



February 5, 2026

TO: LOCSD Board of Directors

FROM: Ron Munds, General Manager

SUBJECT: Agenda Item 7H – 2/5/2026 Board Meeting
Adoption of the County of San Luis Obispo’s Multi-Jurisdictional Local Hazard Mitigation Plan.

DESCRIPTION

The multi-jurisdictional Local Hazard Mitigation Plan was originally developed in 2005, updated in 2011, 2013, and 2019, before this recent comprehensive update in 2025. Development of the plan includes assessing mitigation capabilities, securing support and soliciting input and approval from each community involved. LOCSD staff, along with other local governments, have been involved in the development of the updated plan which is now complete. The final step in the process is for each participating agency’s governing board to adopt the plan.

STAFF RECOMMENDATION

This item will be approved along with the Consent Calendar unless it is pulled by a Director for separate consideration. If so, Staff recommends that the Board adopt the following motion:

Motion: I move that the Board adopt Resolution No. 2026-06 adopting the County of San Luis Obispo’s Multi-Jurisdictional Local Hazard Mitigation Plan Update 2025.

DISCUSSION

State law requires an update to the Multi-Jurisdictional Local Hazard Mitigation Plan (LHMP) every five years in order to be eligible for federal and state funding in the event of a local disaster. The purpose of the LHMP is to ensure the region mitigates the impacts of natural hazards (e.g. wildfires, flooding, earthquakes). The County Office of Emergency Services coordinated the LHMP update which involved collaboration and coordination between multiple cities and districts, including LOCSD.

The County’s prior plan, approved by FEMA in 2019, was required to be reviewed and revised every five years to reflect changes in development, progress in local mitigation efforts, and changes in priorities. Through the Governor’s Office of Emergency Services (Cal OES), the Federal Emergency Management Agency (FEMA) awarded the County of San Luis Obispo grant funding through the Hazard Mitigation Grant Program (HMGP) to fund the development of this multi-jurisdictional hazard mitigation plan in 2025.

Participating jurisdictions had direct representation on the planning team throughout the planning and development process. There were multiple public workshops and public surveys held during the plan development process, where the public provided input into the development of the plan. This multi-jurisdictional plan built on previous hazard mitigation planning and incorporated updated hazard mapping, risk assessment and threat analysis.

President
Matthew D. Fourcroy

Vice President
Charles L. Cesena

Directors
Tom Cross
Richard Hubbard
Christine M. Womack

General Manager
Ron Munds

District Accountant
Robert Stilts, CPA

Unit Chief
John Owens

Battalion Chief
Joshua Lorenzo

Mailing Address:
P.O. Box 6064
Los Osos, CA 93412

Offices:
2122 9th Street, Suite 110
Los Osos, CA 93402

Phone: 805/528-9370
FAX: 805/528-9377

www.losososcsd.org

The final step in the process is for the final draft of the LHMP will go before each jurisdiction's governing body for adoption which is the action that staff is seeking as part of this report. Since the LHMP is over 1,400 pages, interested parties can view the entire document at <https://www.slocounty.ca.gov/departments/administrative-office/office-of-emergency-services/forms-documents/2025-draft-multi-jurisdictional-hazard-mitigation-plan>.

Attached to this report (online only) is *Annex L: Los Osos Community Services District* which provides an overview of the District and identifies the local hazards and summarizes their impacts.

OTHER AGENCY INVOLVEMENT/IMPACT

County Planning and the County Office of Emergency Services worked closely with all the participating jurisdictions, which included LOCSD and: the cities of Arroyo Grande, Atascadero, Grover Beach, Morro Bay, Paso Robles, Pismo Beach, San Luis Obispo; and special districts including Avila Beach Community Service District (CSD), Cambria CSD, Ground Squirrel Hollow CSD, Heritage Ranch CSD, Nipomo CSD, Oceano CSD, San Miguel CSD, San Simeon CSD, Templeton CSD, Cayucos Sanitary District, San Luis Obispo Flood and Water Conservation District, South San Luis Obispo county Sanitation District and Port San Luis Harbor District.

FINANCIAL CONSIDERATIONS

The development of this plan was 75% grant funded. The remaining 25% was local match funding. The participating jurisdictions, including LOCSD, provided a signed match commitment letter for their portion of the local match cost of this project, which was based on a per capita cost formula. The District's prorated share of the plan update is \$2,500.

Attachment

Resolution 2026-06

Annex L: Los Osos Community Services District (Available online only)

RESOLUTION NO. 2025-06

**A RESOLUTION OF THE BOARD OF DIRECTORS
OF THE LOS OSOS COMMUNITY SERVICES DISTRICT
ADOPTING THE COUNTY OF SAN LUIS OBISPO'S MULTI-JURISDICTIONAL
LOCAL HAZARD MITIGATION PLAN UPDATE 2025**

WHEREAS, Los Osos Community Services District (District) recognizes the threat that natural hazards pose to people and property within our community; and

WHEREAS, undertaking hazard mitigation actions will reduce the potential for harm to people and property from future hazard occurrences; and

WHEREAS, an adopted Multi-Jurisdictional Local Hazard Mitigation Plan is required as a condition of future funding for mitigation projects under multiple FEMA pre- and post-disaster mitigation grant programs; and

WHEREAS, the District fully participated in the FEMA-prescribed mitigation planning process to prepare this Multi-Jurisdictional Local Hazard Mitigation Plan; and

WHEREAS, the California Office of Emergency Services and Federal Emergency Management Agency, Region IX officials have reviewed the San Luis Obispo County Multi-Jurisdictional Local Hazard Mitigation Plan and approved it contingent upon this official adoption of the participating governing body;

NOW, THEREFORE, IT IS HEREBY RESOLVED by the Board of Directors of the Los Osos Community Services District, as follows:

1. The Board of Directors adopts the San Luis Obispo County Multi-Jurisdictional Local Hazard Mitigation Plan by reference into the District's Codes in accordance with the requirements of AB 2140, and
2. The District will submit this adopted resolution to the California Office of Emergency Services and FEMA Region IX officials to enable the plan's final approval in accordance with the requirements of the Disaster Mitigation Act of 2000 and to establish conformance with the requirements of AB 2140.

On the motion of Director _____, seconded by Director _____,
and on the following roll call vote, to wit:

Ayes: _____
Noes: _____
Abstain: _____
Absent: _____

The foregoing resolution is hereby passed, approved, and adopted by the Board of Directors of the Los Osos Community Services District this 5th day of February 2025.

Matthew D. Fourcroy
President, Board of Directors
Los Osos Community Services District

ATTEST:

APPROVED AS TO FORM:

Ron Munds
General Manager and Secretary to the Board

Craig A. Steele
District Legal Counsel



Annex L Los Osos Community Services District

L.1 District Profile

L.1.1 Mitigation Planning History and 2025 Process

This annex was updated in 2025 to builds upon the previous version created for the 2019 San Luis Obispo County Hazard Mitigation Plan (HMP) update. This jurisdictional annex also builds upon the previous version of the Local HMP for the Los Osos Community Services District (CSD) approved by FEMA in August 2005. The 2019 HMP was not formally integrated into any planning mechanisms as nothing has been formally adopted since the last plan update. However, the CSD is planning on leveraging the information from the hazard identification and risk assessment from the current update into the next update of their Emergency Response Plan. Since the last plan update, one notable change in priority has been an increased emphasis on stormwater drainage improvements as a result of flooding in 2023.

The General Manager of the Los Osos Community Services District was the representative on the county HMPC and took the lead for developing this annex in coordination with the Los Osos Community Services District Local Planning Team (LPT). The LPT will be responsible for implementation and maintenance of the plan. Table L-1 summarizes the District’s planning team for the plan revision process, and Table L-2 summarizes various stakeholder groups, neighboring communities, and local agencies which supported or coordinated on this HMP update.

Table L-1 Los Osos CSD Hazard Mitigation Plan Planning Team

DEPARTMENT	TITLE
Administration	General Manager
Administration	Admin Services Mgr.
Utilities	Utilities System Manager
Fire	Battalion Chief

Table L-2 Los Osos CSD Stakeholder Groups, Neighboring Communities, and Local Agencies

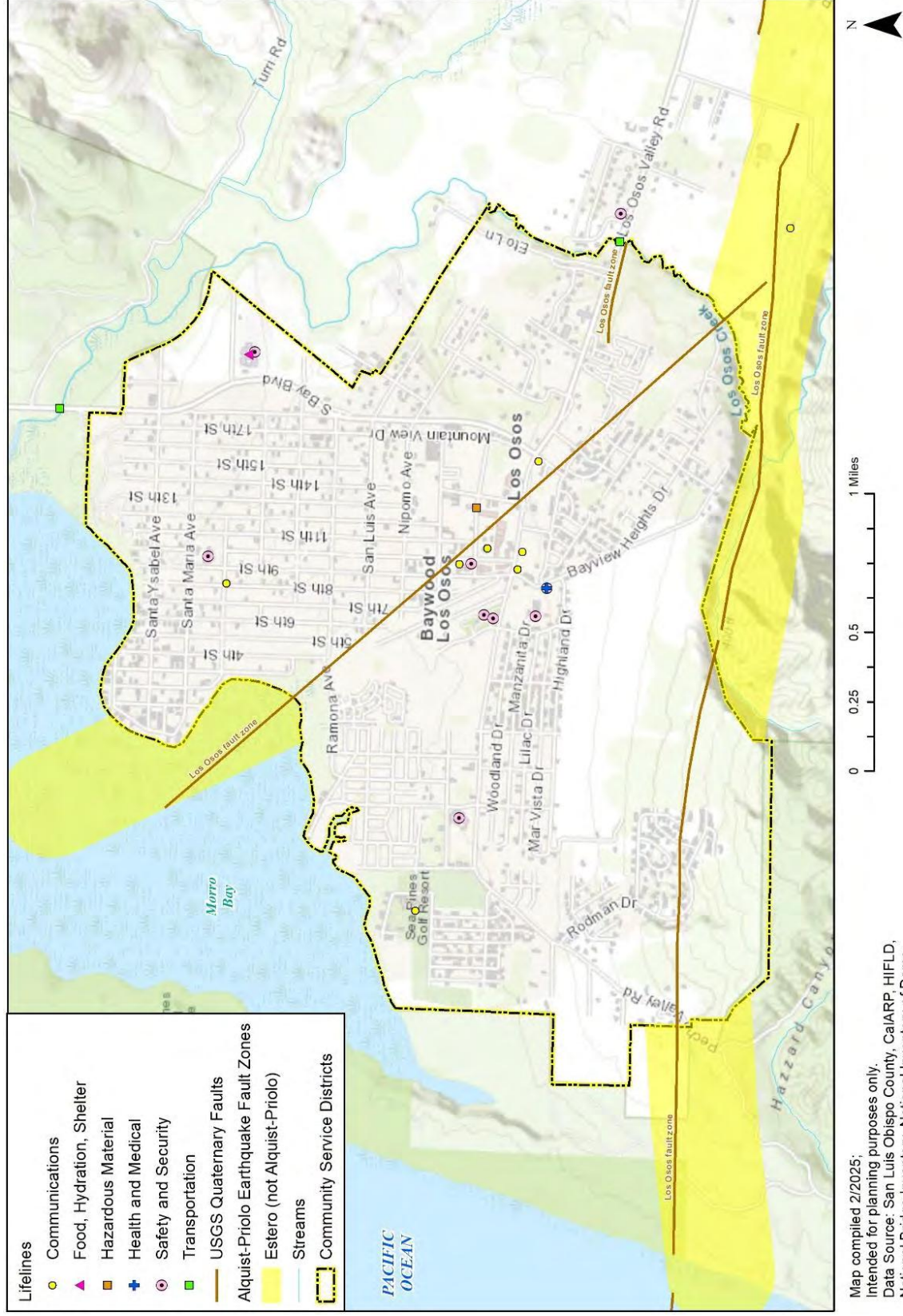
STAKEHOLDER CATEGORY	ORGANIZATION
Agencies involved in hazard mitigation activities	SLO County Fire
Agencies that have the authority to regulate development	SLO County Planning & Building
Neighboring communities	City of Morro Bay
Representatives of business, academia, and other private orgs	Los Osos/Baywood Park Chamber of Commerce
Representatives supporting underserved communities	People Helping People

More details on the planning process and how the jurisdictions, service districts and stakeholders participated can be found in Chapter 3 of the Base Plan, as well as how the public was involved during the 2025 update.

Figure L-1 below shows the Los Osos planning area.



Figure L-1 Los Osos Community Service District



Map compiled 2/2025;
 Intended for planning purposes only.
 Data Source: San Luis Obispo County, CalARP, HIFLD,
 National Bridge Inventory, National Inventory of Dams,
 FCWCD, Department of Conservation, USGS



L.1.1 District Overview

The Los Osos Community Services District (District) is located south of the City of Morro Bay and west of the City of San Luis Obispo. The District provides multiple services to the unincorporated coastal area including water, fire protection services among other services. The Morro Bay Estuary and Morro Bay State Park border the District on the northwest, while the Los Osos Creek is on the eastern border of the District and the prominent topographic feature, Irish Hills, as well as Montano de Oro State Park lies to the south and southwest.

The District was created on November 3, 1998, replacing the old County Service Area 9 with Los Osos' first public agency governed by community residents. District services include fire protection and emergency response, storm water drainage management, solid waste management, water supply for the Baywood area, parks and recreation, and street lighting.

The Los Osos Community Services District is governed by an elected Board of Directors with the authority to make decisions about various public utilities and services. The Board's primary responsibilities are water, solid waste management, drainage, and emergency services. The Board meets on the first Thursday of each month. All Board Meetings are public meetings, and any member of the public can speak to the Board regarding any matter of District authority during the public comment period.

The Los Osos Community Services District has established four advisory committees (Emergency Services Advisory Committee, Finance, Water Utilities and Parks and Recreation) to advise the Board on various aspects of its operations. The Board may create standing committees at its discretion.

Community service districts are prohibited by law from engaging in land use planning. Thus, a volunteer group, the Los Osos Community Advisory Council (LOCAC) has been formed to advise the San Luis Obispo County Board of Supervisors on land use planning, parks, transportation, and other issues that affect the community of Los Osos. LOCAC is an advisory council only; it does not have the authority to make decisions.

L.1.2 Development Trends

According to the planning team, there has been limited new development in the community since the last plan update, mostly individual single-family homes; this has not notably increased or decreased hazard vulnerability. As mentioned previously, the community is largely built out and bounded on all sides by geographic features and the Los Osos Oaks State Natural Reserve, leaving very limited undeveloped areas within the district. New development will mostly occur on infill lots distributed throughout the community. Because of these factors, the district's net vulnerability has not increased or decreased due to changes in development since the previous plan was approved for all hazards identified in Section L.3.3.

The U.S. Census Bureau estimated the Los Osos Census Designated Place's (CDP) 2023 population as 15,048, a decrease from 16,292 in 2018; this represents a 7.6 percent decrease in five years. Table L-3 shows an overview of key social and demographic characteristics of the CDP taken from the U.S. Census Bureau's American Community Survey.

Table L-3 Los Osos CDP Demographic and Social Characteristics, 2018-2023

LOS OSOS CDP	2018	2023	% CHANGE
Population	16,292	15,048	-7.6%
Median Age	47.5	47.3	-.4%
Total Housing Units	6,829	6,571	-3.8%



LOS OSOS CDP	2018	2023	% CHANGE
Housing Occupancy Rate	95%	94.6%	-.4%
% of Housing Units with no Vehicles Available	1.1%	2.1%	+90.9%
Median Home Value	\$498,200	\$728,000	+46.1%
Unemployment	2.4%	3%	+25%
Mean Travel Time to Work (minutes)	23.2	20.9	-9.9%
Median Household Income	\$97,004	\$115,000	+18.6%
Per Capita Income dp03	\$39,810	\$51,593	+29.6%
% of Individuals Below Poverty Level	10.3%	8.4%	-18.4%
# of Households	6,482	6,217	-4.1%
Average Household Size	2.49	2.40	+3.6%
% of Population Over 25 with High School Diploma	92.7%	94.2%	+1.6%
% of Population Over 25 with Bachelor’s Degree or Higher	41.7%	31%	-25.7%
% with Disability	14.7%	13.4%	-8.8%

Source: U.S. Census Bureau American Community Survey 2018-2023 5-Year Estimates, www.census.gov/
 Note: Data is for the Los Osos Census Designated Place (CDP) which may not have the same boundaries as the Cambria Community Service District.

The following tables show how the Los Osos CDP’s labor force breaks down by occupation and industry estimates from the U.S. Census Bureau’s 2023 American Community Survey. The industries with the most employees are educational services, health care and social assistance (21.8%) as shown below in Table L-4. The most common occupations in Cambria are those in management, business, science, and the arts (43.63%) as shown in Table L-3.

Table L-4 Los Osos CPD Employment by Industry (2023)

INDUSTRY	# EMPLOYED	%
Population (2017)	12,461	
In Labor Force	7,602	61%
Agriculture, forestry, fishing and hunting, and mining	170	2.4%
Armed Forces	0	0%
Construction	841	11.6%
Manufacturing	377	5.2%
Wholesale trade	26	.4%
Retail trade	673	9.3%
Transportation and warehousing, and utilities	377	5.2%
Information	184	2.5%
Finance and insurance, and real estate and rental and leasing	281	3.9%
Professional, scientific, and management, and administrative and waste management services	732	10.1%
Educational services, health care and social assistance	1,578	21.8%
Arts, entertainment, recreation, and accommodation and food services	979	13.5%
Other services, except public administration	587	8.1%
Public administration	429	5.9%
Unemployed	368	3%

Source: U.S. Census Bureau American Community Survey 2018-2023 5-Year Estimates, www.census.gov/.



Table L-5 Los Osos CPD Employment by Occupation (2023)

OCCUPATION	# EMPLOYED	% EMPLOYED
Sales and Office Occupations	1,293	17.9%
Management, Business, Science, and Arts Occupations	3,153	43.63%
Service Occupations	1,653	22.9%
Production, Transportation, and Material Moving Occupations	540	7.5%
Natural Resources, Construction, and Maintenance Occupations	595	8.2%
Total	7,234	

Source: U.S. Census Bureau American Community Survey 2018-2023 5-Year Estimates, www.census.gov/

Note: Data is for the Los Osos Census Designated Place (CDP) which may not have the same boundaries as the Cambria Community Service District

L.1.3 Other Community Planning Efforts

The coordination and synchronization of this plan with other community planning mechanisms and efforts are vital to the success of this plan. To have a thorough evaluation of hazard mitigation practices already in place, appropriate planning procedures should also involve identifying and reviewing existing plans, policies, regulations, codes, tools, and other actions are designed to reduce a community’s risk and vulnerability from natural hazards.

As an unincorporated community, Los Osos and the Los Osos Community Services District are referenced in other County planning documents and regulated by County policies and planning mechanisms. Integrating existing planning efforts, mitigation policies, and action strategies into this annex establishes a credible, comprehensive document that weaves the common threads of a community’s values together. The development of this jurisdictional annex involved a comprehensive review of existing plans, studies, reports, and initiatives from San Luis Obispo County and the Los Osos community that relate to hazards or hazard mitigation, as summarized in the table below. Information on how they informed the update is noted and incorporated where applicable.

Table L-6 Summary of Review of Key Plans, Studies and Reports

PLAN, STUDY, REPORT NAME	HOW DOCUMENT INFORMED THE ANNEX
Los Osos Community Plan (December, 2024)	Incorporated background information on the community and CSD.
2019 SLO County HMP - Los Osos Annex	Informed assets at risk, past hazard events, and background information on the District and the community.
Estero Area Plan (2009)	Informed natural assets section on the Sensitive Areas in the Los Osos community

In addition to the development standards within the Los Osos Community Plan, there are County planning mechanisms that regulate future and existing development within the Los Osos CSD planning area. Refer to Section L.4 Capability Assessment for more information on the plans, policies, regulations and staff that govern the Los Osos planning area.

L.2 Hazard Identification and Summary

The Los Osos CSD planning team identified the hazards that affect the District and summarized their frequency of occurrence, spatial extent, potential magnitude, and



significance specific to the Los Osos CSD (see Table L-7). There are no hazards that are unique to Los Osos.

Table L-7 Los Osos CSD Hazard Risk Summary

HAZARD	GEOGRAPHIC AREA	PROBABILITY OF FUTURE OCCURRENCE	MAGNITUDE/ SEVERITY (EXTENT)	OVERALL SIGNIFICANCE
Adverse Weather: Thunderstorm, Heavy Rain, Dense Fog	Significant	Likely	Limited	Medium
Adverse Weather: High Wind and Tornado	Significant	Likely	Limited	Medium
Adverse Weather: Extreme Heat	Significant	Likely	Limited	Low
Coastal Storm/Coastal Erosion/Sea Level Rise	Significant	Likely	Limited	Low
Drought and Water Shortage	Significant	Likely	Limited	High
Earthquake	Extensive	Likely	Critical	High
Flood	Limited	Likely	Limited	Low
Tsunami	Significant	Occasional	Limited	Low
Wildfire	Significant	Likely	Limited	High
Geographic Area Limited: Less than 10% of planning area Significant: 10-50% of planning area Extensive: 50-100% of planning area Probability of Future Occurrences Highly Likely: Near 100% chance of occurrence in next year or happens every year. Likely: Between 10 and 100% chance of occurrence next year or has a recurrence interval of 10 years or less. Occasional: Between 1 and 10% chance of occurrence in the next year or has a recurrence interval of 11 to 100 years. Unlikely: Less than 1% chance of occurrence in next 100 years or has a recurrence interval of greater than every 100 years.		Magnitude/Severity (Extent) Catastrophic—More than 50 percent of property severely damaged; shutdown of facilities for more than 30 days; and/or multiple deaths Critical—25-50 percent of property severely damaged; shutdown of facilities for at least two weeks; and/or injuries and/or illnesses result in permanent disability Limited—10-25 percent of property severely damaged; shutdown of facilities for more than a week; and/or injuries/illnesses treatable do not result in permanent disability Negligible—Less than 10 percent of property severely damaged, shutdown of facilities and services for less than 24 hours; and/or injuries/illnesses treatable with first aid Significance Low: minimal potential impact Medium: moderate potential impact High: widespread potential impact		

L.3 Vulnerability Assessment

The intent of this section is to assess the Los Osos Community Services District’s vulnerability separate from that of the planning area, which has already been assessed in Section 5 Hazard Identification and Risk Assessment in the Base Plan. This vulnerability assessment analyzes the population, property, and other assets at risk to hazards ranked of medium or high significance that may vary from other parts of the planning area.

The information to support the hazard identification and risk assessment for this Annex was collected through a Data Collection Guide, which was distributed to each participating



municipality or special district to complete during the planning process. Information collected was analyzed and summarized in order to identify and rank all the hazards that could impact anywhere within the County, as well as to rank the hazards and identify the related vulnerabilities unique to each jurisdiction. In addition, the Los Osos CSD planning team members were asked to share information on past hazard events that have affected the Community Services District.

Each participating jurisdiction was in support of the main hazard summary identified in the Base Plan (See Table 5.2). However, the hazard summary rankings for each jurisdictional annex may vary slightly due to specific hazard risk and vulnerabilities unique to that jurisdiction (See Table L-7. Identifying these differences helps the reader to differentiate the jurisdiction’s risk and vulnerabilities from that of the overall County.

Note: The hazard “Significance” reflects overall ranking for each hazard and is based on the Los Osos CSD planning team input from the Data Collection Guide and the risk assessment developed during the planning process (see Chapter 5 of the Base Plan), which included a more detailed qualitative analysis with best available data.

L.3.1 Other Hazards

The following hazards identified in the base plan are not identified within jurisdictional annex due to no risk or insignificant anticipated impacts and are not considered further for mitigation actions:

- Adverse weather: the sub-hazards of lightning, hail and freeze are not an issue due to coastal location
- Agricultural Pest Infestation and Disease
- Biological Agents (naturally occurring)
- Dam Incidents (no exposure to dam inundation zones)
- Landslides and Debris Flow (no mapped hazard areas)
- Subsidence
- Hazardous Materials

L.3.2 Assets at Risk

This section considers the district’s assets at risk, including an inventory of improved properties and critical facilities and Community Lifelines, and historic, economic, cultural, and environmental assets. Please refer to Section 5.2.2 of the base plan for a detailed description of the methodology used.

L.3.2.1 Values at Risk

Table L-8 shows the total exposure of properties (e.g., the values at risk) broken down by property type for the Los Osos Community Services District.

PROPERTY TYPE	STRUCTURE COUNT	IMPROVED VALUE	ESTIMATED CONTENT VALUE	TOTAL VALUE
Agricultural	1	\$8,766	\$8,766	\$17,532
Commercial	120	\$62,521,031	\$62,521,031	\$125,042,062
Exempt	18	\$4,952,566	\$4,952,566	\$9,905,132
Industrial	9	\$12,613,337	\$18,920,006	\$31,533,343
Mixed Use	55	\$10,111,144	\$10,111,144	\$20,222,288
Mobile Home	9	\$12,686,166	\$6,343,083	\$19,029,249



PROPERTY TYPE	STRUCTURE COUNT	IMPROVED VALUE	ESTIMATED CONTENT VALUE	TOTAL VALUE
Multi-Family Residential	185	\$65,126,126	\$32,563,063	\$97,689,189
Residential	4,903	\$1,205,322,760	\$602,661,380	\$1,807,984,140
Vacant Improved	24	\$5,916,725	\$5,916,725	\$11,833,450
Total	5,324	\$1,379,258,621	\$743,997,764	\$2,123,256,385

Source: San Luis Obispo County Assessor Data November 15, 2024, WSP GIS Analysis

L.3.2.2 Critical Facilities and Infrastructure

A critical facility may be defined as one that is essential in providing utility or direction either during the response to an emergency or during the recovery operation.

An inventory of critical facilities in the District based on County GIS data is provided in Table L-9 and illustrated in Figure L-1 Refer to Section 5.2 of the Base Plan for more information on the Assets used throughout this annex, including the definitions and categories of critical facilities, and the County-wide analyses.

Table L-9 Los Osos CSD Critical Facility Assets Summary by FEMA Lifeline

FEMA LIFELINE CATEGORY	COUNTS
Communications	7
Energy	-
Food, Hydration, Shelter	1
Hazardous Material	1
Health and Medical	1
Safety and Security	8
Transportation	-
Water Systems	-
Total	18

Source: San Luis Obispo County, CalARP, HIFLD, National Bridge Inventory, National Inventory of Dams, FCWCD, WSP Analysis

L.3.2.3 Essential Facilities

Essential facilities as identified by the Los Osos CSD Planning Team are as follows:

- Sheriff Sub-Station – 2099 10th Street
- South Bay Fire Department – 2315 Bayview Heights
- Water Treatment Facilities
- Water Tanks
- Water Pumping Facilities
- Groundwater Supply Sites

L.3.2.4 Transportation and Lifeline Facilities

The Los Osos CSD is situated in proximity to the regional transportation routes of Highway 101 and Highway 1 via Los Osos Valley Road and South Bay Boulevard. These are also the main arterial roads to access the planning area. The lack of alternatives transportation routes during an evacuation was noted as a significant concern for many residents in the Los Osos Community. The District’s lifeline facilities include those listed in the essential facilities above.

L.3.2.5 Historic and Cultural Resources

No historic or cultural resources have been identified in the Los Osos CSD.



L.3.2.6 Natural Resources

Natural resources are important to include in benefit-cost analyses for future projects and may be used to leverage additional funding for projects that also contribute to community goals for protecting sensitive natural resources. Awareness of natural assets can lead to opportunities for meeting multiple objectives. For instance, protecting wetlands areas protects sensitive habitat as well as attenuates and stores floodwaters. The Los Osos CSD Planning Team identified the following significant natural assets:

- Los Osos Oak State Reserve
- Baywood Park
- Audubon Overlook
- Elfin Forest
- Sweet Springs Nature Preserve
- Montana De Oro State Park
- Los Osos Community Park
- Los Osos School 1872
- Morro Bay Estuary

Some of natural assets listed above are also areas designed in the Estero Area Plan (2009) combining designations for Sensitive Reserve Areas, which apply to the protection of special resources in the Los Osos community and its vicinity:

- Los Osos Oaks State Reserve (SRA) - The Los Osos Forest is an 86-acre state park reserve containing outstanding examples of California pygmy oaks--stunted coast live oaks, growing in a stabilized dune area. Other oaks are also present, making this area an outstanding example of an oak woodland. The forest also includes a strip of open space preserved by the developer of Tract 527, but it is not open to public access.
- Los Osos Creek (SRA) - The lower eight miles of the creek are an anadromous fish stream (primarily steelhead), and adjacent riparian areas are rich in wildlife. Environmental concerns include contamination and excessive siltation of both the creek and the bay by development or other adverse uses occurring too close to the creek and its tributaries.
- Eto and Warden Lakes (SRA) - These are two of the few remaining isolated freshwater marshes in the county. Both lie within the Los Osos Creek drainage. The freshwater marshes, along with the associated riparian habitat, are important sites for migratory birds.
- Hazard Canyon and Vicinity (SRA) - The threatened Morro manzanita occurs only in the area between Baywood Park and Hazard Canyon. In addition, two of the six known stands of the endangered Indian Knob Mountain balm occur in Hazard Canyon. Many other endemic plant species are found in the dunes near the mouth of the canyon. This area is an excellent example of the successive stages of dune stabilization. Much of this area is within Montaña de Oro State Park.
- Montaña de Oro Grassland (SRA) - The marine terrace between Islay and Coon Creeks is a mosaic of the Stipa grassland community and the northern coastal scrub and coastal sage scrub. The terrace also supports numerous wildflowers.
- Coon Creek (SRA). Several natural plant communities occur in this area. The most interesting is the Bishop pine forest located on steep slopes just outside Montaña de Oro State Park. This is a large conifer forest where specimens of the Bishop pine may have been first collected scientifically and used to describe the species. Coast live oak is intermixed with the conifer forest. The county's only native population of *Ceanothus griseus* is found in this area (Source: California Native Plant Society).



L.3.2.7 Economic Assets

Los Osos is a residential area, and there is very little commercial development.

L.3.3 Estimating Potential Losses

Note: This section details vulnerability to specific hazards of high or medium significance, where quantifiable, and/or where (according to HMPC member input) it differs from that of the overall County.

Table L- above shows Los Osos' exposure to hazards in terms of number and value of structures. San Luis Obispo County parcel and assessor data was used to calculate the improved value of parcels. The most vulnerable structures are unreinforced masonry buildings, and buildings built prior to the introduction of modern-day building codes. Impacts of past events and vulnerability to specific hazards are further discussed below. (See Section 5 of the Base Plan for more detailed information about these hazards and their impacts on San Luis Obispo County as a whole.)

L.3.3.1 Adverse Weather: Thunderstorms/ Heavy Rain/ Dense Fog

Adverse weather in the Los Osos Community Services District includes thunderstorms, heavy rain, and dense fog. The overall significance rating for Los Osos is **Medium**. The entire property and facility inventory, as well as the population, of the Los Osos CSD is exposed to the impacts of thunderstorm/heavy rain/dense fog due to the widespread nature of these hazards. The typical impacts to people, structures, and critical facilities/lifeline are discussed in Section 5.3.2.7 of the base plan. Heavy rainfall events affect the District annually and the community's proximity to the Pacific Ocean tends to exaggerate adverse weather compared to inland communities. The district receives approximately 17 inches of precipitation annually. Combined with soil conditions and the presence of shallow-rooted Eucalyptus trees, heavy rains and moderate winds cause numerous tree-toppling events each year. Downed trees knock down power and communications lines, bringing disruptions lasting from a few hours to days in some locales in the District. The tables below show key climate variables such as extreme temperatures, precipitation totals, and the frequency of specific weather events.

Note that Morro Bay Fire Department and the Los Osos Landfill weather stations are the nearest official reporting site to Los Osos. Refer to Section 5 of the Base Plan for information on past adverse weather events in San Luis Obispo County.

Table L-10 Morro Bay Fire Department Climate Summary Table - Weather (Period of Record: 02/03/1959 - 12/31/2015)

SUMMARY PERIOD	MONTHLY MEAN MAXIMUM TEMP.	MONTHLY MEAN MINIMUM TEMP.	DAILY EXTREME HIGH TEMP	DAILY EXTREME HIGH DATE	DAILY EXTREME LOW TEMP	DAILY EXTREME LOW DATE	MAXIMUM TEMP. ≥ 90°F MEAN # DAYS	MINIMUM TEMP. ≤ 32°F MEAN # DAYS
Winter	62.7°F	43.4°F	89°F	1/17/1976	22°F	12/22/1990	0	3
Spring	63.8°F	46.1°F	100°F	4/7/1989	28°F	3/4/1969	0.3	0.1
Summer	66.0°F	52.3°F	94°F	8/28/1962	39°F	6/14/1992	0	0
Fall	68.3°F	50.2°F	106°F	10/4/1987	31°F	11/28/1989	1.4	0.1
Annual	64.9°F	47.8°F	106°F	10/4/1987	22°F	12/22/1990	1.8	3.6

Source: Western Regional Climate Center (WRCC) <https://wrcc.dri.edu/>

* Winter is defined as December, January, and February

** Summer is defined as June, July, and August



Table L-11 Morro Bay Fire Department Climate Summary Table – Precipitation (Period of Record: 02/01/1959 - 03/30/2025)

SUMMARY PERIOD	PRECIP. MEAN	PRECIP. HIGH	PRECIP. HIGH YEAR	PRECIP. LOW	PRECIP. LOW YEAR	PRECIP. 1 DAY MAXIMUM	PRECIP. 1 DAY MAXIMUM DATE	PRECIP. ≥ 1.00 IN. MEAN # DAYS
Winter	8.43 in.	19.91 in.	1969	2.09 in.	1964	3.7 in.	1/1/2006	2.1
Spring	4.48 in.	21.01 in.	1995	0.3 in.	1959	8.82 in.	3/11/1995	1
Summer	0.17 in.	1.82 in.	2015	0 in.	1959	1.82 in.	7/19/2015	0
Fall	2.53 in.	6.58 in.	1982	0.13 in.	1980	2.1 in.	10/17/2016	0.5
Annual	15.65 in.	34.63 in.	1983	3.95 in.	2013	8.82 in.	3/11/1995	3.8

Source: Western Regional Climate Center (WRCC) <https://wrcc.dri.edu/>

* Winter is defined as December, January, and February

** Summer is defined as June, July, and August

L.3.3.2 Adverse Weather: High Wind and Tornado

Los Osos CSD overall significance rating for high wind and tornadoes is **medium**. The entire property and facility inventory, as well as the population, of the Los Osos CSD is exposed to the impacts of high wind and tornado due to the widespread nature of this hazard. The typical impacts to people, structures, and critical facilities/lifeline are discussed in Section 5.3.3.7 of the base plan. While the region typically experiences a mild coastal climate, certain factors elevate its vulnerability to these hazards. High wind events in Los Osos are primarily associated with winter storm systems. These storms can produce gusty winds capable of causing minor damage, such as downed tree limbs and power lines. The area’s coastal location can sometimes amplify wind speeds, especially strong frontal passages.

Tornadoes are rare in San Luis Obispo County; however, Los Osos experienced a notable event on February 7, 2024, when an EF1 tornado touched down in the area. The tornado had estimated peak winds of 95 mph, a path length of 5 miles, and a maximum width of 50 yards. This event was significant because it marked the first tornado in the county since 2004. The combination of occasional high wind events and the rare but impactful tornado occurrence contributes to the medium hazard rating in Los Osos CSD.

L.3.3.3 Adverse Weather: Extreme Heat

Extreme heat is a **low** significance hazard for the Los Osos CSD. The entire property and facility inventory, as well as the population, of the Los Osos CSD is exposed to the impacts of extreme heat due to the widespread nature of this hazard. The typical impacts to people, structures, and critical facilities/lifeline are discussed in Section 5.3.4.7 of the base plan. The monthly mean maximum fall temperature for the Morro Bay Fire Department, the closest NOAA weather station to the CSD, is 68.3°F; however, temperatures up to 106°F have been recorded (see Table L-10). Additionally, rising temperatures and more frequent heat waves are increasing the likelihood of more extreme heat events in the future.

High temperatures lead to increased water demand for irrigation and cooling, which can strain pumping systems, reduce well yields, and potentially degrade water quality through reduced dilution capacity and bacterial contamination. Additionally, sustained heat can overheat pumps and increase the likelihood of equipment failures. Field staff working outdoors also face heat-related illness, which can lead to reduced staffing and slower response times.

Emergency services face greater demand during heat waves, as the risk of wildfires intensifies and heat-related medical emergencies become more frequent. These conditions can place additional pressure on the CSD’s contracted fire and EMS providers. Solid waste operations can also be impacted, with sanitation workers exposed to higher risk and waste decomposing more quickly which can result in sanitation issues. Parks and recreation assets may also suffer



from stressed vegetation and reduced public use. Power outages caused by heat-induced grid strain can disrupt nearly all services.

L.3.3.4 Coastal Storm/Coastal Erosion/Sea Level Rise

Coastal storm is a **low** significance hazard for the Los Osos CSD. The District is located in a coastal lowland area adjacent to Morro Bay, with several neighborhoods, roadways, and utility infrastructure in proximity to estuarine and oceanfront zones potentially vulnerable to sea level rise. While direct inundation under current sea level conditions ranks this hazard category as low significance, the presence of back bay waters, tidal marshlands, and episodic coastal flooding events presents increasing risk over time.

The combination of storm surge, king tides, and long-term sea level rise may gradually elevate flood risks, especially in lower-elevation areas near Cuesta-by-the-Sea and along the tidal edges of Los Osos Valley. The District continues to monitor shoreline and drainage dynamics and will rely on regional sea level rise vulnerability assessments and planning efforts by San Luis Obispo County, State Parks, and other partners to guide future adaptation strategies and infrastructure investments. Further details, including methodology and modeling assumptions, are provided in the Base Plan, Section 5.3.4, Coastal Storm, Coastal Erosion, and Sea Level Rise.

Values at Risk

A sea level rise risk assessment was completed to evaluate potential impacts on coastal jurisdictions, critical facilities, and flood hazards. Table L-12 and Table L-13 summarize the properties projected to be at risk from sea level rise alone and from sea level rise combined with a 1% annual chance flood event. The areas of potential inundation are illustrated in Figure L-2 and Figure L-3, respectively. No critical facilities were identified as being at risk under the sea level rise scenarios assessed. Additional details regarding the modeling assumptions, scenarios, and data sources are provided in Section 5.3.4 of the Base Plan.

Table L-12 Los Osos Properties Inundated by Sea Level Rise and Sea Level Rise with 1% Annual Chance Flood

PROPERTY TYPE	25-CM SLR	75-CM SLR	300-CM SLR	25-CM SLR W/1% FLOOD	75-CM SLR W/1% FLOOD	300-CM SLR W/1% FLOOD
Commercial	1	4	16	6	8	19
Exempt	1	1	1	1	1	1
Mixed Use	-	-	4	1	1	7
Mobile/Manufactured Homes	-	-	1	-	-	1
Multi-Family Residential	-	-	4	-	-	10
Residential	4	25	225	45	89	292
Vacant Improved	-	-	2	1	2	2
Total	6	30	253	54	101	332

Source: San Luis Obispo County Assessor Data November 15, 2024, USGS CoSMoS v3.1, WSP GIS Analysis

Table L-13 Los Osos Improved Values of Properties Inundated by Sea Level Rise and Sea Level Rise with 1% Annual Chance Flood

PROPERTY TYPE	25-CM SLR	75-CM SLR	300-CM SLR	25-CM SLR W/1% FLOOD	75-CM SLR W/1% FLOOD	300-CM SLR W/1% FLOOD
Commercial	\$109,242	\$2,655,266	\$8,182,517	\$4,434,554	\$4,789,794	\$8,599,580
Exempt	\$3,444	\$3,444	\$3,444	\$3,444	\$3,444	\$3,444
Mixed Use	-	-	\$1,067,127	\$637,500	\$637,500	\$1,266,258



PROPERTY TYPE	25-CM SLR	75-CM SLR	300-CM SLR	25-CM SLR W/ 1% FLOOD	75-CM SLR W/ 1% FLOOD	300-CM SLR W/ 1% FLOOD
Mobile/Manufactured Homes	-	-	\$69,324	-	-	\$69,324
Multi-Family Residential	-	-	\$1,476,959	-	-	\$3,926,280
Residential	\$1,806,596	\$7,464,643	\$58,936,259	\$13,233,820	\$23,785,693	\$74,642,803
Vacant Improved	-	-	\$1,103,604	\$11,604	\$1,103,604	\$1,103,604
Total	\$1,919,282	\$10,123,353	\$70,839,234	\$18,320,922	\$30,320,035	\$89,611,293

Source: San Luis Obispo County Assessor Data November 15, 2024, USGS CoSMoS v3.1, WSP GIS Analysis

Sea level rise modeling for Los Osos shows limited exposure under lower sea level rise scenarios, with risk increasing significantly at higher levels. Under the 25-centimeter scenario, six properties are projected to be inundated, including commercial and residential parcels. By the 75-centimeter scenario, 30 properties are at risk, primarily residential. Under the 300-centimeter sea level rise scenario, exposure expands to 253 parcels, including a substantial number of residential, commercial, mixed-use, and multi-family properties.

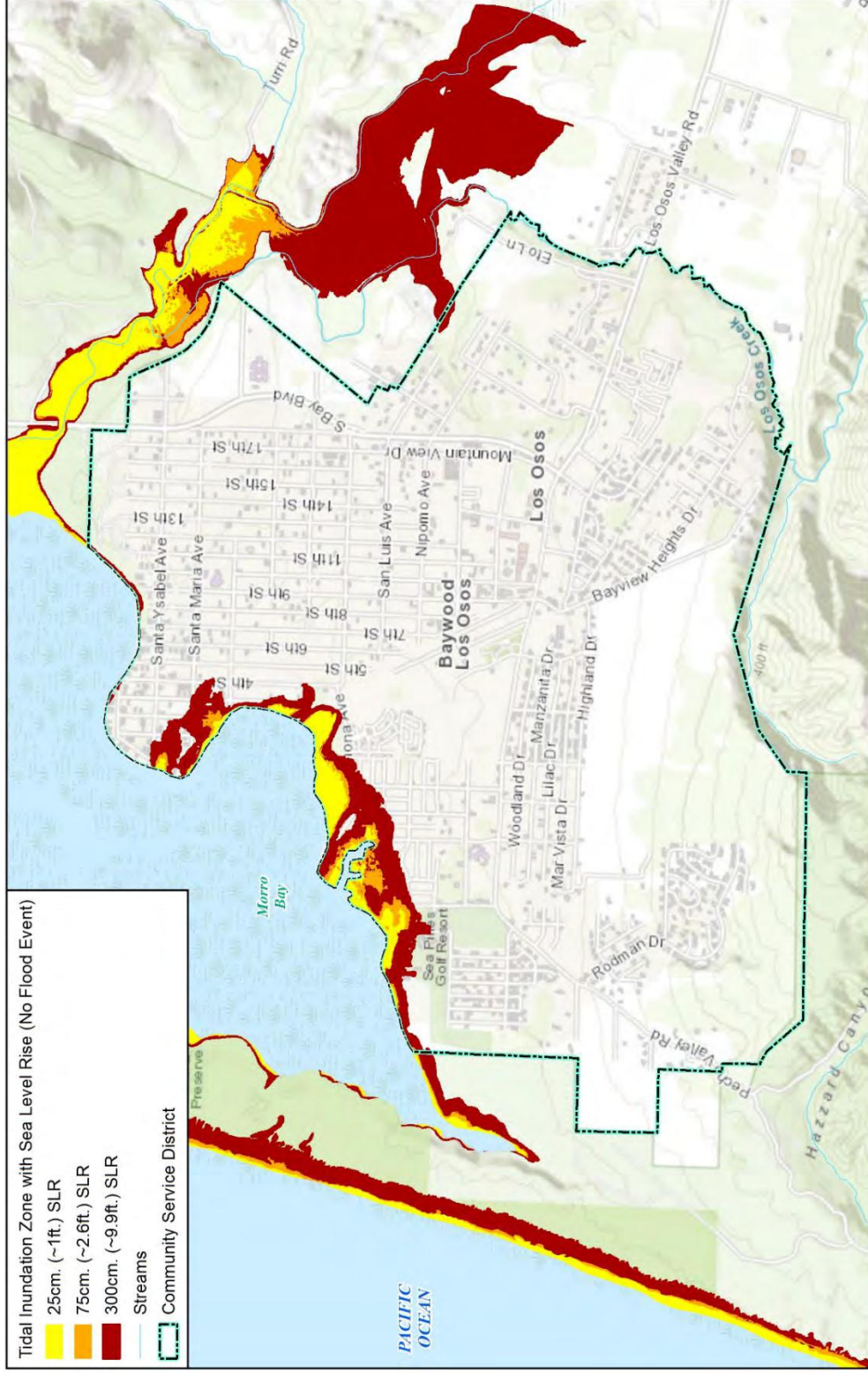
When sea level rise is combined with a FEMA 1% annual chance flood event, the number of affected properties increases across all scenarios. Under the combined 300-centimeter scenario, 332 properties are at risk, including 292 residential parcels and 19 commercial parcels, with additional exposure to mixed-use, mobile home, multi-family residential, exempt, and vacant improved parcels. Residential parcels represent the majority of exposure across all scenarios.

Under the 25-centimeter sea level rise scenario, the total improved value of properties at risk is approximately \$1.9 million. This increases to \$10.1 million under the 75-centimeter scenario and to approximately \$70.8 million under the 300-centimeter scenario. Residential properties make up the largest share of value at risk, particularly under the higher sea level rise conditions.

When sea level rise is combined with a FEMA 1% annual chance flood event, the total improved value at risk increases to approximately \$18.3 million under the 25-centimeter scenario, \$30.3 million under the 75-centimeter scenario, and \$89.6 million under the 300-centimeter scenario. Residential properties again represent the majority of total value exposed, followed by commercial, multi-family residential, and mixed-use parcels.



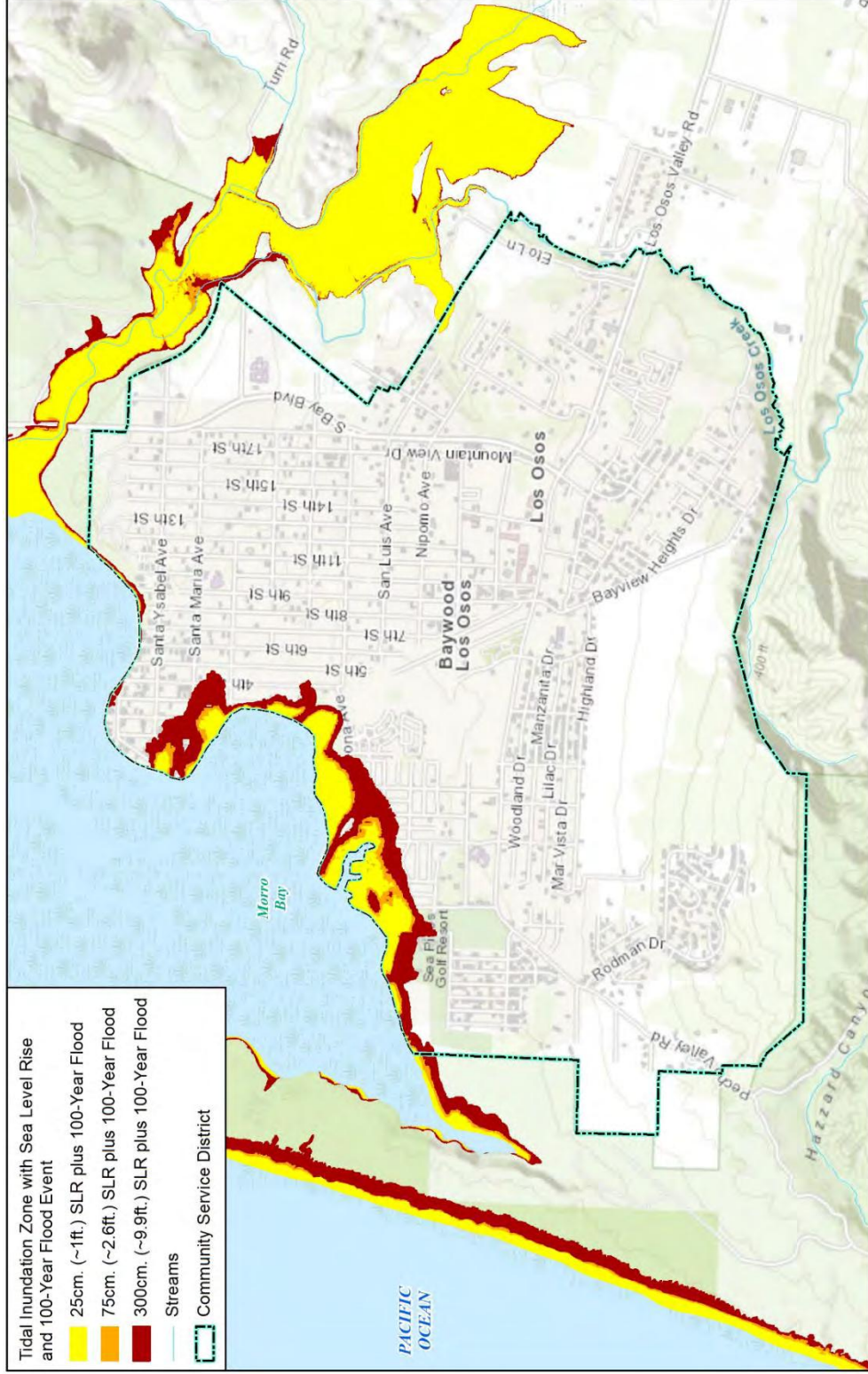
Figure L-2 Los Osos Sea Level Rise Scenario Analysis: Tidal Inundation Only



Map compiled 2/2025;
 Intended for planning purposes only.
 Data Source: San Luis Obispo County,
 USGS CoSMoS v3.1
 Note: SLR = Sea Level Rise



Figure L-3 Los Osos Sea Level Rise Scenario Analysis: Tidal Inundation and 1% Annual Chance Flood





Populations at Risk

Table L-14 provides information on Los Osos CSD population exposed to sea level rise scenario hazards with and without the 1% annual chance flood, below.

Table L-14 Los Osos CSD Population Exposed to Sea Level Rise Scenario Hazards

CSD	25-CM SLR	75-CM SLR	300-CM SLR	25-CM SLR W/ 1% FLOOD	75-CM SLR W/ 1% FLOOD	300-CM SLR W/ 1% FLOOD
Los Osos CSD	10	62	568	111	220	748
Total	10	62	568	111	220	748

Source: San Luis Obispo County Assessor Data November 15, 2024, USGS CoSMoS v3.1, WSP GIS Analysis

As sea level rise projections increase, so does the potential population exposure within the Los Osos CSD. Under the 25-centimeter sea level rise scenario, approximately 10 residents are exposed, with that number rising to 62 under the 75-centimeter scenario. At 300 centimeters of sea level rise, the population exposed increases significantly to 568. When storm surge and 1% annual chance flooding are combined with these sea level rise scenarios, the exposure becomes more severe, with 111 people impacted at 25 cm, 220 at 75 cm, and up to 748 residents potentially exposed under the 300 cm scenario. This escalating pattern highlights the growing vulnerability of low-lying neighborhoods, particularly near coastal and estuarine areas, and underscores the importance of proactive adaptation and planning.

L.3.3.5 Drought and Water Shortage

Drought is considered to be of **high** significance for the Los Osos CSD. Section 5.3.9.7 of the Base Plan includes an analysis of the vulnerability of people, property, facilities, and other assets to this hazard countywide, and the typical impacts do not vary in Los Osos significantly. The Los Osos CSD is one of the three water purveyors in the Los Osos community. The District supplies water for domestic service and fire protection. The CSD’s service area encompasses 633 acres of predominantly residential land uses. The CSD utility department is responsible for maintaining and operating their water distribution system, which includes six groundwater supply wells, over 27 miles of water main lines, three water storage tanks, approximately 2,780 water service lines and meters, 167 fire hydrants, four submersible pump stations, and five drainage basins. The District has a daily production capacity of approximately 1,580 gallons per minute when all wells are active.

The Los Osos Groundwater Basin is the only source of water for residential, commercial, institutional, and agricultural uses in the Los Osos community. In 2014, the basin was identified by the State as a high priority groundwater basin due to seawater intrusion and nitrate contamination, which required compliance with the Sustainable Groundwater Management Act (SGMA).

In 2019, the Department of Water Resources reclassified the Los Osos Basin as a very low-priority basin under SGMA. However, it remains designated as being in a state of critical overdraft due to ongoing seawater intrusion. Currently, Los Osos is under a building moratorium due to water supply limitations. The moratorium can only be lifted if key factors within the Basin Management Plan (such as seawater intrusion mitigation and sustainable yield) are met.

The 2023 Los Osos Basin Plan Groundwater Monitoring Program Annual report showed improvement in precipitation and groundwater conservation. Purveyor production (from Los Osos CSD, Golden State Water Company, and S&T Mutual Water Company) decreased by 3% from 2022, and total basin production declined by 18% due largely to reduced pumping from domestic, community, and agricultural wells. While above-average rainfall in 2023 improved



overall water availability, seawater intrusion advanced in some sections of the basin. Additionally, chloride levels worsened, while nitrate levels improved but remained above the target level.

While water levels are increasing, continued drought conditions in Los Osos may lead to increased pumping, leading to wells requiring rehabilitation and increasing maintenance costs. Aging or overused infrastructure may experience increased breakdowns or inefficiencies, requiring emergency repairs. To manage any future crisis, the CSD may need to invest in additional groundwater monitoring and testing, infrastructure upgrades or emergency well drilling, and public outreach and enforcement programs.

Drought impacts are wide-reaching and may be economic, environmental, and/or societal. The most significant impacts associated with drought in the planning area are those related to water intensive activities such as wildfire protection, jurisdictional usage, commerce, tourism and recreation. Drought conditions can also cause soil to compact and not absorb water well, potentially making an area more susceptible to flooding.

L.3.3.6 Earthquake

Earthquakes are considered to be of **High Significance** for the Los Osos CSD. Like all jurisdictions in the county, Los Osos is exposed to seismic hazards from movement along several regional faults and is at more or less the same level of risk for damage as other communities in San Luis Obispo County from ground shaking triggered by any earthquakes that impact the county. Previous iterations of the HMP have identified three fault zones (Los Osos, Edna and Indian Knob) as those most likely to cause impacts to the Los Osos Community Services District. The Los Osos fault poses the greatest risk to the CSD and its facilities. The fault is considered active and has the potential to generate a 6.8 magnitude earthquake. The San Simeon earthquake in 2003 which had impacts countywide caused significant damage to the Los Osos Community Services District's 16th Street North water storage tank. The tank was not anchored and endured what is referred to as "elephant foot" damage. The District repaired the tank with the assistance of FEMA and the California Office of Emergency Services (Cal OES). The improvements to the 16th Street tank secured the tank by anchoring it and repairing the lower shell where major damage had occurred. Other critical infrastructure, including the fire station, suffered damage that was repaired.

Los Osos Community Services District is located in a geologically complex and seismically active region that is subject to earthquakes and potentially strong ground shaking. Portions of the District are located on sand in-fill areas. These areas and those areas underlain by young, poorly consolidated, saturated granular alluvial sediments, would be most susceptible to the effects of liquefaction. These soil conditions are most frequently found in areas underlain by recent river and flood plain deposits, which have increased vulnerability to liquefaction when ground shaking occurs.

The following tables (Table L-15 and Table L-16) display the types and values of properties and the types of critical facilities located in low, moderate, or high liquefaction risk areas. Based on this analysis there are 5,321 properties exposed to liquefaction risk with a total value of over \$2.1 billion. Residential properties are the most vulnerable property type to liquefaction in Los Osos, with a combined total of 5,094 properties (including multi-family residential and mobile homes) with a total value of over \$1.9 billion.

It is important to note that the overwhelming majority of exposed properties are located in low-risk areas, 3,851 in total. However, analysis shows there are still 973 properties at moderate risk of liquefaction and 497 at high risk.

The following map depicts the areas of the Los Osos CSD that are at risk of liquefaction. The areas along the coastline to the District's east and north are at high risk of liquefaction, while



the eastern portion of the District's boundaries are designated as moderate risk of liquefaction, including Los Osos Valley Road, the only major road out of the Los Osos CSD limits.



Table L-15 Los Osos CSD's Improved Properties Exposed to Liquefaction Potential by Property Type

PROPERTY TYPE	STRUCTURE COUNT HIGH	STRUCTURE COUNT MODERATE	STRUCTURE COUNT LOW	TOTAL STRUCTURE COUNT	IMPROVED VALUE	ESTIMATED CONTENT VALUE	TOTAL VALUE	POPULATION
Agricultural	-	1	-	1	\$8,766	\$8,766	\$17,532	-
Commercial	14	72	34	120	\$62,521,031	\$62,521,031	\$125,042,062	-
Exempt	1	7	10	18	\$4,952,566	\$4,952,566	\$9,905,132	-
Industrial	2	7	-	9	\$12,613,337	\$18,920,006	\$31,533,343	-
Mixed Use	4	40	11	55	\$10,111,144	\$10,111,144	\$20,222,288	-
Mobile/Manufactured Homes	-	2	7	9	\$12,686,166	\$6,343,083	\$19,029,249	22
Multi-Family Residential	14	86	85	185	\$65,126,126	\$32,563,063	\$97,689,189	457
Residential	456	753	3,691	4,900	\$1,204,166,976	\$602,083,488	\$1,806,250,464	12,103
Vacant Improved	6	5	13	24	\$5,916,725	\$0	\$5,916,725	-
Total	497	973	3,851	5,321	\$1,378,102,837	\$737,503,147	\$2,115,605,984	12,582

Source: San Luis Obispo Assessor Data November 15, 2024; WSP GIS Analysis

Table L-16 Critical Facility Assets Exposed to Liquefaction Susceptibility by FEMA Lifeline

LIQUEFACTION SUSCEPTIBILITY	COMMUNICATIONS	ENERGY	FOOD, DRINK, HYDRATION, SHELTER	HAZARDOUS MATERIAL	HEALTH AND MEDICAL	SAFETY AND SECURITY	TRANSPORTATION	WATER SYSTEMS	TOTAL COUNT
High Liquefaction Susceptibility	2	-	-	-	-	-	-	-	2
Medium Liquefaction Susceptibility	4	-	-	1	-	1	-	-	6
Low Liquefaction Susceptibility	1	-	1	-	1	7	-	-	10

Source: San Luis Obispo County, CalARP, HIFLD, NBI, NID, FCWCD, WSP Analysis



L.3.3.7 Flooding

The Los Osos CSD gave flood a **low** overall significance rating. The Los Osos CSD is exposed to localized flooding hazards, particularly during periods of heavy rainfall. The community's topography, limited drainage infrastructure, and proximity to coastal and estuarine environments increase its susceptibility to stormwater-related flooding. Flood hazards in Los Osos are generally associated with surface water runoff accumulation rather than large riverine systems.

The 2023 atmospheric river event impacted the Los Osos Community Service District and water basin levee. On January 9th, 2023, a significant flood event occurred when a stormwater retention basin failed in the Vista de Oro neighborhood. A secondary mudslide occurred on Vista Court, where hundreds of volunteers in Los Osos gathered to help residents dig out their homes. The failure resulted in critical infrastructure damage, road closures, and flooding of 19 single-family residences. Insured property losses were estimated at approximately \$4.5 million, with federal and state disaster relief funding requests submitted. While this event was severe, the likelihood of recurrence is considered low given planned improvements to stormwater infrastructure.

Outside of isolated incidents like the 2023 event, flood risks in Los Osos remain primarily related to localized flooding in low lying areas, minor stream overflows, and tidal influences. Future development is expected to remain limited to infill lots, minimizing the expansion of flood exposure. However, the community continues to work with regional agencies to assess vulnerabilities, including potential impacts from future climate change and sea level rise, particularly along key transportation corridors such as South Bay Boulevard and Los Osos Valley Road.

The Los Osos Community Services District is actively pursuing hazard mitigation efforts, including working with FEMA and Cal OES to secure funding for improvements to the failed stormwater basin. These actions are part of broader efforts to reduce future flood risk, protect critical facilities, and enhance community resilience. Figure L-5 shows the FEMA flood hazards with flooded structures for Los Osos. There are other areas of the District that have poor drainage that flood frequently during rain events that are not represented on the FEMA flood map. During the public comment period a group of residents noted a concern about homes in the 1400 block between 11th Street and 9th Street along El Moro in Los Osos.



Figure L-5 Los Osos CSD DWR & FEMA Flood Hazards with Flooded Structures



Map compiled 2/2025;
 Intended for planning purposes only.
 Data Source: San Luis Obispo County,
 FEMA NFHL Effective 6/6/2024,
 DWR, USACE Comprehensive Study



Table L-17 show improved properties and populations exposed to the 1% annual chance flood hazard.

Table L-17 Los Osos Improved Properties Exposed to FEMA 1% Flood Hazard by Property Type

PROPERTY TYPE	STRUCTURE COUNT	IMPROVED VALUE	ESTIMATED CONTENT VALUE	TOTAL VALUE	ESTIMATED LOSS
Commercial	6	\$4,467,293	\$4,467,293	\$8,934,586	\$2,233,647
Exempt	1	\$3,444	\$3,444	\$6,888	\$1,722
Mixed Use	1	\$637,500	\$637,500	\$1,275,000	\$318,750
Residential	11	\$3,420,183	\$1,710,092	\$5,130,275	\$1,282,569
Vacant Improved	1	\$1,092,000	-	\$1,092,000	\$273,000
Total	20	\$9,620,420	\$6,818,329	\$16,438,749	\$4,109,687

Source: San Luis Obispo Assessor Data November 15, 2024, FEMA NFHL Effective Date 6/6/2024, WSP GIS Analysis

In Los Osos, a total of 20 improved properties are exposed to the FEMA 1% annual chance (100-year) flood hazards (note: there is no 0.2 annual chance flood zone mapped in the community). The total improved value of these properties is approximately \$9.6 million, with an additional estimated content value of \$6.8 million. Combined, the total exposure is approximately \$16.4 million. Properties at risk include six commercial structures, eleven residential structures, one mixed-use property, one exempt property, and one vacant improved parcel.

The estimated population exposed to flood hazards in Los Osos is approximately 27 residents. Residential structures account for the majority of this population at risk, with additional contributions from mixed-use properties and limited exposure associated with commercial and exempt parcels.

L.3.3.8 Tsunami

The Los Osos Community Service District has rated tsunami as **high** significance within its jurisdiction.

Tsunami inundation poses a risk to all coastal communities in the County of San Luis Obispo. Offshore faults and related seismic activity could generate a tsunami event off the coast of Los Osos, even if the fault rupture occurs thousands of miles away. Due to the majority of the district’s development being located further inland and sheltered by the dunes of Morro Bay State Park, this area has relatively lower tsunami risk than other tsunami-exposed portions of the county. However, there are still vital portions of the district which are vulnerable, including Morro Beach State Park and development hugging the coastline along the southern reaches of Morro Bay. These areas are illustrated in Figure L-6 below.

The following table breaks down the tsunami risk for Los Osos CSD by property type.

Table L-18 Los Osos Improved Properties Exposed to Exposed to Tsunami Hazard Areas by Property Type

PROPERTY TYPE	STRUCTURE COUNT	IMPROVED VALUE	ESTIMATED CONTENT VALUE	TOTAL VALUE	POPULATION
Commercial	12	\$6,268,530	\$6,268,530	\$12,537,060	-
Exempt	1	\$3,444	\$3,444	\$6,888	-
Mixed Use	2	\$845,580	\$845,580	\$1,691,160	-
Residential	183	\$57,452,255	\$28,726,128	\$86,178,383	452
Vacant Improved	3	\$1,185,425	\$0	\$1,185,425	-
Total	201	\$65,755,234	\$35,843,682	\$101,598,916	452

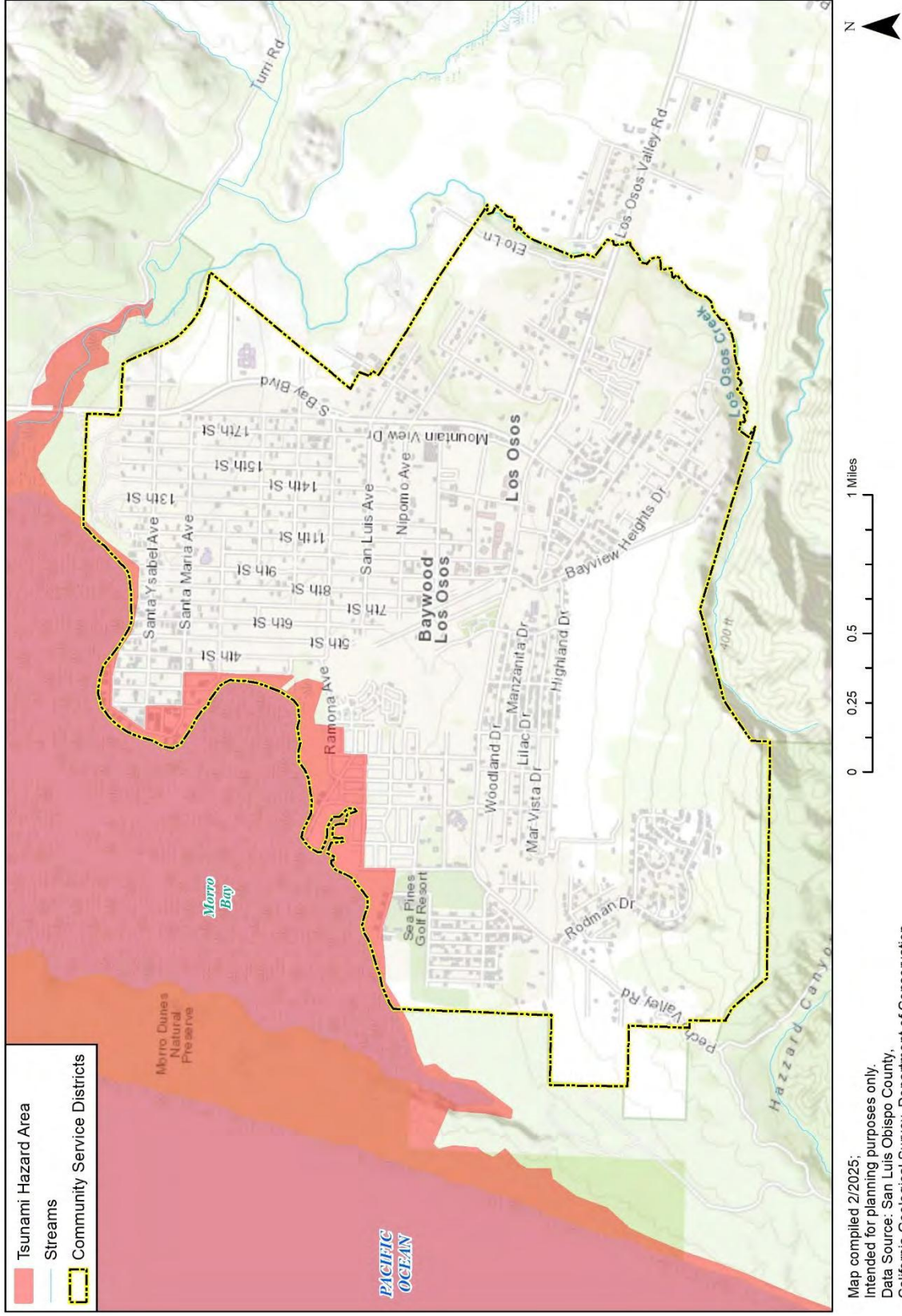
Source: San Luis Obispo Assessor Data November 15, 2024, California Geological Survey, Dept. of Conservation, WSP GIS Analysis



Based on this analysis there are 201 structures vulnerable to the impacts of a tsunami with a combined value of over \$101.6 million. Of the properties at risk the majority are residential properties, with 183 residential structures valued at approximately \$86.2 million. An estimated 452 people could be displaced by a tsunami. No Los Osos critical facilities/lifelines are located in inundation zones.



Figure L-6 Los Osos CSD Areas of Potential Tsunami Inundation



Map compiled 2/2025;
 Intended for planning purposes only.
 Data Source: San Luis Obispo County,
 California Geological Survey, Department of Conservation



L.3.3.9 Wildfire

The Los Osos Community Service District has rated wildfire as **high** significance within its jurisdiction.

The climate in Los Osos Community Services District planning area is generally referred to as Mediterranean with warm dry summers and relatively cool, moderately wet winters. Rainfall throughout the District occurs primarily between November and April, and about 15 inches per year. Because summers are generally warm and dry, the risk of wildfires is highest in late summer and early fall. Fog and cool weather that are common in the coastal regions help to maintain moisture levels in vegetation along the coast, which helps to minimize fire risk. Other factors such as wind, topography and overgrown vegetation may counteract the fog and cool weather climate in the planning area and increase in the risk of ignition. Residential development is intermixed with native vegetation which results in a high-value, high-risk area.

Table L-19 shows critical facilities in Los Osos CSD that are exposed to fire hazard severity, categorizing them by severity level and facility type. The exposure of these critical assets to wildfire hazards poses significant risks to safety and security. The table below shows that there is a total of nine (9) critical facilities exposed to fire hazard severity zones, three (3) of which fall in the very high fire severity zone rating.

Table L-19 Los Osos CSD Critical Facility Assets Exposed to Fire Hazard Severity Zones

FIRE HAZARD SEVERITY ZONE	COMMUNICATIONS	ENERGY	FOOD, HYDRATION, SHELTER	HAZARDOUS MATERIAL	HEALTH AND MEDICAL	SAFETY AND SECURITY	TRANSPORTATION	WATER SYSTEMS	TOTAL COUNT
Very High	-	-	-	-	1	2	-	-	3
High	2	-	-	-	-	-	-	-	2
Moderate	-	-	1	-	-	3	-	-	4
Total	2	0	1	0	1	5	0	0	9

Source: San Luis Obispo County, CAL FIRE - FHSZ Phase 3 March 10, 2025, CalARP, HIFLD, NBI, NID, WSP Analysis

Several areas of the Los Osos community are within the high to very high severity wildfire hazard zones. Analysis using GIS was used to create the following tables, which quantify the potential losses by wildfire severity zones and property type. Based on the analysis 1,927 properties are situated within wildfire hazard exposure zones ranging from moderate to very high risk. Of these, 1,326 properties are located in the Very High Fire Severity Zone, while 273 properties fall within the High Fire Severity Zone and 328 properties fall within the Moderate Fire Hazard Severity zone. Collectively, these properties represent a total assessed value of \$914,143,535 and impact approximately 4,616 residents across all fire hazard severity zones. Of those properties, 1,848 are residential properties with a combined value of \$842,526,921. In addition to the residential properties there is also a public school, Monarch Grove Elementary, located in the high wildfire hazard zone. Table L-20 shows the properties in the district exposed to Fire Hazard Severity Zones. Figure L-7 depicts the Fire Hazard Severity Zones in Los Osos CSD.



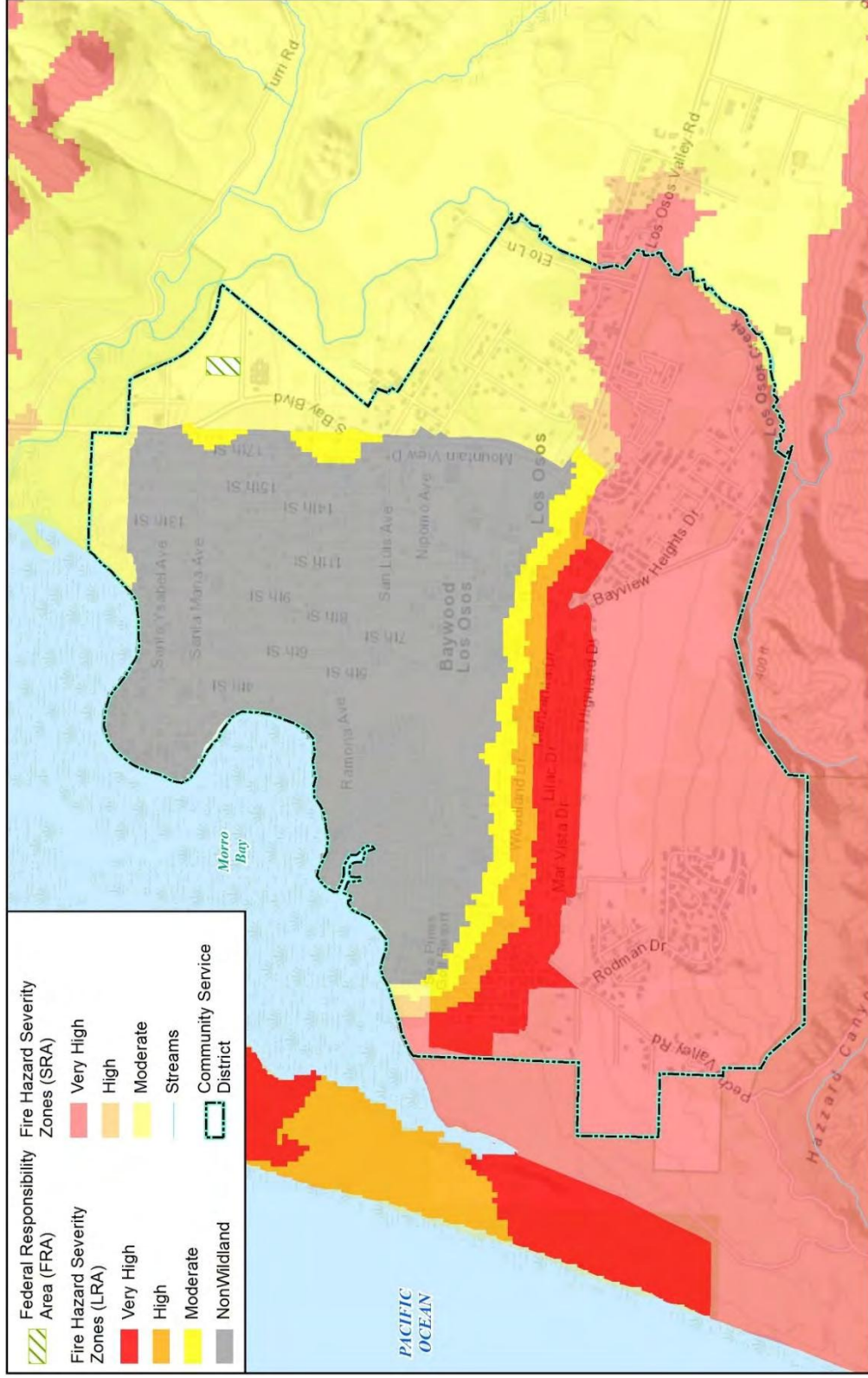
Table L-20 Los Osos CSDs Improved Properties Exposed to Fire Hazard Severity Zones

PROPERTY TYPE	STRUCTURE COUNT VERY HIGH	STRUCTURE COUNT HIGH	STRUCTURE COUNT MODERATE	TOTAL STRUCTURE COUNT	IMPROVED VALUE	ESTIMATED CONTENT VALUE	TOTAL VALUE	POPULATION
Agricultural	1	-	-	1	\$8,766	\$8,766	\$17,532	-
Commercial	11	15	16	42	\$19,472,302	\$19,472,302	\$38,944,604	-
Exempt	1	-	1	2	\$1,692,333	\$1,692,333	\$3,384,666	-
Mixed Use	-	-	1	1	\$497,196	\$497,196	\$994,392	-
Mobile/Manufactured Homes	5	1	-	6	\$11,938,636	\$5,969,318	\$17,907,954	15
Multi-Family Residential	3	7	5	15	\$4,551,584	\$2,275,792	\$6,827,376	37
Residential	1,296	250	302	1,848	\$561,684,614	\$280,842,307	\$842,526,921	4,565
Vacant Improved	9	-	3	12	\$3,540,090	\$0	\$3,540,090	-
Total	1,326	273	328	1,927	\$603,385,521	\$310,758,014	\$914,143,535	4,616

Source: San Luis Obispo Assessor Data November 15, 2024, CAL FIRE - FHSZ Phase 3 March 10, 2025, WSP GIS Analysis



Figure L-7 Los Osos CSD Fire Hazard Severity Zones



Map compiled 3/2025.
 Intended for planning purposes only.
 Data Source: San Luis Obispo County, CAL FIRE,
 Phase 3 as identified by the Office of the State Fire Marshal March 10, 2025,
 FHSZSRA_23_3_FHSZLRA25_Phase3_v1



L.4 Capability Assessment

Capabilities are the programs and policies currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. This capability assessment is divided into five sections: regulatory mitigation capabilities, administrative and technical mitigation capabilities, fiscal mitigation capabilities, mitigation outreach and partnerships, and other mitigation efforts.

To develop this capability assessment, the jurisdictional planning representatives used a matrix of common mitigation activities to inventory which of these policies or programs were in place. The team then supplemented this inventory by reviewing additional existing policies, regulations, plans, and programs to determine if they contributed to reducing hazard-related losses.

During the plan update process, this inventory was reviewed by the jurisdictional planning representatives and WSP consultant team staff to update information where applicable and note ways in which these capabilities have improved or expanded. In summarizing current capabilities and identifying gaps, the jurisdictional planning representatives also considered their ability to expand or improve upon existing policies and programs as potential new mitigation strategies. The Los Osos CSD capabilities are summarized below.

L.4.1 Regulatory Mitigation Capabilities

Table L-21 identifies existing regulatory capabilities the district has in place to help with future mitigation efforts. Note, many of the regulatory capabilities that can be used for the District are within the County's jurisdiction. Refer to Section 6 of the Base Plan for specific information related to the County's mitigation capabilities.

Table L-21 Los Osos CSD Regulatory Mitigation Capabilities

REGULATORY TOOL	YES/NO	COMMENTS
General plan	Yes	County, Estero Area Plan
Zoning ordinance	Yes	County
Subdivision ordinance	Yes	County
Growth management ordinance	Yes	County
Floodplain ordinance	Yes	County
Other special purpose ordinance (stormwater, water conservation, wildfire)	Yes	County
Building code	Yes	County
Fire department ISO rating	Yes	County
Erosion or sediment control program	Yes	County
Stormwater management program	Yes	County
Site plan review requirements	Yes	County
Capital improvements plan	Yes	County
Economic development plan	Yes	County
Local emergency operations plan	Yes	County
Other special plans	No	
Flood Insurance Study or other engineering study for streams	Yes	County
Elevation certificates (for floodplain development)	No	

The San Luis Obispo County Planning Department is the official regulatory body governing land use and development ordinances within the District Service Area.



L.4.2 Administrative/Technical Mitigation Capabilities

Table L-22 identifies the personnel responsible for activities related to mitigation and loss prevention in the Los Osos Community Services District.

Table L-22 Los Osos CSD Administrative/Technical Mitigation Capabilities

PERSONNEL RESOURCES	YES/NO	DEPARTMENT/POSITION
Planner/engineer with knowledge of land development/land management practices	Yes	County Planning and District Engineer
Engineer/professional trained in construction practices related to buildings and/or infrastructure	Yes	County Planning and District Engineer
Planner/engineer/scientist with an understanding of natural hazards	Yes	County
Personnel skilled in GIS	Yes	County
Full time building official	Yes	County
Floodplain manager	NA	County
Emergency manager	Yes	County
Grant writer	Yes	Los Osos CSD
Other personnel	Yes	Emergency Services Advisory Committee, County; South Bay Fire Department
GIS Data Resources (Hazard areas, critical facilities, land use, building footprints, etc.)	Yes	County
Warning systems/services (Reverse 9-11, outdoor warning signals)	Yes	County Sheriff's Office

L.4.3 Fiscal Mitigation Capabilities

Table L-23 identifies financial tools or resources that the CSD could potentially use to help fund mitigation activities.

Table L-23 Los Osos CSD Fiscal Mitigation Capabilities

FINANCIAL RESOURCES	ACCESSIBLE/ELIGIBLE TO USE (YES/NO)
Community Development Block Grants	No
Capital improvements project funding	Yes
Authority to levy taxes for specific purposes	Yes
Fees for water, sewer, gas, or electric services	Yes - Fees for Water
Impact fees for new development	Yes
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes
Incur debt through private activities	No
Withhold spending in hazard prone areas	No

L.4.4 National Flood Insurance Program

As a special district, Los Osos is not required to participate separately in the National Flood Insurance Program (NFIP) but will continue to support the County's participation in and compliance with the NFIP. There is only a small amount of mapped special flood hazard areas



within the district. There are no repetitive loss or severe repetitive loss properties, as defined by the NIFP, located within the District.

L.4.5 Mitigation Outreach and Partnerships

The Los Osos CSD has ongoing public education and information programs related to general emergency preparedness, water conservation, and wildfire mitigation practices for homeowners. The Fire Safe Council works with the District and the community on fire prevention specific to the Los Osos community. The District plans to continue to implement planned greenbelts and fuel breaks; Los Osos CSD passed a Hazardous Vegetation Abatement Ordinance (Title 4) to assist the South Bay Fire Department in aggressively managing the defensible space around homes and vacant properties in the community. The District's website has valuable information related to various hazards including wildfire and information on defensible spaces and residential fire sprinklers and tsunami inundation maps and evacuation information specific to Los Osos.

The Los Osos CSD Emergency Services Advisory Committee was established in 2008 to assist the District's Board of Directors in providing emergency services to the District. Advisory Committee meetings are a public forum with the ability for the public to review and provide input on issues.

Cabrillo Estates in Los Osos is a designated FireWise community.

L.4.6 Opportunities for Enhancement

Based on the capabilities assessment, the Los Osos Community Service District has several existing mechanisms in place that already help to mitigate hazards. There are also opportunities for the District to expand or improve on these policies and programs to further protect the community. This planning process will help to inform the District's current efforts in the development of a community wide emergency preparedness program. Other future improvements may include providing training for staff members related to hazards or hazard mitigation grant funding in partnership with the County and Cal OES. Additional training opportunities will help to inform District staff, the Emergency Services Advisory Committee and District Board members on how best to integrate hazard information and mitigation projects into the District policies and ongoing duties of the District. Continuing to train District staff on mitigation and the hazards that pose a risk to the Los Osos Community Service District will lead to more informed staff members who can better communicate this information to the public.

L.5 Mitigation Strategy

L.5.1 Mitigation Goals and Objectives

The Los Osos CSD adopts the hazard mitigation goals and objectives developed by the HMPC and described in Section 7 Mitigation Strategy.

L.5.2 Completed 2019 Mitigation Actions

During the 2025 planning process the Los Osos CSD Planning Team reviewed all the mitigation actions (three actions) from the previous LHMP. The review indicated no actions have been completed. One action from 2020, LO.2 – Engineer and Install a SCADA System, was reviewed for relevance in the 2025 mitigation strategy. It was decided to delete this action, and revise and expand it to be two new actions for the 2025 mitigation strategy to better suit the needs and goals of the community, as well as capture progress that had been made on the action since 2020. This became actions LO-4 and LO-5 for the 2025 mitigation action plan, in Table L-24 below.



L.5.3 Mitigation Actions

The Los Osos CSD has eight mitigation actions for their 2025 Mitigation Action Plan, including two continued actions and six new or updated that are captured in Mitigation Action Plan in Table L-24. The planning team for the Los Osos Community Service District identified and prioritized the following mitigation actions based on the risk assessment. Actions were prioritized using the process described in Section 7.2.1 of the Base Plan. Timeline and project cost definitions are noted in Section 7.3.2 of the Base Plan. Background information and information on how each action will be implemented and administered, such as ideas for implementation, responsible office, potential funding, estimated cost, and timeline are also included. It is important to note that the 'Primary Hazards Mitigated' column uses an abbreviated version of the Adverse Weather hazards in the interest of conciseness: References to 'Adverse Weather: Thunderstorm' includes the subhazards Thunderstorm/Heavy Rain/Dense Fog.



Table L-24 Los Osos Community Service District 2025 Mitigation Action Plan

MITIGATION ACTION NUMBER	PRIMARY HAZARD(S) MITIGATED	DESCRIPTIONS/BACKGROUND/BENEFITS	LEAD AGENCY & PARTNERS	ESTIMATED COST & POTENTIAL FUNDING SOURCES	2025 PRIORITY	TIMELINE	STATUS/IMPLEMENTATION NOTES
LO.1	Adverse Weather: Thunderstorm: Adverse Weather: High Wind/Tornado ; Coastal Storm/Coastal Erosion/Sea Level Rise Flood; Wildfire.	Improve drainage, public education on construction management, safe driving tips in dense fog conditions, evacuation routes and vegetation management to improve resiliency to multiple hazards.	Los Osos CSD Administration, SLO County OES	\$10,000 to \$50,000. FEMA HMA	High	3-5 yrs.	In progress/ongoing. All drainage areas have been improved/upgraded. Vegetation management is in progress to address wildfire and wind hazards.
LO.2	Wildfire	Educate the public to take precautions to prevent potentially harmful fires and be educated about surviving them. The District is encouraging local organizations to involve the residents of Los Osos and is helping coordinate town hall meetings, Community Emergency Response Team training and sending social media blasts regarding fire safety. There are many local organizations that residents can join in order to be better prepared in case of a fire; Fire Safe Council, Fire Wise Cabrillo, and the Emergency Services Advisory Committee to the Los Osos Board of Directors. Benefits: With an involved community we hope to reduce risks of wildland fires to a minimum. In case of a wildfire, we hope that the community will be prepared in order to avoid human and property loss.	Los Osos CSD Administration / South Bay Fire Dept	Little to no cost; Staff Time, General Fund	High	Ongoing/annual	Annual Implementation
LO.3	Adverse Weather: Thunderstorm: Coastal Storm/Coastal Erosion/Sea Level Rise, Flood	Los Osos experiences periodic heavy rains that cause minor to major flooding in areas where storm water is directed by roads and drainage patterns. The LOCSD needs to partner with County Public Works to prioritize problem areas and fund improvements to improve conditions. Additional actions include public education on-site storm water detention, public information on evacuation routes,	Los Osos CSD Administration, San Luis Obispo County Public Works Department	Over \$1,000,000. FEMA Hazard Mitigation Assistance Grant, General	High	More than 5 years	New in 2025; Public comment on the plan noted persistent flood problems with homes in the 1400 block between 11th Street and 9th Street along El Moro in Los Osos



MITIGATION ACTION NUMBER	PRIMARY HAZARD(S) MITIGATED	DESCRIPTIONS/BACKGROUND/BENEFITS	LEAD AGENCY & PARTNERS	ESTIMATED COST & POTENTIAL FUNDING SOURCES	2025 PRIORITY	TIMELINE	STATUS/IMPLEMENTATION NOTES
LO.4	Drought and Water Shortage	increase storm water drainage basin inspections and improvements. Drought conditions persist throughout California and especially in San Luis Obispo County. Currently, there is no back up water supply in the event of an extended drought. The District needs to continue to implement the Basin Plan and provide an alternative source of water like imported water to ensure the residents of a resilient and reliable water supply in future.	Los Osos CSD Administration, Golden State Water Company, S&T Mutual Water Company	Fund, Prop 4 Over \$1,000,000. FEMA Hazard Mitigation Assistance Grant, General Fund, Prop 4	High	3-5 years	New in 2025
LO.5	Earthquake	In order to mitigate earthquake losses, the District needs to secure additional backup electrical generation capabilities, seismically retrofit the 10th Street water tank, complete the SCADA system project and establish supply chain contact for materials needed for repair of the water system.	Los Osos CSD Administration, Utilities	Over \$1,000,000. FEMA Hazard Assistance Grants.	High	More than 5 years	New in 2025
LO.6	Adverse Weather: Extreme Heat, Drought and Water Shortage	Though the climate of Los Osos is cool to moderate, high temperatures are not uncommon in the summer and early fall, and many homes do not have air conditioning. When high temperatures are forecasted, Los Osos CSD will develop informational materials that will assist residence to take the appropriate measures to remain safer. Additionally, informational materials will focus on conserving water both indoors and outdoors.	Los Osos CSD Administration, South Bay Fire Dept	Little to no cost. Staff Time, General Fund	Low	2-3 years	New 2025
LO.7	Adverse Weather: High Wind/Tornado	Los Osos experiences high winds during winter storms and spring wind events. Public education on preparedness measures will be developed and distributed to the community.	Los Osos CSD Administration, South Bay Fire Dept	Less than \$10,000, Staff Time, General Fund	Medium	1 year	New in 2025
LO.8	Tsunami	Educate the public about tsunami dangers and appropriate response and mitigation actions, in partnership with Morro Bay Action MB.IT.	Los Osos CSD Administration, South Bay	Little to no cost. Staff Time,	Medium	Annual	New in 2025



MITIGATION ACTION NUMBER	PRIMARY HAZARD(S) MITIGATED	DESCRIPTIONS/BACKGROUND/BENEFITS	LEAD AGENCY & PARTNERS	ESTIMATED COST & POTENTIAL FUNDING SOURCES	2025 PRIORITY	TIMELINE	STATUS/IMPLEMENTATION NOTES
			Fire Dept; City of Morro Bay	General Fund			



L.6 Implementation and Maintenance

Moving forward, the Los Osos Community Service District will use the mitigation action table in the previous section to track progress on implementation of each project. Implementation of the plan overall is discussed in Section 8 in the Base Plan.

L.6.1 Incorporation into Existing Planning Mechanisms

The information contained within this plan, including results from the Vulnerability Assessment and the Mitigation Strategy, will be used by the Community Service District to help inform updates of the Los Osos Community Plan and in the development of additional local plans, programs and policies. Understanding the hazard that pose a risk and the specific vulnerabilities to the jurisdiction will help in future capital improvement planning for the District. The County Planning and Building Department may utilize the hazard information when reviewing a site plan or other type of development applications with the boundaries of the Los Osos Community Service District area. As noted in Section 8 Plan Implementation and Monitoring, the HMPC representatives from the Los Osos Community Services District will report on efforts to integrate the hazard mitigation plan into local plans, programs and policies and will report on these efforts at the annual HMPC plan review meeting.

L.6.2 Monitoring, Evaluation and Updating the Plan

The Los Osos Community Service District will follow the procedures to monitor, review, and update this plan in accordance with San Luis Obispo County as outlined in Section 8 of the Base Plan. The District will continue to involve the public in mitigation, as described in Section 8.3 of the Base Plan. The CSD General Manager will be responsible for representing the Community Services District in the County HMPC, and for coordination with County staff and departments during plan updates. The Los Osos Community Services District realizes it is important to review the plan regularly and update it every five years in accordance with the Disaster Mitigation Act Requirements as well as other State of California requirements.