2024

Orange County Water and Wastewater Multi-Jurisdictional Hazard Mitigation Plan

Annex G: Laguna Beach County Water District

WATER EMERGENCY RESPONSE ORGANIZATION OF ORANGE COUNTY
WEROC

Contents

Exhibits

LAGUNA BEACH COUNTY WATER DISTRICT ANNEX

Laguna Beach County Water District (LBCWD) is a participant (Member Agency [MA]) in the Orange County Water and Wastewater Multi-Jurisdictional Hazard Mitigation Plan (MJHMP). As a participant MA, LBCWD representatives were part of the HMP planning process and served on the planning team responsible for the plan update; refer to **Section 2** of the MJHMP. The base plan, including the MJHMP procedural requirements and planning process apply to LBCWD.

This annex details the hazard mitigation planning elements specific to LBCWD and describes how LBCWD's risks vary from the planning area. This annex is not intended to be a standalone document but supplements the information contained in the base plan. All sections of the MJHMP, including the planning process and other procedural requirements, apply to and were met by LBCWD. The base plan treats the entire county as the planning area and identifies which MAs are subject to a profiled hazard. The purpose of this annex is to provide additional information specific to LBCWD with a focus on the risk assessment and mitigation strategies.

G.1 HAZARD MITIGATION PLAN POINT OF CONTACT AND DEVELOPMENT TEAM

The representative listed in **Exhibit G-1** lead the LBCWD planning team, attended meetings, and coordinated the hazard mitigation planning efforts with LBCWD staff and the consultant team supporting the effort.

Exhibit G-1. Planning Team Lead

Primary Point of Contact
Name: Leo Lopez
Title: Risk and Resiliency Officer
Telephone: (949)494-1041
Email: llopez@lbcwd.org

LBCWD followed the planning process detailed in **Section 2** and formed an internal team to support and provide information for the plan update. The following staff served as LBCWD's internal hazard mitigation planning development team.

Exhibit G-2. Internal Hazard Mitigation Planning Development Team

Name	Title
Chris Regan	Assistant General Manager

Outreach to the public within LBCWD's service area was performed to ensure residents could access information on this planning effort. To reach the largest number of people possible, LBCWD published a webpage with information on the MJHMP process. Additionally, a new post was released on their news webpage.

G.2 JURISDICTION PROFILE

Service Population: 19,820

Laguna Beach is well known as a unique beach community and artist's colony. LBCWD provides water services to 19,820 people within an 8.5 square mile area, including portions of the City of Laguna Beach, a portion of Crystal Cove State Park, and the community of Emerald Bay. LBCWD serves approximately 3,800-acre feet of water annually to its 8,488 customers. There are 21 water storage reservoirs with a total storage capacity of 33.5 million gallons. LBCWD staff operates and maintains 36 pumps in 11 pumping stations and 135 miles of distribution pipelines ranging in diameter from 4 to 16 inches.

The area's sewer and storm drain services are managed by the Water Quality Department of the City of Laguna Beach. The department is organized into two divisions: Wastewater and Water Quality. Wastewater is responsible for maintaining 95 miles of sewer lines, 26 pump stations and the four-mile North Coast Interceptor that transmits sewage to the regional treatment plant operated by SOCWA. Water Quality is a new division formed to implement the water quality permit approved by the San Diego Regional Water Quality Control Board in 2002. The new permit identifies multiple tasks cities and counties must complete to comply with the permit and reduce water pollution.

G.3 HAZARDS

This section is intended to profile the hazards and assess the vulnerabilities that LBCWD faces, distinct from that of the county-wide planning area. The hazard profiles in the MJHMP discuss overall impacts to the planning area and describes the hazard problem description, hazard extent, magnitude/severity, previous occurrences of hazard events and the likelihood of future occurrences. For more information on risk assessment methodologies, see **Section 3**.

LBCWD's service area is subject to most of the other hazards identified for the planning area. Many of these hazards are dispersed and may affect the entire region, including power outages, drought, seismic shaking, and windstorms. Based on the risk assessment, the LBCWD development team discussed which hazards should or should not be profiled in the base plan. This discussion resulted in the identification of the following hazards that affect LBCWD and summarized their probability of future occurrence, level of impact and significance as outlined in **Exhibit G-3.** Detailed hazard profiles for the planning area are provided in **Section 3** of the primary plan.

Exhibit G-3. LBCWD Hazard Identification

Hazard Type	Occurrence Probability*	Affected Area*	Base Impact*	Secondary Impact*	Hazard Planning Consideration*	Significance to LBCWD
Human-Caused Hazards: Power Outage	Highly Likely	Medium	Catastrophic	High	High	High
Wildfire	Highly Likely	Medium	Critical	High	High	High
Human-Caused Hazards: Terrorism (Cyber Threat)	Highly Likely	Medium	Critical	Limited	High	High
Seismic Hazards – Seismic Shaking	Likely	Medium	Catastrophic	High	High	High
Seismic Hazards –Seismic Liquefaction	Likely	Medium	Catastrophic	High	High	Medium
Severe Weather – Windstorm	Highly Likely	Large	Limited	Negligible	Medium	High
Severe Weather – Extreme Heat	Likely	Medium	Critical	Moderate	Medium	Low
Severe Weather – Drought	Highly Likely	Large	Negligible	Negligible	Medium	High
Dam/Reservoir Failure	Somewhat Likely	Medium	Catastrophic	High	Medium	N/A
Flood	Likely	Medium	Limited	Negligible	Medium	Medium
Coastal Hazards – Coastal Storms	Likely	Small	Limited	Limited	Medium	Medium
Coastal Hazards – Coastal Erosion	Likely	Isolated	Limited	Limited	Medium	Medium
Seismic Hazards – Fault Rupture	Somewhat Likely	Isolated	Catastrophic	Limited	Medium	Low
Geological Hazards –Landslide and Mudflow	Somewhat Likely	Small	Limited	Moderate	Medium	High
Coastal Hazards – Sea Level Rise	Likely	Isolated	Limited	Negligible	Medium	Medium
Human-Caused Hazards – Contamination/ Saltwater Intrusion	Unlikely	Small	Critical	High	Low	Medium
Human-Caused Hazards – Terrorism (MCI)	Unlikely	Isolated	Critical	Moderate	Low	Low
Human-Caused Hazards – Hazardous Materials	Unlikely	Isolated	Limited	Moderate	Low	Low
Urban Fire	Unlikely	Isolated	Limited	Negligible	Low	Low
Geological Hazards – Land Subsidence	Unlikely	Isolated	Negligible	Limited	Low	N/A
Geological Hazards – Expansive Soils	Unlikely	Isolated	Negligible	Limited	Low	N/A
Coastal Hazards – Tsunami	Unlikely	Isolated	Negligible	Negligible	Low	Low

**The values within these columns are representative of the entire planning area of Orange County and are not narrowed down to LBCWD's service area.*

Geographic Affected Area	Significance
▪ Isolated: Less than 10% of planning area ▪ Small: 10-30% of planning area ▪ Medium: 30-60% of planning area ▪ Large: 60-100% of planning area	▪ Low: Minimal potential impact ▪ Medium: Moderate potential impact ▪ High: Widespread potential impact
Probability of Future Occurrences	**Magnitude/Severity**
▪ 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	▪ Catastrophic: More than 50% of property severely damaged; shutdown of facilities for more than 30 days; and/or multiple deaths. ▪ Critical: 25-50% 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% of property severely damaged; shutdown of facilities for more than a week; and/or injuries/illnesses treatable; does not result in permanent disability. ▪ Negligible: Less than 10% of property severely damaged, shutdown of facilities and services for less than 24 hours; and/or injuries/illnesses treatable with first aid

The FEMA Local Mitigation Planning Handbook requires each agency to identify the magnitude/severity of each hazard to their infrastructure. The identification of hazards provided in **Exhibit G-3** is highly dependent on the location of facilities within each agency's jurisdiction and takes into consideration the history of the hazard and associated damage (if any), information provided by agencies specializing in a specific hazard (e.g., FEMA, California Geological Survey), and relies upon each agency's expertise and knowledge. The table was created with input from the Water Emergency Response Organization of Orange County (WEROC), consultant staff, and LBCWD.

G.4 HAZARD MAPS

The following maps show the location of hazard zones within the jurisdiction relative to potable water systems, as applicable.

Exhibit G-4. Fire Hazard and LBCWD Potable Water Infrastructure

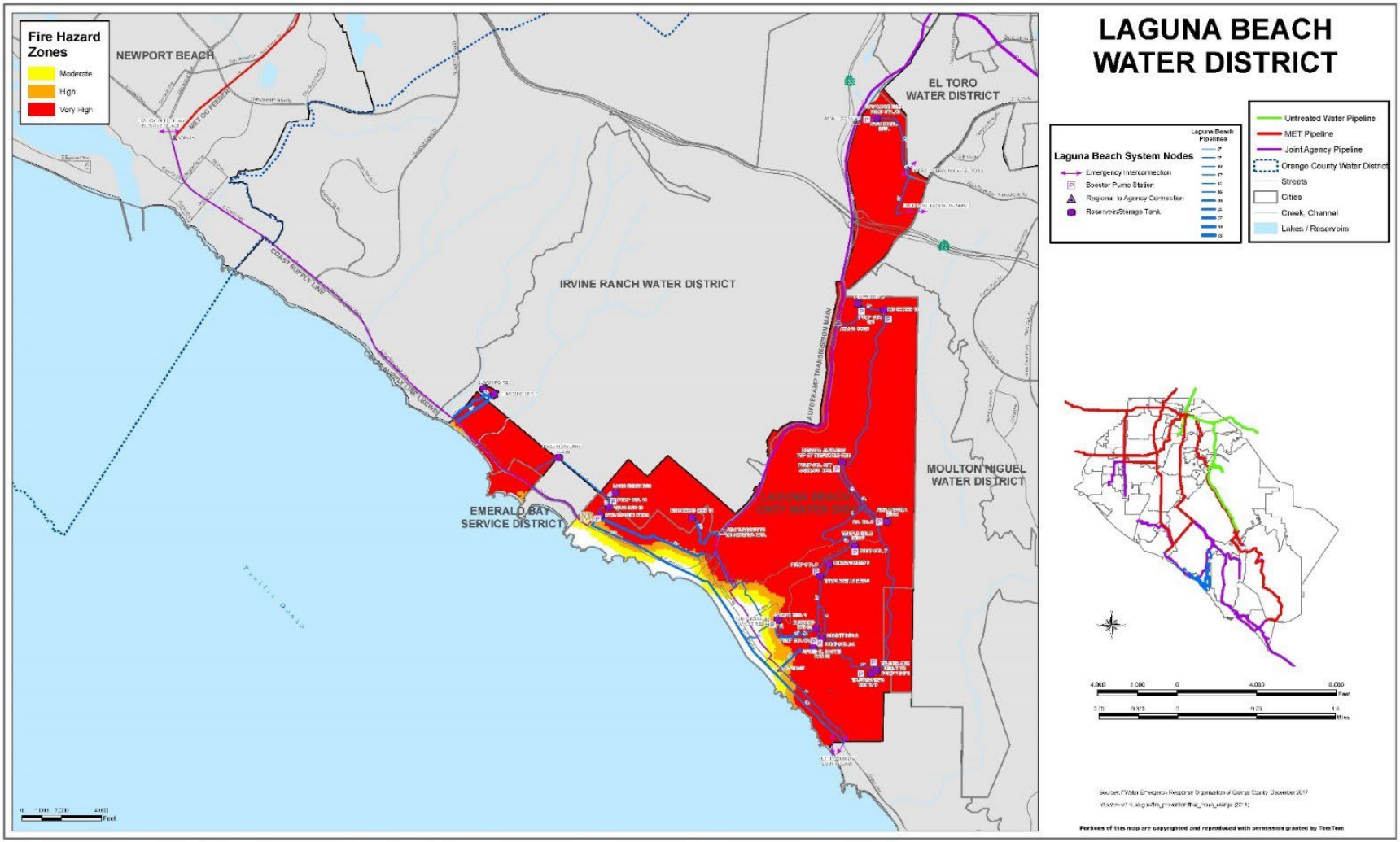


Exhibit G-5. Flood Hazard and LBCWD Potable Water Infrastructure

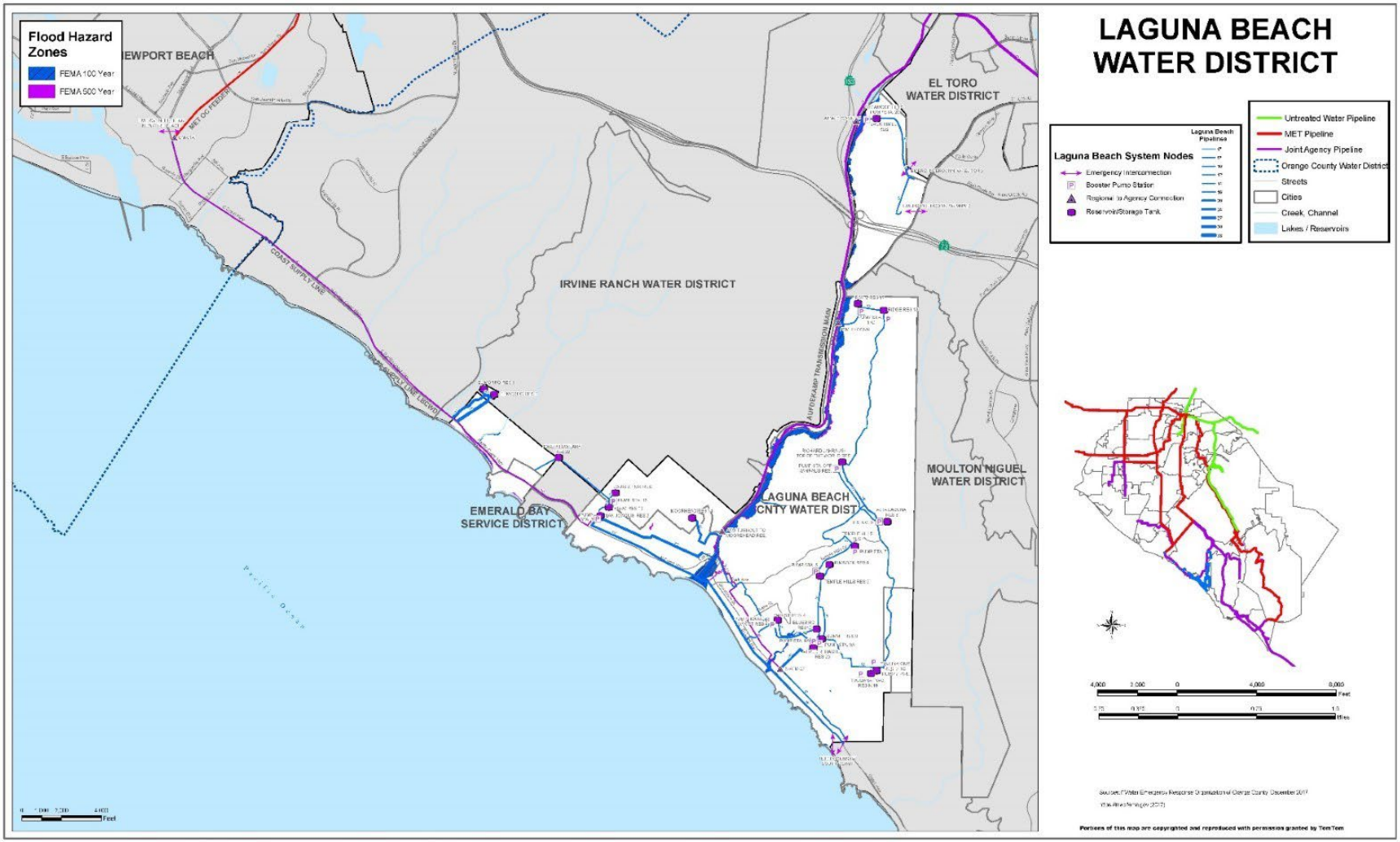


Exhibit G-6. Seismic Shaking Hazard and LBCWD Potable Water Infrastructure

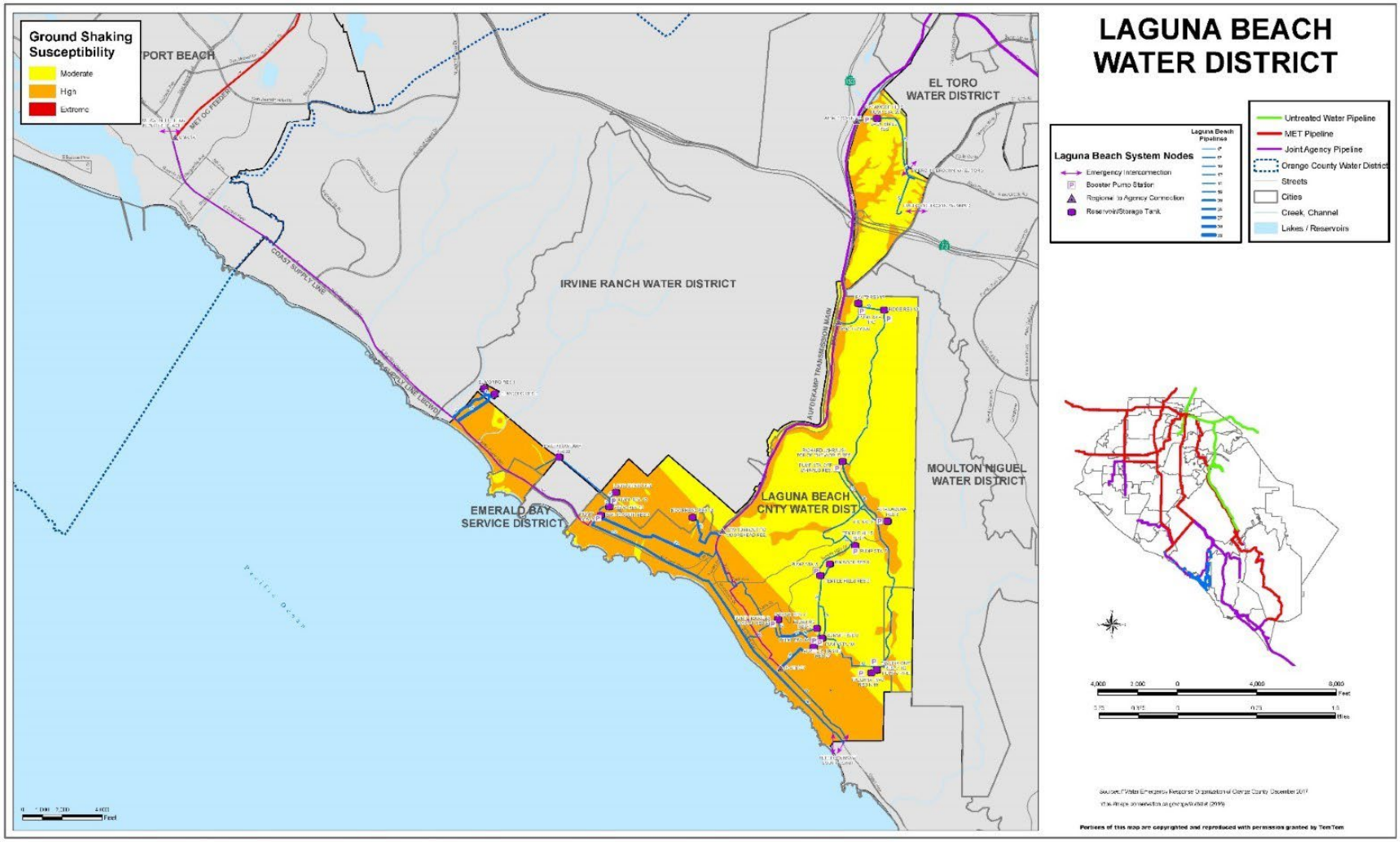


Exhibit G-7. Liquefaction Hazard and LBCWD Potable Water Infrastructure

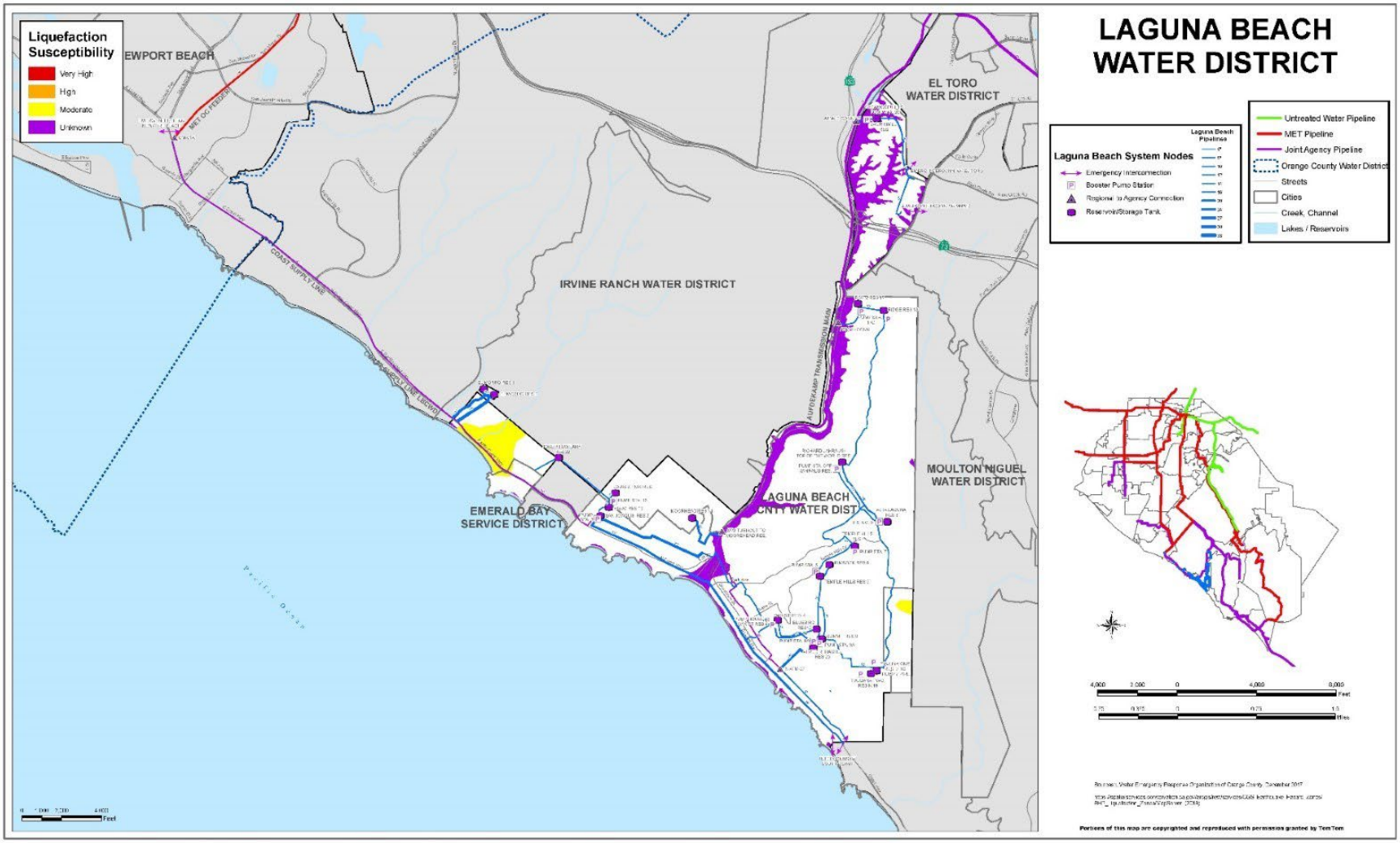


Exhibit G-8. Landslide Hazard and LBCWD Potable Water Infrastructure

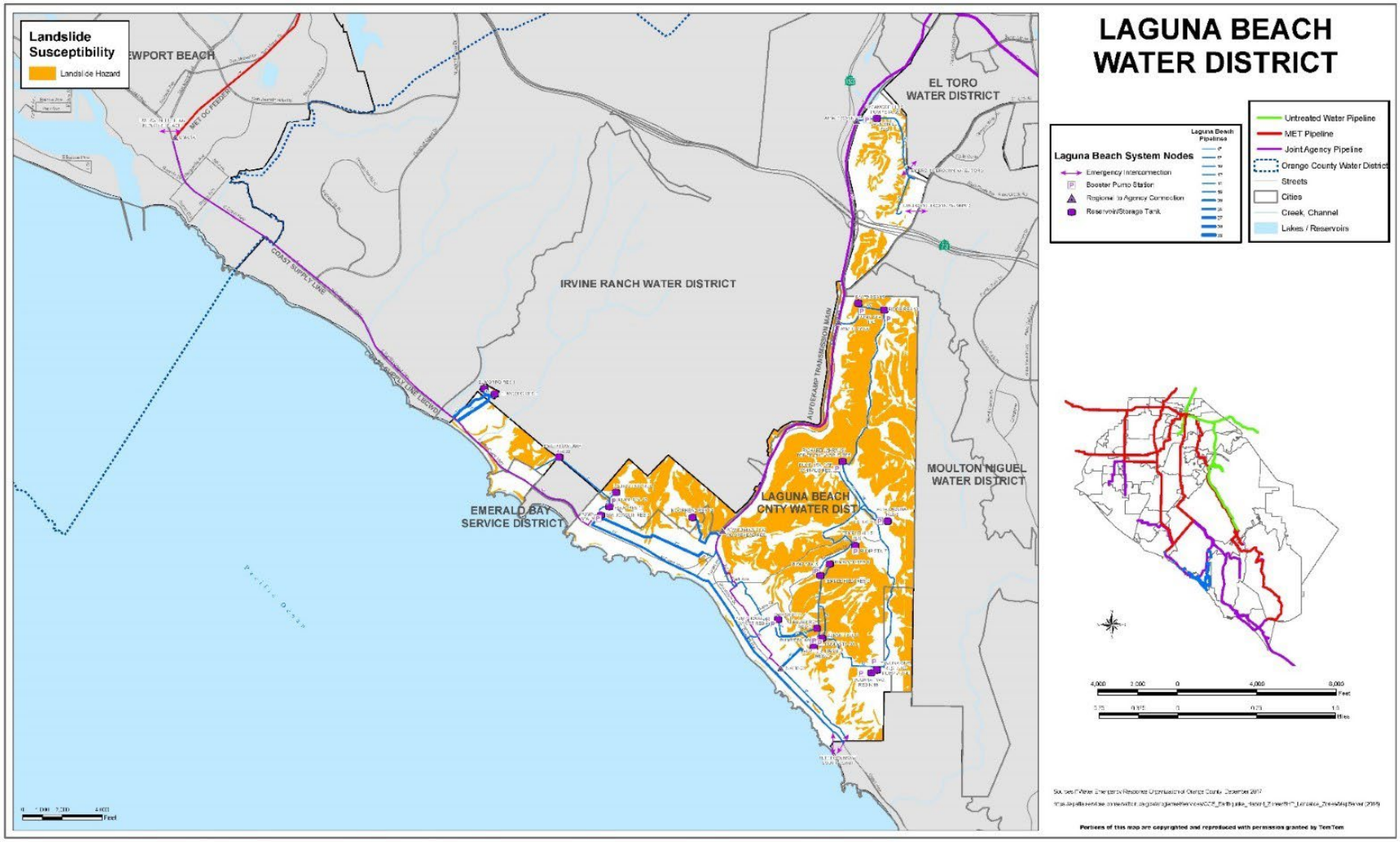
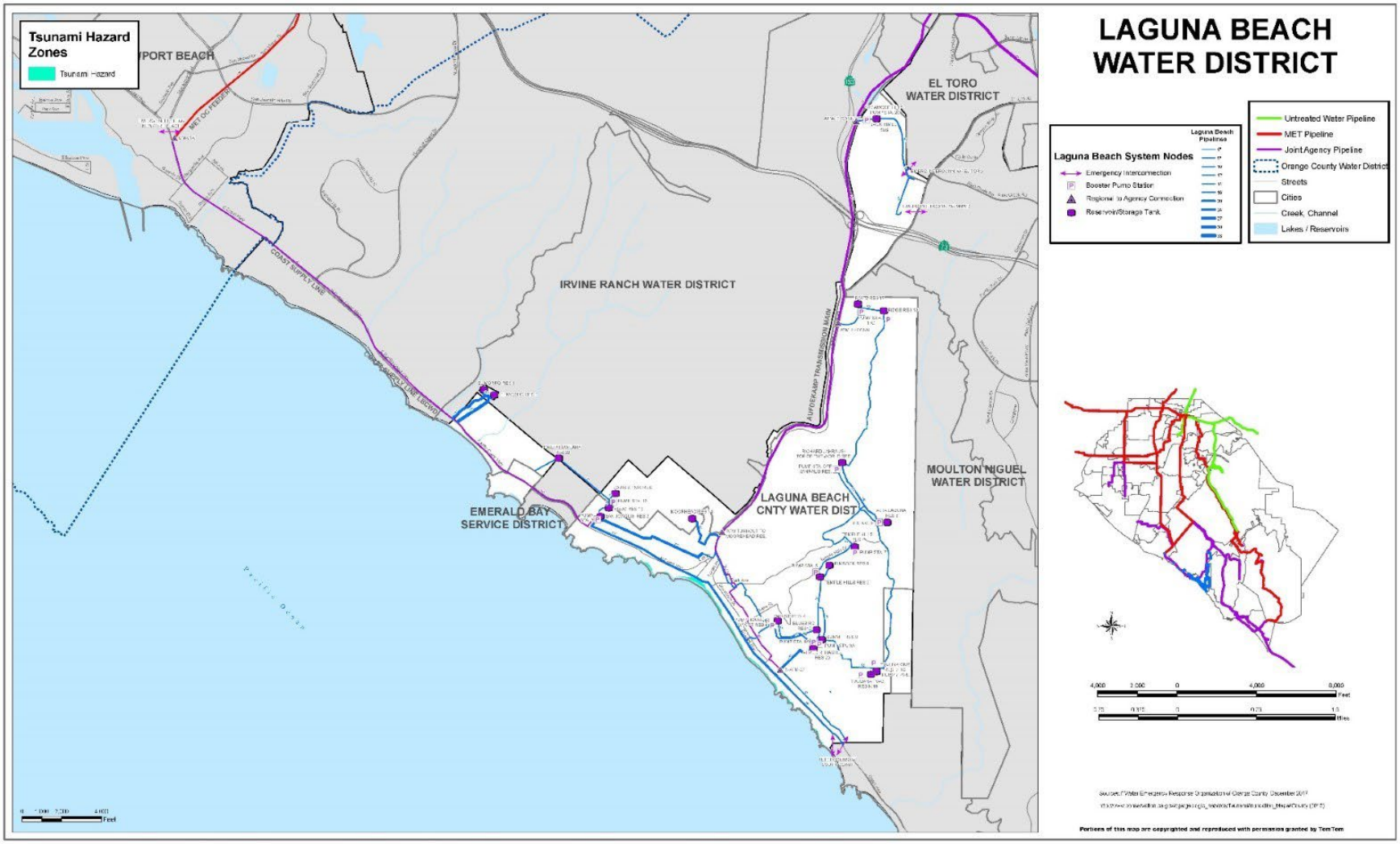


Exhibit G-9. Tsunami Hazard and LBCWD Potable Water Infrastructure



G.5 VULNERABILITY AND RISK ASSESSMENT

Assessing vulnerabilities shows the unique characteristics of individual hazards and begins the process of narrowing down locations within LBCWD's service area that are vulnerable to specific hazard events. The vulnerability assessment considered unique local knowledge of hazards and impacts and a GIS overlaying method for examining such vulnerabilities more in depth. Using these methods vulnerable populations, infrastructure, and potential losses from hazards can be estimated.

Assets Susceptible to Hazard Events

LBCWD's infrastructure is outlined in **Exhibit G-10**, which lists the number infrastructure assets are located within the mapped hazard zones identified above.

Exhibit G-10. LBCWD Infrastructure and Exposure to Hazards

Hazard		Infrastructure Type						
		Interties (#)	Pump Stations (#)	Treatment Plants (#)	Reservoirs (#)	Wells (#)	Potable Pipelines (miles)	Helo Pad (#)
Fire Hazard Zone	Moderate	1	1	0	2	0	1.1	0
	High	0	1	0	2	0	1.7	0
	Very High	0	3	0	3	0	14.8	0
FEMA Flood Zone	100-Year	0	1	0	0	0	0.5	0
	500-Year	1	0	0	0	0	0.1	0
Alquist-Priolo Rupture Zone		0	0	0	0	0	0	0
Seismic Shaking	Moderate	0	7	0	0	0	7.4	0
	High	13	12	1	3	10	11.8	1
	Extreme	0	0	0	0	0	0	0
Liquefaction	Moderate	0	1	1	1	5	0	0
	High	4	1	0	0	5	0	0
	Very High	0	0	0	0	0	0	0
	Unknown	0	0	0	0	0	1.0	0
Landslide Zone		0	2	0	0	0	3.0	0
Tsunami Zone		0	14	0	0	0	0	2

Much of LBCWD's potable pipelines are located within areas identified as very high fire hazard zones. Several interties, pump stations, reservoirs, and wells, as well as a treatment plant are in areas susceptible to a high amount of seismic shaking and liquefaction. Additionally, LBCWD does not contain infrastructure or pipelines in the Alquist-Priolo Rupture Zone.

Changes in Land Use and Development

LBCWD serves portions of the City of Laguna Beach, a portion of Crystal Cove State Park, and the community of Emerald Bay. These communities served by LBCWD are built out with the majority of land used for residential neighborhoods and commercial areas. Open land within LBCWD's service area consists of steep terrain and protected natural areas where development is unlikely to occur. Due to the limited availability for development within the LBCWD service area there is some increase in demand expected, but only by approximately 200-300 gallons per day (gpd). To ensure LBCWD is able to meet current and future demands, various projects have been performed and are

planned throughout the LBCWD system. One of the largest projects LBCWD is committed to is the advancement of the Doheny Desalination Plant that will allow partnering water agencies to use the ocean's salt water as a source of potable water.

Vulnerabilities Associated with Climate Change

Hazard	Climate Change Vulnerabilities
Hazards of High Concern	
Geological Hazards: Landslide and Mudflow	Climate change could indirectly affect the conditions for landslides across LBCWD's service area as increased precipitation and storm intensities may cause more moisture-induced landslides.
Human-Caused Hazard: Power Outage	Climate change will likely increase LBCWD's vulnerability to power outages as local electric companies implement protocols such as rolling blackouts or targeted shutoffs that may impact LBCWD facilities.
Human-Caused Hazards: Terrorism (Cyber Threat)	Connections between climate change and cyber based terrorism have not been identified.
Seismic Hazards: Seismic Shaking	Climate change is not expected to cause any changes to the frequency or intensity of seismic shaking occurring within LBCWD's service area.
Severe Weather: Drought	Droughts are expected to increase in length and frequency due to climate change and impact LBCWD as described in the base plan.
Severe Weather: Windstorm	The challenges to LBCWD from climate change's impacts on Windstorms is expected to follow the impacts described in the base plan.
Wildfire	Climate change is expected to cause an increase wildfires within the entire LBCWD service area due to the high wildland coverage and Laguna Coast Wilderness Park directly to the west.
Hazards of Medium Concern	
Coastal Hazards: Coastal Erosion	The anticipated impacts associated with coastal erosion to LBCWD's service area from climate change will mirror the impacts discussed in the base plan.
Coastal Hazards: Coastal Storms	The anticipated impacts associated with coastal storms to LBCWD's service area from climate change will mirror the impacts discussed in the base plan.
Coastal Hazards: Sea Level Rise	The anticipated impacts to vulnerability to sea level rise for LBCWD from climate change will mirror the impacts discussed in the base plan.
Flood	Climate change is expected to cause some higher-level flood waters within LBCWD along the Laguna Canyon Road with the 100-year flooding events potentially expanding into the 500-year flood zones on a more frequent basis.
Human-Caused Hazards: Contamination/ Saltwater Intrusion	Changes in contamination and saltwater intrusion vulnerability due to climate change are expected to follow the changes outlined in the base plan.
Seismic Hazards: Seismic Liquefaction	Climate change is anticipated to impact liquefaction potential within the LBCWD service area as periods of both intense rain and drought could potentially increase or decrease groundwater elevations affecting the risk of liquefaction, depending on the circumstances.
Hazards of Low Concern	
Coastal Hazards: Tsunami	LBCWD's vulnerability to tsunamis is not expected to change due to climate change.
Human-Caused Hazards: Terrorism (MCI)	Climate change has no direct link to human-caused hazards and is expected to follow the impacts described in the base plan.

Hazard	Climate Change Vulnerabilities
Human-Caused Hazards: Hazardous Materials	Climate change has the potential of increasing hazardous materials releases resulting from transportation crashes or damage to storage vessels.
Seismic Hazards: Fault Rupture	There are no expected changes to the frequency or intensity of fault ruptures occurring within LBCWD's service area as a result of climate change.
Severe Weather: Extreme Heat	Temperatures are expected to increase due to climate change and impact LBCWD's service area as described in the base plan.
Urban Fire	There is no anticipated impact to how climate change could influence the ignition or behavior of urban fires.

G.6 CAPABILITIES ASSESSMENT

The capabilities assessment is designed to identify existing local agencies, personnel, planning tools, public policy and programs, technology, and funds that have the capability to support hazard mitigation activities and strategies outlined in this MJHMP. LBCWD's internal development team revised the capabilities identified in the 2019 plan and collaborated to identify current local capabilities and mechanisms available to the MA for reducing damage from future hazard events. **Exhibits G-11a through G-11d** assess the authorities, policies, programs, and resources that the jurisdiction has in place that are available to help with the long-term reduction of risk through mitigation. These capabilities include planning and regulatory tools, administrative and technical resources, financial resources, and education and outreach programs. LBCWD has the ability to expand on and improve existing emergency management policies and programs to implement mitigation programs. In some instances, methods of expansion and improvement have been identified within a specific capability, while a majority of these capabilities are anticipated to be expanded and improved upon through additional projects/initiatives underway by the Agency. These have been included at the bottom of each table.

Exhibit G-11a. Planning and Regulatory Capabilities Summary

Ordinance, Plan, Policy, Program	Responsible Agency or Department	Description/Comments
Building Code	Engineering Department, LBCWD	LBCWD complies with applicable building codes and works with cities located within the service area. **Expansion and Improvement:** As retrofits and replacement projects are identified LBCWD will anticipate meeting or exceeding the latest building codes to ensure greater resilience is incorporated into their infrastructure.
Zoning Ordinance	Cities within the LBCWD jurisdiction.	LBCWD complies with applicable zoning codes and works with cities located within the service area.
Subdivision Ordinance or Regulations	City/County	LBCWD complies with applicable subdivision ordinance or regulations and works with cities located within the service area.
Special Purpose Ordinance	City/County	LBCWD complies with applicable special purpose ordinances and works with the cities located within the service area.
Growth Management Ordinances	City/County	LBCWD complies with applicable growth management ordinances and works with the cities located within the service area.

Ordinance, Plan, Policy, Program	Responsible Agency or Department	Description/Comments
		Expansion and Improvement: Growth management ordinances need to take into account water needs and available supplies for existing and future populations. Working closely with the Cities and County in the region, LBCWD can help better understand how growth management ordinances could impact these resources.
Site Plan Review Requirements	City/County	LBCWD complies with applicable site plan review requirements and works with cities located within the service area. **Expansion and Improvement:** Developing better methods and techniques to support site plan reviews within Orange County can help ensure adequate planning, design, and engineering analysis is available to Cities and the County when new subdivisions are proposed.
General Plan	City/County	LBCWD complies with applicable General Plan requirements and works with cities located within the service area.
Capital Improvements Plan	Engineering Department, LBCWD	Revised annually. **Expansion and Improvement:** Incorporation of mitigation strategies into the CIP can help support future funding of improvements necessary to enhance water/wastewater systems.
Economic Development Plan	City/County	LBCWD complies with applicable economic development plans and works with cities located within the service area.
Emergency Response Plan	All Departments.	State and Local jurisdictions. Continually updated and maintained. **Expansion and Improvement:** Continued improvement and enhancement of emergency response plans can help ensure LBCWD is better prepared for future incidents and can anticipate their communities' needs.
Comprehensive/ Master Plan	All Departments	LBCWD follows its 10-year Master plan which was developed in 2018.

How can these capabilities be expanded and improved to reduce risk?
▪ Conduct a risk and resilience assessment (RRA) and create corresponding Emergency Response Plan (ERP) per the America's Water Infrastructure Act of 2018 (AWIA). Consider this plan as a resource to meet the AWIA requirements. ▪ Conduct disaster response fuel analysis and contingency planning with WEROC as a component of the Southern California Catastrophic Plan. ▪ Evaluate ability to contract with local fuel distributors and gas stations for emergency backup supply. ▪ As a component of the annual review of the agency's emergency response plan ensure mitigation actions are included and updated as needed. ▪ Conduct disaster response fuel analysis and contingency planning with WEROC as a component of the CA Southern California Catastrophic Plan. ▪ Evaluate ability to contract with local fuel distributors and gas stations for emergency backup supply.

Exhibit G-11b. Administrative and Technical Capabilities Summary

Staff/Personnel or Type of Resource	Responsible Agency or Department	Description/Comments
Planner(s) or Engineer(s) with Knowledge of Land Development and Land Management Practices	Engineering Department, LBCWD	State and Local jurisdictions. 1 Senior Engineer Planner; 1 Engineer Technician. Attend trainings, continuing education related to land use planning and hazard mitigation.
Engineer(s) or Professional(s) Trained in Construction Practices Related to Buildings and/or Infrastructure	Engineering Department, LBCWD	State and Local jurisdictions. 1 Senior Engineer Planner; 1 Engineer Technician.
Planners or Engineer(s) with an Understanding of Natural and/or Human - Caused Hazards	Engineering Department, LBCWD	State and Local jurisdictions. 1 Senior Engineer Planner.
Surveyors	Engineering Department, LBCWD	State and Local jurisdictions. 1 Senior Engineer Planner; 1 Engineer Technician.
Personnel Skilled in GIS and/or HAZUS	Engineering Department, LBCWD	State and Local jurisdictions. 1 GIS Technician.
Water Quality	Engineering Department	LBCWD – 1 Water Quality Specialist.
Grant writing	General Manager and Management Staff	District staff write and solicit grants when appropriate and available.
Mutual aid agreements	All Departments	LBCWD participates in CalWARN and WEROC.

How can these capabilities be expanded and improved to reduce risk?
▪ Evaluate participation in MWDOC Water Loss Control Program, including meter testing and leak detection through training of internal staff or through MWDOC's Choice program. ▪ Have all agency-registered engineers and other qualified individuals attend CalOES Safety Assessment Program (SAP) training for building inspections. ▪ Identify specialized training for additional employees at agency to properly prepare for emergencies. ▪ Annual review with agency personnel and city personnel to ensure mitigation actions are included in the emergency response plan. ▪ Evaluate participation in MWDOC Water Loss Control Program, including meter testing and leak detection through training of internal staff or through MWDOC's Choice program.

Exhibit G-11c. Financial Capabilities Summary

Financial Resources	Agency or Department	Description/Comments
Capital Improvements Project Funding	Finance Department, LBCWD	1 Manager of Finances; 1 Accountant; 1 Senior Accountant Tech. **Expansion and Improvement:** During annual budgeting LBCWD can highlight HMP strategies that support funding needs for the CIP.
Authority to Levy Taxes for Specific Purposes	Finance Department, LBCWD	1 Manager of Finances; 1 Accountant; 1 Senior Accountant Tech.
Fees for Water, Sewer, Gas, or Electric Service	Finance Department & Customer Service Department, LBCWD	1 Manager of Finances; 1 Accountant; 1 Senior Accountant Tech. Collects water rates and fees only. **Expansion and Improvement:** Analysis of future fees for services should analyze

Financial Resources	Agency or Department	Description/Comments
		potential mitigation funding support opportunities to capture funding for these projects.
Impact Fees for Homebuyers or Developers for New Developments/Homes	Finance Department, LBCWD	1 Manager of Finances; 1 Accountant; 1 Senior Accountant Tech. Capacity fees for water only.
Incur Debt Through General Obligation Bonds	Finance Department, LBCWD	1 Manager of Finances; 1 Accountant; 1 Senior Accountant Tech.
Incur Debt Through Private Activity Bonds	Finance Department, LBCWD	1 Manager of Finances; 1 Accountant; 1 Senior Accountant Tech.
Withhold Spending in Hazard-Prone Areas	Finance Department, LBCWD	1 Manager of Finances; 1 Accountant; 1 Senior Accountant Tech.
Grants	Financial and Administrative Services Department	1 Manager of Financial and Administrative Services.

How can these capabilities be expanded and improved to reduce risk?
▪ Learn about how to utilize post-disaster mitigation grants (Section 406) and incorporate it into the utility's disaster recovery strategy. ▪ Finance Department to incorporate mitigation actions into agency budget through planning meetings and when funding is identified. ▪ Ensure the inclusion of mitigation actions in capital improvements plan as they relate to the construction of new structures or retrofit improvements to existing structures.

Exhibit G-11d. Education and Outreach Capability Summary

Resource/ Programs	Agency or Department	Description/Comments
Water Conservation	Water Use Efficiency Department and Public Affairs	LBCWD hosts the SmartScape Expo and participates at local community events to educate residents. Water Use Efficiency Specialist and Assistant General Manager.
Local News	Public Affairs	LBCWD has relationships with local news outlets and provides press releases, interviews, photos ops, and media tours when appropriate.

How can these capabilities be expanded and improved to reduce risk?
▪ Participation in WEROC-led efforts to develop standardized messaging for water outages, dam events, and general disaster response. Ensure that messaging will work for the general community, as well as the Access, Disability, and Functional Needs community specific to LBCWD. ▪ Work with partner agencies to host/engage community outreach and public education. ▪ Use social media and agency website to engage the community and public education.

G.7 MITIGATION STRATEGY

G.7.1 Mitigation Goals

LBCWD adopts the hazard mitigation goals developed by the planning team; refer to **Section 4**.

G.7.2 Mitigation Actions

The internal development team reviewed the mitigation actions identified in the 2019 plan and the updated risk assessment to determine if the mitigation actions were completed, required modification, should be removed because they are no longer relevant, and/or should remain in the MJHMP update. New mitigation actions to address the updated risk assessment and capabilities identified above were also considered and added. **Exhibit G-12,** LBCWD Mitigation Actions, identifies the mitigation actions, including the priority, hazard addressed, risk, timeframe, and potential funding sources.

Exhibit G-12. LBCWD Mitigation Actions

Action/Task/Project Description	Location/ Facility	Hazard	Cost	Responsible	Timeframe	Possible Funding Sources	Status
HIGH PRIORITY							
Develop a partnership with South Coast Water District for diesel fuel.	All Facilities	All Hazards	Unknown			Budget	New
Drought mitigation – partner with Fountain Valley and Newport Beach on wells in the basin.	All Facilities	Drought	Unknown			Budget	New
Build a third helipad station in partnership with Long Beach.		All Hazards	Unknown			Budget, Grant	New
Develop, update, and maintain an emergency communications plan that establishes lines of communication to be utilized during disaster events.	All Facilities	All Hazards	Unknown	Emergency Management	Immediate	Budget, Grant	Existing, On Going
Seismically evaluate buried or partially buried concrete reservoirs and vaults.	Reservoirs	Seismic Hazards: Seismic Shaking	Unknown	Engineering	Immediate	Budget, Grant	Existing, On Going
MEDIUM PRIORITY							
Develop comprehensive and proactive approaches to reduce possibility of damages and losses by including hazard review and mitigation in new project design and existing facility upgrades.	All Facilities	Wildfire, Flood, Landslide	Unknown	Emergency Management	Immediate	Budget	Existing, On Going
Develop and maintain mutual aid agreements with other utility groups for support and assistance during a disaster.	All Facilities	Wildfire, Flood, Landslide, Saltwater Contamination, Drought, and Winds	Unknown	Emergency Management	Immediate	Budget, Grant	Existing, On Going
Leak test all reaches of the ATM and CSL.	ATM and CSL	All Hazards	$350,000	Operations	Immediate	Budget, Grant	Existing, On Going
Maintain an active preventive maintenance program on all the components of the Aufdenkamp Transmission Main (ATM), the Coast Supply Line (CSL), Cross Town Feeder, and Laguna Pacific Main.	ATM, the CSL, Cross Town Feeder, and Laguna Pacific Main	All Hazards	Unknown	Operations	Immediate	Budget, Grant	Existing, On Going
Maintain an effective training program on the proper operation of all routine, safety, and emergency equipment.	All Facilities	Wildfire, Flood, Winds Landslide, Drought	Unknown	Emergency Management	Immediate	Budget, Grant	Existing, On Going
Participate and coordinate with WEROC and other member agencies in hazard and disaster preparedness.	All Facilities	Wildfire, Flood, Landslide, Saltwater Contamination, Drought, and Winds	Unknown	Emergency Management	Immediate	Budget, Grant	Existing, On Going

Action/Task/Project Description	Location/ Facility	Hazard	Cost	Responsible	Timeframe	Possible Funding Sources	Status
Perform semi-annual inspections for facilities prior to seasonal hazard events (fire season, rain season).	All Facilities	Wildfire, Flood, Landslide, Winds, Power Outage	Unknown	Operations	Immediate	Budget, Grant	Existing, On Going
Practice disaster response procedures through training and practice drills.	All Facilities	All Hazards	Unknown	Emergency Management	Immediate	Budget, Grant	Existing, On Going
Provide NIMS training for staff as required through FEMA and CalEMA and update NIMSCAST annually.	All Facilities	Wildfire, Flood, Landslide; Saltwater Contamination; Drought and Winds	Unknown	Emergency Management	Immediate	Budget, Grant	Existing, On Going
Risk and Resilient Analyst “Keepers of the Plan” to promote cooperative knowledge of the District's Emergency Operations Plan and staff involvement in disaster response preparations.	All Facilities	Wildfire, Flood, Landslide, Saltwater Contamination, Drought, and Winds	Unknown	Emergency Management	Immediate	Budget, Grant	New
Seismically retrofit existing steel reservoirs that are 20 years and older.	All Facilities	Seismic Hazard: Seismic Shaking	Unknown	Engineering/ Operations	Immediate	Budget, Grant	Existing, On Going
Work with the City of Laguna Beach to review and approve project plans that may impact District resources.	All Facilities	All Hazards	Unknown	Emergency Management	Immediate	Budget, Grant	Existing, On Going

G.7.3 Completed or Removed Mitigation Initiatives

The following mitigation actions from the 2019 plan have been completed or are in progress and therefore are removed from this plan update.

- **Mitigation:** Develop a CSL and ATM isolation plan.
  - **Status:** Complete and revised as needed
- **Mitigation:** Potable water tank trailer.
  - **Status:** Complete.

G.8 PLAN INTEGRATION

LBCWD's capital budget, Water Master Plan, and Emergency Operations Plan are all used to implement mitigation initiatives identified in this annex. After adoption of the MJHMP, the District will continue to integrate mitigation priorities into these documents.

Since the previous Plan Update, LBCWD incorporated information from the MJHMP in its CIP, in addition to the following planning mechanisms:

- Mitigation actions were prioritized and implemented in the capital budget.
- The risk assessment and mitigation actions were used to inform LBCWD's Water Master Plan and Urban Water Management Plan.