



County of Lassen
Department of Planning and Building Services

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March 20, 2020

Edith Hannigan, Land Use Program Manager
Board of Forestry and Fire Protection
By email only to: edith.hannigan@bof.ca.gov

RE: Lassen County Safety Element Review for Hazard Mitigation Plan Adoption.

Dear Ms. Hannigan:

As you were informed on December 16, 2019, Lassen County has initiated the process of amending the Safety Element of the existing *Lassen County General Plan, 2000*, to include the *Hazard Mitigation Plan, 2018*. Government Code (GC) 65302.5(b) requires any amendment of the safety element of a county or a city's general plan be submitted to the State Board of Forestry and Fire Protection for any county that contains state responsibility areas or city or county that contains very high fire hazard severity zones. Safety elements must be submitted at least 90 days prior to the planned adoption or amendment of the safety element, although the Board encourages communities to submit their draft safety elements as early as possible in the planning process. As such, we provided the required notice to you and others.

The Draft Safety Element amendment presented to you on December 16, 2019, has been revised as instructed in your January 22, 2020, email (please see the attached Draft Safety Element). If adopted by the Board of Supervisors, the attached draft Safety Element would incorporate the HMP into the Safety Element, while keeping (for now) the "Safety and Seismic Element" adopted on September 3, 1974, through Resolution 2552 in place. We have been told (by you and by others as well) that we should not wait for the full update to adopt the HMP into the Safety Element. Specifically, incorporation of the HMP into the Safety Element may be a requirement to obtain certain Federal Emergency Management Agency disaster funding assistance. It is our understanding that the Board of Forestry is receptive to our proposal to adopt the HMP as soon as possible, without waiting for the planned comprehensive update of the Safety Element.

As you know, we comprehensively circulated a Request for Proposals to update the Safety Element to meet all current requirements. Our effort to comprehensively update the Safety Element is proceeding more or less on schedule. However, the update will take at least one year or longer to complete. In the way of an update since our December 2019 correspondence, this Department has selected a preferred proposal, and will recommend that the Board of Supervisors enter into a contract with the consulting firm "Dudek" to assist in the development of a comprehensive update of the Safety Element. Contract negotiations are in the initial stages, and it is anticipated that we will be under contract with Dudek by July of this year. If all goes as planned, work on the element will begin by the fall of this year.

Edith Hannigan, Land Use Program Manager
Board of Forestry and Fire Protection Safety Element Review
March 20, 2020
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The Hazard Mitigation Plan that would be incorporated through the attached draft Safety Element is too large to include in the email transmitting this letter, but you should be able to view the HMP through the following link (last document in the list you will see when you click this link):

<http://www.lassencounty.org/government/resources/planning-and-building-services>

If you have any questions regarding this letter, please contact Assistant Director Gaylon Norwood at (530) 251-8269.

Sincerely,



For Maurice L. Anderson
Director

MLA:gfn
Enclosures

s/pla/admin/files/700.02.01/Letter to Forestry Board

County of
LASSEN

Safety Element
of the
Lassen County General Plan

Adopted: September 3, 1974, as
Exhibit “B” (“Safety and Seismic Safety Element”)
of Resolution Number 2552

(NOTE: The Noise Element, referred to as Exhibit A of the above
referenced resolution has been updated as a separate document)

Amended: Insert date once adopted

Resolution NO. Insert resolution number once adopted

LASSEN COUNTY GENERAL PLAN
SAFETY ELEMENT

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NOTE: Exhibit “B” of the resolution 2552 (which is the “Safety and Seismic Safety Element”) has been re-typed for this document, as the quality of the available copy is poor. The best available copy of the actual signed resolution itself is included for reference. A copy of the resolution in its best available form (including Exhibit “B”) is available from the Lassen County Planning and Building Services Department.

SECTION ONE

Introduction:

The Safety Element of the Lassen County General Plan was originally adopted in 1974 through Resolution No. 2552, as Exhibit “B.” The title of Exhibit “B” is the “Safety and Seismic Safety Element.” Other than the amendment described in this Section, incorporating the most current Hazard Mitigation Plan by reference, and providing the current structure for the element, there have been no changes since the original adoption in 1974. Resolution No. 2552 is included in Section Two (page 6). Exhibit “B” has been retyped and re-numbered, as the quality of the 1974 document is poor.

Hazard Mitigation Plan Incorporation:

Section 322 of the Federal Disaster Mitigation Act of 2000 (DMA) specifically addresses mitigation planning at the state and local levels. The DMA identifies new requirements that allow Hazard Mitigation Grant Program (HMGP) funds to be used for planning activities, and increases the amount of HMGP funds available to states that have developed a comprehensive, enhanced mitigation plan prior to a disaster. States and communities must have an approved mitigation plan in place prior to receiving post-disaster HMGP funds. On December 7, 2018, the County of Lassen Board of Supervisors adopted a Multi-Jurisdictional, Multi-Hazard Mitigation Plan (HMP), with the City of Susanville and the Susanville Indian Rancheria. The Federal Emergency Management Agency (FEMA) approved this plan on January 15, 2019. The HMP was prepared with input and assistance from County, City and Rancheria residents, responsible officials, consultants, and the California Governor’s Office of Emergency Services (Cal OES).

The County of Lassen recognizes the consequences of disasters and the need to reduce the impacts of hazards. The emphasis of the HMP is on the assessment and avoidance of identified risks, implementing loss reduction measures for existing exposures, and ensuring critical services and facilities survive a disaster. Hazard mitigation strategies and measures avoid losses by limiting new exposures in identified hazard areas, altering the hazard by eliminating or reducing the frequency of occurrence, and averting the hazard by redirecting the impact by means of a structure or adapt to the hazard by modifying structures or standards. The current HMP, which was adopted by the County of Lassen Board of Supervisors on December 7, 2018, and approved by FEMA on January 15, 2019, is hereby incorporated by reference into the Safety Element of the Lassen County General Plan, and is given retroactive effect to December 7, 2018. Any future update or amendment of the Hazard Mitigation Plan is incorporated by reference and is a part of this Safety Element.

Future Amendment:

The only update of the Lassen County Safety Element since its original adoption on September 3, 1974, is the incorporation of the current Hazard Mitigation Plan into the Safety Element, as described in this Section. The 1974 “Safety and Seismic Safety Element” will remain in effect until updated as described below (the 1974 “Safety and Seismic Safety Element” is provided in Section Two).

The Board fully acknowledges through Resolution Number **Insert resolution number once adopted** (which is the resolution adopting this document) that the element is currently not in

compliance with all of the requirements described in section 65302 of the Government Code. It was recommended, and the Board of Supervisors fully concurs, through adoption of the above referenced resolution, that the Safety Element must be updated as soon as possible to come into full compliance with the above Government Code section and any other pertinent requirements. As such, Lassen County has already taken steps to achieve the goal to update the element and it is anticipated that the required process and the adoption of a fully compliant Safety Element will be concluded during the 2020/2021 Fiscal Year.

It has been recommended that the Safety Element be updated to incorporate the current Hazard Mitigation Plan as soon as possible (without waiting for the planned full update of the Safety Element to be completed) in order to maintain the ability to secure Federal Emergency Management Agency funding in the event of a disaster. The Board of Supervisors concurs and the HMP is hereby incorporated into this Safety Element.

DRAFT

SECTION TWO

The best available executed copy of Resolution 2552, which adopted the 1974 “Safety and Seismic Safety Element,” is included in this Section (following page) for reference. The “Safety and Seismic Safety Element” (Exhibit “B” of said resolution) is also included in this Section. However, said Exhibit has been re-typed for this document since the available copy is very poor. The Noise Element, referred to as Exhibit A of the above referenced resolution has been updated as a separate document and is not provided.

DRAFT

Board of Supervisors Resolution Number 2552, adopted September 3, 1974:

RESOLUTION NO. 2552

RESOLUTION ADOPTING NOISE, SAFETY AND SEISMIC SAFETY ELEMENTS AS PART OF ITS GENERAL PLAN

BE IT RESOLVED by the Board of Supervisors of the County of Lassen as follows:

WHEREAS, Government Code Section 65302(g) requires that County general plans include a Noise Element, in qualitative numerical terms, showing contours of present and projected noise levels associated with all existing and proposed major transportation elements; and

WHEREAS, Government Code Section 65302(f) requires that the County General Plan include a Seismic Safety Element; and

WHEREAS, Government Code Section 65302.1 requires a Safety Element to such general plan for the protection of the community against fires and geologic hazards; and

WHEREAS, the Lassen County Planning Commission after holding two public hearings on July 3, and August 7, 1974, in accordance with the Planning and Zoning Laws of the State of California, unanimously adopted a Noise Element and a Safety and Seismic Safety Element and recommended their adoption by the Board of Supervisors; and

WHEREAS, the Board of Supervisors, after consideration and careful study, held a public hearing there upon September 3, 1974, in accordance with the Planning and Zoning Laws of the State of California; and

WHEREAS, the Board of Supervisors find that said Noise, Safety and Seismic Safety Elements consist of suitable, logical and timely plans for the future development of the County of Lassen, and are in the best interests of said County and its citizens.

NOW, THEREFORE, BE IT RESOLVED that the Noise Element and the Safety and Seismic Safety Elements annexed hereto as Exhibits "A" and "B" respectively are hereby adopted as the Noise, Safety and Seismic Safety Elements of the General Plan for the County of Lassen in accordance with Article 6 of Chapter 3 of the Planning and Zoning Law.

The foregoing resolution was passed and adopted at a regular meeting of the Board of Supervisors of the County of Lassen, State of California, held on the 3rd day of September, 1974, by the following vote:

AYES: Supervisors Couso, Farris, Theodore, Packwood

NOES: _____

ABSENT: Supervisor Bingham

ATTEST:

Jacquelyn Fountain
Jacquelyn Fountain, Clerk

Richard J. Packwood
Chairman of the Board of Supervisors,
County of Lassen, State of California

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“Safety and Seismic Safety Element” (Exhibit “B” of Resolution 2552), adopted September 3, 1974:

EXHIBIT “B”

GENERAL PLAN ELEMENTS – SAFETY AND SEISMIC SAFETY

I. INTRODUCTION

A. Authority

State law requires that General Plans include both Safety and Seismic Safety Elements which are described in the law as follows:

1. Seismic Safety Element (Government Code Section 65302(f))

“A Seismic Safety Element consisting of an identification and appraisal of seismic hazards such as susceptibility to surface ruptures from faulting, to ground shaking, to ground failures, or to the effects of seismically induced waves such as tsunamis and seiches.”

“The Seismic Safety Element shall also include an appraisal of mudslides, landslides, and slope stability as necessary geologic hazards that must be considered simultaneously with other hazards such as possible surface ruptures from faulting, ground shaking, ground failure and seismically induced waves.”

2. Safety Element (Government Code Section 65302.1)

“A Safety Element for the protection of the community from fires and geologic hazards including features necessary for such protection as evacuation routes, peak load water supply requirements, minimum road widths, clearances around structures, and geologic hazard mapping in areas of known geologic hazard.”

B. Combination of Elements

Because of the similarity, and partial duplication of the purposes and field of coverage as set forth in the codes, the Safety and Seismic Safety Elements are treated together.

The Safety Element is expanded to include or recognize general disaster plans as appropriate.

C. Relation of Elements to Planning Area

Both elements relate to natural physical hazards and to the careless or accidental hazards introduced by man. Population and physical improvements in Lassen County are concentrated in small unincorporated towns and scattered suburban, ranch and recreational areas. Extensive public ownership under the United States Forest Service,

Bureau of Land Management and other large land ownerships are substantially unpopulated and undeveloped.

Because of the broad extent and range of natural topography, a broad range of natural hazards exists. Man induced hazards, except for fires are minor to moderate in nature in Lassen County due to the sparse disbursement of population and settlement.

II. SCOPE AND NATURE OF THE ELEMENTS

A. Objective

The objective of the preparation and adoption of the Safety and Seismic Safety Elements is to add safety considerations to the active planning process in order to reduce loss of life, injuries, damage to property, socio-economic dislocation from fire, seismic hazards, and other possible disasters.

B. Plan Policy Statements

1. Recognition of Hazards

It is recognized that safety hazards exist within Lassen County, and that such hazards vary greatly with respect to particular geographical locations.

Hazards given consideration and recognized as requiring attention include:

- (a) Seismic (earth shaking, surface rupture and seiches).
- (b) Unstable slopes and soil, mudslides, landslides, subsidence.
- (c) Volcanism, molten material from inner core.
- (d) Wildfires, range fires, urban fires, explosions, etc.
- (e) Floods and overflow inundation.
- (f) Indirect hazards or losses resulting from erosion, failure to protect natural resources.

III. SEISMIC SAFETY

A. Seismic Hazards

1. Earthshaking

The most destructive seismic hazard is that of earthshaking. Earthshaking is most intense at the epicenter and severity reduces as distance increases. Also earth shaking takes place over a wider area than any other seismic hazard. Damage occurs when buildings affected are unable to withstand increased acceleration and are literally shaken to pieces. Liquefaction is another result of earthshaking, wherein previously solid ground turns into something akin to quicksand losing its ability to support even the lightest of structures.

2. Fault Line Displacement

The earth relieves internal pressure by finding weak spots on the crust, consequently, movement occurs along these weak points as visible evidence of such pressure relief. Fault line displacement occupies minimal land area, however, if improvements are located on the fault itself major destruction can occur. Most displacement usually amounts to only a few inches, however, displacement of up to 18 feet have been recorded. Damage usually takes place on transportation routes and underground utilities.

3. Land Sliding

A common accompaniment of seismic activity is that of land sliding. Local conditions such as slope, soil, composition and degree of saturation will usually determine the area, and amount of sliding. Landslides often take place on their own volition but seismic activity acts as a major agitator.

4. Volcanism

Discharge of molten material from the earth's inner core is a relatively infrequent occurrence. However, volcanism is being discussed in this element because of the recent (1915) activity of Mt. Lassen and the volcanic flow geomorphology over much of Lassen County. Volcanic eruptions or flows lead to total destruction of all that comes in their path. Loss of property and sterilization of the lands would be anticipated in such an event.

5. Seiche

A seiche is a seismically induced wave on a lake or reservoir, which can inundate development along a shoreline.

B. History of earthquakes Affecting Lassen County

<u>DATE</u>	<u>INTENSITY*</u>	<u>LOCATION</u>
January 30, 1885	VII	Near Janesville and on Susan River, 12 miles from Susanville where chimneys fell.
April 28, 1885	VII	Nevada City, felt from San Francisco north eastward into Nevada.
June 19, 1889 1915	VII	Lassen County, was felt to Chico and Sacramento and into Nevada.
March 20, 1950	V	Lassen Peak intensity V at 8 places also felt at Reno, magnitude 5.5.

May 9, 1952	VI	California-Nevada border, over an area of 3,000 square miles of northern California to western Nevada, magnitude 5.4.
September 25, 1953	VI	Nevada-California border over an area of 12,000 square miles of western Nevada and northeastern California.
February 21, 1915	VII	Near Lassen Peak, localized shock in mountains near Whitmore, northwest of Lassen Peak. Considerable dislocation of Ground.
December 26, 1969		California-Nevada, three shocks at Marysville, felt at Stockton, Sacramento, Grass Valley, Mokelumne Hill and Chico in California and Virginia City in Nevada.
December 27, 1969	V-VII	California-Nevada, considerable damage at Virginia City, Genoa, Carson City in Nevada and at Downieville and Oroville in California.

*Intensity is based upon the Modified Mercalli intensity Scale of 1931.

The listing of the major earthquakes affecting Lassen County, emphasize that during the past hundred years the planning area has been subjected to minor quakes and secondary impact, which did and could today cause damage and injuries with a breakdown of vital facilities and services.

The California Division of Mines and Geology Epicenter Map of 1972 indicates Lassen County earthquakes occurring between 1934 and June 1971 of from magnitude 4.0 to 5.9 as follows:

- (1) One earthquake near Susanville of magnitude 4.0 to 4.9.
- (2) Two earthquakes in Honey Lake area of magnitude 5.0 to 5.9.
- (3) Three separate locations between Doyle and Herlong of magnitude 5.0 to 5.9.

The basic assumption underlying the above list, is that where earthquakes have occurred, they are more likely to occur in the future. Most earth scientists agree with this assumption in its most general terms, but there is no agreed way to predict when, where or how powerful the next earthquake will be.

C. Designated Hazard Areas

1. California Division of Mines and Geology Fault Map 72-1 indicates Lassen County hazard areas as follows:
 - (a) Between Doyle and Herlong, along the west edge of Fort Sage Mountains, historically active fault with surface rupture with documented reports dated 1950.
 - (b) Quaternary displacement in western and central Lassen County, without historic record. Recognized by displaced alluvium, terraces, or other quaternary units; offset streams; alignment of sag ponds, trenches or saddles. Includes concealed fault-controlled ground water well data.
 - (c) There are lesser scattered faults throughout the county, without recognized quaternary movement.

2. Weather and Landslides

In terms of energy, frequency of activity, and area of influence, weather is a principal consideration in landslides. Cloud cover, temperature, humidity and fog, among others, regulate the plant cover, and influence ground moisture. However, the principal expression of weather is precipitation and it has a direct influence on land sliding. Precipitation can be related-to landslide activity and greater rainfall proportionally increases landslide activity.

3. Volcanic Action

Lassen Peak, still considered an active volcano, is situated just west of Lassen County and is the southernmost volcano of the Cascade chain. Cinder cones run the length of Lassen County's western boundary. Lassen Peak has recorded the most violent volcanic action on the mainland. Some volcanologists consider Lassen to be a volcanic "time bomb" that could erupt at any time. They point out Arenal Volcano, Costa Rica erupted in 1969 after being dormant for more than 500 years.

4. Lakes and Reservoirs

The number of lakes in Lassen County is high and therefore correlation of known faults and their relationships to lakes and reservoirs should be noted. The potential for a seiche occurring on Eagle Lake is a definite possibility, which depending upon the intensity of seismic event could result in damage of varying severity at vulnerable locations.

The calculation of the effect of seiche on specific bodies of water is very technical and should be analyzed.

IV. PUBLIC SAFETY ELEMENT

A. Fire, Geologic, and Health Hazards

1. Fire Hazard

The entire county is prone to fire, either man-made or natural. Location, accessibility, local climatic conditions, topography and vegetation type are among the factors associated with the intensity of a fire. Among the factors which can induce fire hazard potential to human safety and the environment is the degree to which fire hazard reduction measures are practiced in an area and, should a fire occur, the response time and effectiveness of the fire suppression activities.

Considerable loss to the economy, environment, and public safety may result in an area where a fire occurs. The losses resulting from natural or man-made fire can be minimized considerably if fire hazard reduction measures of maintaining clearance around structures are practiced as spelled out in the Public Resource Code 4291.

Developments in fire hazard areas should take all necessary precautions in preventing fire and reducing fire hazards. Establishing fuel brakes by thinning the more highly combustible vegetation in such areas of high vulnerability as along roadsides, recreation and residential areas should be practiced.

Adequate multiple ingress and egress options for evacuation and fire suppression access routes should be provided in all areas used by the public. The General Plan and the county land division ordinance regulations provide an excellent framework for new development access, however, all access routes in the county should be maintained and improved periodically in the event an emergency warrants their use for public evacuation and/or fire suppression activities response.

The vulnerability of populated areas to fire is obvious, consequently, water availability is important. The small communities in Lassen County do not have central water systems, however, most communities do have prime sources of supply. In 1974, out of sixteen populated centers, thirteen have prime sources for water supply; six have storage that could meet fire standards; seven have water systems, one being of half inch lines, and one has no storage; ten have organized fire protection, of these, six do not have water systems or storage.

All of the populated areas of Lassen County are in high fire hazard areas of either/or timber, brush, and/or grasslands, and all of these areas are especially vulnerable during peak dry seasons.

2. Geologic Hazard

Maps depicting real and potential existing geologic hazards should be prepared by an agency having special expertise or jurisdiction showing the location of fault zones, unstable soils, flood zones, and other geologic related conditions which could potentially cause public danger and/or possible environmental damage and recommend mitigation measures in these areas of concern as described in the General Plan Elements.

3. Health Hazards

Certain areas of the county are subject to existing or potential dangers to public health through water quality problems which usually result from the use of individual waste disposal and leaching systems that are affected by one or more unfavorable physical factors. These factors

may include such things as: density of development; high groundwater; nearby surface water of high quality; unsuitable local topography; poor soil conditions as in areas of Eocene Nonmarine soils and granitic areas where there is insufficient soil over bedrock; and important recharge areas for groundwater in which leachates put into the soil receive almost no filtering action and become a part of the groundwater and also, obviously, a part of the public health problem. Potential risks are assumed in these problem areas. As these polluted conditions go unchecked, obvious hazards to public health become eminent unless remedial action is taken. Lassen County should adopt guidelines for waste disposal from land development.

V. POLICY PROGRAMS

A. Implementation Measures

1. Implement a study to locate and identify areas of existing and potential fire, geologic, and health hazards.
2. Require all structures and developments to strictly adhere to Public Resource Code 4291.
3. Subdivision and minor land division ordinances should require that roads constructed be of sufficient width and that there be multiple ingress and egress options for evacuation routes.
4. Population centers should be encouraged to improve or install water systems with adequate storage capacities.
5. Communities should be protected by fuel brakes together with fire suppression equipment backed up with an adequate water supply.
6. For the purpose of faster response time of fire suppression equipment, all major and minor roads should have signs identifying their names.
7. Require that all public and private structures strictly adhere to the Uniform Building Code regarding earthquake safe standards for Seismic Zone 2.
8. Implement a study to identify, map, and calculate the potential of occurrence and effects that a seiche would have on shoreline development along with possible mitigation recommendations.
9. Adoption of an ordinance for hillside developments.
10. Adoption of guidelines for waste disposal from land development and that the guidelines set by Lahontan Regional Water Quality Control and Central Valley Regional Water Quality Control Boards are strictly adhered to.