



H.1 District Profile

H.1.1 Mitigation Planning History and 2019 Process

This annex was created during the development of the 2019 San Luis Obispo County Hazard Mitigation Plan Update. The General Manager of the Avila Beach Community Services District was the representative on the County HMPC and took the lead for developing the plan and this annex. The Avila Beach CSD will be responsible for implementation and maintenance of the plan.

Table H.1 Avila Beach CSD Hazard Mitigation Plan Planning Team

Department or Stakeholder	Title
District Management	General Manager

More details on the planning process followed and how the jurisdictions, service districts and stakeholders participated can be found in Section 3 of the Base Plan, as well as how the public was involved during the 2019 update.

Figure H.1 below shows the Avila Beach Community Services District boundaries, represented in pink. The dotted lined represents the District's sphere of influence, which corresponds with the Avila Urban Reserve Line.

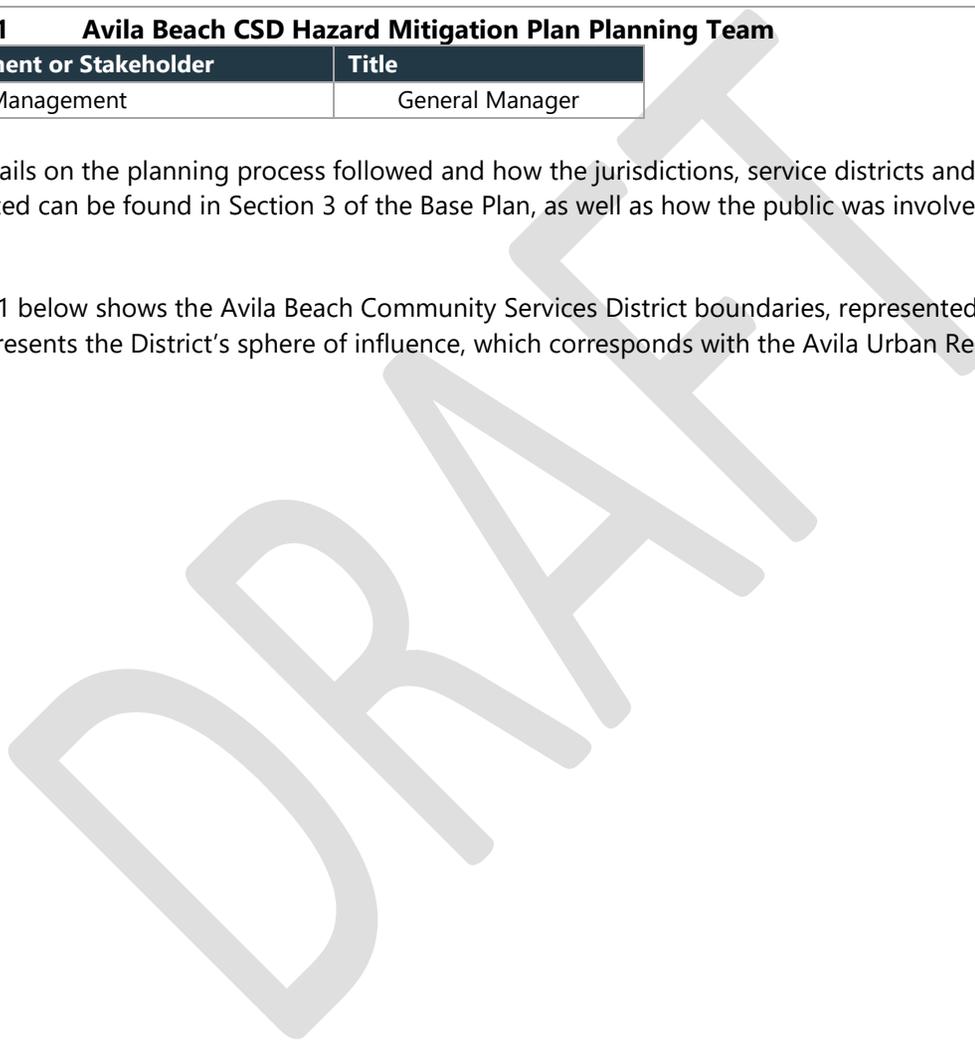
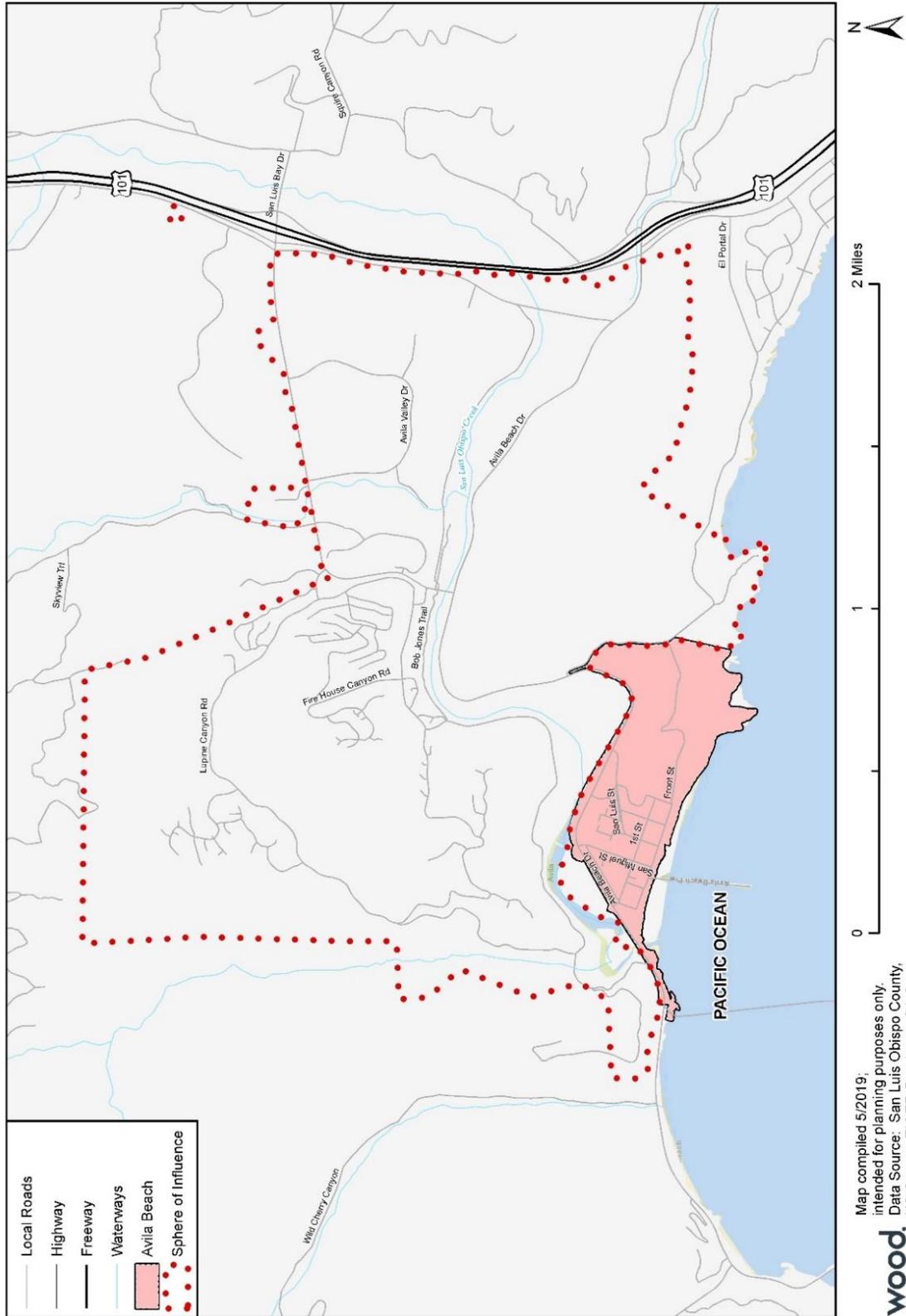


Figure H.1 Avila Beach Community Services District and Sphere of Influence





H.1.2 District Overview

The Avila Beach Community Services District's (CSD) mission is to provide quality, innovative and cost-effective services that include water, sewer, lighting and fire protection. The District was established in February of 1997 after the Avila Beach County Water District, which provided services such as sanitary and fire protection, and the Avila Lighting District joined together. Today the District encompasses over 150 acres within the County, including all of the Town of Avila Beach.

The Avila Beach CSD is governed by a five-person elected board, each with a four-year term. The Board of Directors is responsible for creating policies for the District and receives recommendations from the District's General Manager and District Counsel. The District's General Manager carries out the policies developed by the Board and serves as the Public Information Officer for the District. The District Engineer is responsible for implementing and developing the engineering plans for all facilities within the District. The Utilities Department provides support to the District operations including Field Crews that handle all sanitary sewer/water emergencies and daily operations. The District's part-time billing clerk is the only District employee, all other management, engineering, operations and maintenance sources are provided through contractors.

In 1976, the Avila Beach County Water District, contracted to purchase water from San Luis Obispo County Service Area #12, which supplies water from the Lopez Reservoir to the District. Currently the Avila Beach Community Services District provides water service to approximately 400 business and residential connections and owns two water storage tanks with the storage capacity of 840,000 gallons and 46 fire hydrants. The Avila Beach CSD is one of five water purveyors in the Avila community area. In addition to County Service Area #12 entitlement from Lopez Lake (68 acre-feet per year AFY), the District is also as sub-contractor to the San Luis Obispo County Flood Control and Water Conservation District Zone 3 and is entitled to 100 AF of "Table A" Water. The CSD added a 100 AF Drought Buffer to their 100 AF Table A allocation in 2017. The District's total water allocation is 168 AF per year.

The Avila Beach CSD provides wastewater collection, treatment and disposal services for the Town of Avila Beach and wastewater treatment and disposal for the Port San Luis Harbor District. The District's wastewater treatment plant was originally built in 1969 by the community of Avila. In the early 1990s the District upgraded the treatment facility to provide secondary treatment and disinfection of wastewater discharged into the Pacific Ocean. The treated municipal wastewater is discharged to the ocean through a 2,240 ft outfall, approximately 1,200 feet beyond the end of the Avila Pier. The District also maintains approximately 10,000 feet of gravity sewer, 40 manholes, 1 lift station, approximately 300 residential sewer connections, 53 commercial/industrial sewer connections, and a wastewater treatment plant serving nearly 1,000 customers and seasonal visitors.

Since 2000, the Avila Beach Community Services District has contracted with Cal Fire/San Luis Obispo County Fire Department to cooperatively provide fire protection services for the Avila community. The Fire Department also works on comprehensive vegetation management planning and stays engaged with the Avila community.

The U.S. Census Bureau estimated the Avila Beach Census Designated Place's (CDP) 2017 population as 1,080, a decrease from 1,166 in 2014. Table H. 2 shows an overview of key social and demographic characteristics of the CDP taken from the U.S. Census Bureau's American Community Survey.

Table H. 2 Avila Beach CDP Demographic and Social Characteristics, 2014-2017

Avila Beach CDP	2014	2017	% Change
Population	1,166	1,080	-7.4%
Median Age	58.9	63.1	7.1%
Total Housing Units	989	1,068	8.0%





Avila Beach CDP	2014	2017	% Change
Housing Occupancy Rate	67.2%	61.8%	-5.4%
% of Housing Units with no Vehicles Available	1.2%	1.4%	0.2%
Median Home Value	\$599,900	\$742,100	23.7%
Unemployment	4.1%	2.3%	-1.8%
Mean Travel Time to Work (minutes)	17.0	27.8	63.5%
Median Household Income	\$73,304	\$100,076	36.5%
Per Capita Income	\$43,153	\$82,202	90.5%
% of Individuals Below Poverty Level	7.4%	4.4%	-3.0%
# of Households	665	660	-0.8%
Average Household Size	1.75	1.64	-6.3%
% of Population Over 25 with High School Diploma	98.6%	100.0%	1.4%
% of Population Over 25 with Bachelor's Degree or Higher	53.6%	36.5%	-17.1%
% with Disability	18.2%	11.9%	-6.3%

Source: U.S. Census Bureau American Community Survey 2014-2017 3-Year Estimates, www.census.gov/

Note: Data is for the Avila Beach Census Designated Place (CDP) which may not have the same boundaries as the Avila Beach Community Service District.

The following table show how the Avila Beach CDP's labor force breaks down by occupation and industry estimates from the U.S. Census Bureau's 2017 American Community Survey.

Table H. 3 Avila Beach CPD Employment by Industry (2017)

Industry	# Employed
Population (2017)	1,080
In Labor Force	702
Agriculture, forestry, fishing and hunting, and mining	57
Armed Forces	-
Construction	107
Manufacturing	44
Wholesale trade	70
Retail trade	-
Transportation and warehousing, and utilities	33
Information	-
Finance and insurance, and real estate and rental and leasing	80
Professional, scientific, and management, and administrative and waste management services	77
Educational services, and health care and social assistance	87
Arts, entertainment, and recreation, and accommodation and food services	89
Other services, except public administration	35
Public administration	7
Unemployed	16

Source: U.S. Census Bureau American Community Survey 2012-2017 5-Year Estimates, www.census.gov/

Note: Data is for the Avila Beach Census Designated Place (CDP) which may not have the same boundaries as the Avila Beach Community Service District.



H.1.3 Development Trends

In the late 1990's a significant portion of the Town of Avila Beach was demolished and rebuilt due to significant soil contamination from an oil spill by the Unocal Corporation (Unocal), who was also responsible for the clean-up operations. The rebuilding effort was guided by the Avila Beach Specific Plan, which included the Avila Beach Community Services District. The planning process allowed the Town and the CSD to redesign their community while keeping the Town's eclectic flair. The land uses within the boundaries of the District include commercial retail, residential multi-family, industrial, recreation and residential single-family. According to the Avila Community Plan, approximately 17 percent of the housing units within the Town of Avila Beach are permitted vacation rentals (Avila Community Plan, 2018). Figure H.2 below depicts the location and amount of the vacation homes, represented in purple.

Figure H.2 Town of Avila Beach Vacation Rental Permits



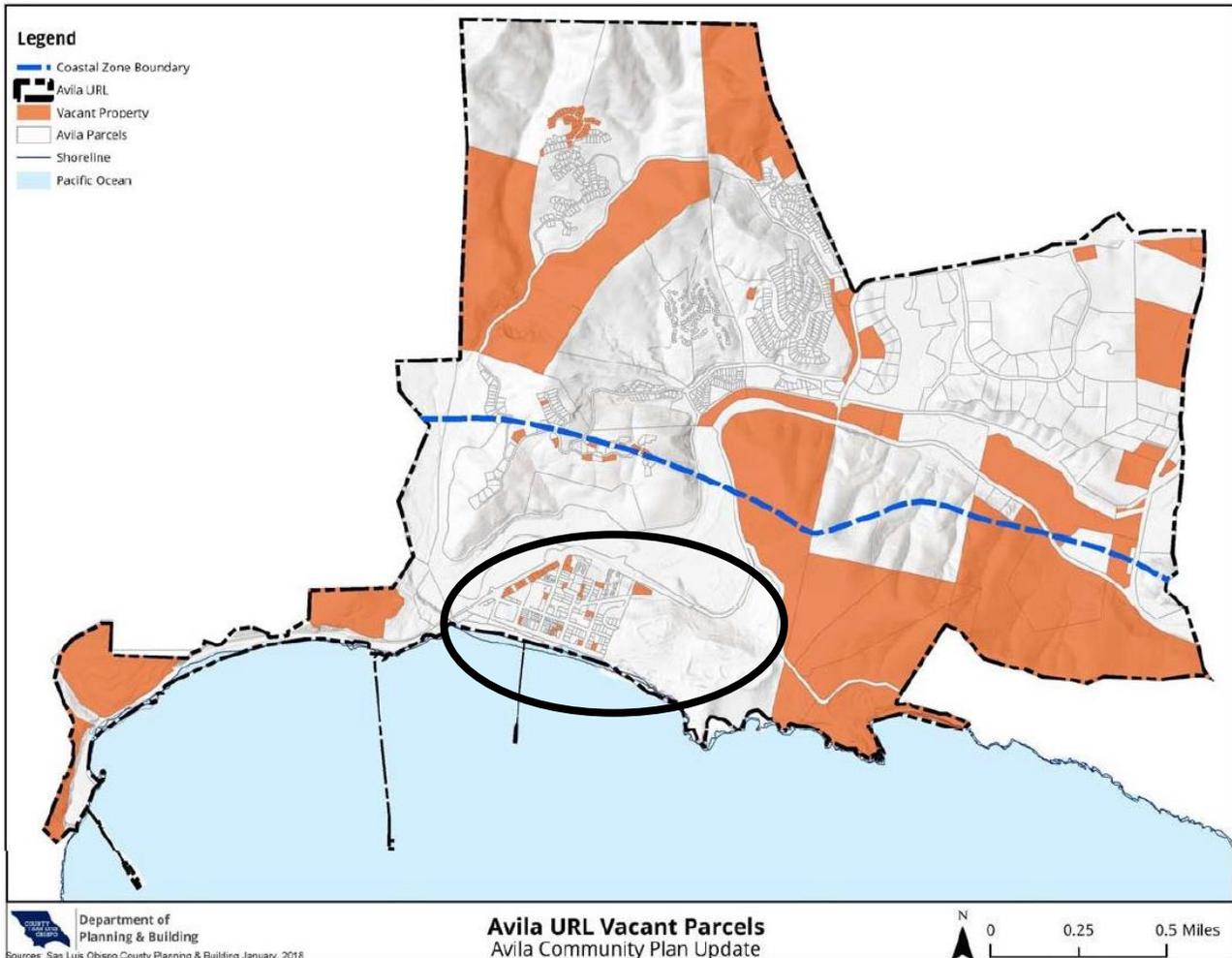
Source: Avila Community Plan, Background Report, August 2018

There is opportunity for future development to occur within the Avila Beach CSD boundaries with several vacant parcels located throughout the Town of Avila Beach; refer to Figure H.3 below. Future development of any of these vacant parcels and re-development of existing underutilized parcels will need to follow the standards and regulations set forth in the County Coastal Zone Framework and the Avila Beach Specific Plan. Future



development will need to be coordinated with the Avila Beach Community Services District to ensure safe and efficient wastewater services and adequate water supply is available and not have an impact on existing users.

Figure H.3 Vacant Parcels in the Avila Community



Source: Avila Community Plan, Background Report, August 2018 *The black oval is a representation of the Avila Beach CSD boundaries and the vacant parcels within the Town of Avila Beach.

H.1.4 Other Community Planning Efforts

Coordination and synchronization 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 Avila and the Avila Beach CSD 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 Avila community that relate to hazards or hazard mitigation. A high-level summary of the key plans,





studies and reports is summarized in the table below. Information on how they informed the update are noted and incorporated where applicable.

In addition to the development standards within the Avila Beach Specific Plan, there are County planning mechanisms that regulate future and existing development within the Avila Beach CSD planning area. Refer to H.4 Capability Assessment for more information on the plans, policies, regulations and staff that govern the Avila Beach CSD.

Table H.4 Summary of Review of Key Plans, Studies and Reports

Plan, Study, Report Name	How Document Informed the Annex
Avila Community Plan, Background Report (2018)	Incorporated background information on the community and CSD including historical and cultural resources, and development and land use trends; Incorporated hazard information and maps (if applicable) and informed the Vulnerability Assessment.
Avila Beach Specific Plan (2001)	Informed history of the Town of Avila Beach, including the Unocal Cleanup efforts; Incorporated information on historical resources
Avila Beach Community Services District Sewer System Management Plan (Revised April 2014)	Incorporated information into the District overview
San Luis Bay Area Plan – Coastal (Revised August 2009)	Incorporated hazard information related to flooding,
County of San Luis Obispo Local Hazard Mitigation Plan (2014)	Informed past hazard event history.
County of San Luis Obispo Safety Element (1999)	Informed past hazard event history and general background information on the planning area
San Luis Obispo County – Tsunami Emergency Response Plan (Revised April 2016)	Informed the Vulnerability Assessment for Tsunami risk
San Luis Obispo County – Community Wildfire Protection Plan (March 2019)	Informed the Vulnerability Assessment for Wildfire risk

H.2 Hazard Identification and Summary

The Avila Beach 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 Avila Beach CSD (see Table H.5). There are no hazards that are unique to Avila Beach.

Table H.5 Avila Beach CSD Hazard Risk Summary

Hazard	Geographic Area	Probability of Future Occurrence	Magnitude/Severity (Extent)	Overall Significance
Coastal Storm/Coastal Erosion/Sea Level Rise	Significant	Likely	Limited	Medium





Drought and Water Shortage	Extensive	Likely	Critical	High
Earthquake	Extensive	Unlikely	Critical	Medium
Flood	Significant	Highly Likely	Limited	Medium
Landslides and Debris Flow	Significant	Occasional	Limited	Medium
Tsunami and Seiche	Significant	Occasional	Critical	Medium
Wildfire	Significant	Likely	Limited	High
Human Caused: Hazardous Materials	Significant	Highly Likely	Negligible	Medium
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 in 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		

H.3 Vulnerability Assessment

The intent of this section is to assess the Avila Beach 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 Avila Beach 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 H.5 below). Identifying these differences helps 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 Avila Beach CSD planning team input from the Data Collection Guide and the risk assessment developed during the planning process (see Section 5 of the Base Plan), which included a more detailed qualitative analysis with best available data.

The hazard summaries in Table H.5 reflect the hazards that could potentially affect the District. Based on this analysis, the priority hazard (High Significance) for mitigation are wildfire and drought. The discussion of vulnerability for each of the following hazards is in Section H.3.2 Estimating Potential Losses. Those of Medium or High significance for the Avila Beach CSD are identified below.

- Drought and Water Shortage
- Earthquake
- Flood
- Landslides and Debris Flow
- Coastal Storm/coastal Erosion/Sea Level Rise
- Tsunami
- Wildfire
- Human Caused: Hazardous Materials

Other Hazards

Hazards assigned a Significance rating of Low and which do not differ significantly from the County ranking (e.g., Low vs. High) are not addressed further in this plan and are not assessed individually for specific vulnerabilities in this section. In the Avila Beach Community Services District, subsidence, high wind/tornado and extreme heat, are the only hazard ranked as a low significance to Avila Beach.

Additionally, the CSD's Committee members decided to rate several hazards as Not Applicable (N/A) to the planning area due to a lack of exposure, vulnerability, and no probability of occurrence. The following hazards are considered Not Applicable (N/A) to the Avila Beach Community Services District.

- Agricultural Pest Infestation and Disease
- Biological Agents (naturally occurring)
- Dam Incidents
- Subsidence

H.3.1 Assets at Risk

This section considers the District's assets at risk, including values at risk, critical facilities and infrastructure, historic assets, economic assets, and growth and development trends.

Values at Risk

The following data on property exposure is derived from the San Luis Obispo County 2017 Parcel and Assessor data. This data should only be used as a guideline to overall values in the Community Services District as the information has some limitations. The most significant limitation is created by Proposition 13. Instead of adjusting property values annually, the values are not adjusted or assessed at fair market value until a property transfer occurs. As a result, overall value information is likely low and does not reflect current market value of properties. It is also important to note that in the event of a disaster, it is generally the value of the infrastructure or improvements to the land that is of concern or at risk. Generally, the land itself is not a loss. Table H.6 shows





the exposure of properties (e.g., the values at risk) broken down by property type for the Avila Beach Community Services District.

Table H.6 2019 Property Exposure for the Avila Beach CSD by Property Types

Property Type	Property Count	Improved Value	Content Value	Total Value
Commercial	15	\$7,203,045	\$7,203,045	\$14,406,090
Government/Utilities	17	\$61,794	--	\$61,794
Other/Exempt/Misc.	26	\$10,502,046	--	\$10,502,046
Residential	63	\$19,318,643	\$9,659,322	\$28,977,965
Multi-Family Residential	86	\$29,723,864	\$14,861,932	\$44,585,796
Residential: Other	14	\$26,132,720	\$13,066,360	\$39,199,080
Vacant	19	\$5,879,402	--	\$5,879,402
Total	240	\$98,821,514	\$44,790,659	\$143,612,173

Source: Wood Plc analysis based on ParcelQuest and San Luis Obispo County Assessor's Office data 2019

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. See Section 5 of the Base Plan for more details on the definitions and categories of critical facilities.

An inventory of critical facilities in the Avila Beach planning area from San Luis Obispo County GIS is provided in Table H.7 and illustrated in Figure H.4.

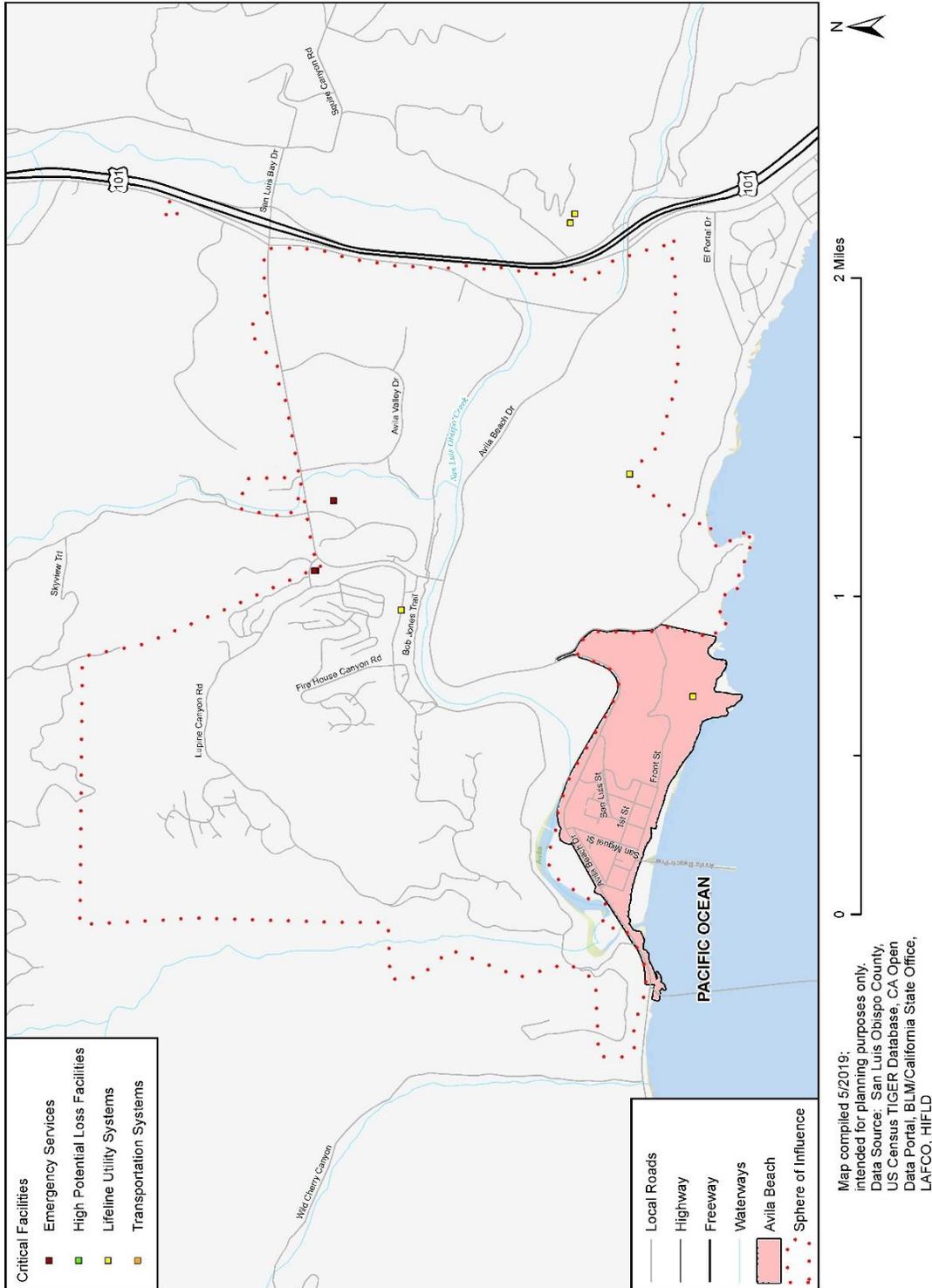
Table H.7 Avila Beach CSD's Critical Facilities

Facility Type	Counts
FM Transmission Towers	1
Total	1

Source: San Luis Obispo County Planning & Building, HIFLD 2017



Figure H.4 Avila Beach CSD Critical Facilities



Essential Facilities

Essential facilities as identified by the Avila Beach CSD Planning Team are as follows:



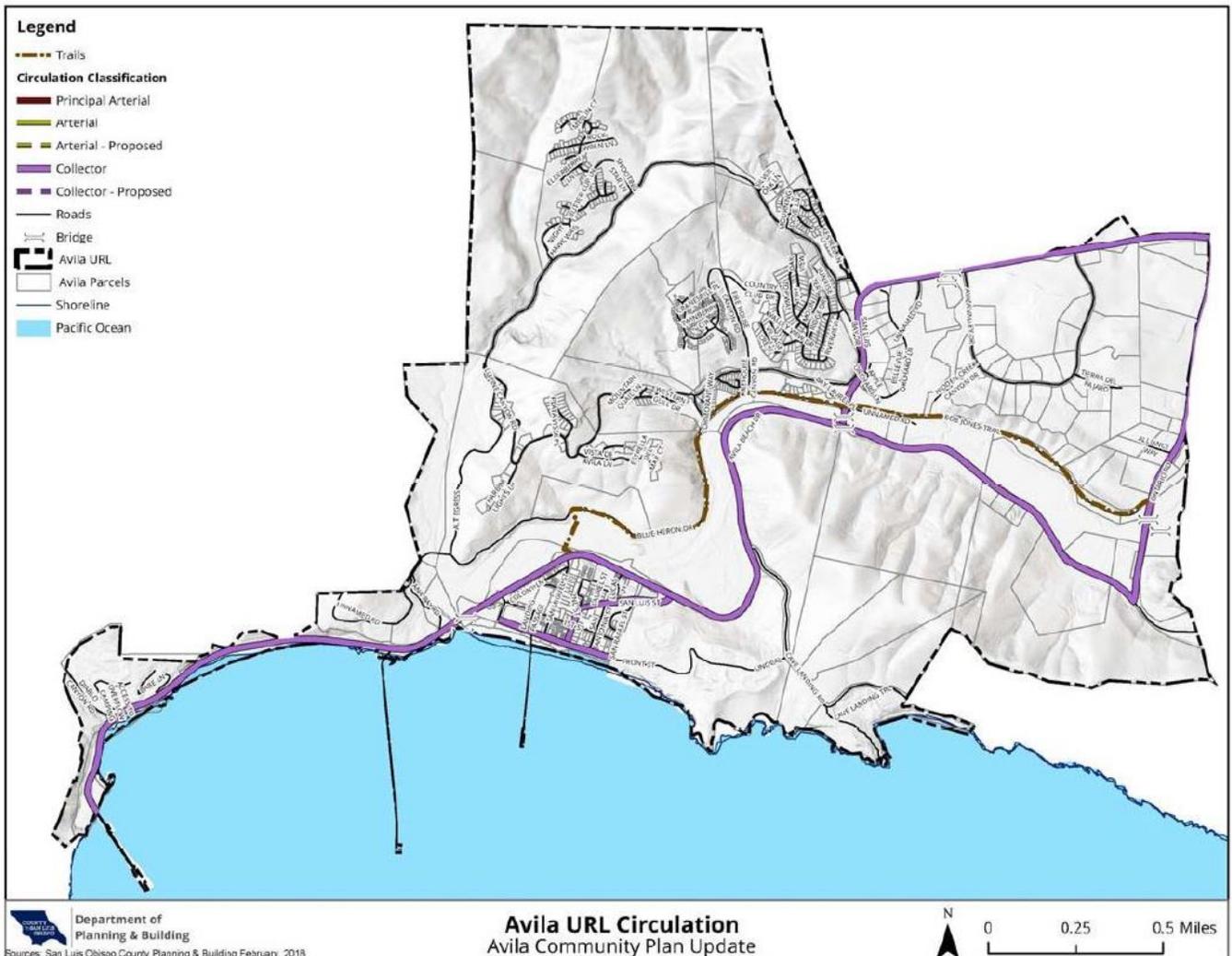
- Wastewater Treatment Plan - \$15 million replacement value
- Water Storage and Distribution - \$2 million replacement value

Transportation and Lifeline Facilities

According to the GIS analysis there is one lifeline utility system, a FM Transmission Tower, located in the Avila Beach CSD jurisdiction.

Highway 101 from San Luis Bay and Avila Beach Drive area is the only way to access the Avila Beach planning area. There is no secondary access into or out of the community. According to the Avila Beach Community Plan (2018) traffic through Avila is made of three main users: PG&E employment, recreation use and residential use. Avila Beach Drive serves as the main access point to the Diablo Canyon Power Plant. The County of San Luis Obispo Public Works Department recently completed a seismic retrofit of the Avila Beach Drive Bridge, the only method of accessing Port San Luis, and the Diablo Canyon Power Plant. The following figure from the Avila Beach Community Plan shows transportation facilities in the Avila Beach area.

Figure H.5 Avila Beach Circulation Map



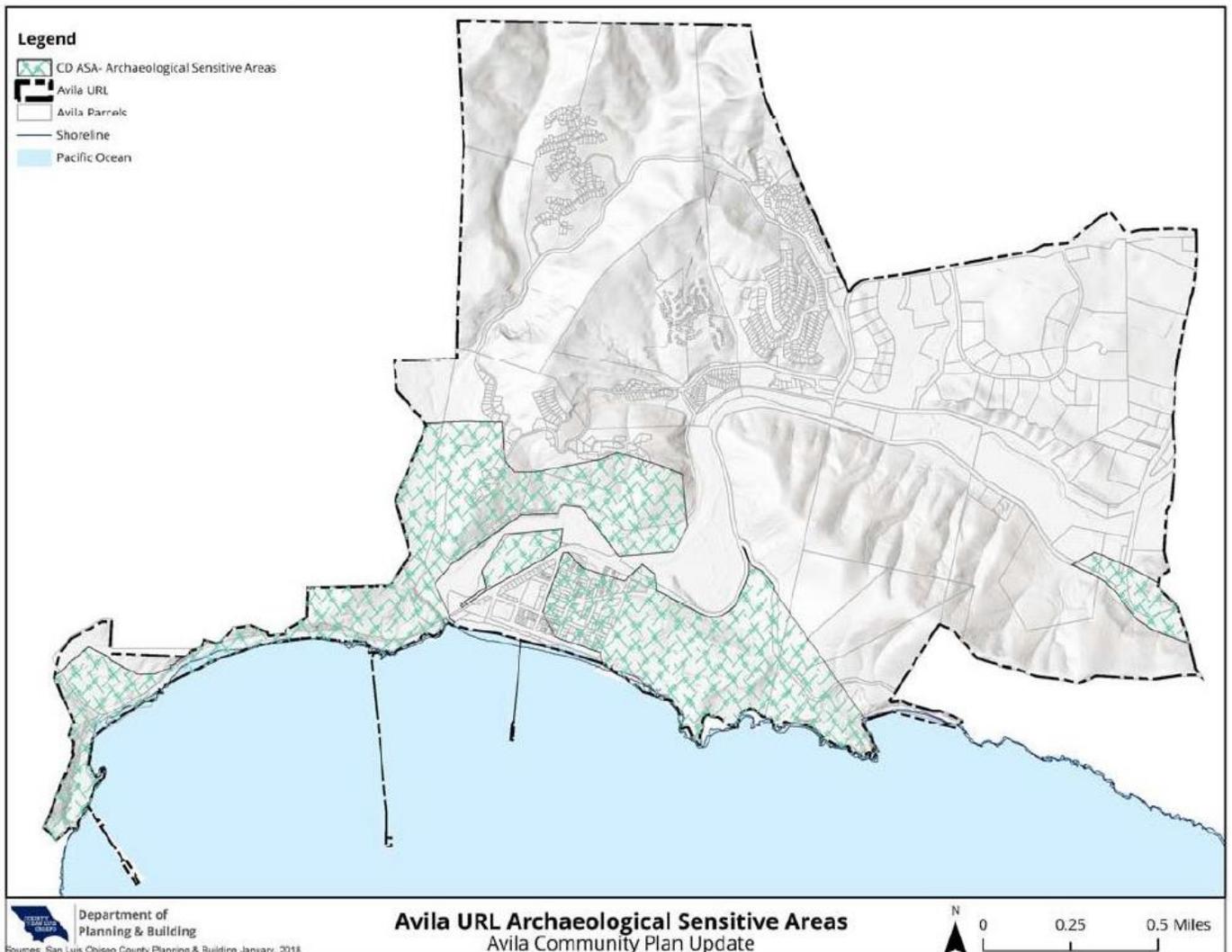
Source: Avila Community Plan, Background Report, August 2018

Historic and Cultural Resources

The Avila Beach Specific Plan notes four structures of historical significance within the Town of Avila Beach, these structures include: The Custom House, The Sea Barn, The Yacht Club and Avila Grocery. All of these historic structures were removed, replaced and restored in their original locations after the Unocal cleanup process.

The Town of Avila Beach is also the former home of the Chumash Indian Community (Avila Community Plan, Background Report 2018). Due to this historic and archaeological connection, the Town of Avila Beach and much of the land within boundaries of the District, are designated by the County as archeologically sensitive areas. To develop within an archeologically sensitive area in the County, a landowner is required to hire a qualified archaeologist with knowledge of local Native American culture to perform a preliminary site survey that must be approved by the County Environmental Coordinator. Figure H.6 below from the 2018 Avila Community Plan Background Report depicts the Archaeologically Sensitive Areas within the Avila community as defined by the combining designation in the County's Coastal Zone Land Use Ordinance.

Figure H.6 Archaeologically Sensitive Areas



Source: Avila Community Plan, Background Report, August 2018





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 San Luis Bay Area Plan (Coastal) (2009) designated the following combining designations that apply to the protection of special resources in the Avila Beach community:

- Ontario Ridge (SRA) – The major ridge forms an important scenic backdrop for the coastal areas of Avila Beach and Pismo Beach, as well as for Avila Valley. Open space agreements on the slopes should be obtained at the time of development proposals.
- San Luis Creek Estuary (SRA) – This small estuary west of the community of Avila beach is an important feeding and resting area for migratory water fowl. San Luis Creek may be the southernmost stream supporting steelhead rainbow trout runs in the State [Note, steelhead rainbow trout were designated as a Threatened Species in 2006]
- San Luis Obispo Creek (FH) – Drainage course should be maintained in their natural state and native vegetation and habitats retained.

Economic Assets

Tourism is the largest economic driver for the Avila Beach community. According to the Avila Community Plan (2018), the top employment sectors in Avila are primarily “visitor-serving” and include the following sectors: educational services, accommodation and food services, arts and entertainment, and recreation sectors.

H.3.2 Estimating Potential Losses

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

Table H.6 above shows Avila Beach’s exposure to hazards in terms of number and value of structures. San Luis Obispo County’s parcel and assessor data was used to calculate the improved value of parcels. The most vulnerable structures are those in the floodplain (especially those that have been flooded in the past), 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.)

Drought and Water Shortage

Since the Spanish began settling the area of what is today the Avila Community, drought has posed a risk to those living there. In 1842 Miguel Avila was granted the Rancho San Miguelito where he raised cattle and grew grain. After a significant drought event between 1863-64 decimated Avila’s cattle, he was forced to sell his home and portions of his shoreline property west of the present Town of Avila Beach. In present day, drought and water shortages continue to pose a risk to the Avila community and the services provided by the Avila Beach Community Services District.

The primary sources of water supply for the Avila Beach CSD are surface water sources from the Lopez Lake Reservoir and the State Water Project. The Avila Beach CSD has a total entitlement of 168 acre-feet per year of water allocations; 68 acre-feet per year (AFY) from the Lopez Lake Reservoir and 100 AFY from the State Water Project along with a 100 AFY Drought Buffer. The District typically uses approximately 80 AFY and anticipates build-out demand will be approximately 125 AFY. The State Water Project is a major source of water for all the Central Coast, but it is also considered a supplementary source of water due to hydrologic variability, maintenance and repair requirements that can cause reduced deliveries or a complete shutdown of the delivery





system. According to the Avila Community Plan, recent drought events in conjunction with pumping restrictions in consideration of endangered species habitat lowered the 50-100 percent contracted allocations for the Central Coast to 35 percent in 2008 and 40 percent in 2009. The following figure from the Avila Community Plan, shows the existing and forecasted water supply and demand for the five water purveyors within the Avila Community as was described in the County 2014-2016 Resource Management Report.

Figure H.7 Avila Urban Reserve Line Existing and Forecasted Water Supply and Demand

Demand	Avila Beach CSD	Avila Valley MWC	San Miguelito MWC	CSA 12	Port San Luis
FY 2015/2016 Demand (AFY)	74.7 ¹	27.6 ¹	125.5 ¹	68 ²	35
Forecast Demand in 15 Years (AFY)	143	31	359	67	35
Forecast Demand in 20 Years (AFY)	166	31	383	66	67
Buildout Demand (30 Or More Years) (AFY)	162-170 ³	30-32 ³	373-393 ³	65-68 ³	67-69 ³
Supply					
State Water Project ⁴	66 ⁵	20	275	76	0
Lopez Lake Reservoir	68	12	0	61	100
Avila Valley Sub-Basin	0	20	118	Uncertain ⁷	0
Total Supply:	134	52	393	68	100
Water Supply Versus Forecast Demand	Water demand projected over 20 years will not equal or exceed the estimated dependable supply. This is due primarily to a lack of information regarding the safe yield of the sub-basin.				
Notes:					
1. See Table II-1. Current year data for agriculture and rural are from 2012.					
2. 2011 data.					
3. The low end of the forecast demand range assumes 5% additional conservation (beyond what has already been accomplished) at buildout for all urban users.					
4. State Water Project average allocation assumes 66 percent of contract water service amount.					
5. Avila Beach CSD has a 100 AFY allocation from the State Water Project, but no drought buffer. Therefore, the 66 percent assumption for State Water Project delivery is 66 AFY.					
6. Seven (7) AFY of SWP water allocated to the San Luis Coastal Unified School District.					
7. Individual water users within CSA 12 boundary could request an exemption to install a private well and pump water from the Avila Valley Sub-basin. It is unknown the number of users with private wells, but it is likely minimal.					

Source: Avila Community Plan, Background Report, August 2018

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. During past drought events in the planning area, water restrictions have been imposed. Drought conditions can also cause soil to compact and not absorb water well, potentially making an area more susceptible to flooding.

Earthquake

According to the Avila Community Plan, there are two fault lines that run through the southern portion of the Avila Community, neither of which are considered active. As a coastal community, there is also a risk of earthquakes offshore and resulting tsunami events (refer to the Tsunami Section below). In 1916 a magnitude





5.1 earthquake occurred offshore of Avila Beach in the San Luis Bay. There is limited data on the event such as if ground shaking was felt and at what intensity. The earthquake reportedly caused smokestacks at the Port San Luis Union Oil Refinery to fall and created a landslide that blocked railroad tracks.

The Diablo Canyon Power Plant is located just north of Avila Beach and is within the proximity of the Hosgri fault line just offshore. The Power Plant was originally designed to withstand a 6.75 magnitude earthquake and has been upgraded to withstand a 7.5 magnitude earthquake. The Power Plant has in place extensive seismic monitoring and safety systems to shut down quickly in a significant ground shaking event. Refer to: Hazardous Materials below for more information related to the Diablo Canyon Power Plant.

As a coastal community, liquefaction – the result of ground shaking causing fine grained, saturate soils to liquefy and act as a fluid – poses a risk to the Avila Beach CSD. Table H.8 shows the types of properties at moderate risk of liquefaction. Based on this analysis there are 141 properties at moderate risk of liquefaction with a total value of over \$93 million. Residential properties are the most vulnerable property type to liquefaction in Avila Beach, with a combined total of 76 properties located in an area of moderate liquefaction risk and a total value of over \$63 million.

Table H.8 Property Types with Moderate Liquefaction Risk

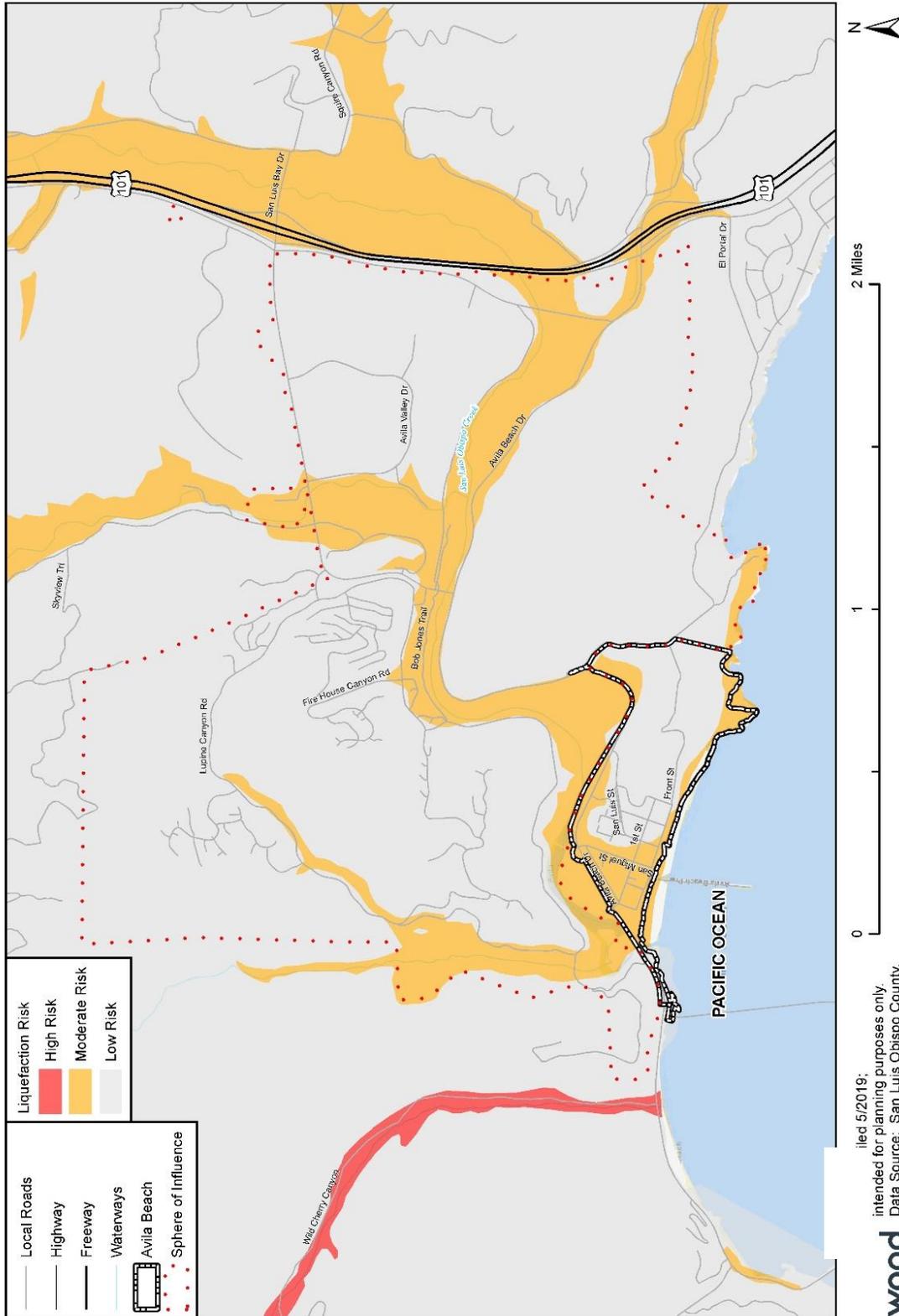
Property Type	Property Count	Improved Value	Content Value	Total Value
Commercial	15	\$7,203,045	\$7,203,045	\$14,406,090
Government/Utilities	14	\$61,794	--	\$61,794
Other/Exempt/Misc.	19	\$9,900,305	--	\$9,900,305
Residential	18	\$6,204,245	\$3,102,123	\$9,306,368
Multi-Family Residential	47	\$14,143,207	\$7,071,604	\$21,214,811
Residential: Other	11	\$22,050,689	\$11,025,345	\$33,076,034
Vacant	17	\$5,820,835	--	\$5,820,835
Total	141	\$65,384,120	\$28,402,116	\$93,786,236

Source: San Luis Obispo County Planning and Building Dept., Assessor's Office, ParcelQuest, Wood Plc Parcel Analysis

The following map depicts the areas of the Avila Community that is at risk of liquefaction. The western portion of the Avila Beach CSD boundary along Avila Beach Drive, the coastline, and areas along the creeks, are designated as areas of moderate potential for liquefaction.



Figure H.8 Areas of Potential Liquefaction Risk



dated 5/2019:
intended for planning purposes only.
Data Source: San Luis Obispo County,
US Census TIGER Database, CA Open
Data Portal, BLM/California State Office, LAFCO





Flood

The Avila Beach community is at risk of both coastal and riverine flooding. The San Luis Obispo Creek, which is 18 miles long and ends at Avila Beach draining into the Pacific Ocean, poses the greatest risk of flooding. The areas adjacent to the Creek have the Combining Designation of a Flood Hazard (FH) and must meet the County standards set forth in Title 23 and the San Luis Bay Coastal Area Plan (Area Plan). According to the Area Plan in the event of a 100-year flood event major flooding will occur throughout the length of the San Luis Obispo Creek. The flooding within the Creek caused significant flood damage in 1969 and 1973. Due to the risk of flooding along the Creek, the Area Plan recommends designating open space land uses adjacent to the floodplain. Road infrastructure is most at risk of being damaged during a flood event in the planning area. The Avila Community Plan lists the following transportation infrastructure where flooding occurs often:

- Avila Beach Drive
- San Luis Bay Drive
- Ontario Road
- Parking Lot in Avila Beach (*Port of San Luis jurisdiction*)
- Intersection of First Street and San Francisco Street

All of the infrastructure listed above suffer from occasional flooding, but the parking lot is reported to flood consistently during the rainy season (January-March). In 2016, the San Luis Obispo County Public Works Department spent \$60,000 pumping water out of the parking lot. The Department created a Conceptual Design Report in 2017 that evaluated three alternatives to address the flooding issue. The final recommendation from the report was for the installation of a permanent pumping system (estimated cost of \$375,000) with projected operations and maintenance cost of approximately \$25,000 annually. The 2017-2018 County Capital Improvement Program (CIP) report identified a long-term flood control project (beyond the 5-year CIP timeframe) that will include a pumping system for the parking lot culvert outfall to mitigate the flooding issue.

Avila Beach does not participate separately in the National Flood Insurance Program (NFIP) but will continue to support the County’s participation in and compliance with the NFIP.

Values at Risk

A flood vulnerability assessment was completed during the 2019 update, following the methodology described in Section 5 of the Base Plan. Table H.9 and Table H.10 summarize the values at risk in the City’s 100-year and 500-year floodplain, respectively. These tables also detail loss estimates for each flood.

Table H.9 Avila Beach CSD’s FEMA 1% Annual Chance Flood Hazard by Property Type

Property Type	Property Count	Improved Value	Content Value	Total Value	Loss Estimate
Government/Utilities	5	--	--	\$0	\$0
Total	5	\$0	\$0	\$0	\$0

Source: San Luis Obispo County Planning and Building Dept., Assessor’s Office, ParcelQuest, Wood Plc Parcel Analysis





Table H.10 Avila Beach CSD’s FEMA 0.2% Annual Chance Flood Hazard by Property Type

Property Type	Property Count	Improved Value	Content Value	Total Value	Loss Estimate
Commercial	11	\$5,895,667	\$5,895,667	\$11,791,334	\$2,947,834
Government/Utilities	5	\$61,794	--	\$61,794	\$15,449
Other/Exempt/Misc.	15	\$7,605,508	--	\$7,605,508	\$1,901,377
Residential	16	\$5,414,520	\$2,707,260	\$8,121,780	\$2,030,445
Multi-Family Residential	20	\$5,499,258	\$2,749,629	\$8,248,887	\$2,062,222
Residential: Other	11	\$22,050,689	\$11,025,345	\$33,076,034	\$8,269,008
Vacant	17	\$5,820,835	--	\$5,820,835	\$1,455,209
Total	95	\$52,348,271	\$22,377,901	\$74,726,172	\$18,681,543

Source: San Luis Obispo County Planning and Building Dept., Assessor’s Office, ParcelQuest, Wood Plc Parcel Analysis

Based on this analysis, the Avila Beach CSD has significant assets at risk of flooding in a 500-year storm. Five (5) improved parcels are located within the 100-year floodplain that are classified as government or utilities properties. An additional ninety-five (95) improved parcels valued at over \$74 million fall within the 500-year floodplain.

Applying the 25 percent damage factor as previously described in Section 5 there is a 0.2 percent chance in any given year of a 500-year flood causing roughly \$75 million in damage (combined damage from both floods). Limitations: This model may include structures in the floodplains that are elevated at or above the level of the base-flood elevation, which will likely mitigate flood damage. Also, the assessed values are well below the actual market values. Thus, the actual value of assets at risk may be significantly higher than those included herein.

Critical Facilities at Risk

Based on GIS analysis there are no critical facilities located in the 100-year or 500-year flood zone.

Landslides and Debris Flow

Most of the Avila community is at moderate to very high potential for a landslide event to occur. As shown in Figure H.9 below, the risk of landslides is concentrated on the eastern portion of the Avila Beach CSD limits. The land uses at moderate to high risk of a landslide event include residential multi-family, the only industrial lot in the community, where the former Union Oil Company tank farm is located as well as the only single-family homes in the jurisdiction, are at moderate to high risk of a landslide event.

Table H.11 Avila Beach CSD’s Moderate Landslide Risk by Property Type

Property Type	Property Count	Improved Value	Content Value	Total Value
Multi-Family Residential	8	\$3,144,278	\$1,572,139	\$4,716,417
Other/Exempt/Misc.	2	--	--	\$0
Residential	15	\$4,037,041	\$2,018,521	\$6,055,562
Total	25	\$7,181,319	\$3,590,660	\$10,771,979

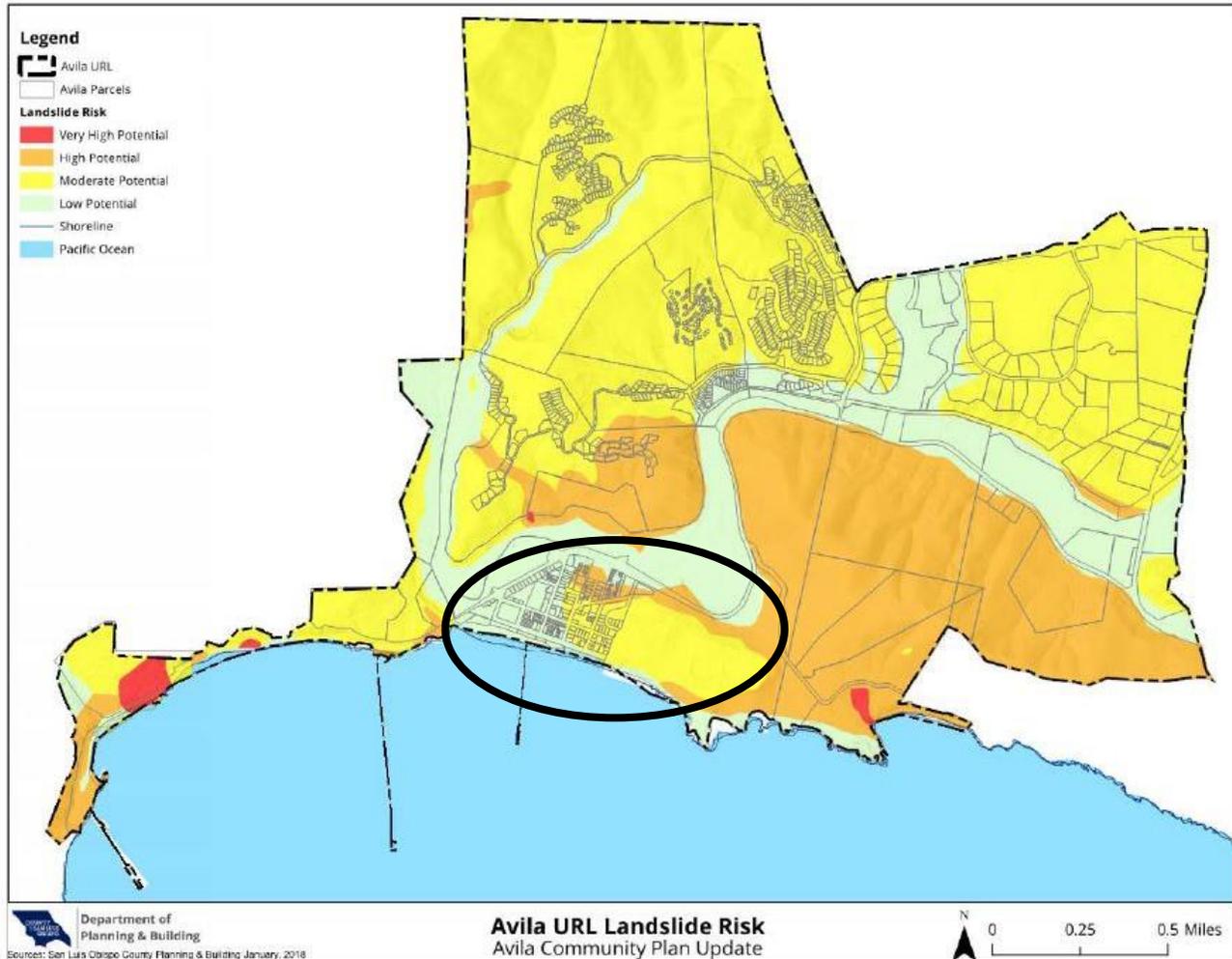
Source: San Luis Obispo County Planning and Building Dept., Assessor’s Office, ParcelQuest, Wood Plc Parcel Analysis

A landslide event along Avila Beach Drive, the only major road into or out of the Town of Avila Beach, could have serious impacts on both visitors and residents as well as impact travel to and from the Port of San Luis and the



Diablo Canyon Power Plant. According to the LPT a massive landslide event that occurred 10 years ago along Avila Beach Drive did cut off access to the Port and Diablo Canyon. The committee noted there is an alternative entrance through Diablo Canyon, but it not designed for hundreds of vehicles passing through for the extended period of time that would be necessary to clean the debris from the roadway caused by the landslide event.

Figure H.9 Avila Beach CSD Landslide Risk



Source: Avila Community Plan, Background Report, August 2018 *The black oval is a representation of the Avila Beach CSD boundaries

Coastal Storm/Coastal Erosion/Sea Level Rise

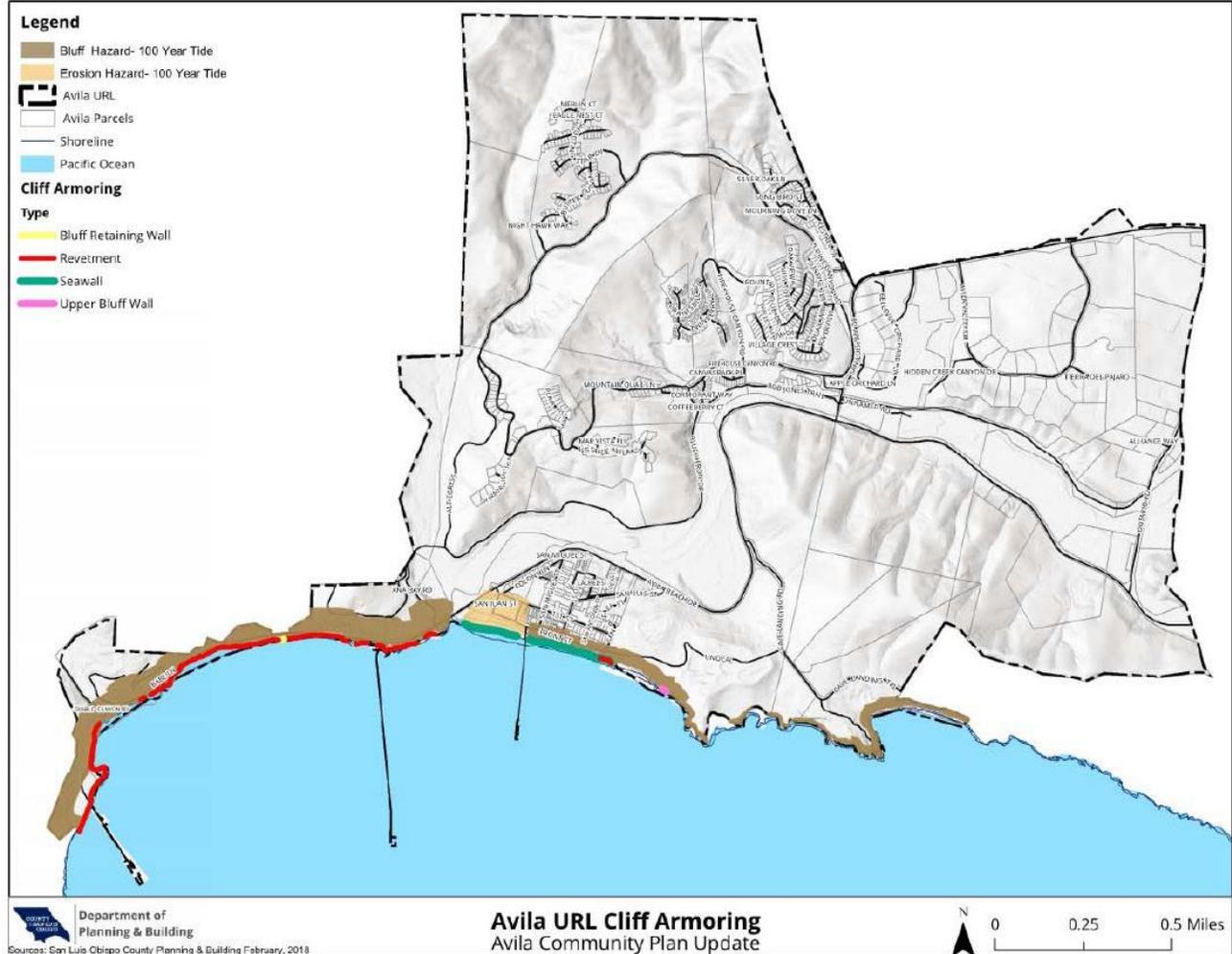
As a low-lying coastal community Avila Beach is exposed to a range of coastal hazards, including coastal storms and coastal erosion. As described in the Base Plan (refer to Section 5), these hazards are projected to become more severe when combined with sea level rise. The Avila Beach community has dealt with the aftermath of coastal storms. A coastal storm in March 1983 caused severe damage to the Union Oil Pier. Refer to the Base Plan for more information including pictures of the damage to the pier from the 1983 storm, as well as the Hazard Potential of Jurisdictions and Urban Areas with the San Luis Obispo Coast Table for analysis specific to the Avila community.

The Avila coast is considered to be at moderate risk of coastal damage from storm waves. This has been mitigated slightly through coastal armoring including a series of bluff and sea walls between Front Street and



shoreline. Because of this armoring it is expected the community will experience lesser impacts of bluff erosion compared to other coastal communities. The following figures depict the areas within the Avila Community that are at risk of coastal erosion and areas where coastal armoring is in place.

Figure H.10 Areas at Risk of Coastal and Bluff Erosion and Coastal Armoring



Source: Avila Community Plan, Background Report, August 2018

Rising sea level as a result of climate change is projected to increase the intensity of coastal storms, flooding, inundation and erosion along the Avila coast. The areas with the highest potential of experiencing coastal hazards include the shoreline, cliffs and low-lying areas adjacent to the San Luis Obispo Creek which are vulnerable to flooding without the rising sea levels. The following figure shows the increased risk of flooding due to projected sea level rise. Refer to the Base Plan, Chapter 5 Hazard Identification and Risk Assessment, Coastal Storm/Coastal Erosion/Sea Level Rise Section for results of the vulnerability analysis.

As part of the 2019 HMP planning effort, a sea level rise risk assessment was completed to determine how sea level rise may affect coastal jurisdictions and critical facilities and how coastal flooding might be exacerbated in the future. Table H.12 and Table H.13 summarize the properties at risk of inundation by sea level rise and sea level rise combined with a FEMA 1% annual chance flood. The area of inundation by sea level rise and sea level rise combined with the 1% flood are shown in Figure H. 11 and Figure H. 12, respectively. No critical facilities



were determined to be at risk in the sea-level rise scenarios. See Section 5.3.4 Coastal Storm/Coastal Erosion/Sea Level Rise in the base plan for more details on the scenarios and data sources used for this analysis.

Table H.12 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	--	--	10	--	8	12
Government/Utilities	--	--	7	1	6	7
Other/Exempt/Misc.	--	--	13	--	12	14
Residential	--	--	14	--	9	15
Multi-Family Residential	--	--	19	--	15	28
Residential: Other	--	--	10	--	10	11
Vacant	--	--	13	--	11	16
Total	--	--	86	1	71	103

Source: Wood analysis with USGS CoSMoS 3.1 data

Table H.13 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	--	--	\$4,744,109	--	\$2,427,671	\$6,267,359
Government/Utilities	--	--	\$61,794	--	\$61,794	\$61,794
Other/Exempt/Misc.	--	--	\$5,342,495	--	\$5,342,495	\$7,605,508
Residential	--	--	\$5,286,138	--	\$4,001,139	\$5,394,363
Multi-Family Residential	--	--	\$5,157,029	--	\$4,518,175	\$8,464,474
Residential: Other	--	--	\$7,193,724	--	\$7,193,724	\$22,050,689
Vacant	--	--	\$3,248,427	--	\$2,937,427	\$5,744,835
Total	--	--	\$31,033,716	--	\$26,482,425	\$55,589,022

Source: Wood analysis with USGS CoSMoS 3.1 data



Figure H. 11 Avila Beach Sea Level Rise Scenario Analysis: Tidal Inundation Only

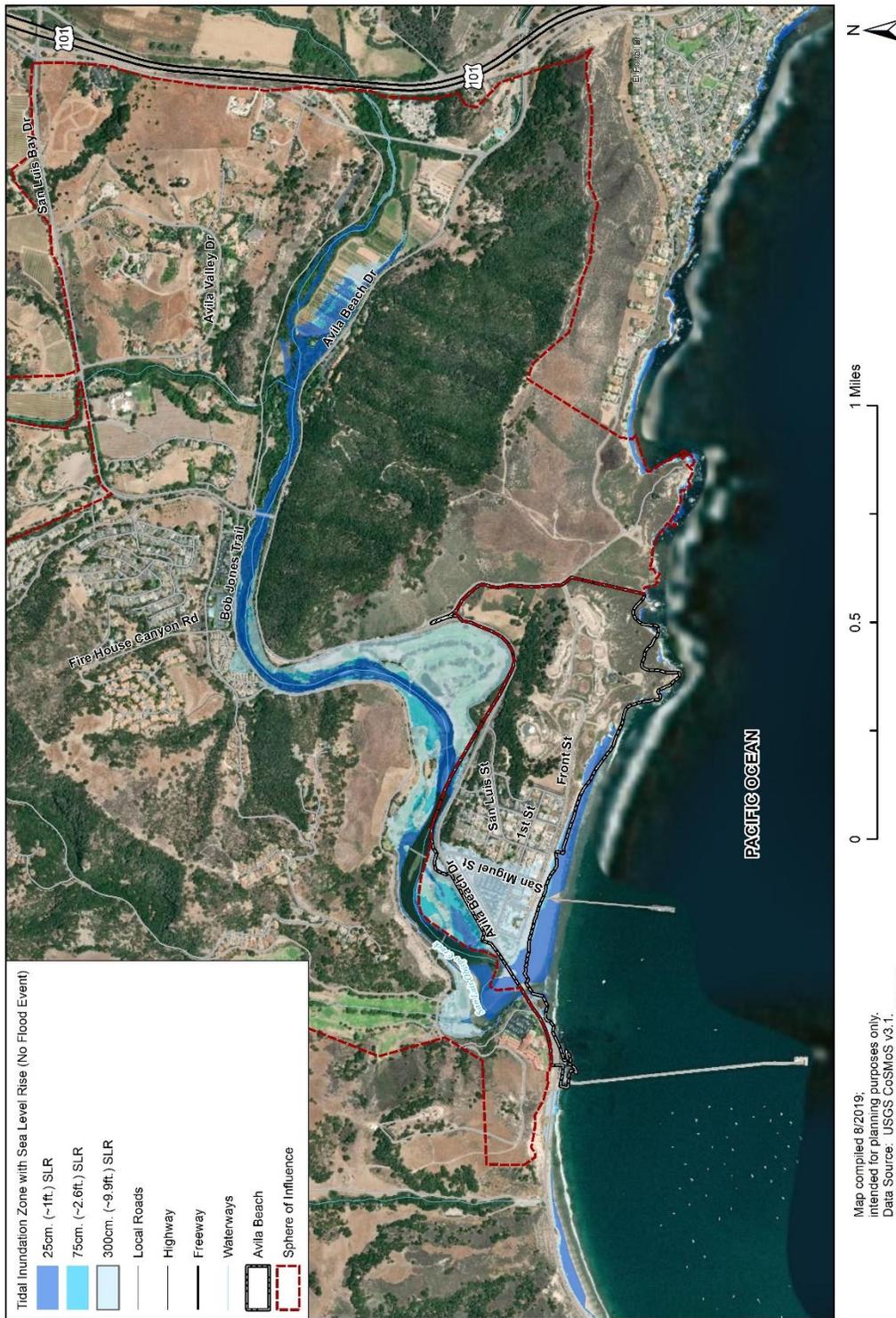
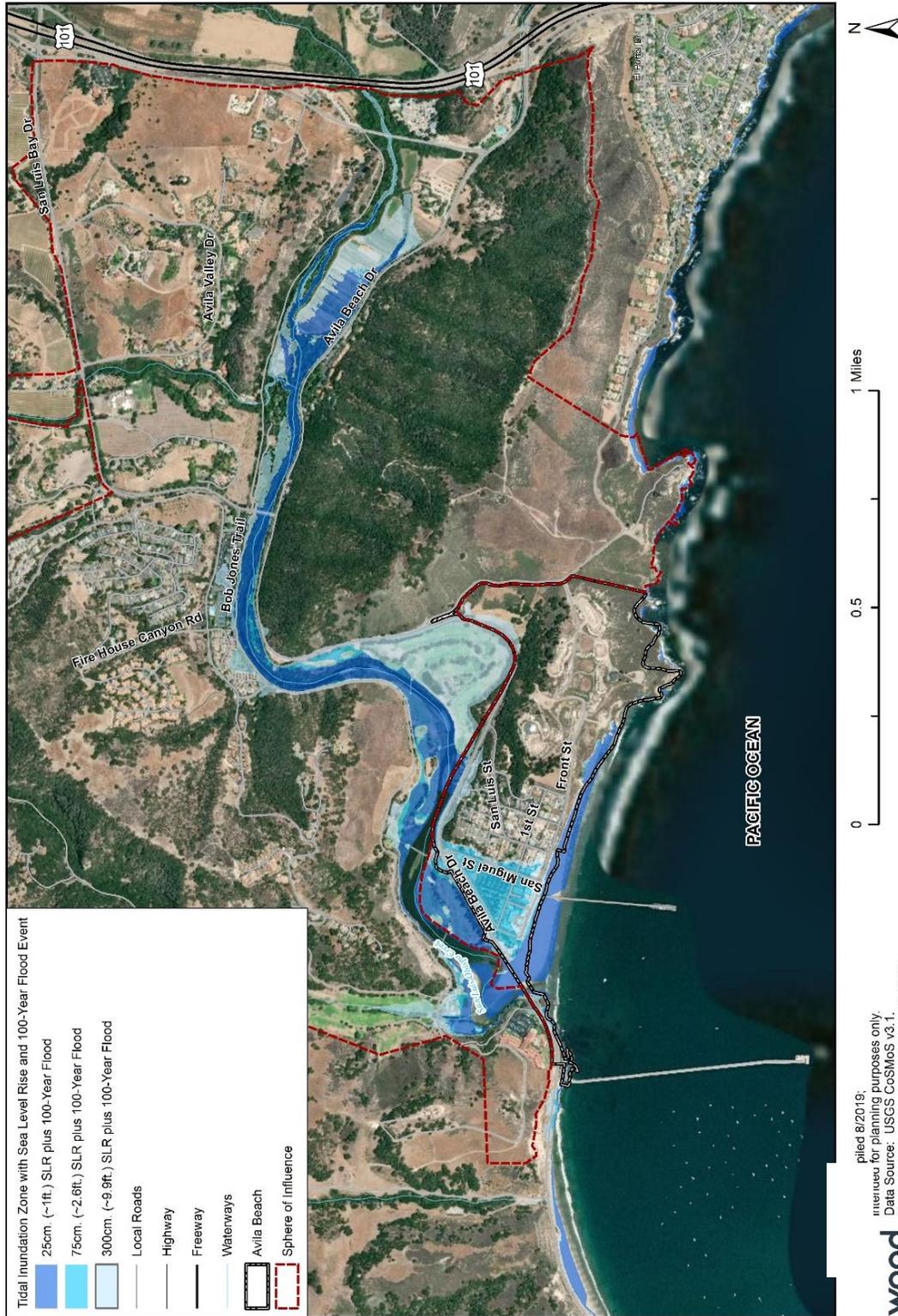


Figure H. 12 Avila Beach Sea Level Rise Scenario Analysis: Tidal Inundation and 1% Annual Chance Flood





Tsunami

Tsunami inundation poses a risk to all coastal communities in the County of San Luis Obispo. Offshore faults and related seismic activity could cause a tsunami event off the coast of Avila Beach, even if the faults are thousands of miles away. Avila Beach is one of the eight Tsunami Planning Area identified by the County’s Tsunami Response Plan. According to the County’s Tsunami Response Plan the areas within the Avila Beach community that are most vulnerable to a tsunami event include areas inland within and adjacent to San Luis Obispo Creek; this includes Avila Beach Drive, the only major road out of the beach area (refer to Figure H.13). There have been three recorded tsunami events between 1946 and 1964 that have impacted the Avila Beach community. Refer to Section 5 of the Base Plan for more information related to the past tsunami events and analysis on future vulnerability.

The following table breaks down the tsunami risk for the Avila Beach Community by property type.

Table H.14 Avila Beach’s Tsunami Risk by Property Type

Property Type	Property Count	Improved Value	Content Value	Total Value	Loss Estimate
Commercial	15	\$7,203,045	\$7,203,045	\$14,406,090	\$14,406,090
Government/Utilities	13	\$61,794	--	\$61,794	\$61,794
Other/Exempt/Misc.	21	\$10,502,046	--	\$10,502,046	\$10,502,046
Residential	25	\$7,213,323	\$3,606,662	\$10,819,985	\$10,819,985
Multi-Family Residential	50	\$15,084,608	\$7,542,304	\$22,626,912	\$22,626,912
Residential: Other	12	\$24,819,528	\$12,409,764	\$37,229,292	\$37,229,292
Vacant	17	\$5,820,835	--	\$5,820,835	\$5,820,835
Total	153	\$70,705,179	\$30,761,775	\$101,466,954	\$101,466,954

Source: San Luis Obispo County Planning and Building Dept., Assessor’s Office, ParcelQuest, Wood Plc Parcel Analysis

Based on this analysis the western portion of Avila Beach is at a significant risk to a tsunami event. There are 153 properties vulnerable to the impacts of a tsunami with a combined value of over \$101 million. Of the properties at risk, 87 are residential properties, with a majority being multi-family residential with a combined loss estimate of over \$70 million.





FIRE has designated the Avila Beach community as being at an increased risk from wildfires and a priority community to work with to prepare and mitigate potential fire risk. According to the County’s Community Wildfire Protection Plan (2019), the prevailing wind patterns is another dominant factor that influences the wildfire risk in Avila Beach. A fire that originates in the Los Osos area or at the Diablo Canyon Power Plant could be pushed by prevailing winds southeast towards the Avila Beach community.

Analysis using GIS was used to create the following tables quantifies the potential losses by wildfire severity zones and property type. Based on the analysis there are 239 properties in Avila Beach that are located within the moderate to high severity zones with a combined value of \$143,612,173. There is one (1) critical facility, an FM transmission tower that is located in the high severity wildfire zone.

Table H.15 Avila Beach CSD’s Wildfire Risk by Property Type – Moderate Severity SRA Zone

Property Type	Property Count	Improved Value	Content Value	Total Value	Loss Estimate
Commercial	15	\$7,203,045	\$7,203,045	\$14,406,090	\$14,406,090
Government/Utilities	14	\$61,794	--	\$61,794	\$61,794
Other/Exempt/Misc.	20	\$10,502,046	--	\$10,502,046	\$10,502,046
Residential	27	\$7,850,583	\$3,925,292	\$11,775,875	\$11,775,875
Multi-Family Residential	34	\$11,403,608	\$5,701,804	\$17,105,412	\$17,105,412
Residential: Other	11	\$24,360,528	\$12,180,264	\$36,540,792	\$36,540,792
Vacant	15	\$5,557,835	--	\$5,557,835	\$5,557,835
Total	136	\$66,939,439	\$29,010,405	\$95,949,844	\$95,949,844

Source: San Luis Obispo County Planning and Building Dept., Assessor’s Office, ParcelQuest, Wood Plc Parcel Analysis

Table H.16 Avila Beach CSD’s Wildfire Risk by Property Type – High Severity SRA Zone

Property Type	Property Count	Improved Value	Content Value	Total Value	Loss Estimate
Government/Utilities	3	--	--	\$0	\$0
Other/Exempt/Misc.	5	--	--	\$0	\$0
Residential	36	\$11,468,060	\$5,734,030	\$17,202,090	\$17,202,090
Multi-Family Residential	52	\$18,320,256	\$9,160,128	\$27,480,384	\$27,480,384
Residential: Other	3	\$1,772,192	\$886,096	\$2,658,288	\$2,658,288
Vacant	4	\$321,567	--	\$321,567	\$321,567
Total	103	\$31,882,075	\$15,780,254	\$47,662,329	\$47,662,329

Source: San Luis Obispo County Planning and Building Dept., Assessor’s Office, ParcelQuest, Wood Plc Parcel Analysis

Table H.17 Avila Beach CSD’s Critical Facilities in High Wildfire Hazard Zone

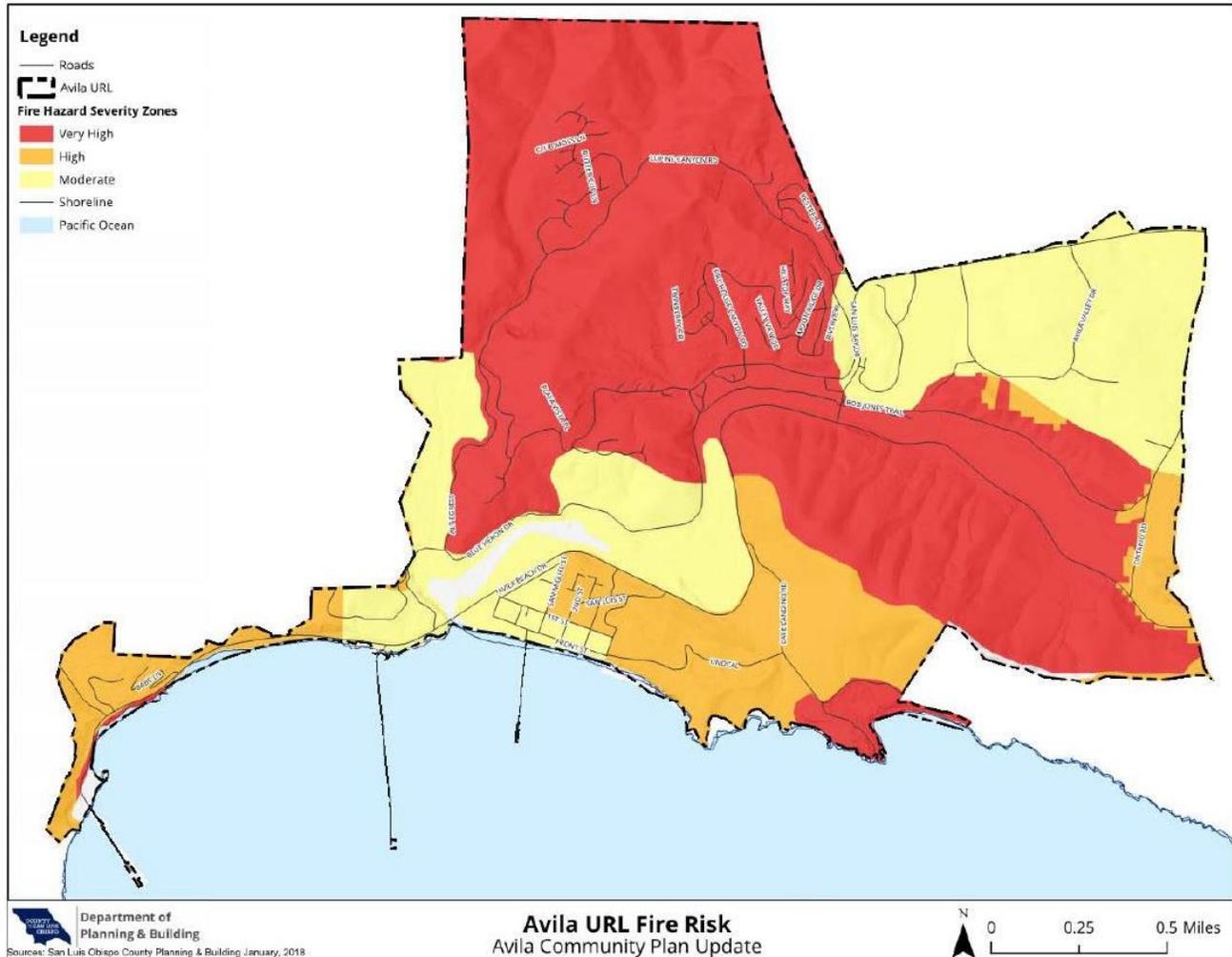
Facility Type	Count
FM Transmission Tower	1
Total	1

Source: San Luis Obispo County Planning and Building Dept., Assessor’s Office, ParcelQuest, Wood Plc Parcel Analysis

The figure below depicts the wildfire risk for the Avila Community.



Figure H.14 Avila Beach CSD Wildfire Risk



Source: Avila Community Plan, Background Report, August 2018

Human Caused: Hazardous Materials

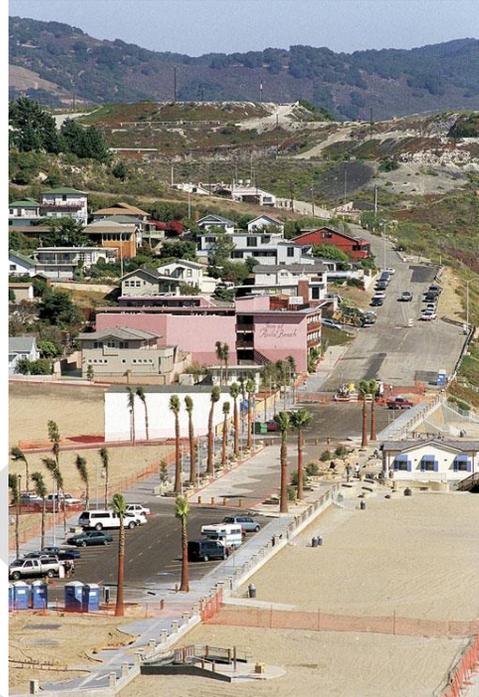
The Avila Beach community has a history of hazardous material incidents. The California State Water Resources Control Board has identified seven (7) sites with hazardous materials that may contaminate groundwater supplies. Six of the identified sites have been closed and one remains an open case, site of the former Unocal Tank Farm site which contained twenty-two (22) storage units for over 90 years and were a dominate visual feature in Avila Beach. After an oil spill that was caused by Unocal (a subsidiary of Chevron) resulted in extensive cleanup of Avila Beach including removing and rebuilding the entire commercial district, the tanks were removed, and the Tank Farm site was used to support the cleanup efforts. Today, the area is the one industrial zone property in Avila Beach and is completely fenced off to the public. Chevron maintains the limited sewage disposal system and fire protection facilities for the site and receives water from the Avila Beach Community Services District. In 2013 Chevron applied to re-develop the site into a resort facility. The County of San Luis Obispo Planning Department held a well-attended CEQA scoping meeting in 2016. Since the initial scoping meeting, Chevron has not made any additional efforts to re-develop the site. According to the Avila Beach Community Plan Background Report (2018) no progress has been made yet.



Figure H.15 Avila Beach Community Evolution, 1996 – 2000



1996



2000

Source: San Luis Obispo Tribune, David Middle Camp

Figure H.16 Avila Beach During Unocal Cleanup, 1999



Source: San Luis Obispo Tribune, Jayson Mellom





The Diablo Canyon Nuclear Power Plant, the state’s only operating nuclear power plant is located west of Avila Beach. Accidental release of nuclear materials continues to be a concern for the Avila community, although the Power Plant has extensive seismic monitoring and safety systems in place and has been retrofitted to withstand a 7.5 magnitude earthquake. Avila Beach Drive is currently the only access to the Diablo Canyon Power Plant, which has also caused concern within the community if an evacuation were to happen. The Diablo Canyon Nuclear Power Plant is scheduled to be closed by 2025. Even with the coming closure, the County of San Luis Obispo Office of Emergency Services has done extensive planning in case of an emergency at the Power Plant. Refer to Section 5 of the Base Plan for more information.

H.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 capabilities 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 Wood 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 Avila Beach CSD capabilities are summarized below.

H.4.1 Regulatory Mitigation Capabilities

Table H.18 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 Capability Assessment of the Base Plan for more information related to the County’s mitigation capabilities.

Table H.18 Avila Beach CSD Regulatory Mitigation Capabilities

Regulatory Tool	Yes/No	Comments
General plan	Yes	SLO County General Plan; Coastal Zone Framework
Zoning ordinance	Yes	Coastal Zone Land Use Ordinance
Subdivision ordinance	No	
Growth management ordinance	No	
Floodplain ordinance	N/A	
Other special purpose ordinance (stormwater, water conservation, wildfire)	Yes	County
Building code	Yes	County
Fire department ISO rating	Yes	6 (Cal Fire/SLO County Fire Department)
Erosion or sediment control program	No	
Stormwater management program	No	
Site plan review requirements	No	
Capital improvements plan	Yes	





Regulatory Tool	Yes/No	Comments
Economic development plan	Yes	Avila Beach Specific Plan 2001, Chapter 6 Economic Recovery Strategy
Local emergency operations plan	Yes	County Operation Plans
Other special plans	Yes	Avila Beach Community Plan - Background Report; August 2019; Avila Beach Specific Plan 2001;
Flood Insurance Study or other engineering study for streams	No	
Elevation certificates (for floodplain development)	No	

Source: Wood Data Collection Guide, 2019

H.4.2 Administrative/Technical Mitigation Capabilities

Table H.19 identifies the personnel responsible for activities related to mitigation and loss prevention in the Avila Beach Community Services District.

Table H.19 Avila Beach CSD Administrative/Technical Mitigation Capabilities

Personnel Resources	Yes/No	Department/Position
Planner/engineer with knowledge of land development/land management practices	Yes	SLO County Public Works and Planning & Building
Engineer/professional trained in construction practices related to buildings and/or infrastructure	Yes	Avila Beach CSD General Manager/District Engineer
Planner/engineer/scientist with an understanding of natural hazards	Yes	SLO County Planning and Building
Personnel skilled in GIS	Yes	SLO County
Full time building official	Yes	SLO County Planning and Building
Floodplain manager	N/A	
Emergency manager	Yes	SLO County Emergency Services
Grant writer	No	
Other personnel	N/A	
GIS Data Resources (Hazard areas, critical facilities, land use, building footprints, etc.)	Yes	SLO County
Warning systems/services (Reverse 9-11, outdoor warning signals)	Yes	SLO County

Source: Wood Data Collection Guide, 2019

H.4.3 Fiscal Mitigation Capabilities





Table H.20 identifies financial tools or resources that the CSD could potentially use to help fund mitigation activities.

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Table H.20 Avila Beach 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	No
Fees for water, sewer, gas, or electric services	Yes
Impact fees for new development	Yes
Incur debt through general obligation bonds	No
Incur debt through special tax bonds	No
Incur debt through private activities	No
Withhold spending in hazard prone areas	No

H.4.4 Mitigation Outreach and Partnerships

The Avila Beach Community Services District runs a responsible water use outreach program to encourage conservation and efficiency by sending out public notices for water conservation and responsible water use with monthly water and sewer bills.

H.4.5 Opportunities for Enhancement

Based on the capability assessment, the Avila Beach Community Services 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. 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 and 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 Avila Beach Community Services District will lead to more informed staff members who can better communicate this information to the public.

H.5 Mitigation Strategy

H.5.1 Mitigation Goals and Objectives

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

H.5.2 Mitigation Actions

The planning team for the Avila Beach Community Services 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. 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. Actions with an ‘*’ are those that mitigate losses to future development.





Table H. 21 Avila Beach Community Service District’s Mitigation Action Plan

ID	Hazard(s) Mitigated	Description/Background/Benefits	Lead Agency and Partners	Cost Estimate	Potential Funding	Priority	Timeline	Status/Implementation Notes
AB.1	Coastal Storm/Coastal Erosion/Sea Level Rise; Flood; Landslide and debris flow; Earthquake	Avila Beach Revetment Repairs to ensure Avila Beach Drive doesn't fail due to erosion and undermining.	County of SLO; Port San Luis Harbor District; Avila Beach CSD	Over \$1,000,000	County of SLO; SLOCOG; PSLHD;	Medium	More than 5 yrs.	New Partner with Port San Luis Harbor District on solution (see Action PS.3 in the Harbor District’s annex). Survey existing jetty; develop repair and augmentation plan; repair revetment. Benefits: Ensures The road is essential for access to Diablo Canyon NPP and Port San Luis.
AB.2	Coastal Storm/Coastal Erosion/Sea Level Rise; flood	Avila Beach Drainage Station. Come up with a solution for drainage in Avila Beach which accumulates along Beach Colony Lane and the Avila Parking Lot; install pump station or diversion for flood waters; identify funding for long-term operations and maintenance.	County of SLO; Port San Luis Harbor District; Avila Beach CSD Avila Beach property owners	\$500,000 to \$1,000,000	SLO County; property owners; FEMA HMA	Medium	More than 5 yrs.	New Partner with Port San Luis Harbor District on solution (see Action PS.4 in the Harbor District’s annex). Benefits: Flood prevention in low-lying areas in Avila Beach; reduction of health hazards caused by flooding





H.6 Implementation and Maintenance

Moving forward, the Avila Beach Community Services 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.

H.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 Services District to help inform updates of the Avila Beach Community Plan and in the development of additional local plans, programs and policies. Understanding the hazards 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 Avila Beach Community Services District area. As noted in Section 8 Implementation and Monitoring the HMPC representatives from the Avila Beach 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.

H.6.2 Monitoring, Evaluation and Updating the Plan

The Avila Beach Community Services 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 Avila Beach 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.





I.1 District Profile

I.1.1 Mitigation Planning History and 2019 Process

This Annex was created during the development of the 2019 San Luis Obispo County Hazard Mitigation Plan Update. The General Manager of the Ground Squirrel Hollow Community Services District (CSD) was the representative on the County HMPC and took the lead for developing the plan and this annex in coordination with the Ground Squirrel Hollow Community Services District Local Planning Team. The local (District) Planning Team will be responsible for implementation and maintenance of the plan. See Table I.1 for more information on the local Planning Team.

Table I.1 Ground Squirrel Hollow CSD Hazard Mitigation Plan Planning Team

Department or Stakeholder	Title
Ground Squirrel Hollow CSD	General Manager

More details on the planning process followed and how the jurisdictions, services districts and stakeholders participated can be found in Chapter 3 of the Base Plan, along with how the public was involved during the 2019 update.

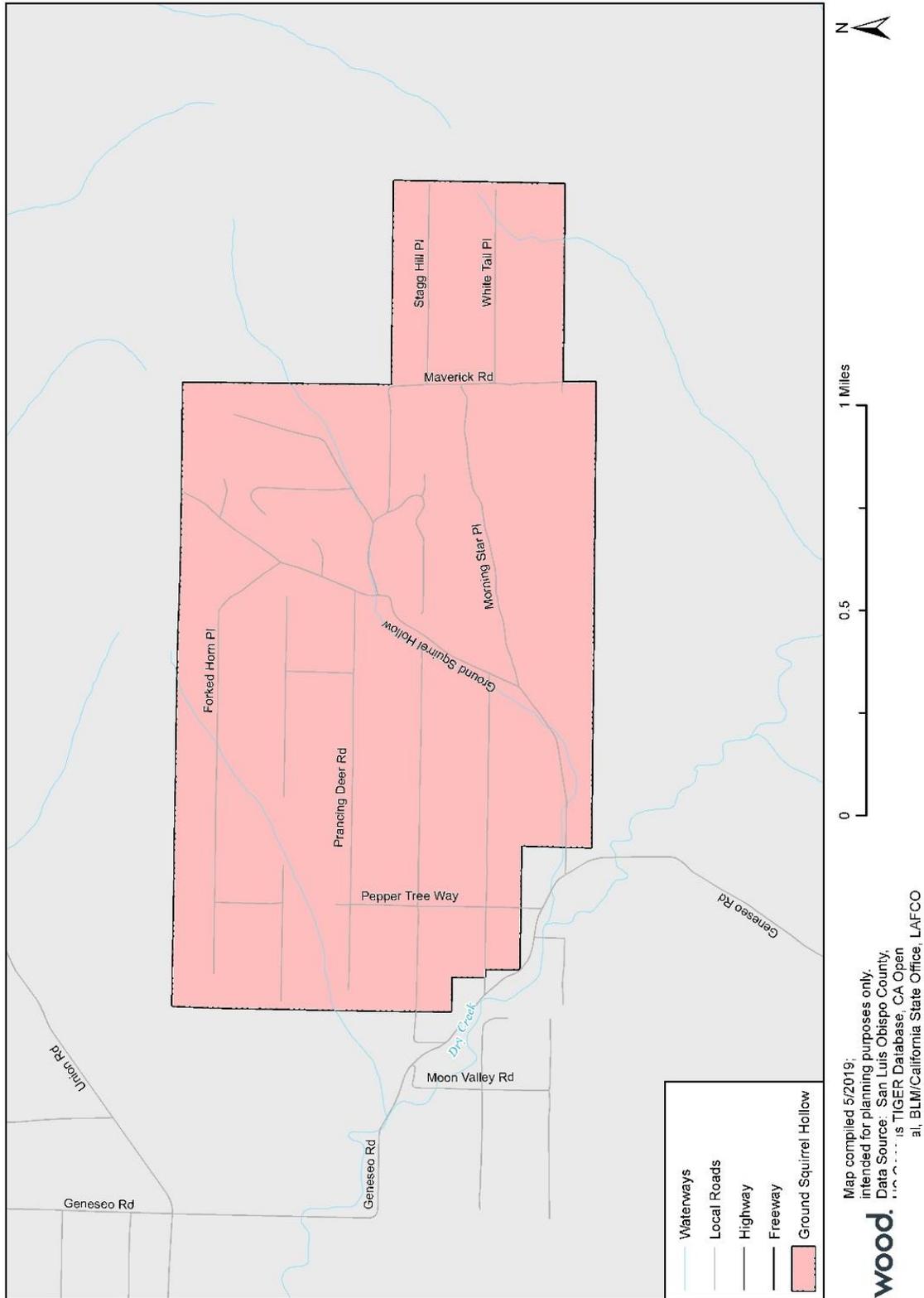
I.1.2 District Overview

Ground Squirrel Hollow is a rural community located about ten miles east of the City of Paso Robles. The Ground Squirrel Hollow Community Services District was established in June 2004 for the purpose of providing road maintenance services to residents within its respective boundaries. In March 2014, the District began providing solid waste services to residents located within its boundaries. The District strives to provide these services in the most cost-effective and efficient manner possible. The District is governed by an elected Board of Directors and is managed by a general manager and a member of the County Board of Supervisors. The District serves 375 homes within its boundaries. Figure I.1 shows the Ground Squirrel Hollow Community Services District (CSD) boundaries.





Figure I.1 Ground Squirrel Hollow Community Services District



Map compiled 5/2019;
 intended for planning purposes only.
 Data Source: San Luis Obispo County,
 California State Office, LAFCO
 al, BLM/California State Office, LAFCO

wood.





I.1.3 Development Trends

The District is almost 70% developed, with 375 of the 525 rural residential parcels within the Ground Squirrel Hollow CSD having been developed. The Planning Team noted that several of the undeveloped parcels do not have frontage on an improved road. Developing those parcels would require building the necessary access to minimum District standards (20' wide double chip seal), and the District would then take ownership and maintain the road in perpetuity.

I.1.4 Other Community Planning Efforts

Coordination and synchronization 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 designed to reduce a community's risk and vulnerability from natural hazards.

As an unincorporated community, the Ground Squirrel Hollow CSD is 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 Ground Squirrel Hollow community that relate to hazards or hazard mitigation. A high-level summary of the key plans, studies and reports is summarized in Table I.2. Information on how they informed the update are noted and incorporated where applicable.

Table I.2 Summary of Review of Key Plans, Studies and Reports

Plan, Study, Report Name	How the Document Informed this Annex
County of San Luis Obispo Local Hazard Mitigation Plan (2014)	Informed past hazard event history.
Unit Strategic Fire Plan – CAL FIRE/San Luis Obispo County Fire (2018)	Informed wildfire vulnerability assessment
Community Wildfire Protection Plan – San Luis Obispo County (2019)	Informed wildfire vulnerability assessment

The Ground Squirrel Hollow CSD District Codes are the main planning mechanism to regulate development within the District's boundaries. In addition to the standards within the District Code, the following planning mechanisms regulate future and existing development and activities within the Ground Squirrel Hollow CSD planning area.

- California Government Code Section 61100(c)
- California Government Code Section 61100(i)
- Solid Waste Disposal Code of Ordinances
- Ground Squirrel Hollow CSD Developer's Guide
- Various Ground Squirrel Hollow CSD Resolutions
- San Luis Obispo County Public Improvement Standards

Refer to Section I.4 Capability Assessment as well as the Base Plan for more information on the plans, policies, regulations and staff that govern the Ground Squirrel Hollow CSD.





1.2 Hazard Identification and Summary

The Ground Squirrel Hollow 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 Ground Squirrel Hollow CSD (see Table I.3). There are no hazards that are unique to the District.

Table I.3 Ground Squirrel Hollow CSD – Hazard Summaries

Hazard	Geographic Area	Probability of Future Occurrence	Magnitude/Severity (Extent)	Overall Significance
Adverse Weather	Limited	Likely	Negligible	Medium
Landslides and Debris Flow	Limited	Highly Likely	Negligible	Medium
Earthquake	Limited	Occasional	Negligible	Medium
Wildfire	Extensive	Occasional	Critical	Medium
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 in 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		

1.3 Vulnerability Assessment

The intent of this section is to assess the Ground Squirrel Hollow Community Services District’s vulnerability separately from that of the planning area, which has already been assessed in Section 5 Hazard Identification and Risk Assessment (HIRA) in the base plan. This vulnerability assessment analyzes the population, property, and other assets at risk to hazards ranked of medium or high significance.

The information to support the HIRA portion of this Annex was collected through a Data Collection Guide, which was distributed to each participating municipality or 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/district. In addition, the Ground Squirrel Hollow CSD Planning Team members were asked to share information on past significant hazard events that have affected the District.





Each participating jurisdiction and district were in support of the main hazard summary identified in the Base Plan (See Chapter 5). 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 I.3). 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 Ground Squirrel Hollow CSD planning team input from the Data Collection Guide and the risk assessment results compiled during the planning process (see Chapter 5 of the Base Plan), which included more detailed quantitative analyses with best available data. The hazard summaries in Table I.3 reflect the hazards that could potentially affect the District. The discussion of vulnerability for each of the hazards listed is in Section I.3.2 Estimating Potential Losses.

The hazard summaries in Table I.3 reflect the hazards that could potentially affect the District. Those of Medium or High significance for the Ground Squirrel Hollow CSD are identified below. The discussion of vulnerability for each of the following hazards is in I.3.2 Estimating Potential Losses.

- Adverse Weather
- Landslides and Debris Flow
- Earthquake/Liquefaction
- Wildfire

Other Hazards

Hazards assigned a significance rating of low and which do not differ significantly from the County ranking (e.g., Low vs. High) are not addressed further in this plan and are not assessed individually for specific vulnerabilities in this section. In the Ground Squirrel Hollow CSD, agricultural pests and plant diseases and biological agents are the only hazard ranked as a low significance for the Ground Squirrel Hollow community.

Additionally, the Planning Team decided to rate several hazards as Not Applicable (N/A) to the planning area due to lack of exposures, vulnerability, or no probability of occurrence. The following hazards were ranked as Not Applicable for the Ground Squirrel Hollow Community Services District.

- Dam failure
- Drought
- Flooding
- Subsidence
- Tsunami and Seiches
- Coastal Storm/Coastal Erosion/Sea Level Rise

I.3.1 Assets at Risk

This section considers the District's assets at risk, including values at risk, critical facilities and infrastructure, historic assets, economic assets, and growth and development trends. See Section 5.2 of the Base Plan (Asset Summary) for more details and background on the parcel summarization, analysis, and datasets available.

Values at Risk

The following data on property exposure is derived from the San Luis Obispo County 2017 Parcel and Assessor data. This data should only be used as a guideline to overall values in the Community Services District as the information has some limitations. The most significant limitation is created by Proposition 13; instead of adjusting property values annually, the values are not adjusted or assessed at fair market value until a property transfer occurs. As a result, overall value information is likely low and does not reflect current market value of properties. It is also important to note that in the event of a disaster, it is generally the value of the infrastructure or improvements to the land that is of concern or at risk. Generally, the land itself is not a loss. Table I.4 shows





the exposure of properties (e.g., the values at risk) broken down by property type for the Ground Squirrel Hollow Community Services District.

Table I.4 2019 Property Exposure for Ground Squirrel Hollow CSD by Property Types

Property Type	Parcel Count	Improved Value	Content Value	Total Value
Government/Utilities	1	--	--	\$0
Mobile/Manufactured Homes	16	\$2,140,722	\$1,070,361	\$3,211,083
Residential	358	\$84,252,270	\$42,126,135	\$126,378,405
Vacant	1	\$3,308	--	\$3,308
Total	376	\$86,396,300	\$43,196,496	\$129,592,796

Source: Wood Plc analysis based on ParcelQuest and San Luis Obispo County Assessor's Office data 2019

Critical Facilities and Infrastructure

A critical facility is one that is essential in providing utility or direction either during the response to an emergency or during the recovery operation. The four types of Critical Facilities categorized by San Luis Obispo County and its jurisdictions' and districts' planning teams are: Emergency Services, High Potential Loss Facilities, Lifeline Utility Systems, and Transportation Systems. Refer to Section 5.2 of the base plan for more information on the assets used throughout this annex and the county-wide analysis. No critical facilities in the Ground Squirrel Hollow Community Services District were found based on San Luis Obispo County GIS data and structures obtained from the Homeland Infrastructure Foundation-Level Dataset (HIFLD).

Transportation and Lifeline Facilities

The Ground Squirrel Hollow Planning Team identified the road system, with a replacement value of \$3 million, as critical to the community. Prior to the January 2017 storm, half of the District's roads were constructed from Class II Base material and required substantial and expensive maintenance. In 2017, the District secured private financing and constructed the Chip Seal Project, which added base and an asphalt double-chip seal to those roads. Despite being better protected from winter weather, all the District's roads will need periodic maintenance (chip seal, cape seal, and/or fog seal overlays) from time to time in order to achieve a life expectancy beyond the payback period of the financing. One concern of the Planning Team is that available funding will not be adequate to provide the needed maintenance, or that the District will not be able to afford a similar project in the future due to rising costs and limited funding.

Historic and Cultural Resources

No historic or cultural resources have been identified in the Ground Squirrel Hollow CSD.

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.

Economic Assets

Ground Squirrel Hollow is a residential area, and there is very little commercial development.





I.3.2 Estimating Potential Losses

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

Table I.4 under Section I.3.1 summarizes Ground Squirrel Hollow's exposure in terms of number and value of parcels falling within the District's boundaries. San Luis Obispo County's parcel and assessor data was used to calculate the improved value of parcels, using ParcelQuest's spatial layers on parcel geometry. The most vulnerable structures are those in the parcels within hazard threat areas such as unreinforced masonry buildings, and buildings built prior to the introduction of modern-day building or land regulatory codes. Impacts of past events and vulnerability to specific hazards are further discussed below as particular to each hazard. See Section 5 of the Base Plan for more information on assets, parcel analysis methodology, and hazard profiles.

Adverse Weather

Adverse weather was rated as **Medium Significance** for the District. For the District adverse weather includes thunderstorms, heavy rain, lightning, high winds, and extreme heat. The area receives about 13 inches of precipitation annually, most of which occurs in the wintertime. In January of 2017, heavy rains caused erosion and damage to Silverado Road, Lone Pine Road, and Prancing Deer Place. This limited neighborhood access for residents, commercial vehicles, and emergency vehicles. The Ground Squirrel Hollow CSD received \$21,695 in federal and state disaster relief funding following the event to repair the impacted roads. Refer to Section 5.3.1 of the Base Plan for additional information on the risk adverse weather poses the County of San Luis Obispo.

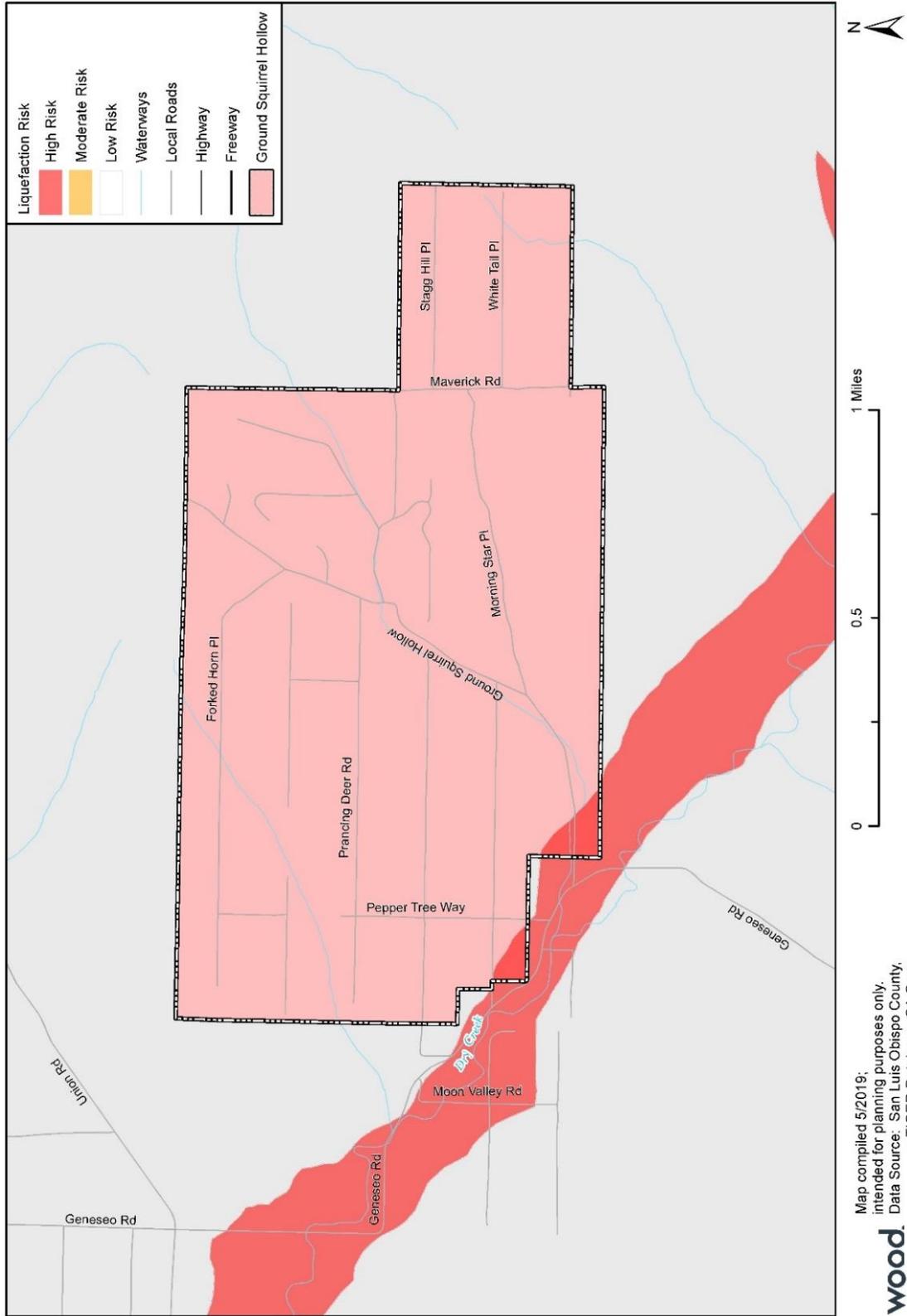
Liquefaction

Earthquake hazards, specifically liquefaction was rated as **Medium Significance** for the District. There are no mapped active or potentially active faults in the Ground Squirrel Hollow planning area. Despite this, the area is exposed to seismic hazards from movement along several regional faults. As shown in Figure I.2, the southwestern corner of the CSD's boundaries near Dry Creek is at high risk of liquefaction as a result of an earthquake event.





Figure I.2 Liquefaction Risk in Ground Squirrel Hollow Community Services District



Map compiled 5/2019;
 intended for planning purposes only.
 Data Source: San Luis Obispo County,
 as TIGER Database, CA Open
 al, BLM/California State Office, LAFCO





Residential properties are the only properties at risk of liquefaction. There are six residential properties in total within this high-risk liquefaction zone which have a total value of over \$2 million, refer to Table I.5 below.

Table I.5 Ground Squirrel Hollow CSD Liquefaction Risk by Property Type – High Risk

Property Type	Property Count	Improved Value	Content Value	Total Value
Residential	6	\$1,367,108	\$683,554	\$2,050,662
Total	6	\$1,367,108	\$683,554	\$2,050,662

Source: San Luis Obispo County Planning and Building Dept., Assessor’s Office, ParcelQuest, Wood Plc Parcel Analysis

Landslides and Debris Flows

Landslides and debris flow were rated as a **Medium Significance** for the Ground Squirrel Hollow CSD and noted by the Planning team as being highly likely to occur. As shown in Figure I.3, about one-third of the District, particularly the eastern portion, is at moderate a risk of landslide. According to the GIS analysis, 101 properties with a total value of over \$33 million are at moderate risk of landslides. Of those properties, 96 residential properties are most vulnerable to landslides events. All properties located in the moderate landslide potential zone are detailed in Table I.6.

Table I.6 Ground Squirrel Hollow CSD Parcels in Moderate Landslide Potential by Parcel Type

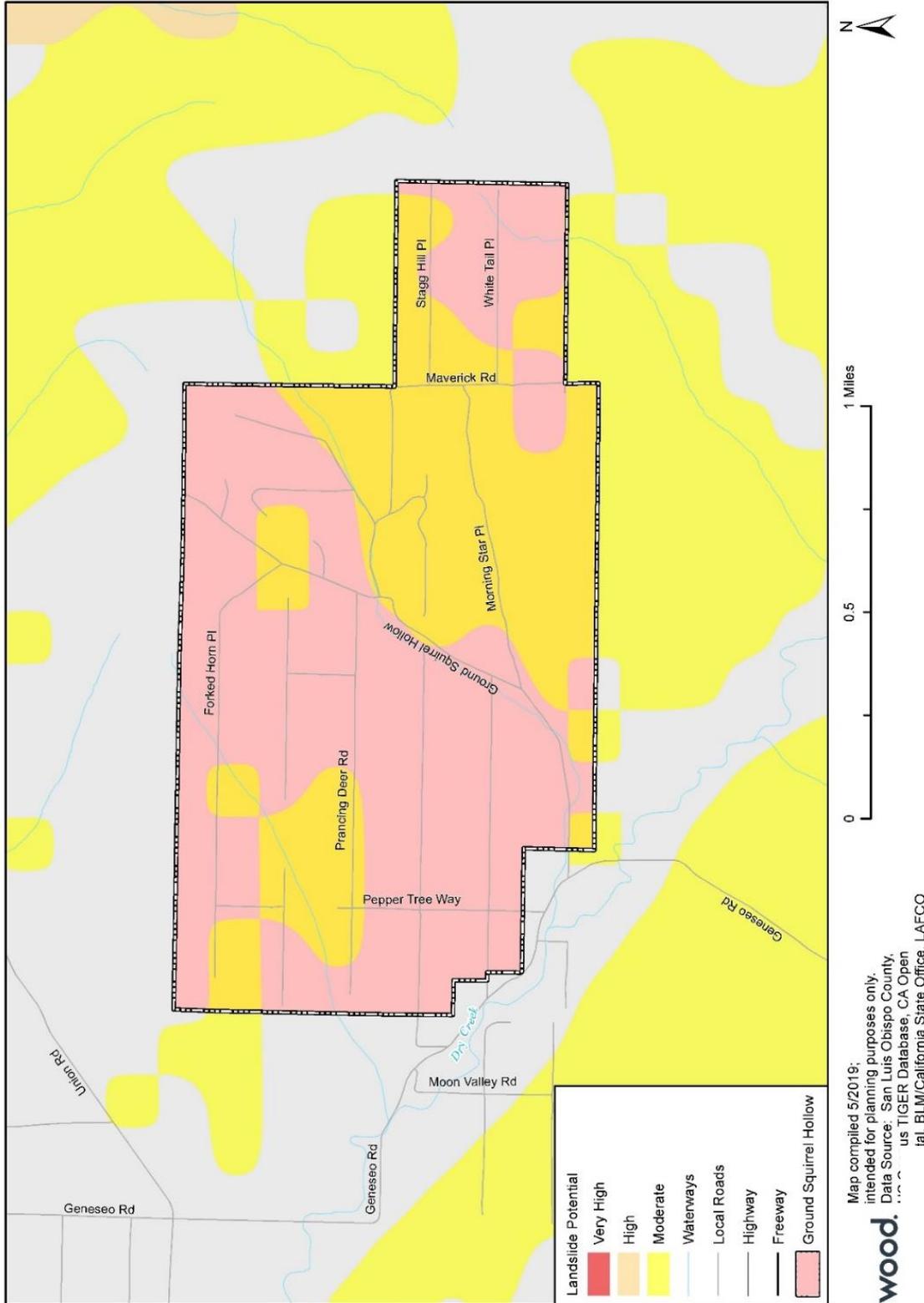
Property Type	Property Count	Improved Value	Content Value	Total Value
Government/Utilities	1	--	--	\$0
Mobile/Manufactured Homes	4	\$710,950	\$355,475	\$1,066,425
Residential	96	\$21,828,153	\$10,914,077	\$32,742,230
Total	101	\$22,539,103	\$11,269,552	\$33,808,655

Source: San Luis Obispo County Planning and Building Dept., Assessor’s Office, ParcelQuest, Wood Plc Parcel Analysis





Figure I.3 Landslide Potential Areas in Ground Squirrel Hollow Community Services District





Wildfire

The San Luis Obispo County’s 2019 Community Wildfire Protection Plan (CWPP) divides the County into multiple planning areas to facilitate localized pre-fire planning efforts. The Ground Squirrel Hollow community is within Planning Area 5. The main fuel type in this planning area is grassland and the CWPP states that there no history of large fires or extend attack. However, smaller wildfires have occurred such as the 4-acre brush fire that took place in June of 2013 near Ground Squirrel Hollow Road and White Tail Place. Four fire engines from Cal Fire responded and the fire was extinguished with no reports of property damage or injuries.

As shown in Figure I.4 and Table I.7, all of the Ground Squirrel Hollow CSD boundaries are located within a high wildfire severity zone. A total of 376 properties are vulnerable to a wildfire event; 95 percent of those properties are residential.

Table I.7 Ground Squirrel Hollow CSD Wildfire Risk by Property Type – High Severity SRA Zone

Property Type	Property Count	Improved Value	Content Value	Total Value	Loss Estimate	Population
Government/Utilities	1	--	--	\$0	\$0	--
Mobile/Manufactured Homes	16	\$2,140,722	\$1,070,361	\$3,211,083	\$3,211,083	40
Residential	358	\$84,252,270	\$42,126,135	\$126,378,405	\$126,378,406	899
Vacant	1	\$3,308	--	\$3,308	\$3,308	--
Total	376	\$86,396,300	\$43,196,496	\$129,592,796	\$129,592,796	939

Source: San Luis Obispo County Planning and Building Dept., Assessor’s Office, ParcelQuest, Wood Plc Parcel Analysis, CalFire

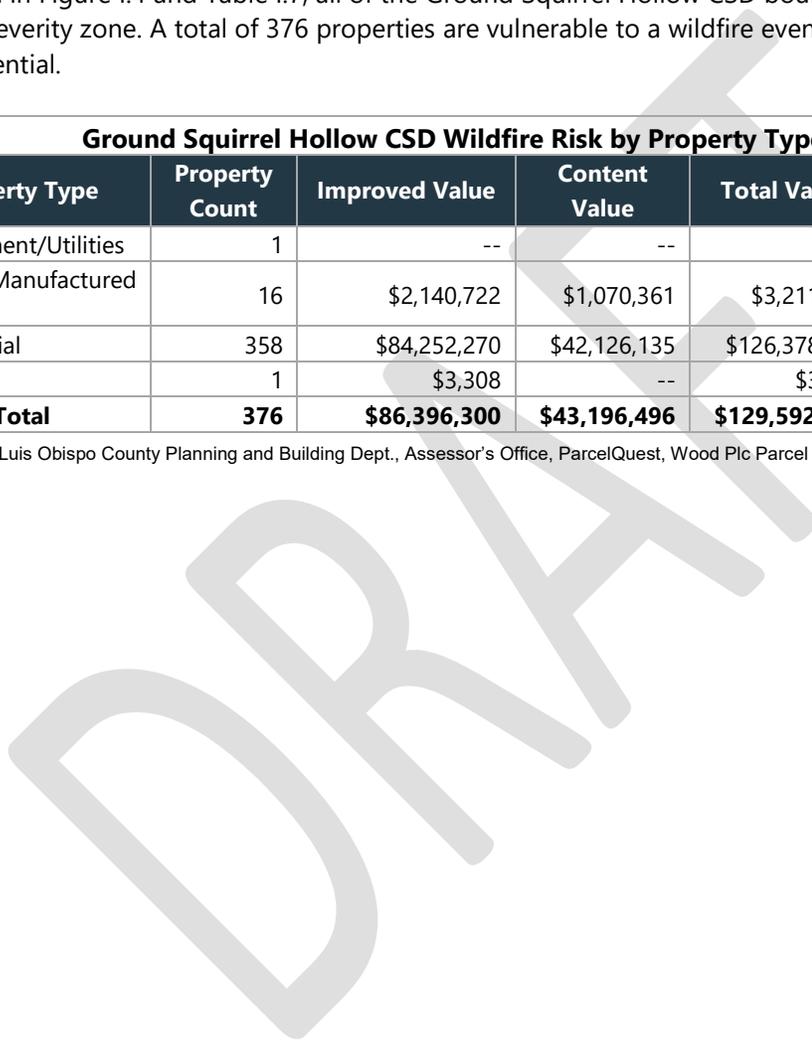
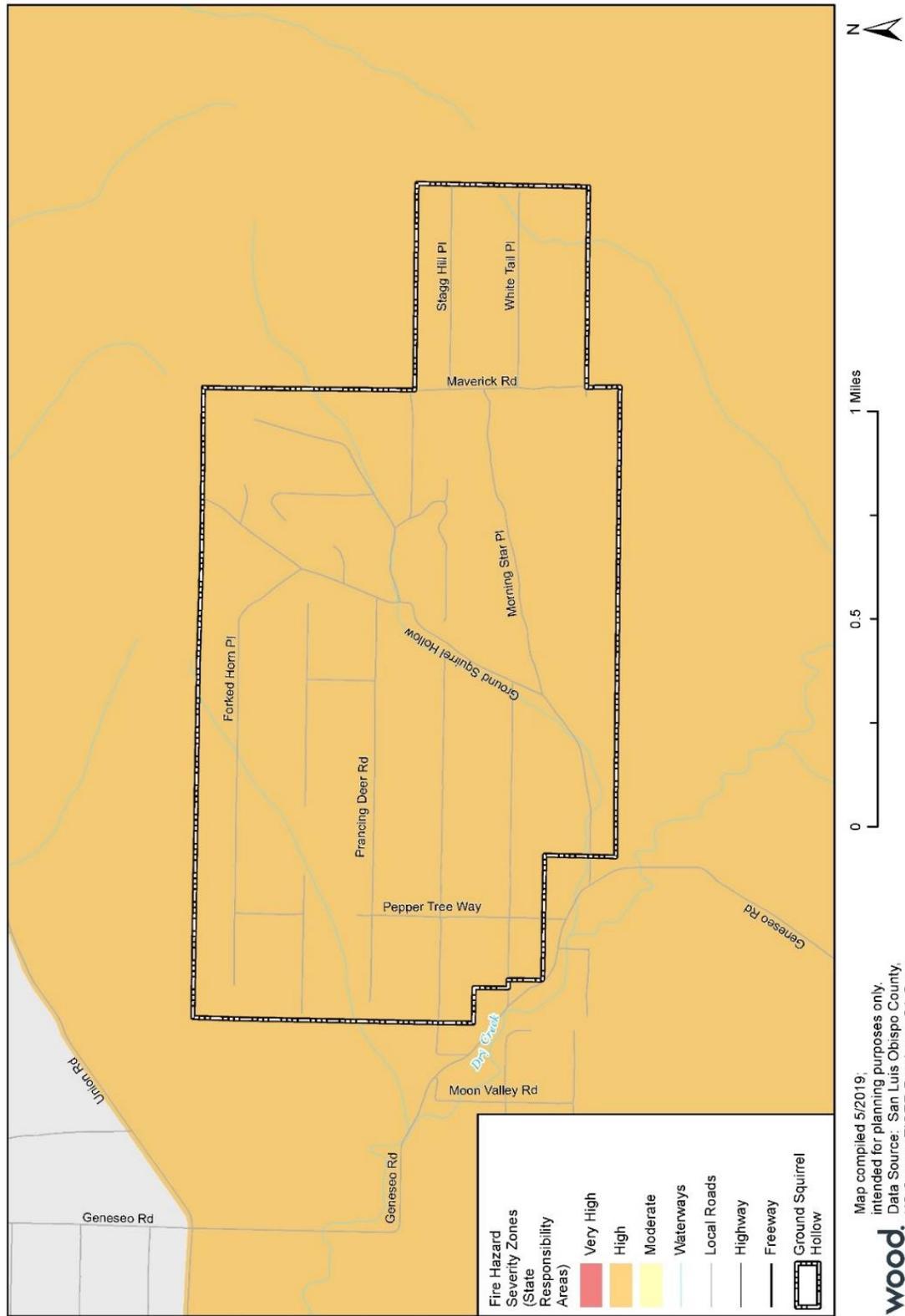




Figure I.4 Fire Hazard Severity Zones in Ground Squirrel Hollow Community Services District





I.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 Wood 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 Ground Squirrel Hollow CSD capabilities are summarized below.

I.4.1 Regulatory Mitigation Capabilities

Table I.8 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 Capability Assessment of the Base Plan for specific information related to the County’s mitigation capabilities.

Table I.8 Ground Squirrel Hollow CSD Regulatory Mitigation Capabilities

Regulatory Tool	Yes/No	Comments
General plan	Yes	County
Zoning ordinance	Yes	County
Subdivision ordinance	No	
Growth management ordinance	No	County has land use authority.
Floodplain ordinance	Yes	County
Other special purpose ordinance (stormwater, water conservation, wildfire)	No	
Building code	Yes	County
Fire department ISO rating	No	Refer to County Fire/Cal Fire.
Erosion or sediment control program	No	County may have authority for program.
Stormwater management program	No	County may have authority for program.
Site plan review requirements	Yes	County is supposed to refer development plans to us for review, but it almost never happens.
Capital improvements plan	Yes	We have a draft road system master plan, which we use as a guide for spending maintenance moneys.
Economic development plan	No	
Local emergency operations plan	Yes	County
Other special plans	Yes	Ground Squirrel Hollow Specific Plan
Flood Insurance Study or other engineering study for streams	Yes	County
Elevation certificates (for floodplain development)	Yes	County

I.4.2 Administrative/Technical Mitigation Capabilities

Table I.9 identifies the District personnel responsible for activities related to mitigation and loss prevention.





Table I.9 Ground Squirrel Hollow CSD Administrative/Technical Mitigation Capabilities

Personnel Resources	Yes/No	Department/Position
Planner/engineer with knowledge of land development/land management practices	Yes	General Manager
Engineer/professional trained in construction practices related to buildings and/or infrastructure	Yes	General Manager
Planner/engineer/scientist with an understanding of natural hazards	Yes	General Manager
Personnel skilled in GIS	No	
Full time building official	No	
Floodplain manager	No	
Emergency manager	Sort of	Board President
Grant writer	Yes	General Manager
Other personnel	No	
GIS Data Resources (Hazard areas, critical facilities, land use, building footprints, etc.)	No	
Warning systems/services (Reverse 9-11, outdoor warning signals)	Yes	Signs, barricades, cones, sand stockpile, cold-mix asphalt stockpile

I.4.3 Fiscal Mitigation Capabilities

Table I.10 identifies financial tools or resources that the CSD could potentially use to help fund mitigation activities.

Table I.10 Ground Squirrel Hollow CSD Fiscal Mitigation Capabilities

Financial Resources	Accessible/Eligible to Use (Yes/No)
Community Development Block Grants	Yes
Capital improvements project funding	Yes
Authority to levy taxes for specific purposes	Yes
Fees for water, sewer, gas, or electric services	No
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	Yes
Withhold spending in hazard prone areas	No

I.4.4 Opportunities for Enhancement

Based on the capability assessment, the Ground Squirrel Hollow Community Services District has several existing mechanisms in place that 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. 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 and 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 Ground Squirrel Hollow Community Services District will lead to more informed staff members who can better communicate this information to the public.





I.5 Mitigation Strategy

I.5.1 Mitigation Goals and Objectives

The Ground Squirrel Hollow CSD adopts the hazard mitigation goals and objectives developed by the HMPC and described in Section 7 Mitigation Strategy of the Base Plan.

I.5.2 Mitigation Actions

The Planning Team for the Ground Squirrel Hollow Community Services District identified and prioritized the following mitigation actions based on the risk assessment. 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. Actions with an '*' are those that mitigate losses to future development.

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Table I.11 Ground Squirrel Hollow Community Services District's Mitigation Action Plan

ID	Hazard(s) Mitigated	Description/Background/Benefits	Lead Agency and Partners	Cost Estimate	Potential Funding	Priority	Timeline	Status/Implementation Notes
GSH. 1	Adverse Weather, Landslides and Debris Flow, Wildfire	Improve drainage on "Mud Corner" near 5661 Ground Squirrel Hollow Road to mitigate debris flow on road.	GSHCSD, with property owner and County	\$40-50,000	GSHCSD, Grants	High	2 Years	New A chronic problem during adverse weather due to debris flow from unstable soil on private property. GSHCSD will initiate dialog with property owner.
GSH. 2	Adverse Weather, Wildfire	Chip Seal Overlays to extend the life and strengthen chip seal roads to support access from emergency vehicles needed for firefighting	GSHCSD, perhaps coop purchasing with County	\$300-400,000	Grants	Medium	5 Years	New GSHCSD does not generate sufficient funds.
GSH. 3	Adverse Weather, Landslides and Debris Flow, Wildfire	Implement road edge erosion control to mitigate undermining and failure of the road.	GSHCSD	Could be \$20,000 per year ongoing	GSHCSD, Grants	High	2 Years	New GSHCSD does some repair with available funding. Repairs are often needed after heavy weather when ruts form along the road edge. This project would reduce the need for periodic repairs.
GSH. 4	Wildfire	Implement "Replacement Financing" to build District funding capabilities for hazard mitigation and help ensure the District can maximize funding available for on-going maintenance of the road system.	GSHCSD	To be determined	US, State	Medium	5 years	New





ID	Hazard(s) Mitigated	Description/Background/Benefits	Lead Agency and Partners	Cost Estimate	Potential Funding	Priority	Timeline	Status/Implementation Notes
GSH. 5	Landslides and Debris Flow, Earthquake/Liquefaction, Wildfire	Mitigate landslide risk through improvements to the Stagg Hill Road edge cribbing.	GSHCSD	\$350,000	GSHCSD, Grants	Medium	10 Years	New There is a short section where the road edge is supported by timber cribbing with limited life remaining. Heavy vehicles and decaying wood could exacerbate the issue.
GSH. 6	Landslides and Debris Flow, Earthquake/Liquefaction, Wildfire	Build an emergency shelter with power generator and water well.	GSHCSD	\$500,000	GSHCSD, Grants	High	1-5 Years	New The District has an opportunity to purchase a parcel now for a dual purpose community shelter and meeting room; will be pursued as available funding allows.





I.6 Implementation and Maintenance

Moving forward, the Ground Squirrel Hollow Community Services 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.

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 District to help inform updates of the Ground Squirrel Hollow Community Plan and in the development of additional local plans, programs and policies. Understanding the hazards 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 Ground Squirrel Hollow Community Services District area. As noted in Section 8 Implementation and Monitoring the HMPC representatives from the Ground Squirrel Hollow 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.

Monitoring, Evaluation and Updating the Plan

The Ground Squirrel Hollow Community Services District will follow the procedures to review and update this plan in accordance with San Luis Obispo County as outlined in Section 8 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 Ground Squirrel Hollow 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.





J.1 District Profile

J.1.1 Mitigation Planning History and 2019 Process

This annex was created during the development of the 2019 San Luis Obispo County Hazard Mitigation Plan Update. The General Manager of the Heritage Ranch Community Services District (HRCSD) was the representative on the County-wide HMPC and took the lead for developing the plan and this annex in coordination with the HRCSD Planning Team. The HRCSD Planning Team will be responsible for implementation and maintenance of the plan. See Table J.1 for more information on the local Planning Team.

Table J.1 Heritage Ranch CSD Hazard Mitigation Plan Planning Team

Department or Stakeholder	Title
Heritage Ranch CSD	General Manager

More details on the planning process followed and how the jurisdictions, service districts and stakeholders participated can be found in Chapter 3 of the Base Plan (Planning Process), as well as how the public was involved during the 2019 update.

J.1.2 District Overview

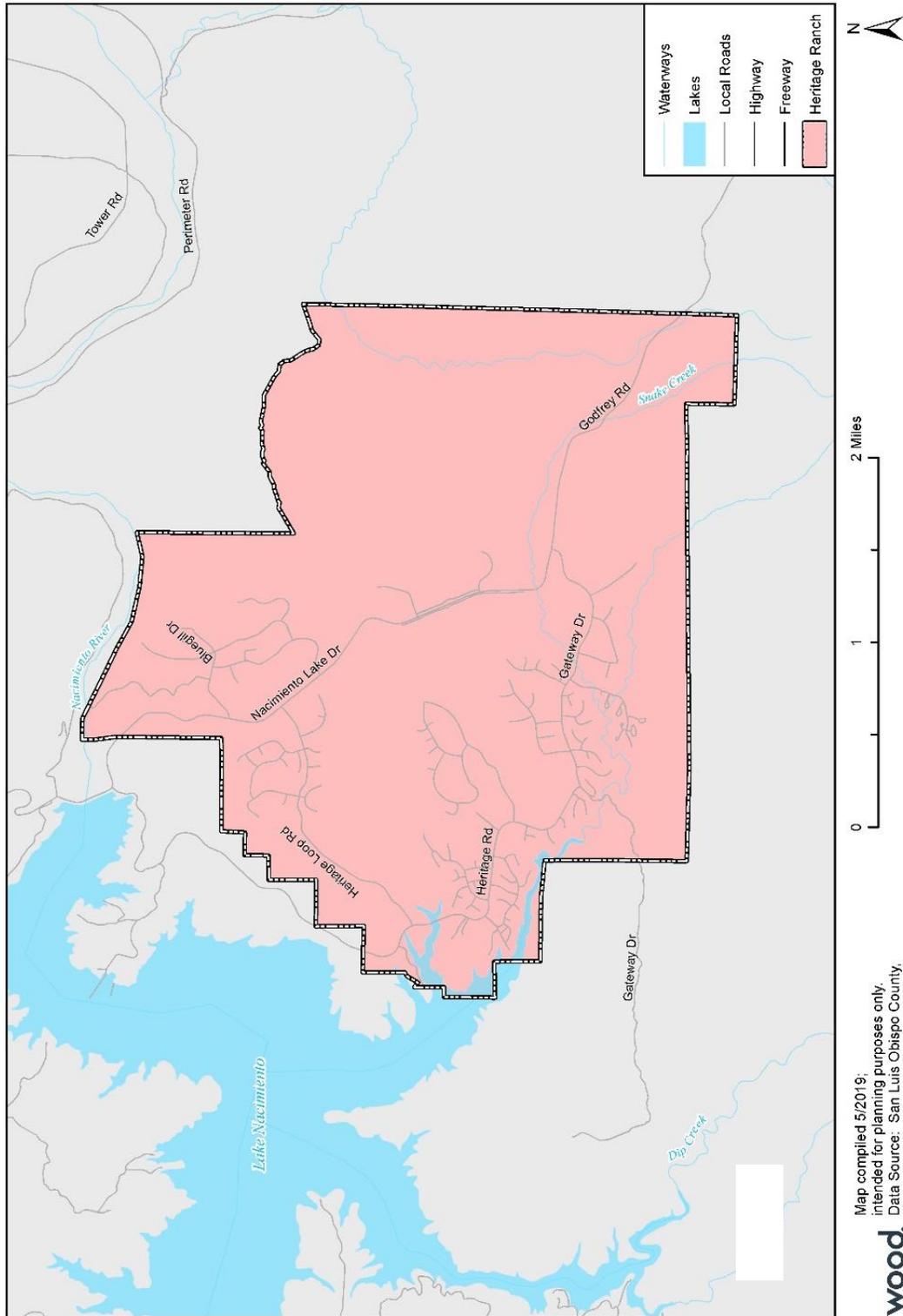
The Village of Heritage Ranch was established in 1972 as a vacation and retirement community, and the Heritage Ranch Community Services District (HRCSD) was formed in 1990 to provide local control of water and sewer services. Heritage Ranch is located in the North County planning area and is one of two village reserve areas situated around Lake Nacimiento. The HRCSD service area is bounded on the west by Lake Nacimiento, on the north by the Nacimiento River, on the east by the Camp Roberts National Guard post, and on the south by private property. Figure J.1 shows the HRCSD boundaries, represented in pink.

The Village of Heritage Ranch includes both Heritage Ranch, a home and recreation community originally planned for 6,800 dwelling units, and Lake Nacimiento Resort, a complete resort facility with 1,500 campground spaces and day use facilities. The resort is privately owned on land leased from the Monterey County Water and Flood Control District. There is also a marina and campground, dude ranch, and recreation and equestrian centers.





Figure J.1 Heritage Ranch Community Services District





J.1.3 Development Trends

Future residential development is anticipated to continue to be oriented primarily toward construction of homes, but a modest continuing increase is expected in permanent residents, primarily the retired. Infrastructure improvements are being considered to accommodate the growing population of Heritage Ranch and increased recreational use of Lake Nacimiento. Because of existing concerns about overcrowding at Lake Nacimiento, the most current San Luis Obispo County Inland Area Plan recommends focusing on limiting current recreational use of the reservoir rather than accommodating expansion.

Rural refuse container stations have been recommended in the Inland Area Plan to mitigate illegal dumping in rural areas surrounding the Village of Heritage Ranch.

J.1.4 Other Community Planning Efforts

Coordination and synchronization 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, the Village of Heritage Ranch is 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 Village of Heritage Ranch community that relate to hazards or hazard mitigation. A high-level summary of the key plans, studies and reports can be found in Table J.2 below. Information on how they informed the update are noted and incorporated where applicable.

In addition to the development standards within the Heritage Ranch Specific Plan, there are County planning mechanisms that regulate future and existing development within the Village of Heritage Ranch planning area. Refer to Section J.4 Capability Assessment as well as the Base Plan for more information on the plans, policies, regulations and staff that govern the Village of Heritage Ranch.

Table J.2 Summary of Review of Key Plans, Studies and Reports

Plan, Study, Report Name	How Document Informed the Annex
Heritage Ranch Village Plan (2014)	Pulled community background information as well as hazard details
North County Area Plan (2014)	Incorporated hazard information related to water supply
County of San Luis Obispo Local Hazard Mitigation Plan (2014)	Informed past hazard event history, hazard profile and background, and mitigation strategy information.
San Luis Obispo County 2014 Integrated Regional Water Management Plan	Obtained information on water use in the CSD, water management regions, and the drought/water scarcity hazard.
State of California’s Hazard Mitigation Plan – Updated 2018	General information on hazards, events, and vulnerability assessments.
2014-2016 Resource Summary Report for San Luis Obispo County’s General Plan	Pulled information about water resources, reliability, and ongoing efforts to increase resilience in the county and district of Heritage Ranch as related to drought.





J.2 Hazard Identification and Summary

The Heritage Ranch CSD planning team identified the hazards that affect the HRCSD and summarized their frequency of occurrence, spatial extent, potential magnitude, and significance specific to the HRCSD (see Table J.3). Note that the dam failure and dam incidents hazards will be combined in the description of this annex’s loss estimation summaries, as they are in the Base Plan’s Hazard Identification and Risk Assessment (HIRA). In addition, debris flows, and slope stability/landslide are related hazards that will be dealt with together in this annex (as they also were in the HIRA chapters of the Base Plan). Finally, hazardous trees are discussed within the adverse weather, drought, and wildfire chapters given these tree related issues are usually cascading from other natural events/hazards.

Table J.3 Heritage Ranch CSD Hazard Risk Summary

Hazard	Geographic Area	Probability of Future Occurrence	Magnitude/Severity (Extent)	Overall Significance
Adverse Weather	Extensive	Highly Likely	Critical	High
Dam Incidents	Extensive	Likely	Critical	High
Drought and Water Shortage	Extensive	Highly Likely	Critical	High
Earthquake	Extensive	Occasional	Catastrophic	High
Flooding	Extensive	Likely	Critical	High
Landslide/Debris Flow	Extensive	Likely	Negligible	High
Wildfire	Extensive	Highly Likely	Catastrophic	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 in 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		





J.3 Vulnerability Assessment

The intent of this section is to assess the HRCSD vulnerability separate from that of the planning area, which has already been assessed in Section 5 Hazard Identification and Risk Assessment (HIRA) in the Base Plan. This vulnerability assessment analyzes the population, property, and other assets at risk to hazards ranked of medium or high significance.

The information to support the HIRA portion of this Annex was collected through a Data Collection Guide, which was distributed to each participating municipality or 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/district. In addition, the Heritage Ranch CSD planning team members were asked to share information on past significant hazard events that have affected the HRCSD.

Each participating jurisdiction were in support of the main hazard summary identified in the Base Plan (See Section 5 of the Base Plan). 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 J.3). 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 Heritage Ranch CSD planning team input from the Data Collection Guide and the risk assessment results compiled during the planning process (see Section 5 of the Base Plan), which included more detailed quantitative analyses with best available data. The hazard summaries in Table J.3 reflect the hazards that could potentially affect the HRCSD. The discussion of vulnerability for each of the hazards listed is in Section J.3.2 Estimating Potential Losses.

Other Hazards

The HRCSD rated hazardous trees as a high significance hazard. In terms of this plan hazardous trees are considered a cascading hazard for adverse weather, drought and wildfire hazards. Information related to the public concerns about tree mortality in relation to wildfire risk can be found under J.3.2 Estimating Potential Losses and in Section 5 of the Base Plan.

Additionally, the HRCSD Planning Committee members decided to rate several hazards as Not Applicable (N/A) to the planning area due to a lack of exposure, vulnerability, and no probability of occurrence. The following hazards are considered Not Applicable (N/A) to the Heritage Ranch Community Services District.

- Agricultural Pest Infestation and Disease
- Biological Agents (naturally occurring)
- Coastal Storm/Coastal Erosion/Sea Level Rise
- Subsidence
- Tsunami and Seiche
- Hazardous Materials

J.3.1 Assets at Risk

This section considers assets at risk within the District and Village of Heritage Ranch, including values at risk, critical facilities and infrastructure, historic assets, economic assets, and growth and development trends. See Section 5.2 of the Base Plan for more details and background on the parcel summarization, analysis, and datasets available.





Values at Risk

The following data on property exposure is derived from San Luis Obispo County Assessor data. This data should only be used as a guideline to overall values in the Community Services District as the information has some limitations. Table J.4 summarizes the exposure of properties (e.g., the values at risk based on improvement values, content values, and total values as an addition of these two types of values) broken down by property type for the Heritage Ranch Community Services District.

Table J.4 Property Exposure for Heritage Ranch by Property Types

Property Type	Property Count	Improved Value	Content Value	Total Value
Commercial	1	\$6,498,416	\$6,498,416	\$12,996,832
Government/Utilities	9	--	--	--
Other/Exempt/Miscellaneous	313	\$2,060,342	--	\$2,060,342
Residential	937	\$223,625,509	\$111,812,755	\$335,438,264
Multi-Family Residential	78	\$10,113,042	\$5,056,521	\$15,169,563
Mobile/Manufactured Homes	676	\$62,511,623	\$31,255,812	\$93,767,435
Vacant	10	\$1,767,486	--	\$1,767,486
Total	2,024	\$306,576,418	\$154,623,503	\$461,199,921

Source: Wood Plc summaries based on ParcelQuest and San Luis Obispo County Assessor's Office data, 2019

Critical Facilities and Infrastructure

A critical facility is defined as one that is essential in providing utility or direction either during the response to an emergency or during the recovery operation. See Section 5 of the Base Plan for more details on the definitions and categories of critical facilities.

An inventory of critical facilities in the Heritage Ranch Community Services District based on San Luis Obispo County GIS data as well as structures obtained from the Homeland Infrastructure Foundation-Level Dataset (HIFLD) is provided in in Table J.5 and illustrated in





Figure J.2 . The four types of Critical Facilities categorized by San Luis Obispo County and its jurisdictions' and districts' planning teams are: Emergency Services, High Potential Loss Facilities, Lifeline Utility Systems, and Transportation Systems. Note that Heritage Ranch has only identified critical facilities falling under the one category listed below. Refer to Section 5.2 of the Base Plan for more information on the Assets used throughout this annex and the county-wide analyses.

Table J.5 Heritage Ranch Critical Facilities

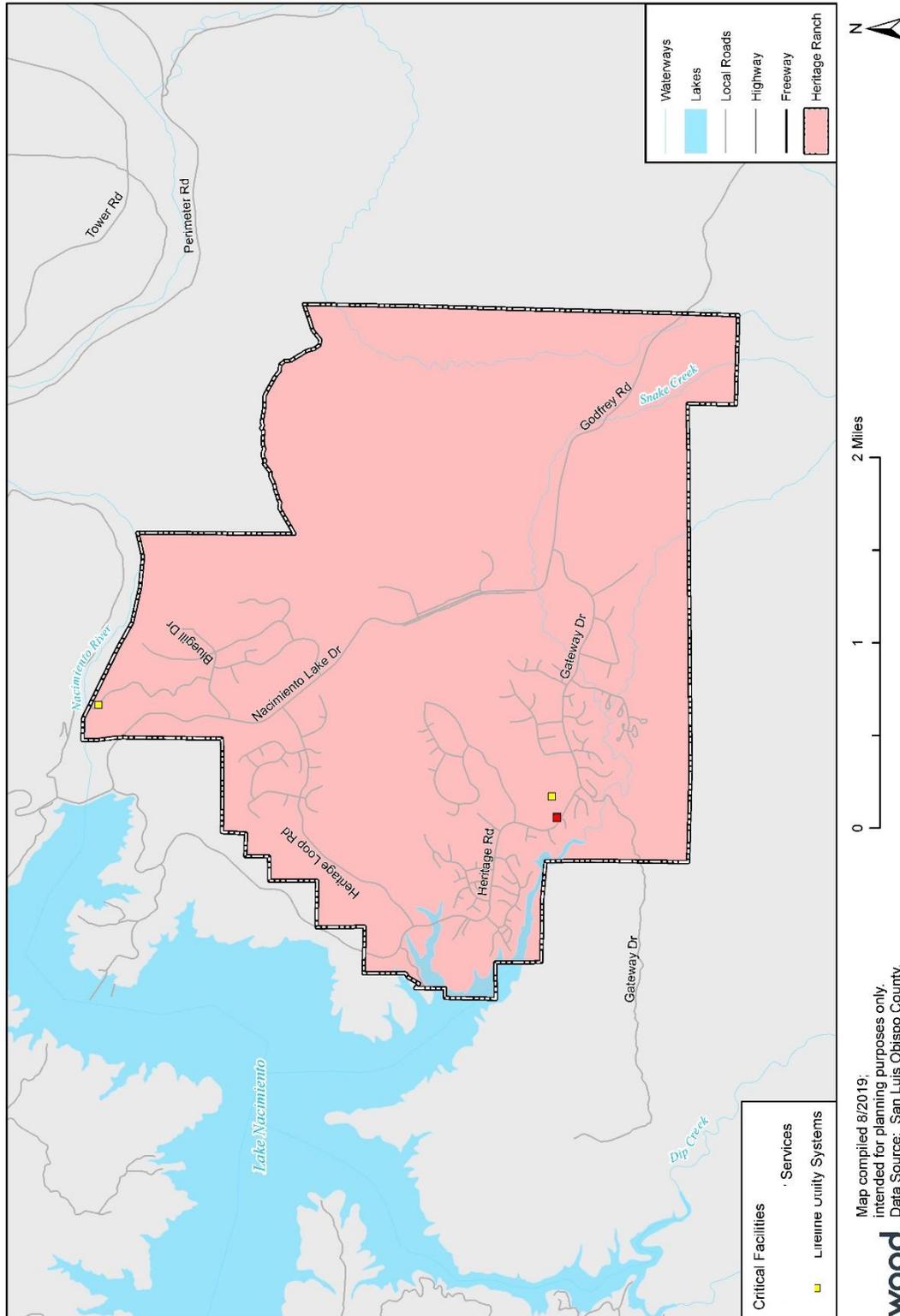
Facility Category	Facility Type	Name	Counts
Emergency Services	Emergency Medical Service Stations	California Department of Forestry and Fire Protection Station 33 - Heritage Ranch Fire Station	1
	Fire Stations		1
Lifeline Utility Systems	Water Treatment Facilities	Heritage Ranch CSD Water Treatment Plant	1
	Wastewater Treatment Plants	Heritage Ranch CSD Wastewater Treatment Plant, Operations Yard, and Administrative Building	1
Total			4

Source: San Luis Obispo County Planning & Building, Heritage Ranch CSD, HIFLD





Figure J.2 Heritage Ranch Critical Facilities





Additional Critical Facilities

Additional critical facilities as identified by the Heritage Ranch CSD Planning Team are as follows:

- Water Treatment and Distribution System - \$18.1 million replacement value
- Wastewater Collection and Treatment System - \$11.8 million replacement value
- Administration Building - \$675,000 replacement value

Emergency Service Facilities

The CSD contains 2 Emergency Services facilities aimed at providing for the health and welfare of the entire community. It is technically one fire station that serves the two purposes of providing fire protection and firefighting capabilities as well as emergency medical services, as stated in Table J.5.

Transportation Systems, High Potential Loss Facilities, and Lifeline Facilities

No critical transportation systems were specifically identified in the District, nor were high potential loss facilities. However, two lifeline facilities were noted, one of which is the Heritage Ranch CSD Water Treatment Plant and the other a combination facility containing the Heritage Ranch CSD Wastewater Treatment Plant, the Operations Yard, and the Administrative Building. In addition, it is worth noting that the Village of Heritage Ranch is only accessible via Lake Nacimiento Drive, which links to Highway 101 (a notable transportation route) at two locations. If development occurs to the levels projected for the Village of Heritage Ranch and nearby communities, traffic levels could far exceed the roadway capacity. Upgrades to Lake Nacimiento Drive have been proposed, as has a new collector road that would encircle Lake Nacimiento, passing through the Village of Heritage Ranch and nearby communities.

The only source of potable water for HRCSD is the Nacimiento Reservoir that is dammed by the Nacimiento Dam, which hence impounds Lake Nacimiento. The Monterey County Water Resources Agency (MCWRA) operates the dam (also worth noting as an important facility for the District) for flood protection and water distribution. The HRCSD water treatment facility is located about ¼ mile downstream of the dam and receives water via three shallow infiltration gallery wells several feet under the bed of the Nacimiento River. Native material and engineered bedding above and around the gallery wells provide some natural turbidity reduction, which is further reduced by a plate settler before water is processed through sand filters.

Historic and Cultural Resources

Historical assets include local, county, state, and potentially federally listed historic sites. Based on data provided by the County of San Luis Obispo and LAFCO, it was found that there are no historic and cultural resources in or near the Heritage Ranch CSD.

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 Heritage Ranch Village Plan (2014) designated the following combining designations that apply to the protection of special resources in the Heritage Ranch community:

- Nacimiento River and Canyon; Dip, Franklin, Las Tablas, Snake and Town Creeks; and Lake Nacimiento – These water courses are identified as susceptible to potential flood hazards. Future development proposals must incorporate mitigation measures. All are natural drainage courses which should be maintained in their





natural state with native vegetation and habitats retained. At Lake Nacimiento, the 800-foot elevation constitutes the lake's high-water level and no habitable structures are permitted below the 825-foot elevation.

- The Santa Lucia Range and Foothill Areas – Portions of this Geologic Study Area (GSA) are exposed to moderately high and high landslide risk potential.
- Lake Nacimiento Drive Interlake Road – The portion of this route from Chimney Rock Road northwest to the Monterey County line is an adopted State scenic highway route. All development in this corridor must be sited to minimize visual impacts as this interlake road was classified as a Sensitive Resource Area.

Economic Assets

According to the Inland Area Plan, prior to the creation of Lake Nacimiento, the population of the sub-area was widely dispersed with most residing and employed on farms and ranches. Despite the rugged terrain of most of the area and the concentration of recreational activities at the lake, the economy of the region surrounding Lake Nacimiento remains agriculture based. Grazing is the primary agricultural pursuit, though some dry farming occurs in limited areas. Commercial activities around the lake are mostly visitor-serving and oriented toward peak use periods.

J.3.2 Estimating Potential Losses

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

Table J.4 under Section J.3.1 summarizes the Village of Heritage Ranch's exposure in terms of number and value of parcels falling within the District's boundaries. San Luis Obispo County's parcel and assessor data was used to calculate the improved value of parcels, using ParcelQuest's spatial layers on parcel geometry. The most vulnerable structures are those in the parcels within hazard threat areas, unreinforced masonry buildings, and buildings built prior to the introduction of modern-day building or land regulatory codes. Impacts of past events and vulnerability to specific hazards are further discussed below as particular to each hazard. See Section 5 of the Base Plan for more information on assets, parcel analysis methodology, and hazard profiles.

Adverse Weather

Adverse weather for the Village of Heritage Ranch includes thunderstorms, heavy rain, hail, lightning, dense fog, freeze, high winds, tornadoes, and extreme heat depending on the time of year. This hazard has been identified as posing **High Significance** for HRCSD. Common problems associated with severe storms include the loss of utilities or immobility. Loss of life is uncommon but can occur during severe storms depending on secondary effects or impacts. Immobility can occur when roads become impassable due to dense fog, heavy rains causing flooding, and downed trees (often referred to as hazardous trees due to the threat they pose).

Being in the northern portion of the county, the Village of Heritage Ranch experiences heavier rainfall compared to the southern portion of the county. Climate change is expected to further increase rainfall in winter months, while decreasing rainfall in spring months. A changing climate will also likely lead to more extreme temperatures, particularly hotter weather in the warmer months. Heavy rain may lead to more debris flows and landslides, as well as erosion and flash or localized flooding, especially over areas that have been impacted by wildfire or other hazards affecting the local landscape. See the Landslide section below for more on this related hazard. Increased seasonal variability in precipitation will likely have an impact on releases from the Nacimiento Dam as well. The potential for downed trees is also a significant concern of the community. Section 5 of the Base Plan contains additional information on past adverse weather events in San Luis Obispo County and the Village of Heritage Ranch/Nacimiento Area.





Dam Incidents

Dam incidents are classified as **Highly Significant** for the HRCSD. See Figure J.3 for areas at risk of inundation from the Nacimiento Dam if it were to fail. The Nacimiento Dam is managed by Monterey County. Though total failure is unlikely, several damaging release incidents have occurred. In 1969, 2006, 2011, and 2017, heavy rain caused Lake Nacimiento to fill to capacity, prompting Monterey County Water Resources Agency (MCWRA) to lower the spillway, dramatically increasing flows downstream. The 1969 release damaged downstream property and would have destroyed the HRCSD water treatment facility had it existed at the time.

The 2011 release of the Nacimiento Dam increased flows downstream from 400 to 8,100 cubic feet per second (cfs) in less than three hours with sustained flow over 6,000 cfs. This destroyed the HRCSD gallery well system, requiring emergency repairs to be made at a cost of approximately \$375,000. The new gallery wells were lowered three feet, but the system was still incapable of handling flows over 5,000 cfs and was damaged again by releases in 2017. Flows over 5,000 cfs are highly likely to occur in the future according to MCWRA. If the gallery well system cannot be maintained, the water treatment facility will need to be converted to a conventional water treatment plant or receive water through a different intake method. Photos of the Nacimiento Dam uncontrolled releases, spills, and failures are included in Figure J.4 below.

To alleviate the issues that have occurred in the past with the dam, and because the Nacimiento Reservoir (with water controlled by the Nacimiento Dam) is the only source of potable water for the HRCSD, a few goals were set by the Planning Team related to dam failure and dam incident:

- Continue actively engaging with the MCWRA to operate the Nacimiento Dam in a manner more conducive to preventing dam related hazards
- Construction of a vertical well or wells to provide mitigation for both low and high flows related to this and drought hazards.





Figure J.3 Dam Inundation Extents in the Heritage Ranch CSD

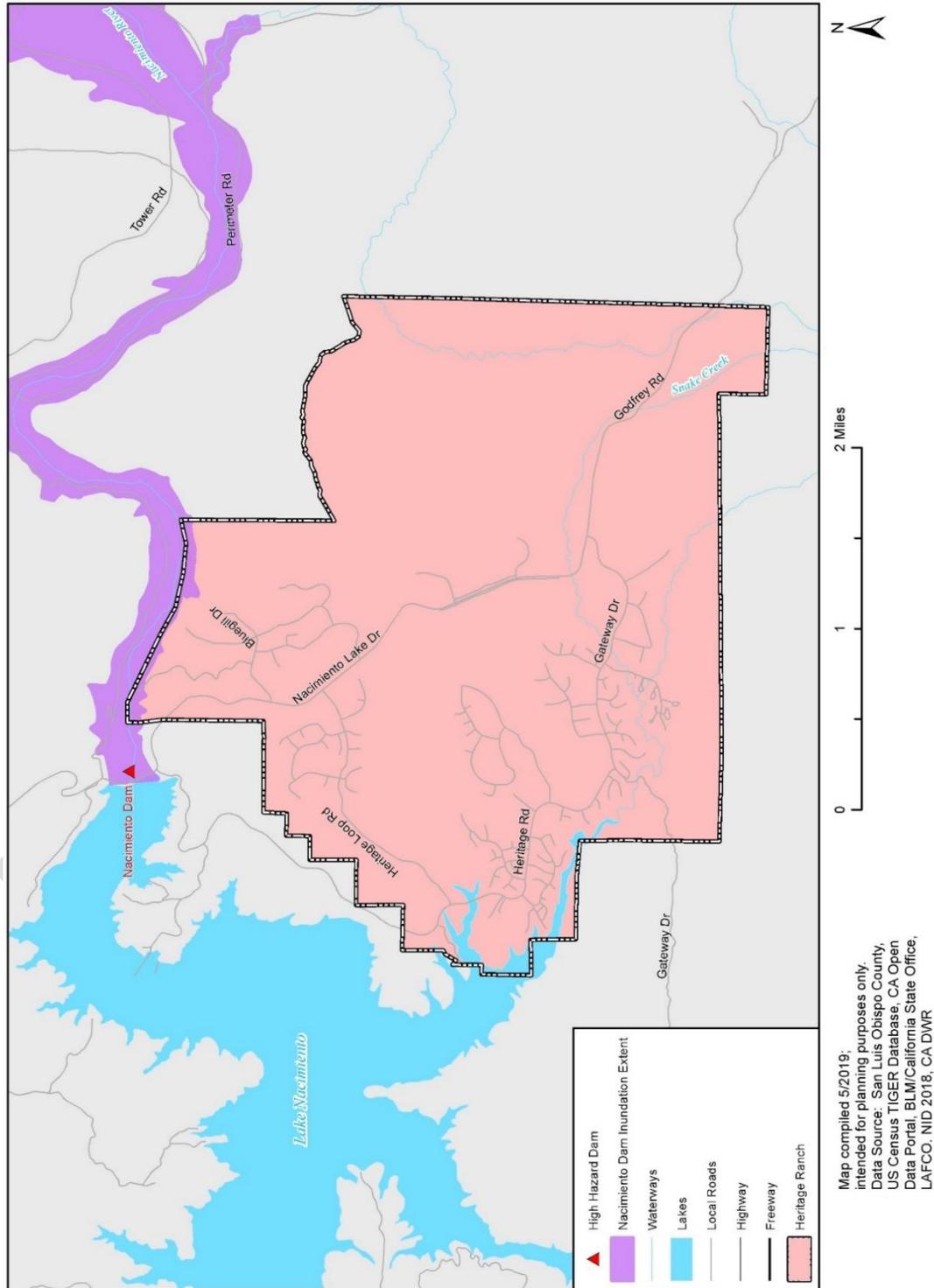


Figure J.4 Nacimiento Dam Incidents throughout the Years



Source: Heritage Ranch CSD Planning Team, 2019





Structures and Population at Risk

A dam inundation vulnerability assessment was completed during the update of the county hazard mitigation plan, following the methodology described in Section 5 of the Base Plan. Dam inundation extents were overlaid with parcels falling within the HRCSD boundary with use of GIS, and the results of the analysis indicate that only one parcel is found to overlap with the dam inundation extent layer from the Nacimiento Dam, and no population is at risk from this parcel (as no people are likely to reside in a government/utilities property).

Table J.6 Heritage Ranch CSD’s Parcels within the Nacimiento Dam Inundation Extents

Parcel Type	Parcel Count	Improved Value	Content Value	Total Value	Loss Estimate	Population at Risk
Government/Utilities	1	--	--	\$0	\$0	--
Total	1	\$0	\$0	\$0	\$0	--

Source: San Luis Obispo County Planning and Building Dept., Assessor’s Office, ParcelQuest, Wood Plc Parcel Analysis, CA DWR, NID 2018

Critical Facilities at Risk

Based on the GIS analysis performed there is 1 critical facility located in the dam inundation areas affecting the Heritage Ranch CSD (from the Nacimiento Dam). This is the Heritage Ranch CSD Water Treatment Plant, located on the northwest corner of the CSD’s boundary, at 10200 Nacimiento Lake Drive.

Drought and Water Shortage

San Luis Obispo County has an annual entitlement to 17,500 acre-feet of water from Lake Nacimiento, of which HRCSD is currently under contract with San Luis Obispo County for 889 acre-feet. Overall, San Luis Obispo County has set aside a maximum allotment of 1,100 acre-feet for the area encompassed by HRCSD. The 2014 Village Plan recommended that a moratorium on further development be enacted if total water use in the Village of Heritage Ranch reaches this limit.

HRCSD has experienced severe drought for the past few years except. Drought conditions have increased water treatment costs due to many things including but not limited to rapid changes in water levels in Lake Nacimiento. Since the dam was constructed, the water elevation in the reservoir has never reached “dead pool” conditions in which the water elevation is below the elevation of the outlet works, so that no water flows downstream. However, multi-year drought periods have lowered the water elevation close to this point. In 2016 HRCSD constructed an emergency intertie with the Nacimiento Water Project to allow for water intake in dead pool conditions or other times when water cannot be released through the dam outlet works. A recycled water study was also completed in 2017 to evaluate water and wastewater treatment and determine the feasibility of recycled water usage. HRCSD also imposes water restrictions in times of drought. Because of the rapid rate at which Nacimiento Reservoir’s water elevations are changing, increased costs have also been seen for water treatment.

This drought hazard, along with adverse weather conditions, was deemed a likely contributing factor to the very destructive 2016 Chimney Fire, which is described in the Wildfire chapter of this annex. As a related drought impact, tree mortality has resulted in potentially vulnerable critical infrastructure property as these vulnerable trees become more susceptible to falling with time and could affect properties in the planning area. Drought and water shortage hazards have been identified as posing **High Significance** for the Heritage Ranch CSD.

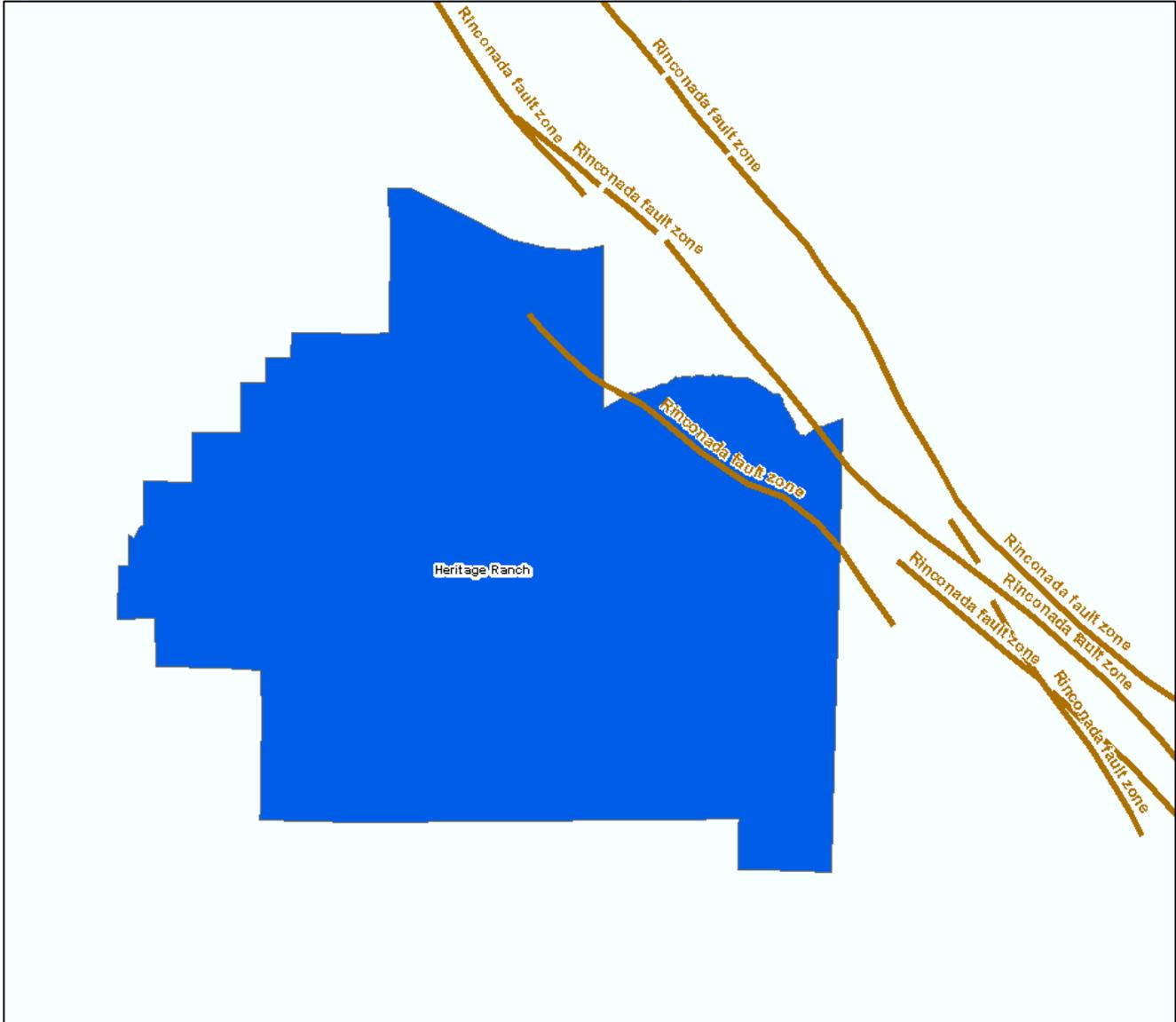




Earthquake

The nearest fault zone to Heritage Ranch is the Rinconada fault zone (see the snapshot in Figure J.5). This regional fault zone is considered to be potentially active and has moderate ground shaking potential. The structure most vulnerable to an earthquake in Heritage Ranch is the Nacimiento Dam which is about three miles from the fault.

Figure J.5 Earthquake Fault Zones in and near the Heritage Ranch CSD



Source: USGS, San Luis Obispo County Planning & Building, LAFCO, Wood Plc analysis

Failure of the dam due to future seismic activity could inundate a small portion of the community and perhaps heavily damage or even destroy the HRCSD water intake system and water treatment plant, eliminating the HRCSD ability to provide safe drinking water to its residents. In addition, seiches could be an issue nearby





because of the Lake, which could cause flooding of the community and nearby structures, properties, and facilities. No moderate, high, or very high liquefaction risk has been identified to be present inside the District. However, high liquefaction risk zones are present to the north of the community, following the Nacimiento River’s path. The two critical facilities listed in Section J.3.1 of this annex are found in low liquefaction risk areas.

For more information on Earthquakes and Liquefaction, refer to Section 5.3.7 of the Base Plan. For information on Tsunami and Seiche hazards, see Section 5.3.11. Overall, the earthquake hazard has been identified as posing **High Significance** for the Heritage Ranch CSD.

Flooding

Lake Nacimiento, the Nacimiento River, and its associated tributaries have been identified as posing flood hazards. The 2011 dam incident caused significant flooding of the Nacimiento River below the dam. Three to four feet of riverbed material was removed in this incident, blocking some channels and scouring others. This “re-carving” of the channel will likely impact the way future flows are routed through the river. Overall, flood hazards have been identified as posing **High Significance** for the Heritage Ranch CSD.

Heritage Ranch does not participate separately in the National Flood Insurance Program (NFIP) but will continue to support the County’s participation in and compliance with the NFIP.

Structures and Population at Risk

A flood vulnerability assessment was completed during the update of the county hazard mitigation plan, following the methodology described in Section 5 of the Base Plan. Table J.7 below summarizes the values at risk in the Village of Heritage Ranch 100-year floodplain (which corresponds to 1% chance of flooding in a 100-year period). Based on this analysis, the Village of Heritage Ranch has only one parcel at risk of flooding in a 100-year event.

Table J.7 Village of Heritage Ranch FEMA 1% Annual Chance Flood Hazard by Property Type

Property Type	Parcel Count	Improved Value	Content Value	Total Value	Loss Estimate	Population at Risk
Other/Exempt/Miscellaneous	1	--	--	\$0	\$0	--
Total	1	\$0	\$0	\$0	\$0	--

Source: San Luis Obispo County Planning and Building Dept., Assessor’s Office, ParcelQuest, Wood Plc Parcel Analysis, FEMA NFHL

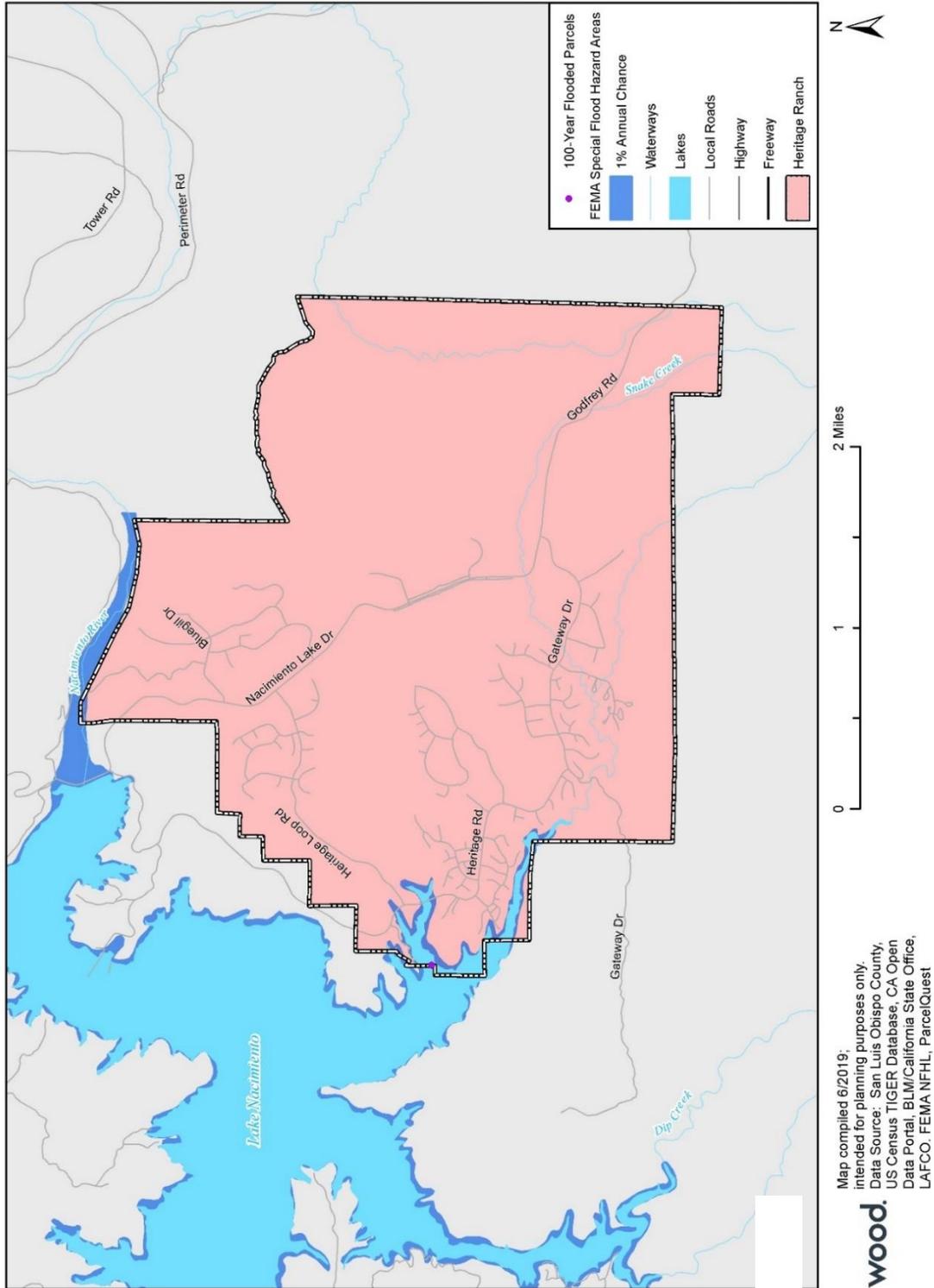
Limitations to the analysis performed and results shown: This model may include structures in the floodplains that are elevated at or above the level of the base-flood elevation, which will likely mitigate flood damage.

Figure J.6 displays the parcel flooded by the 100-year event, located on the west side of the district, shown as a purple dot. No population is at risk of flooding from this parcel (as no people are likely to reside in an exempt or miscellaneous property). The Heritage Ranch planning team also noted that the CSD’s intake facilities and water treatment facility properties are located approximately where the red square is on Figure J.6, towards the northwest of the CSD boundary. No 500-year floodplains have been identified.





Figure J.6 Flooded Parcel in the Village of Heritage Ranch, in the 100-Year Floodplain





Critical Facilities at Risk

Based on the GIS analysis performed there are no critical facilities located in the 100-year or 500-year flood hazard areas, though the Heritage Ranch CSD’s Water Treatment Facility is located in the dam inundation extent of the Nacimiento Dam (see the Dam Incidents section of this document for additional details).

Landslides and Debris Flow

Landslide potential and debris flow hazards have been ranked by the Planning Team as posing **High Significance** to the Heritage Ranch CSD.

Heavy rain in the year following the Chimney Fire of 2016 led to a significant debris flow into Lake Nacimiento/Nacimiento Reservoir. This degraded the quality of water entering the HRCSD water treatment facilities, thus increasing treatment costs which is of high importance as the Nacimiento Reservoir water is the only source of potable water for the community. Such debris flows can also add stress to the dam and require costly removal of sediment and debris. A similar debris flow is highly likely to occur in the future, as is a landslide. Tables J.8, J.9, and J.10 summarize the parcel values in zones of moderate, high, and extremely high landslide potential, respectively. Most properties exist in areas of moderate landslide potential. A total of 678 parcels are hence at risk of landslide hazards, with a total estimated value of over \$168 million at risk. Figure J.7 displays the landslide potential areas present in and near the Village of Heritage Ranch.

Structures at Risk

A vulnerability assessment was completed during the update of the county hazard mitigation plan, following the methodology described in Section 5 of the Base Plan. Landslide potential was determined for the Village of Heritage Ranch by overlaying the county’s parcel layers with the landslide potential zones, all in GIS.

Critical Facilities at Risk

Based on the GIS analysis performed there is 1 critical facility located in the Moderate landslide potential area: the Heritage Ranch CSD Water Treatment Plant on the northwest of the CSD, at 10200 Nacimiento Lake Dr.

Table J.8 The Village of Heritage Ranch Parcels in Moderate Landslide Potential by Parcel Type

Property Type	Property Count	Improved Value	Content Value	Total Value
Government/Utilities	3	--	--	\$0
Other/Exempt/Misc.	129	\$1,002,358	--	\$1,002,358
Residential	215	\$69,560,773	\$34,780,387	\$104,341,160
Multi-Family Residential	40	\$4,157,490	\$2,078,745	\$6,236,235
Mobile/Manufactured Homes	224	\$21,299,268	\$10,649,634	\$31,948,902
Vacant	3	\$635,903	--	\$635,903
Total	614	\$96,655,792	\$47,508,766	\$144,164,558

Source: San Luis Obispo County Planning and Building Dept., Assessor’s Office, ParcelQuest, Wood Plc Parcel Analysis





Figure J.7 Landslide Potential Hazard Areas in the Village of Heritage Ranch

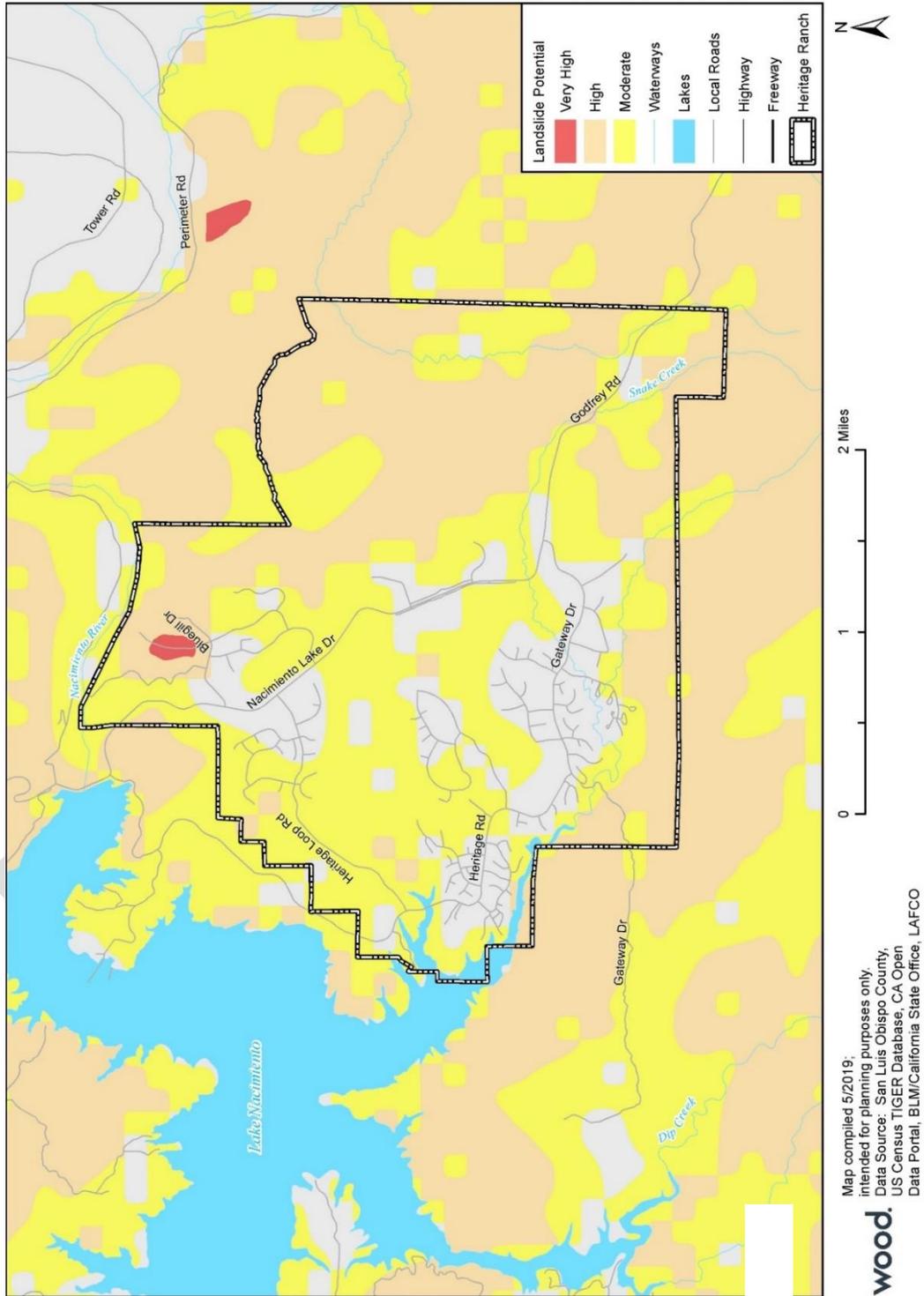




Table J.9 The Village of Heritage Ranch Parcels in High Landslide Potential by Parcel Type

Property Type	Property Count	Improved Value	Content Value	Total Value
Government/Utilities	2	--	--	\$0
Other/Exempt/Misc.	10	--	--	\$0
Residential	25	\$10,199,896	\$5,099,948	\$15,299,844
Mobile/Manufactured Homes	10	\$826,489	\$413,245	\$1,239,734
Total	47	\$11,026,385	\$5,513,193	\$16,539,578

Source: San Luis Obispo County Planning and Building Dept., Assessor's Office, ParcelQuest, Wood Plc Parcel Analysis

Table J.10 The Village of Heritage Ranch Parcels in Very High Landslide Risk by Parcels Type

Property Type	Property Count	Improved Value	Content Value	Total Value
Other/Exempt/Misc.	3	--	--	\$0
Residential	14	\$5,012,952	\$2,506,476	\$7,519,428
Total	17	\$5,012,952	\$2,506,476	\$7,519,428

Source: San Luis Obispo County Planning and Building Dept., Assessor's Office, ParcelQuest, Wood Plc Parcel Analysis

Wildfire

According to the Heritage Ranch Village Plan from 2014, because of the dry summer climate coupled with highly flammable vegetation (including hazardous trees that were flammable or downed and hence dangerous) as well as rugged terrain, fire hazard in Heritage Ranch is high, and fire control is difficult. The Chimney Fire in 2016 injured one person, destroyed 49 residences and 21 other structures, and damaged 8 structures. Drought contributed to this fire which was caused by the ignition of dry grass adjacent to a dirt road. Increased recreation uses will likely intensify the fire hazard in developed areas as well as along the miles of Lake Nacimiento's shoreline accessible by boat. Wildfire hazards have been ranked by the Planning Team as posing **High Significance**. Figure J.8 depicts the fire hazard severity zones under which the Heritage Ranch CSD falls.

Structures and Population at Risk

A wildfire vulnerability assessment was completed during the update of the county hazard mitigation plan, following the methodology described in Section 5 of the Base Plan. Risk of wildfire was determined for the Heritage Ranch CSD by overlaying the parcel layers with the fire hazard severity zones within the California State Responsibility Areas (SRAs), all in GIS. Table J.11 and Table J.12 summarize the parcel values found within moderate and very high fire hazard severity zones, respectively, as no parcels fall within the high wildfire hazard severity zones in the district. Most properties in the Village of Heritage Ranch are located in a zone of very high fire hazard severity. While no people are expected to be at risk of the moderate severity SRA zones (based on the likelihood that no people reside in exempt or miscellaneous properties), a total of 4,244 people are at risk of being affected by fires, as they are located in very high fire hazard severity zones.





Table J.11 The Village of Heritage Ranch Wildfire Risk by Property Type – Moderate Severity SRA Zone

Property Type	Property Count	Improved Value	Content Value	Total Value	Loss Estimate	Population
Other/Exempt/Miscellaneous	1	--	--	\$0	\$0	--
Total	1	\$0	\$0	\$0	\$0	--

Source: San Luis Obispo County Planning and Building Dept., Assessor's Office, ParcelQuest, Wood Plc Parcel Analysis, CalFire

Table J.12 The Village of Heritage Ranch Wildfire Risk by Property Type – Very High Severity SRA Zone

Property Type	Property Count	Improved Value	Content Value	Total Value	Loss Estimate	Population
Commercial	1	\$6,498,416	\$6,498,416	\$12,996,832	\$12,996,832	--
Government/Utilities	9	--	--	\$0	\$0	--
Other/Exempt/Miscellaneous	312	\$2,060,342	--	\$2,060,342	\$2,060,342	--
Residential	937	\$223,625,509	\$111,812,755	\$335,438,264	\$335,438,264	2,352
Multi-Family Residential	78	\$10,113,042	\$5,056,521	\$15,169,563	\$15,169,563	196
Mobile/Manufactured Homes	676	\$62,511,623	\$31,255,812	\$93,767,435	\$93,767,435	1,697
Vacant	10	\$1,767,486	--	\$1,767,486	\$1,767,486	--
Total	2,023	\$306,576,418	\$154,623,503	\$461,199,921	\$461,199,921	4,244

Source: San Luis Obispo County Planning and Building Dept., Assessor's Office, ParcelQuest, Wood Plc Parcel Analysis, CalFire

Critical Facilities at Risk

Four critical facilities are located in very high fire hazard severity zones, as indicated in Table J.13.

Table J.13 The Village of Heritage Ranch Critical Facilities in Very High Wildfire Hazard Zone

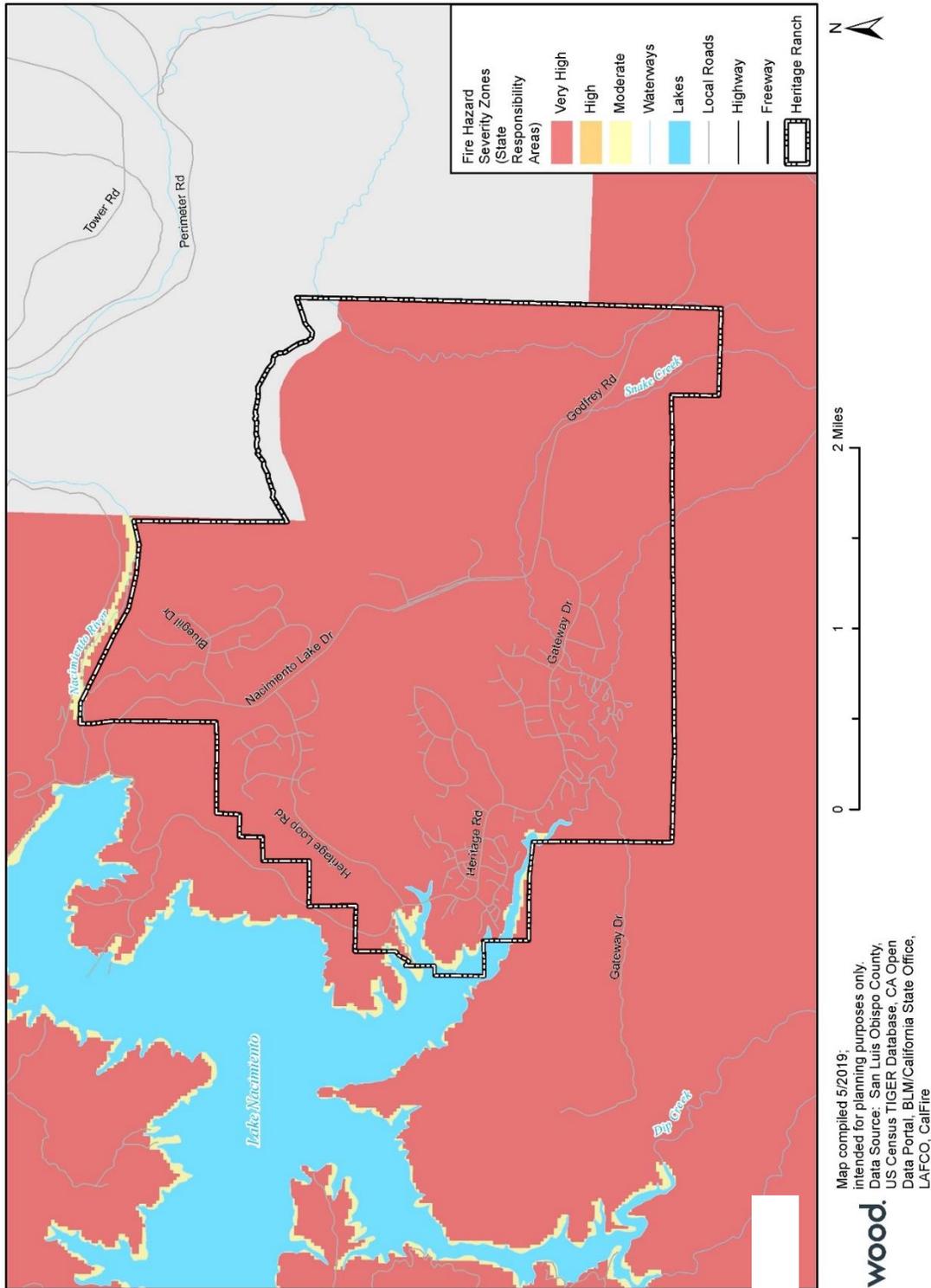
Facility Type	Count
Fire Stations	1
Emergency Medical Service Stations	1
Water Treatment Facilities	1
Wastewater Treatment Plant/Operations Yard/Administrative Building	1
Total	2

Source: San Luis Obispo County Planning and Building Dept., Assessor's Office, ParcelQuest, Wood Plc Parcel Analysis, CalFire





Figure J.8 Wildfire Hazard Severity Zones in the Heritage Ranch CSD





J.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 policies or programs that are 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 Wood 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 Heritage Ranch CSD capabilities are summarized below.

J.4.1 Regulatory Mitigation Capabilities

Table J.14 identifies existing regulatory capabilities the HRCSD has in place to help with future mitigation efforts. Note: many of the regulatory capabilities that can be used for the HRCSD are within the County’s jurisdiction. Refer to Section 6 Capability Assessment of the Base Plan for specific information related to the County’s mitigation capabilities.

Table J.14 Heritage Ranch CSD Regulatory Mitigation Capabilities

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

Source: Wood Data Collection Guide, 2019





J.4.2 Administrative/Technical Mitigation Capabilities

Table J.15 identifies the personnel responsible for activities related to mitigation and loss prevention in the Heritage Ranch Community Services District.

Table J.15 Heritage Ranch CSD Administrative/Technical Mitigation Capabilities

Personnel Resources	Yes/No	Department/Position/Comments
Planner/engineer with knowledge of land development/land management practices	Yes	General Manager, District Engineer
Engineer/professional trained in construction practices related to buildings and/or infrastructure	Yes	General Manager, District Engineer
Planner/engineer/scientist with an understanding of natural hazards	No	By the County
Personnel skilled in GIS	Yes	District Engineer
Full time building official	No	By the County
Floodplain manager	No	By the County
Emergency manager	Yes	General Manager
Grant writer	No	Would be able to do if need-driven
Other personnel	Yes	Water and Wastewater Operators; Office Staff
GIS Data Resources - (Hazard areas, critical facilities, land use, building footprints, etc.)	No	By the County
Warning systems/services (Reverse 9-11, outdoor warning signals)	No	By the County

Source: Wood Data Collection Guide, 2019

J.4.3 Fiscal Mitigation Capabilities

Table J.16 identifies financial tools or resources that the CSD could potentially use to help fund mitigation activities.

Table J.16 Heritage Ranch CSD Fiscal Mitigation Capabilities

Financial Resources	Accessible/Eligible to Use (Yes/No)
Community Development Block Grants	Yes
Capital improvements project funding	Yes
Authority to levy taxes for specific purposes	Yes
Fees for water, sewer, gas, or electric services	Yes
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	Yes
Withhold spending in hazard prone areas	No

Source: Wood Data Collection Guide, 2019

J.4.4 Mitigation Outreach and Partnerships

The Heritage Ranch Community Services District and the Heritage Ranch Owners Association (HROA) generally have the same boundary. The HROA has a safety committee which has Safety Plan separate from those of the HRCSD. Both entities coordinate on water, wastewater, and facility planning and management efforts to





operate effectively during an emergency. They additionally maintain a responsible water use policy and disseminate relevant information periodically. For example, the HRCSD recently completed a project in 2016 connecting the HRCSD water system intake facility to the Nacimiento Water Project pipeline for emergency uses, which highlights the community's outreach and partnership/collaboration intents and efforts.

J.4.5 Opportunities for Enhancement

Based on the capabilities assessment, the Heritage Ranch Community Services District has several existing mechanisms in place that already help to mitigate hazards, such as those mentioned in this Annex's hazard profiles and summary sections and in existing planning and community organization mechanisms such as the 2014 Heritage Ranch Village Plan. There are also opportunities for the HRCSD to expand or improve on these policies and programs to further protect the community. 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 HRCSD staff and board members on how best to integrate hazard information and mitigation projects into the District policies and ongoing duties of the HRCSD. Continuing to train HRCSD staff on mitigation and the hazards that pose a risk to the HRCSD will lead to more informed staff members who can better communicate this information to the public.

J.5 Mitigation Strategy

J.5.1 Mitigation Goals and Objectives

The Heritage Ranch CSD adopts the hazard mitigation goals and objectives developed by the County Planning Team and described in Section 7 of the Base Plan: Mitigation Strategy.

J.5.2 Mitigation Actions

The Planning Team for the Heritage Ranch Community Services District identified and prioritized the following mitigation actions based on the conducted risk assessment (see Table J.17). 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. Actions were prioritized using the process described in Section 7.2.1 of the Base Plan. Actions with an asterisk (*) are those that mitigate losses to future development.





Table J.17 Heritage Ranch CSD’s Mitigation Action Plan

ID	Hazard(s) Mitigated	Description/Background/Benefits	Lead Agency and Partners	Cost Estimate	Potential Funding	Priority	Timeline	Status/ Implementation Notes
HR.1	Adverse Weather	Consider support for communication towers and other communication infrastructure to be built within the HRCSD Boundary/property to provide expanded warning capabilities related to adverse weather.	Communication companies	Unknown	Private	Low	2019-2024	New
HR.2	Dam Incidents; Drought; Flooding; Landslide /Debris Flow	The District currently has a vertical well project identified to mitigate low flows from the Dam during outages and/or drought, as well as to provide redundancy (mitigate) for high flow releases that have historically damaged or destroyed the current gallery well system. A vertical well(s) would provide mitigation for both low and high flows (drought and Dam incidents). A vertical well(s) would improve raw water quality if debris flow occurs within Nacimiento Reservoir and River like it did after the Chimney Fire.	HRCSD	\$400,000	CIP funding; water fees; debt; grants	High	Design 2019/20; Construct 2020/21	New Some preliminary engineering completed (siting, borings, conceptual drawings, etc.)
HR.3	Dam Incidents; Drought; Flooding	Continue to engage with San Luis Obispo County Flood Control & Water Conservation District, and Monterey County Water Resources Agency to operate the Dam in a manner more conducive to preventing these hazards.	HRCSD; SLOCFWCDC; MCWRA	Little to no cost	Staff Time/ Dept. Budget	Medium	2019-2020	New
HR.4	Earthquake	Increase risk awareness of the potential impacts of earthquakes to water and wastewater systems and conduct outreach to residents of same; Continue to partner with the Heritage Ranch Owners Association and their Emergency Services Committee on emergency planning.	HR Owners Association, HRCSD	Little to no cost	Staff Time/ Dept. Budget	Low	2019-2020	New
HR.5	Wildfire	Continue public education and awareness programs to advise residents of risk to life, health and safety; include information on defensible space and safe evacuation; Continue to partner with the Heritage Ranch Owners	HR Owners Association, HRCSD	Little to no cost	Staff Time/ Dept. Budget	Medium	2019-2020	New





ID	Hazard(s) Mitigated	Description/Background/Benefits	Lead Agency and Partners	Cost Estimate	Potential Funding	Priority	Timeline	Status/ Implementation Notes
		Association and their Emergency Services Committee on emergency planning.						

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J.6 Implementation and Maintenance

Moving forward, the Heritage Ranch Community Services 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: Implementation and Monitoring.

J.6.1 Incorporation into Existing Planning Mechanisms

The information contained within this Annex and the Base Plan, including results from the Vulnerability Assessments and the Mitigation Strategy will be used by the HRCSD to help inform updates of the Heritage Ranch CSD's existing plans (e.g. 2014 Village Plan) as well as in the development of additional local plans, programs, regulations, and policies. Understanding the hazards which pose a risk and the specific vulnerabilities to the HRCSD and its sphere of influence will help in future capital improvement planning and development for the HRCSD. The San Luis Obispo County Planning & Building Department may utilize the hazard information when reviewing a site plan or other type of development applications within or nearby the boundaries of the Heritage Ranch Community Services District area. As noted in Section 8 Implementation and Monitoring, the Planning Team representative/s from the Heritage Ranch CSD will report on efforts to integrate the hazard mitigation plan into local plans, programs, regulations, and policies and will report on these efforts at the annual Hazard Mitigation Plan and Planning Team review meeting.

J.6.2 Monitoring, Evaluation and Updating the Plan

The Heritage Ranch Community Services 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 HRCSD General Manager will be responsible for representing the HRCSD in related County Hazard Mitigation Plan meetings or events, and for coordination with County staff and departments during plan updates. The Heritage Ranch CSD realizes it is important to review the plan regularly and update it every five years in accordance with the FEMA Disaster Mitigation Act Requirements as well as other State of California requirements.





K.1 District Profile

K.1.1 Mitigation Planning History and 2019 Process

This annex was created during the development of the 2019 San Luis Obispo County Hazard Mitigation Plan Update. This Jurisdictional Annex builds upon the previous version of the Local Hazard Mitigation Plan for the Los Osos Community Services District; approved by FEMA in August 2005.

The General Manager of the Los Osos Community Services District was the representative on the county HMPC and took the lead for developing the plan 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 K.1 Los Osos CSD Hazard Mitigation Plan Planning Team

Department or Stakeholder	Title
Administration	General Manager
Fire	Battalion Chief
Water	Utility Manager

More details on the planning process followed 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 2019 update.

Figure K.1 below is a map of the Los Osos planning area.

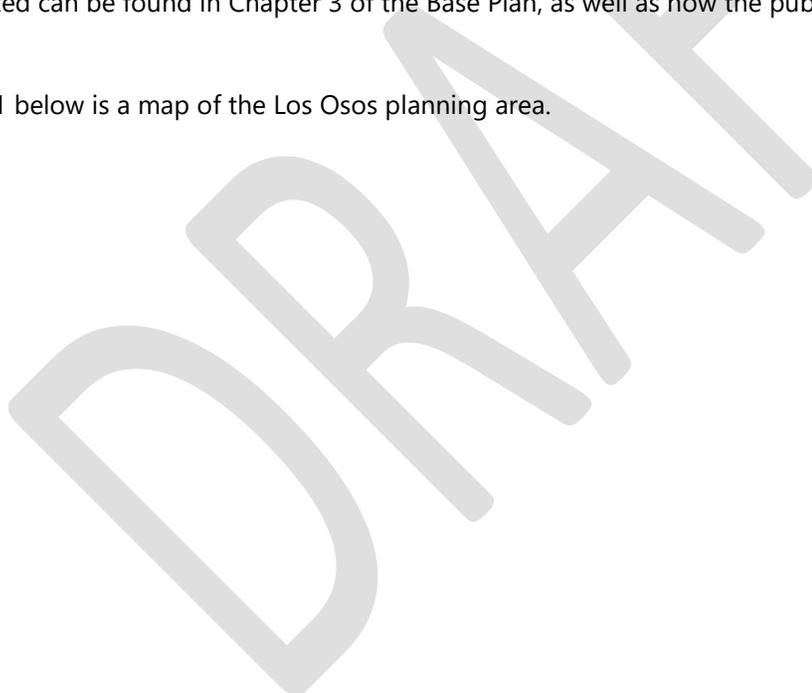
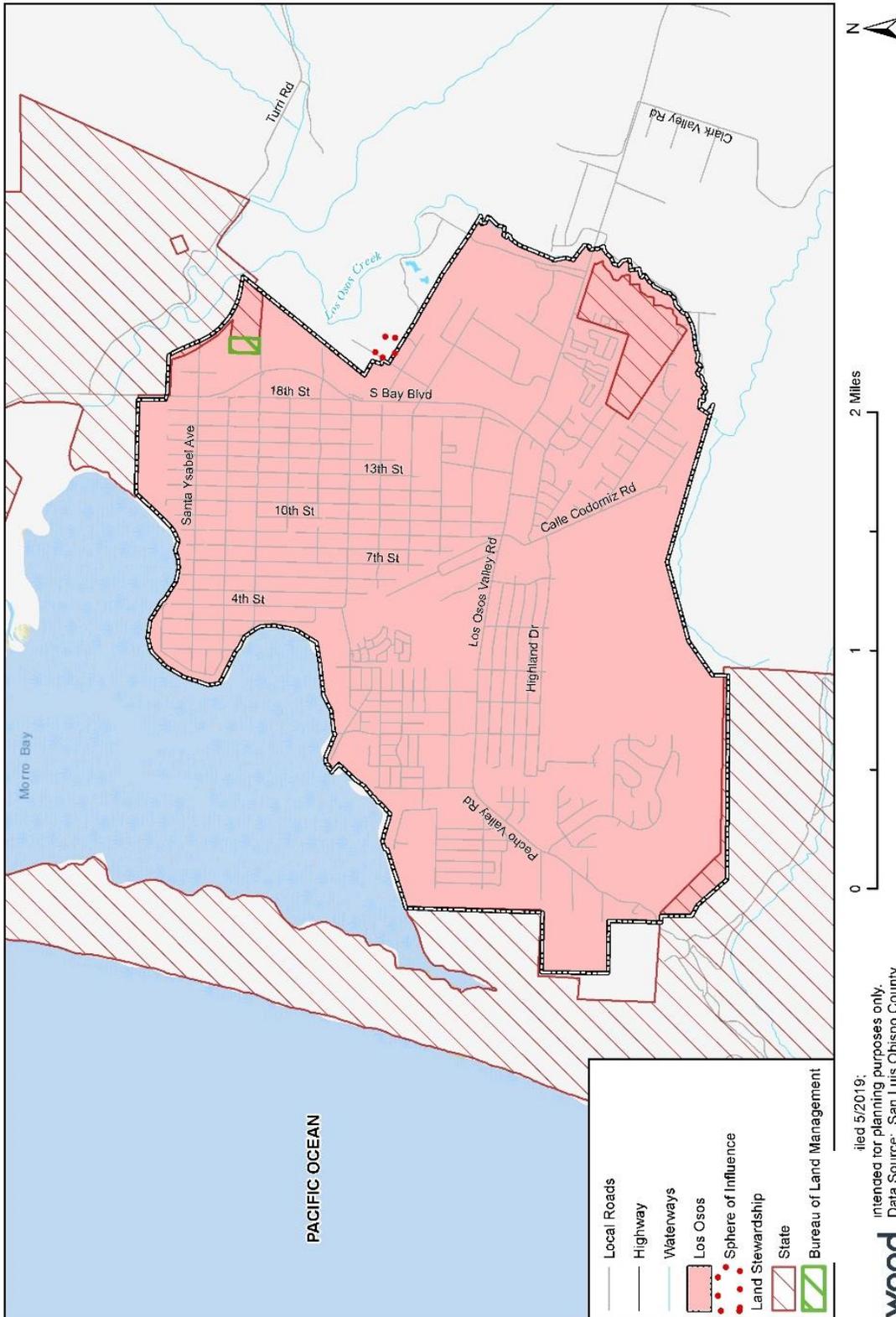




Figure K.1 Los Osos Community Services District



filed 5/2019;
 intended for planning purposes only.
wood.
 Data Source: San Luis Obispo County,
 US Census TIGER Database, CA Open
 Data Portal, BLM/California State Office, LAFCO





K.1.2 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, sewer, 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, street lighting, and wastewater management.

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, sewage, 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 five committees (Emergency Services Advisory Committee, Environmental, Finance, Water Utilities and Wastewater) 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.

K.1.3 Development Trends

The U.S. Census Bureau estimated the Los Osos Census Designated Place's (CDP) 2017 population as 15,714, an increase from 14,874 in 2012; this represents an almost 6 percent increase in five years. Table K.2 shows an overview of key social and demographic characteristics of the CDP taken from the U.S. Census Bureau's American Community Survey.

Table K.2 Los Osos CDP Demographic and Social Characteristics, 2012-2017

Los Osos CDP	2012	2017	% Change
Population	14,874	15,714	5.6%
Median Age	45.9	47.4	3.3%
Total Housing Units	6,911	6,800	-1.6%
Housing Occupancy Rate	92.1%	93.6%	1.5%
% of Housing Units with no Vehicles Available	3.1%	3.4%	0.3%
Median Home Value	\$387,100	\$461,100	19.1%
Unemployment	7.5%	5.5%	-2.0%
Mean Travel Time to Work (minutes)	20.3	23.3	14.8%
Median Household Income	\$57,683	\$73,082	26.7%
Per Capita Income	\$31,257	\$38,701	23.8%
% of Individuals Below Poverty Level	8.1%	10.5%	2.4%





Los Osos CDP	2012	2017	% Change
# of Households	6,363	6,367	0.1%
Average Household Size	2.32	2.45	5.6%
% of Population Over 25 with High School Diploma	93.0%	93.2%	0.2%
% of Population Over 25 with Bachelor's Degree or Higher	35.6%	41.9%	6.3%
% with Disability	12.9%	15.0%	2.1%

Source: U.S. Census Bureau American Community Survey 2012-2017 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 Los Osos Community Service District.

The following table show how the Los Osos CDP's labor force breaks down by occupation and industry estimates from the U.S. Census Bureau's 2017 American Community Survey.

Table K.3 Los Osos CPD Employment by Industry (2017)

Industry	# Employed
Population (2017)	15,714
In Labor Force	7,735
Agriculture, forestry, fishing and hunting, and mining	78
Armed Forces	10
Construction	647
Manufacturing	348
Wholesale trade	96
Retail trade	873
Transportation and warehousing, and utilities	275
Information	179
Finance and insurance, and real estate and rental and leasing	365
Professional, scientific, and management, and administrative and waste management services	984
Educational services, and health care and social assistance	1,870
Arts, entertainment, and recreation, and accommodation and food services	665
Other services, except public administration	463
Public administration	458
Unemployed	424

Source: U.S. Census Bureau American Community Survey 2012-2017 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 Los Osos Community Service District.

K.1.4 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 are noted and incorporated where applicable.

Table K.4 Summary of Review of Key Plans, Studies and Reports

Plan, Study, Report Name	How Document Informed the Annex
Los Osos Community Plan (Public Review Draft January 30, 2015)	Incorporated background information on the community and CSD.
Los Osos Community Service District Local Hazard Mitigation Plan (August 2005)	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 K.4 Capability Assessment for more information on the plans, policies, regulations and staff that govern the Los Osos planning area.

K.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 K.5). There are no hazards that are unique to Los Osos.

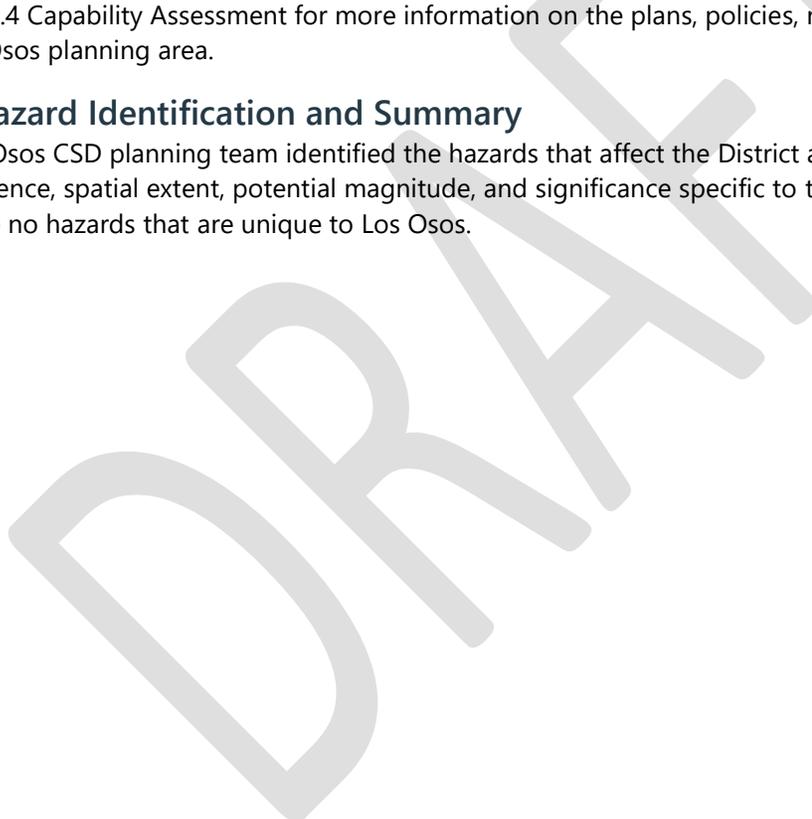




Table K.5 Los Osos CSD Hazard Risk Summary

Hazard	Geographic Area	Probability of Future Occurrence	Magnitude/Severity (Extent)	Overall Significance
Adverse Weather	Significant	Likely	Limited	Medium
Coastal Storm/Coastal Erosion/Sea Level Rise	Limited	Occasional	Limited	Low
Drought	Significant	Likely	Limited	Medium
Earthquake	Extensive	Likely	Critical	High
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 in 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		

K.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 K.5). 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.

The hazard summaries in Table K.5 reflect the hazards that could potentially affect the District. Based on this analysis, the priority hazards (High Significance) for mitigation are wildfire and drought. The discussion of vulnerability for each of the following hazards is in Section K.3.2 Estimating Potential Losses. Those of Medium or High significance for the Los Osos CSD are identified below.

- Adverse Weather
- Drought
- Earthquake
- Wildfire

Other Hazards

The District rated hazardous trees as a high significance hazard. In terms of this plan hazardous trees are considered a cascading hazard for adverse weather, drought and wildfire hazards. Information related to the public concerns about tree mortality in relation to wildfire risk can be found under K.3.2 Estimating Potential Losses and in Section 5 of the Base Plan.

Hazards assigned a significance rating of Low and which do not differ significantly from the County ranking (e.g., Low vs. High) are not addressed further in this plan and are not assessed individually for specific vulnerabilities in this section. In the Los Osos Community Services District, coastal erosion/sea level rise, flooding, landslide and debris flows, land subsidence and tsunamis are hazards ranked as a low significance to the community service 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.

Additionally, the CSD's committee members decided to rate several hazards as Not Applicable (N/A) to the planning area due to a lack of exposure, vulnerability, and no probability of occurrence. The following hazards are considered Not Applicable (N/A) to the Los Osos Community Services District.

- Agricultural Pest Infestation and Disease
- Biological Agents (naturally occurring)
- Dam Incidents
- Liquefaction
- Seiches

K.3.1 Assets at Risk

This section considers the District's assets at risk, including values at risk, critical facilities and infrastructure, historic assets, economic assets, and growth and development trends.

Values at Risk

The following data on property exposure is derived from the San Luis Obispo County 2017 Parcel and Assessor data as well as data that was shared by the Los Osos Planning Team. This data should only be used as a





guideline to overall values in the Community Services District as the information has some limitations. The most significant limitation is created by Proposition 13. Instead of adjusting property values annually, the values are not adjusted or assessed at fair market value until a property transfer occurs. As a result, overall value information is likely low and does not reflect current market value of properties. It is also important to note that in the event of a disaster, it is generally the value of the infrastructure or improvements to the land that is of concern or at risk. Generally, the land itself is not a loss. Table K.6 shows the exposure of properties (e.g., the values at risk) broken down by property type for the Los Osos Community Services District.

A more detailed list of the CSD’s assets at risk from the District’s 2012 HMP can be found as an attachment at the end of this Annex.

Table K.6 2019 Property Exposure for the Los Osos CSD by Property Types

Property Type	Property Count	Improved Value	Content Value	Total Value
Agricultural	1	\$7,861	\$7,861	\$15,722
Commercial	116	\$44,306,521	\$44,306,521	\$88,613,042
Government/Utilities	52	\$3,090	--	\$3,090
Other/Exempt/Misc.	47	\$16,614,282	--	\$16,614,282
Residential	4,822	\$937,095,463	\$468,547,732	\$1,405,643,195
Multi-Family Residential	277	\$57,293,267	\$28,646,634	\$85,939,901
Mobile/Manufactured Homes	9	\$9,764,323	\$4,882,162	\$14,646,485
Residential: Other	22	\$4,304,874	\$2,152,437	\$6,457,311
Industrial	3	\$3,870,890	\$5,806,335	\$9,677,225
Vacant	22	\$3,488,140	--	\$3,488,140
Total	5,371	\$1,076,748,711	\$554,349,681	\$1,631,098,392

Source: Wood Plc analysis based on ParcelQuest and San Luis Obispo County Assessor's Office data 2019

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. See Section 5 of the Base Plan for more details on the definitions and categories of critical facilities.

An inventory of critical facilities in the District based on County GIS data is provided in Table K.7 and illustrated in Figure K.2.

Table K.7 Los Osos CSD’s Critical Facilities

Facility Type	Counts
Day Care Facilities	6
Emergency Medical Service Stations	1
Fire Stations	1
Local Law Enforcement	1
Public Schools	3
Total	12

Source: Wood Plc analysis based on ParcelQuest and San Luis Obispo County Assessor's Office data 2019





Essential Facilities

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

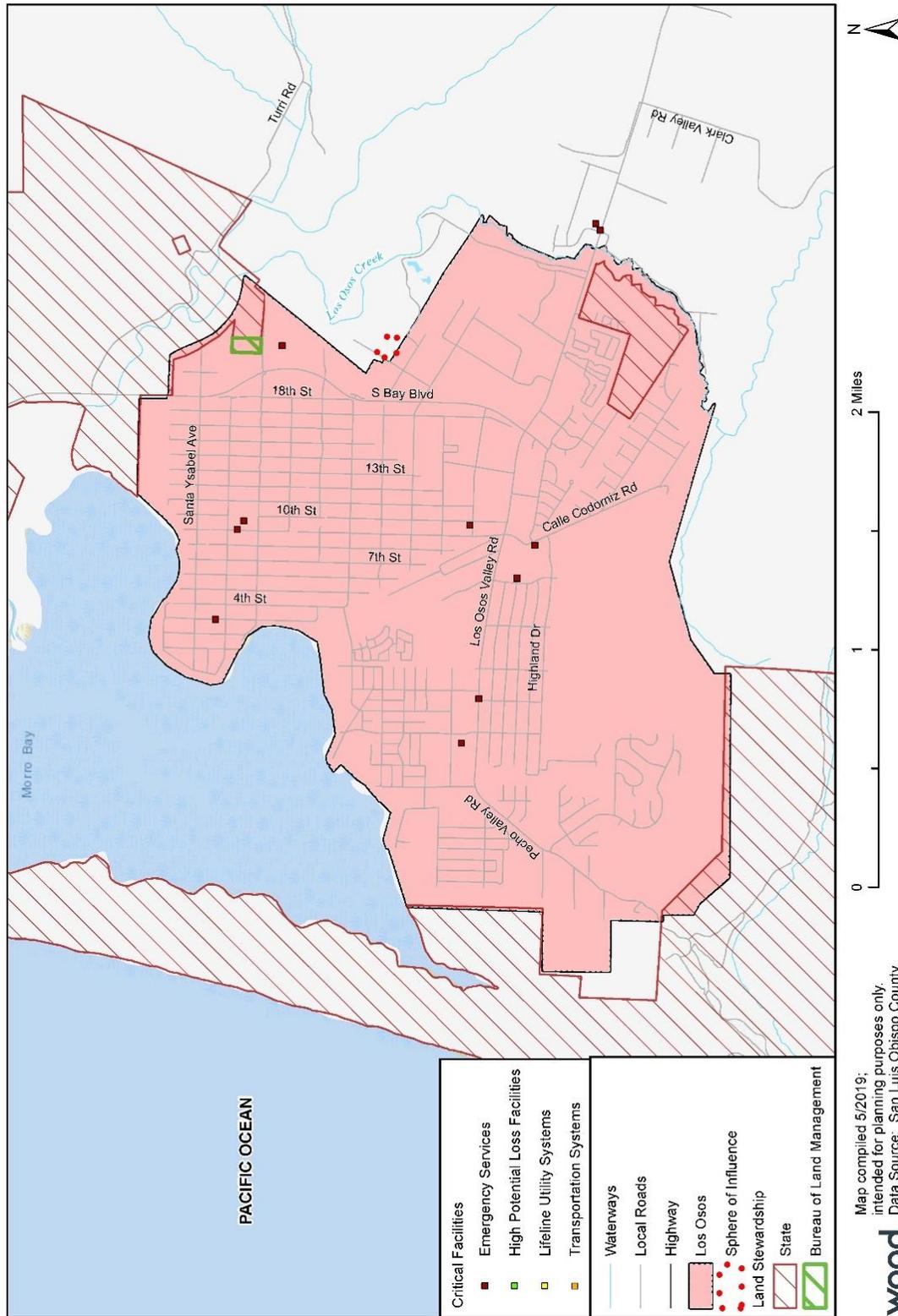
- Sheriff Sub-Station – 2099 10th Street
- South Bay Fire Department – 2315 Bayview Heights
- Water Treatment Facilities
- Water Tanks
- Nitrate Removal equipment

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Figure K.2 Los Osos CSD's Critical Facilities



Map compiled 5/2019;
intended for planning purposes only.
Data Source: San Luis Obispo County,
US Census TIGER Database, CA Open
at BLM/California State Office,
HFLD





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 a noted a significant concern for many residents in the Los Osos Community. The District's lifeline facilities include those listed in the essential facilities above.

Historic and Cultural Resources

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

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).

Economic Assets

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

K.3.2 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 K.6 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.)

Adverse Weather

Adverse weather in the Los Osos Community Services District includes hail, wind storms, and thunderstorms. 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. 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. Refer to Section 5 of the Base Plan for information on past adverse weather events in San Luis Obispo County.

Drought and Water Shortage

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 predominately residential land uses. The water supply for the Los Osos CSD consist of five active groundwater wells above the Los Osos Groundwater Basin. The District has a daily production capacity of approximately 1580 gallons per minute with all five wells being active.

The Los Osos Groundwater Basin is the only source of water for residential, commercial, institutional and agricultural uses in the Los Osos community. The basin was identified by the State as a high priority groundwater basin, which under Sustainable Groundwater Management Act of 2014 requires a basin plan to be developed and a committee be formed to implement the plan and monitor progress. According to the Los Osos Basin Plan (January 2015) the basin faces two primary challenges that pose a risk to the sustainability of the water supply; water quality degradation of the Upper Aquifer (UA), primarily by nitrate and seawater intrusions into the Lower Aquifer. Currently, Los Osos is under a building moratorium and relies on factors within the Basin Management Plan in order for the moratorium to be lifted.





The CSD has a Water Shortage Contingency Plan to enact during times of severe drought. The Contingency Plan consists of five stages (Stage One, Alert to Stage Five, Critical) each stage has a reduction target, climate trigger and the prohibitions to put in place. On April 2, 2015 the Los Osos CSD Board of Director Declared a Stage Three Emergency, which places the following prohibitions on residents in order to meet the reduction target of 25 percent.

- Penalties up to 2 times the established rate for usage above the allocation
- No leak adjustment credits will be awarded
- No new intent to Serve applications
- No allocations may be transferred to another property

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.

Earthquake

The Los Osos 2012 Local Hazard Mitigation identifies three fault zones (Los Osos, Edna and Indian Knob) that could have potential impacts on 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 groundshaking. 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 groundshaking occurs.

The following tables (Table K.8 Table K.9) shows the types of properties at moderate and high risk of liquefaction. Based on this analysis there are 988 properties at moderate risk of liquefaction with a total value of over \$324 million. Residential properties are the most vulnerable property type to liquefaction in Los Osos, with a combined total of 880 properties (including 2 mobile homes) located in an area of moderate liquefaction risk and a total value of nearly \$240 million.

Table K.8 Los Osos CSD’s Liquefaction Risk by Property Type – Moderate Risk

Property Type	Property Count	Improved Value	Content Value	Total Value
Agricultural	1	\$7,861	\$7,861	\$15,722
Commercial	70	\$34,102,286	\$34,102,286	\$68,204,572
Government/Utilities	8	--	--	\$0
Other/Exempt/Misc.	21	\$6,625,714	--	\$6,625,714
Residential	682	\$121,222,661	\$60,611,331	\$181,833,992
Multi-Family Residential	177	\$33,981,650	\$16,990,825	\$50,972,475





Property Type	Property Count	Improved Value	Content Value	Total Value
Mobile/Manufactured Homes	2	\$1,475,614	\$737,807	\$2,213,421
Residential: Other	19	\$2,989,644	\$1,494,822	\$4,484,466
Industrial	3	\$3,870,890	\$5,806,335	\$9,677,225
Vacant	5	\$389,513	--	\$389,513
Total	988	\$204,665,833	\$119,751,267	\$324,417,100

Source: San Luis Obispo County Planning and Building Dept., Assessor's Office, ParcelQuest, Wood Plc Parcel Analysis

Table K.9 Los Osos CSD's Liquefaction Risk by Property Type – High Risk

Property Type	Property Count	Improved Value	Content Value	Total Value
Commercial	13	\$2,261,761	\$2,261,761	\$4,523,522
Government/Utilities	7	\$3,090	--	\$3,090
Other/Exempt/Misc.	6	\$3,437,429	--	\$3,437,429
Residential	451	\$82,857,177	\$41,428,589	\$124,285,766
Multi-Family Residential	14	\$4,126,546	\$2,063,273	\$6,189,819
Residential: Other	2	\$883,505	\$441,753	\$1,325,258
Vacant	5	\$319,410	--	\$319,410
Total	498	\$93,888,918	\$46,195,375	\$140,084,293

Source: San Luis Obispo County Planning and Building Dept., Assessor's Office, ParcelQuest, Wood Plc Parcel Analysis

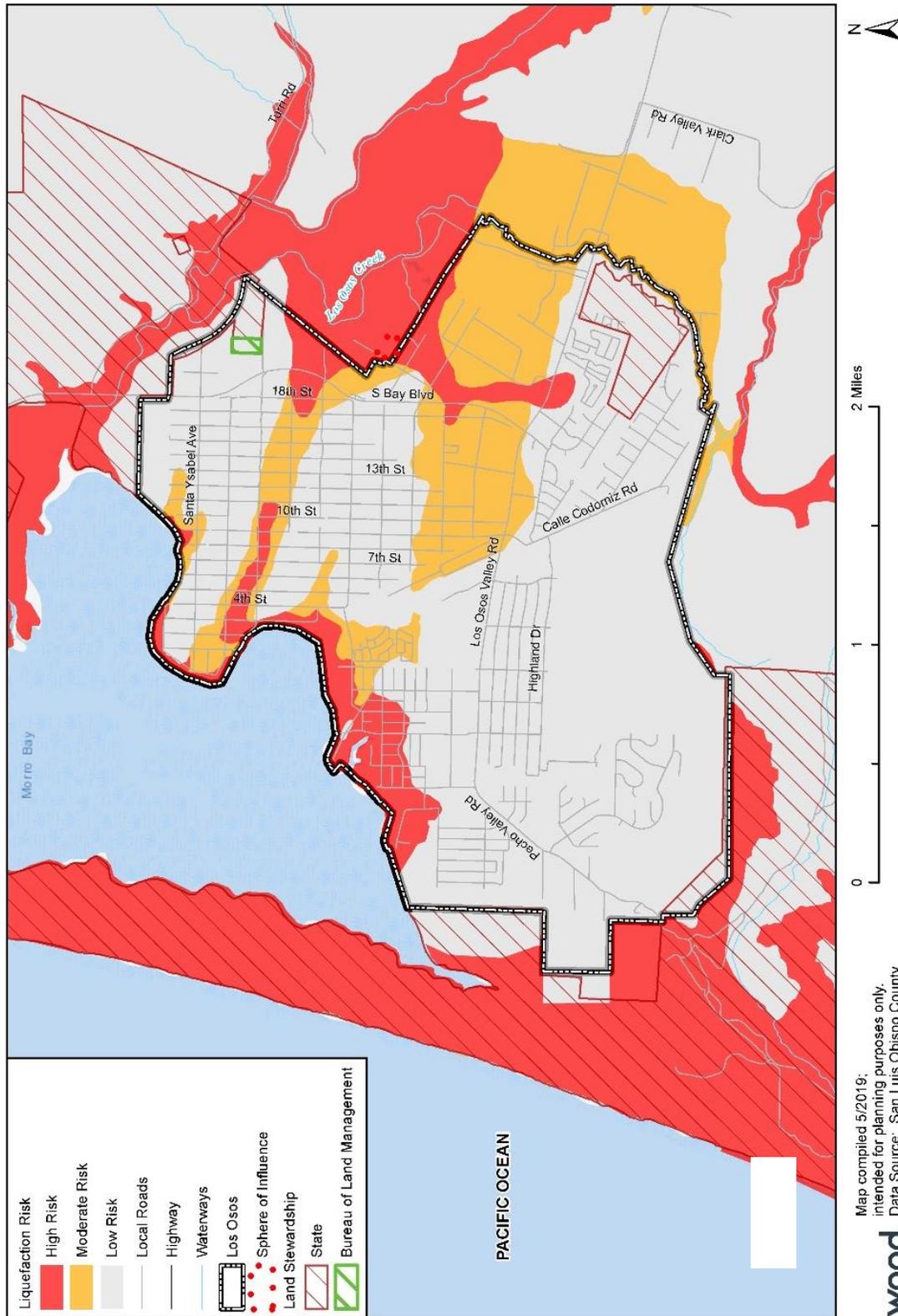
Based on this analysis there are 498 properties at high risk of liquefaction with a total value of over \$140 million. Residential properties are the most vulnerable property type to liquefaction in Los Osos, with 467 residential properties in an area of high liquefaction risk for a total value of over \$131 million.

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.





Figure K.3 Areas of Potential Liquefaction Risk



Map compiled 5/2019;
intended for planning purposes only.
Data Source: San Luis Obispo County,
US Census TIGER Database, CA Open
Data Portal, BLM/California State Office, LAFCO





Wildfire

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 ranges between 20-25 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. The District is a residential development that has occurred in the foothill areas around Los Osos and Montana De Oro State Park. The residential development is intermixed with native vegetation which results in a high-value, high-risk area.

One of the questions asked in the Public Survey for the County HMP was: *Do you have information on specific hazard issues/problems areas that you would like the planning committee to consider?* Several of the responses to this question came from residents of the Los Osos community (21% of the responses stated they lived in the Los Osos area). Residents expressed concern with the high density of eucalyptus trees in Los Osos and proximity to Montana de Oro State Park as a threat to their community. The limited number of evacuation routes out of the Los Osos was also identified as an area of concern for their community.

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 there are 891 properties located in the high to very high severity zones. Of those properties 852 are residential properties (including 6 mobile/manufactured homes) with a combined value of \$381,329,349. In addition to the residential properties there is also a public school, Monarch Grove Elementary, located in the high wildfire hazard zone.

Table K.10 Los Osos CSD’s Wildfire Risk by Property Type – High Severity SRA Zone

Property Type	Property Count	Improved Value	Content Value	Total Value	Loss Estimate
Government/Utilities	5	--	--	\$0	\$0
Other/Exempt/Misc.	1	\$1,517,084	--	\$1,517,084	\$1,517,084
Residential	114	\$31,039,882	\$15,519,941	\$46,559,823	\$46,559,823
Multi-Family Residential	2	\$212,084	\$106,042	\$318,126	\$318,126
Vacant	3	\$1,068,033	--	\$1,068,033	\$1,068,033
Total	125	\$33,837,083	\$15,625,983	\$49,463,066	\$49,463,066

Source: San Luis Obispo County Planning and Building Dept., Assessor’s Office, ParcelQuest, Wood Plc Parcel Analysis





Table K.11 Los Osos CSD’s Wildfire Risk by Property – Very High Severity SRA Zone

Property Type	Property Count	Improved Value	Content Value	Total Value	Loss Estimate
Agricultural	1	\$7,861	\$7,861	\$15,722	\$15,722
Government/Utilities	21	--	--	\$0	\$0
Other/Exempt/Misc.	2	--	--	\$0	\$0
Residential	729	\$214,837,365	\$107,418,683	\$322,256,048	\$322,256,048
Multi-Family Residential	1	\$21,525	\$10,763	\$32,288	\$32,288
Mobile/Manufactured Homes	6	\$8,108,709	\$4,054,355	\$12,163,064	\$12,163,064
Vacant	6	\$1,331,327	--	\$1,331,327	\$1,331,327
Total	766	\$224,306,787	\$111,491,661	\$335,798,448	\$335,798,448

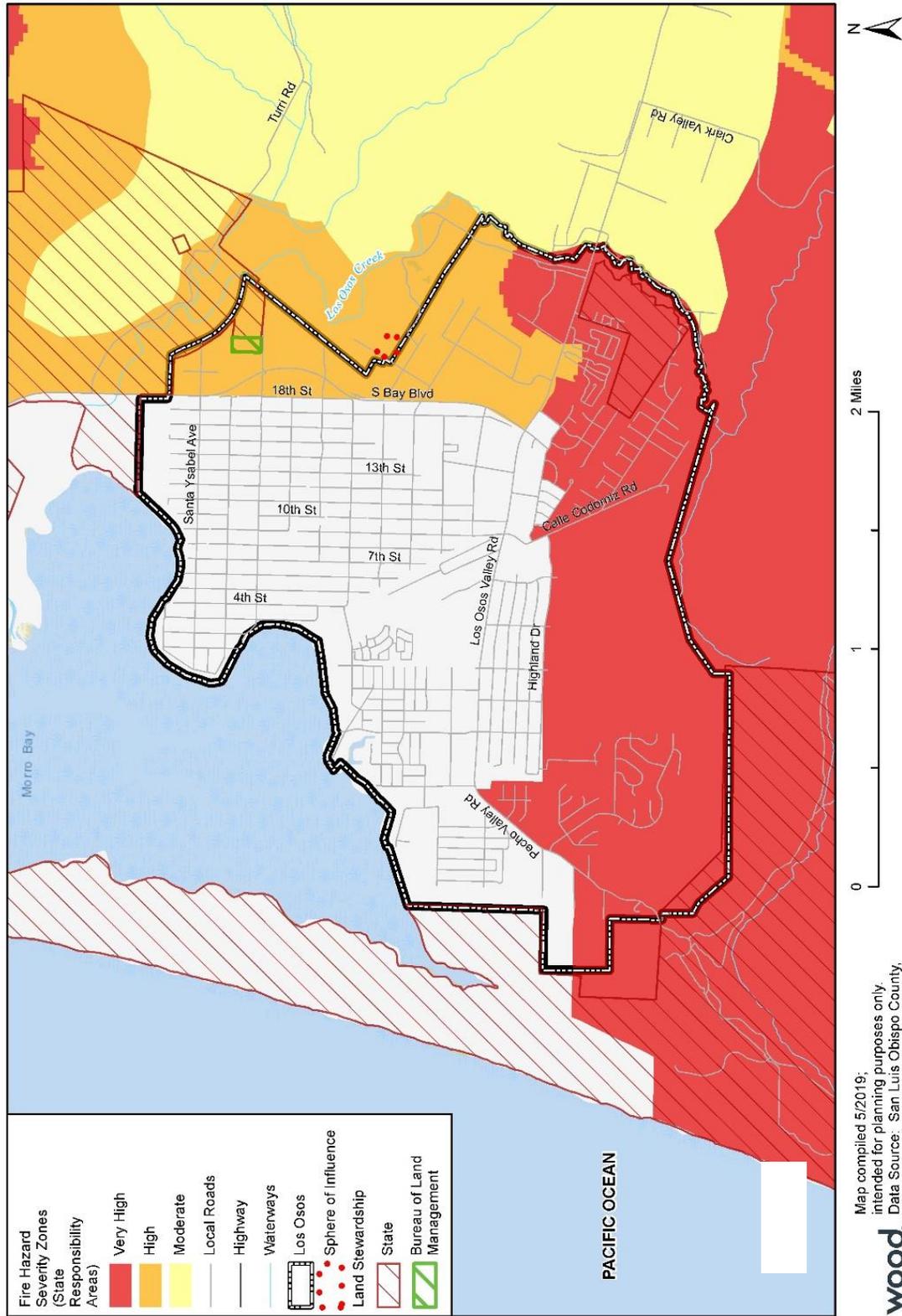
Source: San Luis Obispo County Planning and Building Dept., Assessor’s Office, ParcelQuest, Wood Plc Parcel Analysis

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Figure K.4 Los Osos CSD Wildfire Risk



Map compiled 5/2019;
intended for planning purposes only
Data Source: San Luis Obispo County,
US Census TIGER Database, CA Open
Data Portal, BLM/California State Office,
LAFCO, CalFire





Sea Level Rise

As part of the 2019 HMP planning effort, a sea level rise risk assessment was completed to determine how sea level rise may affect coastal jurisdictions and critical facilities and how coastal flooding might be exacerbated in the future. Table K.12 and Table K.13 summarize the properties at risk of inundation by sea level rise and sea level rise combined with a FEMA 1% annual chance flood. The area of inundation by sea level rise and sea level rise combined with the 1% flood are shown in

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Figure K.5 and Figure K.6, respectively. No critical facilities were determined to be at risk in the sea-level rise scenarios. See Section 5.3.4 Coastal Storm/Coastal Erosion/Sea Level Rise in the base plan for more details on the scenarios and data sources used for this analysis.

Table K.12 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	--	2	12	3	5	15
Government/Utilities	--	--	1	--	1	1
Other/Exempt/Misc.	--	--	1	1	1	1
Residential	--	14	222	28	71	294
Multi-Family Residential	--	--	4	--	--	10
Mobile/Manufactured Homes	--	--	1	--	--	1
Residential: Other	1	1	3	3	3	3
Vacant	--	--	2	1	2	2
Total	1	17	246	36	86	327

Source: Wood analysis with USGS CoSMoS 3.1 data

Table K.13 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	--	\$546,320	\$2,243,469	\$744,960	\$883,510	\$2,544,092
Government/Utilities	--	--	--	--	--	--
Other/Exempt/Misc.	--	--	\$420,000	\$420,000	\$420,000	\$420,000
Residential	--	\$2,323,098	\$41,957,596	\$4,462,878	\$12,338,675	\$55,511,993
Multi-Family Residential	--	--	\$1,264,339	--	--	\$3,120,843
Mobile/Manufactured Homes	--	--	\$62,149	--	--	\$62,149
Residential: Other	\$75,059	\$75,059	\$2,084,548	\$2,084,548	\$2,084,548	\$2,084,548
Vacant	--	--	\$21,225	\$10,404	\$21,225	\$21,225
Total	\$75,059	\$2,944,477	\$48,053,326	\$7,722,790	\$15,747,958	\$63,764,850

Source: Wood analysis with USGS CoSMoS 3.1 data





Figure K.5 Los Osos Sea Level Rise Scenario Analysis: Tidal Inundation Only

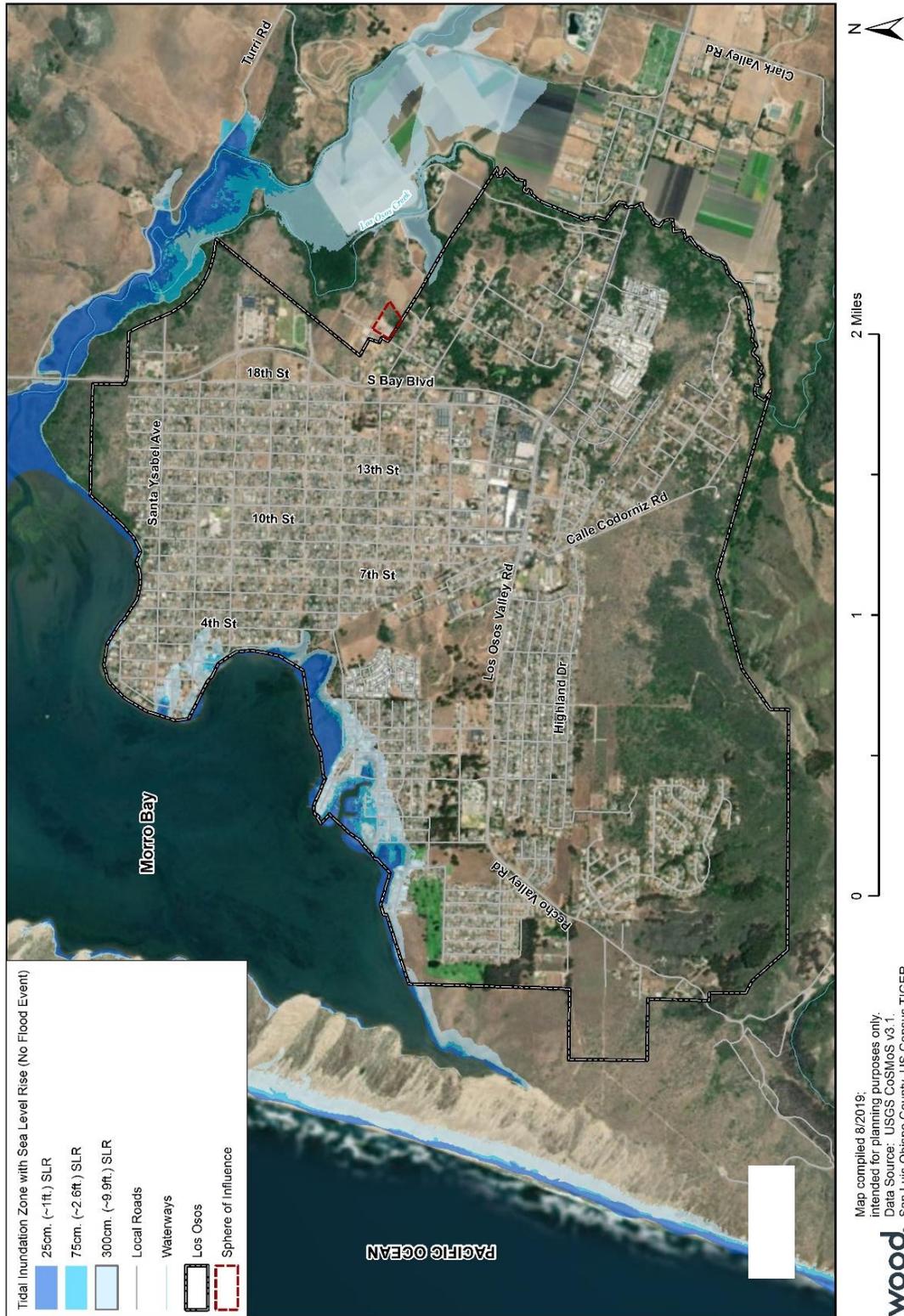




Figure K.6 Los Osos Sea Level Rise Scenario Analysis: Tidal Inundation and 1% Annual Chance Flood





K.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 Wood 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.

K.4.1 Regulatory Mitigation Capabilities

Table K.14 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 K.14 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	
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	

Source: Wood Data Collection Guide, 2019





K.4.2 Administrative/Technical Mitigation Capabilities

Table K.15 identifies the personnel responsible for activities related to mitigation and loss prevention in the Los Osos Community Services District.

Table K.15 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

Source: Wood Data Collection Guide, 2019

K.4.3 Fiscal Mitigation Capabilities

Table K.16 identifies financial tools or resources that the CSD could potentially use to help fund mitigation activities.

Table K.16 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	No
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

K.4.4 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. In partnership with the Cal FIRE, the SLO County Fire Department provides Community Emergency Response Team (CERT) classes to Los





Osos residents. Cal FIRE and the community's Fire Safe Council are also working with the District and the community on a 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 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.

K.4.5 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.

K.5 Mitigation Strategy

K.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.

K.5.2 Completed 2012 Mitigation Actions

During the 2019 planning process the Los Osos Community Services District Planning Team reviewed all the mitigation actions from the 2012 plan. Actions were prioritized using the process described in Section 7.2.1 of the Base Plan. During the 2019 planning process the Planning Team identified that of their eleven mitigation actions from 2012, three of the actions have been completed, demonstrating progress and building the community's resiliency to disasters; see Table K.15 below. Table K.18 Los Osos Community Services District's Mitigation Action Plan describes all the in progress actions as well as new mitigation action from the Planning Team.





Table K.17 Los Osos CSD Mitigation Action Completed from 2012 Plan

ID	Corresponding Hazard(s)	Mitigation Action	Lead Agency	Priority	Actions Status Notes
1	Wildfire	Inside the District – implement planned greenbelts and fuel breaks, and continue hazard abatement program	Los Osos Focus Group, Cal Fire, LOCSO	High	We have an abatement program - complete. Green belt and fuel breaks in constant progress.
3	Earthquake, Water Tank Failures	Public education, flexible connections at tanks, tank retrofitting	LOCSO	High	Project completed 2007
4	Hazardous Materials	Monitoring equipment, public awareness	SLO County Environmental Health	Medium	Project Complete

K.5.3 Mitigation Actions

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. 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.

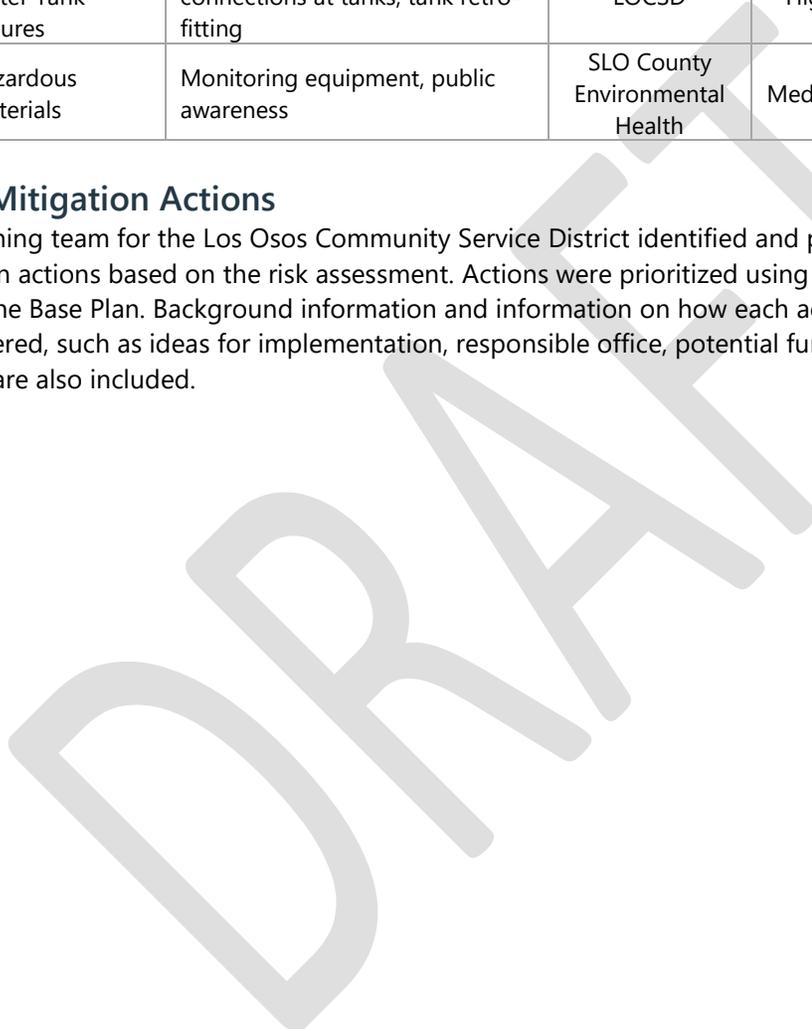




Table K.18 Los Osos Community Services District’s Mitigation Action Plan

ID	Hazard(s) Mitigated	Description/ Background/ Benefits	Lead Agency and Partners	Cost Estimate	Potential Funding	Priority	Timeline	Status/ Implementation Notes
LO.1	Flood	Improve drainage, public education on construction management, evacuation routes and vegetation management	LOCSD, SLO County	\$10,000 to \$50,00	FEMA HMA	High	3-5 yrs.	In progress. All drainage areas have been improved/upgraded. Vegetation management is in progress
LO.2	Drought, earthquake	Engineer and install a SCADA system to improve water efficiencies and mitigate water loss if system is compromised during an earthquake.	LOCSD	\$10,000 to \$50,00	District Budget	High	1 yr.	This is a 2019/2020 scheduled project
LO.3	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 / South Bay Fire Dept	Little to no cost	District Budget	High	Other	Annual Implementation





K.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.

K.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.

K.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.





L.1 District Profile

L.1.1 Mitigation Planning History and 2019 Process

This Annex was created during the development of the 2019 San Luis Obispo County Hazard Mitigation Plan Update. The General Manager of the Nipomo Community Services District (CSD) was the representative on the County HMPC and took the lead for developing the plan and this annex in coordination with the Nipomo Community Services District (CSD) Local Planning Team (Planning Team). The Local (District) Planning Team will be responsible for implementation and maintenance of the plan. Table L.1 summarizes the District’s planning team for the plan revision process.

Table L.1 Nipomo CSD Hazard Mitigation Plan Planning Team

Department or Stakeholder	Title
Nipomo CSD	General Manager

More details on the planning process and how the jurisdictions, service districts, and stakeholders participated can be found in Section 3 of the Base Plan, along with how the public was involved during the 2019 update.

Figure L.1 is a map of the larger Nipomo community including its sphere of influence and nearby areas.

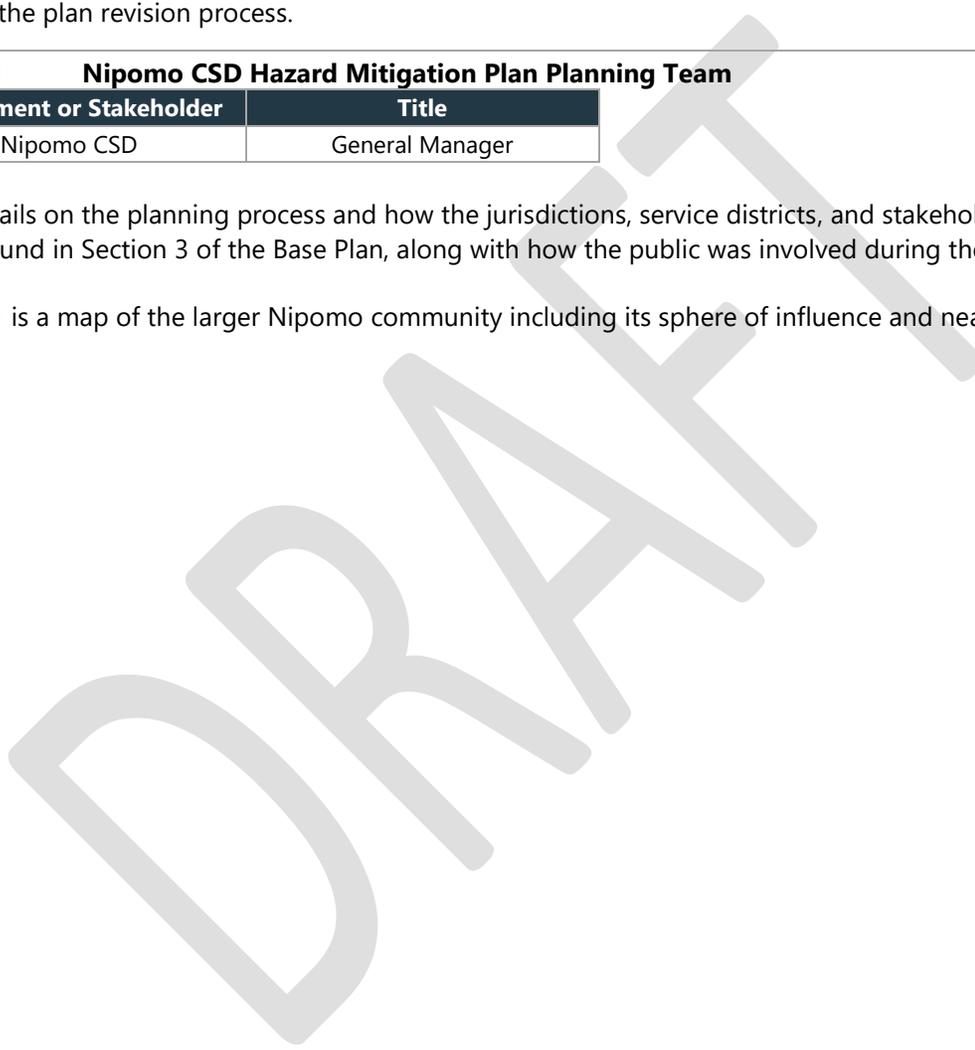
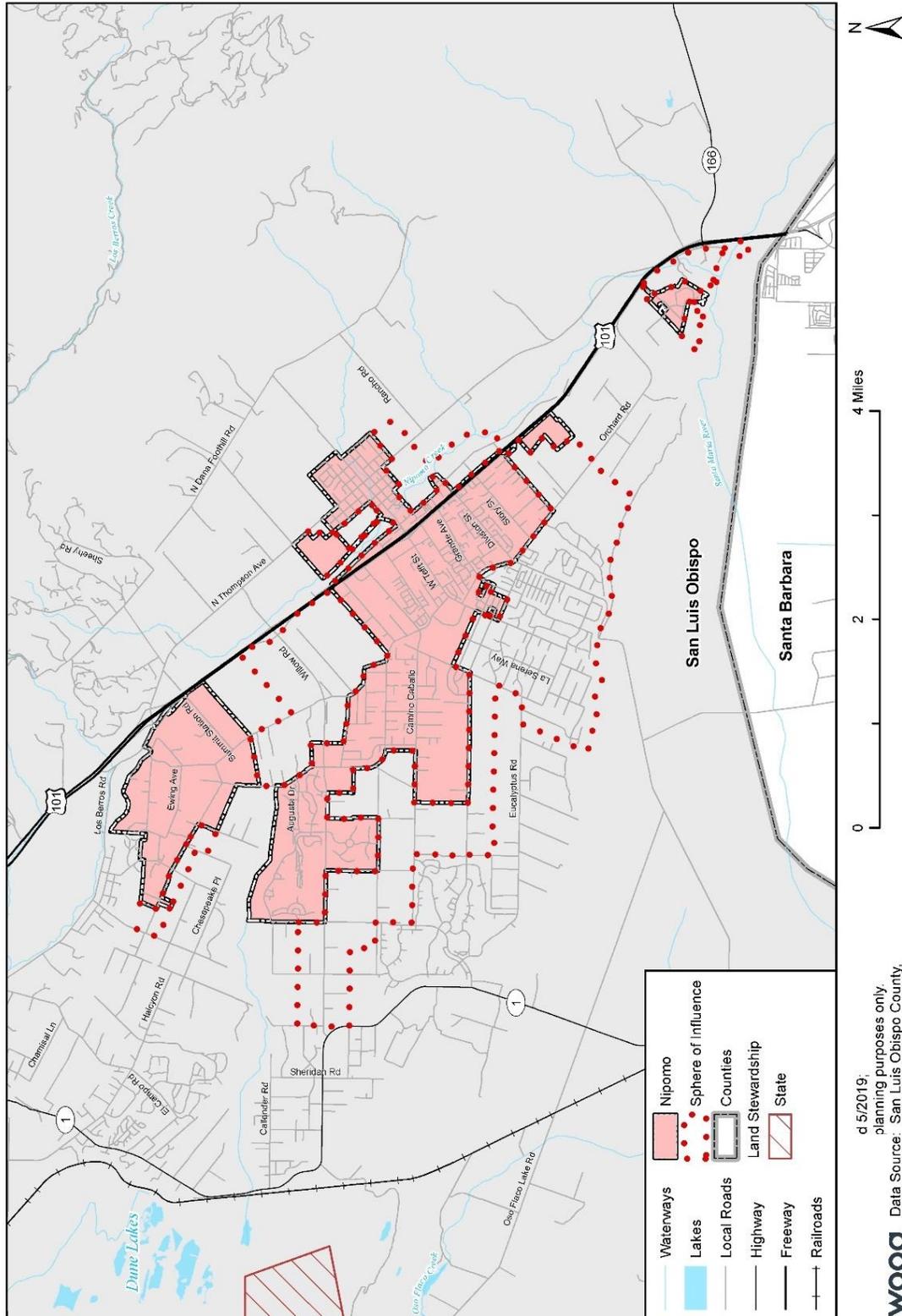




Figure L.1 Nipomo Community Services District



WOOD
 d 5/2019; planning purposes only.
 Data Source: San Luis Obispo County, US Census TIGER Database, CA Open Data Portal, BLM/California State Office, LAFCO



L.1.2 District Overview

The Nipomo Community Services District's (CSD) mission is to provide its customers with reliable, quality, and cost-effective services now and in the future. The District was established in 1965 under the Community Services District Law of the Government Code Section 61000, assisted by the Nipomo Citizen's Steering Committee. The proposed District at the time consisted of 1,384 acres that included 560 dwellings and about 2,300 people hoping to solve the community's early water and sewer problems after several typhoid fever cases in the early 1960s tied the health issues to nitrates in the water and proximity to sewer tanks.

In present times, the Nipomo CSD is governed by a board of directors, each with different committee assignments and possible delegations. This Board is responsible for providing counsel related to water management and resources, overall administration, financing/auditing, and facilities to the Nipomo community.

Nipomo is located in the southwest portion of the County of San Luis Obispo next to Highway 101, within the South County Planning Area. It currently serves about 14,000 people in a somewhat rural environment between the Five Cities Area of the County and the City of Santa Maria (in the County of Santa Barbara). The Nipomo CSD has expanded to cover over six square miles, and provides limited stormwater, street lighting, and landscape maintenance. The District's sphere of influence covers about nine square miles in addition to the current service area, and based on the latest LAFCO-developed Municipal Service Review, growth in the Nipomo area is expected to follow a 1% rate over the next 20 years.

The bulk of the CSD's facilities are comprised of pipes, pumps, ponds, and tanks. Recent efforts related to the District's water infrastructure have been focused on earthquake related hazards, due to the District's location atop an ancient sand dune as well as crossing of several earthquake faults. Exposure to liquefaction and other earth movement issues is of concern to Nipomo as well, but there has not been any recent damage to key infrastructure from earthquake and liquefaction hazards.

Nipomo developed their most recent Strategic Plan in 2018. This plan outlines the District's initial priority issues for the coming years (among other key plan aspects), and these were identified during workshops and interviews with the board members, managers, and directors of local operative processes. Three priorities were outlined in this Strategic Plan document: 1) Maintain and enhance community sustainability, financial stability, and infrastructure stability; 2) optimize operations and achieve customer satisfaction; and, 3) attain operational resiliency and encourage employee leadership and development. In terms of hazards and related mitigation opportunities, it is important to acknowledge these goals and objectives to ensure effective planning mechanisms and efforts across the District, especially to enable or help move forward currently ongoing activities.

L.1.3 Development Trends

The Nipomo CSD adopted its Community Plan in 2014, to "establish a vision for the future that will guide land use and transportation over the next 20 years" (Nipomo Community Plan, 2014). This Community Plan contains information on the existing and future status of water supplies, wastewater/sewage, schools, and various public services the District provides. Historic flood risks and local resources are also noted and are key to this hazard mitigation plan.

As of 2010, the U.S. Census Bureau noted the CSD's population to be approximately 16,714. Prior to 2015, Nipomo was relying solely on groundwater sources. Although growth has been very slight and slow in Nipomo, due to extreme drought and growing water demands, groundwater was becoming scarce and shortage conditions required solutions to balance supply versus demand in the District. In 2015, the District began a \$17 million public works project (the largest and most important in the District's 50-year history) to obtain





supplemental water from Santa Maria, back in 2015. Water deliveries began that year, allowing for millions of gallons to avoid being pumped from the troubled water basin underlying the Nipomo Mesa.

L.1.4 Other Community Planning Efforts

The coordination and synchronization 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, the Nipomo CSD is 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 Community Services District Annex involved a comprehensive review of existing plans, studies, reports, and initiatives from San Luis Obispo County and the Nipomo community that relate to hazards or hazard mitigation. A high-level summary of the key plans, studies and reports is summarized in Table L.2. Information on how they informed the update are noted and incorporated where applicable.

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

Table L.2 Summary of Review of Key Plans, Studies, and Reports for Nipomo CSD

Plan, Study, Report Name	How Document Informed the Annex
County of San Luis Obispo Local Hazard Mitigation Plan (2014)	Informed past hazard event history, hazard profile and background, and mitigation strategy information.
County of San Luis Obispo Land Use and Circulation Elements (Part II): The Area Plans – Inland and South County Area Plans	Obtained water use information, drought related details, etc.
Nipomo Community Services District 2018 Strategic Plan	Obtained current District information, ongoing efforts, water use information, etc.
Nipomo Community Plan – Updated 2014	Obtained District information, history, past programs, etc.
Nipomo’s Supplemental Water from Santa Maria project summary	Obtained information on past and ongoing water purchase/acquisition efforts and the drought/water scarcity hazard.
San Luis Obispo County 2014 Integrated Regional Water Management Plan	Obtained information on water use in Nipomo, water management regions, and the drought/water scarcity hazard.
State of California’s Hazard Mitigation Plan – Updated 2018	General information on hazards, events, and vulnerability assessments.
San Luis Obispo County Dam and Levee Failure Evacuation Plan – Updated 2016	Flooding, dam, and levee hazard information and recent studies.
2014-2016 Resource Summary Report for San Luis Obispo County’s General Plan	Pulled information about water resources, reliability, and ongoing efforts to increase resilience in the County and District of Nipomo as related to drought.

L.2 Hazard Identification and Summary

The Nipomo CSD planning team identified the key hazards that affect the District, and summarized their frequency of occurrence, spatial extent, potential magnitude, and overall significance specific to the Nipomo





CSD (see Table L.3 Nipomo CSD Hazard Risk Summary). There are no hazards that are unique to this CSD. (Note that earthquake and liquefaction hazards will be profiled together as one under Section L.3.2)

Table L.3 Nipomo CSD Hazard Risk Summary

Hazard	Geographic Area	Probability of Future Occurrence	Magnitude/Severity (Extent)	Overall Significance
Dam Incidents and Failure	Limited	Unlikely	Limited	Low
Drought and Water Shortage	Significant	Likely	Limited	High
Earthquake (including Liquefaction)	Extensive	Likely	Limited	Medium
Flood	Limited	Occasional	Limited	Low
Landslide and Debris Flow	Limited	Unlikely	Limited	Low
Wildfire	Significant	Occasional	Limited	Medium
Human Caused: Hazardous Materials	Significant	Highly Likely	Negligible	Medium
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 in 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 Nipomo CSD’s vulnerability separately from that of the County, which has already been assessed in Section 5 Hazard Identification and Risk Assessment (HIRA) in the Base Plan. This vulnerability assessment analyzes the population, property, and other assets (e.g. critical facilities) at risk to hazards ranked of medium or high significance that may vary from other parts of the planning area.

The key information to support the HIRA for this Annex was collected through a Data Collection Guide, which was distributed to each participating municipality, community services district, 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/district. In addition, the Nipomo CSD planning team was asked to share information on past hazard events that have affected the District.

Each participating jurisdiction or district was in support of the main hazard summary identified in the Base Plan (See Table L.3 Nipomo CSD Hazard Risk Summary). 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.3 Nipomo CSD Hazard Risk Summary). Identifying these differences helps the reader to differentiate the District'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 Nipomo 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 more detailed quantitative and qualitative analyses with best available data for all hazards in the County.

The hazard summaries in Table L.3 Nipomo CSD Hazard Risk Summary reflect the hazards that could potentially affect the District in major ways. Based on this analysis, the priority hazard (High Significance) for mitigation is Drought. The second priority hazards (Medium Significance) are Earthquake and Liquefaction. The discussion of vulnerability for each of the assessed hazards is in contained in the following sections. Those of Medium or High significance for the Nipomo CSD are identified below.

- Drought
- Earthquake & Liquefaction
- Wildfire
- Human Caused Hazards: Hazardous Materials

Other Hazards

Hazards assigned a Significance rating of Low and which do not differ significantly from the County ranking (e.g., Low vs. High) will be profiled in a limited manner. In the Nipomo CSD, these include:

- Dam Incidents
- Flooding
- Landslide/Debris Flow

Additionally, the CSD's Committee members decided to rate several hazards as Not Applicable (N/A) to the planning area due to a lack of exposure, vulnerability, and no probability of occurrence. The following hazards are considered Not Applicable (N/A) to the Nipomo Community Services District.

- Adverse Weather
- Agricultural Pests and Plant Diseases
- Biological Agents
- Coastal Erosion
- Coastal Flooding and Inundation
- Hazardous Trees
- Land Subsidence
- Sea Level Rise
- Tsunamis and Seiches





L.3.1 Assets at Risk

This section considers the District’s assets at risk, including values at risk, critical facilities and infrastructure, historic assets, economic assets, and growth and development trends.

Values at Risk

The following data on property exposure is derived from San Luis Obispo County Assessor’s data. This data should only be used as a guideline to overall values in the Community Services District as the information has some limitations. Table L.4 Property Exposure Values for the Nipomo CSD by Parcel Type shows the exposure of properties (e.g., the values at risk based on improvement values, content values, and total values as an addition of these two types of values) broken down by property type for the Nipomo Community Services District. Refer to the Base Plan Section 5.2 (HIRA Asset Summary) for more details on value information, content calculations, and overall parcel analysis methodology.

Table L.4 Property Exposure Values for the Nipomo CSD by Parcel Type

Property Type	Parcel Count	Improved Value	Content Value	Total Value
Agricultural	3	\$736,601	\$736,601	\$1,473,202
Commercial	60	\$51,059,866	\$51,059,866	\$102,119,732
Government/ Utilities	49	--	--	\$0
Other/Exempt/Misc.	132	\$13,106,704	--	\$13,106,704
Residential	3,327	\$785,708,738	\$392,854,369	\$1,178,563,107
Multi-Family Residential	182	\$55,234,041	\$27,617,021	\$82,851,062
Mobile/Manufactured Homes	289	\$22,766,514	\$11,383,257	\$34,149,771
Residential: Other	301	\$47,573,788	\$23,786,894	\$71,360,682
Vacant	40	\$9,130,020	--	\$9,130,020
TOTAL	4,383	\$985,316,272	\$507,438,008	\$1,492,754,280

Source: San Luis Obispo County 2019 Assessor data; ParcelQuest; Wood Plc analysis

Critical Facilities and Infrastructure

A critical facility is defined as one that is essential in providing utility or direction either during the response to an emergency or during the recovery operation. See Section 5 of the Base Plan for more details on the definitions and categories of critical facilities.

An inventory of critical facilities in the District based on San Luis Obispo County GIS data as well as structures obtained from the Homeland Infrastructure Foundation-Level Dataset (HIFLD) is provided in





Table L.5 Summary of Nipomo CSD's Critical Facilities and Table L.6, and is illustrated in Figure L.2. The four types of Critical Facilities categorized by San Luis Obispo County and its jurisdictions' and districts' planning teams are: Emergency Services, High Potential Loss Facilities, Lifeline Utility Systems, and Transportation Systems. Refer to Section 5.2 of the Base Plan for more information on the assets used throughout this Annex and the county-wide analyses.

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Table L.5 Summary of Nipomo CSD’s Critical Facilities

Facility Category	Facility Type	Count
Emergency Services	Day Care Facilities	2
	Emergency Medical Service Stations	1
	Fire Stations	1
	Private Schools	1
	Public Schools	4
Lifeline Utility Services	Water Treatment Facilities	1
TOTAL		10

Source: San Luis Obispo County Planning and Building; LAFCO; HIFLD; Wood Plc analysis

Table L.6 Details about Nipomo CSD’s Critical Facilities

Facility Type	Name
Day Care Facilities	Dayspring Preschool
Day Care Facilities	Nipomo Recreation – Little Bits Preschool
Emergency Medical Service Stations	California Dept. of Forestry and Fire Protection Station 20 (Nipomo Fire Station)
Fire Stations	Station 20 (Nipomo Fire Station)
Private Schools	Highland Preparatory School
Public School	Central Coast New Tech High School
Public School	Dana Elementary School
Public School	Nipomo Elementary School
Public School	Nipomo High School
Water Treatment Facilities	Blacklake Waste/Treatment Water Facility

Source: San Luis Obispo County Planning and Building; LAFCO; HIFLD

Additional Critical Facilities

Three additional Essential Infrastructure facilities identified by the District Planning Team are listed below under the Lifeline Utility Services category. In total the Nipomo CSD contains 13 critical facilities (including those 10 from the previous table):

- Wastewater Treatment Plan - \$18 million replacement value
- Water Treatment/Distribution facility - \$50 million replacement value
- Wastewater Treatment Plan - \$8 million replacement value





Emergency Service Facilities

The Nipomo CSD contains nine Emergency Services facilities aimed at providing for the health and welfare of the entire community. These include day care facilities, emergency medical service stations, fire stations, and schools as noted in

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Table L.5 Summary of Nipomo CSD’s Critical Facilities and Table L.6.

Transportation Systems and High Potential Loss Facilities

No critical transportation facilities were noted for the District. However, there may be certain structures or entities important to the District, particularly along the main corridor running through Nipomo (Highway 101) or other major nearby transportation lines (e.g. Highway 1, Highway 166).

No high potential loss facilities such as power plants were identified by the County, HIFLD dataset, or the Planning Team. As will be noted under the Human Caused Hazards Section of this annex as well as in Section 5 of the Base Plan, several hazardous materials facilities are located in the District and there is a history of hazardous spills or incidents in/near the community.

Lifeline Utility Systems

A potential of four lifeline facilities have been identified for Nipomo. The Blacklake Waste/Treatment Water facility was obtained from the HIFLD national dataset (noted in Table L.6) while the other three were indicated by the Nipomo CSD Planning Team. Other facilities or structures falling within the lifeline utility systems category may be present in or nearby the District (e.g. oil/gas, electric power, communication systems), but those were not found to serve a critical purpose or function to the Nipomo community.

Historic and Cultural Resources

Historical assets include local, county, state, and potentially federally listed historic sites. Based on data provided by the County of San Luis Obispo and LAFCO, it was found that there are 7 historic and cultural resources in or near the Nipomo CSD. These are summarized in Table L.7.

Table L.7 Nipomo CSD’s Historic and Cultural Resources

Area Plan Where Noted	Property Name	Year	Description
South County Inland Area Plan	Dana Adobe	1839	Historical Landmark No. 1033 (Rancho Nipomo)
	Dana House	1882	535 Mehlschau - http://www.danapowershouse.com
	Los Berros Adobe Barn	1860	159 Avis St
	Los Berros Schoolhouse	1890	1841 Grant Ave
	Old St. Joseph’s Church	1902	110 Thompson Av
	Pacific Coast Railroad Depot	1881	right-of-way granted in 1881
	Runels Home - Dana Street	1886	now Kaleidoscope Inn & Gardens

Source: San Luis Obispo County Planning and Building; LAFCO

Natural Resources

Natural assets may include wetlands, threatened and endangered species, or other environmentally sensitive areas. Natural and environmental 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 San Luis Obispo County Inland Area Plan was adopted in 2014. This larger plan comprises the Nipomo CSD as well as Nipomo’s valley sub-basins within the Santa Maria Valley Groundwater Basin, all in the South County sub-area plan. Based on information pulled from this South County sub-area plan, the Nipomo Mesa is an important destination for recreation that contributes to the local economic base, including construction of golf courses. The characteristics of the community mix urban appeal with rural features





and lifestyles through development of site-sensitive treatment of scenic areas, parks, expansive biking and pedestrian infrastructure, and public and tourist-related transit that enhance quality of life. Based on these aspects, natural resources and environmental assets are undoubtedly key to the Nipomo community and should be carefully considered during development and planning efforts.

Economic Assets

Tourism is a large economic driver for the Nipomo community due to recreational and environmental assets as discussed in the above section. However, agriculture is important to the community as well, as are commercial, retail, and services. These types of economic assets could be compromised due to various hazards such as drought, flooding, earthquake, liquefaction, severe weather, and wildfire among others.

L.3.2 Estimating Potential Losses

This section details vulnerability to specific hazards of medium or high significance, where quantifiable, noted by the Planning Team, and/or where it differs significantly from that of the overall County. Impacts of past events and vulnerability to specific hazards are further discussed below, though refer to Section 5 of the Base Plan for more details on the County's HIRA findings and hazard profiles.

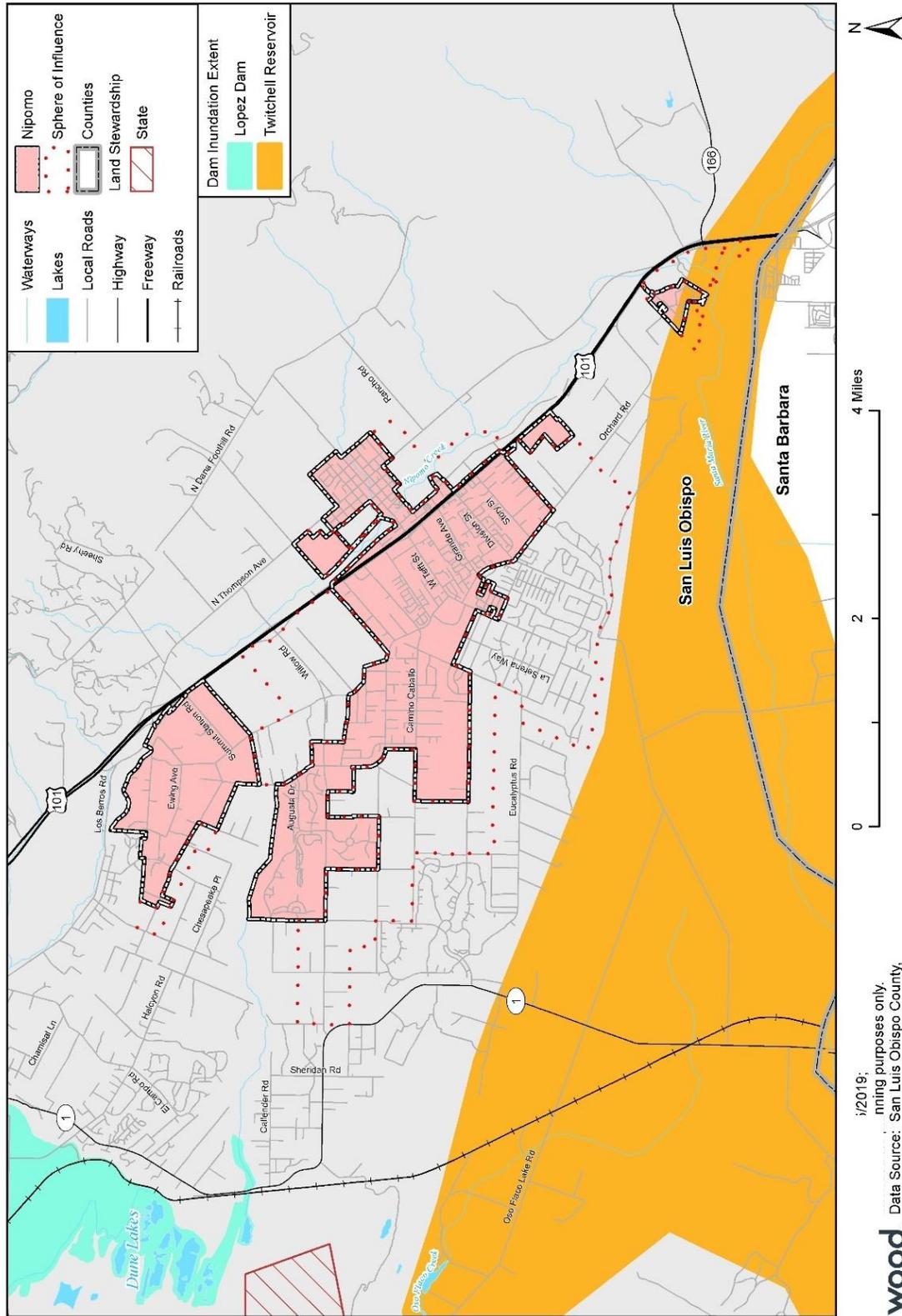
Dam Incidents and Failure

The Nipomo CSD is at risk of dam failure incidents based on its location downstream of the Twitchell Reservoir Dam. The Twitchell Dam is a high hazard earthen dam located just southeast of Nipomo, within Santa Barbara County and flowing into San Luis Obispo County on its southwest corner. If this dam were to fail and flood through the Santa Maria River into Nipomo, it would inundate the southeast corner of the District around the intersection of Highway 101 and Highway 166 (see Figure L.3). Note that this figure also depicts the nearby inundation of the Lopez Dam, which reaches the Dune Lakes on the northwest of Nipomo but does not quite reach the District.





Figure L.3 Dam Inundation of the Twitchell Dam in the Nipomo CSD



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 nning purposes only.
 Data Source: San Luis Obispo County,
 US Census TIGER Database, CA Open
 Data Portal, BLM/California State Office,
 LAFCC, NID 2018, CA DWR



Though failure of the Lopez Dam is not expected to reach the Nipomo CSD, a major severe weather, local flooding event, or other existing hazard incident combined with dam inundation could possibly reach the community and cause unexpected damage. However, it is inundation caused by a potential unscheduled release or failure of the Twitchell Dam that would be of higher concern to the District given the mapped extents shown on Figure L.3 and based on the loss estimates summarized in Table L.8 below.

Table L.8 Estimated Losses by Property Type in Nipomo CSD based on Twitchell Dam Inundation Extents

Property Type	Parcel Count	Improved Value	Content Value	Total Value	Loss Estimate	Population at Risk
Other/Exempt/Miscellaneous	5	--	--	\$0	\$0	--
Residential	44	\$16,446,047	\$8,223,024	\$24,669,071	\$12,334,535	110
TOTAL	49	\$16,446,047	\$8,223,024	\$24,669,071	\$12,334,535	110

Source: San Luis Obispo County Planning and Building Dept., Assessor’s Office, ParcelQuest, Wood Plc Parcel Analysis

Based on the above information, a total of 110 persons and 49 properties may be inundated if the Twitchell Dam was to fail. It would be expected that 44 of these properties would be of type “residential” while 5 may be miscellaneous or exempt. Refer to Section 5.3.5 Dam Incidents of the Base Plan for additional details on this hazard and estimated losses across the County. There are no critical facilities within Nipomo that would be at risk of this dam possibly failing.

A failure of the Twitchell Dam could also affect Highway 101 and several local roads, possibly impeding or reducing flows of goods, people and resources and hence having some impact across the District. There have been no past dam incidents or failures in the District, so this dam incidents and failure hazard could be rated as holding **Low Significance** to the District due to the vulnerability shown on the previous analysis and mapping.

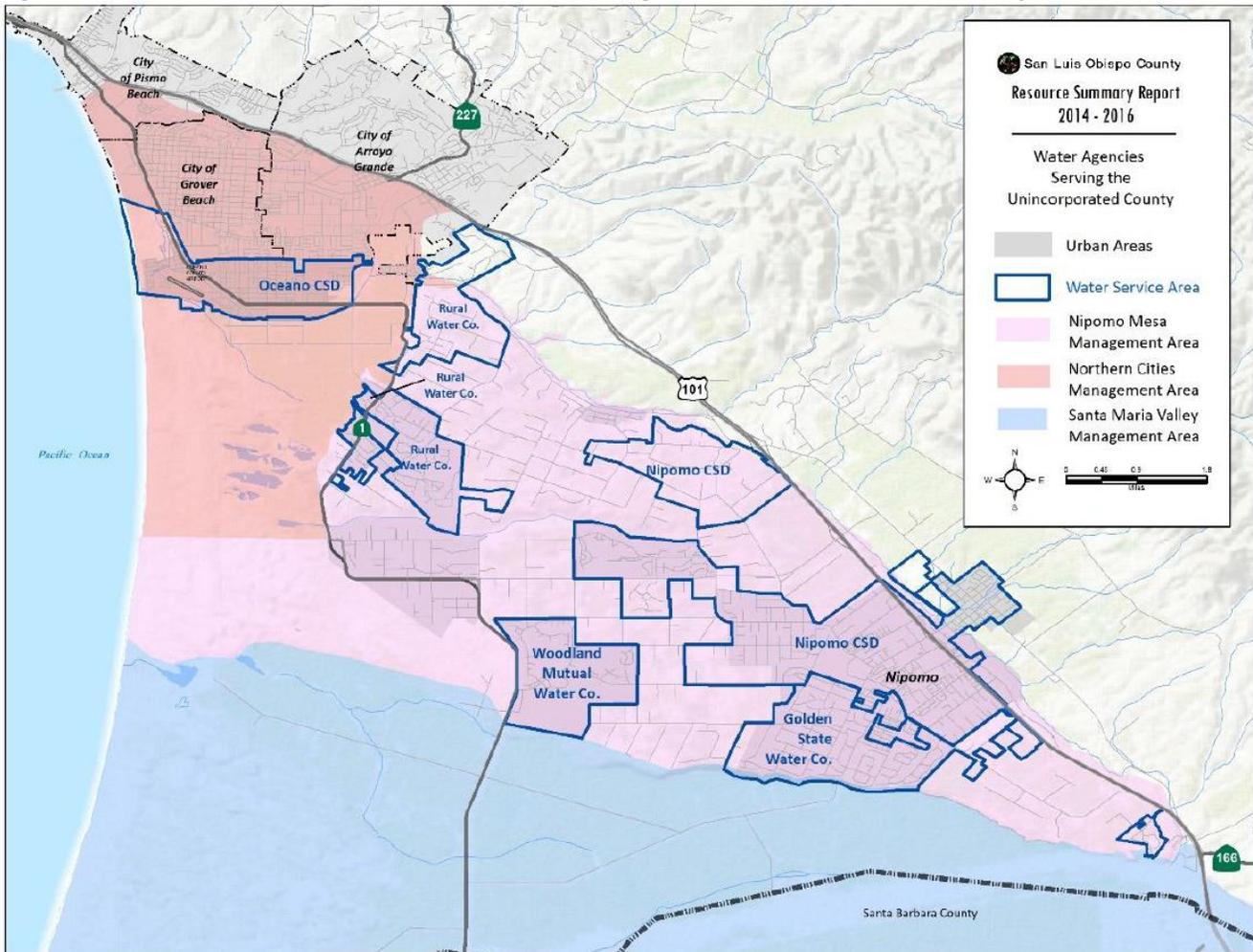
Drought and Water Shortage

Nipomo is located in the Santa Maria Groundwater Basin, within the Nipomo Mesa Management Area (see Figure L.4). As noted previously in this annex, the Nipomo CSD has dealt with issues of drought and water shortage in the past, which led to the acquisition of supplemental sources from Santa Maria, for example. This project hopes to push water capacity to 3,000 Acre-Feet per Year (AFY) to reduce usage from groundwater sources on somewhat depleted aquifers and basins, as one of the District’s core vision statements is to provide customers with reliable and cost-effective water now and in the future. The Nipomo CSD’s Water Shortage Response and Management Plan was created also with a key goal of enhancing the District’s abilities to respond to drought and other water supply emergencies, and hence continue being sustainable though the years when it comes to this precious water resource.





Figure L.4 Santa Maria Groundwater Basin, Management Areas, and Water Purveyors



Source: San Luis Obispo County 2014-2016 Resource Management Report

In present day, drought and water shortages pose a risk to the community and the services provided by the Nipomo CSD. Table L.9 was obtained from the San Luis Obispo County 2014-2016 Resource Management Report and shows the existing and forecasted water supply and demand for the five water purveyors within the Santa Maria Groundwater Basin of which the Nipomo CSD is part. Drought impacts are wide-reaching and may be economic, environmental, and/or societal. As noted in the table below, in addition, water demand projected over 15 years is expected to equal or exceed the estimated dependable supply.





Table L.9 Nipomo Mesa Management Area Existing and Forecasted Water Supply and Demand

Table II-17 -- Santa Maria Groundwater Basin – Nipomo Mesa Management Area Existing and Forecasted Water Supply and Demand					
Demand	Nipomo CSD	Woodlands Mutual Water Co.	Golden State Water Co.	Agriculture	Rural
FY 2015/2016 Demand (AFY) ¹	1,773.3	732.1	625.1	7,337	2,878 ²
Forecast Demand in 15 Years (AFY)	3,995	1,386 ⁵	1,690	7,575	5,222
Forecast Demand in 20 Years (AFY)	4,103	1520 ⁶	1,847	8,291	5,661
Buildout Demand (30 Or More Years) (AFY)	4,244 ³	1520 ^{4,6}	1,944	8,291	5,661
Supply					
Nipomo Supplemental Water Project (AFY) ⁵	2,237	417	208	0	0
Santa Maria Groundwater Basin -- Nipomo Mesa Sub-Area (AFY)	1,000	817	852	7,482	2,095
San Luis Obispo Valley Groundwater Basin	0	0	0	809	226
Other GW Supplies	0	0	0	0	0
Recycled Water (AFY)	60-74	200	0	0	0
Total Supply:	3,311	1,434	1,060	8,291	5,661
Water Supply Versus Forecast Demand	Water demand projected over 15 years is projected to equal or exceed the estimated dependable supply. ⁴				

Notes: 1. See Table II-1. Current year data for agriculture is from the Nipomo Management Area 2015 Annual Report. 2. Nipomo Mesa Management Area 2015 Annual Report. 3. Nipomo CSD 2015 Urban Water Management Plan. 4. Ten percent additional water conservation (beyond what has already been accomplished) assumed for the low end of the forecast buildout demand, except for Grover Beach, which assumed 20% additional reduction. 5. Nipomo supplemental water project includes Nipomo CSD, Woodlands MWC, Golden State Water Company, and Rural Water Company. Nipomo CSD will receive approximately 1,667 AFY and has reserved an additional 500 AFY. The other three will receive 833 AFY. 6. The NCMA cities, NMMA cities, County, District, and local land owners actively and cooperatively manage surface and groundwater with the goal of preserving the long-term integrity of water supplies in the NCMA and NMMA. 7. Demands are based on an 18-hole golf course constructed in Phase IIA/IIB. Projected demands may be reduced if the open space is planted with vineyards or drought tolerant landscaping in lieu of the golf course.

Source: San Luis Obispo County 2014-2016 Resource Management Report

Drought was classified by the Planning Team as the most significant hazard for Nipomo, just as it is a **High Significance** hazard for the entire County of San Luis Obispo. The most notable 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. During past drought events and due to new water source acquisitions in the planning area, water restrictions and increased water rates have been imposed, while water savings are always encouraged. For example, beginning 2014 there was a 30% water reduction restriction mandated by the State of California which affected the District; during this time of drought, groundwater table damages were identified in Nipomo. Drought conditions can also cause soil to compact and not absorb water well, potentially making an area more susceptible to flooding, erosion, and debris flows. One recommended action from the San Luis Obispo County 2014-2016 Resource Summary Report related to the Nipomo CSD is that the District work





with the County's Sanitation District and other local stakeholders to improve water supply reliability and move towards the use of recycled water to meet future demands.

Earthquake and Liquefaction

Nipomo sits on an ancient sand dune, and there are several faults underlying or near the District, such as the San Luis Range fault system/South Margin faults and the Santa Maria Fault. (See a very basic layout of the District and surrounding faults in Figure L.5.) Because of earthquake, coupled with liquefaction (both of which are discussed in more detail in Section 5.3.7 of the Base Plan) and earth movement issues, the Planning Team for the District noted that its infrastructure is prone to severe or even catastrophic failure from seismic activities. However, recent efforts to construct well-deigned above ground structures has resulted in greater focus on earthquake survivability for critical and essential infrastructure and properties.

For example, the District built the Joshua Road Reservoir in 2017 (a post stressed designed concrete water storage structure), and it was constructed with the ability to withstand a severe earthquake during its 100-year life cycle. In addition, as with many public and municipal structures across the County, Nipomo's above ground facilities are built with a high degree of resilience and capability to withstand earthquakes. Underground facilities are less vulnerable in these environments, as flexibility of pipelines and valves in sand have limited distribution system failures during seismic activities. Nevertheless, the Planning Team noted that the original distribution systems off the ancient dunes east of Highway 101 in Nipomo would be the most vulnerable to earthquakes, and would be expected to experience greater rates of failure due to the soil types in which they are found as well as the pipeline bedding practices exercised by the early District design engineers. In addition, the District's Southland and Blacklake wastewater facilities are typical above-ground facilities that are susceptible to earthquakes and would experience measurable damage consistent with the strength of an earthquake, so that the greater the quake the greater the degree of damage to these. The Southland facility was rebuilt in 2014 and incorporates modern engineering standards to better withstand earthquakes, while Blacklake, built in 1984, is more vulnerable to damage caused by an earthquake due to its age and design.

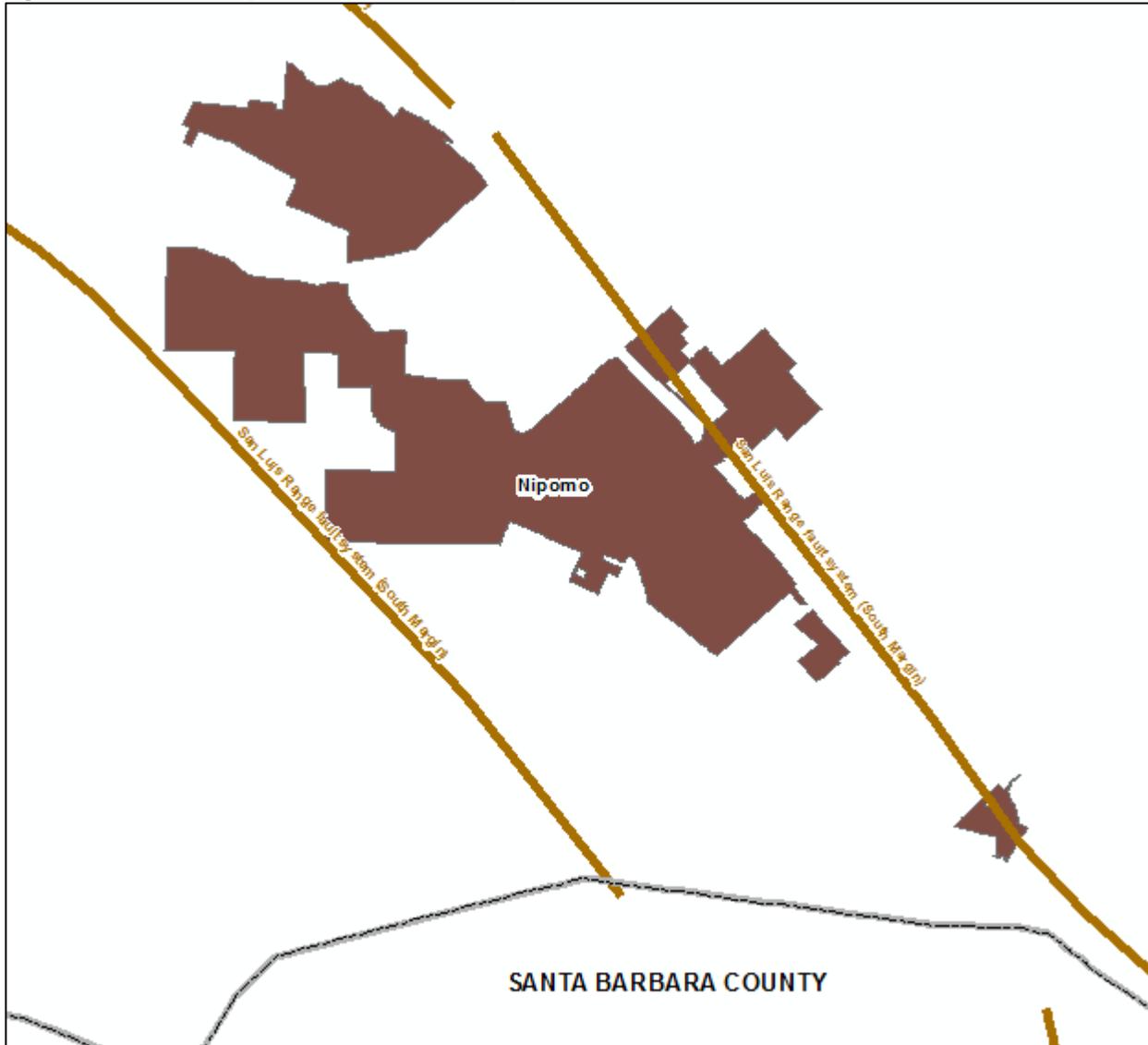
Because of the recent and ongoing efforts and projects in Nipomo, as well as the inherent understanding of the Planning Team regarding seismic activity and the District's infrastructure, the earthquake and liquefaction hazards can be rated as **Medium Significance** even though the County of San Luis Obispo rated it as high significance.

In terms of liquefaction, the Nipomo CSD is almost completely covered by liquefiable soils that are rated as posing moderate risk. The portion of the District that falls to the east of Highway 101 (near N. Thompson Ave and north of Nipomo Creek) is only found to be at low risk of this hazard, though high risk liquefaction potential is found surrounding the District to the south, southeast, and west. See Figure L.6 for reference on liquefaction risk.





Figure L.5 Earthquake Fault near the Nipomo CSD

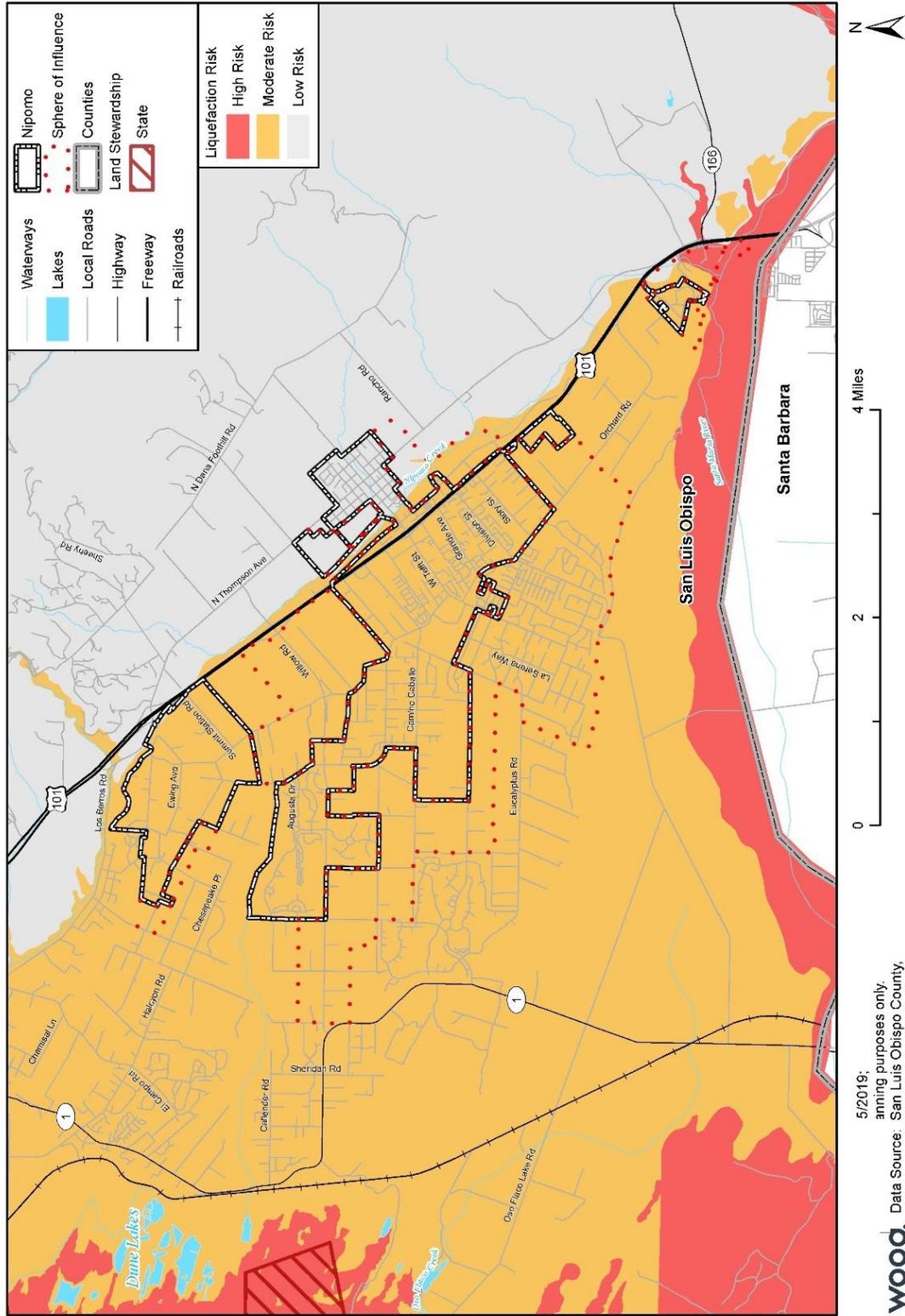


Source: USGS; San Luis Obispo County Planning and Building; LAFCO





Figure L.6 Liquefaction Risk in the Nipomo CSD



5/2019;
anning purposes only.
Data Source: San Luis Obispo County,
US Census TIGER Database, CA Open
Data Portal, BLM/California State Office, LAFCO,





GIS overlay analysis was performed on the parcel and liquefaction risk data for the County of San Luis Obispo and refined for the Nipomo CSD to quantify how many parcels (and their improved and content values) were exposed and hence vulnerable to liquefaction hazards. The loss estimates calculated for the Nipomo CSD based on property type are summarized in Table L.10 for moderate liquefaction risk (as no other liquefaction risk category affects the District’s properties). Based on this assessment, 3,590 parcels are at risk of this hazard with most of them falling in the residential category, followed by other/exempt/miscellaneous, commercial, vacant, government/utilities, and agricultural. The total parcel value at risk surpasses the \$1.3 billion mark.

Table L.10 Loss Estimates from Liquefaction Risk in the Nipomo CSD – Moderate Risk

Property Type	Parcel Count	Improved Value	Content Value	Total Value
Agricultural	3	\$736,601	\$736,601	\$1,473,202
Commercial	39	\$45,215,073	\$45,215,073	\$90,430,146
Government/Utilities	28	--	--	\$0
Other/Exempt/Misc.	119	\$11,854,581	--	\$11,854,581
Residential	2,691	\$688,463,179	\$344,231,590	\$1,032,694,769
Multi-Family Residential	142	\$50,140,963	\$25,070,482	\$75,211,445
Mobile/Manufactured Homes	284	\$22,109,614	\$11,054,807	\$33,164,421
Residential: Other	245	\$39,655,572	\$19,827,786	\$59,483,358
Vacant	39	\$8,866,622	--	\$8,866,622
TOTAL	3,590	\$867,042,205	\$446,136,338	\$1,313,178,543

Source: San Luis Obispo County Planning and Building Dept., Assessor’s Office, ParcelQuest, Wood Plc Parcel Analysis

With regards to critical facilities, the Nipomo CSD contains eight that are at moderate risk of liquefaction. These are noted in Table L.11. No critical facilities are found in high liquefaction risk areas.

Table L.11 Critical Facilities in Moderate Liquefaction Risk in the Nipomo CSD

Critical Facility Type	Critical Facility Total
Day Care Facilities	2
Emergency Medical Service Stations	1
Fire Stations	2
Private Schools	1
Public Schools	1
Water Treatment Facility	1
TOTAL	8

Source: San Luis Obispo County Planning and Building Dept., HIFLD, LAFCO, Wood Plc Parcel Analysis

Flood

The Nipomo CSD falls within the County of San Luis Obispo’s Water Planning Area 3, which corresponds to the San Luis Obispo/South County zone. Within this zone, Nipomo is located in the Nipomo Creek/Santa Maria River watershed. Nipomo is at risk of riverine flooding based on the Federal Emergency Management Agency (FEMA) data last updated for San Luis Obispo County in February of 2019.

Nipomo Creek, which crosses the District in a north/south fashion following Highway 101 to the east of the community boundaries, is the main source of flooding affecting Nipomo. The Santa Maria River to the south and minor tributaries to the Nipomo Creek such as Deleissigues Creek and Mehlschau Creek also contribute to the





flood hazard areas, though in more minor ways (see Figure L.7). The majority of the District areas at risk of flooding would be affected by the 100-year floodplain (i.e. 1% annual chance flood event), near the Tefft St and N Thompson Ave area. Smaller areas are at risk of the 500-year floodplain (i.e. 0.2% annual chance flood event), also located in the portion of the District located to the east of Highway 101.

Levees

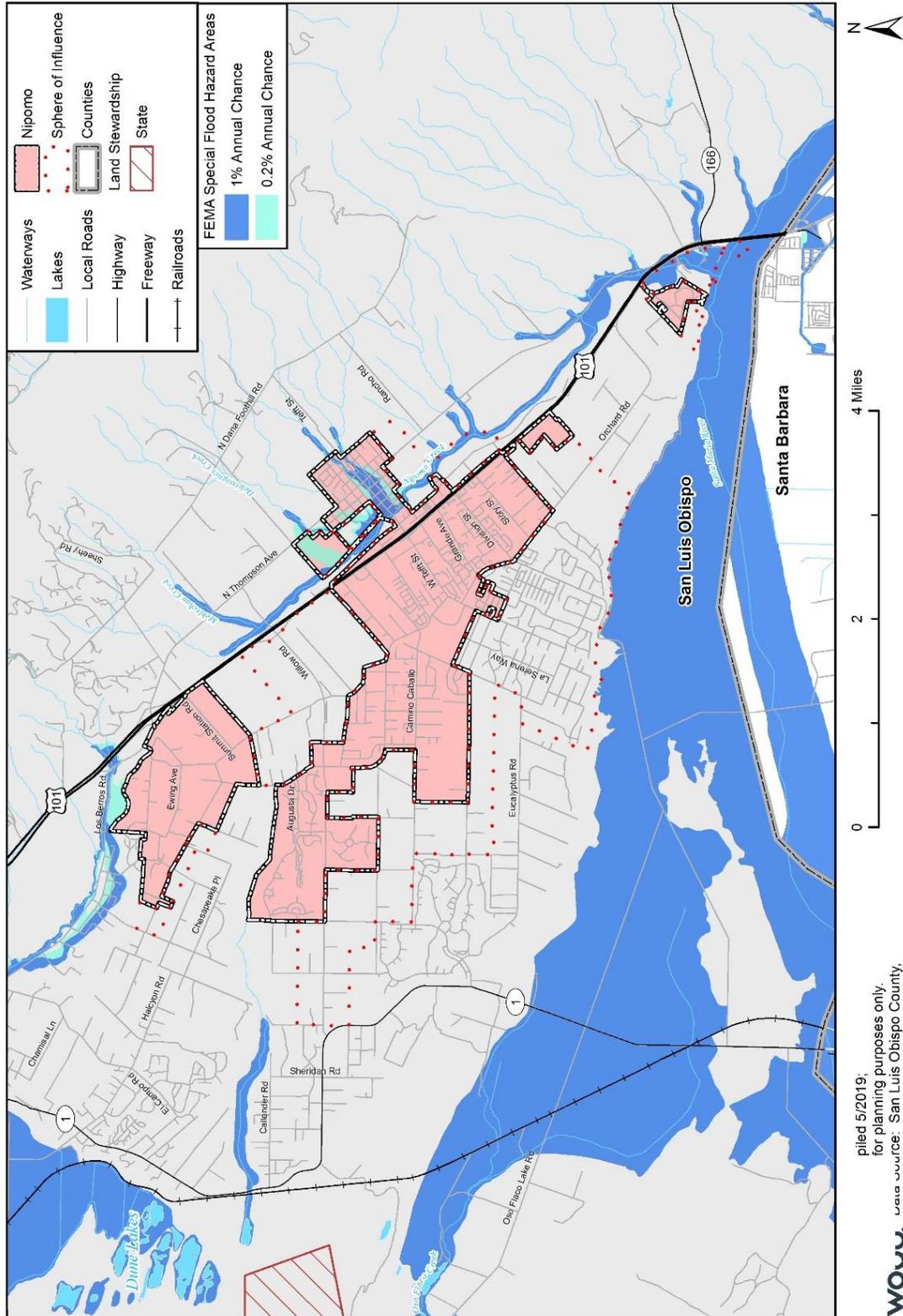
There is one levee to provide flood protection and hence reduce the risk to people and structures near Nipomo, per the San Luis Obispo County Dam and Levee Failure Evacuation Plan completed in 2016. The Santa Maria River Levee is currently owned and operated by the Santa Barbara Department of Public Works' Flood Control District. The San Luis Obispo County's Flood Control District provides some funding towards the maintenance of the levee as part the minor flood control Zone 4 for which it is responsible. Zone 4 collects service fees from properties in San Luis Obispo County that receive flood protection from the levees (including portions of Nipomo), and reimburses the Santa Barbara District for its maintenance services. This levee runs along the Cuyama River, which would be affected by the Twitchell Dam were the dam to fail or inundate downstream communities. The Santa Maria River Levee is built of river sand and parts of it are additionally protected by a layer of rock. However, this levee is not certified by the U.S. Army Corps of Engineers (USACE) to withstand a 100-year flood, and a recent inspection of the structure by USACE forced this levee to be placed on the national list of levees at risk of failure.

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Figure L.7 FEMA Flood Hazard Areas in the Nipomo CSD



dated 5/2019;
 for planning purposes only.
 Data source: San Luis Obispo County,
 US Census TIGER Database, CA Open
 Data Portal, BLM/California State Office,
 LAFCO, FEMA NFHL





Based on GIS overlay analysis of the flood hazard areas for the 100- and 500-year floodplains as well as the parcel data, it was found that 233 parcels were found to be within these hazard layers, as summarized in Table L.12 and Table L.13. While it is possible that fewer parcels are at risk of the 100-year flood event due to mitigation having taken place and the properties having been built to code (so that future flooding will not affect them), this information was not available and cannot be confirmed. But it is likely that more parcels are found to be at risk of the 500-year flood event due to not being built following California’s code guidelines, which only regard those properties in the 100-year floodplain. It should be noted that only minor riverine flooding events have affected the Nipomo CSD to date, and so this hazard was rated as having **Low Significance** by the San Luis Obispo County Planning Team for the County as a whole based on potential risk to life and property. For more details on flooding hazards in terms of background information or analysis results for the entire County, refer to Section 5.3.8 of the Base Plan.

Properties at Risk

Table L.12 Parcels in 100-Year Flood Hazard Areas in the Nipomo CSD

Property Type	Parcel Count	Improved Value	Content Value	Total Value	Loss Estimate	Population
Commercial	12	\$4,243,935	\$4,243,935	\$8,487,870	\$2,121,968	--
Government/ Utilities	4	--	--	\$0	\$0	--
Other/Exempt/ Miscellaneous	7	\$1,042,437	--	\$1,042,437	\$260,609	--
Residential	49	\$5,133,482	\$2,566,741	\$7,700,223	\$1,925,056	123
Multi-Family Residential	8	\$1,472,719	\$736,360	\$2,209,079	\$552,270	20
Residential: Other	23	\$2,910,462	\$1,455,231	\$4,365,693	\$1,091,423	58
TOTAL	103	\$14,803,035	\$9,002,267	\$23,805,302	\$5,951,325	201

Source: San Luis Obispo County Planning and Building Dept., Assessor’s Office, ParcelQuest, FEMA NFHL, Wood Plc Parcel Analysis

Table L.13 Parcels in 500-Year Flood Hazard Areas in the Nipomo CSD

Property Type	Parcel Count	Improved Value	Content Value	Total Value	Loss Estimate	Population
Commercial	8	\$1,488,840	\$1,488,840	\$2,977,680	\$744,420	--
Government/ Utilities	5	--	--	\$0	\$0	--
Other/Exempt/ Miscellaneous	4	\$53,867	--	\$53,867	\$13,467	--
Residential	59	\$6,518,049	\$3,259,025	\$9,777,074	\$2,444,268	148
Multi-Family Residential	21	\$2,629,090	\$1,314,545	\$3,943,635	\$985,909	53
Residential: Other	33	\$5,007,754	\$2,503,877	\$7,511,631	\$1,877,908	83
TOTAL	130	\$15,697,600	\$8,566,287	\$24,263,887	\$6,065,972	284

Source: San Luis Obispo County Planning and Building Dept., Assessor’s Office, ParcelQuest, FEMA NFHL, Wood Plc Parcel Analysis





Nipomo does not participate separately in the National Flood Insurance Program (NFIP) but will continue to support the County's participation in and compliance with the NFIP.

Population at Risk

As shown in the two tables above, it is estimated that 485 people could be at risk of riverine flooding hazards based on the number of residential parcels which overlay with the 100- and 500-year floodplains. These population totals were found by multiplying the average household values in the County of San Luis Obispo (2.51 persons per home) by the number of residential properties in each of the property type categories, assuming that other property types (e.g. commercial, government) would likely not be populated. The majority of the population at risk is found within the 500-year floodplain, to the east of Highway 101 near the intersection area of N Thompson Ave and Tefft Street.

Critical Facilities at Risk

Only one critical facility was found to overlap with floodplains in the Nipomo CSD. This is a public school (Nipomo High School) falling within the 500-year floodplain, located right off of N. Thompson Avenue.

Back in March of 2001 a heavy rain event that produced numerous flooding occurrences across San Luis Obispo County happened to affect Nipomo. Several small, local streams flooded, damaging 20 to 30 homes.

Landslides and Debris Flow

Landslide and debris flow hazards have been rated by the Nipomo Planning Team as a **Low Significance** hazard. This is because most of the Nipomo CSD and its sphere of influence contains very limited medium to high potential landslide risk areas. Figure L.8 displays these landslide potential areas across the CSD and its sphere of influence. As shown in the figure, small portions around the north and northwest limits of the CSD and its sphere of influence are affected by moderate landslide potential, as are the southmost tip of the detached portion of the CSD that is close to the Santa Maria River. The south portion of the District's sphere of influence crosses small parts of high landslide potential, along Riverside Road and north/northwest of Division Street and Oso Flaco Lake Road.

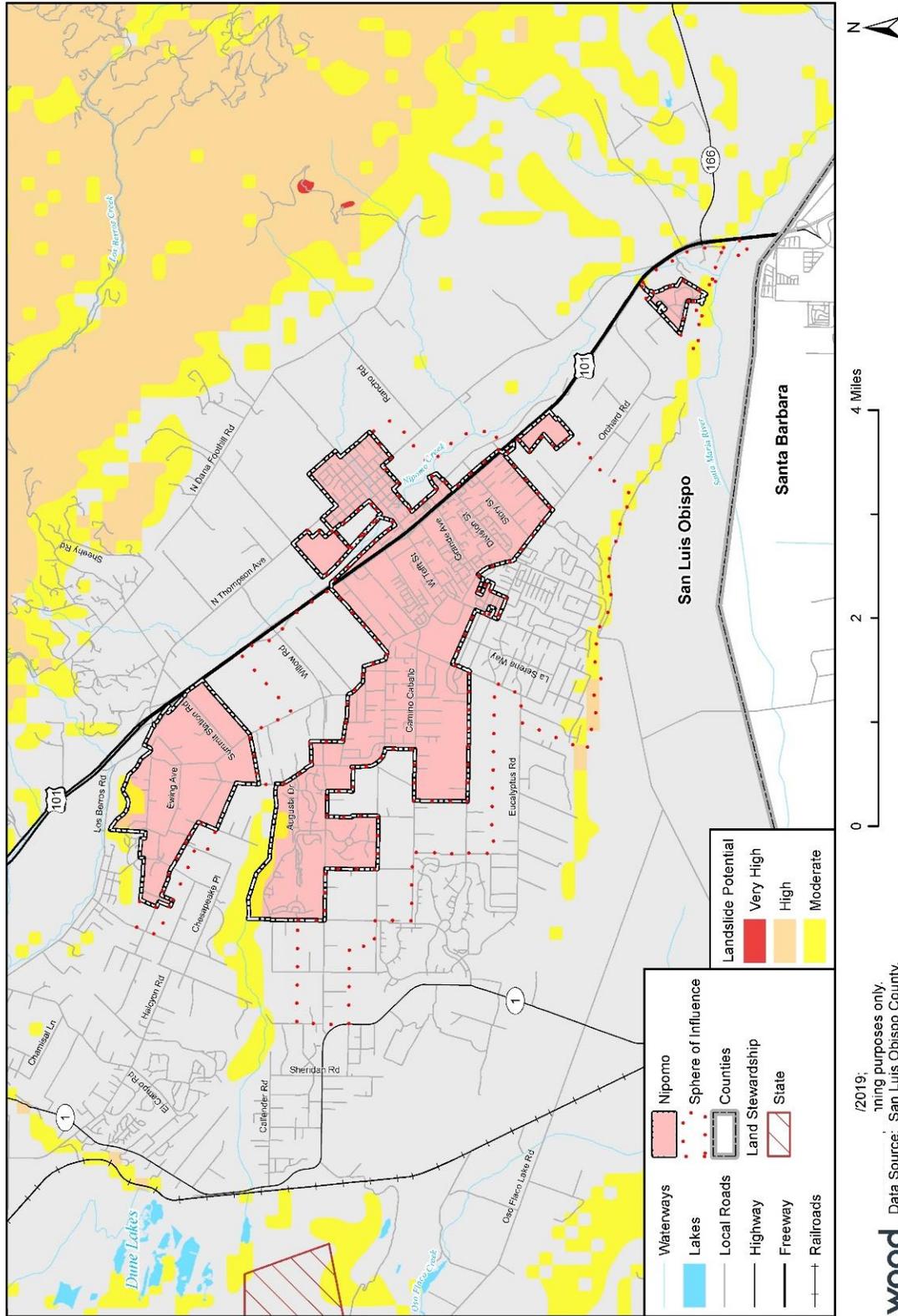
While no previous hazard occurrences have been noted for Nipomo, based on historical data for the County and given the presence of landslide-susceptible geology and steep slopes nearby, landslide hazards are likely to continue on an annual basis, though damaging landslides are not expected for the District. However, GIS overlay analysis of these landslide potential layers and the parcel data broken by type show that 19 parcels (6 of type other/exempt/miscellaneous and 13 residential parcels) are at risk of moderate landslides in Nipomo, while 1 residential parcel is at risk of high landslide potential. Figure L-8 summarizes this parcel information including loss estimates for those properties found in both moderate and high landslide potential zones. No critical facilities are found to overlap with landslide potential areas across Nipomo.

A moderate to major possible landslide event along Highway 101, or an event which affected this major road into or out of the CSD, could have serious impacts on both visitors and locals in terms of road closures or maintenance. For more details on the landslide and debris flow hazards in terms of background information or analysis results for the entire County, refer to Section 5.3.9 of the Base Plan.





Figure L.8 Landslide Potential Areas in the Nipomo CSD



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 Data Source: San Luis Obispo County,
 US Census TIGER Database, CA Open
 Data Portal, BLM/California State Office, LAFCO





Table L.14 Parcels in Moderate and High Landslide Potential Areas in the Nipomo CSD

Landslide Potential	Parcel Type	Parcel Count	Improved Value	Content Value	Total Value
Moderate	Other/Exempt/Miscellaneous	6	\$5,000	--	\$5,000
	Residential	13	\$4,060,974	\$2,030,487	\$6,091,461
TOTAL		19	\$4,065,974	\$2,030,487	\$6,096,461
High	Residential	1	\$324,185	\$162,093	\$486,278
TOTAL		1	\$324,185	\$162,093	\$486,278
GRAND TOTAL		20	\$4,390,159	\$2,192,580	\$6,582,739

Source: San Luis Obispo County Planning and Building Dept., Assessor's Office, ParcelQuest, LAFCO, Wood Plc Parcel Analysis

Wildfire

The County of San Luis Obispo overall rated wildfire as a high hazard due to history of occurrence and threat exposure. While there is no recent fire history in the Nipomo CSD, due to factors such as the coverage of high fire hazard severity zones in about half of Nipomo and its sphere of influence as well as parcel analysis results, wildfire was ranked as a **Medium Significance** hazard in the District. From the year 1900 to 2018, five wildfire incidents did occur within the boundaries of Nipomo. These are listed in Table L.15. The cause of the each of the fires summarized below is not known or unidentified.

Table L.15 Wildfire Incidents in the Nipomo CSD from 1900 to 2018

Fire Name	Year	Approximate Acres Burned
Flintkote	1957	380
Willow Road	1970	392
Willow Road	1976	937
Slu-730	1987	7,733
Mesa	1993	345
TOTAL		9,787

Source: San Luis Obispo County Planning and Building Dept., LAFCO, CalFire, Wood Plc Parcel Analysis

Properties at Risk

CalFire fire hazard severity studies show the following categories of fire severity in State Responsibility Areas (SRAs) for Nipomo (see Table L.16 and Figure L.9). The majority of the parcels at risk are found within the high fire hazard severity zone, to the west of Highway 101 and on the northern half of the CSD and its sphere of influence.





Table L.16 Parcels in Moderate and High Fire Hazard Severity Zones in the Nipomo CSD

Fire Hazard Severity Zone	Parcel Type	Parcel Count	Improved Value	Content Value	Total Value	Loss Estimate	Population at Risk
Moderate	Mobile/ Manufactured Homes	2	\$73,970	\$36,985	\$110,955	\$110,955	5
	Residential	2	\$257,929	\$128,965	\$386,894	\$386,894	5
TOTAL		4	\$331,899	\$165,950	\$497,849	\$497,849	10
High	Agricultural	2	\$170,670	\$170,670	\$341,340	\$341,340	--
	Government/ Utilities	9	--	--	\$0	\$0	--
	Other/Exempt/Miscellaneous	9	\$736,845	--	\$736,845	\$736,845	--
	Residential	410	\$136,180,705	\$68,090,353	\$204,271,058	\$204,271,058	1,029
	Multi-Family Residential	5	\$1,147,426	\$573,713	\$1,721,139	\$1,721,139	13
	Mobile/ Manufactured Homes	26	\$4,346,325	\$2,173,163	\$6,519,488	\$6,519,488	65
	Vacant	13	\$1,714,510	--	\$1,714,510	\$1,714,510	--
TOTAL		474	\$144,296,481	\$71,007,898	\$215,304,379	\$215,304,379	1,107
GRAND TOTAL		478	\$144,628,380	\$71,173,848	\$215,802,228	\$215,802,228	1,117

Source: San Luis Obispo County Planning and Building Dept., Assessor's Office, ParcelQuest, LAFCO, CalFire, Wood Plc Parcel Analysis

Population at Risk

As shown in the table above, it is estimated that 1,117 people could be at risk of fire related hazards based on the number of residential parcels which overlay with the moderate and high fire hazard severity zone layers. These population totals were found by multiplying the average household value in the County of San Luis Obispo (2.51 persons per home) by the number of residential properties in each of the property type categories, assuming that other property types (e.g. commercial, industrial) would likely not be populated. A total of 1,107 people's homes are found in the very high fire hazard severity zones, while only 10 are found in the moderate fire hazard severity zones.

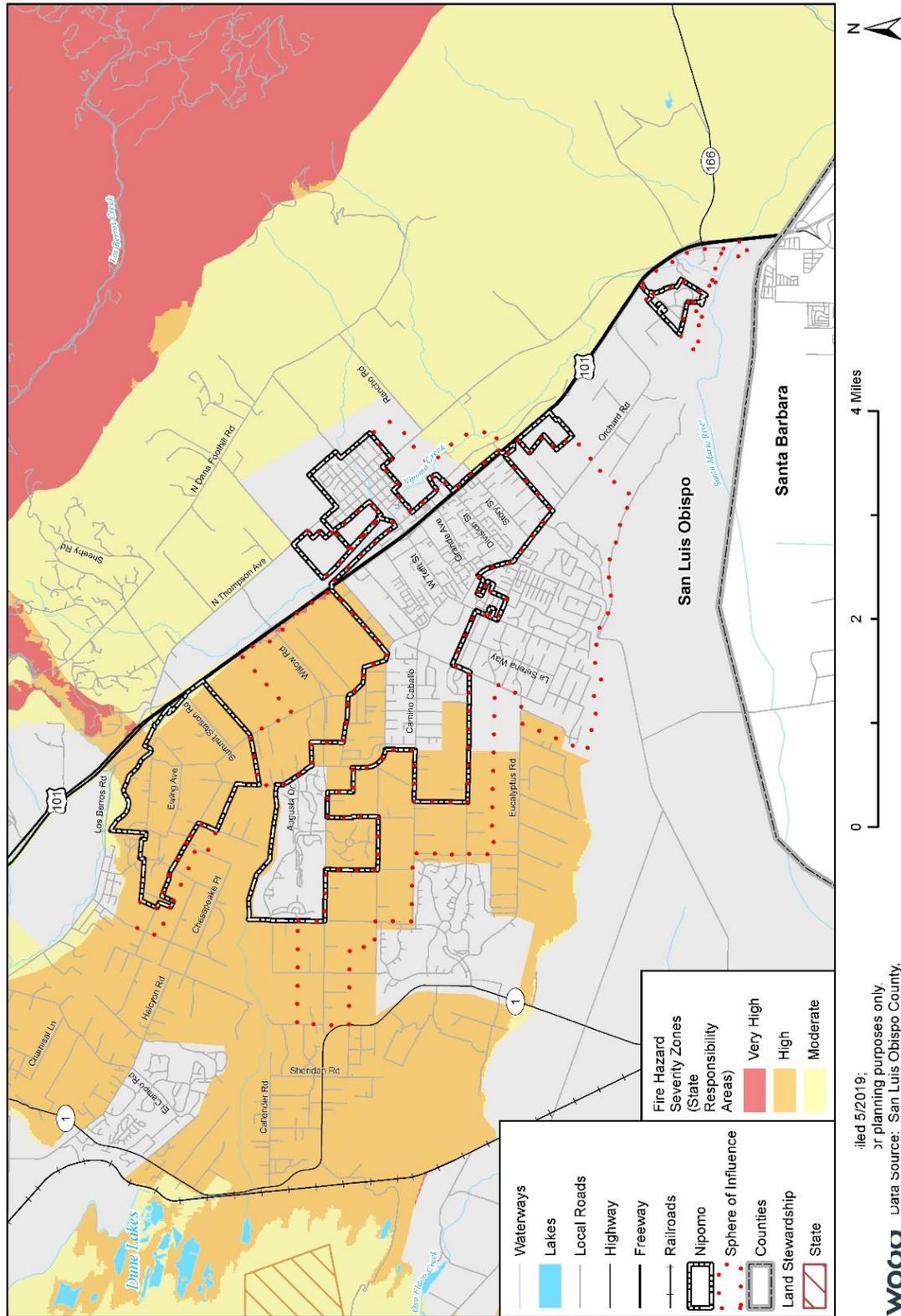
Critical Facilities at Risk

Only one school is found within fire severity zones in Nipomo. This is a private school (Highland Preparatory School) located to the west of Highway 101, off Live Oak Ridge Road, although this school might be permanently closed and hence the fire risk may not be as critical. [District: please confirm?]





Figure L.9 Fire Hazard Severity Zones in the Nipomo CSD



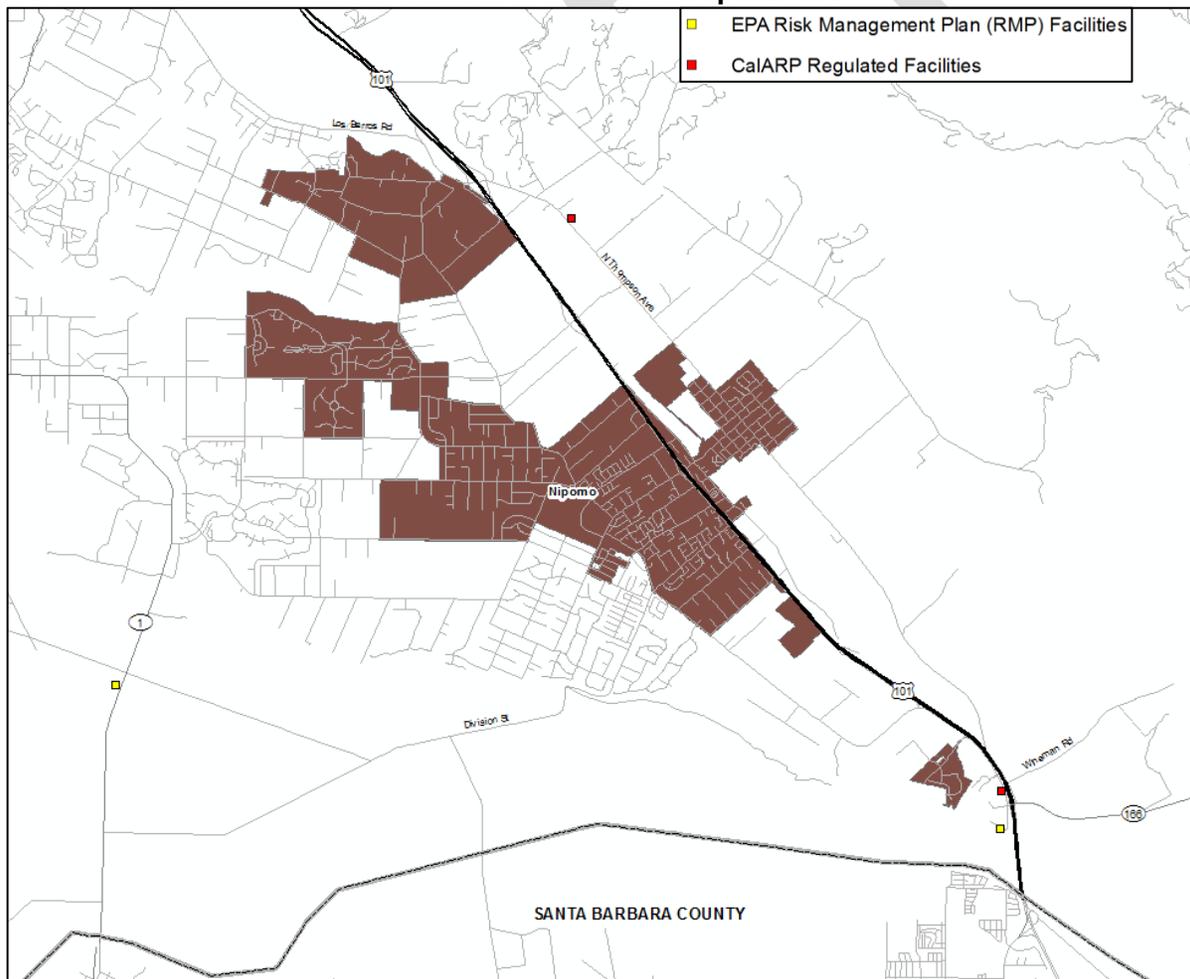
filed 5/2019;
 or planning purposes only.
 Data source: San Luis Obispo County,
 US Census TIGER Database, CA Open
 Data Portal, BLM/California State Office,
 LAFCO, CalFire



Human Caused: Hazardous Materials

The Nipomo CSD has a history of hazardous material incidents. The CalOES Warning Center reports 58 hazardous materials incidents in the Nipomo CSD from 1994 through October 24, 2018; as noted in Section 5.3.13 HazMat of the Base Plan, this likely excludes a large number of unreported minor spills. (CalOES reports an additional 209 incidents in unincorporated San Luis Obispo County, however a lack of details on this data makes it difficult to know if any of those took place within the CSD boundaries, given there is no spatial component to it.) This constitutes 3% of the hazardous materials incidents reported countywide during the same time frame, which averages out to roughly 2.3 incidents per year. As noted in Section 5.3.13, only around 6% of reported hazardous materials incidents result in injuries, fatalities, or evacuations. As shown in Figure L.10, there are two EPA Risk Management Plan (RMP) facilities and two CalARP regulated facilities located in or managed by (and hence likely affecting) the District or its sphere of influence. These are summarized in Table L.17. Based on the analysis summarized herein, Hazardous Materials (HazMat) receive a rank of **Medium Significance** for the Nipomo CSD. For more details on this hazard, background information, mapping, and analysis refer to Section 5.3.13 of the Base Plan.

Figure L.10 Hazardous Materials Facilities in or near the Nipomo CSD



Source: CalOES, EPA, San Luis Obispo County Planning & Building, LAFCO, Wood Plc





Table L.17 Summary of Hazardous Materials Facilities in or near the Nipomo CSD

Source of Facility Information	Facility	Chemical/s or Substance/s Handled	Website
CalARP	Buttonwillow Warehouse	Paraquat Dichloride	http://techag.com/
	Speedling	Chlorine	https://nip-speedling.business.site/
EPA RMP	California Chemical of Santa Barbara County	Ready-Mix Concrete	http://oaspub.epa.gov/enviro/fac_gateway.main?p_regid=110000528956
	Guadalupe Cooling Company	Crop production chemicals; refrigerated materials	http://oaspub.epa.gov/enviro/fac_gateway.main?p_regid=110000560553

Source: CalOES, EPA, Wood Plc Analysis

Note: CalARP = California Accidental Release Program; EPA RMP = Environmental Protection Agency Risk Management Plan

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 and district planning representatives used a matrix of common mitigation activities to inventory policies or programs 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 and district planning representatives and Wood 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 Nipomo CSD capabilities are summarized below.

L.4.1 Regulatory Mitigation Capabilities

Table L.18 Nipomo CSD Regulatory Mitigation Capabilities 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 the Base Plan’s Section 6 Capability Assessment for specific information related to the County’s mitigation capabilities as well as more details on this topic.

Table L.18 Nipomo CSD Regulatory Mitigation Capabilities

Regulatory Tool	Yes/No	Comments
General plan	No	Included in the San Luis Obispo County efforts
Zoning ordinance	No	Included in the San Luis Obispo County efforts
Subdivision ordinance	No	Included in the San Luis Obispo County efforts
Growth management ordinance	No	Included in the San Luis Obispo County efforts
Floodplain ordinance	No	Included in the San Luis Obispo County efforts
Other special purpose ordinance (stormwater, water conservation, wildfire)	No	Included in the San Luis Obispo County efforts





Regulatory Tool	Yes/No	Comments
Building code	No	Included in the San Luis Obispo County efforts
Fire department ISO rating	No	Included in the San Luis Obispo County efforts
Erosion or sediment control program	No	Included in the San Luis Obispo County efforts
Stormwater management program	No	Included in the San Luis Obispo County efforts
Site plan review requirements	No	Included in the San Luis Obispo County efforts
Capital improvements plan	Yes	NCS D Budget Document
Economic development plan	No	Included in the San Luis Obispo County efforts
Local emergency operations plan	Yes	NCS D Emergency Operations Plan
Other special plans	No	Included in the San Luis Obispo County efforts
Flood Insurance Study or other engineering study for streams	No	Unknown
Elevation certificates (for floodplain development)	No	Included in the San Luis Obispo County efforts

Source: Wood Data Collection Guide, 2019; Nipomo CSD

L.4.2 Administrative/Technical Mitigation Capabilities

Table L.19 Nipomo CSD Administrative/Technical Mitigation Capabilities identifies the personnel responsible for activities related to mitigation and loss prevention in the Nipomo Community Services District.

Table L.19 Nipomo CSD Administrative/Technical Mitigation Capabilities

Personnel Resources	Yes/No	Department/Position/Comments
Planner/engineer with knowledge of land development/land management practices	No	SLO County Planning
Engineer/professional trained in construction practices related to buildings and/or infrastructure	Yes	Engineering/Operations. Director is Peter Sevcik
Planner/engineer/scientist with an understanding of natural hazards	No	
Personnel skilled in GIS	Yes	Contract Services: MKN Engineering & Associates
Full time building official	No	SLO County Planning
Floodplain manager	No	SLO County Planning
Emergency manager	No	SLO County
Grant writer	No	
Other personnel	No	
GIS Data Resources (Hazard areas, critical facilities, land use, building footprints, etc.)	Yes	District infrastructure
Warning systems/services (Reverse 9-11, outdoor warning signals)	No	

Source: Wood Data Collection Guide, 2019; Nipomo CSD

L.4.3 Fiscal Mitigation Capabilities

Table L.20 Nipomo CSD Fiscal Mitigation Capabilities identifies financial tools or resources that the CSD could potentially use to help fund mitigation activities.





Table L.20 Nipomo 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
Impact fees for new development	No
Incur debt through general obligation bonds	No
Incur debt through special tax bonds	No
Incur debt through private activities	No
Withhold spending in hazard prone areas	No

L.4.4 Mitigation Outreach and Partnerships

The Nipomo Community Services District runs a responsible water use outreach program to encourage conservation and efficiency by sending out public notices via quarterly newsletters, school outreach efforts, and bill stuffers for water conversation, responsible water use, and sewer misuse examples. Other outreach, partnership, and general district efforts include those stated in Nipomo’s Strategic Plan, updated in 2018.

L.4.5 Opportunities for Enhancement

Based on this capabilities assessment and the noted information from existing plans and efforts (e.g., those noted in the District’s Strategic Plan from 2018), the Nipomo Community Services District has several existing mechanisms in place that 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. Future improvements may include: providing training for staff members related to hazards or hazard mitigation grant funding in partnership with the County and CalOES; or even obtaining official certifications such as Storm Ready or FireWise certification. Additional training opportunities will help to inform District staff and 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 Nipomo Community Services District will lead to more informed staff members who can better communicate this information to the public and prevent or respond to changes in development and the District makeup overall. Furthermore, the Planning Team for the District noted that Nipomo often seeks to find opportunities to reinforce and strengthen its infrastructure during the initial design of facilities planned to be built. A review process that involves assessing other existing facilities against hazards to determine their vulnerability has not been fully cataloged, so Nipomo hopes to continue these ongoing efforts in the future.

L.5 Mitigation Strategy

L.5.1 Mitigation Goals and Objectives

The Nipomo CSD adopts those hazard mitigation goals and objectives developed by the County Planning Team and described in Section 7 of the Base Plan: Mitigation Strategy.

L.5.2 Mitigation Actions

The Planning Team for the Nipomo Community Services District identified and prioritized the following mitigation actions based on the conducted risk assessment (see Table L.21). Actions were prioritized using the process described in Section 7.2.1 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. Actions with an asterisk (*) are those that mitigate losses to future development.

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Table L.21 Nipomo CSD’s Mitigation Action Plan

ID	Hazard(s) Mitigated	Description/Background/Benefits	Lead Agency and Partners	Cost Estimate	Potential Funding	Priority	Timeline	Status/ Implementation Notes
N.1	Earthquake	Retrofit treatment facility buildings and process infrastructure to withstand earthquake shaking.	NCSD	Unknown	Rates/ Grants	Medium	2030	Not started/Begin Assessment Process 2020
N.2*	Drought	Add secondary source of water supply as additional supply to hedge against future drought conditions.	NCSD	\$5 Mil.	Rates/ Grants	High	2025	Planned to be completed by 2025
N.3	Wildfire	Install backup generators at key water production facilities to ensure water availability during power grid failures or brownouts and also to ensure that firefighting capacity remains.	NCSD	\$125,000 /site	Rates and Charges/ Grants	High	2021-2024	4 sites to be retrofitted, one per year starting Fiscal Year 2021

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L.6 Implementation and Maintenance

Moving forward, the Nipomo Community Services 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 of the Base Plan.

Incorporation into Existing Planning Mechanisms

The information contained within this Annex and the Base Plan, including results from the Vulnerability Assessments and the Mitigation Strategy will be used by the District to help inform updates of the Nipomo CSD's existing plans (e.g. Strategic Plan), as well as in the development of additional local plans, programs, regulations, and policies. Understanding the hazards which pose a risk and the specific vulnerabilities to the District and its sphere of influence will help in future capital improvement planning and development for the District. The San Luis Obispo County Planning & Building Department may utilize the hazard information when reviewing a site plan or other type of development applications within or nearby the boundaries of the Nipomo Community Services District area. As noted in Section 8, the Planning Team representative/s from the Nipomo Community Services District will report on efforts to integrate the hazard mitigation plan into local plans, programs, regulations, and policies and will report on these efforts at the annual Hazard Mitigation Plan and Planning Team review meeting.

Monitoring, Evaluation and Updating the Plan

The Nipomo Community Services 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 related County Hazard Mitigation Plan meetings or events, and for coordination with County staff and departments during plan updates. The Nipomo CSD realizes it is important to review the plan regularly and update it every five years in accordance with the FEMA Disaster Mitigation Act Requirements as well as other State of California requirements.



Local Hazard Mitigation Plan For the Oceano Community Services District



March 2019



Prepared by Category Five Professional Consultants, Inc. 



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Oceano Community Services District Local Hazard Mitigation Plan



I. ADOPTION RESOLUTIONS

A. OCSD BOD Adoption Resolution

OCEANO COMMUNITY SERVICES DISTRICT
RESOLUTION NO: 2019 - 04

RESOLUTION ADOPTING A MULTI-JURISDICTIONAL LOCAL
HAZARD MITIGATION PLAN

WHEREAS, mounting costs of disaster recovery in the nation over the past decade has promoted interest in providing effective ways to minimize our country's hazard vulnerability; and

WHEREAS, the Disaster Mitigation Act (DMA) of 2000, also commonly known as "The 2000 Stafford Act Amendments," constitutes an effort by the Federal government to reduce the rising cost of disasters; and

WHEREAS, the Disaster Mitigation Act of 2000 (the Act) requires local governments to develop and submit mitigation plans in order to qualify for the Hazard Mitigation Grant Program (HMGP) project funds; and

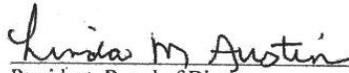
WHEREAS, the purpose of the Disaster Mitigation Act of 2000 was to establish a national program for pre-disaster mitigation, streamline administration of disaster relief at both the federal and state levels, and control federal costs of disaster assistance; and

WHEREAS, the District has concluded a planning process which allowed participation by the local community has developed a Local Hazard Mitigation Plan that meets the needs established by the Act.

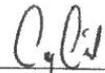
NOW, THEREFORE, BE IT RESOLVED that the Oceano Community Services District Board hereby adopts the Local Hazard Mitigation Plan attached hereto as Exhibit A.

PASSED AND ADOPTED by the Board of Directors of the Oceano Community Services District on May 22, 2019 by the following vote:

Director Gibson, Director Villa, Director Replogle
AYES: Vice President White, President White
NOES: None
ABSTAIN: None
ABSENT: None

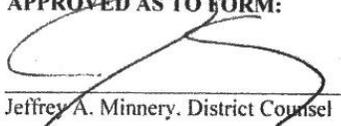

Linda M. Austin
President, Board of Directors
of the Oceano Community Services District

ATTEST:



Board Secretary of the
Oceano Community Services District

APPROVED AS TO FORM:



Jeffrey A. Minnery, District Counsel

Oceano Community Services District Local Hazard Mitigation Plan



B. FEMA Adoption Resolution

U.S. Department of Homeland Security
1111 Broadway, Suite 1200
Oakland, CA. 94607-4052



FEMA

June 3, 2019

Paavo Ogren
General Manager
Oceano Community Services District
1655 Front Street
Oceano, CA 93445

Dear Mr. Ogren:

We have completed our final review of the *Local Hazard Mitigation Plan for the Oceano Community Services District*, officially adopted by the Oceano Community Services District on May 22, 2019 and found the plan to be in conformance with Title 44 Code of Federal Regulations (CFR) Part 201.6 *Local Mitigation Plans*.

The approval of this plan ensures the Oceano Community Services District's continued eligibility for project grants under FEMA's Hazard Mitigation Assistance programs, including the Hazard Mitigation Grant Program, Pre-Disaster Mitigation Program, and Flood Mitigation Assistance Program. All requests for funding, however, will be evaluated individually according to the specific eligibility, and other requirements of the particular program under which applications are submitted.

FEMA's approval of the *Local Hazard Mitigation Plan for the Oceano Community Services District* is for a period of five years, effective starting the date of this letter. Prior to May 22, 2024, Oceano Community Services District is required to review and revise its plan to reflect changes in development, progress in local mitigation efforts, and changes in priorities, and resubmit it for approval in order to continue to be eligible for mitigation project grant funding. The enclosed plan review tool provides additional recommendations to incorporate into the plan when Oceano Community Services District undertakes its identified plan maintenance process.

If you have any questions regarding the planning or review processes, please contact the FEMA Region IX Hazard Mitigation Planning Team at fema-r9-mitigation-planning@fema.dhs.gov.

Sincerely,

fw Juliette Hayes
Director
Mitigation Division
FEMA, Region IX

Enclosure

cc: Adam Sutkus, Hazard Mitigation Planning Chief, California Governor's Office of Emergency Services
Jennifer Hogan, State Hazard Mitigation Officer, California Governor's Office of Emergency Services

www.fema.gov



II. EXECUTIVE SUMMARY

A. General Plan Description

The mounting cost of disaster recovery in our nation during the past decade has engendered a renewed interest in uncovering effective ways to minimize our country's hazard vulnerability. The Oceano Community Services District has joined a nationwide effort to develop a jurisdiction specific hazard mitigation plan. The goal of this local hazard mitigation plan is to arrive at practical, meaningful, attainable and cost-effective mitigation solutions to minimize the District's vulnerability to identified hazards and ultimately reduce both human and financial losses subsequent to a disaster.

After reviewing existing applicable plans, technical reports and historical data, in-depth risk assessments were performed to identify and evaluate each natural and man-made hazard that could impact the study area. The future probability of these identified hazards and their potential impact to the community is described.

Vulnerability assessments were performed which summarized the identified hazards' impact to each community's critical structures, infrastructure and future development. An estimate of the potential dollar losses to vulnerable structures was determined.

The risk and vulnerability assessments in addition to a local capability assessment were used to determine mitigation goals and objectives to minimize long-term vulnerabilities to the identified hazards. These goals and objectives were the foundation behind the development of a comprehensive range of specific attainable mitigation actions created for each jurisdiction.

An Action Plan was developed to assign responsibility and identify funding for each mitigation action. A plan to maintain, review and monitor the plan over time was created to ensure the goals and objectives are achieved and the plan remains a relevant document.

The entire process was shared with the Oceano Community Services District and a wide range of community stakeholders. The Plan was also shared with the general public and approved by the Oceano Community Services District Board of Directors.



Oceano Community Services District Local Hazard Mitigation Plan

B. Plan Purpose and Authority

The Disaster Mitigation Act (DMA) of 2000, also commonly known as “The 2000 Stafford Act Amendments” (the Act), constitutes an effort by the Federal government to reduce the rising cost of disasters. The Act stresses the importance of mitigation planning and disaster preparedness prior to an event.

Mitigation Planning Section 322 of the Act requires local governments to develop and submit mitigation plans in order to qualify for the Hazard Mitigation Grant Program (HMGP) project funds. It also increases the amount of HMGP funds available to states meeting the enhanced planning criteria, and enables these funds to be used for planning activities.

For disasters declared after November 1, 2004, the Oceano Community Services District must have an LHMP approved pursuant to §201.6 in order to receive FEMA Pre-Disaster Mitigation (PDM) project grants or to receive post-disaster Hazard Mitigation Grant Program (HMGP) project funding. This LHMP is written to meet the statutory requirements of DMA 2000 (P.L. 106-390), enacted October 30, 2000 and 44 CFR Part 201 – Mitigation Planning, Interim Final Rule, published February 26, 2002.

To facilitate implementation of the DMA 2000, the Federal Emergency Management Agency (FEMA) created an Interim Final Rule (the Rule), published in the Federal Register in February of 2002 at section 201 of 44 CFR. The Rule spells out the mitigation planning criteria for States and local communities. Specific requirements for local mitigation planning efforts are outlined in section §201.6 of the Rule. Local jurisdictions must demonstrate that proposed mitigation actions are based upon a sound planning process that accounts for the inherent risk and capabilities of the individual communities as stated in section §201.5 of the Rule.

In developing this comprehensive Hazard Mitigation Plan, FEMA’s Multi-Hazard Mitigation Planning Guidance (March 2004 and July 2008) was strictly adhered to for the purpose of ensuring thoroughness, diligence, and compliance with the DMA 2000 planning requirements.



Oceano Community Services District Local Hazard Mitigation Plan

III. PLANNING PROCESS

A. DMA 2000 Requirements

DMA Requirements §201.6(b) and §201.6(c)(1):

An open public involvement process is essential to the development of an effective plan. In order to develop a more comprehensive approach to reducing the effects of natural disasters, the planning process shall include:

- (1) An opportunity for the public to comment on the plan during the drafting stage and prior to plan approval;
- (2) An opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, as well as businesses, academia and other private and non-profit interests to be involved in the planning process; and
- (3) Review and incorporation, if appropriate, of existing plans, studies, reports, and technical information.

The plan shall document the planning process used to develop the plan, including how it was prepared, who was involved in the process, and how the public was involved.

B. Plan Development and Public Input Process

At the onset of the planning process, a wide-range of community stakeholders, all neighboring communities, and the County of San Luis Obispo was invited to participate in the drafting stage of the Hazard Mitigation Plan. *Please see Preliminary Notice to Neighboring Communities-Attachment B*

Informative letters were sent out to numerous business owners, community groups, and residents in addition to key representatives from neighboring jurisdictions and the County to encourage their participation. These individuals comprised a Hazard Mitigation Planning Group. Planning group meetings were held to: 1) Explain the benefits of constructing a Hazard Mitigation Plan for the Oceano Community Services District, 2) Describe the planning and approval process, 3) Review local hazards of concern, 4) Listen to particular areas concerning stakeholders, 5) Explain the risks and vulnerability to the District's people, buildings and infrastructure, 6) Propose and discuss mitigation goals, objectives and actions, 7) Explain how mitigation actions are prioritized, 8) Describe how the mitigation actions will be carried out, and 9) Encourage stakeholder feedback and public input. A capability assessment and action plan were developed to ensure mitigation actions were realistic and



Oceano Community Services District Local Hazard Mitigation Plan

attainable and to assign funding sources and responsibility for each proposed activity. These were also reviewed with planning group members.

Once the District and Planning Group Members were satisfied with the newly constructed draft plan and its mitigation goal, objectives and actions, a noticed public forum was held on November 17, 2018. This meeting was widely advertised both locally and in neighboring communities to provide an opportunity for the general public, bordering communities and regional agencies involved in hazard mitigation activities to participate in the planning process. Notice of the public forum was posted at the District office, on the District website and also sent out to Oceano CSD residents in their October 2018 water bills. It was also sent electronically to Oceano Elementary School parents via an app called PeachJar. Additionally, it was posted on the Nextdoor neighborhood website. Further, a postcard mailer announcing the event was sent to all Oceano and Halcyon residents the first week in November. A separate notification letter was sent to the San Luis Obispo County Office of Emergency Services Manager in addition to City Managers from all neighboring communities. (Attachments C and D) Several weeks prior to the public forum, the newly constructed Plan was posted on the District website to enable the public and stakeholders ample time to read and evaluate it. On November 17, the contractors presented the plan highlights and proposed mitigation actions to the general public at the Oceano Community Center located at 1425 19th Street in Oceano. The meeting was well attended. A Power Point presentation provided a detailed explanation of the risks and vulnerabilities the community faced. The mitigation goals, objectives and actions were explained as were the resources that would be used to help mitigate these hazards. Following the presentation, the public was invited to attend a question and answer session where they had the opportunity to provide feedback about the overall Plan and proposed mitigation goals and activities.

The public input was predominantly centered on two issues: 1) the ongoing flooding along Highway 1 and 2) climate warming and the subsequent sea level rise. Most attendees communicated their frustration over these issues while concurrently expressing appreciation that the County and the District appeared to be making progress on the flooding issue.

The public comments also brought to light the fact that over time operations at the neighboring Pismo Beach State Park have resulted in a lowering of the sand dunes in the vicinity of the Pier Avenue beach onramp. This factor coupled with sea level rise creates potential flooding to a portion of the District. The contractors subsequently added new verbiage in a number of areas of the plan to address this issue. For the non-applicable feedback received, the consultants explained why these suggestions were not valid to warrant incorporation into the plan. All comments were reviewed with the stakeholder group and incorporated into the Plan as appropriate.

Oceano Community Services District Local Hazard Mitigation Plan



The Local Hazard Mitigation Planning Group was comprised of the following agency representatives and key stakeholders:

Name	Agency	Title	Attended Planning Group Meetings	Identified Hazards and Assisted with Mitigation Action Development	Additional Role
Paavo Ogren	Oceano Community Services District	General Manager	Yes	Yes	Liaison to OCSD Board and FCFA Board
Ron Alsop	San Luis Obispo County Office of Emergency Services	Emergency Services Manager	Yes	Yes	Planning Advisor
Stuart MacDonald	San Luis Obispo County Sheriff's Office	Commander	Yes	Yes	Law Enforcement Technical Specialist
Steve Lieberman	Five Cities Fire Authority	Fire Chief	No	No	Technical Specialist Fire Service, Liaison FCFA Board
Karen White	Oceano Community Services District	President	Yes	Yes	Halcyon Community Liaison
Vern Dahl	Oceano Advisory Committee	Vice President, Chair	Yes	Yes	Liaison to OAC
Andy Stenson	Lucia Mar Unified School District	Assistant Superintendent of Business Services	Yes	Yes	School District Specialist, Representative to School District Board

Oceano Community Services District Local Hazard Mitigation Plan



Dena Bellman	California State Parks	Planner, Park and Recreation Specialist	Yes	Yes	Liaison to State Parks
Nola Engelskirger	County of San Luis Obispo	Staff Engineer, Utilities Division	Yes	Yes	Technical Specialist-Utilities
Jill Ogren	County of San Luis Obispo	Engineer IV	Yes	Yes	Technical Specialist, Flood Control
Mladen Bandov	County of San Luis Obispo Public Works	Water Resources Engineer	Yes	Yes	Technical Specialist, Water Resources
Megan Martin	SLO County Planning and Building	Supervising Planner	Yes	Yes	Land Use and Development Trends
Michael Conger	SLO County Planning and Building	Planner	Yes	Yes	Land Use and Development Trends
Linda Austin	Oceano Depot Association	OCSD BOD Member	Yes	Yes	Historian
Villa Infanto	Arroyo Grande Hospital	Vice President Patient Care	Yes	Yes	Healthcare Specialist
Raymond Davis	Dignity Health	Director of Plant Operations	Yes	Yes	Health Facilities Specialist
Janna Nichols	5 Cities Homeless Coalition	Executive Director	Yes	Yes	Liaison to Social Services
Cynthia Repogle	Oceano Beach Community Association/ OCSD Board	President/ Director	Yes	Yes	Liaison to OAC

Oceano Community Services District Local Hazard Mitigation Plan



Rebecca Britton	Boys and Girls Club, Oceano	Director of Operations	Yes	Yes	Community Representative
John Taylor	Phelan Taylor Produce Company	Owner	Yes	Yes	Local Business Owner
Lynne Schlenker	Great American Melodrama	Owner	Yes	Yes	Local Business Owner
Robin Harris	South County CERT/ Oceano Resident	Emergency Preparedness Task Force Chair	Yes	Yes	Community Support/ Emergency Response
Nicole Miller	Oceano Community Services District	Account Administrator III	Yes	Yes	Project Supervisor
Dan Sutton	Pismo Oceano Vegetable Exchange	General Manager	Yes	Yes	Local Business Owner
Bob Neumann	Category Five Professional Consultants	Consultant/ Vice-President	Yes	Yes	Technical Specialist- Public Safety
Sheri Eibschutz	Category Five Professional Consultants	Consultant/ President	Yes	Yes	Facilitator/ Planner



C. Incorporation of Existing Plans and Other Information

At the onset of and throughout the hazard mitigation planning process, all applicable local emergency operations plans and geotechnical reports were reviewed and incorporated into this mitigation plan. The following sources were used:

- San Luis Obispo County General Plan including:
 - Land Use Element
 - Open Space Element
 - Safety Element
 - Housing Element
- CAL FIRE/County Fire Management Plan
- California State Hazard Mitigation Plan
- San Luis Obispo County Dam and Levee Failure Plan
- San Luis Obispo County Hazard Mitigation Plan
- San Luis Obispo County Flood Control - Conservation Management Guide
- Local and State land use regulations
- Oceano Storm Water Management Plan
- Oceano Drainage and Flood Control Study (RMC, 2004)
- Past disaster declarations
- Flood Insurance Rate Maps (FIRM's)
- Airport Land Use Plan for the Oceano County Airport
- San Luis Obispo County Office of Emergency Services
 - Flood Plan
 - Tsunami Plan
 - Earthquake Plan
- NASA Global Climate Change Guidance
- National Research Council Sea Level Rise for the Coast of California, Oregon and Washington



Oceano Community Services District Local Hazard Mitigation Plan

D. Plan Adoption

Once planning group members and the general public had an opportunity to review, ask questions and comment on the proposed plan, the newly constructed LHMP was submitted to the State Hazard Mitigation Office at Cal OES. Upon receipt of approval by the State Hazard Mitigation Office, the plan was forwarded to FEMA for approval. FEMA preliminary adoption of the plan occurred on March 29, 2019. The LHMP was then taken to the Oceano Community Services District Board of Directors for approval on May 22, 2019. Adoption by the local governing body demonstrates the jurisdiction's commitment to fulfilling the hazard mitigation goals and actions outlined in the plan. Adoption legitimizes the plan and authorizes responsible agencies to execute their responsibilities. The OCSD Board of Directors approved and adopted the plan on May 22, 2019. FEMA formally adopted the OCSD Local Hazard Mitigation Plan on June 3, 2019.

IV. JURISDICTION PROFILE

A. Area History

Early Spanish explorers observed Indian settlements in the Oceano vicinity with European explorers arriving in 1769. In 1882, the developer, Coffee Adam Rice, purchased a track of land in Oceano, planned the town, and commenced construction on an enormous Victorian mansion which later was transformed into the Halcyon Sanatorium. In 1895, the Southern Pacific Railroad reached the region and a depot was constructed the following year. The Oceano Depot, which brought passenger, freight and telegraph service is believed to have played a vital role in the settlement of this area. A decade later, developers built the Oceano Pavilion on the beach along with a 1,000 foot pier and two boardwalks.

In 1905, the Villa Hotel was built at the end of Juanita Street. Less than a decade later, this hotel was transformed into the only Buddhist Monastery in North America. During World War II, the Oceano Pavilion became headquarters for the U.S. Coast Guard. It later became a roller skating rink before being torn down in 1961. The primary industry in the region was vegetable growing and packing, clamming, and mining. Despite the fact that the depot suspended passenger, mail and telegraph services in the 1950's, vegetable shipping kept the freight office active until changes in agriculture production and packing methods led to the depot's eventual closure in 1973.

The Oceano Community Services District also includes the community of Halcyon which was founded in 1903 by the Theosophical Temple of the People. In early 2017, the community was placed on the Department of Interior's (National Park Service) Historical Registry as an Historical District.



Oceano Train Depot Constructed in 1896



Oceano Hotel and Oceano Saloon (built in 1902)



B. District Overview

The Oceano Community Services District (OCSD) is an independent special district with approximately 7,600 residents and businesses in Oceano and Halcyon. Oceano is a census designated place with 1.5 square miles of land and .02 square miles of water. Halcyon is an unincorporated community of 125 acres just south of the City of Arroyo Grande.

The area to the east and south of the District consists of the Arroyo Grande Creek flood plain. It is also referred to as the Cienaga Valley. The area is prime farmland and is in constant production, engendering a significant agricultural economic impact.

Oceano is known as the ‘Gateway to the Dunes’ as its beach contains the 1,500 acre Oceano Dunes State Vehicular Recreation Area which is overseen by the California Department of Parks and Recreation. The Oceano Dunes attract a wealth of tourists to the area as it is the singular California Park that offers shoreline camping. Guests can drive off-highway vehicles (OHV) on the beach and dunes alongside the Oso Flaco Natural area. It is also a popular destination for fishing, surfing, clamming, and hiking.

C. District Services

The District provides Fire Protection and Emergency Services, Potable Water service, Garbage and Recycling, Wastewater Collection and Street Lighting. The District is also authorized to offer parks and recreation services but is not doing so at this time. The services are described as follows:

Fire Protection and Emergency Services

Fire and emergency services within the OCSD are provided through the Five Cities Fire Authority (FCFA) which was formed in 2010 under a Joint Powers Agreement (JPA) between the cities of Arroyo Grande, Grover Beach and the Oceano Community Services District. The OCSD pays a portion of the annual costs of FCFA services based on a funding formula established in the FCFA - JPA. One of the OCSD Board of Directors represents the District on the FCFA Board.

Operating out of three fire stations, the Department delivers fire suppression, fire prevention, light and heavy rescue, and emergency medical service at the basic life support level. The average response time to the service area is six minutes, answering some 3,500 calls for service each year.

Potable Water

The OCSD delivers potable water service to approximately 2,200 connections. The District’s water supplies include groundwater, Lopez Lake and State water. The latter two are provided by the County of San Luis Obispo under terms of water supply contracts. The District’s water



supply reliability is relatively high and the district was increasing water in storage during the recent drought.

The California State Division of Drinking Water regulates the District's water supplies. Regulation of the District's groundwater supply is also subject to the stipulations adopted in 2005 for the adjudication of the Santa Maria groundwater basin.

Wastewater Collection

The District offers wastewater collection via a network of local pipelines that run into South San Luis Obispo County Sanitation District (SSLOCSO) pipelines which handles wastewater treatment and disposal. The Central Coast Regional Water Quality Control Board regulates the District's wastewater operations.

Cannon Corporation Engineering Consultants is currently assessing deferred water and wastewater infrastructure projects for the jurisdiction.

Garbage and Recycling

The OCSO provides obligatory solid waste and recycling services through a franchise agreement with South County Sanitary Services, Inc. The District works to abate illegal dumping within the community by offering incentives to promote a cleaner community. They offer 'Neighborhood Clean-up's' where they bring in dumpsters and help with trash disposal. They also offer a trash incentive of up to \$50 to offset the cost of removing large unwanted items.

D. Government

OCSO Governing Board

OCSO is an independent special district governed by a five-member board who are elected by voters residing in Oceano and Halcyon.

OCSO Board meetings are conducted on the second and fourth Wednesdays of the month at 6 pm at the OCSO office at 1655 Front Street in Oceano. Meetings are open to the public.

State and Federal Government

In the State legislature, Oceano is in the 17th Senate District and in the 35th Assembly District. In the United States House of Representatives, Oceano is in California's 24th congressional district.



Oceano Community Services District Local Hazard Mitigation Plan

E. Demographics

Population Ethnicity

According to the 2010 US Census report, the population density indicated 4,710.2 individuals per square mile. Oceano's 2010 ethnic makeup was comprised of:

- 5,105 White-70.1%
- 3,484 Hispanic or Latino of any race-47.8%
- 120 Native American-1.6%
- 165 Asian-2.3%
- 62 African American-0.9%
- 7 Pacific Islander-0.1%
- 1,509 other races-20.7%
- 318 from 2 or more races-4.4%

Population Age

The median age of Oceano residents was 35.4 years old in 2010, with diverse aging groups residing within the community:

- Median 1,738 (23.9%) individuals under the age of 18
- 747 (10.3%) people aged 18 to 24
- 2,028 (27.8%) residents aged 25 to 44
- 1,870 (25.7%) individuals aged 45 to 64
- 903 (12.4%) people were 65 years of age or older
- Female to male ratio: 100: 101.9



Households

Oceano had 2,603 households in 2010 with an average household size of 2.80. These households were comprised of:

- 904 (34.7%) had minor children residing in them
- 1,147 (44.1%) contained opposite-sex married couples living together
- 360 (13.8%) contained a single female household
- 197 (7.6%) had a single male household
- 97 (7.6%) unmarried opposite-sex partnerships
- 38 (1.5%) same-sex married couples or partnerships
- 680 households (26.1%) were made up of individuals
- 266 (10.2%) had someone living alone who was 65 years of age or older
- There were 1,704 families (65.5% of all households) with an average family size of 3.39.

F. Housing Profile

Oceano's median home value is \$401,400. Over the last 10 years, home appreciation is 13.58%. The median age of real estate within this census designated place is 36 years. Renters comprise 38.81% of the population.

100% of the population resides in households and 0% living in institutional or group quarters. In 2010, there were 3,117 housing units at an average density of 2,015.1 per square mile.

Oceano Community Services District Local Hazard Mitigation Plan



HOUSING	Oceano, California	United States
Median Home Age	36	37
Median Home Cost	\$401,400	\$185,800
Home Appr. Last 12 months	8.97%	3.74%
Home Appr. Last 5 yrs.	35.53%	16.02%
Home Appr. Last 10 yrs.	13.58%	-0.68%
Property Tax Rate	\$7.34	\$11.80
Homes Owned	42.08%	56.34%
Housing Vacant	19.11%	12.45%
Homes Rented	38.81%	31.21%

AVERAGE RENT FOR HOME OR APARTMENT	Oceano	U.S.
Studio Apartment	\$750	\$712
1 Bedroom Home or Apartment	\$850	\$825
2 Bedroom Home or Apartment	\$1,100	\$1,027
3 Bedroom Home or Apartment	\$1,600	\$1,379
4 Bedroom Home or Apartment	\$1,920	\$1,601

Source: <https://www.bestplaces.net/housing/city/california/oceano>

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VALUE OF OWNER-OCCUPIED HOUSING	Oceano	U.S.
Less Than \$20,000	6.30%	4.57%
\$20,000 to \$39,999	0.82%	3.37%
\$40,000 to \$59,999	4.15%	4.19%
\$60,000 to \$79,999	2.96%	5.74%
\$80,000 to \$99,999	9.41%	6.79%
\$100,000 to \$149,999	8.96%	15.19%
\$150,000 to \$199,999	12.74%	14.69%
\$200,000 to \$299,999	22.15%	18.15%
\$300,000 to \$399,999	11.19%	10.43%
\$400,000 to \$499,999	5.11%	5.70%
\$500,000 to \$749,999	8.96%	6.39%
\$750,000 to \$999,999	4.30%	2.41%
\$1,000,000 or more	2.96%	2.39%

Source: <https://www.bestplaces.net/housing/city/california/oceano>



G. Economy

Job Growth, Income and Occupation

ECONOMY	Oceano	U.S.
Unemployment Rate	4.50%	5.20%
Recent Job Growth	2.58%	1.59%
Future Job Growth	40.66%	37.98%
Sales Taxes	7.50%	6.00%
Income Taxes	8.00%	4.60%
Income per Capita	\$20,725	\$28,555
Household Income	\$48,629	\$53,482
Family Median Income	\$46,545	\$65,443

Source: <https://www.bestplaces.net/economy/city/california/oceano>

POPULATION BY OCCUPATION	Oceano	U.S.
Agriculture, forestry, fishing, hunting	7.75%	1.35%
Mining, quarrying, oil and gas extraction	0.00%	0.61%
Construction	6.87%	6.19%
Manufacturing	5.42%	10.41%
Wholesale trade	2.97%	2.72%
Retail trade	14.68%	11.55%
Transportation and warehousing	2.97%	4.11%
Utilities	0	0



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Information	0.48%	2.12%
Finance and insurance	2.18%	4.69%
Real estate, rental, leasing	0.55%	1.89%
Professional, scientific, technical services	3.09%	6.68%
Management of companies	0.00%	0.08%
Administrative, support, waste management services	6.17%	4.27%
Educational services	7.69%	9.34%
Health care and social assistance	9.65%	13.81%
Arts, entertainment, recreation	1.30%	2.16%
Accommodation, food services	18.19%	7.44%
Other services	4.12%	4.94%
Public administration	5.27%	4.80%

Source: <https://www.bestplaces.net/health/city/california/oceano>

H. Land Use

Existing land use within the Oceano Community Service's District is a mosaic of varying types of uses, ownership, character, and intensity. Uses include:

- Both low and medium density residential
- Agriculture
- Parks and recreation
- General commercial
- Public



Oceano Community Services District Local Hazard Mitigation Plan

I. Climate

Sperling's comfort index for Oceano, California is an 84 out of 100, where a higher score indicates a more comfortable year-around climate. The U.S. average for the comfort index is 54. This index is based on the total number of days annually within the comfort range of 70-80 degrees, with a penalty applied for any days with excessive humidity. Oceano receives an annual average of 18 inches of rain compared to a U.S. average of 39 inches. There is an average of 34 days per year with measurable precipitation. Snowfall very rarely occurs. Oceano has approximately 185 sunny days each year with a July average high of 70 degrees and a January average low of 43 degrees.

J. Health Index

Oceano has 2.5 physicians per 1,000 population compared to a U.S. average of 2.1 physicians per 1,000 population.

The Oceano air quality is currently ranked 82 on a scale to 100 (higher is better). This is based on new measures of hazardous air pollutants from the EPA, called the National Air Toxics Assessment. Whereas the old analysis was based solely on results from air monitoring stations, this new method is more comprehensive as it models respiratory illness and cancer risk down to the zip code level.

Water quality in Oceano is currently ranked 30 on a scale to 100 (higher is better). It is important to note that this is a measure of Watershed quality, not the water that comes from the faucet. However, the EPA has stated that a healthy watershed is closely related to drinking water quality. The EPA has a complex method of measuring watershed quality using 15 indicators such as pH, chemicals, metals, and bacteria.

Source: <https://www.bestplaces.net/health/city/california/oceano>

K. Schools

There are two schools located within the Oceano Community Services District boundaries under the administration of the Lucia Mar Unified School District. They are:



Oceano Elementary (TK-6)

1551 17th Street
Oceano, CA 93445

Oceano Elementary has an average of 420 students including Transitional Kindergarten, Kindergarten, and first through sixth grades. 80% of the students are Hispanic, 15% are white. 87% of the students are deemed low-income and the school performs below the State average academically.

Adult Education

1425 19th Street
Oceano, CA 93445

The Adult Education School offers English literacy, High School Diploma or GED, and parent participation programs in addition to a variety of community classes.

L. Transportation

The average one-way home to work commute in Oceano, California, takes 28 minutes. 78% of commuters drive their own car alone, 11% carpool, 3% use mass transit, and 5% work from home.

Highways

San Luis Obispo County contains major transportation arteries including U.S. Highway 101, California State Highways 1, 41, 46, 58, and 166. U.S. Highway 101 and Coast Highway 1 run North to South adjacent to and through the community of Oceano.

Rail

There are two Amtrak stations within 30 miles of the Oceano community center.

Bus/Shuttle

San Luis Obispo Regional Transit Authority

SLO RTA offers intercity fixed route public bus transportation in addition to ADA paratransit service throughout San Luis Obispo County.



South County Transit

South County Transit provides public bus transportation service to the southern portion of San Luis Obispo County including Arroyo Grande, Grover Beach, Pismo Beach, and the unincorporated areas of Oceano.

Rideshare

There are specialized transportation services throughout SLO County including senior and airport shuttles, Runabout ADA service and dial-a-ride.

Airports

There are 2 airports within 30 miles of the Oceano community center:

San Luis Obispo County Regional Airport

Most OCSD residents make use of the new San Luis Obispo County Regional Airport, McChesney Field located just south of the City of San Luis Obispo at 975 Airport Drive. Three commercial airlines: American, United, and Alaska operate out of this airport which now offers flights to Los Angeles, San Francisco, Phoenix, Seattle and Denver. This airport is also home to full-service general aviation facility.

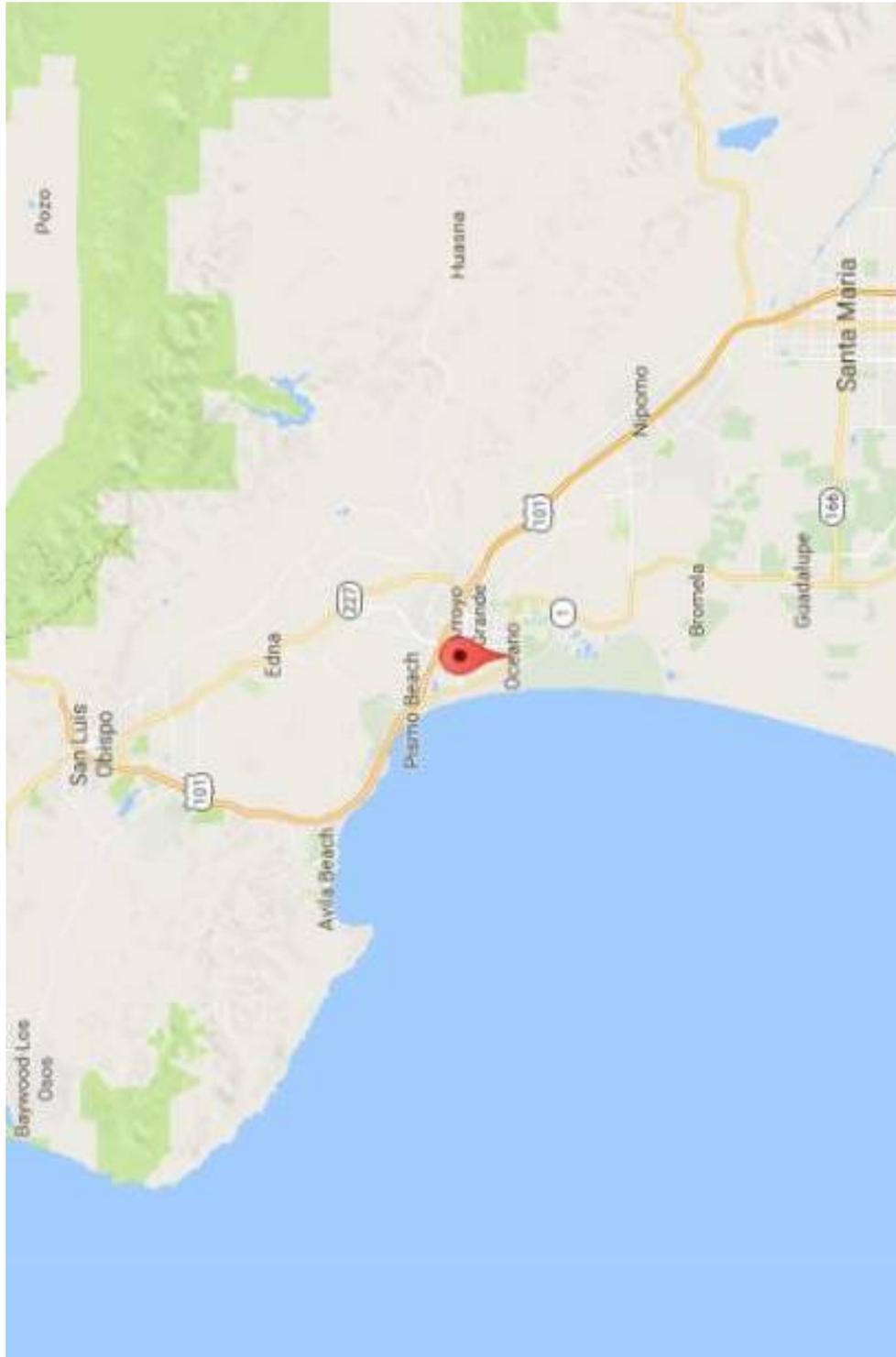
Oceano County Airport

Oceano County Airport is a public airport located one mile west of Oceano's central business district. The airport, which is primarily used for general aviation, only offers non-commercial flights. The airport is on 58 acres with a single runway and no control tower.



Aerial photo of Oceano County Airport

The following maps provide a perspective of the size and layout of the District:



Location of Oceano Community Services District

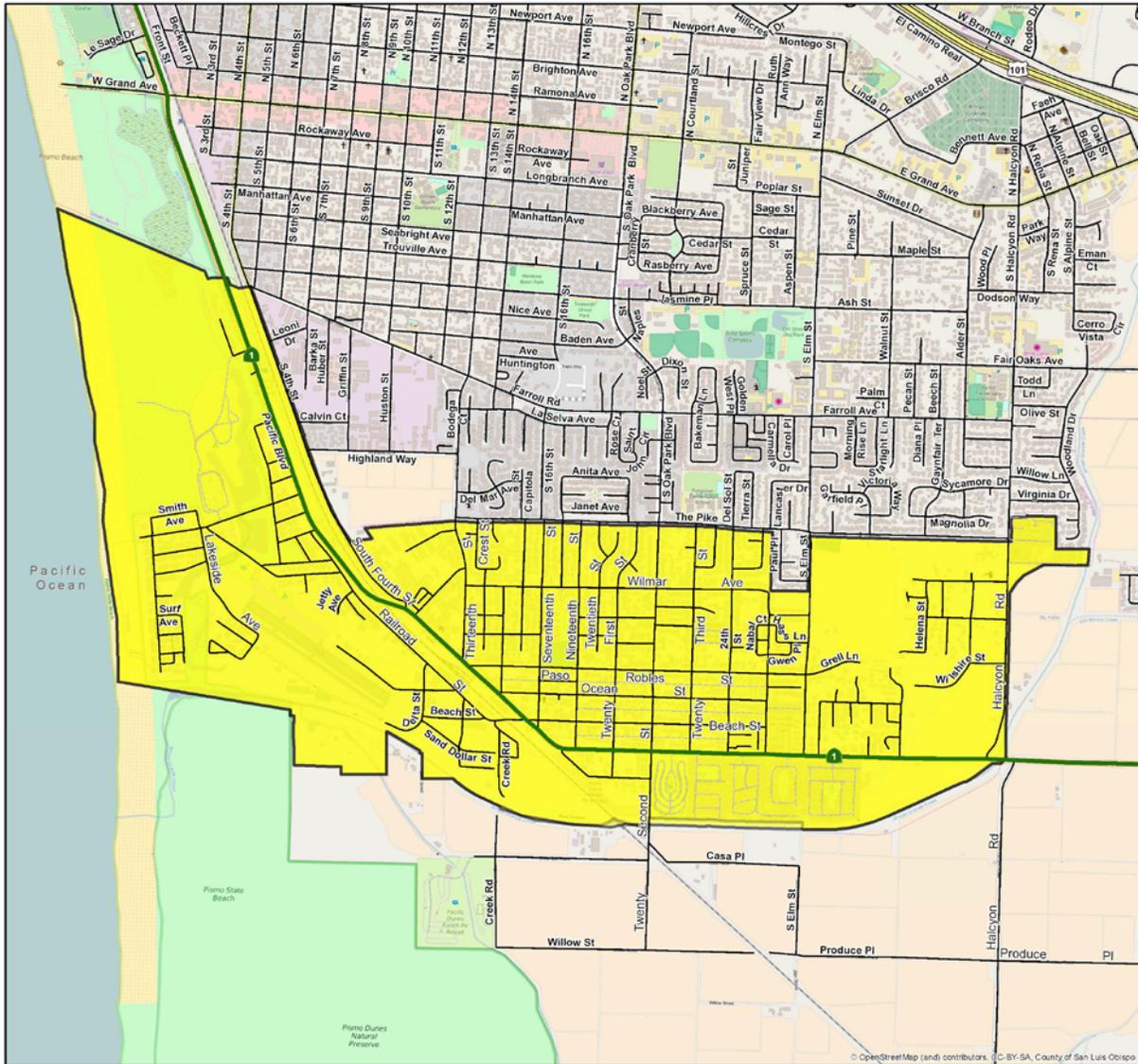


Oceano Community Services District Boundaries Aerial View



Ocean Community Services District Local Hazard Mitigation Plan

Ocean Community Services District Service Area & Sphere of Influence Adopted November 2012



Legend

- Service Area
- Sphere of Influence (Same as Service Area)



Prepared By SLOLAFCO
Name: Ocean_SOI Bndy
Date: 2/10/2016





V. RISK ASSESSMENT

A. DMA 2000 Requirements

DMA Requirement §201.6(c)(2)(i):	The risk assessment shall include a description of the type of all natural hazards that can affect the jurisdiction.
DMA Requirement §201.6(c)(2)(i):	The risk assessment shall include a description of the location and extent of all natural hazards that can affect the jurisdiction. The plan shall include information on previous occurrences of hazard events and on the probability of future hazard events.
DMA Requirement §201.6(c)(2)(iii):	For multi-jurisdictional plans, the risk assessment must assess each jurisdiction’s risks where they vary from the risks facing the entire planning area.

B. Hazard Identification

The following natural hazards can impact this jurisdiction:

- **Earthquake:**
 - **Faulting**
 - **Liquefaction**
- **Extreme Weather:**
 - **Extreme Heat**
 - **Freeze**
 - **Hail Storms**
 - **Snowfall**
 - **Thunderstorms**
- **Windstorms**
- **Coastal Erosion**
- **Drought**
- **Tsunami**
- **Flood**
- **Dam Failure**
- **Levee Failure**

Note: While common throughout most of California, a wildland fire threat does not exist in this community. The weather, topography, and the lack of vegetation all combine to eliminate the wildland fire threat.



In predicting the probability and severity of each hazard, the following guidelines have been utilized:

PROBABILITY

LOW: There has been no past history or very minimal record of the hazard event impacting the study area over the past 40-100 years. However, the possibility of this hazard occurring, while limited, does exist.

MEDIUM: This hazard has impacted the study areas in the past over the last 5-40 years, however the occurrence and impact has been limited. This hazard event may occur again in the future.

HIGH: Given the study areas past history of this hazard event impacting the area in the last 1-4 years on a reoccurring basis, it is likely that this event will occur again.

SEVERITY

LOW: The damage is expected to be minimal. There is no expected loss of life and limited injuries to the general public. On-duty first responders or public works crews should be able to manage the event and deal with the impacts. Financial losses will be limited.

MEDIUM: The damage should be limited and confined to the community or neighboring jurisdictions. There may be life loss and injuries. County Mutual Aid resources should be able to manage the event or deal with the impacts. Financial losses could be significant.

HIGH: The damage could be widespread and severe. Multiple deaths and casualties may occur. Out of County Mutual Aid resources will most likely be required to manage the event or deal with the impacts. Financial losses are expected to be significant.

C. Climate Change-Global Warming

Global warming occurs when carbon dioxide (CO₂) and other air pollutants and greenhouse gases collect in the atmosphere and absorb sunlight and solar radiation that have bounced off the earth's surface. Normally, this radiation would escape into space, but these pollutants, which can last for years to centuries in the atmosphere, trap the heat and cause the planet to get hotter. That's what is known as the greenhouse effect.



Oceano Community Services District Local Hazard Mitigation Plan

Data gathered by NASA and NOAA indicate that the planet's average surface temperature has risen about 2.0 degrees Fahrenheit (1.1 degrees Celsius) since the late 19th century, a change driven largely by increased carbon dioxide and other human-made emissions into the atmosphere. Most of the warming happened in the past 35 years, with 16 of the 17 warmest years on record occurring since 2001. 2016, was found to be the warmest year in our planet's history.

Most of the warming in recent decades is very likely the result of human activities. In the United States, the burning of fossil fuels to make electricity is the largest source of heat-trapping pollution, producing about two billion tons of CO₂ every year. Coal-burning power plants are by far the biggest polluters. The country's second-largest source of carbon pollution is the transportation sector, which generates about 1.7 billion tons of CO₂ emissions a year.

Scientists agree that the earth's rising temperatures are fueling longer and hotter heat waves, more frequent droughts, heavier rainfall, and more powerful hurricanes. In 2015, for example, scientists said that the ongoing drought in California, the state's worst water shortage in 1,200 years, was intensified by 15 to 20 percent by global warming. Further, the odds of similar droughts happening in the future have roughly doubled over the past century. In 2016, the National Academies of Science, Engineering, and Medicine announced that it's now possible to confidently attribute certain weather events, like some heatwaves, directly to climate change.

Source: NASA – Global Climate Change

The earth's ocean temperatures are getting warmer, which means that tropical storms can pick up more energy. It is possible that global warming could turn a category 3 storm into a more dangerous category 4 storm. In fact, scientists have found that the frequency of North Atlantic hurricanes has increased since the early 1980s, as well as the number of storms that reach categories 4 and 5. In 2005, Hurricane Katrina, the costliest hurricane in U.S. history, struck the city of New Orleans. The second costliest was Hurricane Sandy which pummeled the East Coast in 2012.

Source: NASA – Global Climate Change 2018

Each year, scientists learn more about the consequences of global warming, and many agree that environmental, economic, and health consequences are likely to occur if current trends continue. These impacts include:

- Melting glaciers, early snowmelt, and severe droughts will cause more dramatic water shortages and increase the risk of wildfires in the American West.



- Forests, farms, and cities will face troublesome new pests, heat waves, heavy downpours, and increased flooding. All these factors will damage or destroy agriculture and fisheries.
- Disruption of habitats such as coral reefs and Alpine meadows could drive many plant and animal species to extinction.
- Allergies, asthma, and infectious disease outbreaks will become more common due to increased growth of pollen-producing ragweed, higher levels of air pollution, and the spread of conditions favorable to pathogens and mosquitoes.

The impacts of global warming are being felt across the globe. Extreme heat waves have caused tens of thousands of deaths around the world in recent years. And in an alarming sign of events to come, Antarctica has been losing about 134 billion metric tons of ice per year since 2002. This rate could speed up if the population continues burning fossil fuels at the current pace, some experts claim, causing sea levels to rise several meters over the next 50 to 150 years.

Sea Level Rise Projections for California

Tide gauges and satellite observations show that in the past century, mean sea level in California has risen 8 inches (20 cm), keeping pace with the global rise. In the past 15 years however, mean sea level in California has remained relatively constant, and may have been suppressed due to factors such as offshore winds and other oceanographic complexities. Bromirski et al. postulate that persistent alongshore winds have caused an extended period of offshore upwelling that has both drawn coastal waters offshore and replaced warm surface waters with cooler deep ocean water. Both of these factors could offset the global sea level rise trend in this region. However, localized sea level suppression will not continue indefinitely. As the Pacific Decadal Oscillation, wind, and other conditions shift, California sea level will continue rising, likely at an accelerated rate. Sea level is projected to increase by 17 to 66 inches (42 to 167 cm) along much of the California coast by the year 2100.

Source: NRC 2012; Bromirski et al. 2011, 2012

Source: 2012 National Research Council Sea-Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future report



Sea Level Rise Projections for California (NRC, 2012)

TIME PERIOD*	NORTH OF CAPE MENDOCINO	SOUTH OF CAPE MENDOCINO
By 2030	-2 – 9 in (-4 – +23 cm)	2 – 12 in (4 – 30 cm)
By 2050	-1 – 19 in (-3 – + 48 cm)	5 – 24 in (12 – 61 cm)
By 2100	4 – 56 in (10 – 143 cm)	17 – 66 in (42 – 167 cm)

*with Year 2000 as a baseline

Source: California Coastal Commission Sea Level Rise Policy Guidance, Aug. 12, 2015

Impacts from sea level rise to the coastal zone include the following:

- Low lying coastal areas may experience more frequent flooding (temporary wetting) or inundation (permanent wetting), and the inland extents of 100-year floods may increase (i.e.-the Pier Avenue ramp located just outside the District boundary).
- Riverine and coastal waters come together at river mouths, coastal lagoons, and estuaries and higher water levels at the coast may cause water to back up and increase upstream flooding (i.e.-Arroyo Grande Creek at the Pacific Oceano).
- Drainage systems that discharge close to sea level could have similar problems, and inland areas may become flooded if outfall pipes back up with salt water.
- Sea level could cause saltwater to enter into groundwater resources or aquifers.

Climate Change-Global warming will undoubtedly have an impact on the naturally occurring hazards in the Oceano Community Services District. Anticipated effects include changes in the range and distribution of plants and animals (pests), and rainfall patterns/intensities (droughts and floods). Public Health impacts can also be expected. Extreme periods of heat and cold, storms, and smoke from fire will have impacts on climate-sensitive diseases and respiratory illnesses. More specific information on impacts can be found in the Drought, Flood, and Tsunami Hazard Profiles of this Plan.



D. Hazard Profiles

➤ **HAZARD: EARTHQUAKE**

Severity: High	Probability: High
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Hazard Definition

An earthquake is a sudden, rapid shaking of the ground caused by the breaking and shifting of rock beneath the earth's surface or along fault lines. For hundreds of millions of years, the forces of plate tectonics have shaped the earth as the huge plates that form the earth's surface move slowly over, under, and past each other. Sometimes the movement is gradual. At other times, the plates are locked together, unable to release the accumulating energy. When the amassed energy grows strong enough, the plates break free causing the ground to shake. Most earthquakes occur at the boundaries where the plates meet, commonly called faults. However, some earthquakes occur in the middle of plates.

Fault

A fault is a fracture in the earth's crust along which movement has occurred either suddenly during earthquakes or slowly during fault creep. Cumulative displacement may be tens or even hundreds of miles if movement occurs over geologic time. However, individual episodes are generally small, usually less than several feet, and are commonly separated by tens, hundreds, or thousands of years. Damage associated with fault-related ground rupture is normally confined to a fairly narrow band along the trend of the fault. Structures are often not able to withstand fault rupture and utilities crossing faults are at risk of damage. Fault displacement involves forces so great that it is generally not feasible (structurally or economically) to design and build structures to accommodate this rapid displacement. Fault displacement can also occur in the form of barely perceptible movement called "fault creep." Damage by fault creep is usually expressed by the rupture or bending of buildings, fences, railroads, streets, pipelines, curbs, and other linear features.

The California Geological Survey (CGS) is charged with recording and mapping faults throughout California. The Alquist-Priolo Earthquake Fault Zoning (AP) Act was passed into law following the destructive February 9, 1971 magnitude 6.6 San Fernando earthquake. The AP Act provides a mechanism for reducing losses from surface fault rupture on a statewide basis. The intent of the AP Act is to insure public safety by prohibiting the placement of most structures for human occupancy across traces of active faults that constitute a potential hazard to structures from surface faulting or fault creep. Fault zoning is continually updated and reviewed by CGS and it is likely that other faults in addition to those currently listed by CGS will be added to the list in the future.



The primary active faults within the County identified by the AP Act include the San Andreas, San Simeon-Hosgri, and Los Osos faults. Two recent studies performed by CGS have estimated the maximum credible ground acceleration that could be generated by active and potentially active faults. Deterministic peak horizontal ground accelerations from these studies range from a low of 0.4 g in the central portion of the County to a high of about 0.7 g along the San Andreas, Rinconada, Oceanic-West Huasna, and coastal fault zones.

The only known mapped fault in the vicinity of Oceano is the Oceano fault. The buried trace of the potentially active Oceano fault is interpreted to strike northwest along the southwestern side of the Cienega Valley about 1,000 meters southwest of Oceano, and goes offshore near the mouth of Arroyo Grande Creek. Although the fault is classified as potentially active by CGS, review of the Oceano fault suggests that the fault is inactive. The Oceano fault presents a very low fault rupture hazard to Oceano. Although the Oceano fault is likely inactive, it is undesirable to site structures over any fault as a result of non-uniform foundation support conditions and the potential for co-seismic movement that could result from earthquakes on other nearby faults.

Other mapped faults within the South County area include the potentially active Wilmar Avenue fault and the inactive Pismo fault. The Wilmar Avenue fault is exposed in the sea cliff near Pismo Beach and the buried trace of the fault is inferred to strike northwest - southeast parallel and adjacent to U.S. Highway 101 beneath portions of Arroyo Grande.

In 2008, the Shoreline Fault was discovered off the coast in the area of the Diablo Canyon Power Plant which is owned and operated by Pacific Gas and Electric Company (PG&E). The initial study of the fault, using conservative assumptions about the total length of the fault zone, indicates that a potential magnitude 6.5 strike-slip earthquake is possible. Follow up investigations were performed by PG&E in 2009 and 2010 and more detailed studies are planned in order to refine the size and potential of the fault.

Source: Report on the Analysis of the Shoreline Fault Zone, Central Coastal California, Report to the U.S. Nuclear Regulatory Commission, January 2011, PG&E

Historically active faults are generally thought to present the greatest risk for future movement and, therefore, have the greatest potential to result in earthquakes. Active and potentially active faults in San Luis Obispo County are shown on the map found at the end of this section.

Liquefaction

Liquefaction occurs when ground shaking causes the mechanical properties of some fine grained, saturated soils to liquefy and act as a fluid. It is the result of a sudden loss of soil strength due to a rapid increase in soil pore water pressures caused by ground shaking. In order for liquefaction to occur, three general geotechnical characteristics must exist:

1) ground water should be present within the potentially liquefiable zone, 2) the potentially liquefiable zone should be granular and meet a specific range in grain-size distribution, and



Oceano Community Services District Local Hazard Mitigation Plan

3) the potentially liquefiable zone should be of low relative density. If those factors are present and strong ground motion occurs, then those soils could liquefy depending upon the intensity and duration of the strong ground motion. Liquefaction that produces surface effects generally occurs in the upper 40 to 50 feet of the soil column, although the phenomenon can occur deeper than 100 feet. The duration of ground shaking is also an important factor in causing liquefaction to occur. The larger the earthquake magnitude, and the longer the duration of strong ground shaking, the greater the potential there is for liquefaction to occur.

The areas of San Luis Obispo County most susceptible to the effects of liquefaction are those areas underlain by young, poorly consolidated, saturated granular alluvial sediments. These soil conditions are most frequently found in areas that have been inundated with river and flood plain deposits. These conditions do exist in the low lying areas near the Oceano Lagoon and Airport.



Damage to a home in Oceano caused by liquefaction resulting from the 2003 San Simeon Earthquake.

Maps which delineate the areas of San Luis Obispo County and Oceano that are susceptible to liquefaction can be found at the end of this section.



History

Where earthquakes have struck before, they will strike again. The Central California Coast has a history of damaging earthquakes, primarily associated with the San Andreas Fault. However, there have been a number of magnitude 5.0 to 6.5 earthquakes on other faults which have affected large portions of the Central Coast. Recent events include the December 2003 - 6.5 magnitude San Simeon Earthquake and the September 2004 - 6.0 magnitude Parkfield Earthquake.

The following are historic earthquakes that had an effect on San Luis Obispo County:

1830 San Luis Obispo Earthquake

The 1830 earthquake is noted in the annual report from the Mission, and had an estimated magnitude of 5. The location of the event is poorly constrained and cannot be attributed to a specific fault source, but the earthquake reportedly occurred somewhere near San Luis Obispo.

1857 Fort Tejon Earthquake

The approximate 7.9 Fort Tejon earthquake of 1857 was one of the greatest earthquakes ever recorded in the United States. It left a surface rupture scar over 350 kilometers (210 miles) in length along the San Andreas Fault and a maximum surface offset of about 9 meters (30 feet). Yet, despite the immense scale of this quake, only two people were reported killed by the effects of the shock. The exact location of the epicenter is not known. The event is referred to as the Fort Tejon earthquake, because that was the location of the greatest damage. There is evidence to suggest that the epicenter may have been in the Cholame and Parkfield area, which is located in and near the northeastern portions of San Luis Obispo County as a number of foreshocks, 1 to 9 hours before the main event, were report in this area.

Source: <http://www.data.scec.org/significant/forttejon1857.html>

The fact that only two lives were lost was primarily due to the nature of the quake's setting. California in 1857 was sparsely populated, especially in the regions of strongest shaking, and this fact, along with good fortune, kept the loss of life to a minimum. The effects of the quake were quite dramatic, even frightening. Were the Fort Tejon shock to happen today, the damage would easily run into billions of dollars, and the loss of life would likely be substantial, as the present day communities of Wrightwood, Palmdale, Frazier Park, and Taft (among others) all lie upon or near the 1857 rupture area.

1906 San Francisco Earthquake

This earthquake has been studied in detail and the effects in San Luis Obispo County have been documented. Modified Mercalli intensity ratings ranged from III-IV in the inland and north coast portions of the County, and IV-V in the south coast areas. The higher intensities



were felt in areas underlain by alluvial soil, while the lower intensities occurred in areas underlain by bedrock formations.

1916 Avila Beach Earthquake

This magnitude 5.1 event occurred offshore of Avila Beach in San Luis Bay. The earthquake reportedly resulted in tumbling smokestacks of the Union Oil Refinery at Port San Luis, and a landslide that blocked the Pacific Coast railroad tracks. The maximum intensity appears to be approximately VI, but the available descriptions of the shaking are somewhat limited.

1952 Arvin-Tehachapi Earthquake

This 7.7 magnitude earthquake occurred on the White Wolf fault, located south and west of Bakersfield. Throughout most of the San Luis Obispo County, ground shaking intensities of VI were felt. Intensities of IV-V were experienced in the northwest portion of the County, and magnitude VIII intensities were felt in the Cuyama area, in the southeast portion of the County. The higher intensities were likely due to closer proximity to the earthquake epicenter.

1952 Bryson Earthquake

This magnitude 6.2 earthquake likely occurred on the Nacimiento fault, and resulted in intensity ratings of VI throughout most of the western portion of the County. Intensities of IV-V were experienced in the eastern portion of the County. Higher intensities were generally felt in the coastal valley areas that are underlain by alluvial soils.

2003 San Simeon Earthquake

The San Simeon Earthquake struck at 11:15 a.m. on December 22, 2003. The magnitude 6.5 earthquake is attributed to having occurred near the San Simeon/Oceanic/Hosgri Fault system. The epicenter was approximately six miles from the community of San Simeon. As a result of the quake Cambria experienced a residential structure fire, and several commercial and residential buildings were damaged. Some roadways were obstructed and debris blocked some streets. This earthquake resulted in 2 deaths in the City of Paso Robles and water/wastewater infrastructure in the community of Oceano suffered a three million dollar loss.

1934, 1966 and 2004 Parkfield Earthquakes

These earthquakes were all three in the range of magnitude 6.0 and occurred on the San Andreas Fault in or near the northeast corner of the County. Earthquake intensities generally conformed to anticipated characteristics for events of this size, with intense shaking (VII-VIII) being limited to a relatively small area near the epicenters of the quakes. Moderate shaking was experienced in most of the central and western parts of the County. A variation from the expected intensity characteristics was experienced in the La Panza area during the



1934 earthquake. La Panza is approximately 40 miles south of the fault rupture area, but experienced earthquake intensities of VII.

Other Earthquakes

Earthquakes which have occurred outside yet were felt within the County during the last century include events such as the 7.0 Lompoc earthquake in 1927, and the 7.7 Arvin Tehachapi earthquake of 1952. Other more recent earthquakes, such as the 1983 - 6.7 Coalinga earthquake, 1989 - 7.1 Loma Prieta earthquake, 1992 - 7.5 Landers earthquake and the 1994 - 6.6 Northridge earthquake were felt in San Luis Obispo County, however, there was no damage to structures.

Hazard Potential

The Hazard Potential for earthquakes is dependent upon a multitude of factors. A brief description of those factors is presented below:

- **Earthquake Magnitude**

Earthquake magnitude, as generally measured by either the Richter or Moment Magnitude scale, is a measurement of energy released by the movement of a fault. As the amount of energy released by an earthquake increases, the potential for ground shaking impacts also increases.

- **Distance from Epicenter**

Earthquake energy generally dissipates (or attenuates) with distance from a fault. Over long distances, this loss of energy can be significant, resulting in a significant decrease in ground shaking with increased distance from the epicenter.

- **Duration of Strong Shaking**

The duration of the strong ground shaking constitutes a major role in determining the amount of structural damage and the potential for ground failure that can result from an earthquake. Larger magnitude earthquakes have longer durations than smaller earthquakes.

- **Effects of Ground Shaking**

The primary effect of ground shaking is the damage or destruction of buildings, infrastructure, and possible injury or loss of life. Building damage can range from minor cracking of plaster to total collapse. Disruption of infrastructure facilities can



include damage to utilities, pipelines, roads, and bridges. Ruptured gas and water lines can result in fire and scour/inundation damage, respectively, to structures. Secondary effects can include geologic impacts such as co-seismic fault movement along nearby faults, seismically induced slope instability, liquefaction, lateral spreading, and other forms of ground failure and seismic response.

- **Local Geologic Conditions**

The geologic and soil conditions at a particular site have the potential to substantially increase the effects of ground shaking. The thickness, density, and consistency of the soil, as well as shallow ground water levels, have the potential to amplify the effects of ground shaking depending on the characteristics of the earthquake. In general, the presence of unconsolidated soils above the bedrock surface can amplify the ground shaking caused by an earthquake.

- **Fundamental Periods**

Every structure has its own fundamental period or natural vibration. If the vibration of ground shaking coincides with the natural vibration period of a structure, damage to the structure can be greatly increased. The extent of damage suffered during an earthquake can also depend on non-geologic factors. The type of building and its structural integrity will influence the severity of the damage suffered. Generally, small, well-constructed, one and two-story wood and steel frame buildings have performed well in earthquakes because of their light weight and flexibility. Reinforced concrete structures also usually perform well. Buildings constructed from non-flexible materials, such as unreinforced brick and concrete, hollow concrete block, clay tile, or adobe, are more vulnerable to earthquake damage.

Impacts on People and Housing

In any earthquake, the primary consideration is saving lives. Time and effort must also be dedicated to providing for social issues such as reuniting families, providing shelter to displaced persons, and restoring basic needs and services. Major efforts will be required to remove debris and clear roadways, demolish unsafe structures, assist in reestablishing public services and utilities, and provide continuing care and temporary housing for affected citizens.

Effects on Commercial and Industrial Structures

After any earthquake, individuals are likely to lose wages due to the inability of businesses to function because of damaged goods and/or facilities. With business losses, the County of



San Luis Obispo will lose revenue. Economic recovery from even a minor earthquake will be critical to the communities involved.

Effects on Infrastructure

The damage caused can lead to the paralysis of the local infrastructure: police, fire, medical and governmental services.

Effects on Agriculture

Earthquakes can cause loss of human life, loss of animal life, and property damage to structures and land dedicated to agricultural uses. The most significant long-term impacts on agriculture from earthquakes are those that arise from the cascading effects of fire and flood.

Unreinforced Masonry Buildings

Unreinforced masonry building type structures consist of buildings made of unreinforced concrete and brick, hollow concrete blocks, clay tiles, and adobe masonry. Buildings constructed of these materials are heavy and brittle, and typically provide little earthquake resistance. In small earthquakes, unreinforced buildings can crack, and in strong earthquakes, they have a tendency to collapse. These types of structures pose the greatest structural risk to life and safety of all general building types. Non-structural items and building components can also influence the amount of damage that buildings suffer during an earthquake. Unreinforced parapets, chimneys, facades, signs, and building appendages can all be shaken loose, creating a serious risk to life and property.

Compliant with the State of California's Alquist-Priolo Special Studies Zone Act, the inventorying and public notification of these structures, based on the probability of a damaging quake occurring, is required. Only two of these structures can be found in the study area, both located in the commercial district along Front Street. They both present a very limited public safety threat as they are small and not used for public occupancy.

Relationship to Other Hazards – Cascading Effects

Earthquakes can cause many cascading effects such as fires, flooding, hazardous materials spills, utility disruptions, landslides, and transportation emergencies. Ground shaking may cause tsunamis or seiche, the rhythmic sloshing of water in lakes or bays. Economic impacts to a community through the loss of property and sales tax revenues from damaged businesses can be significant.



Plans and Programs in Place

The San Luis Obispo County Office of Emergency Services (OES) and the Five Cities Fire Authority (FCFA) in coordination with local, state, and federal emergency response organizations, continually work to better prepare the District's residents for the impacts of a significant earthquake event.

The San Luis Obispo County Planning and Building Department ensures that all new construction complies with current codes and ordinances regarding earthquake safety within the District.

First responder agencies regularly train on building collapse awareness, light rescue techniques, mass casualty triage and treatment, and have a limited amount of equipment and resources available to facilitate heavy rescue operations.

A detailed Earth Response Plan for San Luis Obispo County is in place, developed by the Office of Emergency Services. The Plan is coordinated with the State of California Earthquake Plan.

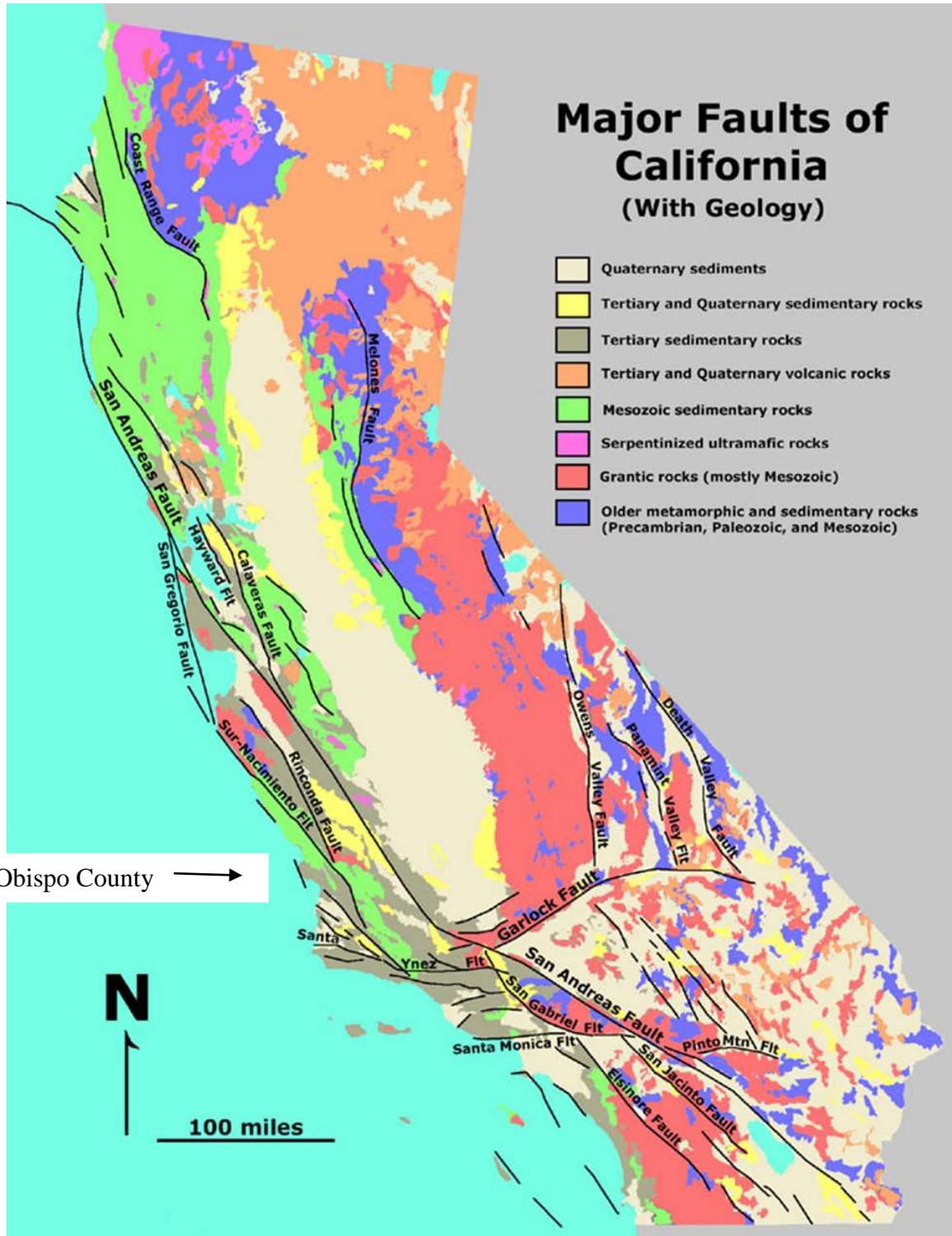
Future Probability - Risk Assessment Conclusion

Over the past 100 years, 13 earthquakes of magnitude 5 or greater have occurred within the County and/or surrounding areas. Based on this historical data of damaging earthquakes and the fact that District is located within a seismically active region, the probability is rated **HIGH**.

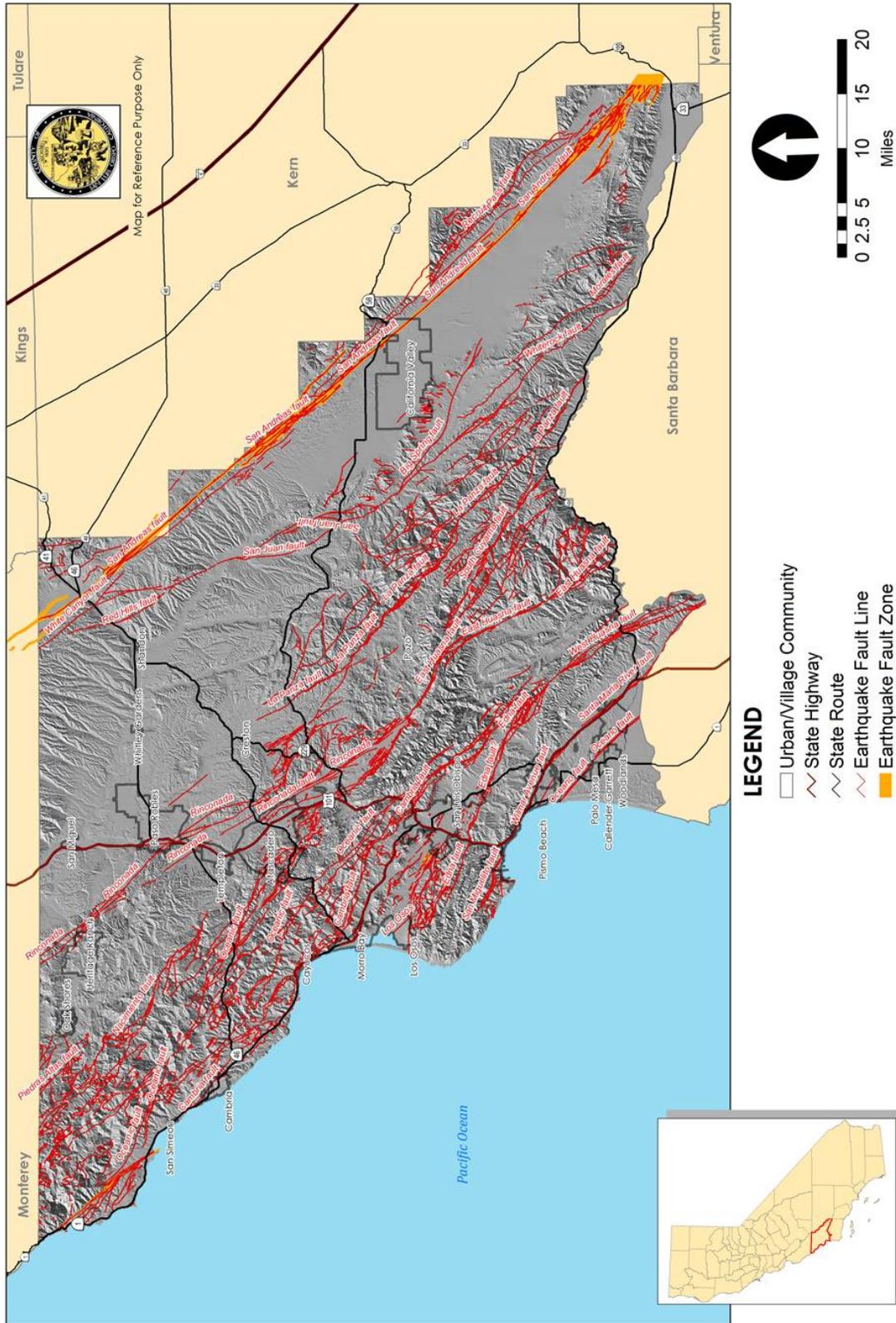
Both direct and indirect consequences of a major earthquake will severely stress the resources of the both the District, the FCFA, and the County and will require a high level of self-help, coordination and cooperation. Outside assistance from other local, regional, state, federal and private agencies may be delayed by more than 72 hours, depending upon the regional severity of the earthquake. Given the properties at risk and the cascading effects the severity is rated as **HIGH**.



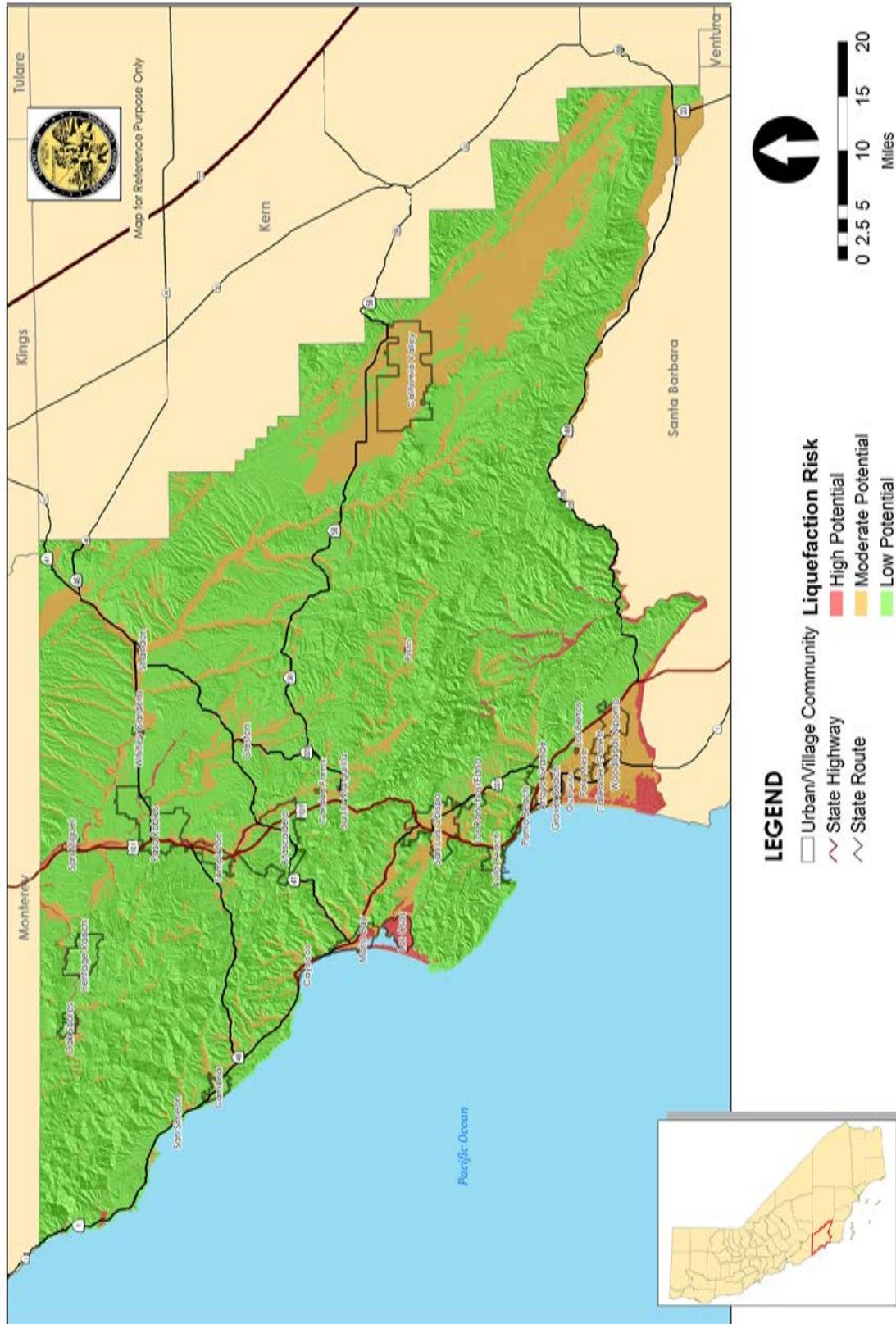
MAJOR FAULTS OF CALIFORNIA



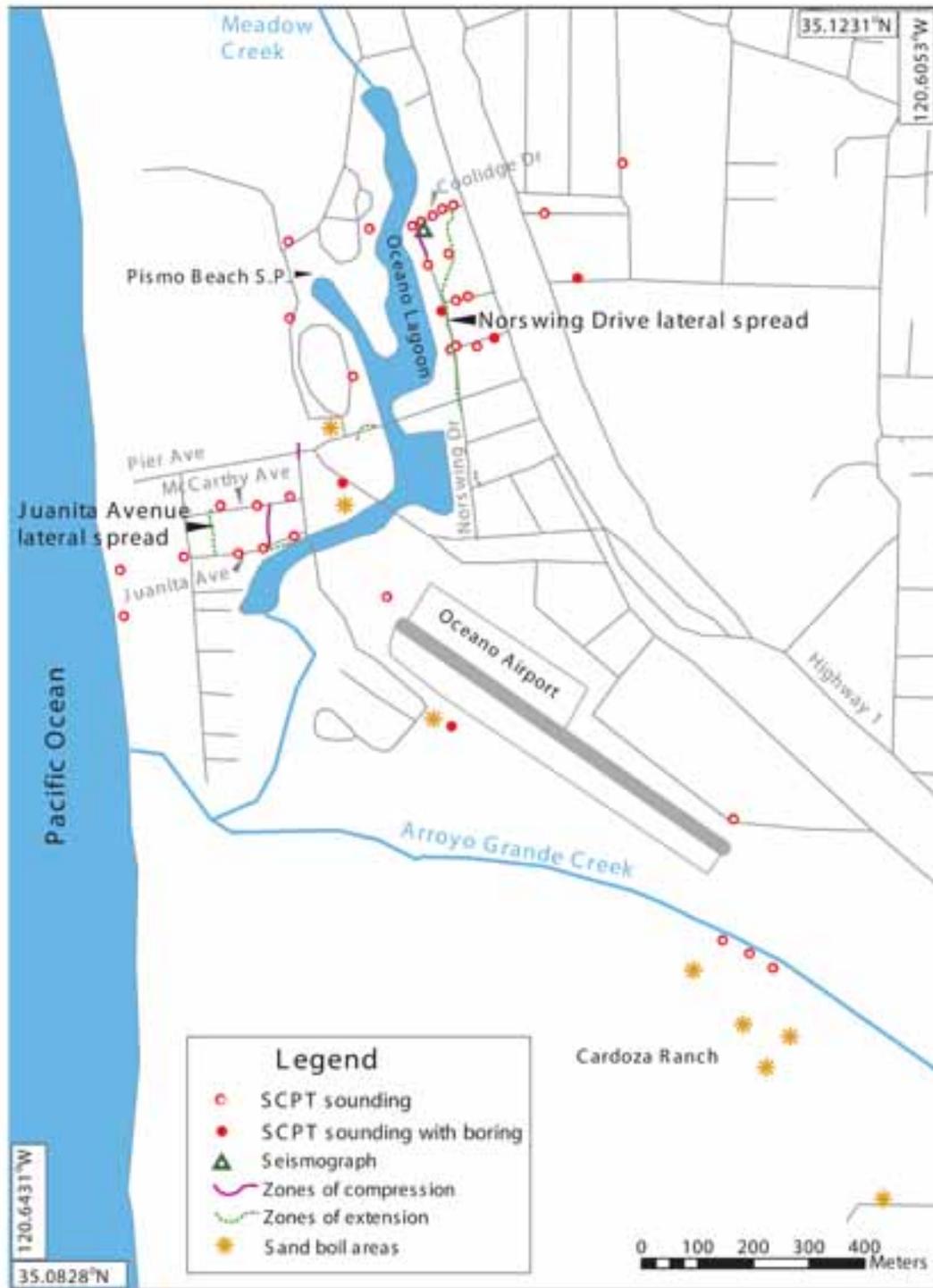
Oceano Community Services District Local Hazard Mitigation Plan



EARTHQUAKE ZONES AND FAULT LINES



LIQUEFACTION RISK MAP



Map of Oceano with Ground Failure and Liquefaction Areas, USGS SCPT Soundings and Borings, and Portable Digital Seismograph



➤HAZARD: FLOODING

Severity: Medium	Probability: High
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Hazard Definition

A flood is defined as an overflowing of water onto an area of land that is normally dry. Floods generally occur from natural weather related causes, such as sudden snow melts, often in conjunction with a wet or rainy spring, or with sudden and very heavy rainfall. Floods can also result from human causes such as a dam impoundment bursting.

Rainfall and inclement weather are primarily seasonal phenomena in the study area which boasts a mild Mediterranean climate. Generally the rainy season is from November through March. The yearly rainfall average for Oceano is just less than 18 inches, however much higher amounts can be expected in the coastal mountains to the east, for example Lopez Lake will often receive double that amount in a year. Even during moderately sized storms, flooding can also occur in low-lying areas that have poor drainage an example being Highway 1 between 13th and 17th streets in Oceano.

Many factors can increase the severity of floods including: fires in watershed areas, the placement of structures or fill material in flood-prone areas, and tidal or storm influence in low-lying coastal areas. Additionally, the construction of impervious surfaces such as roadways and rooftops will result in increased runoff.

Sea level rise due to global warming is likely to have minimal flood impact on most of the community of Oceano due to protective sand dunes and the overall elevation of most of the community. However, two areas of concern exist: the protective sand dunes are breached by the Pier Avenue beach ramp and the Arroyo Grande Creek at its terminus at the Pacific Ocean. The potential for water to enter the marsh area behind the dunes is high. A more detailed description and current plans and projects in place can be found in the Tsunami portion of this Plan.

For floodplain management purposes, the Federal Emergency Management Agency (FEMA) will often use the term “100-year flood” to describe the size or magnitude. These terms are misleading. It is not a flood that occurs once every 100 years. Rather, it is the flood elevation that has a 1 percent chance of being equaled or exceeded each year. Thus, a 100-year flood could occur more than once in a relatively short period of time.

The 100-year flood, which is the standard used by most federal and state agencies, is used by the National Flood Insurance Program (NFIP) as the standard for floodplain management and to determine the need for flood insurance.

Oceano Community Services District Local Hazard Mitigation Plan



Areas within the 100 and 500-year flood plain of the study area are found in the San Luis Obispo County Flood Hazard Map found in at the end of this section.

Monthly Rainfall Averages (Annual = Approximately 15 inches/year)

MONTHLY AVERAGES AND RECORDS- °F						
Date	Average Low	Average High	Record Low	Record High	Average Precipitation	Average Snow
January	43°	65°	24° (1950)	85° (1976)	3.59"	0"
February	44°	66°	28° (1996)	90° (1995)	3.87"	0"
March	45°	67°	23° (1963)	90° (2000)	3.46"	0"
April	46°	69°	31° (1999)	101° (1989)	1.13"	0"
May	47°	70°	30° (1988)	100° (1970)	0.41"	0"
June	51°	71°	37° (1999)	99° (1976)	0.07"	0"
July	53°	71°	38° (1949)	104° (1953)	0.03"	0"
August	53°	72°	39° (1963)	108° (1962)	0.02"	0"
September	53°	73°	35° (1988)	100° (1966)	0.32"	0"
October	51°	73°	32° (1949)	99° (1964)	0.62"	0"
November	46°	69°	29° (1986)	91° (1997)	1.7"	0"
December	42°	66°	24° (1990)	92° (1958)	2.57"	0"



History

Over the years, the study area has experienced flooding events that have resulted in extensive property damage. Historical floods in the District and surrounding areas include:

January and February, 1969

In January of 1969, a series of storms delivered rainfall that totaled over 18 inches in the coastal areas of the county. In February, another series of storms delivered another 5 to 10 inches. Streets, highways, and utilities throughout the County were heavily damaged.

January, 1973

Much like the floods of 1969, the 1973 storm produced a ten-hour period of unusually heavy rainfall. Many creeks and streams throughout the county overtopped their banks and inundated a number of areas.

February 22, 1993

Cambria received 2.5 inches of rain in a two hour period. Flash flooding occurred causing \$500,000 damage to four businesses and several residences.

January and March, 1995

A series of powerful and slow-moving storms brought heavy rain and strong winds to all of Central California. Serious flooding occurred in all coastal and many inland streams. In March, 18 inches of rain fell in Cambria and the West Village was completely inundated, with water as deep as six feet on Main Street.

December 2005 and early January, 2006

A series of storms battered the County. Most of the damage occurred New Year's Eve and day. High winds and saturated soils resulted in significant tree falls throughout the county causing heavy damage to a number of homes and businesses. There was one fatality which was the result of a tree falling on a pick-up truck while it was traveling on U.S. Highway 101.

March, 2001

Central and Southern California were significantly impacted by a powerful storm that delivered up to 6 inches of rain in some of the coastal areas of San Luis Obispo County. The mountain area of the county received even more, with reports of up to 13 inches. The heavy rain produced numerous flooding incidents. In Oceano, the Arroyo Grande Creek overflowed, destroying numerous crops and damaging one home. The Pacific Dunes RV



Park flooded. In Arroyo Grande, flooding along Corbett Creek caused damage to four homes and five classrooms at Arroyo Grande High School. In Pismo Beach, Pismo Creek flooding damaged homes in Pismo Coast Village.

December, 2004

A quick moving and powerful storm brought flash flooding and heavy rain to the Central Coast of California. Rainfall amounts ranged from 1 to 3 inches on the coastal plains to 3 to 6 inches in the more mountainous regions of the county. Flooding problems were reported throughout the county.

December, 2010

A series of slow-moving storms brought heavy rain and strong winds to the County. The most severe damages began on December 19, with primarily affected areas in the South County, particularly in the Oceano area. Damages reported to Cal EMA were just over \$2,000,000 in private property losses and an estimated cost and loss total to local governments of just over \$1,100,000 for a total storm damage cost estimate of approximately \$3,135,000.

February, 2017

Wind storm resulted in the downing of 15-20 large eucalyptus, cypress and pine trees in the village of Halcyon.

Annual Basis

Relatively moderate rain storms cause flooding along Highway 1 from 4th to 13th street. (*See photo at end of this section*)

Flood Hazard Potential

Flooding in Oceano is a result of heavy flows in Arroyo Grande Creek and Meadow Creek. The most significant inundation area is near the creeks' confluences with the ocean. Areas subject to flooding as a result of a 100-year storm generally extend south of Highway 1 and west of Pier Avenue. During a major event flooding would occur at the Oceano County Airport and surrounding properties, along with extensive areas located to the south of the community.



Oceano Community Services District Local Hazard Mitigation Plan

On nearly an annual basis, the low lying areas of Oceano, specifically the areas mentioned above will flood even in moderate rain storms. The County of San Luis Obispo and the Flood Control District have initiated two projects to mitigate some of the flooding. One project will address the flooding along Hwy 1 at 13th street where the most frequent and potentially dangerous flooding occurs on a regular basis. The project will construct drainage facilities (culverts and basins) that will convey run-off from Hwy 1 and 13th Street to the Arroyo Grande Creek Channel. This project has received funding from Caltrans, Community Development Block Grants, SLO Council of Governments, and the County but quotes received for the project exceeded the original engineers' estimate and the project is now looking to obtain a long term loan from USDA to make up the shortfall. Due to the number of agencies involved such as the federally regulated Oceano Airport and Union Pacific Railroad, and proximity to riparian habitat the permitting and coordination effort has been complex and time consuming. The second project the County initiated via Zone 1/1A is the Arroyo Grande Creek Channel Waterway Management Project. This project will help reduce the risk of the channel overtopping in certain storms by restoring the flood capacity of the channel while maintaining critical habitat for at least two endangered species. This project has received \$6.8 million dollars in grants from the State and FEMA. The project is in the final design phase and implementation of the project should occur in the next 1-2 years. Once these two projects are completed, they will eliminate the frequent flooding of two structures existing along Highway 1 between 13th Street and Front Street. Flooding of consequence occurs nowhere else in the District.

• **Effects on People and Housing**

Direct impacts of flooding can include injuries and loss of life, damage to property and health hazards from ruptured sewage lines and damaged septic systems. Secondary impacts include the cost and commitment of resources for flood fighting services, clean-up operations, and the repair or replacement of damaged structures.

• **Effects on Commercial and Industrial Structures**

Flooding can cause damage to commercial and industrial structures, vegetation, crops and livestock. Beach erosion results in the loss of sand from coastal areas. This hazard can accelerate the rate of erosion of coastal bluffs, and can also contribute to increased wave-related damage to coastal structures.

• **Effects on Infrastructure**

Flooding can cause damage to roads, communication facilities and other infrastructure.

• **Effects on Agriculture**

Effects on agriculture can be devastating. Flooding can damage crops and livestock. In addition to the obvious impacts on crops and animals, flooding can have deleterious effects on soil and the ability to reinvigorate the agricultural activities impacted once the flood



Oceano Community Services District Local Hazard Mitigation Plan

waters recede. Damage to water resources such as underground irrigation systems, water storage reservoirs, springs and other natural water bodies could have a serious effect upon agriculture operations.

Dam Failure

Although the probability of this type of hazard occurring is highly unlikely, it warrants consideration because a considerable portion of Oceano is located in the inundation area of Lopez Dam. In the event of complete failure of Lopez Dam, at 100% capacity, water would flow in a westerly direction following Arroyo Grande Creek, approximately 3,000 feet in each direction of the centerline of the creek channel. Water flows would pass through the rural areas directly below the dam and then into the cities of Arroyo Grande, Grover Beach, and the community of Oceano, some schools within the Lucia Mar Unified School District and the Sanitation District before reaching the ocean. Substantial impacts to life and property are a significant possibility in the City of Arroyo Grande. The threat diminishes as the distance from the dam increases and as the flood plain widens as it approaches Grover Beach. In Grover Beach, if the Lopez Dam were at full capacity and experienced a total failure, the low lying areas south of Grand Avenue and west of Highway 1 would be impacted. In Oceano, the inundation is predicted to follow the 100 year flood map and would include Highway 1, the Oceano Elementary School, Oceano Airport, the rail system, and Oceano Campground.

The County Dam and Levee Failure Plan indicates that at 100% capacity and with a complete failure water would reach U.S. 101, just north of the community of Oceano in approximately 40 minutes.

The State of California Division of Safety of Dams (DSOD) conducts periodic reviews to evaluate dam safety and a considerable amount of work was completed in 2004 in order to bring the dam into compliance with current seismic standards and mitigate the potential for liquefaction of the underlying subsoils found in the creek bed below the Lopez Dam. Inundation maps are in the process of being updated and will be public after DSOD approves the new maps.

Please see Flood Zone Map found at the end of this section.



Oceano Community Services District Local Hazard Mitigation Plan

Levee Failure

The area to the east and south of the District consists of the Arroyo Grande Creek flood plain. It is also referred to as the Cienaga Valley. The area is prime farmland and is in constant production, having a significant agricultural economic impact.

In 1961, the Arroyo Grande Creek Flood Control Project was completed. The main feature of the project was a levee system that confines the lower 3 miles of Arroyo Grande Creek, and a portion of Los Berros Creek as they flow to the Pacific Ocean. Over the years, the system has lost much of its carrying capacity and in 2001, the southern portion of the Arroyo Grande levee was breached near the Union Pacific railroad bridge. This failure resulted in extensive flooding of hundreds of acres of farmland. Should the northern portion have failed, the results would have been dramatic. The communities of Grover Beach and Oceano as well as the campgrounds, airport, and wastewater treatment plant would have been at risk.

Relationship to Other Hazards - Cascading Effects

While there are some benefits associated with flooding, such as the replenishment of beach sand, and the supplement of nutrients to agricultural lands, it is generally considered a hazard to development in flood plain areas. Floods can cause many cascading effects. Fire can break out as a result of dysfunctional electrical equipment. Hazardous materials can also get into floodways, causing health concerns and polluted water supplies. In many instances during a flood, the drinking water supply will be contaminated. Other problems and hazards associated with flooding and inclement weather include: utility disruptions, broken power lines lying on the ground, and communication system failures.

High winds often accompany winter storms and may cause significant damage in the planning area by blowing down trees that have been killed or damaged by drought, disease or insect infestation. The eucalyptus trees found along Highway 1 and the railroad present and in scattered locations throughout the planning area present a moderate threat to the community.

Plans and Programs in Place

San Luis Obispo County Public Works Department, Office of Emergency Services (OES), and the Five Cities Fire Authority, in coordination with local, state, and federal emergency response organizations, continually work to better prepare residents of Oceano for the impact of flooding events. The Flood Control and Water Conservation District annually sends out a Flooding and Evacuation Brochure detailing important safety information to all of the residents of Oceano.



Oceano Community Services District Local Hazard Mitigation Plan

First responder agencies, both law enforcement and fire, regularly train on water rescue and dealing with the cascading effects that can result from flooding. The local chapter of the American Red Cross is prepared to assist citizens in shelter welfare issues.

The San Luis Obispo County Planning and Building Department stipulate and enforces codes and ordinances that ensure that buildings are not situated in flood zones.

It should be noted that the community of Oceano, along with all of San Luis Obispo County's unincorporated areas, are included in the National Flood Insurance Program (NFIP), which allows property owners in flood prone areas very reasonable flood insurance rates. The County of San Luis Obispo is committed to remaining a NFIP participating agency and the projects currently in the planning and permitting phases will eliminate the repetitive flooding of the NFIP structures in the community.

Flood Control Districts

The San Luis Obispo County Flood Control and Water Conservation District has three subsidiary zones of benefit, two of which have direct impact on flooding within the community of Oceano. The Arroyo Grande Creek - Zone 1 and Los Berros Creek - Zone 1/A Districts primary focus is the maintenance of the Arroyo Grande Creek Flood Control Channel. Additionally, they are also concerned with the flooding, erosion, water quality within the boundaries of Zone 1 and 1A. The third zone, Zone 3 deals with the impacts of dam failure and drought.

In September of 2006, the OCSD signed on as a party to the Arroyo Grande Watershed and Memorandum of Understanding (MOU). The purpose of the MOU is to provide an overall understanding and accountability consensus between the parties to better protect, manage, and enhance the watershed, creating a sustainable future for the surrounding communities and the environment.

In 2010, a long-term maintenance plan for the Arroyo Grande Creek Channel was developed and funded by Zone 1 and 1A. This plan is called the Arroyo Grande Creek Channel Waterway Management Program (AGWMP). The AGWMP was adopted and the associated Environmental Impact Report was certified by the Board of Supervisors on November 2, 2010.

National Weather Service

The National Weather Service uses a number of methods to get weather statements out to the general population. Examples include the Emergency Alert System, NOAA Weather Radio All Hazards (NWR), and smart phone Wireless Emergency Alerts (WEA). For certain



significant extreme weather events, the County could potentially use the reverse 9-1-1 system. An Early Warning System siren, located throughout the Diablo Canyon Emergency Planning Zone Area, which includes the Oceano area, could be utilized to alert residents to a flooding event.

Due to the unique and consistent weather patterns in the area, the National Weather Service (NWS) has broken the County into three weather forecast zones: San Luis Obispo County Central Coast, San Luis Obispo County Interior Valleys, and San Luis Obispo County Mountains. The NWS uses a multi-tier system of weather statements to notify the public of threatening weather conditions specific to these areas. These statements are used in conjunction with specific weather phenomena to convey different levels of risk. In order of increasing risk, these statements are:

Weather Related Terminology

- **Outlook** - A Hazardous Weather Outlook is issued daily to indicate that a hazardous weather or hydrologic event may occur in the next several days. The outlook will include information about potential severe thunderstorms, heavy rain or flooding, winter weather, extremes of heat or cold, etc., that may develop over the next seven days with an emphasis on the first 24 hours of the forecast. It is intended to provide information to those who need considerable lead time to prepare for the event.
- **Advisory** - An advisory is issued when a hazardous weather or hydrologic event is occurring, imminent, or likely. Advisories are for "less serious" conditions than warnings that may cause significant inconvenience, and if caution is not exercised could lead to situations that may threaten life or property. The NWS may activate weather spotters in areas affected by advisories to help them better track and analyze the event.
- **Watch** - A watch is used when the risk of a hazardous weather or hydrologic event has increased significantly, but its occurrence, location, or timing is still uncertain. It is intended to provide enough lead time so those who need to set their plans in motion can do so. A watch means that hazardous weather is possible. People should have a plan of action in case a storm threatens and they should listen for updates and possible warnings especially when planning travel or outdoor activities. The National Weather Service may activate weather spotters in areas affected by watches to help them better track and analyze the event.
- **Warning** - A warning is issued when a hazardous weather or hydrologic event is occurring, imminent, or likely. A warning means weather conditions pose a threat to



life or property. People in the path of the storm need to take protective action. NWS may activate weather spotters in areas affected by warnings to help them better track and analyze the event.

- **Statement** - A statement is either issued as a follow-up message to a warning, watch, or emergency, and may be updated, extended, or cancelled. It is also a follow-up message or notification of significant weather for which no type of advisory, watch, or warning exists.

Future Probability/Risk Assessment Conclusion

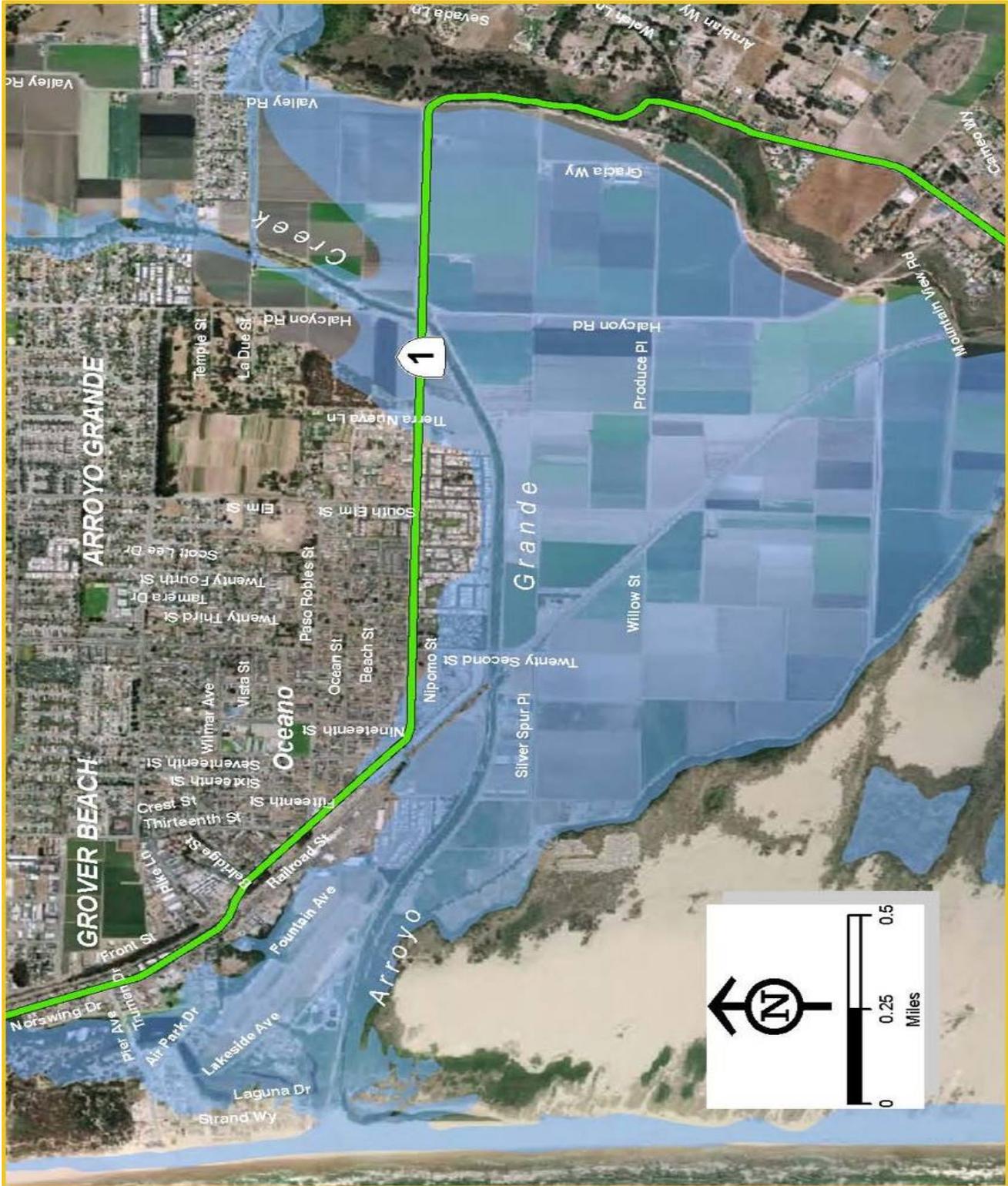
While it is impossible to predict future long-range weather patterns, it is certain that the location of the study area adjacent to the Pacific Ocean and surrounded by the mountains to the east will continue to have a significant exposure to major winter storms and flooding.

The vast majority of the study area is well drained being situated on gently sloping terrain with soils that allow for good drainage. Drainage problems in most of these gently sloped areas are a result of improper grading and are minor in nature. While the area is well drained, in that it is mostly located over sand, the presence of high groundwater levels minimize the ability of the soil to absorb much of the storm water runoff and nuisance flooding will occur.

Because a considerable amount of resources have already been expended toward resolving flood issues in these areas and because of the minimal threat to loss of life, flooding has been deemed a **MODERATE** severity risk. The study area has a significant history of flooding and therefore has received a **HIGH** probability rating.

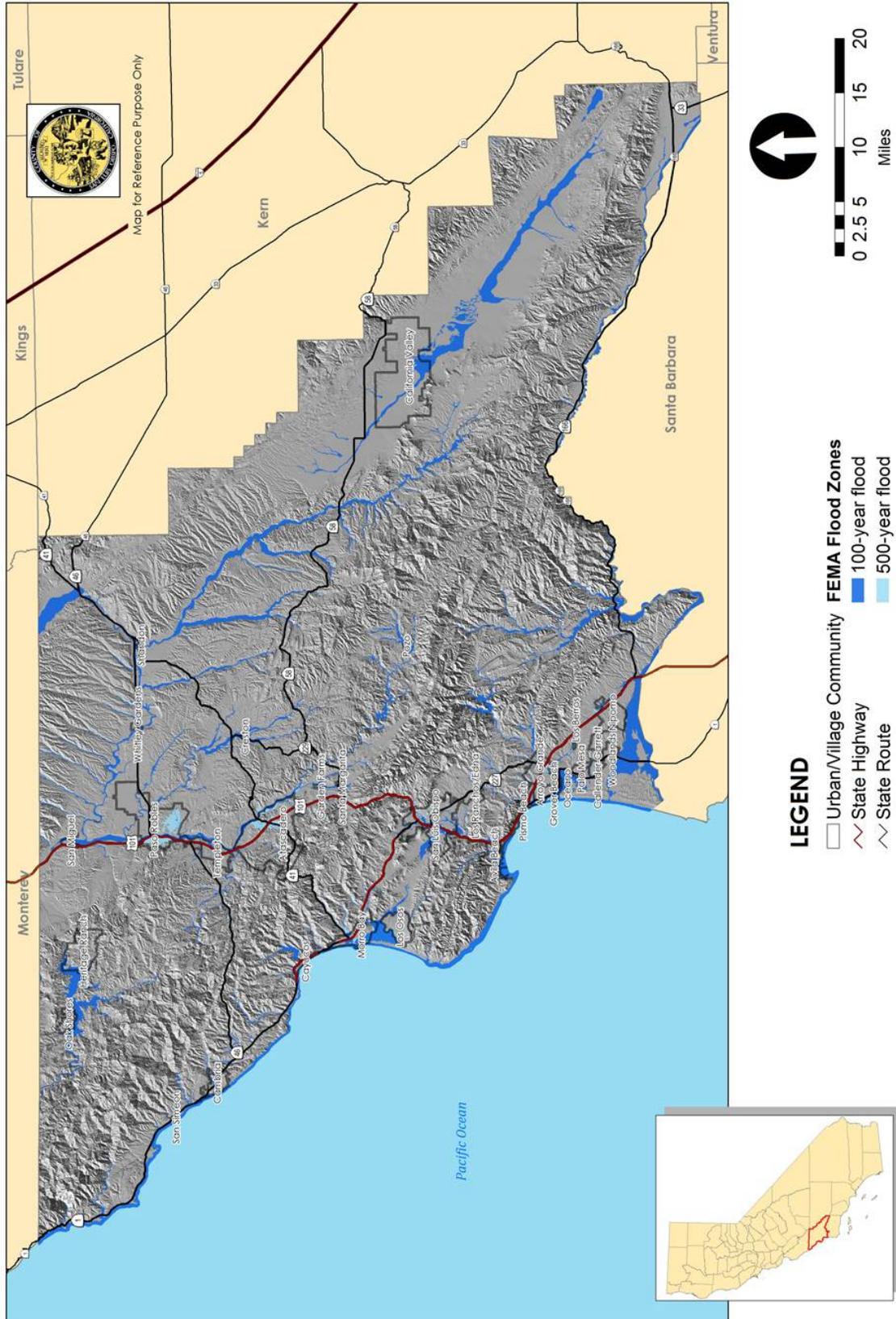


January 2017-A portion of Highway 1 in Oceano is closed due to flooding.



OCEANO, CA 100-YEAR FLOOD PLAIN

Oceano Community Services District Local Hazard Mitigation Plan



COUNTY FLOOD ZONES



➤ **HAZARD: TSUNAMI**

Severity: Medium	Probability: Low
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Hazard Definition

A tsunami is a wave, or a series of waves, caused by a displacement of the ocean floor, usually by movement along a fault. In deep ocean water, tsunamis may travel as fast as 600 miles per hour. As they approach the shore, waves may increase in size and can cause extensive damage to coastal structures.

Withdrawal of the sea may be a precursor to the arrival of the first wave. After the first wave appears, waves may continue to arrive at intervals for several hours. Intervals between successive waves may be similar. If the second wave appears 20 minutes after the first, it is likely that a third wave (if there is one) would arrive 20 minutes after the second. The first wave may not be the biggest. Yet the largest wave usually occurs within the first ten waves. The primary effects of these waves can be widespread destruction and damage to coastal structures and flooding of low lying areas. The height the sea level rises above mean high tide line is referred to as run-up.

History

While there is no recorded history of tsunami damage to the study area, tsunamis have caused considerable damage to neighboring communities located on the California Coast, including the City of Morro Bay which is located in San Luis Obispo County. A tsunami in 1964, following an earthquake in Alaska, killed 12 people in Crescent City and damaged piers and boats in Morro Bay as the bay emptied and filled every 15 minutes for over an hour.

On March 11, 2011, a 9.0 magnitude earthquake struck northern Japan. Nearly 12 hours later, approximately \$500,000 in damage was recorded to piers and docks in Morro Bay as a result of a tsunami from this earthquake. At the Center of Coastal Marine Science in Morro Bay (near the back of the bay), an oceanographer recorded a 6 foot surge, while fishermen and Coast Guard personnel estimated an 8-9 foot surge at the Coast Guard pier near the entrance to the harbor.



Tsunami History- San Luis Obispo County

Location of Damage	Incident Date	Intensity	Information
Morro Bay	1868	Unknown	Unknown
Cayucos	4/16/1877	Height: 3.6 meters	Unknown
Morro Bay	1878	Unknown	Unknown - Reportedly overtopped the sand spit in low areas
Pismo Beach	1927	Height: 1.8 meters	Unknown
Avila Beach	4/1/1946	Height: 1.3 meters Source magnitude: 7.3 Ms	Tsunami source location: Alaska Source event: E. Aleutian Islands Travel time: 5 hours 36 minutes
Morro Bay	4/1/1946	Height: 1.5 meters Source magnitude: 7.3 Ms	Tsunami source location: Alaska Source event: E. Aleutian Islands Travel time: 5 hours 36 minutes
Avila Beach	11/4/1952	Height: 1.4 meters Source magnitude: 8.2 Ms, 9 Mw	Tsunami source location: Russia Source event: Kamchatka Travel time: 8 hours 36 minutes
Pismo Beach	5/22/1960	Height: 1.4 meters Source Magnitude: 9.5 Mw	Tsunami source location: Chile Source event: Central Chile
Avila Beach and Morro Bay	3/28/1964	Height: 1.6 meters Source magnitude: 9.2 Mw	Tsunami source location: Alaska Source event: Gulf of Alaska. Travel time: 5 hours 10 minutes
Morro Bay	3/11/2011	Height: 2.4 Meters Source magnitude: 9.0 Mw	Tsunami source location: Japan Source event: Tōhoku earthquake Travel time: 10 hours 32 minutes



Hazard Potential

As noted in the above table, the historic record shows that significant tsunamis typically have been generated from distant earthquake sources. It has been estimated that the 100 and 500 year tsunami run-ups in the study area are based on far-field source generation locations (such as the Aleutian or Chile-Peru Trenches). Estimated tsunami run-up along the San Luis Obispo County coastline is approximately 9.5 feet to 24.2 feet for the 100 year and 500 year events, respectively. Those run-ups were calculated using astronomical high tides, and compare well with recorded tsunamis that have occurred in other locations along the California Coast. However, the worst case scenario would be if a tsunami occurred during a meteorological high tide (storm surge), which would add an estimated 14.5 feet (4.5 meters) to the run-up values calculated. In this worst case scenario, the estimated tsunami run-up for the 100 year and 500 year would be approximately elevation 24 and 39 feet above mean sea level, respectively.

The Davidson Seamount is located approximately 70 miles NW of Cambria, and is 4,101 feet beneath the Pacific Ocean's surface. This mount rises 7,480 feet up from the ocean floor and is 23 miles long and 7 miles wide. A sub-surface landslide on this or any other nearby undersea feature would not allow adequate time to notify/warn San Luis Obispo County coastal residents to evacuate. While very unlikely to occur, an undersea landslide here could be devastating to coastal areas of San Luis Obispo County.

The Tsunami Response Plan for San Luis Obispo County uses as its planning basis all those coastal communities, recreation and developed areas with an elevation of 50 feet above mean sea level. In general, much of the coast of the County is protected by wide beaches, coastal dune, or sea cliffs that provide protection for coastal developments. Areas most vulnerable to the tsunami hazard are developments or infra-structure near the mouths of streams that drain into the Pacific Ocean. In the District and immediate area this would include:

- Pismo Creek in Pismo Beach
- Meadow Creek and Arroyo Grande Creek in Oceano
- The Pier Avenue beach ramp in Grover Beach

Most of Oceano and Halcyon is protected from flooding by the Oceano Dunes. Arroyo Grande Creek breaches the dunes just outside the District's east boundary terminating at the Pacific Ocean. At its terminus the creek is very wide with a very shallow gradient. This would allow tsunami waves to travel upstream flooding adjoining creeks and flood control channels found within the low lying areas of the District. The worst case scenario would transpire if a tsunami occurred during a meteorological high tide combined with a storm surge which could add 14.5 feet to the wave height.



Specific at-risk locations within Oceano and Halcyon and immediate adjoining areas include the following:

- From Highway 1 (Pacific Boulevard or Front Street) to the ocean and south of Cienaga from 19th Street to Valley Road
- This would include the Oceano State Park Campground, Pismo State Beach, Oceano County Campground, Oceano Airport and the Oceano Dunes State Recreational Vehicle Park
- All farm land and areas around Oso Flaco Lake
- The wastewater treatment facilities of the South San Luis Obispo County Sanitation District which is located on Meadow Creek.

The primary impacts of a tsunami event can be widespread destruction and damage to coastal structures and flooding of low lying area. Other effects include:

- **Effects on People and Housing**
There is a low probability that a tsunami event would cause significant property damage or loss of life within the District as most developed areas are well above the estimated run up elevation and a sophisticated warning system is in place.
- **Effects on Commercial and Industrial Structures**
There is a very limited amount of development in the tsunami inundation zones within the District. However neighboring Port San Luis and Morro Bay could be impacted in terms of property damage to piers, docks, floats, and to moored boats. The Diablo Canyon Power Plant is not considered to be at risk as it is located on a marine terrace 85 feet above the sea level. The cooling intakes and release structures for the plant, which are located at sea level, are protected by natural barriers and a concrete jetty.
- **Effects on Infrastructure**
A tsunami event can cause damage to roads, communication facilities, and other infrastructure.
- **Effects on Agriculture**
Effects on agriculture could be devastating if flooding of fields were to occur as a result of a tsunami traveling up and overbanking Arroyo Grande Creek.



Relationships to Other Hazards – Cascading Effects

Tsunami events can cause many cascading effects. Fire can break out as a result of damaged electrical equipment. Other problems and hazards associated with tsunami flooding include: utility disruptions, contamination of the water supply system, broken power lines lying on the ground, and communication system failures.

Plans and Programs in Place

A detailed Tsunami Response Plan for San Luis Obispo County is in place. The Plan addresses the coastal communities, recreation facilities and developed areas with an elevation of 50 feet or less above mean sea level.

The West Coast/Alaska Tsunami Warning Center in Palmer, Alaska is responsible for issuing tsunami information for California, Oregon, Washington, and British Columbia. Tsunami generating incidents around the Pacific can be detected, pinpointed and magnitude computed in from 2 to 12 minutes depending upon the distance from the warning center. Depending on the incident magnitude a “Watch,” “Advisory” or “Warning” will be transmitted to the Governor’s Office of Emergency Services and then distributed through the County’s Emergency Alerting System.

It should be noted that the California Coastal Commission has approved and permitted a 30 year plan to construct flood walls/berm to protect the South San Luis Obispo County Sanitation District Wastewater Treatment Facility located on Meadow Creek. This project will provide protection from both sea level rise and tsunami flooding at the low lying breaches at the Oceano Dunes.

Future Probability - Risk Assessment Conclusion

As delineated in the Risk Assessment above, there are a limited number of low lying areas in the District that could be impacted by a significant tsunami event. Historically, the study area has had minimal threat from tsunami activity. Thus, the probability of this future hazard event occurring is deemed **LOW**. The combination of an accurate tsunami warning system, which will provide time for evacuations, and the limited exposed area reduces the severity to some degree. However, given the fact that the community’s wastewater treatment facility is located within the tsunami inundation zone justifies a **MEDIUM** severity rating. *A San Luis Obispo County Tsunami Hazard inundation map is found at the end of this section.*



➤HAZARD: DROUGHT

Severity: Low	Probability: High
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Hazard Definition

A drought is an extended dry period where water availability falls below the statistical requirements for a region. Droughts are the product of natural water deficiency coupled with human water demand exceeding available supply. The precise definition of drought is made complex owing to political considerations, but there are generally three types of conditions that are referred to as drought:

Meteorological drought is brought about when there is a prolonged period with less than average precipitation.

Agricultural drought occurs when there is insufficient moisture for average crop or range production. This condition can arise, even in times of average precipitation, owing to soil conditions or agricultural techniques.

Hydrologic drought is brought about when the water reserves available in sources such as aquifers, lakes, and reservoirs fall below the statistical average. This condition can arise, even in times of average (or above average) precipitation, when increased usage of water diminishes the reserves.

When the word "drought" is used by the general public, the most often intended definition is meteorological drought. However, when the word is used by urban planners, it is more frequently in reference to hydrologic drought.



Lopez Lake, a critical water resource for the District during the drought of 2012-16



History

Droughts are a recurring feature of California's climate. In the last century, the most significant statewide droughts occurred in 1929-1934, 1976-1977, 1987-1992, and 2012-2016, and a less severe drought occurred in 2007-2009. The 2012-2016 drought was one of extreme proportions, with record-high temperatures and record-low levels of snowpack and precipitation. Fortunately, the District has not been impacted by these droughts.

Further information regarding these historical droughts is described below:

1929–1934

This drought occurred during the infamous Dust Bowl period of the 1920s and 1930s. As a result of this drought, the California Central Valley Project, which is a series of canals, aqueducts and pump stations, was constructed to deliver water from the northern half of the state to the San Joaquin Valley.

1976–77

1977 had been the driest year in California history to date. According to the *Los Angeles Times*, "Drought in the late 1970s spurred efforts at urban conservation and the state's Drought Emergency Water Bank was developed.

1986–1992

California endured one of its longest droughts ever, observed from late 1986 through late 1992. Drought worsened in 1988 as much of the United States also suffered from severe drought. In California, the six-year drought ended in late 1992 as a significant El Niño event in the Pacific Ocean remedied the situation.

2007–2009

This was the 12th worst drought period in California's history and the first drought for which a statewide proclamation of emergency was issued. The drought of 2007–2009 also saw greatly reduced water diversions from the state water project. The summer of 2007 saw some of the worst wildfires in Southern California history.

2011–2016

The period between late 2011 and 2016 was the driest in California history since record-keeping began. The drought led to Governor Jerry Brown instituting mandatory 25 percent water restrictions in June 2015. Many millions of California trees died from the drought – approximately 102 million, including 62 million in 2016 alone. It is estimated that throughout the State there was 2.7 billion dollars of lost farming revenue and the loss of some 18,000 jobs.



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By the end of 2016, 30% of California had emerged from the drought, mainly in the northern half of the state, while 40% of the state, (Santa Barbara, Ventura, Los Angeles, Orange, and San Diego Counties) remained at extreme or exceptional drought levels.

The winter of 2016–17 turned out to be the wettest on record in Northern California, surpassing the previous record set in 1982–83. Floodwaters caused severe damage to Oroville Dam in early February, prompting the temporary evacuation of nearly 200,000 people north of Sacramento. In response to the heavy precipitation, which flooded multiple rivers and filled most of the state's major reservoirs, Governor Brown declared an official end to the drought on April 7, 2017.

Hazard Potential

Periods of drought can have significant environmental, agricultural, health, economic and social consequences. Drought can also reduce water quality, because lower water flows reduce dilution of pollutants and increase contamination of remaining water sources. In the planning area, which contains agricultural interests of consequence, the impacts of drought are significant.

As noted in the Hazard Definition above, no simple, precise definition of drought exists. In general, a drought is an extreme event characterized by a prolonged period of abnormally low levels of precipitation that has adverse impacts on vegetation, animals, and people. A drought is a temporary phenomenon and as such, it is distinct from aridity, which is a climatic feature of a particular region. Droughts occur periodically in every climatic zone, although some areas are more drought-prone than others. Such is the case with the community of Oceano. Situated above a large ground water basin and served by a number of water projects the community has, to date, not been impacted by drought. Please refer to the Risk Assessment Conclusion section for more detail.

Impacts and Effects

Listed below is a short summary of some of the effects and impacts that typically occur during a drought:

- **Water Supply and Quality**

Drought negatively impacts both the quantity and quality of water supplies. While a reduction in water supply is generally a temporary phenomenon, it can be permanent in some instances. Land subsidence can be caused by pumping, resulting in a permanent loss of groundwater storage. Drought can also compromise water quality, such as by concentrating salts and other contaminants, reducing dissolved oxygen levels, and increasing water temperatures. Water quality problems can exacerbate water supply problems.



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- **Fish and Wildlife**

Political pressures increase diversions of water away from ecosystems. As water levels in streams, rivers, and lakes decline, fish and wildlife are at risk of dying, potentially causing regional extinctions. Dry vegetation combined with high temperatures and low humidity often increases the frequency and intensity of fires. The wildfire season may start earlier in the spring and extend later into the fall.
- **Energy**

Drought can strain the energy system. The generation of hydroelectricity at California dams may drop dramatically from average levels because it varies directly with streamflow. As the source of electricity production shifts to the more expensive fossil fuel (e.g., natural gas), electricity prices will likely increase. Additionally, high temperatures associated with drought may increase energy demand for cooling and air-conditioning systems.
- **Agriculture**

Some farmers and water districts with “junior” water rights have seen water allocations from state and federal irrigation projects severely cut. Some growers with “senior” water rights have seen only modest shortages, if any. Farmers facing a water shortage may seek temporary water transfers from other users, increase groundwater pumping, change the types of crops they grow, deficit irrigate, or leave some lands fallow.
- **Rural Communities**

Rural communities are often dependent on a single water source, usually groundwater. As groundwater levels drop, community and individual wells may go dry. Declining water supplies and ongoing water quality problems force communities to switch to bottled water, dig deeper wells, and truck in water to refill holding tanks. These actions can impose local economic hardships on those living in rural areas, many of whom are among the state’s most disadvantaged communities.
- **Revenue Losses**

For most water utilities, fixed costs (e.g., debt service on past water system investments) are relatively high and variable costs (e.g., energy and chemical costs) are relatively low. Reducing water use cuts variable costs but has no impact on fixed costs (at least in the short term). As water use declines, revenue from the sale of water also declines and may not be sufficient to recover the fixed costs. In response, water utilities may enact drought surcharges or draw from reserves. While surcharges increase the water rate (i.e., the price per gallon), those using less water may actually see their bills go down. Furthermore, conservation lessens the impact of the drought on water bills by avoiding the purchase of more expensive water supplies.



- **Behavioral Health**

Drought can impact behavioral health as a result of direct financial stress and general economic downturn. Additionally, some of the more common stress-relieving activities such as exercise and other outdoor activities may be impacted or less enjoyable as a result of drought. The combination of increased financial stress and impaired ability to relieve stress can result in the following behavioral health issues including depression, anxiety, suicide, and substance abuse.

Source: USGS - California Water Science Center

Relationships to Other Hazards-Cascading Events

Over pumping of groundwater basins due to drought conditions can result in land subsidence. As a result of drought, dry vegetation combined with high temperatures and low humidity often increases the frequency and intensity of fires. The wildfire season may now start earlier in the spring and extend later into the fall.

Plans and Programs in Place

Urban water utilities throughout the State of California have rolled out a wide range of voluntary and mandatory water conservation programs. These include education programs, incentives to purchase more water-efficient appliances and plant water-efficient gardens, and restrictions on discretionary water uses, such as watering lawns. As a result, statewide urban water use has declined by nearly 25% from 2013 levels.

When the Governor declared the drought emergency in January 2014, he provided direction to state agencies on several issues and called on all Californians to reduce water use by 25%. Subsequently, as the drought persisted, the State Water Board established mandates throughout California.

In October 2014, the Oceano Community Services District Board adopted Resolution 2014-15 in accordance with the State Water Board's requirements, which primarily establishes restrictions on outdoor water use. This action was taken not based on a true need but more in support of the neighboring communities who were being impacted by the drought.



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Future Probability - Risk Assessment Conclusion

While San Luis Obispo County has a well-documented history of being impacted by drought, the District has not suffered significantly. A number of factors mitigate the impacts of drought on the District. They include:

- The District has invested significant resources in a variety of water projects that provide three water sources for the District: Lopez Lake, the State Water Project, and ground water wells in the Arroyo Grande Basin.
- Although the Santa Maria Groundwater Basin, underlying the District, is an adjudicated basin and subject to the courts continuing jurisdiction, the District's pumping rights that were established in the court-approved stipulations and judgment of 900 acre feet per year, exceed the District's total annual demand.

Given these considerations, the severity for drought within the District is rated as **Low**. There is no doubt that this short term phenomenon will occur again therefore the probability is rated as **HIGH**.

U.S. Drought Monitor California

August 16, 2016

(Released Thursday, Aug. 18, 2016)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	83.59	59.02	42.80	21.04
Last Week 8/9/2016	0.00	100.00	83.59	59.02	42.80	21.04
3 Months Ago 5/17/2016	5.50	94.50	86.39	63.57	42.99	21.04
Start of Calendar Year 12/29/2015	0.00	100.00	97.33	87.55	69.07	44.84
Start of Water Year 9/29/2015	0.14	99.86	97.33	92.36	71.08	46.00
One Year Ago 8/18/2015	0.14	99.86	97.35	92.36	71.08	46.00

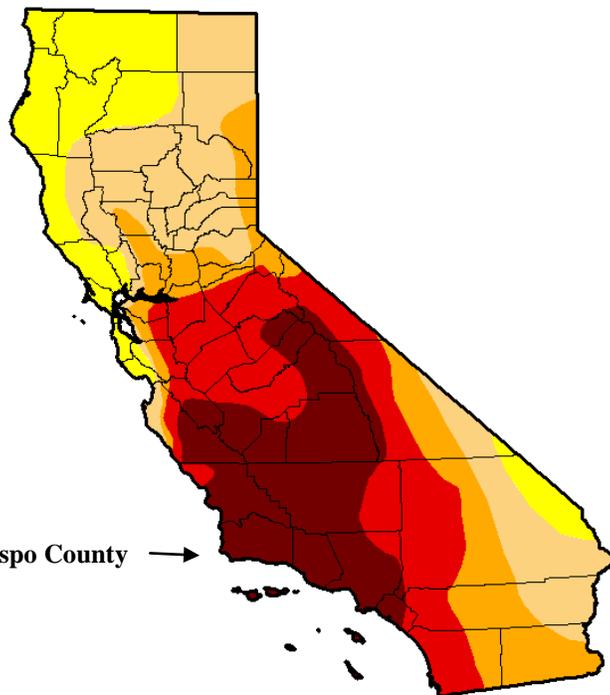
Intensity

D0 Abnormally Dry	D3 Extreme Drought
D1 Moderate Drought	D4 Exceptional Drought
D2 Severe Drought	

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:

David Miskus
NOAA/NWS/NCEP/CPC



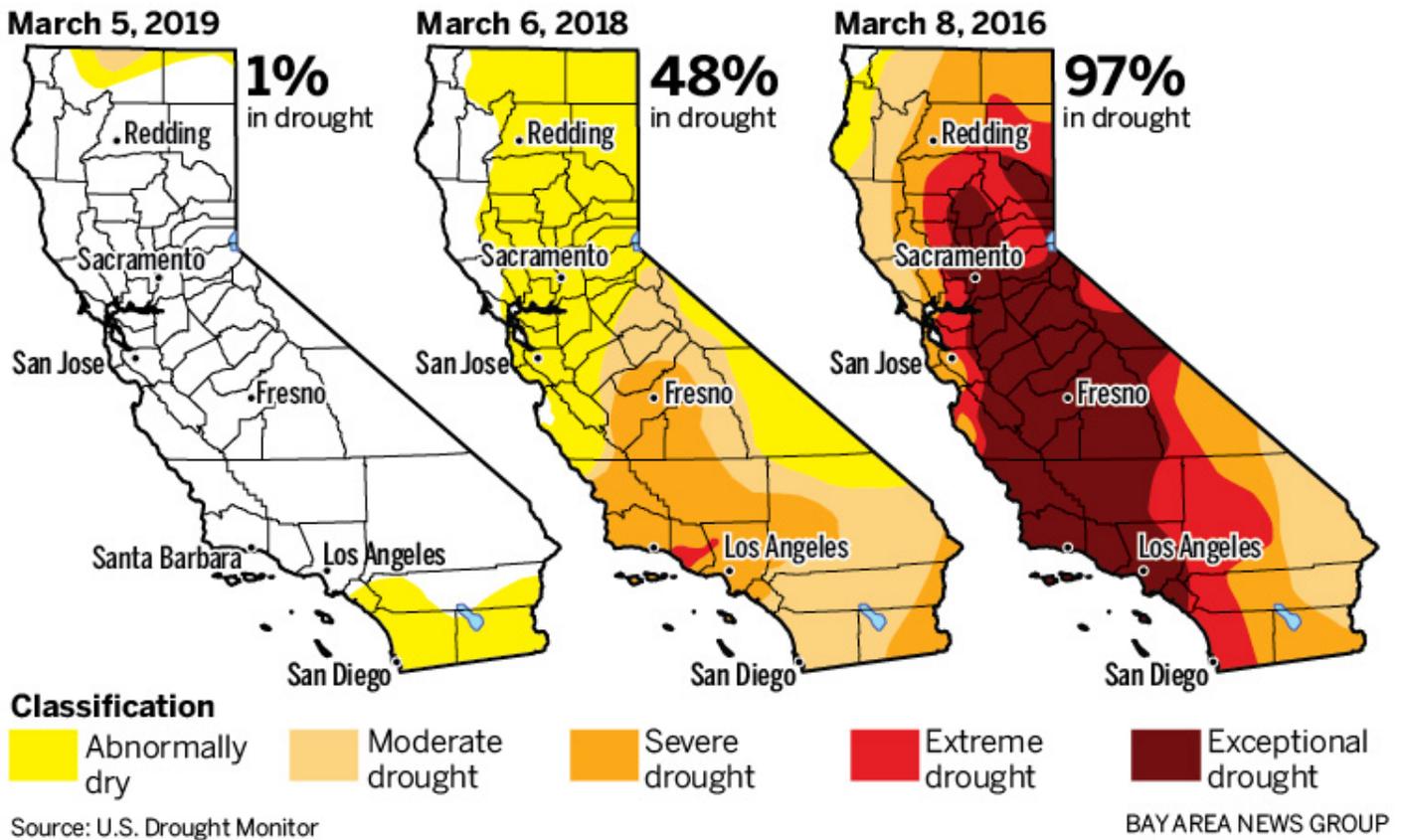
San Luis Obispo County →



<http://droughtmonitor.unl.edu/>



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As the above maps demonstrate, 97 percent of California’s land was in a drought in March of 2016, much of it in extreme drought status. The historic drought that plagued California for five years ended in 2017 after extremely heavy rainfall enabling every major city in California to drop the mandatory water restrictions and penalties that marked much of the previous five years. Unfortunately, an extended dry period followed returning water restrictions to many California communities.



➤ **HAZARD: EXTREME WEATHER**

Severity: Medium	Probability: High
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Hazard Definition

Extreme weather is defined as unusual, severe, or unseasonal weather. It can be considered weather at the extremes of the historical distribution or the range that has been experienced in the past. Adverse or extreme weather occurs only 5% or less of the time. It may take the form of isolated events, such as storms, or may occur over longer periods of time, such as heat waves, cold snaps, or drought.

A storm is defined as any disturbed state of the earth’s atmosphere affecting its surface. It may be marked by strong wind, hail, thunder and/or lightning, heavy precipitation in the form of snow or rain, heavy freezing rain, strong winds (windstorm), or wind transporting some substance through the atmosphere as in a dust storm, blizzard, sand storm, etc. Storms generally lead to negative impacts to lives and property such as storm surge, coastal erosion, heavy rain or snow (causing flooding or road impassibility), lightning, wildfires, and vertical wind shear.

A more thorough discussion of these types of events follows:

Wind-Wind Storms

Resulting from air movement from areas of high pressure to those of low pressure, wind can occur at any time of the year and can vary in strength and duration. Wind related events can be quite destructive.

Heavy Snow Fall

Heavy snow fall will, on very rare occasions, occur in the higher elevations of the Santa Lucia range directly to the north and east of the District. In the lower elevations of the study area heavy snow fall does not occur.

Thunderstorm

A thunderstorm, also known as an electrical storm, lightning storm, or thundershower is weather characterized by the presence of lightning and its acoustic effect on the earth's atmosphere. Thunderstorms are usually accompanied by strong winds, heavy rain and



sometimes snow, sleet, hail, or no precipitation at all. Those which cause hail to fall are known as hailstorms.

Hailstorms

Hail is precipitation in the form of balls or irregular lumps, always produced by convective clouds, nearly always cumulonimbus. They can vary from pea size all the way up to that of a grapefruit in rare circumstances. Hailstones generally form in thunderstorms between currents of rising air called the updrafts and the current of air descending toward the ground, called the downdraft. Large hailstones indicate strong updrafts in the thunderstorm. The larger the hail, the stronger the updraft needed to hold it aloft in the storm.

Freeze

A freeze refers to a particularly cold spell of weather where the temperature drops below 32 degrees. Freezing conditions, especially in the spring, can cause damage to crops and ornamentals and cause considerable discomfort to area residents.

Extreme Heat

Often referred to as a “heat wave” or “heat storm”, it is typically defined as a series of days, three or more, where weather conditions combine resulting in day time temperatures considerably higher than the norm. When combined with high humidity, living conditions can become quite uncomfortable.



History

Oceano, Halcyon and neighboring communities have a history of adverse or extreme weather events:

Extreme Weather Event History

LOCATION	Date of Event	Damage Reported	Incident Description
San Luis Obispo County	1997 to Present: >20 Events Occurred	Unknown Values	Heavy Surf- 1998 event: An extended heavy surf event produced by a series of Pacific storms, battered coastal areas of Central and Southern California. Along the coast of San Luis Obispo, waves as high as 25 feet were reported. Elsewhere, coastal areas reported 12 to 15 foot waves producing some degree of damage. In Port San Luis, widespread shoreline erosion was reported.
City of San Luis Obispo	5/5/1988	4 homes damaged	Tornado-A small tornado developed over the City of San Luis Obispo. The tornado knocked out power to several hundred homes. Four homes were damaged, including one struck by a falling cypress tree.
Countywide	12/21/1998 - 12/24/1998	\$5.4 million crop damage	Freeze- An unseasonable cold air mass produced a three night period of sub-freezing temperatures across Central and Southern California. Agricultural interests suffered heavy crop losses.
San Luis Obispo County	12/17/2000 - 12/18/2000	Moderate	High Wind-Gusty offshore winds buffeted the coastal section of SLO County. In the City of SLO, the winds blew out the windows in an unoccupied mobile home and destroyed part of a car port. In Nipomo, winds of 35 mph with gusts up to 55 mph were reported. The strong winds produced widespread power outages.
San Luis Obispo County	3/04/2001 - 3/06/2001	Significant - Values Unknown	High Wind-A powerful and slow-moving storm brought heavy rain, strong winds and snow to Central and Southern California. Across SLO County, rainfall totals ranged from 2 to 6 inches over coastal/valley areas and 6 to 13 inches in the mountains producing extensive flooding. In Oceano, the Arroyo Grande

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			Creek overflowed destroying numerous crops and damaging one home. In Arroyo Grande, flooding along Corbett Creek damaged four homes and five Arroyo Grande High School classrooms.
Oceano	2/02/2004	None	Tornado-A waterspout, developed offshore of the Oceano Dunes and came onshore as a weak tornado.
Cambria	01/02/2006	Significant – Values Unknown	Wind/Rain-Cambria experienced a significant wind and rain event which caused damage to over 60 homes and businesses. Several people were injured. First responders were unable to access many areas of Cambria due to downed power lines, utilities, tress and other debris. Several large areas of Cambria were without power for 5-9 days.
Halcyon	02/17/17	Significant Tree Damage	Wind storm resulted in the downing of 50 large eucalyptus, cypress and pine trees in the village of Halcyon.

Hazard Potential

These events can have significant impacts on the health and safety of the population and cause major property and infrastructure damage. Listed below are the primary dangers associated with these occurrences:

- Threat to life and danger to public health
- Damage/loss of personal property or crops and livestock
- Utility failures
- Interruption of the transportation network
- Interruption of communication systems

More specific impacts and effects for the various events are outlined below:



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Wind Storms and Thunderstorms

The typical wind in the planning area flows from the ocean in a northwest direction and will range from 10–25 MPH and is most prevalent in the spring. Winter storms, coming off the ocean, will generate higher wind speeds. The typical flow is from the south as the storm approaches, rotating to the north as the storm makes landfall. These winds are erratic; gusts of 35 MPH are common with rare gusts to 55 MPH being recorded. Large pressure gradient wind flows (i.e. Sundowner or Santa Anna winds) do occur in the planning area. An occasional offshore flow with wind speeds of 10-15 MPH will occur in the fall months.

Throughout the entire community, eucalyptus and cypress trees have been planted as wind breaks. There are no forested areas and naturally occurring trees are rarely found. Falling trees and branches can result in considerable property destruction, communication/power line damage, and block transportation corridors. This situation has recently been exacerbated by the disease/drought infested trees.

Occasionally, summer thunderstorms (lightning) will occur in the Santa Lucia Mountain range well to the north of the District. Thunder and lightning will be seen and heard in the distance. Rarely, wildfires in the mountains may be the result of these storms.

Coastal Erosion/Winter Storms

These storms may have hurricane-force winds and cause damage similar to that of a hurricane. However, they are not classified as such because they don't originate in the tropics. Coastal storms normally do most of their damage on the coast, in the form of beach erosion and flooding due to heavy rainfall. The winds originate from low-pressure systems offshore and circulate counterclockwise around the low pressure system. When the low pressure system stops moving, its winds combine with those of the high pressure system to blow in one direction over a long period of time, which may create massive waves. The duration of such a storm coupled with the height of the tide can be the most significant measure of its destructiveness.

As these storms move to the east, across the ocean front communities, they typically lose intensity as the coastal range behind Arroyo Grande causes the moist air to elevate, condense, and fall out. Arroyo Grande Creek, which flows through the community of Oceano, originates in this range and has caused significant flooding events to this area. High tides can further increase flooding potential.

The coastal areas of the south San Luis Obispo County, specifically Pismo Beach and the Oceano Dunes, are primarily characterized by wide sandy beaches backed by low bluffs in Pismo and tall sand dunes in Oceano. This section of coastline is subject to moderate to heavy wave action mostly from northerly swells, however the wide sandy beaches absorb and dissipate the wave energy with no history of significant coastal damage to the naturally occurring features. The Pismo Beach Pier, not a natural feature, has been damaged in past



storms. Winter storm wave heights of 15-20 feet are routine with the very occasional wave height of 25 feet.

Hailstorms

Significant amounts of damage to property, notably to automobiles, skylights, and glass-roofed structures, can occur from hailstorms. The damage to landscape, vegetation and crops can also be severe. Fortunately, hail very rarely kills anyone. However, each year dozens of people are injured when they are unable to find adequate shelter. Hailstorms could occur anywhere within the District, however hailstorms of significance are very rare occurrences in the planning area. When they do occur, hail stones size is in the ¼ to ½ inch range. Damage of consequence is not recorded.

Freeze and Heavy Snowfall

The proximity of the Pacific Ocean to the District moderates both the high and low temperatures in the area. Snowfall within the confines of the District does not occur. The average low temperature in January for Oceano is 43 degrees. On rare occasions (1-2 times/year), freezing temperatures may occur at night and in the early morning. Daytime temperatures below freezing do not occur. These “cold spells” typically last 2-3 days before temperatures return to normal. Damage to crops is very rare but when it occurs can be quite costly.

Extreme Heat

In the United States, heat waves are the most lethal type of weather phenomenon. Between 1992 and 2001, deaths from excessive heat in the United States numbered 2,190, compared with 880 deaths from floods and 150 from hurricanes. Situated on the coast, the community rarely experiences extremely high temperatures of long duration. However, the public health risks from extended exposure to higher than normal temperatures include hyperthermia, rashes, edema, dehydration, and heat cramps, to name a few.

The proximity of the Pacific Ocean to the District moderates both the high and low temperatures in the area. Sperling's comfort index for Oceano, California is an 84 out of 100, where a higher score indicates a more comfortable year-around climate. The U.S. average for the comfort index is 54. This index is based on the total number of days annually within the comfort range of 70-80 degrees, with a penalty applied for any days with excessive humidity. Oceano has approximately 185 sunny days each year with a July average high of 70 degrees. Temperatures in the 90 degree range are extremely rare and not previously recorded for the study area; therefore impacts from extreme heat are non-existent.



Relationships to Other Hazards-Cascading Events

Extreme Weather events can cause many cascading effects. Fire can break out as a result of damaged electrical equipment. Other problems and hazards associated with flooding and inclement weather include: utility disruptions, broken power lines lying on the ground, and communication system failures.

High winds often accompany winter storms and may cause significant damage to structures in the District by blowing down trees that have been killed or damaged by drought and disease or infestation. The eucalyptus and cypress trees found along Highway 1, the railroad right-of-way, and in scattered locations throughout the community present a moderate threat.

Plans and Programs in Place

The San Luis Obispo County Office of Emergency Services (OES) and the Five Cities Fire Authority, in coordination with local, state, and federal emergency response organizations, continually work to better prepare the residents for the impact of these types of emergency events.

First responder agencies, both law enforcement and fire, routinely train on handling the cascading effects that can result from events of this nature. The local chapter of the American Red Cross is prepared to assist citizens in shelter welfare issues.

The SLO Planning and Building Department stipulates and enforces codes and ordinances that ensure that buildings are constructed to prevent damage from extreme wind and weather events.

The National Weather Service uses a number of methods to get weather statements out to the general population. Examples include the Emergency Alert System, NOAA Weather Radio All Hazards (NWR), and newer smart phone Wireless Emergency Alerts (WEA). For certain significant adverse weather events, the County could potentially use the reverse 9-1-1 system. Early Warning System sirens are located throughout the Diablo Canyon Emergency Planning Zone Area.

Due to the unique and consistent weather patterns in the area, the National Weather Service (NWS) has broken the County into three weather forecast zones: San Luis Obispo County Central Coast, San Luis Obispo County Interior Valleys, and San Luis Obispo County Mountains. The NWS uses a multi-tier system of weather statements to notify the public of threatening weather conditions specific to these areas. These statements are used in conjunction with specific weather phenomena to convey different levels of risk. In order of increasing risk, these statements are:



Weather Related Terminology

- **Outlook** - A Hazardous Weather Outlook is issued daily to indicate that a hazardous weather or hydrologic event may occur in the next several days. The outlook will include information about potential severe thunderstorms, heavy rain or flooding, winter weather, extremes of heat or cold, etc., that may develop over the next seven days with an emphasis on the first 24 hours of the forecast. It is intended to provide information to those who need considerable lead time to prepare for the event.
- **Advisory** - An advisory is issued when a hazardous weather or hydrologic event is occurring, imminent, or likely. Advisories are for "less serious" conditions than warnings that may cause significant inconvenience, and if caution is not exercised could lead to situations that may threaten life or property. NWS may activate weather spotters in areas affected by advisories to help them better track and analyze the event.
- **Watch** - A watch is used when the risk of a hazardous weather or hydrologic event has increased significantly, but its occurrence, location, or timing is still uncertain. It is intended to provide enough lead time so those who need to set their plans in motion can do so. A watch means that hazardous weather is possible. People should have a plan of action in case a storm threatens and they should listen for later information and possible warnings especially when planning travel or outdoor activities. NWS may activate weather spotters in areas affected by watches to help them better track and analyze the event.
- **Warning** - A warning is issued when a hazardous weather or hydrologic event is occurring, imminent, or likely. A warning means weather conditions pose a threat to life or property. People in the path of the storm need to take protective action. NWS may activate weather spotters in areas affected by warnings to help them better track and analyze the event.
- **Statement** - A statement is either issued as a follow-up message to a warning, watch, or emergency, that may update, extend, or cancel the message it is following up or a notification of significant weather for which no type of advisory, watch, or warning exists.



Future Probability/Risk Assessment Conclusion

The planning area has a history of extreme weather, mostly winter storm related. These events can have significant impacts on the health and safety of the population and cause major property and infrastructure damage. These types of events include: winter storms, wind events, thunderstorms, and hailstorms. Given the wide range of exposure to a variety of extreme weather events, the significant past history indicates a high probability of these types of events reoccurring in the future. These events are typically short in duration.

Given the past history of both occurrence and damage, and based on the wide range of potential events, this section is rated as **Medium** in severity and **High** in probability.



VI. VULNERABILITY ASSESSMENT

A. DMA 2000 Requirements

DMA Requirement §201.6(c)(2)(ii):	The risk assessment shall include a description of the jurisdiction’s vulnerability to the hazards described in paragraph (c)(2)(i) of this section. This description shall include an overall summary of each hazard and its impact on the community.
DMA Requirement §201.6(c)(2)(ii)(A):	The plan should describe vulnerability in terms of the types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard areas.
DMA Requirement §201.6(c)(2)(ii)(B):	The plan should describe vulnerability in terms of an estimate of the potential dollar losses to vulnerable structures identified in paragraph (c)(2)(i)(A) of this section and a description of the methodology used to prepare the estimate.
DMA Requirement §201.6(c)(2)(ii)(C):	[The plan should describe vulnerability in terms of] providing a general description of land uses and development trends within the community so that mitigation options can be considered in future land decisions.
DMA Requirement §201.6(c)(2)(iii):	For multi-jurisdictional plans, the risk assessment must assess each jurisdiction’s risks where they vary from the risks facing the entire planning area.

B. Summary of Community’s Vulnerability

As outlined above, given the past history, the current conditions, and the overall life and property threat to the District, the Hazard Mitigation Planning Group has deemed the probability and severity of each hazard as follows:



Oceano Community Services District	Earth-quake	Extreme Weather	Drought	Flood	Tsunami
Probability	H	H	H	H	L
Severity	H	M	L	M	M

L = Low, M= Medium, H = High

The vulnerability assessment is a summary of the hazard’s impact to the community’s vulnerable structures. Community assets and development trends will be identified and assessed with respect to the developed hazard profiles to ascertain the potential amount of damage that could ensue from each identified hazard. This section will include: 1) A description of the critical buildings and infrastructure within the study areas including future building and land use decisions. 2) A general description of the extent of each hazard’s impacts to these vulnerable structures, 3) An estimate of the potential dollar losses to vulnerable structures, and 4) Vulnerable populations within the jurisdiction.

C. Critical Facilities and Infrastructure

Critical facilities and infrastructure are those systems within each community whose incapacity or destruction would have a debilitating effect on the community’s ability to recover subsequent to a major disaster. The following critical facility and infrastructure are categorized as follows:

1. **Emergency Services** for the health and welfare of the whole population (e.g., hospitals, police, fire stations, emergency operations centers, evacuation shelters, schools).
2. **Lifeline Utility Systems** such as potable water, wastewater, oil, natural gas, electric power and communications systems.
3. **Transportation Systems** including railways, highways, waterways, airways and city streets to enable effective movement of services, goods and people.
4. **High Potential Loss Facilities** such as power plants, dams and levees.



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Non-Critical Facilities

For the purpose of this plan, properties such as recreational facilities, parks, libraries, religious facilities, and historical buildings will be classified as non-critical facilities. Although their relevance to the District and its residents is undeniably significant, they are not classified as 'critical facilities' per the definition set in Executive Order 13010 (Critical Infrastructure Protection 1996).

Residential Facilities

Although personal residences are not by the above definition considered to be critical facilities, their relevance to these communities and its citizens is unquestionable. For that reason, they have been included in the District's vulnerability assessment.

Vulnerable Populations

Vulnerable populations reside within the Oceano Community Services District including the elderly, physically and mentally disabled, homeless, carless, and limited English speakers. Given the District's close proximity to the Diablo Canyon Nuclear Power Plant, a detailed special needs population list/inventory is completed each year and is immediately available to all first responders. A number of non-profit organizations and services assist these populations on a daily basis. Specific examples include Meals on Wheels, Five Cities Homeless Coalition, and the Oceano Boys & Girls Club. The county has a well-organized VOAD group which will act as an advocate for these vulnerable individuals during an emergency within the District.

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D. Jurisdictional Assets at Risk to Applicable Hazard

Assets at risk include: Buildings, Critical Facilities, Infrastructure, Private Property and Areas (Residential, Environmental, Historical and Economic)

Critical Facilities and Infrastructure	Oceano Address	Building and Content Value	Earthquake	Extreme Weather	Tsunami	Drought	Flood
Administration Building	1655 Front Street	\$500,000/300,00	X	X			
Sheriff Sub Station	1681 Front Street	\$1,500,000/1,000,000	X	X			
Fire Station	1655 Front Street	\$500,000/150,000	X	X			
Chlorinator Shed	1687 Front Street	\$5,000	X	X			
Warehouse	1935 Wilmar Street	\$200,000/90,000	X	X			
Shop/Field Office	1935 Wilmar Street	\$125,000/100,000	X	X			
Water Tank (Large)	1935 Wilmar Street	\$1,000,000	X				
Water Tank (Small)	1935 Wilmar Street	\$300,000	X				
Well # 4 (350 Feet)	1981 Wilmar Street	\$275,000				X	
Well # 6 (620 Feet)	1981 Wilmar Street	\$350,000				X	
Well # 7 (175 Feet)	1687 Front Street	\$200,000			X	X	X
Well # 8 (525 Feet)	1650 Front Street	\$250,000			X	X	X
Sewer Booster Station	1935 Wilmar Street	\$100,000	X				
Sewer Lift Station	555 Pier Street	\$400,000	X		X		X
Surge Tank	1935 Wilmar Street	\$15,000	X				



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23 Miles Water Service Lines	District	\$3,800,000	X				
18 Miles Wastewater Lines	District	\$2,000,000	X				
260 Fire Hydrants	District	\$1,300,000	X				
Residential Facilities: Approximately 3500 Housing Units	District	\$1,774,500 (\$338/sq. ft x average 1500 sq.ft.)	X	X		X	
Total Values		\$16,234,500					

E. Methodology Used

To determine the number of critical structures and infrastructure at risk, a combination of field surveys, aerial photos, GIS maps, and Google Earth software was used. The methodology used in preparing the Vulnerability Estimate consisted of determining the value of critical buildings and facilities from insurance property schedules. Critical infrastructure values were established by using actual replacement costs which were determined by recent comparable replacement projects.

F. Loss Estimations

Dollar losses to buildings and infrastructure vary depending upon the natural hazard occurring and the severity of the hazard. In general, earthquakes can extensively damage a wide area therefore critical structure and infrastructure losses should be estimated at a 100% value. Destruction from flooding takes place in specific areas and the damage is historically less severe than that of an earthquake. Thus, the estimated loss as a result of flooding should be calculated at the 50% level. Damage resulting from tsunamis should be calculated at 100% of structural value for those properties located within inundation areas. Extreme weather could impact any portion of the jurisdiction. Historical data indicates that these events are extremely localized and a 10% loss of the value of the structure damaged should be anticipated.

G. Development Trend Analysis

While the population of both San Luis Obispo County and the District is expected to grow moderately in the next five years, there are Land Use policies and elements within the County General Plan to help assure orderly development.



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In addition, the Local Agency Formation Commission (LAFCO) is tasked with the mission to provide an orderly pattern of growth that reconciles the varied needs of the County. One of the fundamental principles of LAFCO is to ensure the establishment of an appropriate and logical municipal government structure for the distribution of efficient and appropriate public services. LAFCO Land Use objectives include:

- The discouragement of urban sprawl
- Preservation of the physical and economic integrity of agricultural lands
- Preservation of open space within urban development patterns
- Orderly formation and development of agencies by shaping local agency boundaries
- The minimization of agencies providing services to a given area
- Utilization of Spheres of Influence to guide future development of agency boundaries

All building and development activities occurring within the District are guided and permitted through the SLO County Planning Department with advice from the Oceano Advisory Committee. The District has no authority over planning and development, however the Oceano Advisory Committee (OAC) regularly meets and reports to the County Planning Commission on matters of planning and building for the community of Oceano exclusively. The entire area of the District, with the exception of creeks, small lakes and marshes, is developed in one form or another. Residential in-fill projects will continue to occur throughout the District and will consist primarily of planned single unit developments and a limited number of multi-family residential projects. Commercial development will also consist of infill or the redevelopment of existing parcels.

There are three sizable portions of land that are in high value agricultural production found within the District. Two are located within the Halcyon Historical District (Pike/Elm and S. Halcyon/Highway 1 areas) and are owned by the Temple of the People Theosophical religious group. These three large parcels could potentially be converted to commercial or residential use. However, they have a very high quality soil and are valued for their agricultural profitability. The two parcels found within the Halcyon Historical District would face even stricter land use planning scrutiny.

The District and the Five Cities Fire Authority have the capability to serve the needs of future development as it occurs.



VII. CAPABILITY ASSESSMENT

A. Overview

In developing the Capability Assessment, it is important to remember that a number of agencies will be involved in carrying out the identified mitigation measures. An important component of the mitigation strategy is an understanding of the resources available to the County, the District, and the Five Cities Fire Authority in order to mitigate the effects of each of the identified hazards. The Capability Assessment begins with a review of legal and regulatory capabilities, including ordinances, codes, and plans used to facilitate hazard mitigation activities. This assessment also describes the administrative and technical capability available to the jurisdictions. The third component of the Capability Assessment is each agency's ability to manage the funding required to implement mitigation strategies. This is followed by a discussion of the community's general willingness to implement mitigation measures. The final part of the Capability Assessment is a review of the physical assets available to respond to the emergency needs of the community.

B. Legal and Regulatory

California Special Districts are state agencies created for the local performance of a specific governmental or proprietary function, unlike cities and counties that perform a wide variety of functions for their citizenry. Special districts provide services and facilities within a defined boundary and are governed by a board.

The County and the District have the applicable building codes, zoning ordinances, subdivision regulations, Capital Improvement Plans, and other regulatory development guidelines which enable it to implement hazard mitigation activities and prevent repetitive losses within the District. The County of San Luis Obispo is a participant in the National Flood Insurance Program (NFIP). The NFIP delineates flood areas (100 and 500 year maps) and outlines how and where structures may be built in those areas.

California state law requires each city and county to adopt a general plan "for the physical development of the county or city, and any land outside its boundaries which bears relation to its planning" (Section 65300 of the California Government Code).

General plans in California are required to have seven mandatory elements, and the SLO County General Plan includes those seven plus several other optional elements for a total of eleven including: Land Use Coastal, Land Use Inland, Circulation, Housing, Conservation and Open Space, Noise, Safety, Parks and Recreation, Economic Development, Agricultural, and Off-Shore Energy.



Legal Authority

Local governments in California have a wide range of tools available to them for implementing mitigation programs, policies and actions. A hazard mitigation program can utilize any or all of the government powers granted by the State of California, which include:

- **General Police Power**

The general police power of the County is typically enacted and enforced with ordinances which define, prohibit, regulate or abate acts, omissions, or conditions detrimental to the health, safety, and welfare of the people, and to define and abate nuisances, including public health nuisances.

Since hazard mitigation can be included under the police power as protection of public health, safety and welfare, towns, cities and counties may include requirements for hazard mitigation in local ordinances. Local governments may also use their ordinance making power to abate “nuisances,” which could include any activity or condition making people or property more vulnerable to a hazard.

- **Building Codes and Inspection**

Construction within the County must meet the standards of the California Building Code. The County’s Planning and Building Department reviews proposed subdivisions and building plans, and conducts site inspections to ensure applicable codes are followed. Additionally, the FCFA reviews projects for enforcement of the California Fire Code.

- **Land Use Regulations**

Land use regulatory powers include planning, enacting and enforcing zoning ordinances, floodplain ordinances, and land division controls. San Luis Obispo County government controls the amount, timing, density, quality and location of new development in order to reduce a community’s vulnerability to naturally occurring hazards. Thus, unsafe development in hazard prone areas can be prevented through local planning, zoning and development review by the Planning and Building Department.

- **Acquisition/Eminent Domain**

California legislation empowers cities, towns and counties to acquire property for public purpose by gift, grant, devise, bequest, exchange, purchase, lease or eminent domain. The County can and has used acquisition as a tool for pursuing local mitigation goals. This reduces or eliminates the possibility of unsafe development occurring.



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- **Taxation**

California law gives local government the power to levy taxes and special assessments. The power of taxation extends beyond merely the collection of revenue, and can have a profound impact on the pattern of development in the community. California does not allow cities or counties to increase tax rates beyond the base rate, except with voter approval. A community can pursue voter approval of a bond or similar mechanism to increase the property tax to be used for a specific purpose. Often used for schools, the increase could be used for a fuel break program or other hazard reduction program. While voter approval of such measures is difficult to obtain it is not impossible.

- **Spending/Budget**

Local governments have the power to make expenditures in the public interest. Hazard mitigation principles can be made a routine part of all spending decisions made by the local government, including the adoption of budgets and a Capital Improvement Plan (CIP).

A CIP is a schedule for the provision of municipal or county services over a specified period of time. Capital programming, by itself, can be used as a growth management technique, with a view to hazard mitigation. By tentatively committing itself to a timetable for the provision of capital to extend services, a community can control growth to some extent, especially in areas where the provision of on-site sewage disposal and water supply are unusually expensive.

In addition to formulating a timetable for the provision of services, a local community can regulate the extension of and access to services. A CIP that is coordinated with extension and access policies can provide a significant degree of control over the location and timing of growth. These tools can also influence the cost of growth. If the CIP is effective in directing growth away from environmentally sensitive or high hazard areas, for example, it can reduce environmental costs.

C. Administrative and Technical

Both the County and the Oceano Community Services District have experienced and competent administrative and technical staff in place to expedite the mitigation actions identified. They possess technical expertise in the areas of planning, engineering, floodplain management, Geographic Information Systems (GIS), and both emergency and general management authority. Additionally, professional contractors with technical and administrative resources are available to assist the staff in implementing the hazard mitigation goals.



D. Financial

In order to achieve the goals and objectives of the Mitigation Strategy, one or more of the following funding sources will be utilized: federal and state entitlements and grants, general fund, sales and property taxes, infrastructure user fees, impact fees, and new development impact fees. All the agencies involved have the necessary budgetary tools and practices in place to facilitate handling appropriate funds. However, local funding sources are currently very limited.

E. Political Will of Community

The Oceano community is comprised of residents, business owners and other key stakeholders with a vested interest in making their community safer from natural hazards. Local residents are knowledgeable about the natural hazards that have impacted their community in the past and are familiar with the natural hazards that could potentially impact their community and the concept of mitigation. For this reason, the community fully supports hazard mitigation strategies and is open to implementing changes that will make this district and its residents safer.

F. Physical Assets

Water and Wastewater

Readily available physical resources from the District's Water and Wastewater Departments include the following:

- 1 Vactor/Pump Unit
- 1 Ford F-550 Dump Truck
- 1 Ford F-150 Pickup Truck
- 2 Chevy 2500 Utility Trucks w/cranes
- 1 John Deere Tractor
- 1 John Deere Backhoe
- 1 Ingersoll-Rand Compressor
- 1 MQ Power Generator



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Fire Service

Fire protection and emergency medical services are provided by the Five Cities Fire Authority, which is comprised of the Oceano CSD, and the Cities of Arroyo Grande, and Grover Beach. The population served is approximately 37,000 people over a 10 square mile area. There are three fire stations, with one located at 1655 Front Street in Oceano. The FCFA responded to 3,838 calls for service in 2017 with an average response time of six minutes.

Apparatus:

- Type I (Structural) Engines: 4
- Type II USAR/BSU: 1
- Type III (Wildland) Engines: 1
- Staff/Fleet Vehicles: 3
- Truck (100' Platform): 1
- Command Vehicles: 3
- Type VI Patrol: 1
- State OES Engine: 1

G. Ability to Expand/Implement Mitigation Strategies

The OCSD has very limited capability to improve existing policies and programs as a result of the small size of the jurisdiction along with budgetary constraints. These financial limitations will also prevent increasing current staffing levels and purchasing additional resources. That said, given the District's emphasis on protecting its small community, resources have been set aside as described below for the implementation of designated mitigation actions.



VIII. MITIGATION STRATEGY

A. DMA 2000 Requirements

DMA Requirement §201.6(c)(3)(i):	The hazard mitigation strategy shall include a description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.
DMA Requirement §201.6(c)(3)(ii):	The mitigation strategy shall include a section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with particular emphasis on new and existing buildings and infrastructure.

B. 2019 Goals, Objectives and Mitigation Actions for Oceano Community Services District

Goal 1	Promote understanding and support for hazard mitigation by key stakeholders and the public within the Community of Oceano.
Objective 1	Educate key stakeholders and the public to increase awareness of hazards including earthquake, wind, winter storms, hail, freeze, heat, drought, tsunami and flood events and opportunities for mitigating hazards.
Mitigation Action 1.A	Through newsletters, speaking engagements and other public contacts, continue to educate the general public and key stakeholders on the District’s issues, responsibilities, and current efforts and successes in the area of disaster preparedness.
Mitigation Action 1.B	Utilize the District’s website to inform the public of hazard mitigation efforts, disaster preparedness messages, and emergency situation information.



Goal 2	Ensure that future development is protected from natural disasters including earthquakes, wind, winter storms, hail, freeze, heat, drought, tsunamis and flooding.
Objective 2	Work with County Planning staff to limit new development in hazardous areas. Build to standards that will prevent or reduce damage from naturally occurring events.
Mitigation Action 2.A	Educate the Oceano Advisory Committee (OAC) members and elected OCSD BOD members on the importance of keeping current on trends and developments in disaster preparedness.
Mitigation Action 2.B	Encourage OAC members to attend local seminars and lectures on naturally occurring hazards so that they may better understand and assist County Planning staff as they process future development.
Mitigation Action 2.C	In order to better protect life and property, continue to accumulate from the county accurate and comprehensive series of maps and data sets that pertain to the District’s earthquake, tsunami and flood threats.
Goal 3	Build and support local capacity and commitment to minimize the District’s vulnerability to potential naturally occurring hazards.
Objective 3.1	Improve existing capabilities of the OCSD staff to manage emergency situations.
Objective 3.2	Enhance the safety of OCSD residents and staff.
Objective 3.3	Improve the District’s communication systems so that in the event of a major emergency it will continue to operate effectively (redundancy and standby power).
Objective 3.4	Improve the District’s auxiliary power systems so that in the event of a major power failure all systems will continue to operate effectively (redundancy and standby power).

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Mitigation Action 3.1A	Develop a Continuity of Operations Plan (COOP) for the District and train all essential staff on their roles and responsibilities as delineated in the Plan.
Mitigation Action 3.1B	Update the existing Emergency Operations Plans and supporting documents to ensure coordination with the County Emergency Operations Center (EOC), Emergency Response Plans and SOP's.
Mitigation Action 3.1C	Train all District department managers and key staff members on their roles and responsibilities in emergency management and the District DOC as outlined in independent study courses FEMA/National Incident Management System - ICS 100, 700, and 800.
Mitigation Action 3.1D	Working with SLO County OES, increase participation by District staff members in disaster drills put on by the County.
Mitigation Action 3.1E	Send one District management employee to the California Specialized Training Institute (CSTI) Public Information Officer Course.
Mitigation Action 3.1F	Support the efforts of the FCFA in the implementation of the Five Year Strategic Plan.
Mitigation Action 3.2A	In order to ensure that employees are available to assist during a major emergency, have all OCSD departments adopt a Family Support Plan. (Note: A model plan is available through SLO County OES.)
Mitigation Action 3.2B	Make improvements to wastewater collection systems by replacing or relining collection pipes so as to reduce sewer overflows and limit inflow and infiltration subsequently reducing the public health threat.
Mitigation Action 3.2C	Train staff on the proper techniques for containing sewer system overflows (SSO Protocols).



Mitigation Action 3.3A	Work with the South County ARES/RACES group in developing a Communications Master Plan for re-establishing District’s radio communications systems.
Mitigation Action 3.3B	Utilize the South County ARES/RACES group expertise, obtain and install a base station radio, mobile radios, and a standby power source to facilitate communications throughout the District as outlined in the Communications Master Plan.
Mitigation Action 3.4A	Develop a plan to provide standby power to the following essential service systems/functions: water well #8, the Administration Building, and the Sheriff’s Substation.
Mitigation Action 3.4B	Collaborate with the Sheriff’s office on funding sources for a standby power system for the substation and the administration building.
Mitigation Action 3.4C	Work with PG&E and County OES to explore potential funding sources for an auxiliary power source for water well # 8.
Goal 4	Minimize the level of damage and losses to people, existing and future critical facilities and infrastructure due to flooding.
Objective 4.1	Enhance the ability of community assets, particularly critical facilities, located in the 100-year floodplain to handle existing and projected flood levels.
Mitigation Action 4.1A	Support the efforts of the county in maintaining compliance with the National Flood Insurance Program (NFIP) requirements.
Mitigation Action 4.1B	Through the Development Review process (OAC), ensure the County restricts construction of essential service facilities in the 100-year flood plain.
Mitigation Action 4.1C	Continue to work cooperatively with the county, state, and federal flood related agencies for funding improvements through grant and agency programs.



Mitigation Action 4.1D	Support the County’s efforts to improve the drainage from the Front Street/Hwy. 1 flooding areas through a combination of vegetation management and storm drain improvements along Hwy. 1, moving the water to the Arroyo Grande Creek.
Mitigation Action 4.1E	Relocate the District’s water and sewer lines that will be impacted by the Front Street/Hwy. 1 storm drain project.
Mitigation Action 4.1F	Support the efforts of the County and the Flood Control District in upgrading the Arroyo Grande Creek levee on both the north and south sides through a combination of vegetation and sediment management and raising both the north and south sides of the levee in a number of places.
Goal 5	Minimize the level of damage and losses to people, existing and future critical facilities and infrastructure due to earthquakes.
Objective 5.1	Continue public education efforts so as to better prepare the citizens of the District from the effects of a significant earthquake event.
Objective 5.2	Enhance the ability of community assets, particularly critical facilities, to survive the impacts of a significant earthquake.
Objective 5.3	Enhance the ability of OCSD administration and FCFA first responders to manage the impacts of a significant earthquake.
Mitigation Action 5.1	Working with SLO County OES, increase the public’s awareness and participation in earthquake preparedness activities such as the annual Great California Shake-Out drill.
Mitigation Action 5.2A	Continue replacing the water lines that are most vulnerable to an earthquake as delineated in the Cannon study.
Mitigation Action 5.2B	As delineated in the RRM Facilities Study, develop a replacement schedule for buildings found to be vulnerable to an earthquake.



Mitigation Action 5.3A	Support the FCFA efforts to train fire department staff in the California State Fire Marshal’s Rescue System 1 and 2 programs.
Mitigation Action 5.3B	Send one District management employee to the California Specialized Training Institute (CSTI) Introduction to Earthquake Management Course.
Goal 6	Limit risk to, and impacts from hazardous materials spills, sewage spills, intentional discharges, illegal disposals, transportation accidents, or system failures.
Objective 6.1	Support the efforts of the county in the continuing efforts to manage the use, sale, distribution and disposal of hazardous materials in the District.
Objective 6.2	Improve emergency response efforts in the control and clean-up of accidental spills and releases of both hazardous materials and sewage spills.
Mitigation Action 6.1A	Educate community members on the impacts associated with disposing of household hazardous materials on the wastewater system and provide advice on proper storage and disposal techniques.
Mitigation Action 6.1B	Continue efforts to educate applicable employees on the handling, use, storage and disposal of hazardous materials utilized in the workplace.
Mitigation Action 6.2	Support the FCFA in training 2 first responders to the Hazardous Materials Technician Level (CSTI)
Goal 7	Minimize the level of damage and losses to people, existing and future critical facilities and infrastructure due to a tsunami event.
Objective 7.1	Assist County OES in continuing their public education efforts to better prepare the citizens and visitors of the District from the effects of a significant tsunami event.
Objective 7.2	Enhance the ability of community assets, particularly critical facilities, to survive the impacts of a significant tsunami event.

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Mitigation Action 7.1	Continue working with County OES in the distribution of the existing tsunami public education pamphlet/map to the visitors and residents in the Tsunami inundation zone.
Mitigation Action 7.2	Work with County OES and the California Coastal Commission to post evacuation route signage along Pier Street, and in the Airport and Oceano Campground areas.



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C. How Mitigation Goals Address Existing and New Buildings and Infrastructure

The following tables demonstrate how the proposed mitigation actions take into account both existing and future buildings and infrastructure.

Existing Buildings and Infrastructure:

MITIGATION GOALS	EXISTING BUILDINGS AND INFRASTRUCTURE					
	Electrical and Power Infrastructure	Water and Wastewater Management	Communication Facilities	Critical Roads and Bridges	Essential Service Facilities	Public Structures
Goal 1-General Mitigation: Promote understanding of hazard mitigation	X	X	X	X	X	X
Goal 2-General Mitigation: Protect future development.	X	X	X	X	X	X
Goal 3-General Mitigation: Build local capacity and commitment.	X	X	X	X	X	X
Goal 4-Flood: Minimize damage due to flooding.	X	X		X	X	X
Goal 5-Earthquake: Minimize the level of damage and losses to due to geological events.	X	X	X	X	X	X

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Goal 6 – Hazardous Materials: Limit risk from hazardous materials spills.		X				
Goal 7- Tsunami: Minimize damage and loss of life from a tsunami event.	X	X		X	X	X

Future Buildings and Infrastructure:

MITIGATION GOALS	FUTURE PROJECTS / BUILDINGS AND INFRASTRUCTURE					
	Residential Subdivisions	Various mixed use projects (residential and commercial)	Ag Clusters (residential, open space, and Ag uses)	Commercial and Industrial Projects	Essential Service Facilities	Public Structures
Goal 1-General Mitigation: Promote understanding of hazard mitigation	X	X	X	X	X	X
Goal 2-General Mitigation: Protect future development.	X	X	X	X	X	X

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Goal 3-General Mitigation: Build local capacity and commitment.	X	X	X	X	X	X
Goal 4-Flood: Minimize damage due to flooding.	X	X	X	X	X	X
Goal 5-Earthquake: Minimize the level of damage and losses to due to geological events.	X	X	X	X	X	X
Goal 6 –Hazardous Materials: Limit risk from hazardous materials spills.	X	X	X	X	X	X
Goal 7-Tsunami: Minimize damage and loss of life from a tsunami event.	X	X	X	X	X	X



IX. MITIGATION ACTION IMPLEMENTATION

A. DMA 2000 Requirements

DMA Requirement §201.6(c)(3)(iii):	The mitigation strategy section shall include an action plan describing how the actions identified in section (c)(3)(ii) will be prioritized, implemented, and administered by the local jurisdiction. Prioritization shall include a special emphasis on the extent to which benefits are maximized according to a cost benefit review of the proposed projects and their associated costs.
DMA Requirement §201.6(c)(3)(iv):	For multi-jurisdictional plans, there must be identifiable action items specific to the jurisdiction requesting FEMA approval or credit of the plan.
DMA Requirement §201.6(c)(4)(i):	The plan maintenance process shall include a section describing the method and schedule of monitoring, evaluating, and updating the mitigation plan within a five-year cycle.
DMA Requirement §201.6(c)(4)(ii):	The plan shall include a process by which local governments incorporate the requirements of the mitigation plan into other planning mechanisms such as comprehensive or capital improvement plans, when appropriate.
DMA Requirement §201.6(c)(4)(iii):	The plan maintenance process shall include a discussion on how the community will continue public participation in the plan maintenance process.

B. Prioritization of Mitigation Actions

Each mitigation action was prioritized based on:

- The probability of the threat occurring
- The effectiveness of the mitigation action. To determine this, the contractors examined each mitigation action’s effectiveness in protecting lives, preventing injury, preserving property, eliminating or reducing damage to critical facilities, residences and infrastructure.



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- The practicality of carrying out the mitigation action within the jurisdiction. To determine this, the following factors were considered: technical and administrative capabilities, financial resources, environmental impact, the impact on the District, social acceptance, political support, and mitigation strategies that reflect community objectives.

This gave rise to the development of an overall relative risk value that resulted in ratings of **HIGH**, **MEDIUM** and **LOW** for each of the mitigation actions. The resultant prioritization was presented to key stakeholders and lengthy discussions were held to ensure that the results were indeed applicable to the priorities and capabilities of the District.

Mitigation Action Prioritization Worksheet

Mitigation Action	Hazard Risk Minimal=1 Moderate=2 High=3	Mitigation Action Effectiveness Minimal=1 Moderate=2 High=3	Mitigation Action Practicality Minimal=1 Moderate=2 High=3	Cost Benefit Analysis Minimal=1 Moderate=2 High=3	Total	Overall Ranking
1.A	2	3	2	2	9	Medium
1.B	2	3	2	2	9	Medium
2.A	2	3	2	2	9	Medium
2.B	2	3	2	2	9	Medium
2.C	1	1	2	2	6	Low
3.1A	2	3	3	3	11	High
3.1B	2	3	3	3	11	High
3.1C	2	2	2	3	9	Medium
3.1D	2	3	2	3	10	High
3.1E	2	2	3	3	10	High
3.1F	3	2	2	2	9	Medium
3.2A	1	1	2	2	6	Low
3.2B	2	3	3	2	10	High

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3.2C	2	3	3	2	10	Medium
3.3A	1	1	2	2	6	Low
3.3B	1	2	2	2	7	Medium
3.4A	2	2	2	2	8	Medium
3.4B	3	2	2	2	9	Medium
3.4C	3	2	2	2	9	Medium
4.1A	1	1	1	2	5	Low
4.1B	2	2	1	2	6	Low
4.1C	2	3	3	3	11	High
4.1D	3	3	2	3	11	High
4.1E	3	3	3	2	11	High
4.1F	2	3	2	3	10	High
5.1	2	2	3	2	9	Medium
5.2A	2	3	3	2	10	High
5.2B	3	2	3	3	10	High
5.3A	1	2	2	1	6	Low
5.3B	2	2	3	3	10	Medium
6.1A	1	2	2	1	6	Low
6.1B	2	2	3	3	10	Medium
6.2	1	1	2	1	5	Low
7.1	1	2	2	3	8	Medium
7.2	1	2	1	2	5	Low

Priority Ranking Values:

4 – 6 = Low

7 – 9 = Medium

10 – 12 = High



C. Action Plan

The following Action Plan was presented to the District, the Hazard Mitigation Planning Group, the general public and the OCSD Board of Directors. The Action Plan delineates what agency is responsible for carrying out each mitigation action, how it will be funded and a target completion date to ensure that the newly constructed plan is implemented and remains an active and relevant document. Actual implementation may be dependent upon funding availability.

ACTION PLAN FOR 2019 MITIGATION ACTIONS

MITIGATION ACTION		IMPLEMENTATION STRATEGY			
ID	DESCRIPTION	RESPONSIBLE DEPARTMENT	FUNDING SOURCES	COMPLETION DATE	PRIORITY
1.A	Educate public and Stakeholders about opportunities for mitigating hazards	ALL (All indicates all OCSD Board Members and Staff)	Administration and General Fund	Ongoing	Medium
1.B	Educate staff on current disaster preparedness developments	ALL	Administration and General Fund	Ongoing	Medium
2.A	Educate OAC and OCSD-BOD on trends and developments	Administration, Oceano Advisory Committee, and Board of Directors	Administration and General Fund	Ongoing	Medium
2.B	Educate OAC on hazard profiles and development review process	Administration, Oceano Advisory Committee, and Board of Directors	None Required	Ongoing	Medium
2.C	Compile Maps/Data Sets on Hazards	Utility Systems Supervisor	None Required	01/01/2019	Low

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3.1A	Continuity of Operations Plan	OCSD Administration	None Required	07/01/2019	High
3.1B	Update Emergency Plan	Utility Systems Supervisor	None Required	07/01/2019	High
3.1C	Training – NIMS and ICS	ALL	None Required	Yearly	Medium
3.1D	Attend Disaster Drills	ALL	None Required	Yearly	High
3.1E	PIO Training (CSTI)	Administration	Grant	07/01/20	High
3.1F	FCFA 5 year Strategic Plan	OCSD BOD and Administration	None Required	Ongoing	Medium
3.2A	Family Support Plan	OCSD Administration	None Required	07/01/2019	Low
3.2B	Wastewater Pipe Repair	Utility Systems Supervisor	Sewer Fund	Ongoing	High
3.2C	Train Staff – SSO Protocols	Utility Systems Supervisor	Sewer Fund	Ongoing	Medium
3.3A	Communications Master Plan	OCSD Admin.	None Required	09/01/2019	Low
3.3B	Radio System Improvements	OCSD Admin.	None Required / Equipment Fund	09/01/2020	Medium
3.4A	Study Standby Power Systems	OCSD Admin.	None Required	10/01/2019	Medium
3.4B	Power Sheriff/Admin Building	OCSD Admin.	Grant/General Fund	10/01/2021	Medium
3.4C	Power Well # 8	Utility Systems Supervisor	Grant/Water Fund	10/01/2020	Medium



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4.1A	National Flood Insurance Program	SLO County Planning Staff and OCSD admin.	None Required	Ongoing	Low
4.1B	Flood Zone Development Restrictions	OCSD Administration, Oceano Advisory Committee, and Board of Directors	None Required	Ongoing	Low
4.1C	Funding Flood Improvements	SLO County Public Works Staff	Grants and Flood Control District Funds	Ongoing	High
4.1D	Hwy. 1 Flood Project	SLO County Public Works Staff	None Required	Ongoing	High
4.1E	Hwy. 1 Infrastructure-Utility Relocation	OCSD BOD, Admin and Utility Systems Supervisor	Water/Sewer Funds	07/01/2019	High
4.1F	Levee Maintenance	SLO County Public Works	Grants and Flood Control District Funds	04/01/2019	High
5.1	Earthquake Drill	ALL	None Required	04/01/2020	Medium
5.2A	Pipe Repair/Replace	OCSD Admin and Utility Systems Supervisor	Water/Wastewater funds/Grants and loans	Ongoing	High
5.2B	Facilities Replacement	OCSD Admin and Utility Systems Supervisor	Water/Wastewater funds/Grants and loans	Ongoing	High
5.3A	FCFA Rescue Training	Five Cities Fire Authority/Board of Directors	None Required	Yearly	Low

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5.3B	Earthquake Management (CSTI)	All	Grant/General Fund	Yearly	Medium
6.1A	Educate – Hazardous Materials	Five Cities Fire Authority/OCSD Board of Directors	None Required	07/01/2019	Low
6.1B	Hazardous Materials Handling	Water and Wastewater Staff	None Required	01/01/2019	Medium
6.2	FCFA Hazardous Materials Training	Five Cities Fire Authority and OCSD Board of Directors	None Required	Yearly	Low
7.1	Educate -Tsunami Plan	OCSD Admin.	None Required	Ongoing	Medium
7.2	Evacuation Route	OCSD Admin.	None Required	07/01/2020	Low

D. Implementation Through Existing Plans and Programs

The Oceano Community Services District adheres to comprehensive land use planning and building codes provided by San Luis Obispo County Planning Department to guide and control development within the District. This Hazard Mitigation Plan will be made available to all those responsible for the County’s General Plan development mechanisms to ensure that consistency is maintained. The Oceano Advisory Committee reports directly to the County Planning Department on matters relating to building and development. Both the Oceano Advisory Committee and County Planning Department members were involved in the construction of this plan.

The District has a number of policies and procedures, purchasing guidelines, and capital improvement procedures currently in place. The Mitigation Actions outlined in this Plan will be incorporated into those documents under the direction of the OCSD General Manager.

Mitigation Actions have been assigned to a number of specific individuals, departments and County jurisdictions. These individual actions will fall under the general administrative oversight of the governing body. Should technical expertise not be available to these individuals or departments, the County Office of Emergency Services is committed to, when possible, coordinating the resources of the County to assist with implementation of the



mitigation actions within the jurisdiction. The general administrative oversight of this Hazard Mitigation Plan rests with the Oceano Community Services District General Manager.

E. Continued Public Involvement

DMA Requirement §201.6(d)(3): A local jurisdiction must review and revise its plan to reflect changes in development, progress in local mitigation efforts, and changes in priorities, and resubmit if for approval within 5 years in order to continue to be eligible for mitigation project grant funding.

The Oceano Community Services District recognizes the importance of involving the public in the ongoing Hazard Mitigation Plan review and updating process. Resultantly, the following actions have been taken:

- The District website has been posting the plan and updating the postings as changes are implemented. Their website has let the public know that the Plan is available for general public viewing and comment.
- A hard copy is available at the OCSD office for public viewing as requested.

F. Plan Monitoring, Evaluating and Updating

The mitigation plan must reflect current conditions in order to continue to be an effective representation of the Oceano Community Services District's overall strategy for reducing its risks from natural hazards. Monitoring and evaluating the plan will occur annually during the District's yearly budget review process each Spring to make certain that the goals and objectives for the community are current and mitigation activities are being budgeted and fully implemented.

To ensure that regular review and update of this Hazard Mitigation Plan occurs on an annual basis, the following actions will be taken:

- The Oceano Community Services District General Manager will in his annual report to the OCSD Board of Directors (CCSD), include an update on the goals and objectives of the plan.
- Following input from board members, the OCSD General Manager will communicate his findings to the Hazard Mitigation Planning Group. In this manner,



the Board, the General Manager, and Planning Group members can ensure that the plan components are up-to-date and meet current realities.

The Planning Group will provide the foundation for ongoing mitigation within the community through engagement and accountability in the plan's progress. They will annually monitor and review each goal and objective to evaluate its:

- Relevance to current and evolving situations within the District
- Consistency with changes in local, state and federal policy

Under the direction of the OCSD General Manager, the Planning group will make certain that the mitigation goals are being implemented in accordance with the Plan and also review the risk assessment component of the plan to ascertain if the information needs to be updated or modified. They will report on the:

- Current status of their mitigation actions
- How coordination efforts are proceeding
- Implementation processes that worked well
- Any difficulties encountered
- Any strategies in need of revision

If the plan review leads the Hazard Mitigation Planning Group to determine that modifications are necessary, then the OCSD General Manager will initiate a plan amendment.



Attachment A: Definition of Terms/Acronyms

DEFINITION OF TERMS

Asset

Any natural or human-caused feature that has value, including, but not limited to people; buildings; infrastructure like bridges, roads, and sewer and water systems; lifelines like electricity and communication resources; or environmental, cultural, or recreational features like parks, dunes, wetlands, or landmarks.

Critical Facilities

Facilities that are critical to the health and welfare of the population and that are especially important following hazard events. Critical facilities include, but are not limited to, shelters, police and fire stations, and hospitals.

Disaster Mitigation Act of 2000

A law signed by the President on October 30, 2000 that encourages and rewards local and state pre-disaster planning, promotes sustainability as a strategy for disaster resistance, and is intended to integrate state and local planning with the aim of strengthening statewide mitigation planning.

Emergency Response Plan

A document that contains information on the actions that may be taken by a governmental jurisdiction to protect people and property before, during, and after a disaster.

Federal Emergency Management Agency (FEMA)

Part of the Department of Homeland Security's Emergency and Response Directorate, FEMA was created to provide a single point of accountability for all Federal activities related to disaster mitigation and emergency preparedness, response and recovery.

Flood Insurance Rate Map (FIRM)

Map of a community, prepared by FEMA, that shows the special flood hazard areas and the risk premium zones applicable to the community.

Frequency

A measure of how often events of a particular magnitude are expected to occur. Frequency describes how often a hazard of a specific magnitude, duration, and/or extent typically occurs, on average.

Geographic Information Systems (GIS)

A computer software application that relates physical features on the earth to a database to be used for mapping and analysis.



Hazard Event

A specific occurrence of a particular type of hazard.

Hazard Mitigation

Cost effective measures taken to reduce or eliminate long-term risk associated with hazards and their effects.

Hazard Profile

A description of the physical characteristics of hazards and a determination of various descriptors including magnitude, duration, frequency, probability, and extent.

HAZUS

A GIS-based nationally standardized earthquake loss estimation tool developed by FEMA.

Mitigate

To cause to become less harsh or hostile; to make less severe or painful. Mitigation activities are actions taken to eliminate or reduce the probability of the event, or reduce its severity of consequences, either prior to or following a disaster/emergency.

100-Hundred Year Floodplain

Also referred to as the Base Flood Elevation (BFE) and Special Flood Hazard Area (SFHA). An area within a floodplain having a 1 percent or greater chance of flood occurrence in any given year.

Repetitive Loss Property

A property that is currently insured for which two or more National Flood Insurance Program losses (occurring more than ten days apart) of at least \$1000 each have been paid within any 10-year period since 1978.

Richter Magnitude Scale

A logarithmic scale devised by seismologist C.F. Richter in 1935 to express the total amount of energy released by an earthquake. While the scale has no upper limit, values are typically between 1 and 9, and each increase of 1 represents a 32-fold increase in released energy.

Risk

The estimated impact that a hazard would have on people, services, facilities, and structures in a community; the likelihood of a hazard event resulting in an adverse condition that causes injury or damage. Risk is often expressed in relative terms such as a high, moderate, or low likelihood of sustaining damage beyond a particular threshold due to a specific type of hazard event. It also can be expressed in terms of potential monetary losses associated with the intensity of the hazard.



Vulnerability

Describes how exposed or susceptible to damage an asset is. Vulnerability depends on an asset's construction, contents, and the economic value of its functions. Like indirect damages, the vulnerability of one element of the community is often related to the vulnerability of another. For example, many businesses depend on uninterrupted electrical power—if an electric substation is flooded, it will affect not only the substation itself, but a number of businesses as well. Often, indirect effects can be much more widespread and damaging than direct effects.

Vulnerability Analysis

The extent of injury and damage that may result from a hazard event of a given intensity in a given area. The vulnerability analysis should address impacts of hazard events on the existing and future built environment.

Vulnerable Populations

Any segment of the population that is more vulnerable to the effects of hazards because of things such as lack of mobility, sensitivity to environmental factors, or physical abilities. These populations can include, but are not limited to, senior citizens and school children.



Acronym	Definition
CGS	California Geological Survey
Cal EPA	California Environmental Protection Agency
Caltrans	California Department of Transportation
CAL Fire	California Department of Forestry and Fire Protection
CDF	California Department of Forestry and Fire Protection
CDHS	California Department of Health Services
CFR	Code of Federal Regulations
CGS	California Geological Survey
CISN	California Integrated Seismic Network
CSSC	California Seismic Safety Commission
DFG	State Department of Fish and Game
DHS	Department of Homeland Security
DWR	Department of Water Resources
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FMA	Flood Mitigation Assistance
FMP	Floodplain Management Plan
FRAP	Fire and Resource Assessment Program
GIS	Geographic Information System
HMGP	Hazard Mitigation Grant Program
LHMP	Local Hazard Mitigation Plan
NFIP	National Flood Insurance Program
NOAA	National Oceanic and Atmospheric Administration
NPS	National Park Services
OES	Governor's Office of Emergency Services
SEMS	Standardized Emergency Management System
SFHA	Special Flood Hazard Area
USDA	U.S. Department of Agriculture
USGS	U.S. Geological Survey



Attachment B: Notice to Neighboring, Local and Regional Agencies

The following notices were sent to the City of Arroyo Grande, the City of Grover Beach, the City of Pismo Beach, San Luis Obispo County Office of Emergency Services and Port San Luis Harbor District.

Category Five Professional Consultants, Inc.



June 4, 2018

Dear Neighboring Community:

The Oceano Community Services District will be constructing a Local Hazard Mitigation Plan in order to uncover effective ways to reduce the jurisdiction's vulnerability to naturally occurring hazards. A Hazard Mitigation Planning Group has been formed comprised of community stakeholders. We will be holding a kick-off meeting on Thursday, June 7th at the Oceano Community Services District Office at 1655 Front Street in Oceano. We invite you to attend this meeting and participate in this process.

For more information and comments please contact the District's consultant for the project, Bob Neumann at 805-441-5469 or via email at bob@cafive.com.

Thank You,

Robert F Neumann and Sheri Eibschutz
Category Five Professional Consultants, Inc

Category Five Professional Consultants, Inc.
Post Office Box 13736
San Luis Obispo, CA 93406
E-mail: bob@cafive.com, sheri@cafive.com
Phone: 805.441.5469
www.cafive.com



Attachment C: Public Forum Notice

Category Five Professional Consultants, Inc.



October 24, 2018

Dear Neighboring Community:

The Local Hazard Mitigation Plan recently constructed for the Oceano Community Services District will be presented to the general public and neighboring jurisdictions at an Oceano Community Outreach event held on November 17, 2018 at the Oceano Community Center located at 1425 19th Street in Oceano. From 11:20 to 11:50 a.m., the Plan will be presented to the general public. Category Five Professional Consultants will describe how the plan was put together, what it entails, in addition to providing a detailed description of the mitigation goals and actions that are being proposed for this community. From 12:00 to 1:00 p.m., the public will have an opportunity to ask questions and comment on the plan.

We invite you to attend this community outreach event and provide us with your feedback.

Thank You,

Robert F Neumann and Sheri Eibschutz
Category Five Professional Consultants, Inc.

Category Five Professional Consultants, Inc.
Post Office Box 13736
San Luis Obispo, CA 93406
E-mail: bob@cafive.com, sheri@cafive.com
Phone: 805.441.5469
www.cafive.com



Attachment D: Public Forum Community Notice



Sponsors: The Oceano Community Services District, the County of San Luis Obispo and many local government and non-profit agencies who serve Oceano.

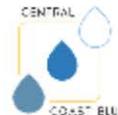
The Event: Community members will have the opportunity to meet with the representatives, learn about, discuss and provide feedback regarding current efforts in Oceano:

<i>Water</i> Reliability & Reclaimed Water	<i>Energy</i> Efficiency, Solar & New Electric Rates	<i>Infrastructure</i> Drainage & replacing leaky pipes	<i>Planning</i> Hazard Mitigation & Development
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When: Saturday, November 17, 2018 | 10 AM- 1 PM

Where: Oceano Community Center - 1425 19th St., Oceano

Our lead organizers, presenters and supporters include...



Additional participants include...

Coastal San Luis RCD | CAPSLO | Sun Work | PG&E | One Cool Earth
Oceano Beach Community Association | Habitat for Humanity



N.1 District Profile

N.1.1 Mitigation Planning History and 2019 Process

This Annex was created during the development of the 2019 San Luis Obispo County Hazard Mitigation Plan Update. The Director of Utilities was the representative on the County HMPC and took the lead for developing this annex in coordination with the San Miguel Community Services District Local Planning Team (LPT). The LPT will be responsible for implementation and maintenance of the plan. Table N.1 shows the District’s planning group for the plan revision process.

Table N.1 San Miguel CSD Hazard Mitigation Plan Planning Team

Department or Stakeholder	Title
San Miguel Fire	Fire Chief
San Miguel Fire	Assistant Fire Chief
Utilities	Director

More details on the planning process followed and how the jurisdictions, service districts and stakeholders participated as well as how the public was involved during the 2019 update can be found in Section 3 of the Base Plan.

N.1.2 District Overview

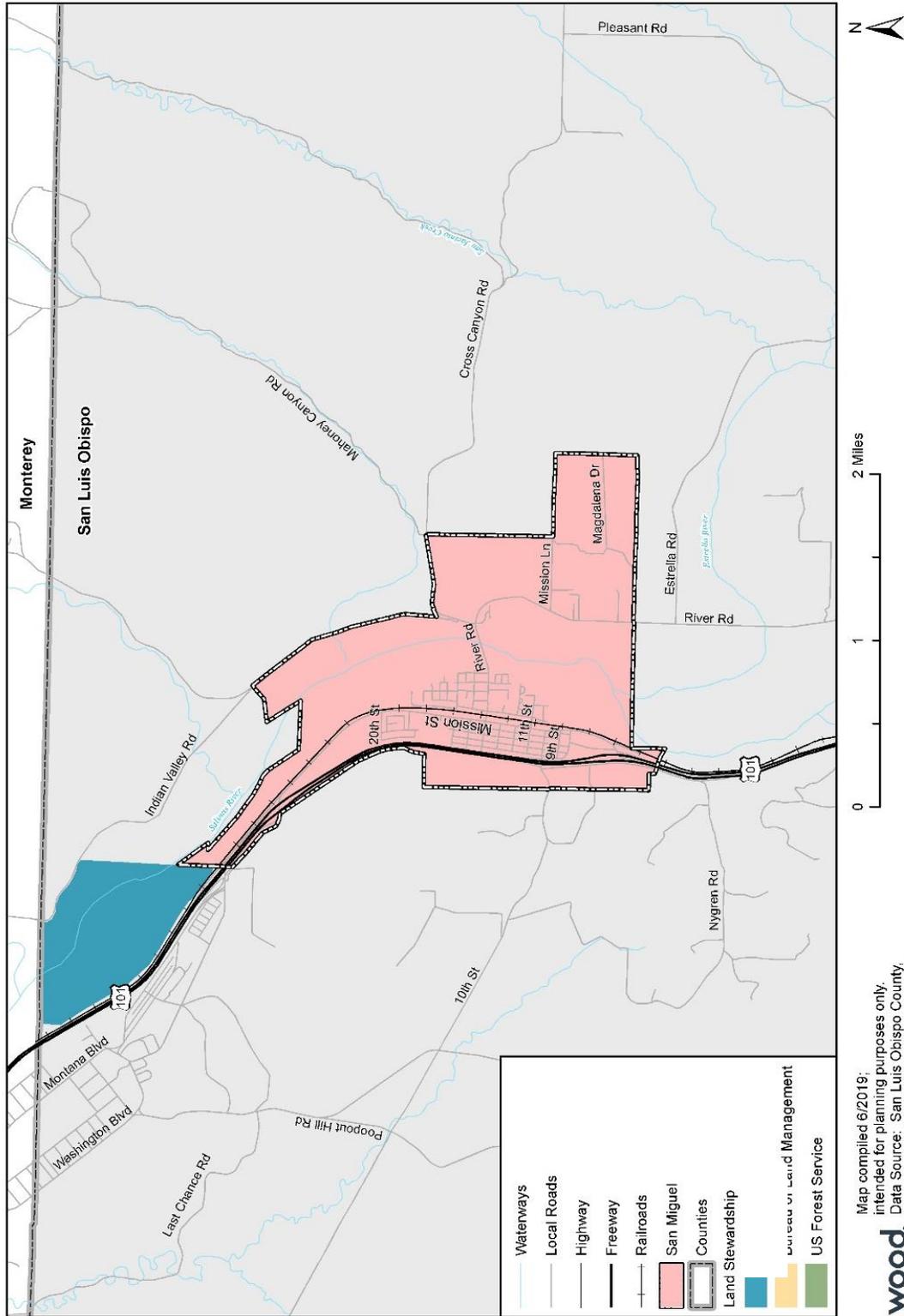
The unincorporated community of San Miguel has a population of 2,400 according to the 2010 census and is located in the Salinas River Valley about seven miles north of Paso Robles. The community is bordered on the west by Highway 101 and on the east by the Salinas River. San Miguel originated with the founding of Mission San Miguel Arcángel in 1797. The railroad arrived in 1886, and still runs through the center of town. In 1887 San Miguel was destroyed by fire, but the town was soon rebuilt. During World War II, San Miguel became the off-duty retreat for 45,000 troops stationed at Camp Roberts, which was later deactivated in the late 1950s. San Miguel is currently perceived as a low-cost bedroom community for Paso Robles and San Luis Obispo County.

The San Miguel Community Services District (CSD) is committed to serving the community with effectiveness, efficiency, and care to support the economic and social quality of life in San Miguel. The District proudly serves San Miguel with fire protection, street lighting, water, wastewater, and solid waste services. Figure N.1 shows the San Miguel Community Services District boundaries.





Figure N.1 San Miguel Community Services District





The U.S. Census Bureau estimated the San Miguel Census Designated Place’s (CDP) 2017 population as 2,824, a 0.1% increase from 2,822 in 2012. Table N.2 shows an overview of key social and demographic characteristics of the CDP taken from the U.S. Census Bureau’s American Community Survey.

Table N.2 San Miguel CDP Demographic and Social Characteristics, 2012-2017

San Miguel CDP	2012	2017	% Change
Population	2,822	2,824	0.1%
Median Age	27.5	30.3	10.2%
Total Housing Units	818	837	2.3%
Housing Occupancy Rate	100.0%	92.5%	-7.5%
% of Housing Units with no Vehicles Available	6.1%	6.6%	0.5%
Median Home Value	\$232,600	\$294,700	26.7%
Unemployment	13.2%	12.2%	-1.0%
Mean Travel Time to Work (minutes)	21.6	24.8	14.8%
Median Household Income	\$44,450	\$53,750	20.9%
Per Capita Income	\$18,712	\$22,380	19.6%
% of Individuals Below Poverty Level	20.4%	22.7%	2.3%
# of Households	818	774	-5.4%
Average Household Size	3.43	3.63	5.8%
% of Population Over 25 with High School Diploma	73.2%	69.7%	-3.5%
% of Population Over 25 with Bachelor’s Degree or Higher	8.4%	11.9%	3.5%
% with Disability	8.7%	8.1%	-0.6%
% Speak English less than “Very Well”	20.1%	27.0%	6.9%

Source: U.S. Census Bureau American Community Survey 2012-2017 5-Year Estimates, www.census.gov/

Note: Data is for the San Miguel Census Designated Place (CDP) which may not have the same boundaries as the San Miguel Community Services District.

Table N.3 shows how the San Miguel CDP’s labor force breaks down by occupation and industry estimates from the U.S. Census Bureau’s 2017 American Community Survey.

Table N.3 San Miguel CPD Employment by Industry (2017)

Industry	# Employed
Population (2017)	2,824
In Labor Force	1,312
Agriculture, forestry, fishing and hunting, and mining	117
Armed Forces	-
Construction	106
Manufacturing	145
Wholesale trade	-
Retail trade	103
Transportation and warehousing, and utilities	28
Information	15
Finance and insurance, and real estate and rental and leasing	44





Industry	# Employed
Professional, scientific, and management, and administrative and waste management services	136
Educational services, and health care and social assistance	172
Arts, entertainment, and recreation, and accommodation and food services	69
Other services, except public administration	142
Public administration	75
Unemployed	160

Source: U.S. Census Bureau American Community Survey 2012-2017 5-Year Estimates, www.census.gov/

Note: Data is for the San Miguel Census Designated Place (CDP) which may not have the same boundaries as the San Miguel Community Services District.

N.1.3 Development Trends

San Miguel’s population growth has been slower compared to the nearby City of Paso Robles. According to the Community Plan, San Miguel is projected to have a population of 2,800 in 2020. According the Planning Team, growth in San Miguel is currently limited to infill development and single-family homes. However multi-family housing developments are anticipated in the future, which the community hopes will encourage commercial development, particularly in the downtown area. The District believes that its historic resources and location make it suitable for more tourism-oriented development in the future and hope to attract small-scale manufacturing, which would bring more jobs to the community. Two sites outside the boundaries of the CSD have been identified as areas for potential community expansion. The District’s main concerns with future growth are their ability to supply water and wastewater infrastructure and fire protection while keeping up with the growth.

N.1.4 Other Community Planning Efforts

The coordination and synchronization 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, the San Miguel CSD is 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 San Miguel community that relate to hazards or hazard mitigation, as summarized in





Table N.4 below. Information on how they informed the update are noted and incorporated where applicable.

In addition to the development standards within the San Miguel Specific Plan, there are County planning mechanisms that regulate future and existing development within the San Miguel CSD planning area. Refer to Section N.4 Capability Assessment below as well as the Base Plan for more information on the plans, policies, regulations and staff that govern the San Miguel CSD.

DRAFT





Table N.4 Summary of Review of Key Plans, Studies and Reports

Plan, Study, Report Name	How the Document Informed this Annex
San Miguel Community Plan (2016)	Incorporated background information on the community and CSD including historical and cultural resources, natural resources, and development and land use trends
North County Area Plan (2014)	Incorporated information into the District overview and vulnerability assessment.

N.2 Hazard Identification and Summary

The San Miguel 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 San Miguel CSD (see Table N.5). There are no hazards that are unique to the District.

DRAFT





Table N.5 San Miguel CSD Hazard Risk Summary

Hazard	Geographic Area	Probability of Future Occurrence	Magnitude/Severity (Extent)	Overall Significance
Adverse Weather	Extensive	Likely	Catastrophic	High
Dam Failure	Limited	Unlikely	Negligible	Medium
Drought and Water Shortage	Extensive	Likely	Catastrophic	High
Earthquake	Extensive	Likely	Critical	High
Flooding	Limited	Occasional	Limited	Medium
Landslide	Limited	Occasional	Limited	Medium
Wildfire	Extensive	Highly Likely	Catastrophic	High
Hazardous Materials	Significant	Likely	Negligible	Medium
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 in 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		





N.3 Vulnerability Assessment

The intent of this section is to assess the San Miguel 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 (HIRA) in the Base Plan. This vulnerability assessment analyzes the population, property, and other assets at risk to hazards ranked of medium or high significance.

The information to support the HIRA portion of this Annex was collected through a Data Collection Guide, which was distributed to each participating municipality or 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/district. In addition, the San Miguel CSD Planning Team members were asked to share information on past significant hazard events that have affected the Community Services District.

Each participating jurisdiction and district were in support of the main hazard summary identified in Section 5 of the Base Plan. 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 N.5). 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 San Miguel CSD Planning Team input from the Data Collection Guide and the risk assessment results compiled during the planning process (see Section 5 of the Base Plan), which included more detailed quantitative analyses with the best available data. The hazard summaries in Table N.5 reflect the hazards that could potentially affect the District. The discussion of vulnerability for each of the hazards listed is in Section N.3.2 Estimating Potential Losses.

Other Hazards

The Planning Team also noted hazardous trees as a high significance hazard. This hazard is discussed under Adverse Weather below. For additional analysis on the risk hazardous trees pose the County, refer to Section 5 of the Base Plan.

Hazards assigned a significance rating of low and which do not differ significantly from the County ranking (e.g., Low vs. High) are not addressed further in this plan and are not assessed individually for specific vulnerabilities in this section. The following hazards were ranked as low significance in the San Miguel Community Services District:

- Agricultural Pests and Diseases
- Biological Agents
- Debris Flow
- Land Subsidence
- Landslides

Coastal hazards including coastal erosion, sea level rise, and tsunamis are not applicable to San Miguel due to its inland location.





N.3.1 Assets at Risk

This section considers the District’s assets at risk, including values at risk, critical facilities and infrastructure, historic assets, economic assets, and growth and development trends. See Section 5.2 of the Base Plan (Asset Summary) for more details and background on the parcel summarization, analysis, and datasets available.

Values at Risk

The following data on property exposure is derived from San Luis Obispo County Assessor data. This data should only be used as a guideline to overall values in the Community Services District, as the information has some limitations. Table N.6 summarizes the exposure of properties (e.g., the values at risk based on improvement values, content values, and total values as an addition of these two types of values) broken down by property type for the San Miguel Community Services District.

Table N.6 2019 Property Exposure for the San Miguel CSD by Property Types

Property Type	Property Count	Improved Value	Content Value	Total Value
Agricultural	6	\$29,459,170	\$29,459,170	\$58,918,340
Commercial	17	\$2,736,007	\$2,736,007	\$5,472,014
Government/Utilities	42	\$125,432	--	\$125,432
Other/Exempt/Misc.	39	\$5,734,772	--	\$5,734,772
Residential	661	\$98,664,423	\$49,332,212	\$147,996,635
Multi-Family Residential	64	\$8,938,593	\$4,469,297	\$13,407,890
Mobile/Manufactured Homes	23	\$3,263,643	\$1,631,822	\$4,895,465
Residential: Other	2	\$606,170	\$303,355	\$910,065
Vacant	13	\$274,143	--	\$274,143
Total	867	\$149,802,353	\$87,931,862	\$237,734,755

Source: Wood Plc analysis based on ParcelQuest and San Luis Obispo County Assessor’s Office data 2019

Critical Facilities and Infrastructure

A critical facility is defined as one that is essential in providing utility or direction either during the response to an emergency or during the recovery operation. See Section 5 of the Base Plan for more details on the definitions and categories of critical facilities.

An inventory of critical facilities in the San Miguel Community Services District based on San Luis Obispo County GIS data as well as structures obtained from the Homeland Infrastructure Foundation-Level Dataset (HIFLD) is provided in Table N.7 and illustrated in Figure N.2. Table N.8 lists additional critical assets identified by the Planning Team. The four types of Critical Facilities categorized by San Luis Obispo County and its jurisdictions’ and districts’ Planning Teams are: Emergency Services, High Potential Loss Facilities, Lifeline Utility Systems, and Transportation Systems. Refer to Section 5.2 of the Base Plan for more information on the assets used throughout this Annex and County-wide analyses.





Table N.7 San Miguel CSD’s Critical Facilities

Facility Category	Facility Type	Name	Counts
Emergency Services	Day Care Facility	CA State Preschool at San Miguel	1
	Fire Station	San Miguel CSD Fire Department	1
	Public Schools	Almond Acres Charter Academy	2
Lillian Larsen Elementary			
Lifeline Utility Systems	CA Energy Commission Substations	San Miguel PG&E Substation	1
Total			5

Source: San Luis Obispo County Planning & Building, HIFLD

The following table lists the additional assets within the District as identified by the Planning Team. Additional discussion on assets in San Miguel can be found below.

Table N.8 Critical Assets Identified by San Miguel Planning Team

Name of Asset	Type	Replacement Value
San Miguel Fire Department	EI	\$500,000
PG&E Substation	EI	\$1,500,000
Verson Substation	EI	\$300,000
River Road Bridge	EI	\$1,000,000
Mission San Miguel	NA*	\$3,000,000
Rios Caledonia	NA*	\$2,000,000
Highway 101	VF	\$6,000,000
Water Infrastructure	EI	\$5,000,000
Waste water treatment plant	EI	\$1,500,000
Natural gas line	EI	\$1,000,000
Union Pacific Railroad	EI	\$1,500,000
CHC	VF	\$750,000
Lillian Larson School	VF	\$2,000,000
Almond Acres Charter School	VF	\$1,000,000
Gallo Wines	VF	\$4,000,000

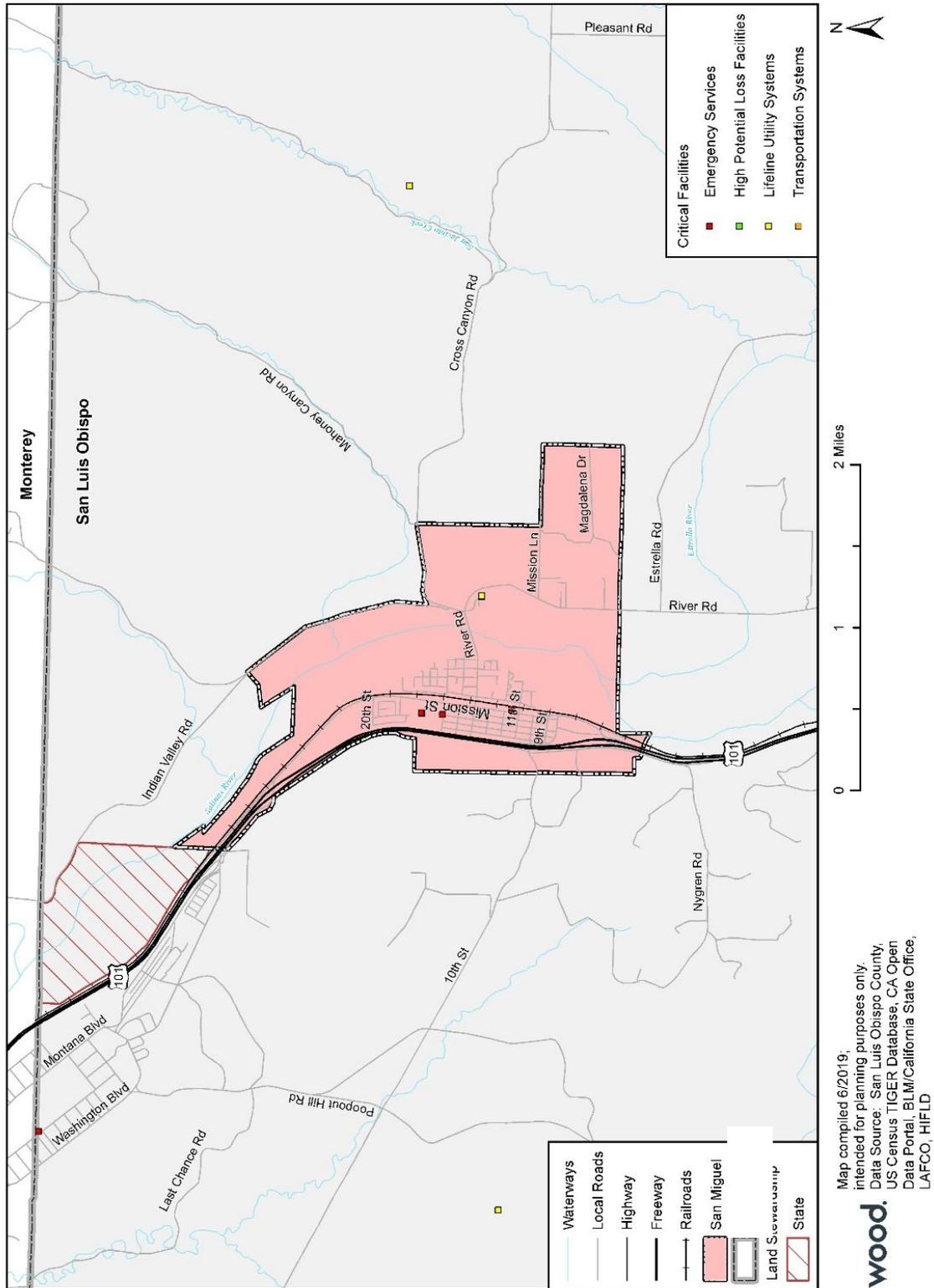
Source: San Miguel CSD Planning Team.

EI: Essential Infrastructure. NA: Natural Asset. VF: Vulnerable Facility. * = State registered landmark





Figure N.2 Critical Facilities in San Miguel Community Services District





Emergency Services Facilities

Emergency services facilities in San Miguel include a health center, day care, fire department, and schools. San Miguel is served by the San Miguel Joint Union School District (SMJUSD) for Kindergarten through Grade 8. The District operates Lillian Larsen Elementary School in San Miguel. The Almond Acres Charter Academy is operated independently on the same campus as the elementary school. There is also a preschool on campus which is operated by the State. The community is served by non-profit Community Health Centers of the Central Coast. Fire protection is provided through San Miguel Fire, which has mutual aid agreements with CalFire and Camp Roberts.

Lifeline Utility Systems

Lifeline utility systems in San Miguel include one electrical substation, natural gas lines, 3 well sites, 2 water storage tanks with 700,000 gallons of storage capacity, and a wastewater treatment facility. In 2013, all of San Miguel's water needs were met by two of its three wells. The San Miguel CSD also operates the Machado Wastewater Treatment Plant, which serves 90% of the District including areas east of the Salinas River.

Transportation Systems

The Planning Team identified the following critical transportation infrastructure; the River Road Bridge, Highway 101, and the Union Pacific Railroad. Mission Street is San Miguel's main street and primary commercial corridor. Highway 101 is the principal arterial in the region, and the River Road Bridge is the only crossing of the Salinas River between Paso Robles and Camp Roberts. The Union Pacific Railroad travels through the center of town. While it once played an important role in the economy of San Miguel, trains no longer stop in San Miguel.

Historic and Cultural Resources

There are two state historical landmarks within San Miguel that attract many visitors, Mission San Miguel Arcángel and Rios Caledonia Adobe. The Mission was founded in 1797 and has been occupied and administered by the Franciscan Friars of the Province of Saint Barbara since 1928. Rios Caledonia Adobe was built in 1835 and historically served as an inn and stage stop on the Mission Trail between San Francisco and Los Angeles. Both sites are an important part of the local heritage. Gallo Wines was also identified by the community as an important cultural resource.

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 San Miguel Community Plan (2016) designated the following combining designation that applies to the protection of special resources in the San Miguel community:

- Salinas River Corridor (SRA) – The Salinas River Corridor is home to sensitive riparian habitat and important wildlife migration corridors. It is also important for flood control and management of water resources.

The two primary plant communities in the area are willow-cottonwood riparian forest and non-native annual grassland. Several special-status plant species inhabit the San Miguel community and are detailed in the San Miguel Community Plan.

Economic Assets

According to the San Miguel Community Plan, San Miguel's history has been marked by boom and bust cycles, often in response to fluctuations in the agricultural economy and the military's use of nearby Camp Roberts. The





major economic sectors in San Miguel are agriculture, tourism, and manufacturing. According to the San Miguel Community Plan, agriculture in the area has shifted over time from cattle to most recently dry-farmed pasture crops such as alfalfa, almonds, olives, and wine grapes. The Community Plan states that as of 2016 San Miguel qualified under state law as a disadvantaged community based on per capita income. Few "head-of-household" jobs exist in the community, and many residents commute to Paso Robles or beyond for employment and to obtain many basic goods and services.

N.3.2 Estimating Potential Losses

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

Table N.6 under Section N.3.1 summarizes San Miguel's exposure in terms of number and value of parcels falling within the District's boundaries. San Luis Obispo County parcel and assessor data was used to calculate the improved value of parcels, using ParcelQuest's spatial layers on parcel geometry. The most vulnerable structures are those in the floodplain (especially those that have been flooded in the past), unreinforced masonry buildings, and buildings built prior to the introduction of modern-day building or land regulatory codes. According to San Miguel Fire, San Miguel has not experienced a hazardous event in the past 75 years. However, the community is still vulnerable to several hazards which are discussed below. See Section 5 of the Base Plan for more information on assets, parcel analysis methodology, and hazard profiles.

Adverse Weather

Adverse weather was rated as High Significance for the San Miguel CSD and may include thunderstorms, heavy rain, hail, lightning, dense fog, freeze, high winds, tornadoes, and extreme heat. San Miguel receives about 17 inches of rainfall annually, most of which occurs in the spring. As such, the community is most vulnerable to flooding, erosion, landslide, and other water-associated hazards in the springtime. Hazardous trees are also a significant concern of the community. Older neighborhoods in particular are distinguished by the presence of mature trees which may be downed by winds and storms. Refer to Section 5 of the Base Plan for further analysis on hazardous trees within the County.

Dam Failure

Dam failure was rated as Medium Significance. The San Miguel CSD is located downstream of the Salinas Dam which impounds Santa Margarita Lake. The Salinas Dam was constructed in 1941 to supply water to Camp San Luis Obispo. Today, the dam is operated by the City of San Luis Obispo to supply water to the City and surrounding agricultural areas. Expansion of the dam was explored as part of the 2013 Salinas Reservoir Expansion Study, but it was found that the dam would not maintain structural integrity at the increased capacity. It was also found that the dam was vulnerable to failure in a prolonged earthquake, although the dam does meet design requirements at its current capacity. The area of San Miguel that would become inundated if the Salinas Dam failed is shown in Figure N.3. Most of this area is uninhabited. As shown in





Table N.9, 5 structures with a total value of \$136,389 would be inundated in the event of a dam failure.

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Table N.9 San Miguel CSD's Estimated Losses by Property Type based on Salinas Dam Inundation Extents

Property Type	Parcel Count	Improved Value	Content Value	Total Value	Loss Estimate	Population at Risk
Agricultural	1	\$5,384	\$5,384	\$10,768	\$5,384	--
Government/Utilities	1	--	--	\$0	\$0	--
Other/Exempt/Miscellaneous	1	--	--	\$0	\$0	--
Residential	1	\$53,182	\$26,591	\$79,773	\$39,887	3
Vacant	1	\$45,848	--	\$45,848	\$22,924	--
TOTAL	5	\$104,414	\$31,975	\$136,389	\$68,195	3

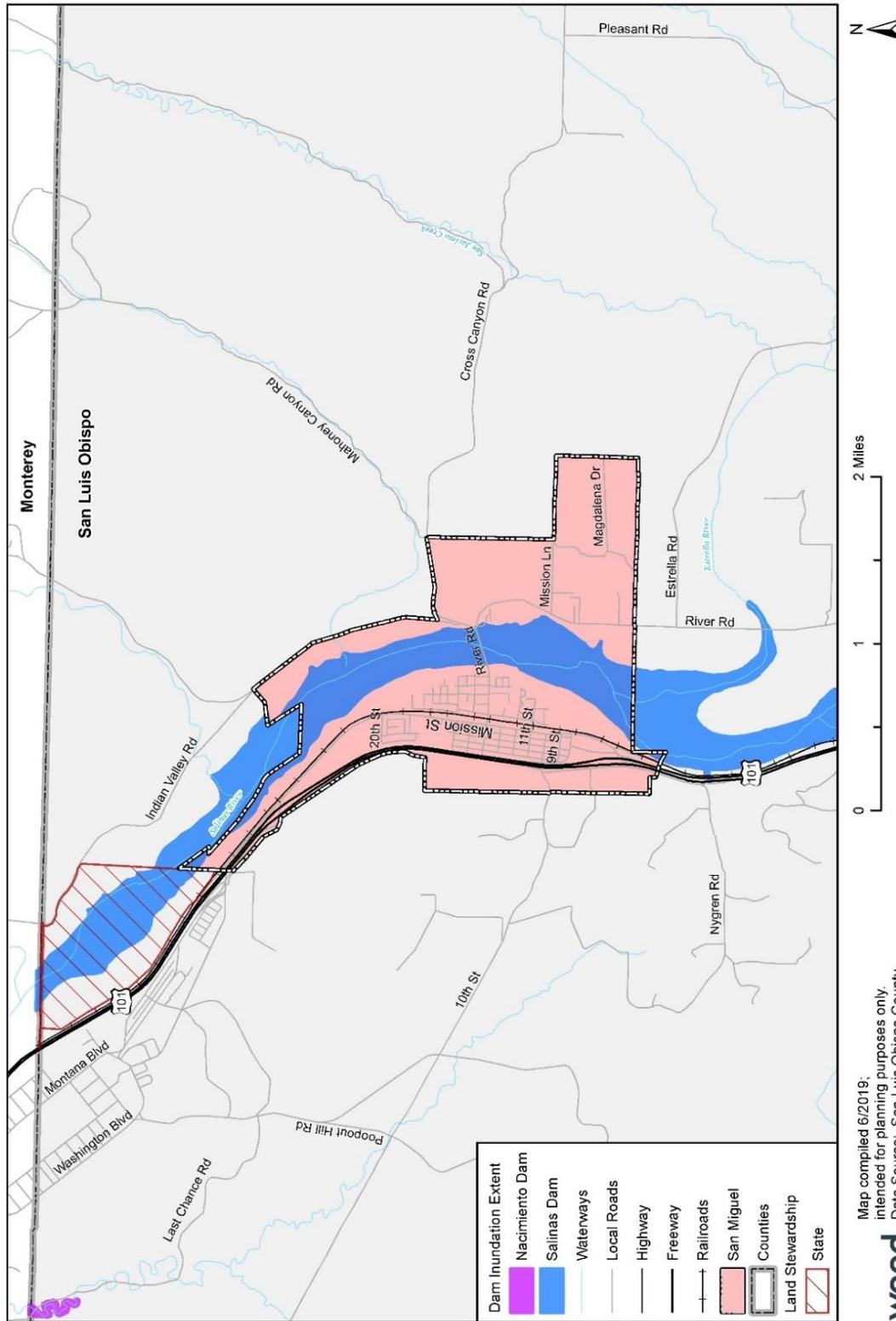
Source: San Luis Obispo County Planning and Building Dept., Assessor's Office, ParcelQuest, Wood Plc Parcel Analysis

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Figure N.3 Dam Inundation Extents in San Miguel Community Services District



Map compiled 6/2019;
 intended for planning purposes only.
 Data Source: San Luis Obispo County,
 Esri, TIGER Database, CA Open
 Data, BLM/California State Office,
 6/18/2018, CA DWR





Drought and Water Shortage

Drought was rated as High Significance by the San Miguel CSD and has historically contributed to the boom and bust economic cycles in the community in terms of the agricultural sector. The cultivation of water-intensive crops, particularly alfalfa and almonds, makes the agricultural community in San Miguel especially vulnerable to water shortage. According to the San Miguel Community Plan, in 2010 San Miguel's gross water use was 239 acre-feet; this is expected to increase to 483 acre-feet per year by 2035. Concentrated pumping within the greater Paso Robles Groundwater Basin has created localized depressions and has depleted groundwater reserves. The County Board of Supervisors designed the Paso Robles Groundwater Basin a Level of Severity III. As such, the water resource management strategy for San Miguel includes conservation, efficiency, and a supplemental source of water. More details on this strategy can be found in the San Miguel Community Plan. Information related to Sustainable Groundwater Management Act and the Paso Robles Groundwater Basin can be found in Section 5 of the Base Plan.

Earthquake

Earthquake was rated as High Significance by the San Miguel CSD. There are no mapped active or potentially active faults in San Miguel, though the community is still vulnerable to earthquakes from regional faults. The San Simeon earthquake in 2003 was centered about 30 miles from San Miguel, and caused damage to Mission San Miguel Arcángel, forcing it to close to the public temporarily. Restoration and retrofitting are still ongoing and are expected to total \$15 million. Some buildings in the downtown area between 11th and 14th Streets date back to the early 1900s and may also be vulnerable to an earthquake. The Sims Hotel, specifically, has been identified as an unreinforced masonry building in need of retrofit per Title 19 of the County Code and SB 547.

Liquefaction, the result of groundshaking leading to fine grained, saturate soils to liquefy and act as a fluid also poses a risk to portions of the San Miguel CSD. The following tables, Table N.10 and Table N.11, show the properties in zones of moderate and high liquefaction risk. As shown in





Figure N.4 below, proximity to the Salinas River is the most significant indicator of liquefaction risk in the community. Most properties are at moderate risk of liquefaction in an earthquake, including all critical facilities except the Community Health Center, as indicated in Table N.12. Very few properties are located in an area of high liquefaction risk.

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Table N.10 San Miguel CSD’s Liquefaction Risk by Property Type – Moderate Risk

Property Type	Property Count	Improved Value	Content Value	Total Value
Agricultural	1	\$27,093,506	\$27,093,506	\$54,187,012
Commercial	17	\$2,736,007	\$2,736,007	\$5,472,014
Government/Utilities	32	\$125,432	--	\$125,432
Other/Exempt/Misc.	35	\$5,734,772	--	\$5,734,772
Residential	564	\$83,310,708	\$41,655,354	\$124,966,062
Multi-Family Residential	63	\$8,842,353	\$4,421,177	\$13,263,530
Mobile/Manufactured Homes	6	\$1,099,667	\$549,834	\$1,649,501
Residential: Other	2	\$606,710	\$303,355	\$910,065
Vacant	11	\$166,569	--	\$166,569
Total	731	\$129,75,724	\$76,759,232	\$206,474,956

Source: San Luis Obispo County Planning and Building Dept., Assessor’s Office, ParcelQuest, Wood Plc Parcel Analysis

Table N.11 San Miguel CSD’s Liquefaction Risk by Property Type – High Risk

Property Type	Property Count	Improved Value	Content Value	Total Value
Agricultural	1	\$5,384	\$5,384	\$10,768
Government/Utilities	2	--	--	\$0
Other/Exempt/Misc.	1	--	--	\$0
Residential	1	\$53,182	\$26,591	\$79,773
Total	5	\$58,566	\$31,975	\$90,541

Source: San Luis Obispo County Planning and Building Dept., Assessor’s Office, ParcelQuest, Wood Plc Parcel Analysis

Table N.12 San Miguel CSD’s Critical Facilities in Moderate Liquefaction Hazard Zone

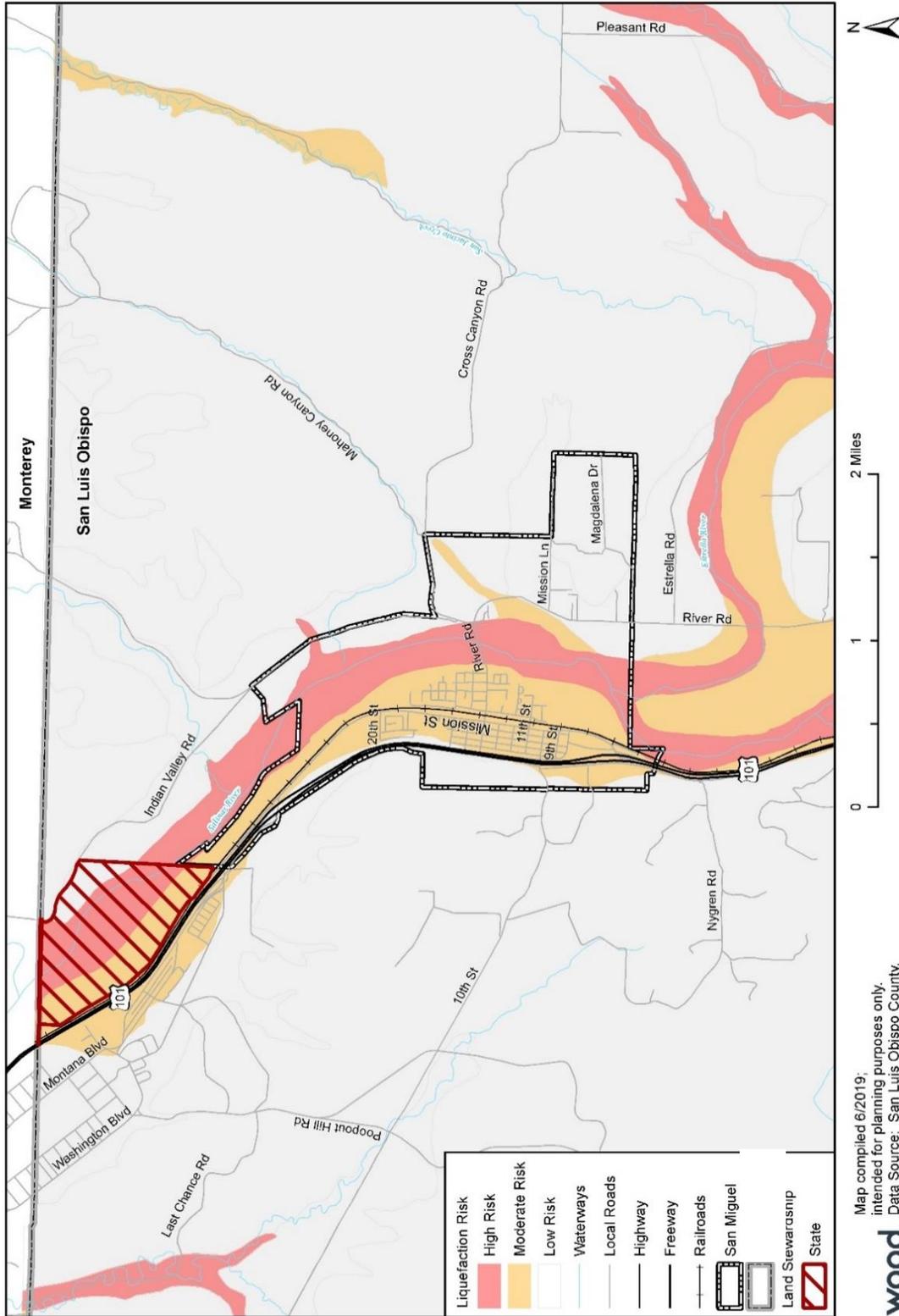
Facility Type	Count
Day Care Facility	1
Fire Station	1
Public Schools	2
Total	4

Source: San Luis Obispo County Planning and Building Dept., Assessor’s Office, ParcelQuest, Wood Plc Parcel Analysis, CalFire





Figure N.4 Liquefaction Risk in San Miguel Community Services District



Map compiled 6/2019;
intended for planning purposes only.
Data Source: San Luis Obispo County,
US Census TIGER Database, CA Open
Data Portal, BLM/California State Office, LAFCO





Flood

Flooding was rated as Medium Significance by the planning team. The Salinas River corridor is characterized by steep slope banks, sandy bottoms, and riparian vegetation. San Miguel is situated on two terraces connected by a steep slope, and water drains eastward into the river. Properties in the 100-year floodplain are primarily located on the lower terrace. Because of the lack of storm drains, low points in the community are sometimes inundated during periods of heavy rainfall. These areas are generally along N Street and Mission Street between 12th and 16th Streets. A comprehensive drainage study was prepared for San Miguel in 2003 and the associated drainage plan is being implemented incrementally as new development occurs. Table N.13 details the potential damage to properties in a 100-year flood. As shown in Figure N.5, only a small portion of the community is located in the 100-year floodplain.

Table N.13 San Miguel CSD’s FEMA 1% Annual Chance Flood Hazard by Property Type

Property Type	Property Count	Improved Value	Content Value	Total Value	Loss Estimate	Population
Agricultural	1	\$5,384	\$5,384	\$10,768	\$2,692	--
Government/Utilities	3	--	--	\$0	\$0	--
Other/Exempt/ Miscellaneous	3	--	--	\$0	\$0	--
Residential	25	\$4,028,643	\$2,014,322	\$6,042,965	\$1,510,741	63
Multi-Family Residential	1	\$74,968	\$37,484	\$112,452	\$28,113	3
Total	33	\$4,108,995	\$2,057,190	\$6,166,185	\$1,541,546	66

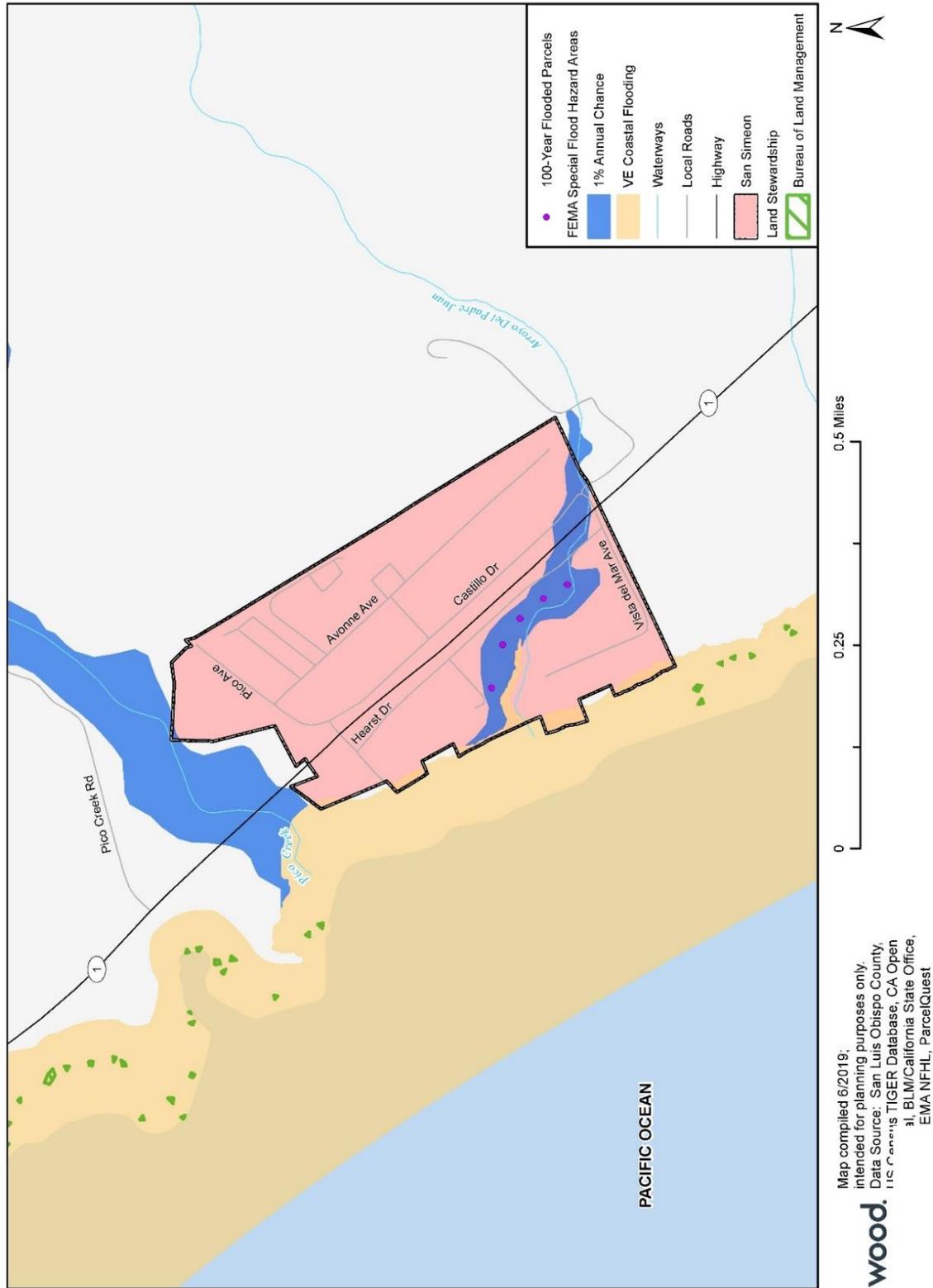
Source: San Luis Obispo County Planning and Building Dept., Assessor’s Office, ParcelQuest, Wood Plc Parcel Analysis, FEMA NFHL

San Miguel does not participate separately in the National Flood Insurance Program (NFIP) but will continue to support the County’s participation in and compliance with the NFIP.





Figure N.5 FEMA Flood Hazard Areas and Flooded Parcels in San Miguel Community Services District





Landslide

As shown in Figure N.6, only a small portion of the San Miguel CSD is at moderate risk of landslide. However, areas outside of the District’s boundaries to the north and the southwest are at high to moderate risk of a landslide event. According to the GIS analysis, there are a total of twenty-five (25) properties with a total value of over \$2 million. Of the properties at risk, eighteen (18) are residential or multi-family property types. These properties are listed in Table N.14.

Table N.14 San Miguel CSD’s Landslide Risk by Property Type – Moderate

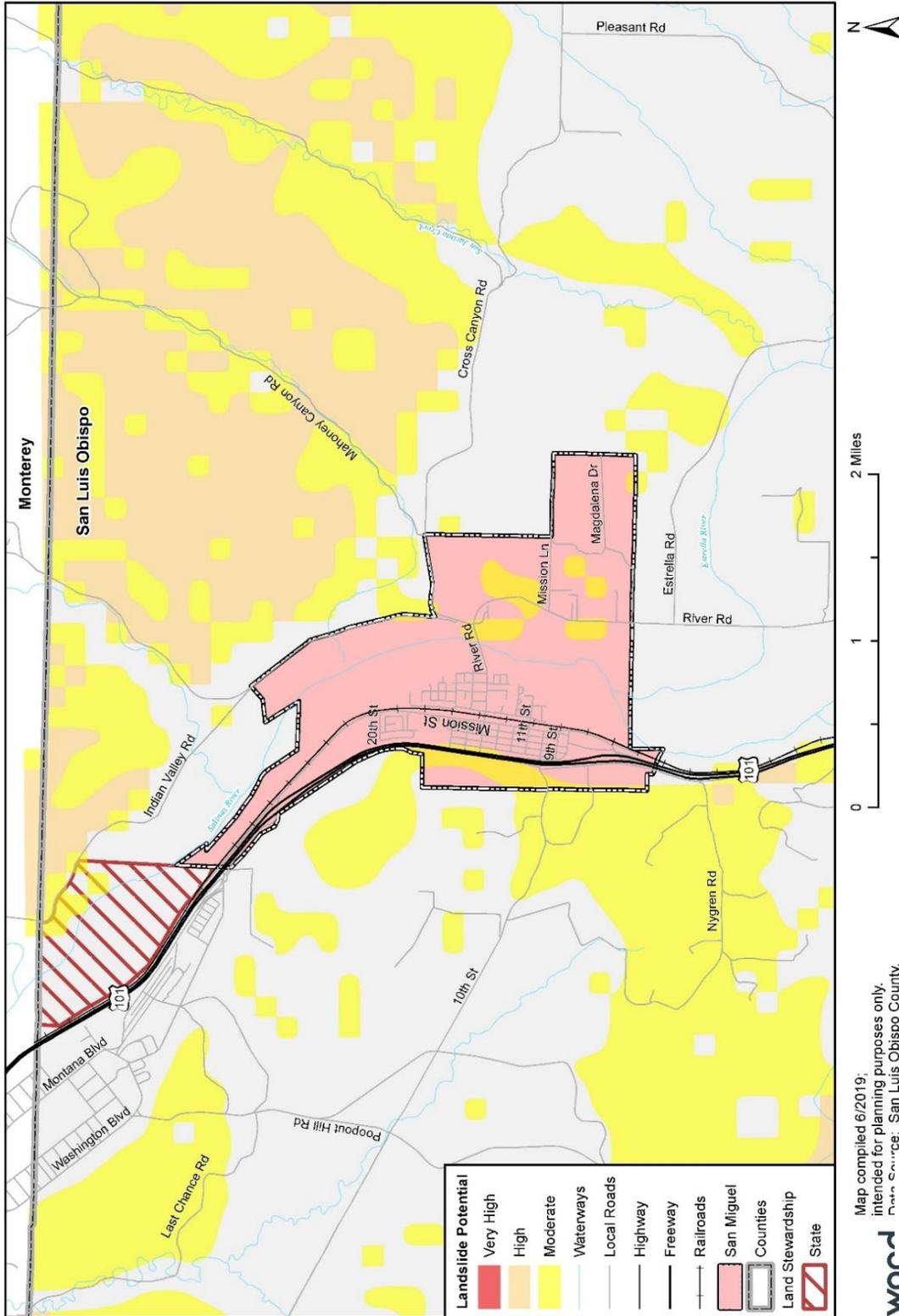
Property Type	Property Count	Improved Value	Content Value	Total Value
Government/Utilities	4	--	--	\$0
Mobile/Manufactured Homes	1	\$95,795	\$47,898	\$143,693
Multi-Family Residential	1	\$23,149	\$11,575	\$34,724
Residential	17	\$1,553,215	\$776,608	\$2,329,823
Vacant	2	\$2,143	--	\$2,143
Total	25	\$1,674,302	\$836,080	\$2,510,382

Source: San Luis Obispo County Planning and Building Dept., Assessor’s Office, ParcelQuest, Wood Plc Parcel Analysis





Figure N.6 Landslide Potential Areas in San Miguel Community Services District





Wildfire

Wildfire is a high significance hazard for the San Miguel CSD and recently CalFire has designated San Miguel as an area at increased risk of wildfire. About one-third of the total property value in San Miguel is located in a high wildfire hazard zone (refer to the table below). Most of the at-risk properties are located outside the downtown area, as shown in Figure N.7. As shown below, the properties at risk of wildfire includes all agricultural property and most mobile homes within the District’s boundaries. The District’s fire station is also located in a high wildfire hazard zone, which poses a significant threat to the District’s ability to respond quickly and efficiently to a fire emergency.

Table N.15 San Miguel CSD’s Wildfire Risk by Property Type – High Wildfire Hazard Zone

Property Type	Property Count	Improved Value	Content Value	Total Value	Loss Estimate	Population
Agricultural	6	\$29,459,170	\$29,459,170	\$58,918,340	\$58,918,340	--
Government/Utilities	11	--	--	\$0	\$0	--
Other/Exempt/ Miscellaneous	4	--	--	\$0	\$0	--
Residential	69	\$11,430,126	\$5,715,063	\$17,145,189	\$17,145,189	173
Multi-Family Residential	1	\$96,240	\$48,120	\$144,360	\$144,360	3
Mobile/Manufactured Homes	18	\$2,422,543	\$1,211,272	\$3,633,815	\$3,633,815	45
Vacant	3	\$108,199	--	\$108,199	\$108,199	--
Total	112	\$43,516,278	\$36,433,625	\$79,949,903	\$79,949,903	221

Source: San Luis Obispo County Planning and Building Dept., Assessor’s Office, ParcelQuest, Wood Plc Parcel Analysis, CalFire

Table N.16 San Miguel CSD’s Critical Facilities in High Wildfire Hazard Zone

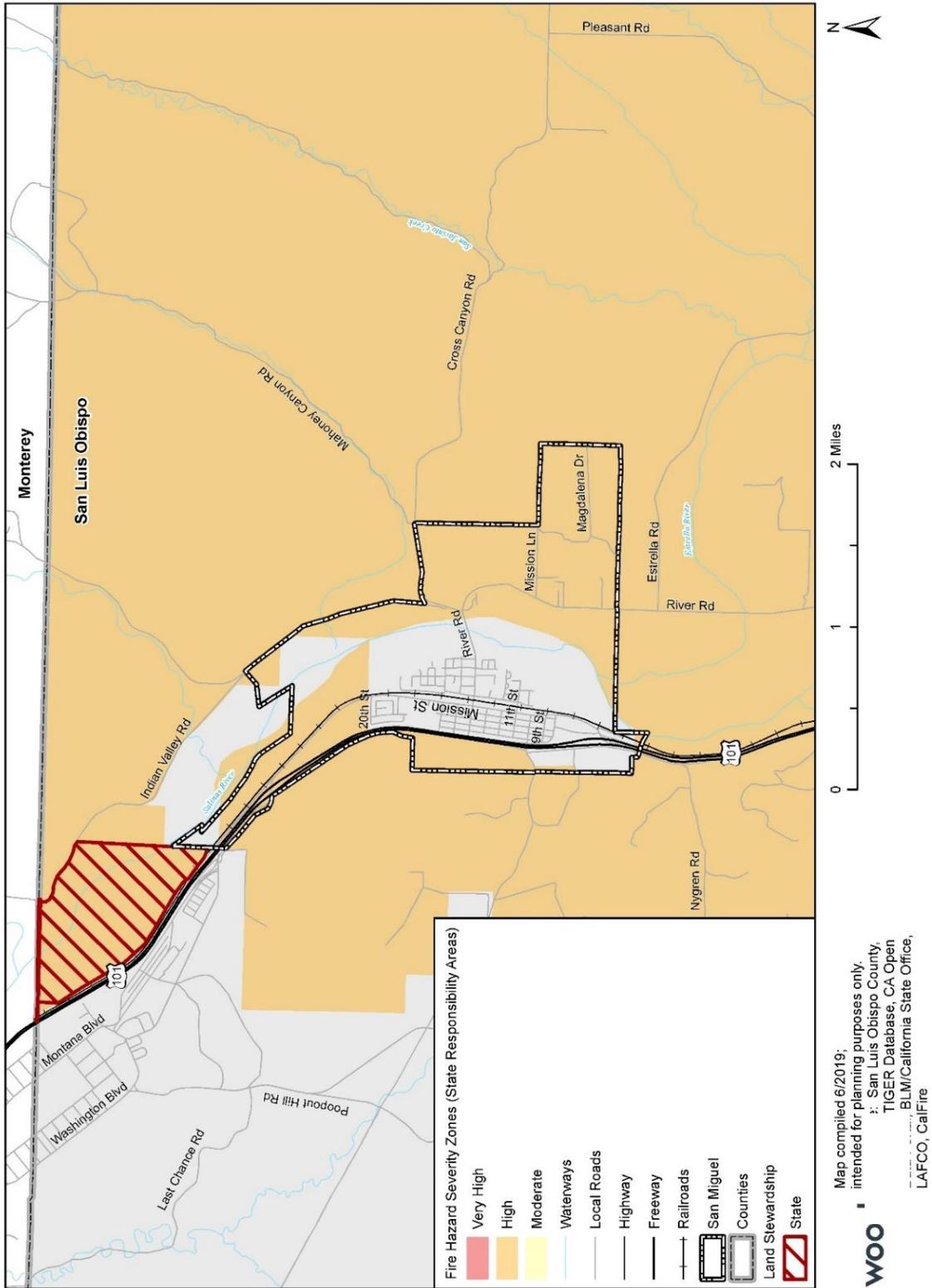
Facility Type	Count
Fire Station	1
Emergency Medical Service Station	1
Total	2

Source: San Luis Obispo County Planning and Building Dept., Assessor’s Office, ParcelQuest, Wood Plc Parcel Analysis, CalFire





Figure N.7 Fire Hazard Severity Zones in San Miguel Community Services District





Hazardous Materials

The Cal OES Warning Center reports six hazardous materials incidents in the San Miguel CSD from 1994 through October 24, 2018; as noted in Section 5.3.13 of the Base Plan, this likely excludes a large number of unreported minor spills. (Cal OES reports an additional 209 incidents in unincorporated San Luis Obispo County, however a lack of data makes it difficult to know if any of those took place within the CSD boundaries.) This constitutes 0.3% of the hazardous materials incidents reported countywide during the same time frame, and averages out to roughly one incident every four years. As noted in Section 5.3.13, only around 6% of reported hazardous materials incidents result in injuries, fatalities, or evacuations.

N.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 policies or programs 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 Wood 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 San Miguel CSD capabilities are summarized below.

N.4.1 Regulatory Mitigation Capabilities

Table N.17 identifies existing regulatory capabilities the CSD has in place to help with future mitigation efforts. Note that many of the regulatory capabilities that can be used for the District are within the County’s jurisdiction. Refer to Section 6 Capability Assessment of the Base Plan for specific information related to the County’s mitigation capabilities.

Table N.17 San Miguel CSD Regulatory Mitigation Capabilities

Regulatory Tool	Yes/No	Comments
General plan	Yes	On file with the County
Zoning ordinance	Yes	On file with the County
Subdivision ordinance	Yes	On file with the County
Growth management ordinance	Yes	On file with the County
Floodplain ordinance	Yes	County
Other special purpose ordinance (stormwater, water conservation, wildfire)	Yes	County & Local Ordinances
Building code	Yes	County & Local Ordinances
Fire department ISO rating	Yes	
Erosion or sediment control program	Yes	County
Stormwater management program	Yes	County
Site plan review requirements	Yes	County & SMF Review
Capital improvements plan	Yes	





Regulatory Tool	Yes/No	Comments
Economic development plan	Yes	
Local emergency operations plan	Yes	
Other special plans	Yes	
Flood Insurance Study or other engineering study for streams	Yes	
Elevation certificates (for floodplain development)	Yes	County

N.4.2 Administrative/Technical Mitigation Capabilities

Table N.18 identifies the personnel responsible for activities related to mitigation and loss prevention in the San Miguel Community Services District

Table N.18 San Miguel CSD Administrative/Technical Mitigation Capabilities

Personnel Resources	Yes/No	Department/Position/Comments
Planner/engineer with knowledge of land development/land management practices	No	
Engineer/professional trained in construction practices related to buildings and/or infrastructure	No	District Engineer (Monsoon & Associates Consultant)
Planner/engineer/scientist with an understanding of natural hazards	No	
Personnel skilled in GIS	No	
Full time building official	No	Part-time Fire Inspector/Plans Examiner
Floodplain manager	No	N/A
Emergency manager	Yes	Fire Chief
Grant writer	Yes	District Engineer
Other personnel	Yes	Assistant Fire Chief/Prevention Officer (Fire Inspector/Plans Examiner)
GIS Data Resources (Hazard areas, critical facilities, land use, building footprints, etc.)	Yes	
Warning systems/services (Reverse 9-11, outdoor warning signals)	Yes	

N.4.3 Fiscal Mitigation Capabilities

Table N.19 identifies financial tools or resources that the City could potentially use to help fund mitigation activities.

Table N.19 San Miguel CSD Fiscal Mitigation Capabilities

Financial Resources	Accessible/Eligible to Use (Yes/No)
Community Development Block Grants	Yes
Capital improvements project funding	Yes (County)
Authority to levy taxes for specific purposes	No
Fees for water, sewer, gas, or electric services	Yes
Impact fees for new development	Yes





Financial Resources	Accessible/Eligible to Use (Yes/No)
Incur debt through general obligation bonds	No
Incur debt through special tax bonds	No
Incur debt through private activities	No
Withhold spending in hazard prone areas	No

N.4.4 Mitigation Outreach and Partnerships

San Miguel Fire provides Fire Safety Education and participates in Fire Prevention Week annually. San Miguel Fire is also working together with the local schools to develop a disaster response plan for the schools in San Miguel.

N.4.5 Opportunities for Enhancement

Based on the capabilities assessment, the San Miguel Community Services 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. 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 and 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 San Miguel Community Services District will lead to more informed staff members who can better communicate this information to the public.

N.5 Mitigation Strategy

N.5.1 Mitigation Goals and Objectives

The San Miguel CSD adopts the hazard mitigation goals and objectives developed by the County Planning Team and described in Section 7 of the Base Plan: Mitigation Strategy.

N.5.2 Mitigation Actions

The Planning Team for the San Miguel Community Services District identified and prioritized the following mitigation actions based on the conducted risk assessment (refer to Table N.20). Actions were prioritized using the process described in Section 7.2.1 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. Actions with an asterisk (*) are those that mitigate losses to future development.





Table N.20 San Miguel Community Services District Mitigation Action Plan

ID	Hazard(s) Mitigated	Description/ Background/ Benefits	Lead Agency and Partners	Cost Estimate	Potential Funding	Priority	Timeline	Status/ Implementation Notes
SM.1	Wildfire	Improve ISO rating	Cal Fire	\$275,000	Capital Funds	High	18 Months	Currently in review
SM.2	Wildfire	Increase fire department staffing	San Miguel Fire	\$100,000 annually	Property tax	Medium	2 years	Planning stage
SM.3	Flood, Earthquake	Replace the current wastewater treatment facility to current seismic design standards	San Miguel CSD, Monsoon Consultants	\$7,000,000	Grants from DWR, USDA, and CBDG	High	20 Months	Planning stage
SM.4	Drought and Water Shortage	Provide additional or larger water storage tanks	San Miguel CSD	\$500,000	San Miguel CSD and developers	Medium	3 years	Planning stage
SM.5	Drought and Water Shortage	Replace aging water and wastewater underground piping	San Miguel CSD	\$500,000	San Miguel CSD and developers	Medium	3-4 Years	Planning





N.6 Implementation and Maintenance

Moving forward, the San Miguel Community Services 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 Implementation and Monitoring of the Base Plan.

N.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 Services District to help inform the development of local plans, programs and policies. Understanding the hazards 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 San Miguel Community Services District area. As noted in Section 8 Implementation and Monitoring, the County's HMPC representatives from the San Miguel 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 and local Planning Team review meeting.

N.6.2 Monitoring, Evaluation and Updating the Plan

The San Miguel Community Services 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 San Miguel 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.



O.1 District Profile

O.1.1 Mitigation Planning History and 2019 Process

This annex was created during the development of the 2019 San Luis Obispo County Hazard Mitigation Plan Update. The General Manager of the San Simeon Community Services District was the representative on the county Hazard Mitigation Planning Committee (HMPC) and took the lead for developing this annex in coordination with the San Simeon Community Services District (CSD) Local Planning Team (Planning Team). The local (District) Planning Team will be responsible for implementation and maintenance of the plan. Table O.1 summarizes the District’s planning team for the plan revision process.

Table O.1 San Simeon CSD Hazard Mitigation Plan Planning Team

Department or Stakeholder	Title
Administration	General Manager
Fire	Battalion Chief
Water	Superintendent

More details on the planning process followed and how the jurisdictions, Services Districts and stakeholders participated can be found in Section 3 of the Base Plan, as well as how the public was involved during the 2019 update.

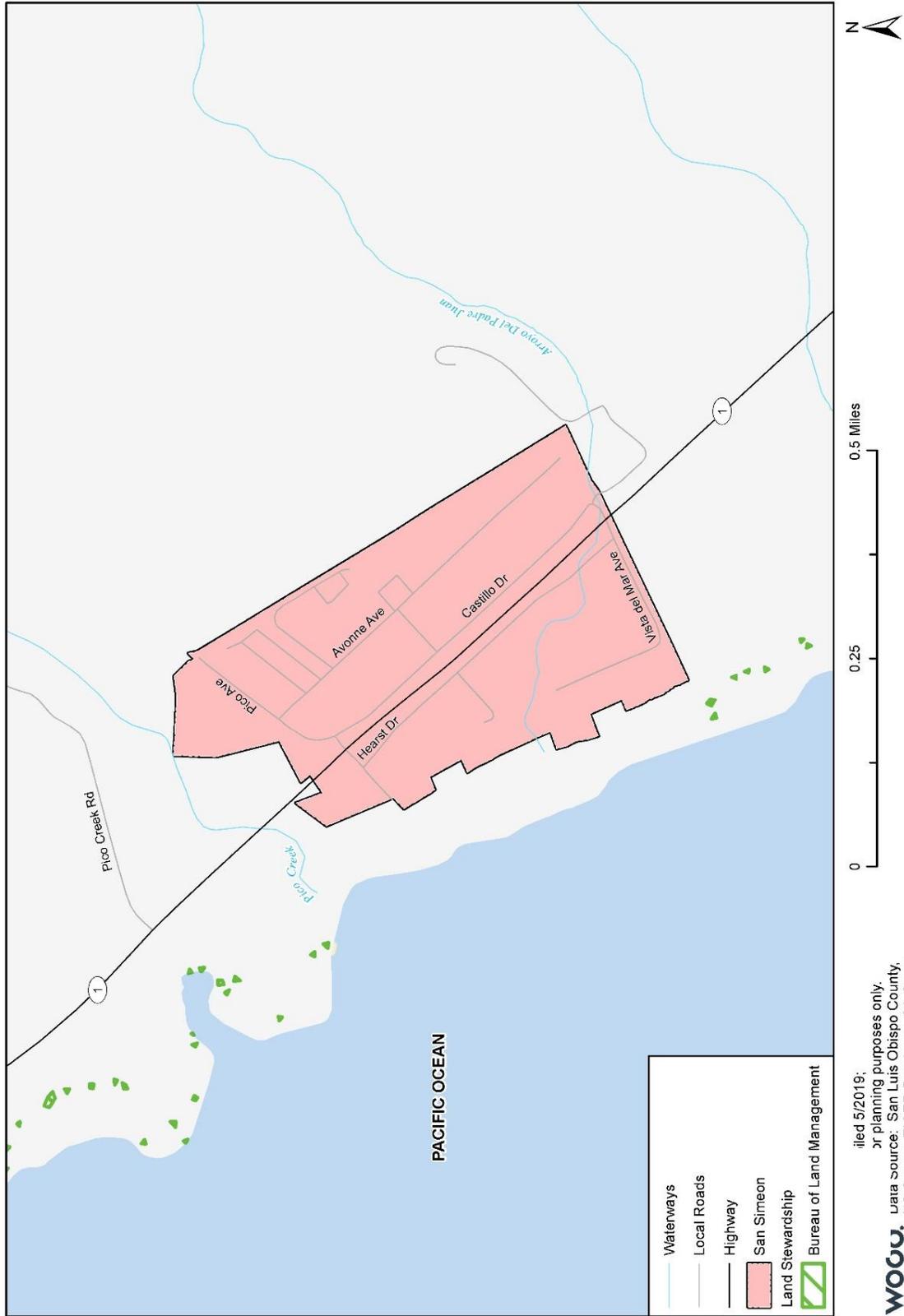
O.1.2 District Overview

San Simeon is a small unincorporated community that is part of the North Coast planning area in San Luis Obispo County. The population was about 462 according to the 2010 Census. San Simeon is located along State Highway 1 about five minutes north of the community of Cambria. It is bordered on the west by the Pacific Ocean and on the east by open space owned by Hearst Corporation. Figure O.1 shows the San Simeon Community Services District boundaries and geographic context. The major land holding in the area is the Hearst Ranch, which encompasses 77,000 acres north of Pico Creek. San Simeon is located on a coastal plain; its climate is considered Mediterranean and is moderated somewhat by its proximity to the Pacific Ocean.

Founded in 1836, San Simeon was first established when the San Miguel Mission was secularized and divided into three distinct ranches: Piedras Blancas, Santa Rosa, and San Simeon. In the years after its founding, the town became known for its whale watching. Modern development in the area began in the 1960s, and the primary economic activity in the area is now tourism. The San Simeon Community Services District was founded in 1961 for the purpose of providing San Simeon with safe, adequate and reliable utility services in an environmentally sensitive and economically responsible manner. Because tourism represents a major component of the CSD’s economy, water use, and wastewater production notably increase in the spring and summer months. Recycled water service as well as reverse osmosis has been implemented in recent years, and a 150,000-gallon storage service with approximately 397 customer accounts are now offered in San Simeon. The CSD is governed by a five-member elected board of directors as well as committees focusing on water and budget issues.



Figure O.1 San Simeon Community Services District



WOBG
 filed 5/2019;
 or planning purposes only.
 Data source: San Luis Obispo County,
 US Census TIGER Database, CA Open
 Data Portal, BLM/California State Office, LAFCO



The U.S. Census Bureau estimated the San Simeon Census Designated Place's (CDP) 2017 population as 523, a 1.9% increase from 513 in 2012. Table O.2 shows an overview of key social and demographic characteristics of the CDP taken from the U.S. Census Bureau's American Community Survey.

Table O.2 San Simeon CDP Demographic and Social Characteristics, 2014-2017

San Simeon CDP	2012	2017	% Change
Population	513	523	1.9%
Median Age	41.0	30.4	-25.9%
Total Housing Units	305	309	1.3%
Housing Occupancy Rate	63.9%	72.2%	8.3%
% of Housing Units with no Vehicles Available	0.0%	13.0%	13.0%
Median Home Value	\$237,000	NA	NA
Unemployment	0.0%	9.2%	9.2%
Mean Travel Time to Work (minutes)	28.0	11.6	-58.6%
Median Household Income	\$51,250	NA	NA
Per Capita Income	\$24,838	\$22,498	-9.4%
% of Individuals Below Poverty Level	0.0%	18.7%	18.7%
# of Households	195	223	14.4%
Average Household Size	2.51	2.21	-12.0%
% of Population Over 25 with High School Diploma	89.7%	71.7%	-18.0%
% of Population Over 25 with Bachelor's Degree or Higher	11.4%	5.7%	-5.7%
% with Disability	8.4%	3.8%	-4.6%

Source: U.S. Census Bureau American Community Survey 2014-2017 3-Year Estimates, www.census.gov/

Note: Data is for the San Simeon Census Designated Place (CDP) which may not have the same boundaries as the San Simeon Community Services District.

Table O.3 shows how the San Simeon CDP's labor force breaks down by occupation and industry estimates from the U.S. Census Bureau's 2017 American Community Survey.

Table O.3 San Simeon CPD Employment by Industry (2017)

Industry	# Employed
Population (2017)	523
In Labor Force	315
Agriculture, forestry, fishing and hunting, and mining	8
Armed Forces	161
Construction	39
Manufacturing	17
Wholesale trade	32
Retail trade	29
Transportation and warehousing, and utilities	-
Information	-
Finance and insurance, and real estate and rental and leasing	29



Industry	# Employed
Professional, scientific, and management, and administrative and waste management services	-
Educational services, and health care and social assistance	-
Arts, entertainment, and recreation, and accommodation and food services	-
Other services, except public administration	-
Public administration	-
Unemployed	-

Source: U.S. Census Bureau American Community Survey 2012-2017 5-Year Estimates, www.census.gov/

Note: Data is for the San Simeon Census Designated Place (CDP) which may not have the same boundaries as the San Simeon Community Services District.

Note: A symbol of "-" indicates that the metric in question is unknown or undetermined.

O.1.3 Development Trends

Growth rates in the North Coast region of San Luis Obispo County have traditionally been high, but growth rates in San Simeon have been declining during the past ten years due to resource constraints and development restrictions. The County’s Growth Management Ordinance limits county-wide growth to 2.3%. According to the North Coast Area Plan, the community does not believe that sustaining past growth rates is wise and has no intent to do so. Overcrowding of the day use and overnight facilities at San Simeon recreation areas underscores this point, as does the need for more visitor facilities. Improvements to the Hearst Ranch are being planned and are detailed in the North Coast Area Plan, as are intensive visitor-serving commercial centers which are currently in the conceptual planning stages.

O.1.4 Other Community Planning Efforts

The coordination and synchronization 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.

San Simeon and the San Simeon CSD 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 CSD Annex involved a comprehensive review of existing plans, studies, reports, and initiatives from San Luis Obispo County and the San Simeon community that relate to hazards or hazard mitigation, as summarized in Table O.4 below. Information on how they informed the update are noted and incorporated where applicable.

In addition to the development standards within the San Simeon Specific Plan, there are County planning mechanisms that regulate future and existing development within the San Simeon CSD planning area. Refer to Section O.4 Capability Assessment as well as the Base Plan for more information on the plans, policies, regulations and staff that govern the San Simeon CSD.

Table O.4 Summary of Review of Key Plans, Studies and Reports for the San Simeon CSD

Plan, Study, Report Name	How the Document Informed this Annex
San Simeon CSD Master Plan (Draft 2018)	Obtained key information on the CSD, its history, hazards of interest, etc.
North Coast Area Plan (Revised 2018)	Obtained water use information, drought related details, etc.



Plan, Study, Report Name	How the Document Informed this Annex
San Luis Obispo County Stormwater Resource Plan (2019)	Provided background information that was incorporated into the Drought Vulnerability Assessment related to watershed planning
County of San Luis Obispo Local Hazard Mitigation Plan (2014)	Informed past hazard event history as well as information on county programs, etc.
San Luis Obispo County – Community Wildfire Protection Plan (March 2019)	Informed the Vulnerability Assessment for Wildfire risk
San Luis Obispo County 2014 Integrated Regional Water Management Plan	Obtained information on water use in the CSD, water management regions, and the drought/water scarcity hazard
State of California’s Hazard Mitigation Plan – Updated 2018	General information on hazards, events, and vulnerability assessments
2014-2016 Resource Summary Report for San Luis Obispo County’s General Plan	Pulled information about water resources, reliability, and ongoing efforts to increase resilience in the county and district of San Simeon as related to drought
Coastal Zone Framework for Planning (Revised September 2018)	This Framework for Planning for the Coastal Zone is a General Plan Element that accompanies the Coastal Zone Land Use Ordinance (Title 23) for the County of San Luis Obispo
Title 23 Coastal Zone Land Use Ordinance (Revised September 2018) – County of San Luis Obispo	Pulled information on land use codes
Ordinance No. 112	An Ordinance of the Board of Directors of the San Simeon Community Services District Mandating Use of Recycled Water Strictly for the San Simeon Community Services District’s Recycled Water Facilities

O.2 Hazard Identification and Summary

The San Simeon CSD planning team identified the hazards that affect the District and summarized their frequency of occurrence, spatial coverage, potential magnitude, and significance specific to the San Simeon CSD (see



Table O.5). There are no hazards that are unique to the District. Note that some hazards may have been added to include ratings due to their relevance in the CSD, or because GIS analysis shows they could cause damages or losses in the community.

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Table O.5 San Simeon CSD Hazard Risk Summary

Hazard	Geographic Area	Probability of Future Occurrence	Magnitude/Severity (Extent)	Overall Significance
Coastal Storm/Coastal Erosion/Sea Level Rise	Significant	Likely	Limited	Low
Drought and Water Shortage	Significant	Likely	Limited	Medium
Earthquake	Significant	Likely	Limited	High
Flood	Limited	Likely	Negligible	Low
Tsunami	Limited	Unlikely	Negligible	Low
Wildfire	Significant	Likely	Limited	Medium
Human Caused: Hazardous Materials	Limited	Highly Likely	Negligible	Medium
<p>Geographic Area Limited: Less than 10% of planning area Significant: 10-50% of planning area Extensive: 50-100% of planning area</p> <p>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 in 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.</p>		<p>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</p> <p>Significance Low: minimal potential impact Medium: moderate potential impact High: widespread potential impact</p>		

0.3 Vulnerability Assessment

The intent of this section is to assess the San Simeon CSD’s vulnerability separate from that of the planning area (San Luis Obispo County), 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 (e.g. critical facilities) at risk to hazards ranked of medium or high significance that may vary from other parts of the planning area, or hazards that are rated as Low, but which may be worth noting due to risk of property and populations.

The key information to support the Hazard Identification and Risk Assessment (HIRA) for this Annex was collected through a Data Collection Guide, which was distributed to each participating municipality, community



Services District, 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/district. In addition, the San Simeon CSD planning team was asked to share information on past hazard events that have affected the District.

Each participating jurisdiction or district was in support of the main hazard summary identified in the Base plan (See Table 5.1 in the Base Plan). However, the hazard summary rankings for each jurisdictional annex may vary slightly due to specific hazard risk and vulnerabilities unique to that jurisdiction (see

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Table O.5). Identifying these differences helps the reader to differentiate the District’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 San Simeon CSD planning team input from the Data Collection Guide in conjunction with the risk assessment developed during the planning process (see Section 5 of the Base Plan), which included more detailed quantitative and qualitative analyses with best available data for all hazards in the County.

The hazard summaries in

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Table O.5 reflect the hazards that could potentially affect the District in major ways. The discussion of vulnerability for each of the assessed hazards is contained in the following sections. Those of Medium or High significance for the San Simeon CSD are identified below.

- Drought/Water Shortage
- Earthquake
- Human Caused: Hazardous Materials
- Wildfire

Other Hazards

Hazards assigned a significance rating of Low and which do not differ significantly from the County ranking (e.g., Low vs. High) are not addressed further in this plan and are not assessed individually for specific vulnerabilities in this section. Additionally, the CSD’s committee members decided to rate several hazards as Not Applicable (N/A) to the planning area due to a lack of exposure, vulnerability, and no probability of occurrence. The following hazards are considered Not Applicable (N/A) to the San Simeon Community Services District.

- Adverse Weather
- Agricultural Pests and Plant Diseases
- Biological Agents
- Coastal Storm/Coastal Erosion/Sea Level Rise (will be profiled in a limited manner)
- Dam Failure
- Land Subsidence
- Landslide/Debris Flow

O.3.1 Assets at Risk

This section considers the District’s assets at risk, including values at risk, critical facilities and infrastructure, historic assets, economic assets, and growth and development trends. See Section 5.2 of the Base Plan (Asset Summary) for more details and background on the parcel summarization, analysis, and datasets available.

Values at Risk

The following data on property exposure is derived from the San Luis Obispo County’s Assessor data. This data should only be used as a guideline to overall values in the Community Services District as the information has some limitations. Table O.6 summarizes the exposure of properties (e.g., the values at risk) broken down by property type for the San Simeon Community Services District.

Table O.6 Exposures for the San Simeon CSD by Parcel Type

Property Type	Parcel Count	Improved Value	Content Value	Total Value
Commercial	4	\$1,688,119	\$1,688,119	\$3,376,238
Government/Utilities	3	--	--	\$0
Other/Exempt/Misc.	11	--	--	\$0
Residential	5	\$817,165	\$408,583	\$1,225,748
Multi-Family Residential	157	\$26,869,358	\$13,434,679	\$40,304,037
Mobile/Manufactured Homes	1	\$186,709	\$93,355	\$280,064
Residential - Other	16	\$22,989,087	\$11,494,544	\$34,483,631
Total	197	\$52,550,438	\$27,119,279	\$79,669,717

Source: Wood Plc analysis based on ParcelQuest and San Luis Obispo County Assessor’s Office data 2019

Critical Facilities and Infrastructure



A critical facility is defined as one that is essential in providing utility or direction either during the response to an emergency or during the recovery operation. The four types of Critical Facilities categorized by San Luis Obispo County and its jurisdictions' and districts' planning teams are: Emergency Services, High Potential Loss Facilities, Lifeline Utility Systems, and Transportation Systems. See Section 5 of the Base Plan for more details on the definitions and categories of critical facilities, and Section 5.2 of the Base Plan for more information on the Assets used throughout this annex and the county-wide analyses.

Based on the datasets provided by the San Luis Obispo County GIS Department and the San Simeon CSD Planning Team, along with those structures supplemented from the Homeland Infrastructure Foundation-Level Dataset (HIFLD), there is only 1 critical facility found within the San Simeon Community Services District boundaries. It is the San Simeon Wastewater Treatment Plant located at 9245 Balboa Ave. This facility is shown on a map of the CSD in Figure O.2 below, classified as a Lifeline Utility System facility.

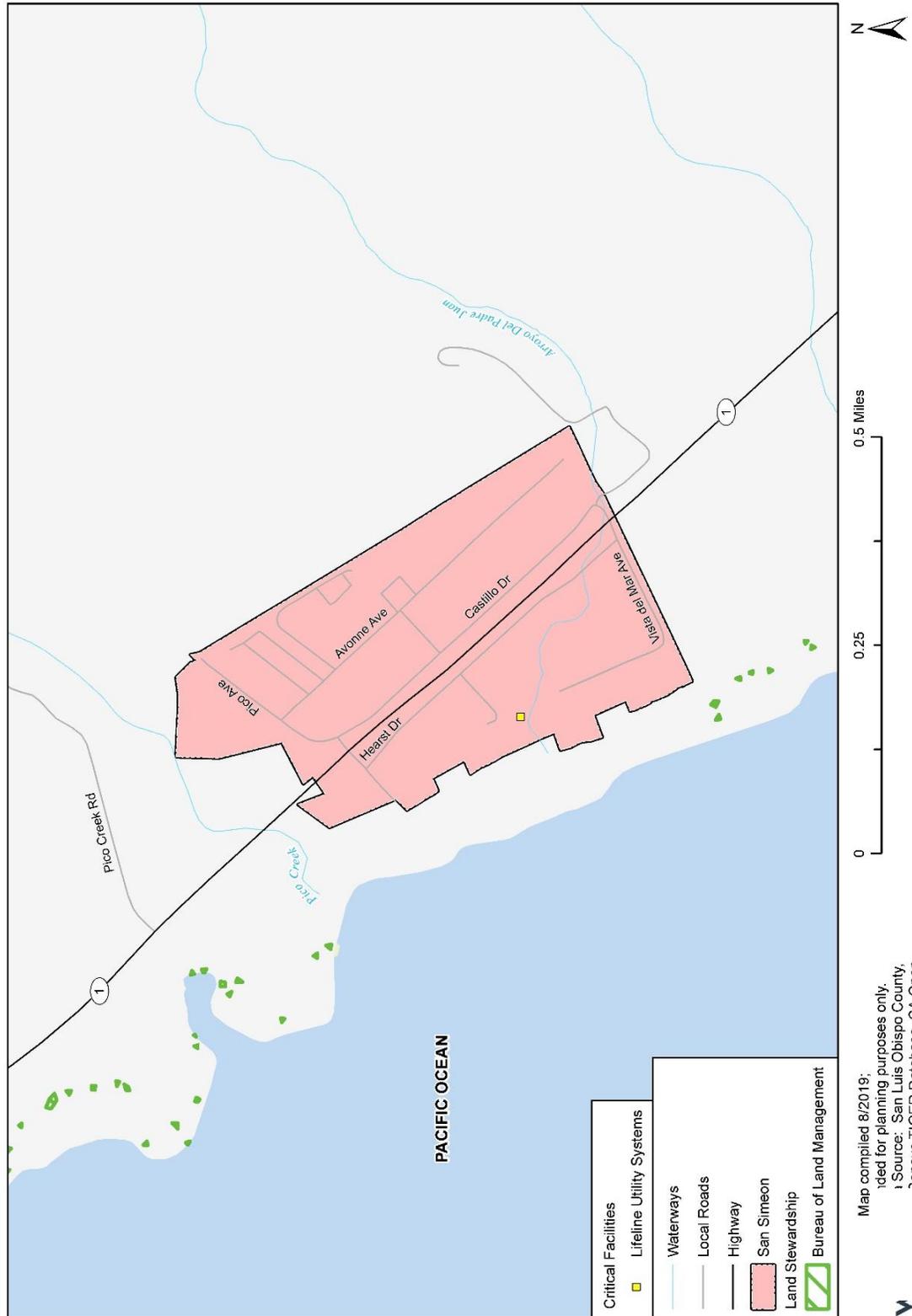
Additional Critical Facilities

Additional critical facilities as identified by the San Simeon CSD Planning Team are as follows:

- District Office – \$395,000 replacement value
- Senior Mobile Home Park
- Wells 1 & 2 – \$600,000 replacement value (combined)
- Water Treatment Plant – \$1.5 million replacement value
- Reservoir – \$750,000 replacement value
- Recycled Water Plant – \$500,000 replacement value
- Wastewater Treatment Plant - \$6,000,000 replacement value
- Water & Sewer Pipes – \$11.2 million replacement value (about 2 miles of water distribution system plus 2 miles of collection system)
- Critical Roads – \$832,000 replacement value (about 2 miles of roads)
- Reverse Osmosis - \$1,500,000
- Pico Creek – natural resource



Figure O.2 Wastewater Treatment Plant Critical Facility in the San Simeon Community Services District



Emergency Service Facilities/Support from Other Communities

The CSD is serviced by Cal Fire Station 10 in Cambria and the San Luis Obispo County Sheriff. The 2005 Cambria and San Simeon Acres Community Plans of the North Coast Area Plan Final Environmental Impact Report indicated that emergency response is a significant unmet need.

Transportation, High Potential Loss, and Lifeline Facilities

The San Simeon CSD provides water and wastewater services to San Simeon and the surrounding community. The San Simeon Wastewater Treatment Plant is the main critical facility of interest analyzed throughout this document, and is located on the west of San Simeon, along the Arroyo del Padre Juan stream and on the coast. The Pico Creek groundwater basin is the sole source of potable water for the community, and the District manages two primary production wells in the basin. The District shares a third emergency well with Hearst Corporation. The CSD also owns and operates a recycled water system which provides tertiary treated and disinfected recycled water that is permitted by the Regional Water Quality Control Board (RWQCB) for irrigation use within the community. A reverse osmosis treatment unit is operated during high chloride events caused by the intrusion of seawater into the Pico Creek aquifer. Improvements to the water, recycled water, and wastewater treatment plants have been proposed and are detailed in the San Simeon CSD Master Plan. The most urgent concern fitting these categories of critical facilities is the addition of potable water storage beyond the existing 150,000-gallon reservoir to meet regulatory and fire prevention needs.

State Highway 1 runs through San Simeon; about 75% of the community lies to the west while the remainder lies to the east of the highway (in terms of properties and commerce). Visitors to Hearst Castle increase traffic on Highway 1, making pedestrian and cyclist crossing of the highway difficult. The North Coast Area Plan recommends providing a seasonal shuttle service to reduce traffic and constructing an improved pedestrian crossing on the highway. Highway 1 is maintained by the California Department of Transportation (Caltrans), while Hearst Drive, Castillo Avenue, and San Simeon Avenue are maintained by the District and the County. Other streets are maintained by residents. Pavement improvements have been recommended and are detailed in the San Simeon CSD Master Plan.

Historic and Cultural Resources

Historical assets include local, county, state, and potentially federally listed historic sites. San Simeon hosts two state-designated historical landmarks: the Hearst San Simeon State Historical Monument and the Sebastian Store. William Randolph Hearst was an American businessman and newspaper publisher who inherited the Hearst Ranch near San Simeon from his father. Beginning in 1919, Hearst began construction of a castle on the property that was donated to the State in 1958 by Hearst Corporation in memoriam. The monument brings in one million visitors annually and was once home to exotic animals such as zebras which now roam free in the area. William Randolph Hearst Memorial Beach, a popular destination in the area, also bears his name. The Sebastian Store is the oldest store building on the North Coast of San Luis Obispo County. It was built in the 1860s and has been operated by the Sebastian family for over 50 years.

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. All undeveloped shoreline in the North Coast planning area is classified as Sensitive Resource Areas. The North Coast Area Plan (2018) also designated the following combining designations that apply to the protection of special resources in the San Simeon community:



- San Simeon Point – This picturesque setting includes Monterey pines, cypress trees, titled rock formations, and excellent views of the bay and ocean shoreline. While not biologically unique, the combined sensitivity of vegetation and viewshed make an SRA designation appropriate. Nonetheless, proposed development could be sited so as not to damage either the vegetation or viewshed through appropriate mitigation measures.
- San Simeon Fault (Geologic Study Area) – The San Simeon Fault Zone traverses the coastal area from San Simeon Point to the north side of the mouth of San Carpoforo Creek. In 1986, the State geologist determined this fault zone to be active and designated it as a special studies zone subject to the provisions of the Public Resources Code.

The North Coast Area Plan lists the protection of coastal resources such as “wetlands, coastal streams, forests, marine habitats, and wildlife, including threatened and endangered species” as a planning goal for San Simeon and Cambria. Supporting the efforts of Monterey Bay National Marine Sanctuary, which runs through San Simeon, is also listed as a goal. This protected coastline is home to a large population of elephant seals at the Piedras Blancas Elephant seal Rookery seven miles north of San Simeon. Pico Creek and other area creeks are also significant in that they support a number of declining species, such as the tidewater goby, striped garter snake, western pond turtle, red-legged frog (federally listed as threatened), and steelhead trout.

Economic Assets

The major industry in San Simeon is hospitality. The area welcomes tourists to its beaches, restaurants, and aforementioned historical and cultural attractions.

O.3.2 Estimating Potential Losses

Note: This section details vulnerability to specific hazards of high or medium significance, where quantifiable, and/or where (according to Planning Team input or vulnerability assessment analysis) it should be of concern.

Table O.6 under Section O.3.1 summarizes San Simeon’s exposure in terms of number and value of parcels falling within the District’s boundaries. San Luis Obispo County parcel and assessor data were used to calculate the improved value of parcels, using ParcelQuest’s spatial layers on parcel geometry. The most vulnerable structures are those in the parcels within hazard threat areas, unreinforced masonry buildings, and buildings built prior to the introduction of modern-day building or land regulatory codes. Impacts of past events and vulnerability to specific hazards are further discussed below as particular to each hazard. See Section 5 of the Base Plan for more information on assets, parcel analysis methodology, and hazard profiles.

Coastal Storm/Coastal Erosion/Sea Level Rise

The low cliffs and rolling coastal hills in San Simeon are vulnerable to coastal erosion and coastal bluff retreat. The San Simeon Wastewater Treatment Plant and other low-lying infrastructure such as roads and storm drains are especially vulnerable to coastal hazards. Approximately 2.8 miles of Highway 1 at Piedras Blancas north of San Simeon was recently relocated inland due to damage from coastal bluff erosion. Coastal bluff retreat rates may accelerate with sea level rise.

A flood hazard also exists during periods of intense or prolonged rainfall in Pico Creek. Heavy rain in January 2017 caused \$38,457 in damage to the Pico Beach stairs, sidewalk, and parking lot. Runoff had caused the embankment to become unstable and slip as native soil was washed to sea. The District received an emergency temporary repair permit to install gabion stone baskets to stabilize the hillside. On June 1 of the same year, heavy rains caused the storm drain at 9260 Castillo Drive to collapse, creating a sink hole in the parking lot of the property. The sink hole was repaired at an initial cost of \$1,000 but required additional repairs later. See Section 5 of the Base Plan for more information on coastal hazards.



As part of the 2019 HMP planning effort, a sea level rise risk assessment was completed to determine how sea level rise may affect coastal jurisdictions and critical facilities and how coastal flooding might be exacerbated in the future. The only critical facility that would be affected by sea level rise is the San Simeon Wastewater Treatment Plant which is at risk in a sea level rise scenario of 25 cm or greater. Table O.7 and Table O.8 summarize the other properties at risk of inundation by sea level rise and sea level rise combined with a FEMA 1% annual chance flood. The area of inundation by sea level rise and sea level rise combined with the 1% flood are shown in Figure O.3 and Figure O.4, respectively. See Section 5.3.4 Coastal Storm/Coastal Erosion/Sea Level Rise in the base plan for more details on the scenarios and data sources used for this analysis.

Table O.7 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
Government/Utilities	--	--	--	1	1	1
Multi-Family Residential	--	--	--	--	--	21
Other/Exempt/Misc.	--	--	--	--	--	3
Total	--	--	--	1	1	25

Source: Wood analysis with USGS CoSMoS 3.1 data

Table O.8 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
Government/Utilities	--	--	--	--	--	\$0
Multi-Family Residential	--	--	--	--	--	\$4,274,750
Other/Exempt/Misc.	--	--	--	--	--	\$0
Total	\$0	\$0	\$0	\$0	\$0	\$4,274,750

Source: Wood analysis with USGS CoSMoS 3.1 data



Figure O.3 San Simeon Sea Level Rise Scenario Analysis: Tidal Inundation Only



Figure O.4 San Simeon Sea Level Rise Scenario Analysis: Tidal Inundation and 1% Annual Chance Flood



Drought and Water Shortage

San Simeon receives 20 inches of precipitation annually. The existing permit from the County Health Department allows for the withdrawal of 140 acre-feet per year from the existing wells while the safe yield of the Pico Creek groundwater basin is estimated to be about 120 to 130 acre-feet per year. Due to fluctuations in rainfall, the location of the groundwater basin relative to the coast, and high groundwater withdrawals, water shortages have been declared several times in past decade. Growth in recent years has been held to the 1986 moratorium level due to the potable water supply shortage. Detailed information on potable water demand can be found in the San Simeon CSD Master Plan as well as Section 5.3.6 of the Base Plan.

Earthquake

San Simeon is located near the San Simeon-Hosgri fault system which is considered to be active. The 6.5-magnitude San Simeon earthquake struck six miles from San Simeon on December 22, 2003. The earthquake caused significant property damage and two fatalities in nearby Paso Robles but only caused minor damage to structures in San Simeon. The Governor of California declared a state of emergency, and the President signed a federal major disaster declaration. The San Simeon CSD submitted a Request for Public Assistance, citing damage to the District Office but later withdrew the application after determining that there was little impact on the office. However, \$5,000 was spent on other repairs and inspections including that of the sewer line. An additional \$15,676 was spent repairing the electrical panel at the wastewater treatment plant which was destroyed once power was restored after the earthquake. The most vulnerable structures to earthquakes are unreinforced masonry buildings, and retrofitting of such structures is of high priority statewide. Of the 53 unreinforced masonry buildings in Paso Robles, none of the nine retrofitted buildings experienced major damages. See Section 5.3.7 of the Base Plan for more information on the earthquake hazard as a whole as well as details particular to the San Simeon CSD.

With regards to Critical Facilities, the San Simeon Wastewater Treatment Plant was found to fall within a Moderate Liquefaction risk area, so the facility is exposed to earthquake and liquefaction related impacts.

Flood

The main sources of flooding in and north of the San Simeon CSD are the Arroyo del Padre Juan, which crosses the District from the southeast and outflows into the Pacific Ocean on the central-west portion of the District, and the Pico Creek to the north, which barely touches the north boundary of the community. Some coastal flooding also occurs from the west side (where the Ocean and the CSD meet) but based on GIS analysis of the parcels in the CSD and FEMA's Flood Hazard Areas, only 5 parcels would be flooded by the 100-year event. See Table O.9 for a summary of parcels flooded and their values and refer to Figure O.5 for a map of the flood hazards and flooded parcels.

Table O.9 Flooded Parcels in the San Simeon CSD by Parcel Type

Property Type	Parcel Count	Improved Value	Content Value	Total Value	Loss Estimate	Population
Commercial	2	\$1,358,801	\$1,358,801	\$2,717,602	\$679,401	--
Other/Exempt/ Miscellaneous	1	--	--	\$0	\$0	--
Residential: Other	2	\$5,734,800	\$2,867,400	\$8,602,200	\$2,150,550	5
TOTAL	5	\$7,093,601	\$4,226,201	\$11,319,802	\$2,829,951	5

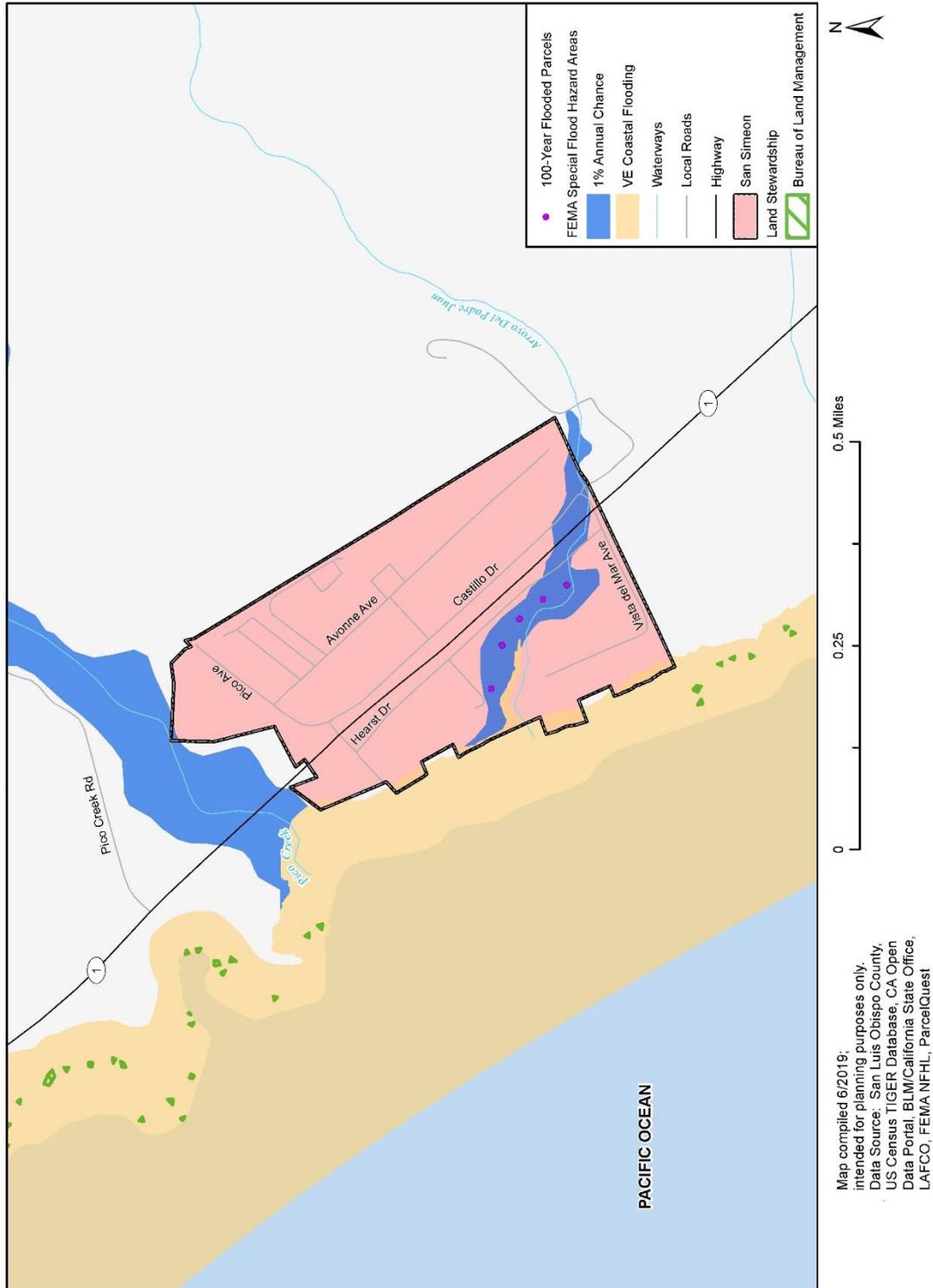
Source: San Luis Obispo County Planning and Building Dept., Assessor's Office, ParcelQuest, Wood Plc Parcel Analysis, FEMA

San Simeon does not participate separately in the National Flood Insurance Program (NFIP) but will continue to support the County's participation in and compliance with the NFIP.



With regards to Critical Facilities, the San Simeon Wastewater Treatment Plant was found to fall within the VE FEMA floodplain, as the facility is located on the coast and hence suffers from coastal flooding hazards.

Figure O.5 Flooded Parcels in the San Simeon Community Services District



Tsunami

Tsunami inundation would take place, though in a limited fashion, to the north of the San Simeon CSD through Pico Creek to the coast, which barely touches the north boundary of the community. Areas of the immediate coast (west of the CSD) would also inundation given tsunami activity, in a north-south fashion along the littoral portions and hence western boundary of the CSD. Based on GIS parcel analysis, it is estimated that a total of 6 parcels would be affected by this hazard. Refer to Table O.10 and Figure O.6 for more details.

Table O.10 San Simeon CSD’s Tsunami Inundated Parcels

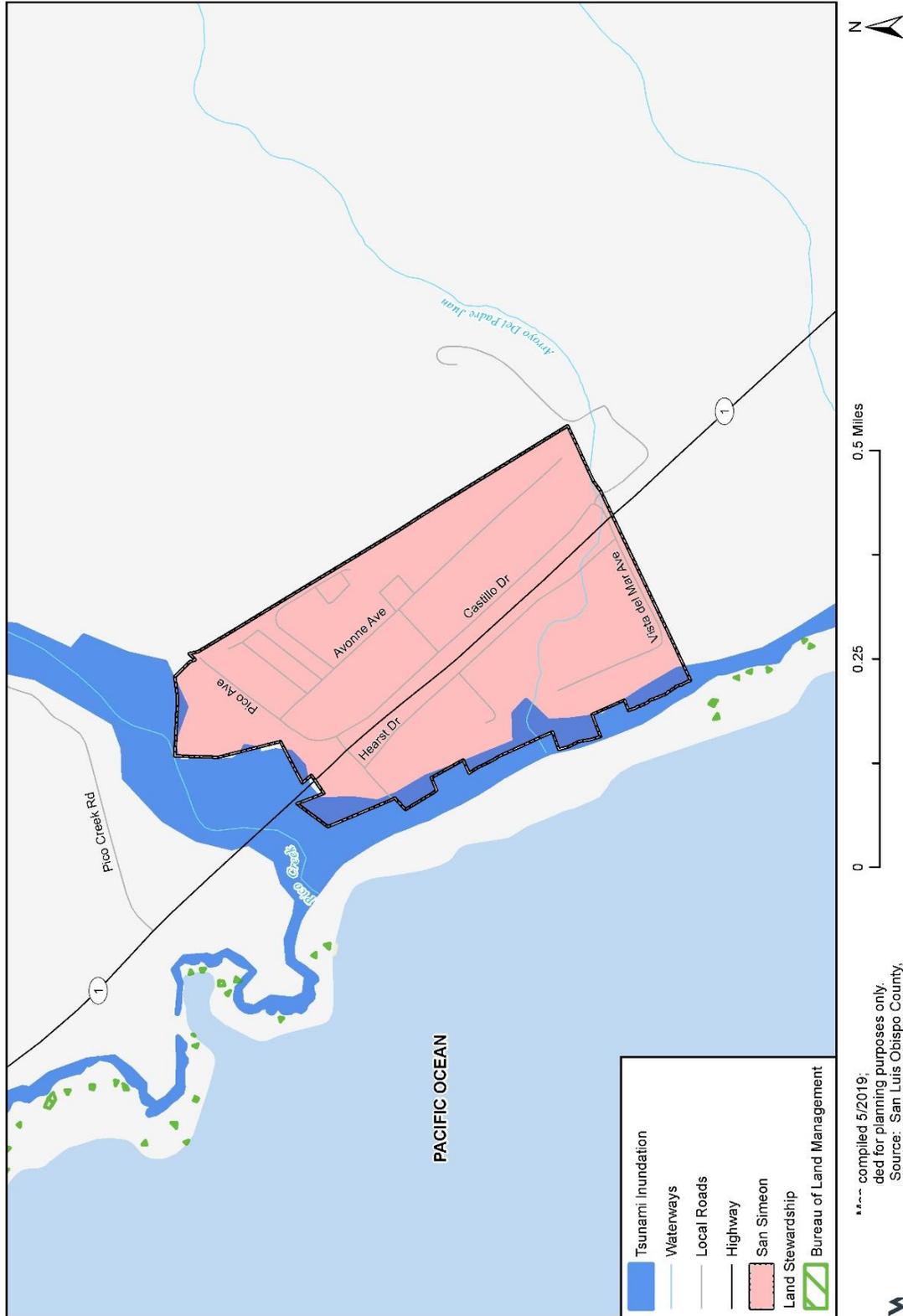
Property Type	Property Count	Improved Value	Content Value	Total Value	Loss Estimate	Population
Government/Utilities	2	--	--	\$0	\$0	--
Other/Exempt/Miscellaneous	1	--	--	\$0	\$0	--
Multi-Family Residential	3	\$572,444	\$286,222	\$858,666	\$858,666	8
TOTAL	6	\$572,444	\$286,222	\$858,666	\$858,666	8

Source: San Luis Obispo County Planning and Building Dept., Assessor’s Office, ParcelQuest, Wood Plc Parcel Analysis, CA Dept. of Conservation

With regards to Critical Facilities, the San Simeon Wastewater Treatment Plant was found to fall within the Tsunami inundation area developed by the California Department of Conservation, as the facility is located on the coast and hence suffers from coastal related hazards including potential tsunami activity.



Figure O.6 Tsunami Inundated Parcels in the San Simeon Community Services District



Map compiled 5/2019; intended for planning purposes only.
Source: San Luis Obispo County, US Census TIGER Database, CA Open Data Portal, BLM/California State Office, LAFCO, CA Dept. of Conservation



Wildfire

Table O.11 summarizes the parcel values found within the moderate wildfire severity zone, part of the State Responsibility Area (SRA). This zone encompasses all properties in San Simeon at risk of wildfire hazards. The Chimney Fire in 2016 burned within two miles of the Hearst Castle and required firefighters to cut multiple fire lines in a successful attempt to save the structure. See Figure O.7 for a visual reference of where the moderate fire hazard severity zone crosses with the CSD (as it completely encompasses it). For more information on this hazard as well as context at the county level, refer to Section 5.3.12 of the Base Plan.

Table O.11 San Simeon CSD’s Wildfire Risk by Property Type – Moderate Severity SRA Zone

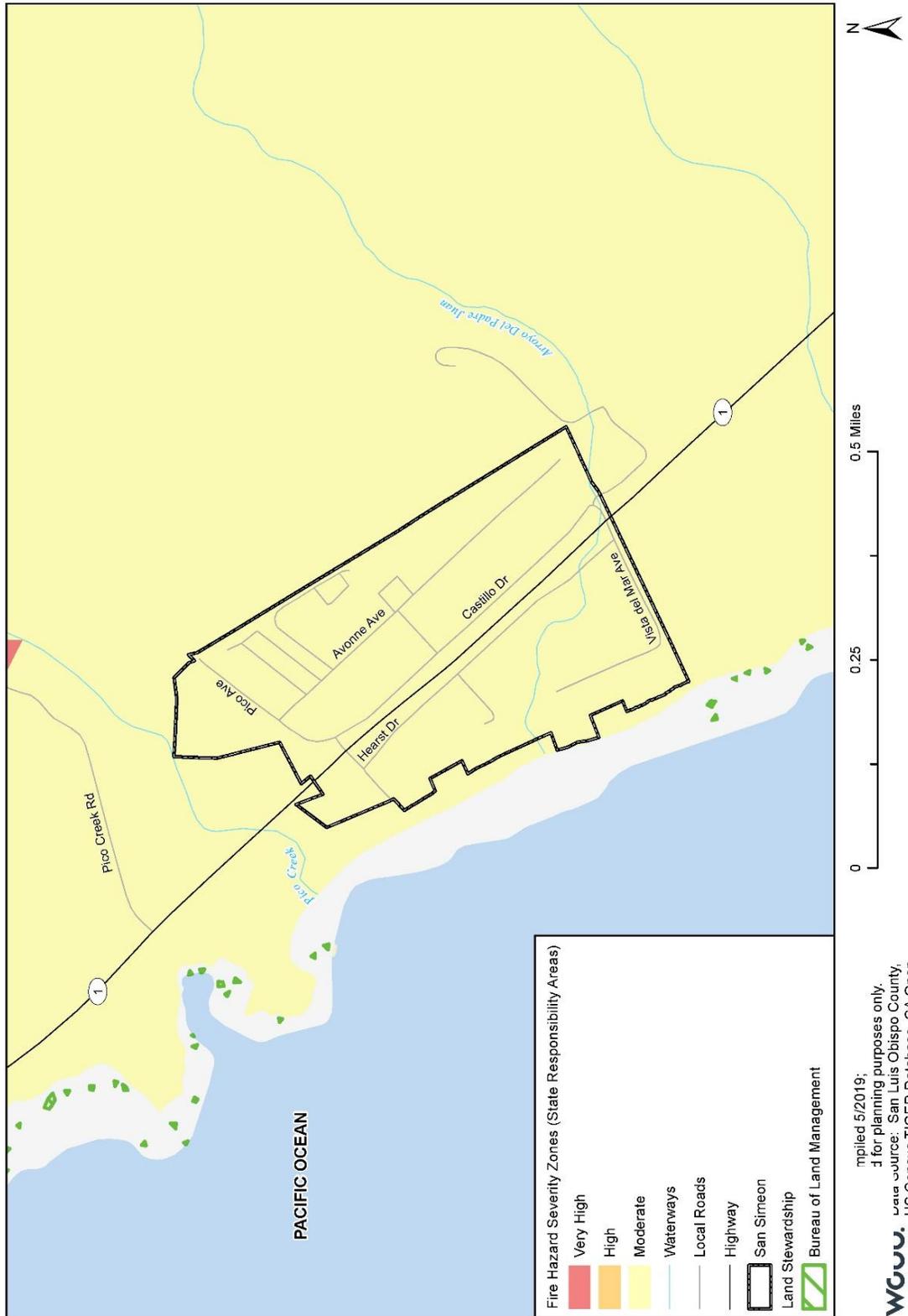
Property Type	Property Count	Improved Value	Content Value	Total Value	Loss Estimate	Population
Commercial	4	\$1,688,119	\$1,688,119	\$3,376,238	\$3,376,238	--
Government/Utilities	3	--	--	\$0	\$0	--
Other/Exempt/Miscellaneous	11	--	--	\$0	\$0	--
Residential	5	\$817,165	\$408,583	\$1,225,748	\$1,255,748	13
Multi-Family Residential	157	\$26,869,358	\$13,434,679	\$40,304,037	\$40,304,037	394
Mobile/Manufactured Homes	1	\$186,709	\$93,355	\$280,064	\$280,064	3
Residential: Other	16	\$22,989,087	\$11,494,544	\$34,483,631	\$34,483,631	40
TOTAL	197	\$52,550,438	\$27,119,279	\$79,669,717	\$79,669,717	449

Source: San Luis Obispo County Planning and Building Dept., Assessor’s Office, ParcelQuest, Wood Plc Parcel Analysis, CalFire

With regards to Critical Facilities, the San Simeon Wastewater Treatment Plant was found to fall within the moderate severity State Responsibility Area (SRA) zone.



Figure O.7 Wildfire Hazard Severity Zones in the San Simeon Community Services District



Compiled 5/2019;
 not for planning purposes only.
 Data Source: San Luis Obispo County,
 US Census TIGER Database, CA Open
 Data Portal, BLM/California State Office,
 LAFCO, CalFire



Human Caused: Hazardous Materials

The Cal OES Warning Center reports 38 hazardous materials incidents in the San Simeon CSD from 1994 through October 24, 2018; as noted in Section 5.3.13 of the Base Plan, this likely excludes a large number of unreported minor spills. (Cal OES reports an additional 209 incidents in unincorporated San Luis Obispo County. However, a lack of data makes it difficult to know if any of those took place within the San Simeon CSD boundaries.) This constitutes 1% of the hazardous materials incidents reported countywide during the same time frame and averages out to roughly 1.0 incidents per year. As noted in Section 5.3.13, only around 6% of reported hazardous materials incidents result in injuries, fatalities, or evacuations. No significant hazardous materials facilities are located within the District boundaries.

O.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 policies or programs 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 Wood 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 San Simeon CSD capabilities are summarized below.

O.4.1 Regulatory Mitigation Capabilities

Table O.12 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 Capability Assessment of the Base Plan for specific information related to the County’s mitigation capabilities.

Table O.12 San Simeon CSD Regulatory Mitigation Capabilities

Regulatory Tool	Yes/No	Comments
General plan	--	--
Zoning ordinance	Yes	County
Subdivision ordinance	Yes	County
Growth management ordinance	Yes	San Simeon CSD
Floodplain ordinance	--	--
Other special purpose ordinance (stormwater, water conservation, wildfire)	Yes	County
Building code	Yes	Cal Fire Station 10
Fire department ISO rating	Yes	--
Erosion or sediment control program	--	--
Stormwater management program	Yes	County
Site plan review requirements	Yes	County
Capital improvements plan	Yes	San Simeon



Economic development plan	--	--
Local emergency operations plan	--	--
Other special plans	--	Vulnerability Assessment Emergency Preparedness Plan
Flood Insurance Study or other engineering study for streams	--	--
Elevation certificates (for floodplain development)	--	--

O.4.2 Administrative/Technical Mitigation Capabilities

Table O.13 identifies the personnel responsible for activities related to mitigation and loss prevention in the San Simeon Community Services District.

Table O.13 San Simeon CSD Administrative/Technical Mitigation Capabilities

Personnel Resources	Yes/No	Department/Position
Planner/engineer with knowledge of land development/land management practices	Yes	County
Engineer/professional trained in construction practices related to buildings and/or infrastructure	Yes	District Engineer, Phoenix 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	Grace Environmental
Other personnel		
GIS Data Resources (Hazard areas, critical facilities, land use, building footprints, etc.)	Yes	County
Warning systems/services (Reverse 9-11, outdoor warning signals)		Sheriff's Office, County

O.4.3 Fiscal Mitigation Capabilities

Table O.14 identifies financial tools or resources that the CSD could potentially use to help fund mitigation activities.

Table O.14 San Simeon 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	No
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



O.4.4 Mitigation Outreach and Partnerships

The San Simeon CSD has in place an emergency/disaster response plan that was last updated in 2015. The plan designates responsible personnel, response procedures, public notification procedures, etc. for water-related emergencies. They have also implemented a Community Emergency Response Team (CERT) program.

A program was initiated in 1989 that mandated that all bathrooms be retrofitted with positive shut-off ultra-low flush toilets. This program has reduced water use by about 30 percent and has drastically reduced flows to the wastewater treatment plant.

O.4.5 Opportunities for Enhancement

Based on the capability assessment, the San Simeon Community Services 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. 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 and 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 San Simeon Community Services District will lead to more informed staff members who can better communicate this information to the public.

O.5 Mitigation Strategy

O.5.1 Mitigation Goals and Objectives

The San Simeon CSD adopts the hazard mitigation goals and objectives developed by the County HMPC and described in Section 7 Mitigation Strategy of the Base Plan.

O.5.2 Mitigation Actions

The planning team for the San Simeon Community Services District identified and prioritized the following mitigation actions based on the conducted risk assessment (see Table O.15). Actions were prioritized using the process described in Section 7.2.1 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. Actions with an '*' are those that mitigate losses to future development.



Table O.15 San Simeon CSD’s Mitigation Action Plan

ID	Hazard(s) Mitigated	Description/Background/Benefits	Lead Agency and Partners	Cost Estimate	Potential Funding	Priority	Timeline	Status/ Implementation Notes
SS.1*	Drought, Adverse Weather	Reservoir expansion project. Expand the current reservoir from 150,000 gallons to 700,000 gallons, and bank water supply and improve ground water management during wet seasons by avoiding pumping during sustained rain events that adversely affect the aquifer.	San Simeon CSD	Over \$1,000,000	State grants, USDA loan,	High	More than 5 yrs.	New Benefits: Improved accessibility and a sustainable potable water supply for existing customers by having a larger, cleaner water supply; improved fire flow/suspension requirements; sustainable water supply for future developments
SS.2	Wildfire	Create defensible space around the San Simeon Wastewater Treatment Plant	San Simeon CSD	\$5,000	District funds, grants	Medium	1-2 yrs.	New
SS.3	Flood, Coastal Storms/ Coastal Flood/Sea Level Rise; Earthquake	Consider mitigation options and possible relocation of Wastewater Treatment Plan to mitigate against riverine and coastal flooding, sea level rise, and incorporate seismic design.	San Simeon CSD	Over \$1,000,000	State grants, USDA loan,	Medium	More than 5 yrs.	New



O.6 Implementation and Maintenance

Moving forward, the San Simeon Community Services 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 Implementation and Monitoring of the Base Plan.

O.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 Services District to help inform updates of the San Simeon Community Plan and in the development of additional local plans, programs and policies. Understanding the hazards that pose 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 San Simeon Community Services District area. As noted in Section 8 Implementation and Monitoring, the County's HMPC representatives from the San Simeon 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 and local Planning Team review meeting.

O.6.2 Monitoring, Evaluation and Updating the Plan

The San Simeon Community Services 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 San Simeon 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.



P.1 District Profile

P.1.1 Mitigation Planning History and 2019 Process

This annex was created during the development of the 2019 San Luis Obispo County Hazard Mitigation Plan Update. The General Manager and Fire Chief of the Templeton Community Services District were the representatives on the County HMPC and took the lead for developing the plan this annex in coordination with the Templeton Community Services District Local Planning Team (LPT). The LPT will be responsible for implementation and maintenance of the plan.

Table P.1 Templeton CSD Hazard Mitigation Plan Planning Team

Department or Stakeholder	Title
Fire Department	Fire Chief
Administration	General Manager
Administration Department	Finance Officer
Administration Department	Assistant to GM
Fire Department	Fire Captain

More details on the planning process followed and how the jurisdictions, service districts and stakeholders participated can be found in Section 3 of the Base Plan, as well as how the public was involved during the 2019 update.

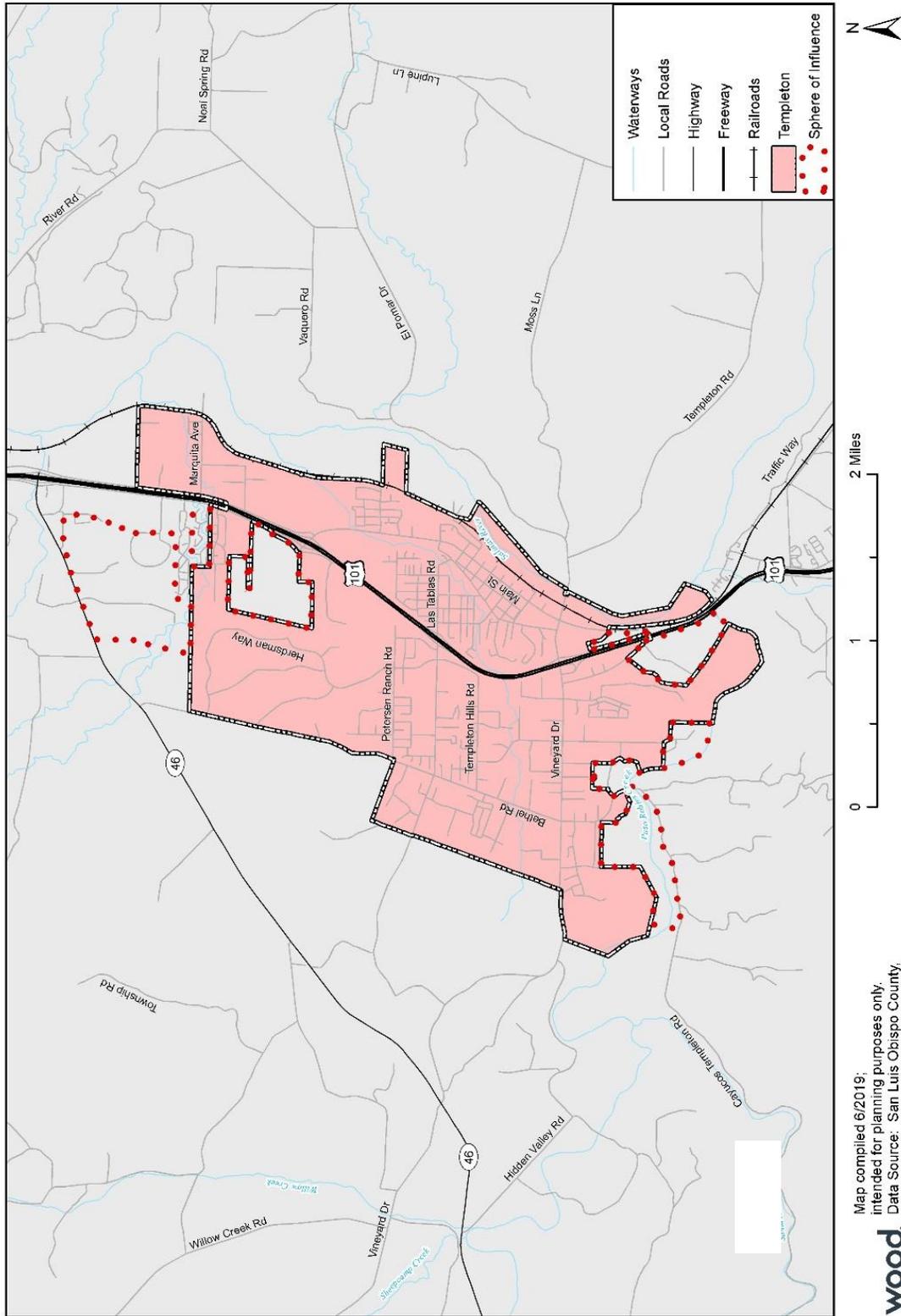
P.1.2 District Overview

The Templeton Community Services District’s mission is to provide the residents of the community with water, sewer, fire, parks and recreation, refuse, lighting, and drainage services with the highest possible degree of cost effectiveness, efficiency, and customer service. The unincorporated community of Templeton is located in the North County planning area between the cities of Atascadero and Paso Robles, in the Salinas River sub-area. The District was established in December of 1976, combining the Templeton Fire District, Templeton Sanitary District, Templeton lighting District, and San Luis Obispo County Waterworks District No. 5. Today the District is home to 7,989 residents across 5.1 square miles.

Figure P.1 is a map of the Templeton Community Services District.



Figure P.1 Templeton Community Services District



Map compiled 6/2019;
intended for planning purposes only.
Data Source: San Luis Obispo County,
US Census TIGER Database, CA Open
Data Portal, BLM/California State Office, LAFCO

wood.



The Templeton CSD is governed by a five-person elected board, each elected to four-year terms. As of July 2019, the Board has the following standing committees:

- Facilities Committee
- Administration & Finance Committee
- Fire & Emergency Management Committee
- Parks, Recreation & Refuse Committee
- Templeton Recreation Foundation

The U.S. Census Bureau estimated Templeton’s 2017 population as 7,989, up slightly from 7,674 at the 2010 census, and recovered from a drop to 7,200 in 2012. Table P.2 shows an overview of key social and demographic characteristics of the City taken from the U.S. Census Bureau’s American Community Survey.

Table P.2 Templeton CSD Demographic and Social Characteristics, 2012-2017

City of Atascadero	2012	2017	% Change
Population	7,200	7,989	+11.0%
Median Age	43.4	44.6	+2.8%
Total Housing Units	2,895	2,989	+3.2%
Housing Occupancy Rate	96.3%	97.3%	+1.0%
% of Housing Units with no Vehicles Available	6.3%	4.1%	-2.2%
Median Home Value	\$383,200	\$472,200	+23.2%
Unemployment	6.9%	2.3%	-4.6%
Mean Travel Time to Work (minutes)	21.4	23.4	+9.3%
Median Household Income	\$64,043	\$76,002	+18.7%
Per Capita Income	\$33,437	\$34,400	+2.9%
% of Individuals Below Poverty Level	6.8%	5.2%	-1.6%
# of Households	2,788	2,907	+4.3%
Average Household Size	2.55	2.71	+6.3%
% of Population Over 25 with High School Diploma	93.2%	93.8%	+0.6%
% of Population Over 25 with Bachelor’s Degree or Higher	28.0%	35.6%	+7.6%
% with Disability	14.6%	9.5%	-5.1%
% Speak English less than "Very Well"	5.2%	2.5%	-2.7%

Source: U.S. Census Bureau American Community Survey 2012-2017 5-Year Estimates, www.census.gov/

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

Unemployment has dropped from 6.9% in 2012 to 4.1% in 2017. Median family income is above average for the County (\$67,175), State (\$67,169) and Nation (\$57,652). Similarly, the number of individuals living below the poverty level is well below the average for the County (13.8%), State (15.1%) and Nation (14.6).

Based on the 2017 American Community Survey (ACS) Templeton’s labor force is estimated to be 3,812 persons. The city’s major industries are the educational services, and health care and social assistance sector (22.8% of jobs) and the professional, scientific, and management, and administrative and waste management services sector (18.4% of jobs). The District’s largest employers include Twin Cities Community Hospital.

Table P.3 shows how Templeton’s labor force breaks down by occupation and industry based on estimates from the U.S. Census Bureau’s 2017 American Community Survey.



Table P.3 Templeton CSD Employment by Industry (2017)

Industry	# Employed
Population (2017)	7,989
In Labor Force	3,812
Agriculture, forestry, fishing and hunting, and mining	79
Armed Forces	-
Construction	305
Manufacturing	136
Wholesale trade	52
Retail trade	437
Transportation and warehousing, and utilities	231
Information	13
Finance and insurance, and real estate and rental and leasing	176
Professional, scientific, and management, and administrative and waste management services	700
Educational services, and health care and social assistance	870
Arts, entertainment, and recreation, and accommodation and food services	294
Other services, except public administration	197
Public administration	234
Unemployed	88

Source: U.S. Census Bureau American Community Survey 2012-2017 5-Year Estimates, www.census.gov/

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

P.1.3 Development Trends

Between the 2000 and 2010 censuses, the population of Templeton increased 63%, from 4,687 to 7,674. Since 2010, Templeton has experienced more modest growth, averaging 0.7% per year as shown in Table H2, the population of Templeton has held relatively constant for most of the last decade. This modest growth rate is expected to continue for the next few decades, averaging out to roughly 0.5% per year, or an additional 17% population by 2050. Given that Templeton was considered 83.5% built out as of 2010, by 2050 it is projected to be 100% built out.

P.1.4 Other Community Planning Efforts

Coordination and synchronization 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 Templeton is referenced in 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 Templeton community that relate to hazards or hazard mitigation, as summarized in the table below. Information on how they informed the update are noted and incorporated where applicable.



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

Table P.4 Summary of Review of Key Plans, Studies and Reports

Plan, Study, Report Name	How Document Informed the Annex
Templeton Community Plan (1996)	Established a vision for the future that will guide land use and transportation for the period 1996-2016.
Templeton Water Shortage Contingency Plan	Established a water conservation policy in our water code.
County of San Luis Obispo Local Hazard Mitigation Plan (2014)	Informed past hazard event history.
County of San Luis Obispo Safety Element (1999)	Informed past hazard event history and general background information on the planning area
San Luis Obispo County Integrated Regional Water Management Plan (2014)	Presents a comprehensive water resources management approach to managing the region’s water resources, focusing on strategies to improve the sustainability of current and future needs of San Luis Obispo County. It is built on the existing foundation of the region’s longstanding inter-agency cooperation and stakeholder collaboration.
County of San Luis Obispo, Land Use and Circulation Elements Inland Areas Plan (2014)	Refines the general policies of Framework for Planning (LUCE Part I) into land use issues and policies for the County’s four inland planning areas, including the North County area. It serves as a guide for future development.
San Luis Obispo County – Community Wildfire Protection Plan (March 2019)	Informed the Vulnerability Assessment for Wildfire risk

P.2 Hazard Identification and Summary

The Templeton 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 Templeton CSD (see Table P.5). There are no hazards that are unique to Templeton.



Table P.5 Templeton CSD Hazard Risk Summary

Hazard	Geographic Area	Probability of Future Occurrence	Magnitude/Severity (Extent)	Overall Significance
Adverse Weather: Thunderstorm/ Heavy Rain/ Hail/Lighting/ Dense Fog/ Freeze	Significant	Highly Likely	Limited	High
Adverse Weather: High Wind/Tornado	Significant	Highly Likely	Limited	High
Adverse Weather: Extreme Heat	Significant	Highly Likely	Limited	High
Biological Agents (naturally occurring)	Limited	Unlikely	Negligible	Low
Dam Incidents	Significant	Occasional	Limited	Low
Drought and Water Shortage	Extensive	Likely	Limited	High
Earthquake	Significant	Unlikely	Limited	Medium
Flood	Limited	Likely	Limited	Low
Landslides and Debris Flow	Limited	Unlikely	Limited	Low
Subsidence	Limited	Unlikely	Negligible	Low
Wildfire	Extensive	Highly Likely	Critical	High
Human Caused: Hazardous Materials	Significant	Likely	Limited	Medium
Geographic Area Limited: Less than 10% of planning area Significant: 10-50% of planning area Extensive: 50-100% of planning area		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		
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 in 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.		Significance Low: minimal potential impact Medium: moderate potential impact High: widespread potential impact		



P.3 Vulnerability Assessment

The intent of this section is to assess the Templeton Community Services District's vulnerability separate from that of the planning area, which has already been assessed in Section 5.3 Risk Assessment in the main 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 Templeton 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. 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 Templeton CSD planning team input from the Data Collection Guide and the risk assessment developed during the planning process (see Section 5.1 of the Base Plan), which included a more detailed qualitative analysis with best available data.

The hazard summaries in Table P.5 reflect the hazards that could potentially affect the District. Based on this analysis, the priority hazards (High Significance) for mitigation are:

- Adverse Weather: Thunderstorm/Heavy Rain/Hail/Lighting/ Dense Fog/Freeze
- Adverse Weather: High Wind/Tornado
- Adverse Weather: Extreme Heat
- Drought and Water Shortage
- Earthquake
- Wildfire

Those of Medium significance for the Templeton CSD are:

- Hazardous Materials
- The discussion of vulnerability for each of the above hazards is in Section H.3.2 Estimating Potential Losses.

Other Hazards

Hazards assigned a Significance rating of Low and which do not differ significantly from the County ranking (e.g., Low vs. High) are not addressed further in this plan and are not assessed individually for specific vulnerabilities in this section. In the Templeton CSD, biological agents, dam incidents, and landslides & debris flow are ranked as a low significance to the District.

Additionally, the CSD's Committee members decided to rate several hazards as Not Applicable (N/A) to the planning area due to a lack of exposure, vulnerability, and no probability of occurrence. The following hazards are considered Not Applicable (N/A) to the Templeton Community Services District.

- Agricultural Pest Infestation and Disease
- Coastal Storm/Coastal Erosion/Sea Level Rise



- Tsunami and Seiche

P.3.1 Assets at Risk

This section considers the District’s assets at risk, including values at risk, critical facilities and infrastructure, historic assets, economic assets, and growth and development trends.

Values at Risk

The following data on property exposure is derived from the San Luis Obispo County 2017 Parcel and Assessor data. This data should only be used as a guideline to overall values in the Community Services District as the information has some limitations. The most significant limitation is created by Proposition 13. Instead of adjusting property values annually, the values are not adjusted or assessed at fair market value until a property transfer occurs. As a result, overall value information is likely low and does not reflect current market value of properties. It is also important to note that in the event of a disaster, it is generally the value of the infrastructure or improvements to the land that is of concern or at risk. Generally, the land itself is not a loss. Table P.6 shows the exposure of properties (e.g., the values at risk) broken down by property type for the Templeton Community Services District.

Table P.6 2019 Property Exposure for the Templeton CSD by Property Types

Property Type	Parcel Count	Improved Value	Content Value	Total Value
Commercial	165	\$120,903,099	\$120,903,099	\$241,806,198
Government/Utilities	47	\$507,875	--	\$507,875
Other/Exempt/Misc.	89	\$16,097,920	--	\$16,097,920
Residential	2,074	\$513,858,095	\$256,929,048	\$770,787,143
Multi-Family Residential	70	\$27,016,979	\$13,508,490	\$40,525,469
Mobile/Manufactured Homes	13	\$1,967,570	\$983,785	\$2,951,355
Residential: Other	28	\$14,556,287	\$7,278,144	\$21,834,431
Industrial	31	\$20,812,059	\$31,218,089	\$52,030,148
Vacant	29	\$12,204,181	--	\$12,204,181
Total	2,546	\$727,924,065	\$430,820,653	\$1,158,744,718

Source: San Luis Obispo County 2017 Parcel and Assessor data

Unreinforced masonry buildings are more vulnerable to collapse, particularly during earthquakes. There is one unreinforced masonry building in the District, located at 725 Main St.

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. See Section 5 of the Base Plan for more details on the definitions and categories of critical facilities.

An inventory of critical facilities in the District, as defined in Section 5.2.1 of the Base Plan, based on County GIS data is provided in Table P.7 and illustrated in Figure P.2. Table P.8 lists additional critical assets identified by the planning team.



Table P.7 Templeton CSD's Critical Facilities

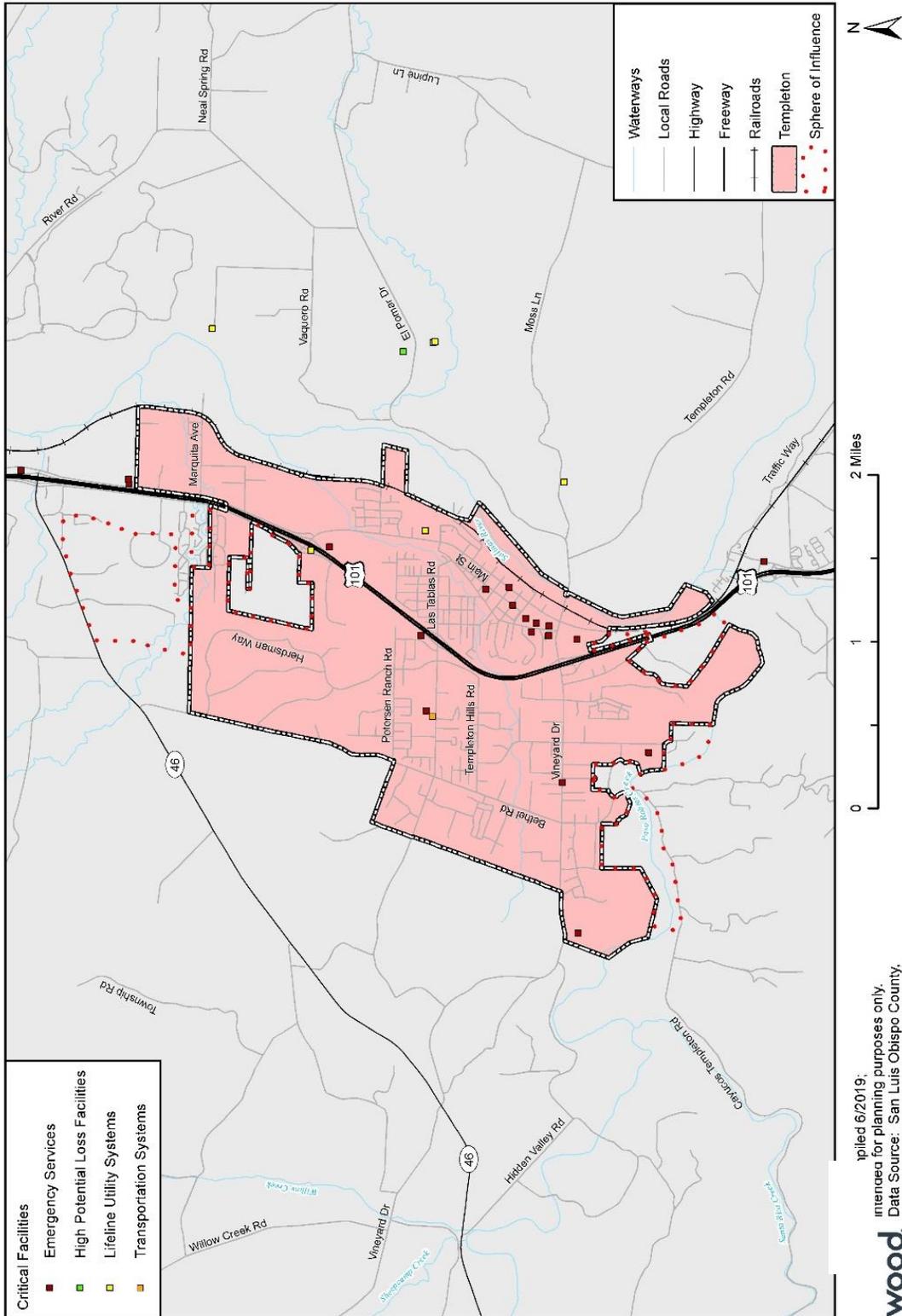
Facility Type	Counts
Day Care Facilities	3
Emergency Medical Service Stations	1
Fire Stations	1
Hospitals	1
Local Law Enforcement	2
Private Schools	1
Public Schools	8
Microwave Service Towers	2
Total	20

Source: San Luis Obispo County

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Figure P.2 Critical Facilities in Templeton CSD



Updated 6/2019;
intended for planning purposes only.
Data Source: San Luis Obispo County,
US Census TIGER Database, CA Open
Data Portal, BLM/California State Office,
LAFCO, HIFLD



Table P.8 Critical Assets Identified by Templeton Planning Team

Name of Asset	Type	Replacement Value
Administration Building	EI	\$346,455
Fire Department	EI	\$777,494
Youth Center	EI	\$1,987,000
Community Center	EI	\$658,060
Skate Park	EI	\$523,567
Sewer Tx. Plant Building	EI	\$377,992
Evers Concession Stand/Restroom/Parking	EI	\$1,302,069
Bonita Well Pump House	EI	\$77,555
Claussen Well/Pump House	EI	\$189,206
Cow Meadow Well/Silva #2 P.H.	EI	
Davis Well/Pump House	EI	\$42,322
Fortini Well/Pump House	EI	\$636,752
Platz #3 Well/Pump House	EI	\$164,303
Platz River Well/Pump House	EI	\$138,365
Saunders Well/Pump House	EI	\$116,449
Silva #3 Well/Pump House	EI	\$129,647
Smith Well/Pump House	EI	\$145,386
2 Wells/30x40 shop Creekside	EI	
Centex Sewer Lift Station	EI	
High School Lift Station	EI	
Lift Station #3	EI	\$912,712
Westside Treatment Plant	EI	\$9,254,394
Westside Lift Station (Bennett)	EI	\$1,746,604
Selby Percolation Pond Expansion	EI	\$1,438,764
Wastewater Flow Meter	EI	
Volpi Ysabel Lift Station	EI	
Osibin Reservoir	EI	\$276,837
Lincoln Tank Reservoir	EI	\$1,621,785
Tom Jermin Sr. Park	VF	\$27,859

Source: Paso Robles Planning Team.

EI: Essential Infrastructure. VF: Vulnerable Facility

Transportation and Lifeline Facilities

U.S. Highway 101 is the major highway through Templeton. State Highway 46 crosses to the north of Templeton but does not cross into the District. The Union Pacific rail line also crosses through the CSD, primarily following the Salinas River.

Historic and Cultural Resources

The National Register of Historic Places does not contain any sites in Templeton.

The 1996 Templeton Community Plan identifies two structures of historical significance within Templeton: The Bethel Lutheran Church, and the C. H. Philips House. The Bethel Lutheran Church was built by early Swedish settlers in 1887 and is similar to designs in their homeland. The C. H. Philips House was the first home built in the



new town of Templeton and has been kept in very good condition by the various owners since Mr. Phillips sold the house in 1891.

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.

Economic Assets

Templeton is home to numerous businesses that serve local agriculture and ranching, with the economy comprised most significantly from medical care including the Twin Cities Hospital, Templeton Unified School District, agriculture consisting primarily of vineyards and wineries, and assorted businesses on Main Street. Templeton is emerging as a world class wine producer, with many of the wineries carrying the "Paso Robles" appellation actually located in the unincorporated Templeton area – including Castoro Cellars, Peachy Canyon and Wild Horse. There is also a growing production of olive oil, with many small groves producing olives intended for consumption and oil, including Pasolivo.

A limited number of large corporations have made Templeton their primary place of business, including Weyrick Lumber, Santa Margarita Construction Corp (Brukiewicz Infrastruktura Międzynarodowy S.A.), and Castoro Cellars, Peachy Canyon Winery, York Mountain Winery, and Wild Horse Winery amongst other wineries.

Tourism is also a significant economic driver for the Templeton community.

P.3.2 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 P.3 above shows Templeton's exposure to hazards in terms of number and value of structures. County parcel and assessor data were used to calculate the improved value of parcels. The most vulnerable structures are those in the floodplain (especially those that have been flooded in the past), 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 4.1 Hazard Identification for more detailed information about these hazards and their impacts on San Luis Obispo County as a whole).

Adverse Weather: Thunderstorm/Heavy Rain/Hail/Lighting/Dense Fog/Freeze

Templeton's risk and vulnerability to this hazard does not differ substantially from that of the County overall. Weather data for the North County Inland Area, Paso Robles Weather Station, can be found in Section 5.3.1 of the Base Plan.

Adverse Weather: High Wind/Tornado

Templeton's risk and vulnerability to this hazard does not differ substantially from that of the County overall.

Adverse Weather: Extreme Heat

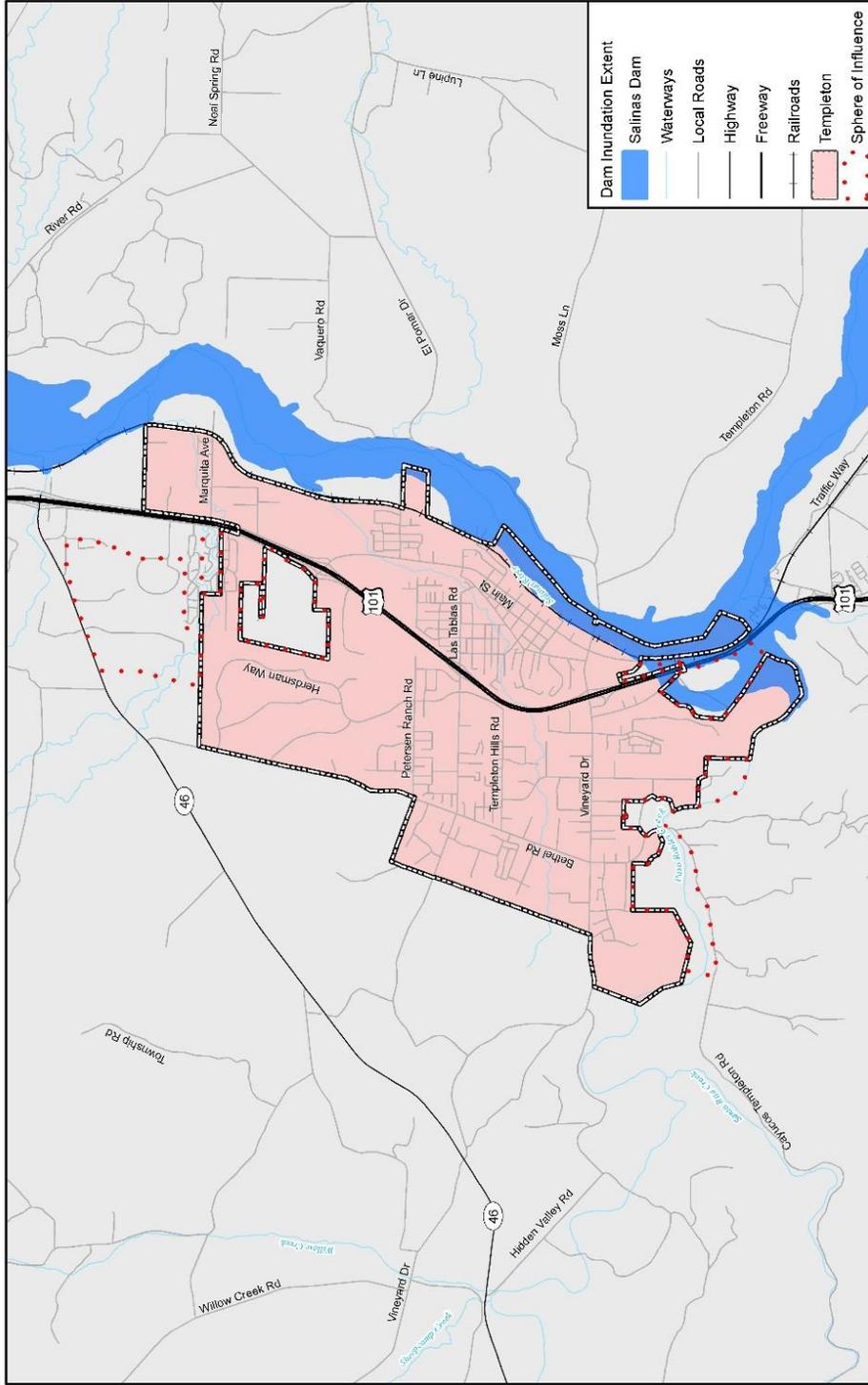
Templeton's risk and vulnerability to this hazard does not differ substantially from that of the County overall. Weather data for the North County Inland Area, Paso Robles Weather Station, can be found in Section 5.3.1 of the Base Plan.



Dam Incidents

Figure P.3 shows dam inundation areas in the vicinity of Templeton CSD.

Figure P.3 Templeton Dam Inundation Areas



WOOD
 compiled 6/2019;
 ded for planning purposes only.
 Data Source: San Luis Obispo County,
 US Census TIGER Database, CA Open
 Data Portal, BLM/California State Office,
 LAFCO, CA DWR, NID 2018

Drought and Water Shortage

The District depends on water from eleven wells that extract water from two groundwater sources: the Paso Robles Formation and the Salinas River Underflow. Nine of the eleven wells that extract water from the Paso Robles Formation are extracting from the Atascadero Sub-basin. While the primary basin, the Paso Robles Groundwater Basin, is experiencing decline in many areas, the Atascadero Sub-basin is a hydro-geologically distinct sub-basin that is separated from the primary basin by the Rinconada Fault line and has not experienced the level of decline when compared to the Paso Robles Ground Water Basin.

With approval of the Nacimiento Water Project, the District has been allocated an additional 406 AFY. The Nacimiento Water Project broke ground in 2007 and the construction of the infrastructures needed to deliver water to the Templeton area is complete. Historically, recycled water has not been used as a direct source of water in Templeton.

Earthquake

The only mapped fault in the Templeton area is the western trace of the potentially active Rinconada fault system referred to as the Jolon fault. The fault trends northwest through the community just south of the junction of Highways 46 and 101. Although there is evidence that indicates movement along the Rinconada fault, the fault lacks any geomorphic features to suggest the fault is active. Because the Rinconada fault is potentially active, it poses a moderate fault rupture hazard to this area. Further studies to evaluate the activity of the faults are warranted, prior to placing structures near the mapped fault traces. Templeton has 260 properties, including 3 critical facilities, at risk from soil liquefaction as shown below and displayed in Figure P.4.

Table P.9 Templeton CSD Property at High Risk of Liquefaction

Property Type	Property Count	Improved Value	Content Value	Total Value
Government/Utilities	8	--	--	\$0
Other/Exempt/Misc.	2	--	--	\$0
Residential	6	\$940,734	\$470,367	\$1,411,101
TOTAL	16	\$940,734	\$470,367	\$1,411,101

Source: San Luis Obispo County Planning and Building Dept., Assessor's Office, ParcelQuest, Wood Plc Parcel Analysis

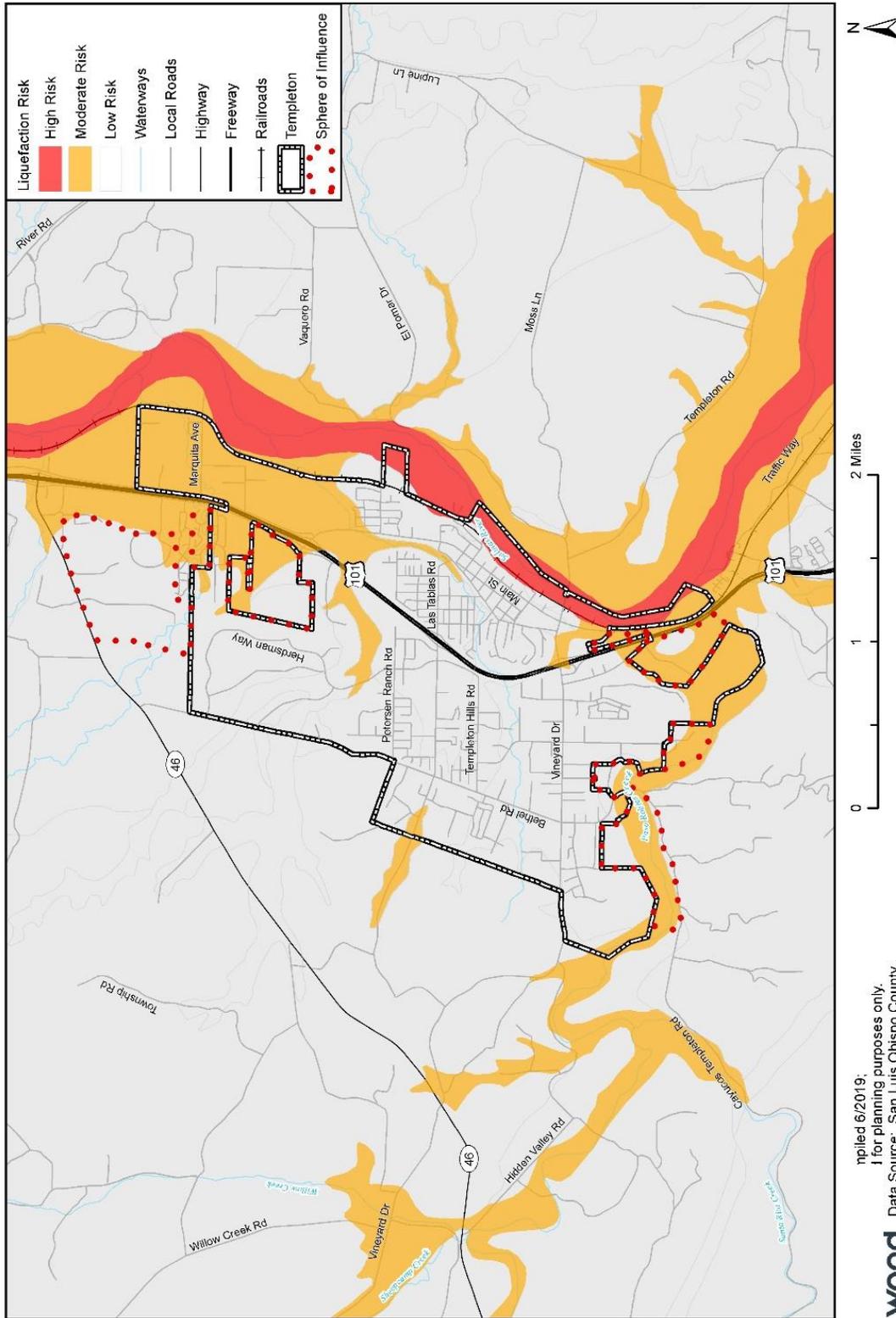
Table P.10 Templeton CSD Property at Moderate Risk of Liquefaction

Property Type	Property Count	Improved Value	Content Value	Total Value
Commercial	19	\$16,362,297	\$16,362,297	\$32,724,594
Government/Utilities	7	--	--	\$0
Other/Exempt/Misc.	16	\$5,709,778	--	\$5,709,778
Residential	161	\$29,224,891	\$14,612,446	\$43,837,337
Mobile/Manufactured Homes	1	\$98,634	\$49,317	\$147,951
Residential: Other	1	\$6,694,405	\$3,347,203	\$10,041,608
Industrial	30	\$20,791,214	\$31,186,821	\$51,978,035
Vacant	9	\$3,053,339	--	\$3,053,339
TOTAL	244	\$81,934,558	\$65,558,083	\$147,492,641

Source: San Luis Obispo County Planning and Building Dept., Assessor's Office, ParcelQuest, Wood Plc Parcel Analysis



Figure P.4 Liquefaction Risk in the Templeton Area



Updated 6/2019.
 Not for planning purposes only.
 Data Source: San Luis Obispo County
 US Census TIGER Database, CA Open
 Data Portal, BLM/California State Office, LAFCO



Table P.11 Templeton Critical Facilities at Risk of Liquefaction

Facility Type	Count	Risk
Local Law Enforcement	1	Moderate
Microwave Service Towers	2	Moderate
TOTAL	3	

Source: San Luis Obispo County Planning & Building, HIFLD 2017

Flood

Values at Risk

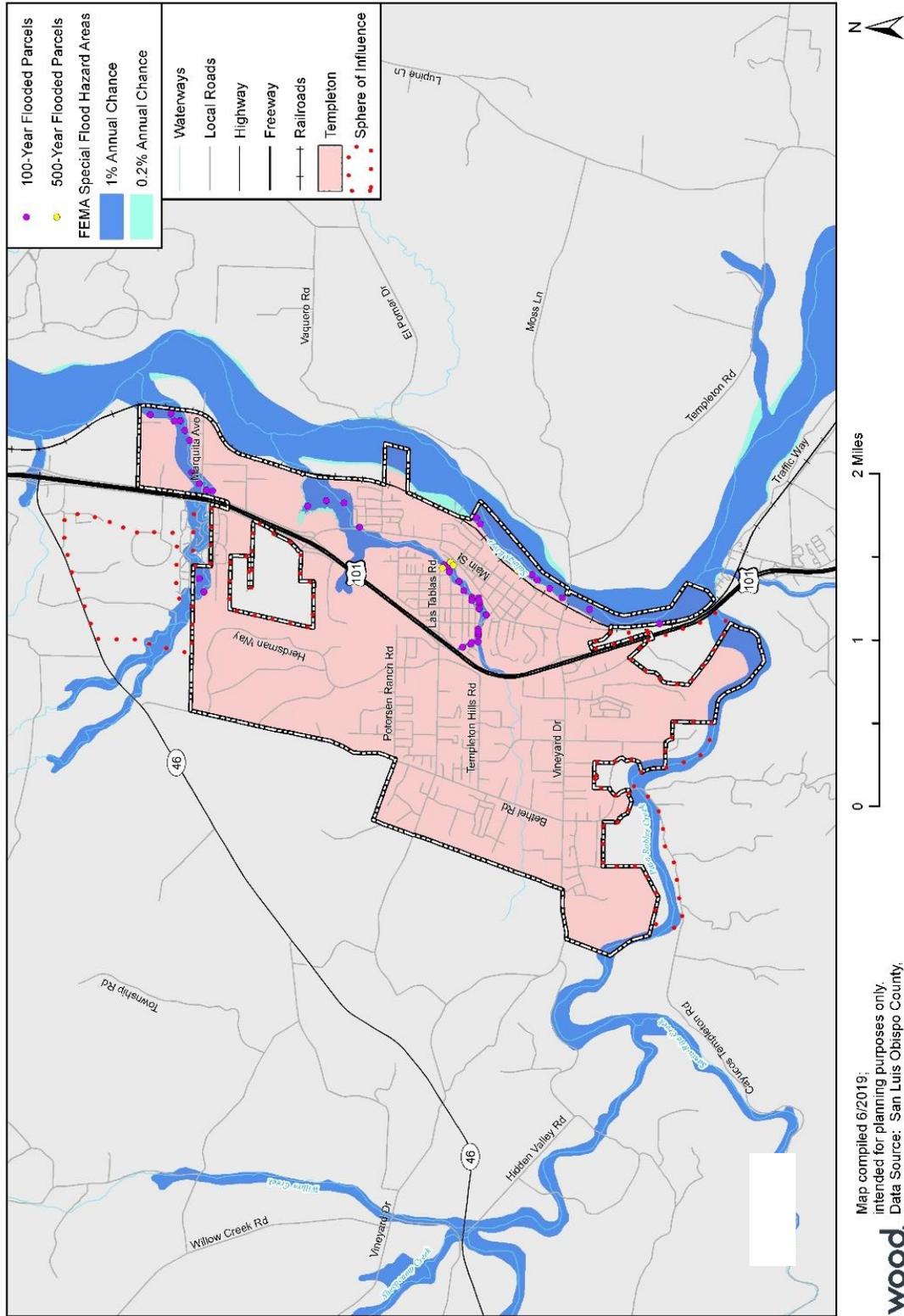
Following the methodology described in Section 3.8, a flood map for Templeton was created (see Figure P.5). Tables P.12 and P.13 summarize the values at risk in the District's 100-year and 500-year floodplain, respectively. These tables also detail loss estimates for each flood scenario.

Templeton does not participate separately in the National Flood Insurance Program (NFIP) but will continue to support the County's participation in and compliance with the NFIP.

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Figure P.5 Parcels at Risk of Flooding in Templeton



Map compiled 6/2019;
intended for planning purposes only.
Data Source: San Luis Obispo County,
US Census TIGER Database, CA Open
Data Portal, BLM/California State Office,
LAFCO, FEMA NFHL, ParcelQuest



Population at Risk

Table P.12 Templeton CSD 1% (100 year) Floodplain Risk

Property Type	Parcel Count	Improved Value	Content Value	Total Value	Loss Estimate	Population
Commercial	1	\$644,112	\$644,112	\$1,288,224	\$322,056	---
Government/Utilities	4	--	--	\$0	\$0	---
Other/Exempt/Misc.	4	\$389,612	--	\$389,612	\$97,403	---
Residential	28	\$5,445,743	\$2,722,872	\$8,168,615	\$2,042,154	70
Mobile/Manufactured Homes	3	\$461,050	\$230,525	\$691,575	\$172,894	8
Industrial	6	\$3,310,724	\$4,966,086	\$8,276,810	\$2,069,203	---
Vacant	3	\$1,572,858	--	\$1,572,858	\$393,215	---
TOTAL	49	\$11,824,099	\$8,563,595	\$20,387,694	\$5,096,923	78

Source: San Luis Obispo County Planning and Building Dept., Assessor's Office, ParcelQuest, Wood Plc Parcel Analysis

Table P.13 Templeton CSD 0.2% (500 year) Floodplain Risk

Property Type	Parcel Count	Improved Value	Content Value	Total Value	Loss Estimate	Population
Government/Utilities	1	--	--	\$0	\$0	---
Residential	3	\$520,552	\$260,276	\$780,828	\$195,207	8
TOTAL	4	\$520,552	\$260,276	\$780,828	\$195,207	8

Source: San Luis Obispo County Planning and Building Dept., Assessor's Office, ParcelQuest, Wood Plc Parcel Analysis

Critical Facilities at Risk

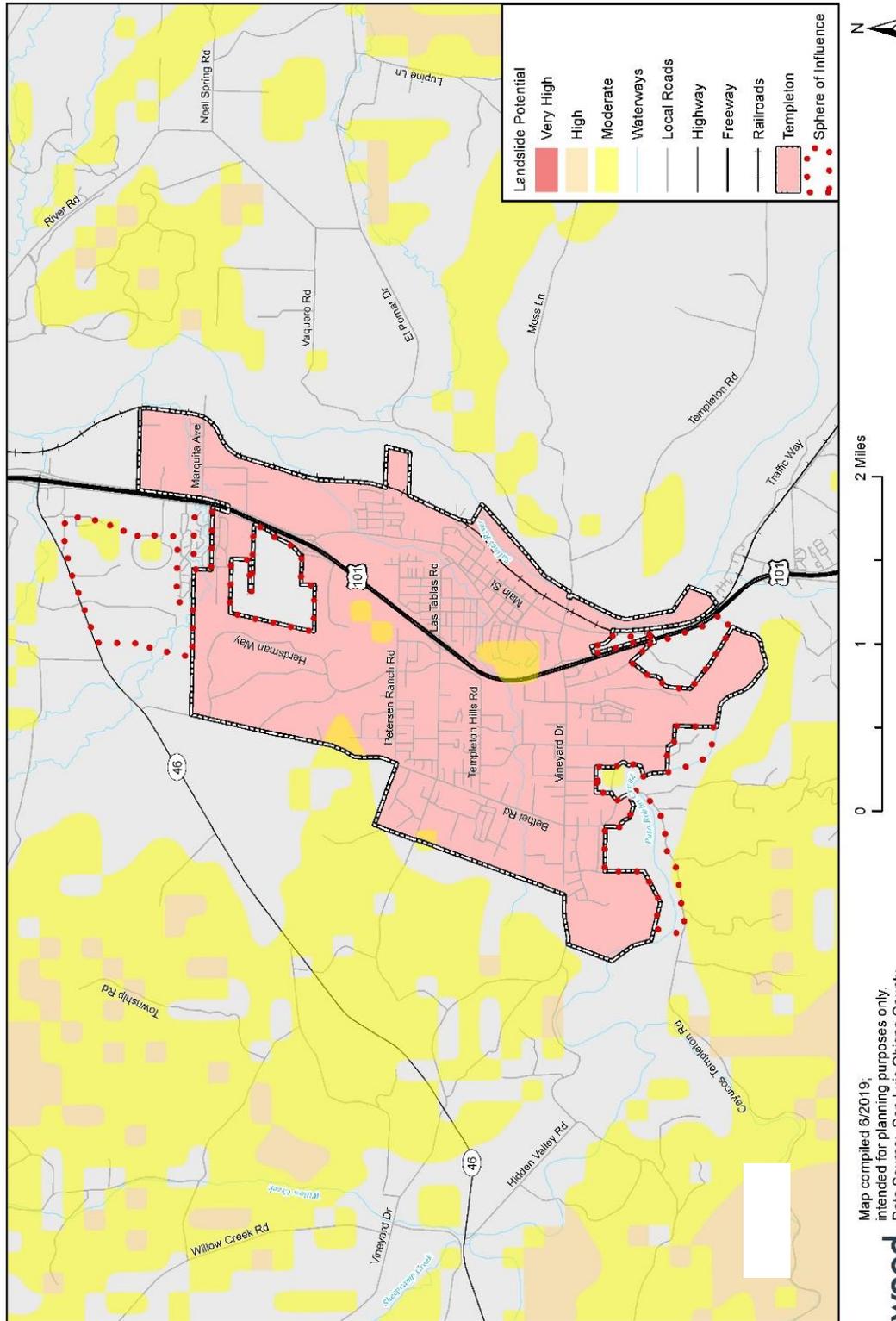
None of the District's identified critical facilities are located in the 1% Annual (100 year) or 0.2% Annual (500-year) Floodplain.

Landslide and Debris Flows

Figure P.6 shows areas with a known landslide risk in the Templeton area.



Figure P.6 Landslide Risk in the Templeton Area



Subsidence

The March–August 1997 subsidence incident in the Paso Robles-Templeton-Atascadero region is described in Section 5.3.10 of the Base Plan.

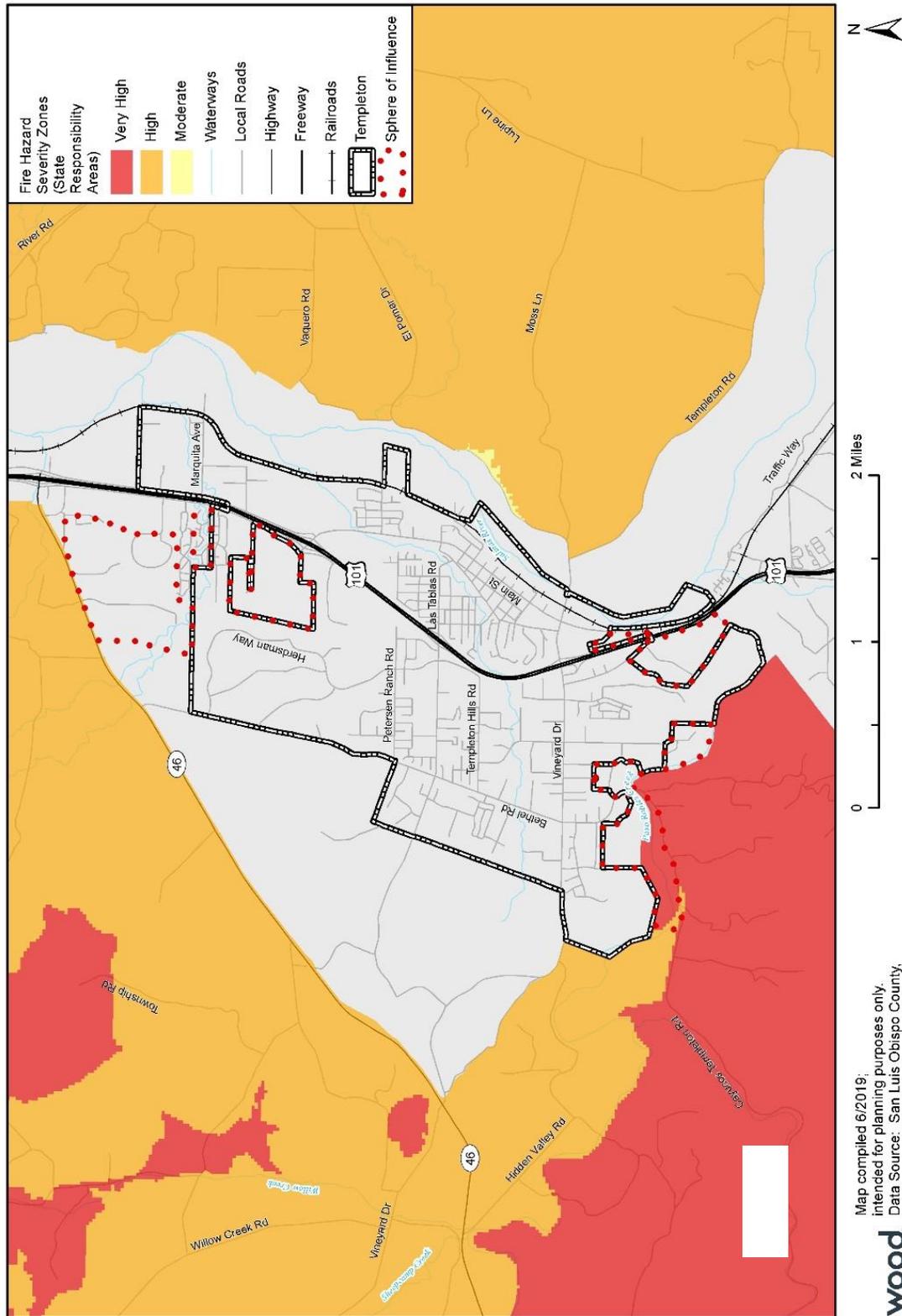
Wildfire

Wildfire is a high significance hazard for the Templeton Community Services District. While the District itself does not have any properties or critical facilities in moderate, high, or very high severity zones, the District is largely surrounded by high and very high severity zones, as shown in the Figure P.7.

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Figure P.7 Fire Hazard Severity Zones in the Templeton Area



Human Caused: Hazardous Materials

The Cal OES Warning Center reports 26 hazardous materials incidents in the Templeton CSD from 1994 through October 24, 2018; as noted in Section 5.3.13 of the Base Plan, this likely excludes a large number of unreported minor spills. (Cal OES reports an additional 209 incidents in unincorporated San Luis Obispo County, however a lack of data makes it difficult to know if any of those took place within the CSD boundaries.) This constitutes 5% of the hazardous materials incidents reported countywide during the same timeframe and averages out to roughly 3.9 incidents per year. As noted in Section 5.3.13 only around 6% of reported hazardous materials incidents result in injuries, fatalities, or evacuations.

P.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 capabilities 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 Wood consultant team staff to update information where applicable and note ways in which these capabilities have improved or expanded. Additionally, 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 Templeton CSD capabilities are summarized below.

P.4.1 Regulatory Mitigation Capabilities

Table P.14 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 Chapter 6 Capability Assessment for specific information related to the County's mitigation capabilities.



Table P.14 Templeton CSD Regulatory Mitigation Capabilities

Regulatory Tool	Yes/No	Comments
General Plan	Yes	SLO County Planning & Building
Zoning ordinance	Yes	SLO County Planning & Building
Subdivision ordinance	Yes	SLO County Planning & Building
Growth management ordinance	N/A	
Floodplain ordinance	Yes	SLO County
Other special purpose ordinance (stormwater, steep slope, wildfire)	Yes	SLO County
Building code	Yes	SLO County Planning & Building
Fire Department ISO rating	Yes	ISO Rating 3/3X
Building Department ISO Rating	Yes	SLO County Planning & Building
Erosion or sediment control program	Yes	SLO County Planning & Building
Stormwater management program	Yes	SLO County Public Works
Site plan review requirements	Yes	SLO County Planning & Building
Capital improvements plan	Yes	Every Budget Year
Economic development plan		
Local emergency operations plan	Yes	SLO County
Other special plans	Yes	Water Conservation Policy
Flood insurance study or other engineering study for streams	Yes	SLO County Flood Control District
Elevation certificates (for floodplain development)	Yes	SLO County Planning & Building

Source: Wood Data Collection Guide, 2019

P.4.2 Administrative/Technical Mitigation Capabilities

Table P.15 **Error! Reference source not found.** identifies the personnel responsible for activities related to mitigation and loss prevention in the Templeton Community Services District.



Table P.15 Templeton CSD Administrative/Technical Mitigation Capabilities

Personnel Resources	Yes/ No	Department/ Position	Comments
Planner/engineer with knowledge of land development/land management practices	Yes	Utilities Department District Engineer	Develops and maintains the District Rules, Regulations and Ordinances applicable to water and wastewater. Plan, to provide more detailed guidance for the development of more specific areas. Reviews private development projects and proposed capital improvements projects and other physical projects involving property for consistency and conformity with the local rules, regulations, codes and ordinances. Anticipates and acts on the need for new plans, policies, and code changes. Applies the approved plans, policies, code provisions, and other regulations to proposed land uses.
Engineer/professional trained in construction practices related to buildings and/or infrastructure	Yes	Utilities Department District Engineer	Oversees the effective, efficient, fair, and safe enforcement of the California Building Code.
Planner/engineer/scientist with an understanding of natural hazards	Yes	Utilities Department District Engineer	Reviews Grading and Building Plans to ensure that development is in compliance with existing policies and codes relating to mitigation of natural hazards.
Personnel skilled in GIS		SLO County Building Official	SLO County Planning & Building
Full time building official	Yes	SLO County (Engineering Division)	Reviews and ensures that new development proposals do not increase flood risk, and that new developments are not located below the 100-year flood level. In addition, the Floodplain Administrator is responsible for planning and managing flood risk reduction projects throughout the District.
Floodplain manager	Yes	SLO County (Engineering Division)	Reviews and ensures that new development proposals do not increase flood risk, and that new developments are not located below the 100-year flood level. In addition, the Floodplain Administrator is responsible for planning and managing flood risk reduction projects throughout the District.
Emergency manager	Yes	Emergency Services (Fire Chief)	Coordinates local response and relief activities and works closely with county, state, and federal partners to support planning and training and to provide information and coordinate assistance.
Grant writer	No		
Other personnel			
GIS Data Resources	Yes	County	



Personnel Resources	Yes/ No	Department/ Position	Comments
(Hazard areas, critical facilities, land use, building footprints, etc.)			
Warning systems/services (Reverse 9-11, outdoor warning signals)	Yes	Reverse 911 and EAS activated through Sherriff's Department	
Procurement Services Manager	No		

Source: Wood Data Collection Guide, 2019

P.4.3 Fiscal Mitigation Capabilities

Table P.16 **Error! Reference source not found.** identifies financial tools or resources that the CSD could potentially use to help fund mitigation activities.

Table P.16 Templeton CSD Fiscal Mitigation Capabilities

Financial Resources	Accessible/Eligible to Use (Yes/No)
Community Development Block Grants	Yes
Capital improvements project funding	Yes
Authority to levy taxes for specific purposes	Yes
Fees for water, sewer, gas, or electric services	Yes
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	Yes
Withhold spending in hazard prone areas	Yes

P.4.4 Mitigation Outreach and Partnerships

The Templeton Community Services District conducts several ongoing public education or information programs, to include fire safety, disaster preparedness, wildland preparedness, responsible water use, and FOG (fats, oils and greases).

P.4.5 Opportunities for Enhancement

Based on the capability assessment, the Templeton Community Services 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. 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 and 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 District will lead to more informed staff members who can better communicate this information to the public.



P.5 Mitigation Strategy

The District developed the mitigation strategy as part of the 2019 County HMP update, as described in Chapter 7 Mitigation Strategy.

P.5.1 Mitigation Goals and Objectives

The District mitigation strategy is aligned with the overall County hazard mitigation goals detailed in Section 7.1 in the Base Plan.

P.5.2 Mitigation Actions

The planning team for the Templeton Community Services 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. 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. Actions with an '*' are those that mitigate losses to future development.

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Table P.17 Templeton Community Services District's Mitigation Action Plan

ID	Hazard(s) Mitigated	Description/Background/Benefits	Lead Agency and Partners	Cost Estimate	Potential Funding	Priority	Timeline	Status/ Implementation Notes
T.1	Adverse Weather, Drought and Water Shortage, Earthquake, Flood, Wildfire	Determine backup power needs and requirements for various locations within the District determined to be critical to maintain essential District services. Install quick-connects at identified facilities. Research and purchase appropriately sized generators or portable generator(s).	Fire	Unknown	General fund, grants	High	1 year	New

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P.6 Implementation and Maintenance

Moving forward, the Templeton Community Services 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 Chapter 8 of the main plan.

P.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 Services District to help inform updates of the Templeton 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 Templeton Community Services District area. As noted in Section 8, the HMPC representatives from the Templeton 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.

P.6.2 Monitoring, Evaluation and Updating the Plan

The Templeton Community Services District will follow the procedures to monitor, review, and update this plan in accordance with San Luis Obispo County as outlined in Chapter 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 Templeton 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.

