and make the brochure readily available to the public.

Responsibility: Fire Protection District

**Policy S 3.9: California Building Code.** Continue to enforce the California Building Code (CBC) for all new construction and renovation and when occupancy or use changes occur.

**Policy S 3.10: Use Redevelopment Funds.** Consider use of Redevelopment tax-increment funds to assist property owners in the Lakeport Redevelopment area to complete renovations that increase fire safety.

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**Policy S 3.11: Fire Hydrant Water Flows.** Ensure that there exists sufficient water flow in fire hydrants throughout Lakeport. The standard adopted by the City is a minimum of 1,000 gallons per minute of free flow from two adjacent hydrants flowing simultaneously with 20 pounds per square inch residual pressure.

**Program S 3.11-a:** Require that all new developments be provided with sufficient fire flow facilities at the time of permit issuance.

Responsibility: Community Development and Building Department and Fire Protection District

**Policy S 3.12: Funding for Fire Protection.** Recommend that Lakeport adequately fund and staff the Lakeport Fire Protection District.

**Program S 3.12-a:** Maintain the fee for the Fire Protection Fund. Periodically review and revise the fee structure for the Fire Protection Fund.

Responsibility: Fire Protection District

**Policy S 3.13: Demand for Police Services.** Review development proposals for their demand for police services and implement mitigating measures to maintain the current high standard of police services.

**Program S 3.13-a:** Consider the impacts on level of police services of large development proposals in the environmental review and planning process. Mitigating measures shall be implemented that may include the levying of police impact fees, if warranted.

Responsibility: Community Development and Police Departments