

2024



**Orange County Water and Wastewater
Multi-Jurisdictional Hazard Mitigation Plan**

Annex N: Yorba Linda Water District



Contents

N.1 Hazard Mitigation Plan Point of Contact and Development Team.....	1
N.2 Jurisdiction Profile	2
N.3 Hazards.....	2
N.4 Hazard Maps.....	4
N.5 Vulnerability and Risk Assessment	16
N.6 Capabilities Assessment	18
N.7 Mitigation Strategy	22
N.7.1 Mitigation Goals	22
N.7.2 Mitigation Actions	22
N.7.3 Completed or Removed Mitigation Initiatives	25
N.8 Plan Integration	25

Exhibits

Exhibit N-1. Planning Team Lead	1
Exhibit N-2. Internal Hazard Mitigation Planning Development Team	1
Exhibit N-3. YLWD Hazard Identification	3
Exhibit N-4. Fire Hazard and YLWD Potable Water Infrastructure	5
Exhibit N-5. Fire Hazard and YLWD Wastewater Infrastructure	6
Exhibit N-6. Flood Hazard and YLWD Potable Water Infrastructure	7
Exhibit N-7. Flood Hazard and YLWD Wastewater Infrastructure.....	8
Exhibit N-8. Seismic Shaking Hazard and YLWD Potable Water Infrastructure.....	9
Exhibit N-9. Seismic Shaking and YLWD Wastewater Infrastructure	10
Exhibit N-10. Liquefaction Hazard and YLWD Potable Water Infrastructure	11
Exhibit N-11. Liquefaction Hazard and YLWD Wastewater Infrastructure.....	12
Exhibit N-12. Landslide Hazard and YLWD Potable Water Infrastructure.....	13
Exhibit N-13. Landslide Hazard and YLWD Wastewater Infrastructure.....	14
Exhibit N-14. Seismic Shaking Hazard and YLWD Wastewater Infrastructure	15
Exhibit N-15. YLWD Infrastructure and Exposure to Hazards.....	16
Exhibit N-16a. Planning and Regulatory Capabilities Summary	18
Exhibit N-16b. Administrative and Technical Capabilities Summary	20
Exhibit N-16c. Financial Capabilities Summary.....	21
Exhibit N-16d. Education and Outreach Capability Summary.....	21
Exhibit N-17. YLWD Mitigation Actions	23

YORBA LINDA WATER DISTRICT ANNEX

Yorba Linda Water District (YLWD) is a participant (Member Agency [MA]) in the Orange County Water and Wastewater Multi-Jurisdictional Hazard Mitigation Plan (HMP). As a participant MA, YLWD 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 HMP. The base plan, including the HMP procedural requirements and planning process apply to YLWD.

This annex details the hazard mitigation planning elements specific to YLWD and describes how YLWD'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 HMP, including the planning process and other procedural requirements, apply to and were met by YLWD. 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 YLWD with a focus on the risk assessment and mitigation strategies.

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

The representatives listed in **Exhibit N-1** lead the YLWD planning team, attended meetings on behalf of YLWD, and coordinated the hazard mitigation planning efforts with YLWD staff and the consultant team supporting the effort.

Exhibit N-1. Planning Team Lead

Primary Point of Contact
Name: Alex Ramirez
Title: Safety Officer
Telephone: 714.701.3036
Email: aramirez@ylwd.com

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

Exhibit N-2. Internal Hazard Mitigation Planning Development Team

Name	Title
Rosanne Weston	Engineering Manager
John DeCriscio	Operations Manager
Ariel Bacani	Assistant Engineer III

Outreach to the public within YLWD's service area was performed to ensure residents could access information on this planning effort. To reach the largest number of people possible, YLWD published a webpage with information on the MJHMP process and a link to the MJHMP survey. The MJHMP survey was also promoted on YLWD's Instagram. A statement was released on August 26, 2024 on their website regarding the survey to increase engagement.

N.2 JURISDICTION PROFILE

Service Population: 80,000

YLWD is an independent special district that provides water and sewer service to residents and businesses within its service area. YLWD's history dates to 1909, when local farmers and ranchers formed the Yorba Linda Water Company. In 1959, the voters elected to create a public utility with the assets of the Water Company, and the Yorba Linda Water District was formed under the California Water District Law, Division 13 of the Water Code of the State of California.

YLWD is governed by a publicly elected Board of Directors comprised of five directors who serve four-year terms. The directors set YLWD's policies and programs, provide general oversight of activities, set water and sewer rates, and employ the general manager to direct the activities of YLWD.

N.3 HAZARDS

This section is intended to profile the hazards and assess the vulnerabilities that YLWD faces, distinct from that of the county-wide planning area. The hazard profiles in the HMP discuss overall impacts to the planning area and describe 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** of the base plan.

YLWD'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 YLWD 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 YLWD and summarized their probability of future occurrence, level of impact and significance as outlined in **Exhibit N-3**. Detailed hazard profiles for the planning area are provided in **Section 3** of the base plan.

Exhibit N-3. YLWD Hazard Identification

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

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

Geographic Affected Area - 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	Significance - Low: Minimal potential impact - Medium: Moderate potential impact - High: Widespread potential impact
Probability of Future Occurrences - Highly Likely: Near 100% chance of occurrence in next year or happens every year. - Likely: Between 10-100% chance of occurrence in next year or has a recurrence interval of 10 years or less. - Occasional: Between 1-10% 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 - 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 Federal Emergency Management Agency (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 N-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 YLWD.

N.4 HAZARD MAPS

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

Exhibit N-4. Fire Hazard and YLWD Potable Water Infrastructure

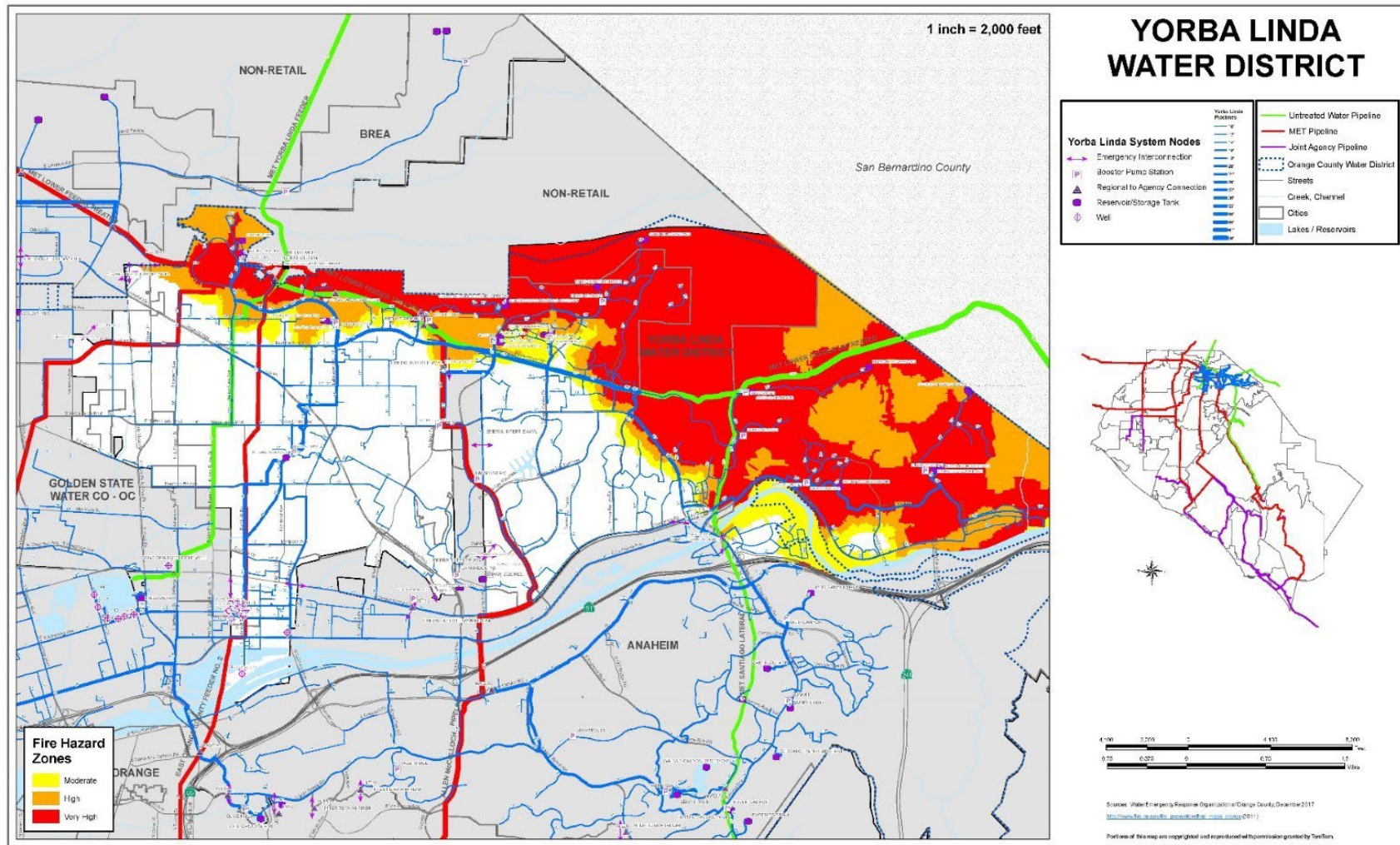


Exhibit N-5. Fire Hazard and YLWD Wastewater Infrastructure

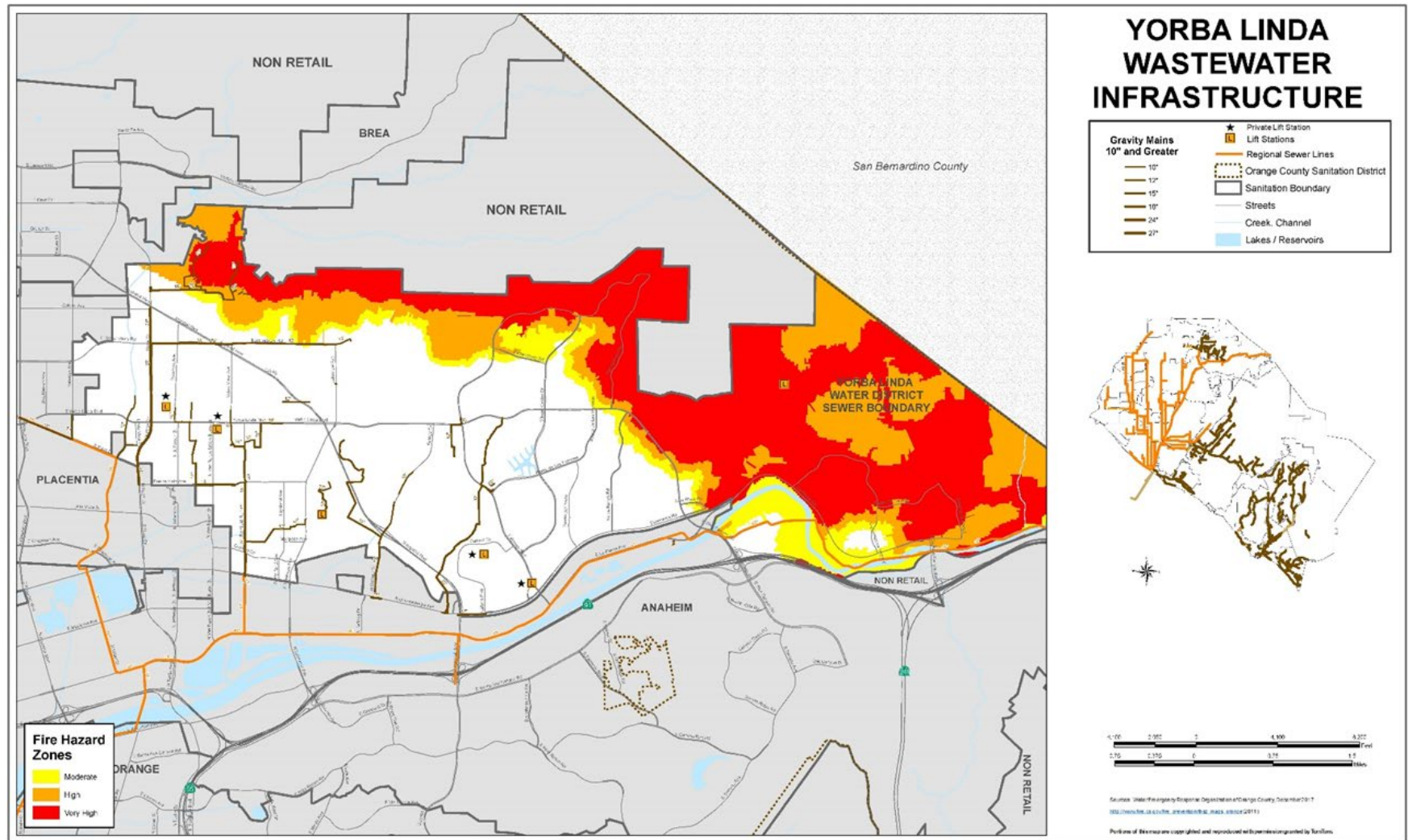


Exhibit N-6. Flood Hazard and YLWD Potable Water Infrastructure

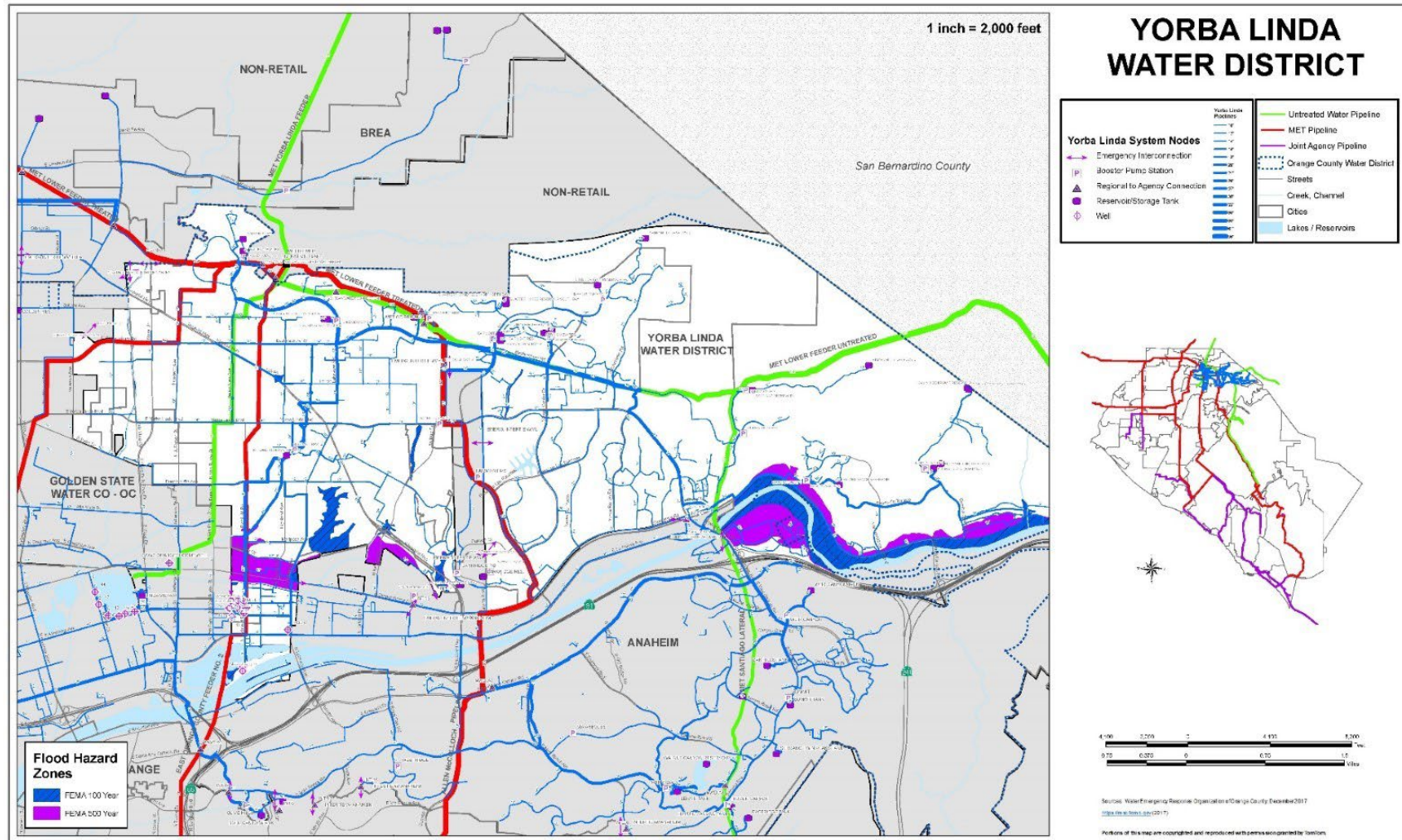


Exhibit N-7. Flood Hazard and YLWD Wastewater Infrastructure

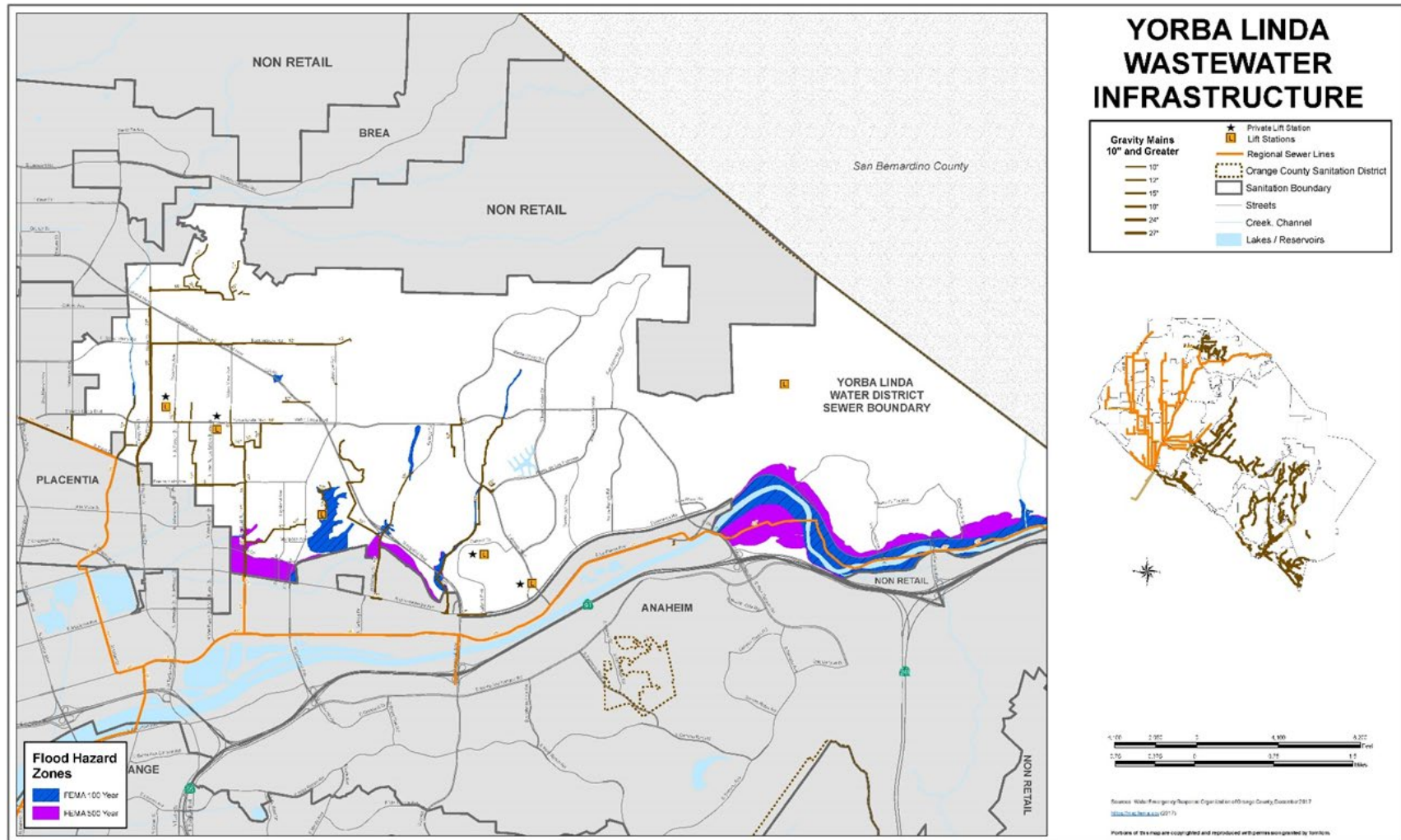


Exhibit N-8. Seismic Shaking Hazard and YLWD Potable Water Infrastructure

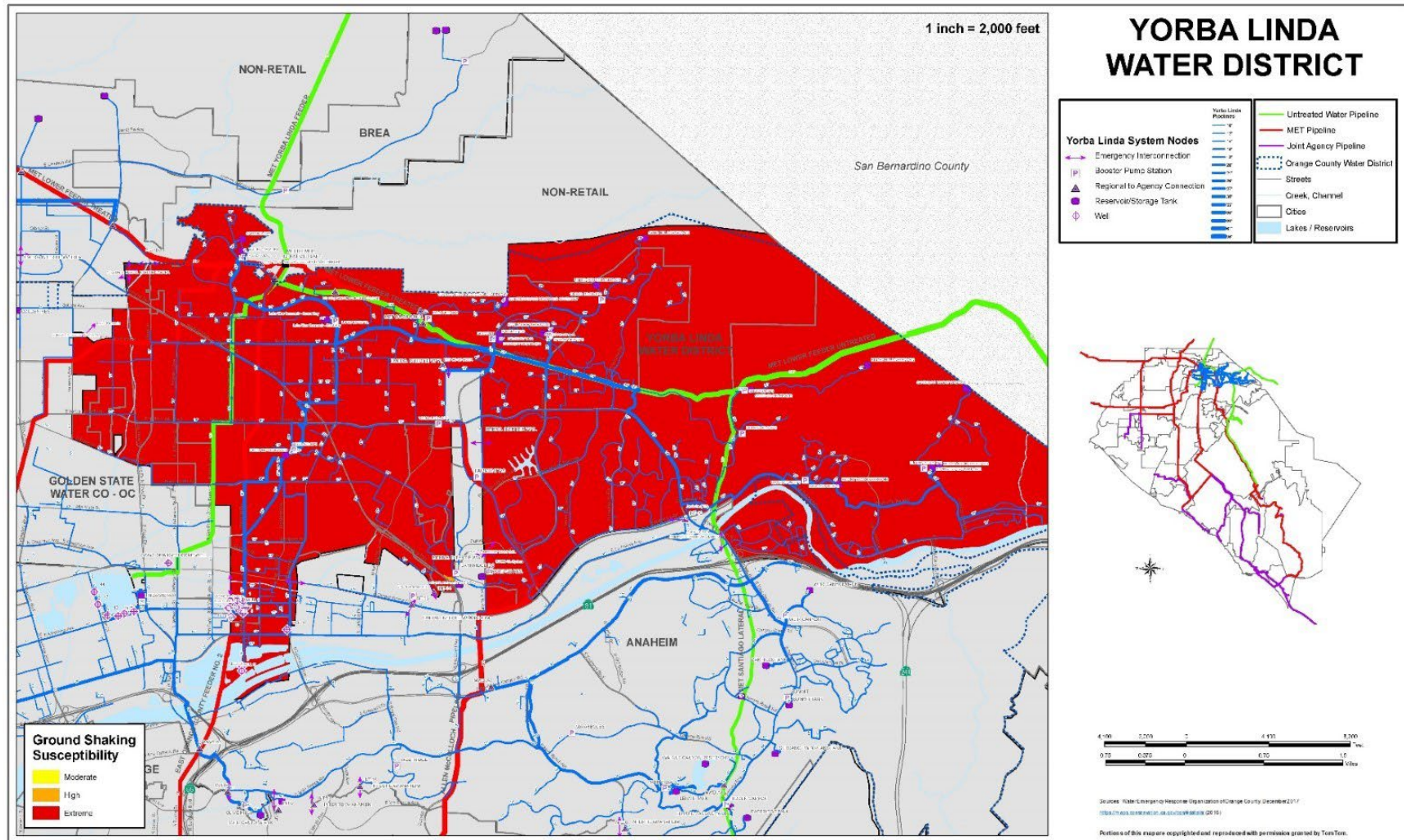


Exhibit N-9. Seismic Shaking and YLWD Wastewater Infrastructure

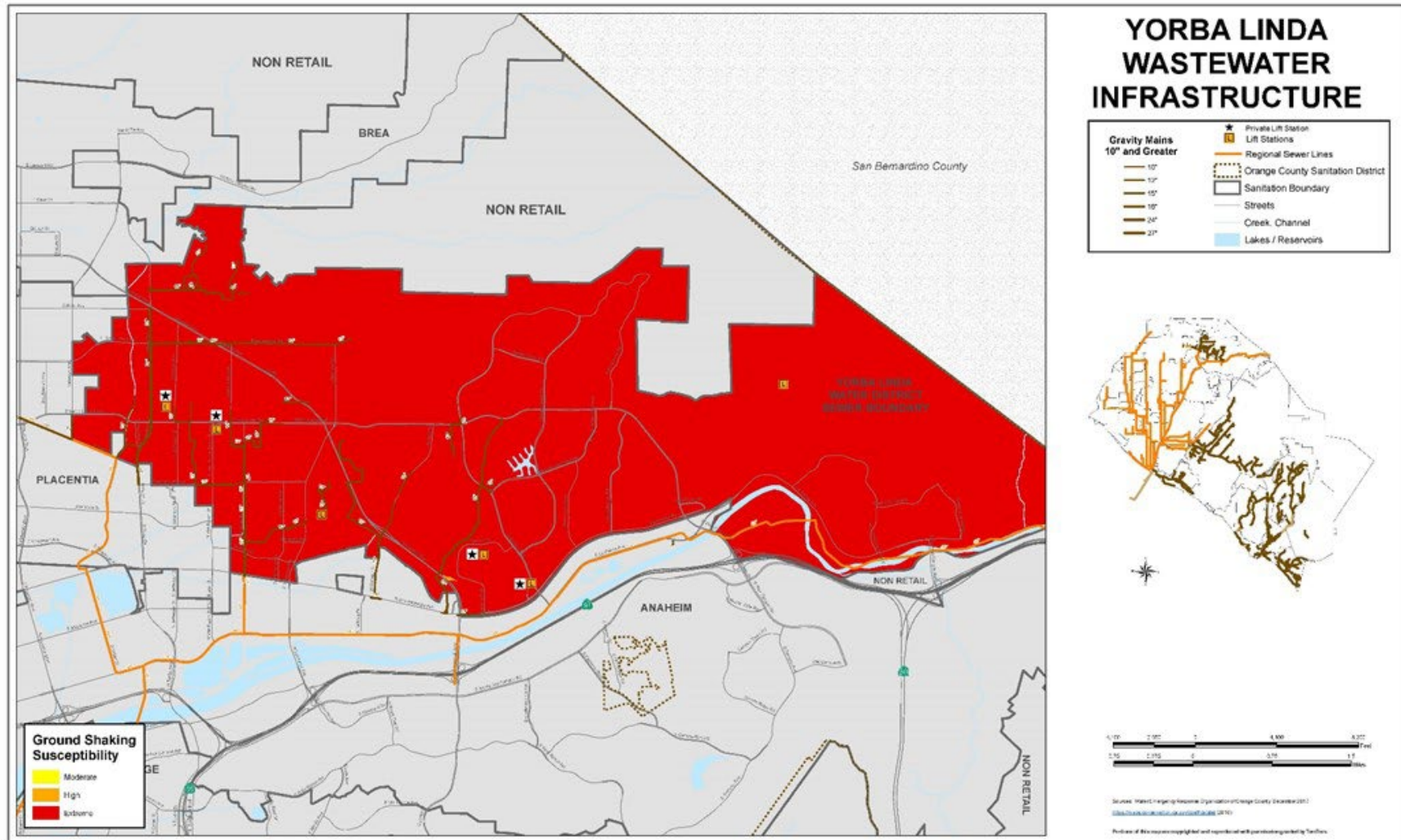


Exhibit N-10. Liquefaction Hazard and YLWD Potable Water Infrastructure

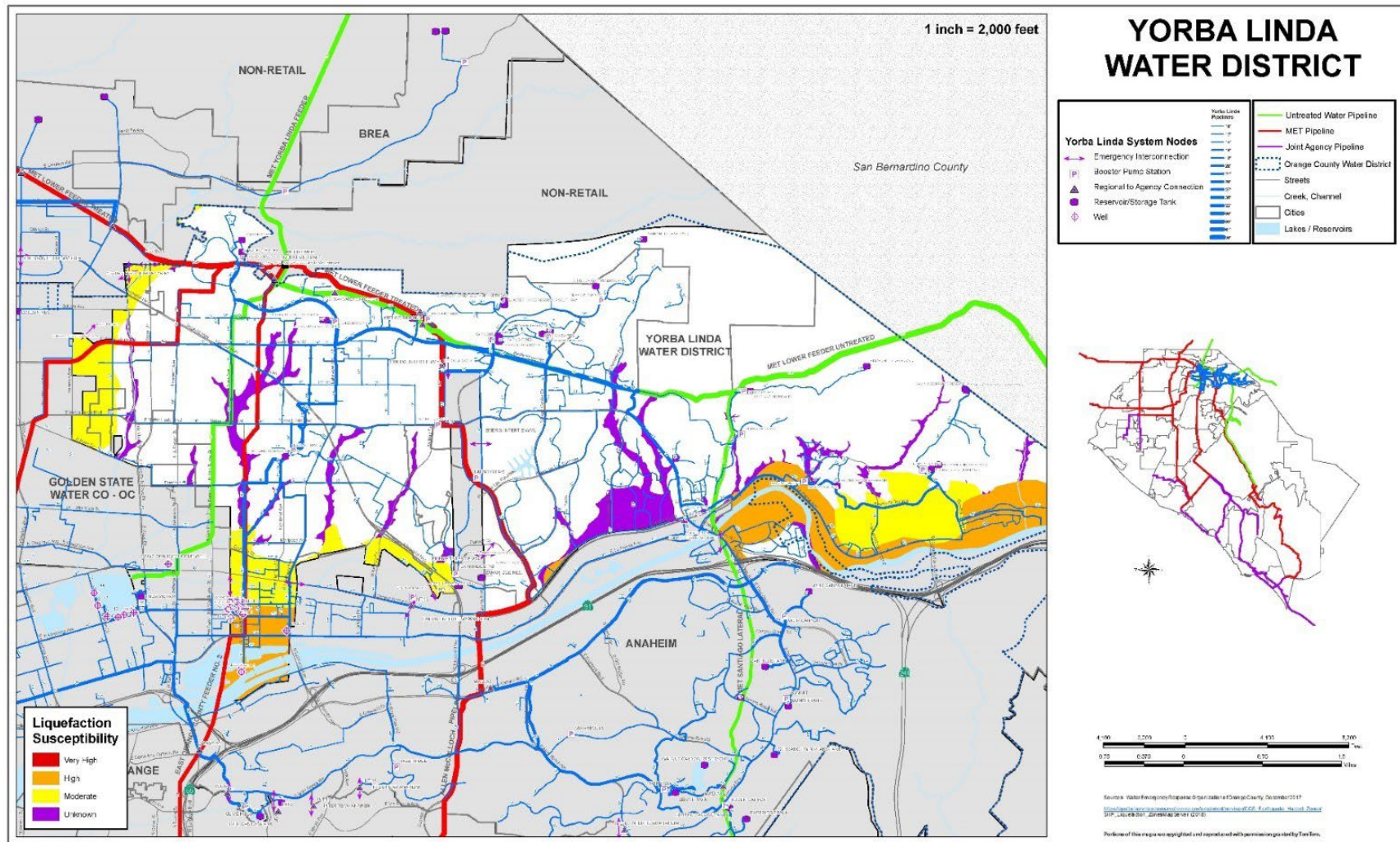


Exhibit N-11. Liquefaction Hazard and YLWD Wastewater Infrastructure

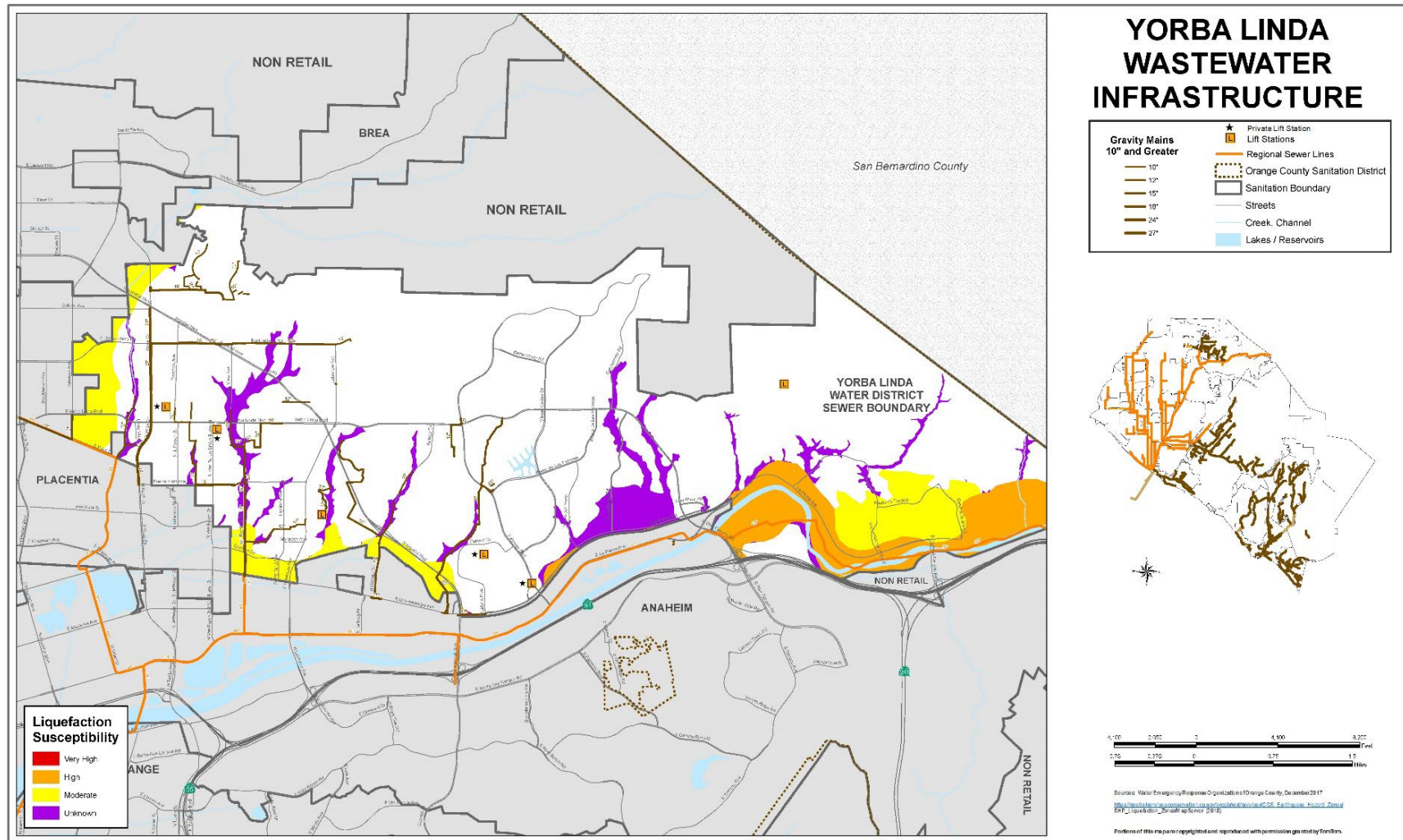


Exhibit N-12. Landslide Hazard and YLWD Potable Water Infrastructure

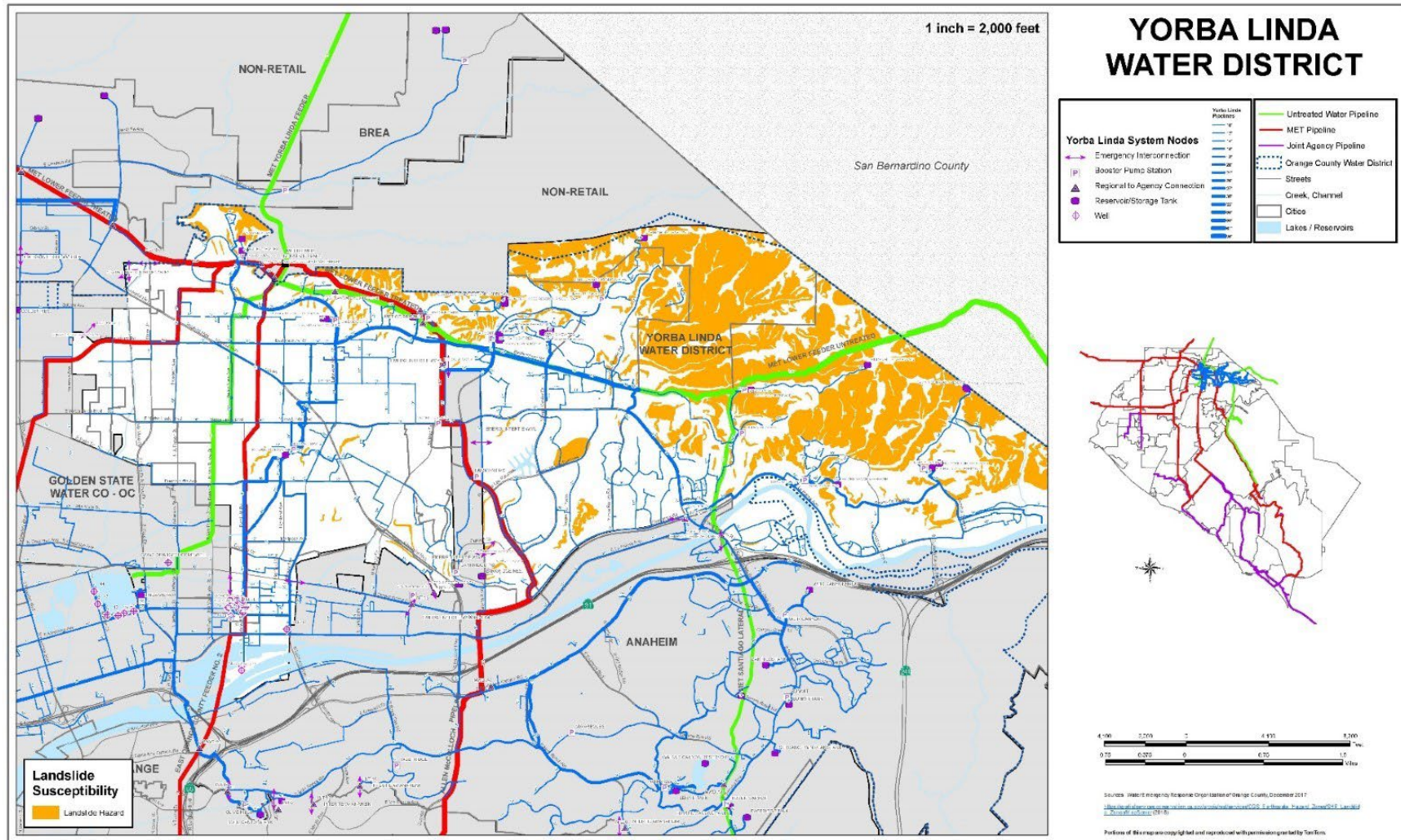
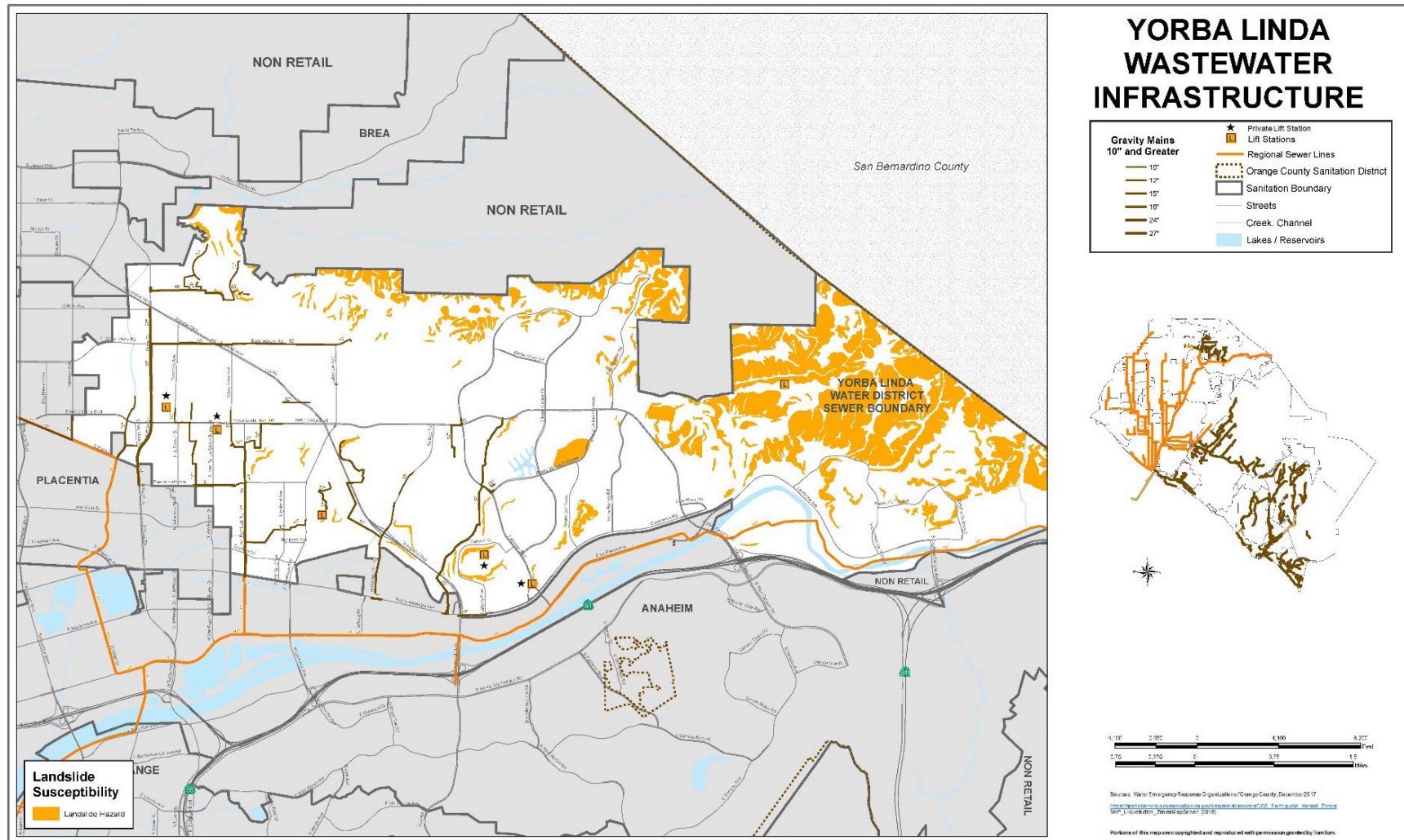


Exhibit N-13. Landslide Hazard and YLWD Wastewater Infrastructure



N.5 VULNERABILITY AND RISK ASSESSMENT

Assessing vulnerabilities shows the unique characteristics of individual hazards and begins the process of narrowing down locations within YLWD’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

YLWD’s infrastructure is outlined in **Exhibit N-15**, which lists the number of YLWD’s water and wastewater infrastructure assets are located within the mapped hazard zones identified above.

Exhibit N-15. YLWD Infrastructure and Exposure to Hazards

Hazard		Infrastructure Type					
		Interties (#)	Pump Stations (#)	Reservoirs (#)	Wells (#)	Potable Pipelines (miles)	Wastewater Pipelines
Fire Hazard Zone	Moderate	1	3	2	0	3.8	0.4
	High	0	0	5	0	6.6	1
	Very High	0	6	5	1	21.6	0.7
FEMA Flood Zone	100-Year	1	0	0	0	1.6	1.8
	500-Year	1	0	0	0	4.8	1.7
Alquist-Priolo Rupture Zone		0	0	0	0	3.8	0
Seismic Shaking	Moderate	0	0	0	0	0	0
	High	0	0	0	0	0	0
	Extreme	9	11	13	9	71	17.1
Liquefaction	Moderate	5	0	0	0	6.2	2.4
	High	2	1	0	9	9.1	0.3
	Very High	0	0	0	0	0	0
	Unknown	0	0	0	0	4.9	2.9
Landslide Zone		0	1	6	0	2.2	0.1
Tsunami Zone		0	0	0	0	0	0.2

Much of YLWD’s potable water and wastewater pipeline systems are located in very high fire hazard areas and extreme seismic shaking hazard areas. Additionally, YLWD does not contain infrastructure or pipelines in the tsunami zone.

Changes in Land Use and Development

YLWD service area is comprised mostly of the City of Yorba Linda, which has undergone various changes in the past five years. These changes include more than 400 planned moderate to above moderate-income housing units, approximately 100 residential homes currently under construction, and multiple facilities including churches and commercial properties that would require water and wastewater service. Additionally, the City of Yorba Linda is required to zone more than 2,400 housing units for the 2021-2029 Housing Element Cycle, with most units in the low to moderate-income ranges.

To ensure service to new developments, YLWD has been updating their system with various projects to increase capacity. These include a new pump station built in 2024 and new pipeline that is currently being laid throughout the system.

Vulnerabilities Associated with Climate Change

Hazard	Climate Change Vulnerabilities
Hazards of High Concern	
Human-Caused Hazards: Hazardous Materials	Climate change has the potential of increasing hazardous materials releases resulting from transportation crashes or damage to storage vessels.
Human-Caused Hazard: Power Outage	Climate change will likely increase YLWD's vulnerability to power outages as local electric companies implement protocols such as rolling blackouts or targeted shutoffs that may impact facilities.
Human-Caused Hazards: Terrorism (Cyber Threat)	Connections between climate change and cyber based terrorism have not been identified.
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.
Seismic Hazards: Fault Rupture	There are no expected changes to the frequency or intensity of fault ruptures occurring within YLWD's service area as a result of climate change.
Seismic Hazards: Seismic Liquefaction	Climate change is anticipated to impact liquefaction potential within the YLWD 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.
Seismic Hazards: Seismic Shaking	Climate change is not expected to cause any changes to the frequency or intensity of seismic shaking occurring within YLWD's service area.
Urban Fire	There is no anticipated impact to how climate change could influence the ignition or behavior of urban fires.
Wildfire	Climate change is expected to cause an increase in wildfire frequency within YLWD's eastern service area where the Chino Hills State Park and Fremont Canyon Nature Preserve are located with vast acreage of wildland.
Hazards of Medium Concern	
Dam/Reservoir Failure	There are no expected climate change impacts on dam/reservoir failure. However, fluctuations in the amount of precipitation and intensity of events could cause stress on dam/reservoir facilities not previously anticipated during initial design. These types of issues could increase the vulnerability of these facilities, which is described in the base plan.
Geological Hazards: Expansive Soils	Climate change is not expected to impact expansive soils within YLWD. The vulnerability follows that described in the Base Plan.
Geological Hazards: Landslide and Mudflow	Climate change could indirectly affect the conditions for landslides across YLWD's service area as increased precipitation and storm intensities may cause more moisture-induced landslides.
Severe Weather: Extreme Heat	Temperatures are expected to increase due to climate change and impact YLWD's service area similarly to the impacts described in the base plan.
Severe Weather: Windstorm	The challenges to YLWD from climate change's impacts on windstorms is expected to follow the impacts described in the base plan.
Hazards of Low Concern	
Flood	Climate change is expected to cause some higher-level flood waters within YLWD along the Santa Ana River where the 100-year flooding event may expand into the 500-year flood zones on a more frequent basis.

Hazard	Climate Change Vulnerabilities
Severe Weather: Drought	Droughts are expected to increase in length and frequency due to climate change and impact YLWD as described in the base plan.
Geological Hazards: Land Subsidence	YLWD's vulnerability to land subsidence is not expected to change due to climate change and is anticipated to be similar to those described in the base plan.
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.

N.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 HMP. YLWD'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 N-16a through N-16d** 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. YLWD 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 N-16a. Planning and Regulatory Capabilities Summary

Ordinance, Plan, Policy, Program	Responsible Agency or Department	Description/Comments
Building Code	City of Yorba Linda, City of Placentia, City of Anaheim, and Orange County Fire Authority (OCFA)	Standards for constructed facilities such as buildings and non-building structures. Expansion and Improvement: As retrofits and replacement projects are identified YLWD will anticipate meeting or exceeding the latest building codes to ensure greater resilience is incorporated into their infrastructure.
Zoning Ordinance	City of Yorba Linda, City of Placentia, City of Anaheim, and Orange County	Requirements for constructed (structures) and non-constructed properties (agricultural, etc.).
Special Purpose Ordinance	Floodplain Management: Santa Ana Watershed Project Authority, Orange County Flood Control District (OCFCD) Stormwater Management: City of Yorba Linda and OCFCD Slope Ordinances: City of Yorba Linda Wildfire Ordinances: OCFA State Fire	Standards for constructed facilities such as buildings and non-building structures.

Ordinance, Plan, Policy, Program	Responsible Agency or Department	Description/Comments
Growth Management Ordinances	City of Yorba Linda, City of Placentia, City of Anaheim, and Orange County	YLWD complies with applicable growth management ordinances and works within the service area. 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, YLWD can help better understand how growth management ordinances could impact these resources.
Site Plan Review Requirements	City of Yorba Linda, City of Placentia, City of Anaheim, and Orange County	Standards for properties. 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 Plans	City of Yorba Linda, City of Placentia, City of Anaheim, and Orange County	YLWD complies with applicable General Plans and works with the cities within the service area.
Capital Improvements Plan	City of Yorba Linda, City of Placentia, City of Anaheim, YLWD	Standards for infrastructure. Expansion and Improvement: Incorporation of mitigation strategies into the CIP can help support future funding of improvements necessary to enhance water/wastewater systems.
Emergency Response Plan	City of Yorba Linda, City of Placentia, City of Anaheim, Orange County and YLWD	Emergency management resource. Expansion and Improvement: Continued improvement and enhancement of emergency response plans can help ensure YLWD is prepared for future incidents and can anticipate their communities' needs.
Economic Development Plan	City of Yorba Linda, City of Placentia, City of Anaheim and Orange County	YLWD complies with applicable Economic Development Plans and works with the cities within the service area.
Post-Disaster Recovery Plan	City of Yorba Linda, City of Placentia, City of Anaheim, Orange County and YLWD	Emergency management resource.
Air Quality Emissions	Air Quality Management District	Emission standards and permit requirements.
Pressure Vessels	City of Yorba Linda, City of Placentia, City of Anaheim, Orange County, and YLWD	Standards set by jurisdictional agency. For non-occupied structures, YLWD may be sole agency.

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.
- Work with State Water Resources Control Board regarding water quality planning and response.
- Work with the State Sanitary Sewer Overflow (SSO) Plans and incorporate mitigation actions as appropriate.
- Incorporate hazard information into the next generator plan and Capital Improvement Plan (CIP) update.

Exhibit N-16b. 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	Hunsaker & Associates, Planning, Engineering, Surveying	Planners with expertise in land development practices.
Engineer(s) or Professional(s) Trained in Construction Practices Related to Buildings and/or Infrastructure	Various consulting civil engineers	Licensed civil engineers and certified building evaluators (Safety Assessment Program [SAP] certified by the California Governor's Office of Emergency Services [Cal OES]).
Planners or Engineer(s) with an Understanding of Natural and/or Human – Caused Hazards	Carollo Engineers and other consulting civil engineers	Outside contractor.
Floodplain Manager	Orange County, Storm Water Department	Work with the county floodplain manager.
Surveyors	On-call geotechnical survey consultant: Hushmand Associates, Inc.	Certified surveyor on staff.
Staff with Education or Expertise to Assess the Community's Vulnerability to Hazards	City of Yorba Linda Engineering Department staff; Assistant City Engineer; YLWD staff; City of Yorba Safety Officer	Work with engineers and WEROC to assess vulnerabilities.
Personnel Skilled in GIS and/or Hazards United States (HAZUS)	YLWD analyst for GIS; DCSE consulting for HAZUS	Works with outside consultant for this service.
Emergency Manager	Orange County Fire Authority; WEROC coordinator; YLWD general manager	Work with the county and WEROC for this expertise.
Grant Writers	Townsend Public Affairs	Search for available grants when applicable.

How can these capabilities be expanded and improved to reduce risk?

- Evaluate participation in Metropolitan Water District of Orange County (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 Cal OES SAP training for building inspections.
- Coordinate with department managers to review the HMP and progress towards implementation.
- Identify information that should be included in future HMP updates.
- Tabulate HMP actions in MS Outlook.

Exhibit N-16c. Financial Capabilities Summary

Financial Resources	Agency or Department	Description/Comments
Capital Improvements Project Funding	Finance Department, YLWD	YLWD Capital Budget 5 Year Plan Expansion and Improvement: During annual budgeting YLWD can highlight HMP strategies that support funding needs for the CIP.
Authority to Levy Taxes for Specific Purposes	Finance Department, YLWD	Special Assessment Areas
Fees for Water, Sewer, Gas, or Electric Service	Finance Department, YLWD	For Reimbursement of Water Expansion and Improvement: Analysis of future fees for services should analyze potential mitigation funding support opportunities to capture funding for these projects.
Impact Fees for Homebuyers or Developers for New Developments/Homes	Finance Department, YLWD	Water Development Fees
Incur Debt Through General Obligation Bonds	Finance Department, YLWD	For Capital Projects
Incur Debt Through Special Tax and Revenue Bonds	Finance Department, YLWD	For Capital Projects

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.
- Work with Southern California Electric (SCE) and Southern California Gas Company on energy reduction programs and rebates for resiliency.
- Work with FEMA on grant funding to enhance physical and cyber security (upgrades to facilities).

Exhibit N-16d. Education and Outreach Capability Summary

Resource/Programs	Agency or Department	Description/Comments
Public Awareness and Education	Public Affairs Department, YLWD	Public Outreach and Public Information Expansion and Improvement: Incorporate mitigation information and analysis into outreach to continue sharing information with customers.
Training Opportunities	All Departments	YLWD trains with WEROC and the County for various ICS and Emergency Management

Resource/Programs	Agency or Department	Description/Comments
		trainings. YLWD staff take FEMA IS training online.
Social media	Public Affairs Department, YLWD	YLWD utilizes social media and Youtube to share information to customers.

How can these capabilities be expanded and improved to reduce risk?
- Participate 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 communities specific to YLWD. - Develop outreach materials on mitigation to include on the district website, in social media, and in water bills.

N.7 MITIGATION STRATEGY

N.7.1 Mitigation Goals

YLWD adopts the hazard mitigation goals developed by the planning team; refer to **Section 4.2** of the base plan.

N.7.2 Mitigation Actions

The internal development team reviewed the mitigation actions identified in the 2019 plan and the updated 2024 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 HMP update. New mitigation actions to address the updated risk assessment and capabilities identified above were also considered and added. **Exhibit N-17, YLWD Mitigation Actions**, identifies the mitigation actions, including the priority, hazard addressed, risk, timeframe, and potential funding sources.

Exhibit N-17. YLWD Mitigation Actions

Action/Task/Project Description	Location/ Facility	Hazard	Cost	Responsible	Timeframe	Possible Funding Sources	Status
HIGH PRIORITY							
Increase ground water to provide a redundant water supply during natural hazard events.	Drill and equip new Well 23 along with new transmission main	All Hazards	\$3M	Engineering	Long Term	Capital Improvement Plan	Existing, Ongoing
Install flexible piping, seismic monitors, earthquake valves, and flow meters on nine reservoirs in high-risk zones.	Fairmont, Springview, Little Canyon, Chino Hills, Santiago, Elk Mountain, Bryant Ranch, Camino de Bryant & Hidden Hills Reservoirs	Seismic Hazards – Seismic Shaking	\$1.8M	Engineering	Long Term	Capital Improvement Plan	Existing, Ongoing
Perform a Cathodic Protection Survey on the District's Oldest Critical Transmission Mains.	39" Zone 4 Transmission Main from MET OC-66 Turnout to Fairmont	Seismic Hazards – Seismic Shaking	\$25K	Engineering	Immediate	Dept. Budget	Existing, Ongoing
Provide a list of all new District facilities to local, county, fire, and MWDOC agencies.	Well Nos. 21 & 22 sites	Wildfire; Urban Fire	\$1K	Emergency Management	Immediate	Dept. Budget	Existing, Ongoing
Harden facilities as required. Clear vegetation.	Facilities within fire hazard zones	Wildfire; Urban Fire	TBD	Emergency Management/ Operations	Immediate	Grants and Budget	Modified and Ongoing
MEDIUM PRIORITY							
Develop Evacuation Plan to relocate all Richfield mobile equipment.	913 S. Richfield Rd., Placentia, CA	All Hazards	\$2K	Operations	Immediate	Dept. Budget	Existing, Ongoing
Update the existing ERP to include all-natural hazards in the service area.	Replace the current ERP	All Hazards	\$35K	Emergency Management	Immediate	Dept. Budget	Existing, Ongoing

Action/Task/Project Description	Location/ Facility	Hazard	Cost	Responsible	Timeframe	Possible Funding Sources	Status
Provide training for in-house staff for visually identifying structural defects of critical facilities.	14 reservoirs, transmission mains over 30" dia., 11 production wells, 42 PR stations & 12 Pump Stations.	Seismic Hazards – Seismic Shaking	\$10K	Engineering	Immediate	Dept. Budget	In Progress
Develop a policy and protocol for evaluating any structural damage of critical structures and facilities.	For all reservoirs, operations and administration buildings and pump stations structures	Seismic Hazards – Seismic Shaking	\$3K	Engineering	Immediate	Dept. Budget	Existing, Ongoing
Obtain a structural evaluation for the oldest reservoir.	Fairmont Reservoir and Pump Station built in 1972.	Seismic Hazards – Seismic Shaking	\$5K	Engineering	Immediate	Dept. Budget	Existing, Ongoing
Identify YLWD facilities currently within the high-risk landslide or mudslide areas.	12 Reservoirs except Highland and Lakeview Reservoir	Geological Hazards – Landslide and Mudflow	\$10K	Emergency Management	Short Term	Capital Improvement Plan	Existing, Ongoing
Protect YLWD assets with a high relative vulnerability to the effect of landslide or mudslide.	12 Reservoirs except Highland and Lakeview	Geological Hazards – Landslide and Mudflow	\$10K	Operations	Long Term	Dept. Budget	Modified, Ongoing
Identify YLWD facilities that need redundant communication systems.	Reservoir/pump stations in high fire zone	Wildfire; Urban Fire	\$2K	Emergency Management/ Operations	Immediate	Dept. Budget	Existing, Ongoing
LOW PRIORITY							
Participate in City of Yorba Linda and OCFA mutual aid response teams training exercises.	City of Yorba Linda Emergency Team and OCFA Station #10	Wildfire; Urban Fire	\$1K	Emergency Management	Immediate	Dept. Budget	In Progress
Provide a list to OCFA of YLWD facilities in High Fire Threat Zone.	14 out of 14 Reservoir/Pump Stations	Wildfire; Urban Fire	\$2K	Emergency Management	Immediate	Dept. Budget	In Progress
Provide ongoing training for YLWD employees to identify danger signs of any systems failures.	All Maintenance and Operations personnel	Wildfire; Urban Fire	\$1K	Emergency Management	Immediate	Dept. Budget	Existing, Ongoing

N.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 wildfire fighting system.
 - **Status:** Complete. YLWD has installed Heli Hydrants at two locations in the urban wildland interface zones, Camino de Bryant Reservoir, and Santiago Reservoir. Backup power generators have been installed at key pumping facilities.
- **Mitigation:** Boost Operations by adding a remote Emergency Operations Center in the Fairmont Booster Pump Station.
 - **Status:** Complete.
- **Mitigation:** Construct a Redundant Data/Supervisory Control and Data Acquisition (SCADA) communications site.
 - **Status:** Complete. Backup power generators have been added to the Main Campus and SCADA System can be accessed remotely from any location. All operators have access through their issued laptops.
- **Mitigation:** Reinforce existing communications structures to withstand high wind or microburst conditions.
 - **Status:** Complete. An additional backup radio system for CCTV security was installed.
- **Mitigation:** Identify alternate sites for relocation of Richfield’s mobile equipment during flood event.
 - **Status:** Complete. Highland Reservoir and Fairmont Reservoir have been identified as locations.
- **Mitigation:** Identify required physical security at all YLWD facilities (fencing, lighting, alarm, landscaping, etc.). Incorporate cyber security and surveillance (live cameras, cyberlocks, etc.)
 - **Status:** Complete. A lot of this work has been completed throughout YLWD’s assets.

N.8 PLAN INTEGRATION

YLWD’s capital budget, Water Master Plan, Wastewater Master Plan, and Annual Operating Budget are used to implement mitigation initiatives identified in this annex. YLWD also works with the City of Yorba Linda through its General Plan, CIP, Municipal Code, Emergency Operations Plan, and annual budget process to identify other opportunities to implement mitigation initiatives identified in this annex. After adoption of the HMP, YLWD will continue to integrate mitigation priorities into these documents.

Since the 2019 MJHMP, YLWD incorporated information from the MJHMP in its CIP, in addition to the following planning mechanisms:

- The risk assessment and mitigation actions were used to inform the City’s Water and Wastewater Master Plans and Urban Water Management Plan.

- Mitigation actions were identified and incorporated into the Capital Budget for completion.