



Introduction

This Annex of the Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) details the hazard mitigation planning elements specific to the Walnut Valley Water District. This Annex is not intended to be a standalone document but appends to and supplements the information contained in the MJHMP Base Plan document.

The MJHMP consists of two parts: 1) Rowland Water District Base Plan, including the planning process, risk assessment and other FEMA mandated information, and 2) Annexes for each of the other agencies participating in the MJHMP planning process.

This Annex provides additional information specific to Walnut Valley Water District with a focus on providing additional details on the planning process, risk assessment, and mitigation strategy.

Planning Process

In coordination with the MJHMP Planning Team discussed in Part 1: Planning Process of the MJHMP Base Plan, agency representatives followed the planning process. In addition to providing representation on the MJHMP Planning Team, the agency representative shared hazard information and draft plans within the agency. The table below indicates the steps in the planning process and the representative’s involvement.

Table: District Planning Team Participation

Name	Research and Writing of Plan	Planning Team Meeting 1: 9/14/2022	Planning Team Meeting 2: 9/28/2022	One-on-One Mentoring Session: 11/2-12/2022	Collaborative Meeting: 12/6/2023	Planning Team Meeting 3: 1/19/2023	One-on-One Mentoring Session: 2-5/2023	Planning Team Meeting 4: June 28, 2023	Planning Team Comment on First Draft Plan	Distribute Second Draft Plan to General Public and External Agencies	Submit Third Draft Plan to Cal OES/FEMA for Approvable Pending Adoption	Post Final Draft Base Plan in Advance of Board of Directors Meeting	Present Final Draft Base Plan and Annex to Board of Directors for Adoption	Submit Proof of Adoption to FEMA for Final Approval
Jared Macias	X	X	X	X	X	X	X	X	X					
Erik Hitchman	X				X									



District Profile

The profile includes an overview of the district, population, geography, and climate.

The following information is drawn from the District's website. Upon its formation in 1952, the only potable water available for the people in this area was from local groundwater wells that were located within a very unreliable groundwater basin. In 1955, after beginning the development of the water supply system, the Walnut Valley Water District provided potable water to 21 service connections with an approximate population of less than 800 in the local area.



Today, after more than six decades of service to the community, the District operates and maintains two large, imported water pipelines, 497 miles of distribution mains, 17 pump plants and 31 reservoirs with a storage capacity of 94.1 million gallons of water. The District also provides water service to over 26,500 connections in an area encompassing 17,900 acres, serving an approximate population of over 100,000 residents and businesses in six local communities.

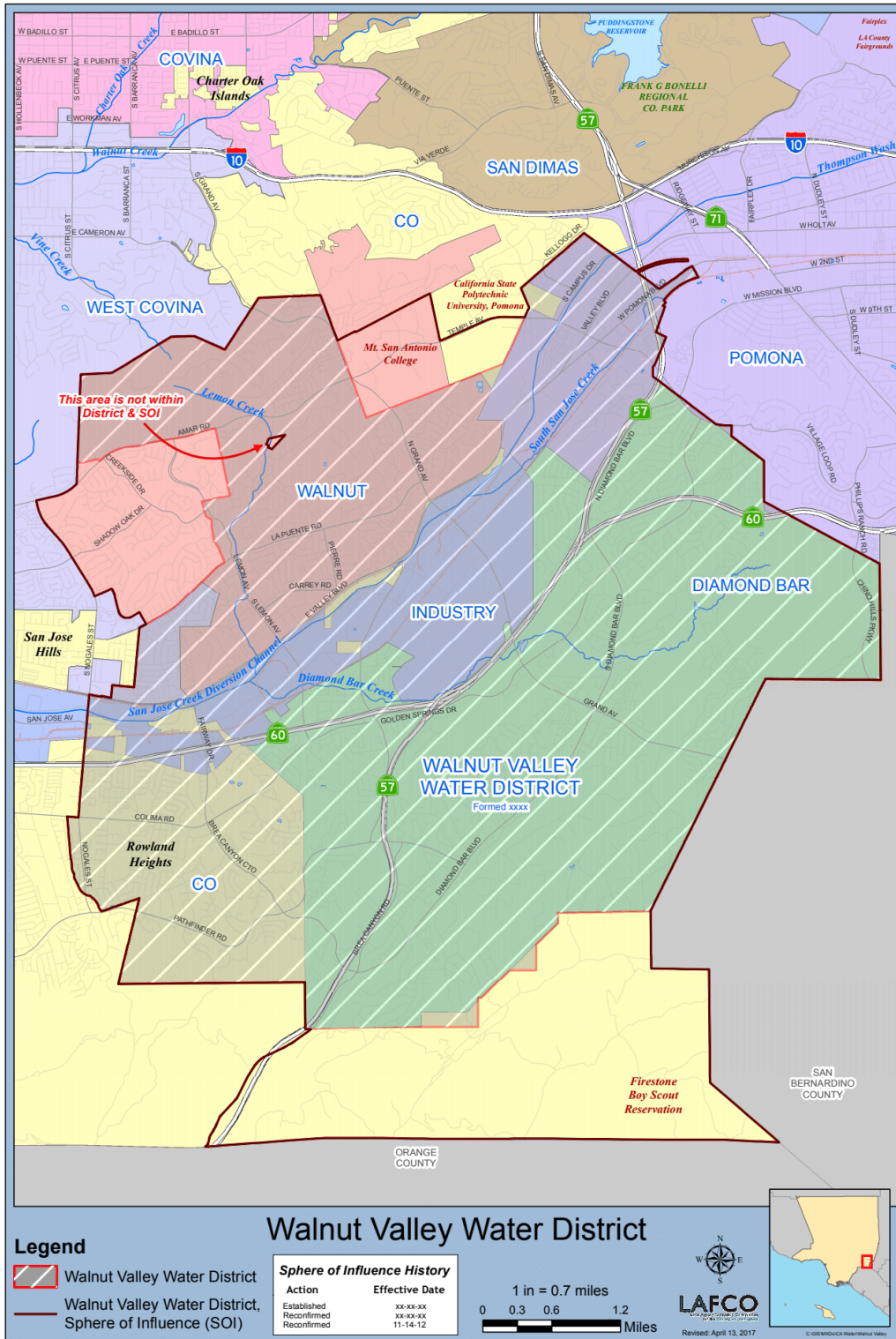
The District imports 100% of the drinking water supply through our wholesale and retail partners, Three Valleys Municipal Water District and the Metropolitan Water District of Southern California. Our water travels hundreds of miles from the Colorado River Aqueduct and the State Water Project in Northern California through our system before it reaches customers' homes, businesses, and schools.



Multi-Jurisdictional Hazard Mitigation Plan
Annex: Walnut Valley Water District



Map: Walnut Valley Water District Boundary
Source: LAFCO

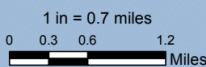


Legend

- Walnut Valley Water District
- Walnut Valley Water District, Sphere of Influence (SOI)

Walnut Valley Water District

Sphere of Influence History	
Action	Effective Date
Established	xxx-xx-xx
Reconfirmed	xxx-xx-xx
Reconfirmed	11-14-12





Overview

The Walnut Valley Water District spreads across Walnut, Dimond Bar, Rowland Heights, and City of Industry. The District HQ is located at 271 S. Brea Canyon Drive, Walnut, CA.

Table: District Assets

Source: District Planning Team

Facility Name, Type, Address	# Occupants	# Buildings	\$ Structure Value (millions)	\$ Contents Value (millions)	\$ Total Value (millions)
Ambushers Reservoir 21500 Ambushers Street, Diamond Bar	0	0	\$2.1	\$2.1	\$4.2
Arbor Ridge Reservoir & Pump Station 19725 Arbor Ridge Drive, Walnut	0	0	\$3.1	\$6.2	\$9.3
Armitos Reservoir & Pump Station 631 Armitos Place, Diamond Bar	0	1	\$9.8	\$10.4	\$20.2
J.P. Bourdet Pump Station NW Corner of Grand Avenue/Valley Boulevard, Walnut	0	0	\$2.3	\$1.5	\$3.8
Brea Canyon Cut-off Reservoir 2101 Brea Canyon Cut-off Road, Diamond Bar	0	0	\$11.6	\$4.7	\$16.3
Brea Canyon Road Pump Station 1401 S. Brea Canyon Road, Diamond Bar	0	0		\$0.5	\$0.5
Chestnut Hill Reservoir & Pump Station 1624 Chestnut Hill Drive, Walnut	0	0	\$4.1	\$2.6	\$6.7
Colima Pump Station 21092 Colima Road, Rowland Heights	0	0	\$0.03	\$0.6	\$0.63
Diamond Bar Pump Station 261 S. Diamond Bar Boulevard, Diamond Bar	0	1	\$5	\$3	\$3.5
Main District Office – Front and Rear Buildings 271 S. Brea Canyon Road, Walnut	57	2	\$13.7	\$5.3	\$19
New District Office Buildings (Vacant) 21220 Commerce Pointe Drive, Walnut 235 S. Brea Canyon Road, Walnut	0	2	\$6.1		\$6.1
Eastgate Reservoir 24495 Eastgate Drive, Diamond Bar	0	0	\$11.3	\$12.1	\$23.4
Eldertree Reservoir 1560 Eldertree Drive, Diamond Bar	0	0	\$7.4	\$7.8	\$14.9
Fern Hollow Pump Station	0	1	\$3	\$2.2	\$2.5

Multi-Jurisdictional Hazard Mitigation Plan
Annex: Walnut Valley Water District



Facility Name, Type, Address	# Occupants	# Buildings	\$ Structure Value (millions)	\$ Contents Value (millions)	\$ Total Value (millions)
1815 Fern Hollow Drive, Diamond Bar					
Grand Crossings Pump Station 21401 Grand Crossings Parkway, City of Industry	0	0		\$1.2	\$1.2
Heidelberg Pump Station 20349 Temple Avenue, Walnut	0	1	\$6	\$0.8	\$1.4
Hillrise Reservoir 2799 S. Hillrise Drive, Walnut	0	0	\$8.3	\$10.7	\$19
IBC Reservoir 21959 Industry Way, Diamond Bar	0	0		\$5.4	\$5.4
North Diamond Bar Pump Station 148 S. Diamond Bar Boulevard, Diamond Bar	0	0	\$3	\$0.8	\$1.1
Oakleaf Canyon Reservoir 2400 Oakleaf Canyon Road, Walnut	0	0	\$2.8	\$8.2	\$11
Parker Canyon (Recycled) Reservoir 1355 Parker Canyon Road, Walnut	0	0		\$4.3	\$4.3
Parker Canyon (Potable) Reservoir & Pump Station 1355 Parker Canyon Road, Walnut	0	1	\$12.3	\$11.9	\$24.2
Pathfinder Reservoir & Pump Station 21014 Pathfinder Road, Diamond Bar	0	1	\$12.6	\$15.5	\$28.1
Pepperdale Pump Station 2320 Pepperdale Drive, Rowland Heights	0	0	\$.1	\$0.7	\$.8
Pioneer Reservoir 1452 N. Pioneer Way, Walnut	0	0	\$25	\$5	\$30
Rapidview Pump Station 1324 Rapidview Drive, Diamond Bar	0	0	\$.075	\$0.7	\$.775
Reclaimed Well #1 711 Fairway Drive, Walnut	0	0		\$1.1	\$1.1
Reclaimed Well #2 280 Machlin Court, City of Industry	0	0		\$1.1	\$1.1
Reclaimed Well #3 20625 1/2 Lycoming Street, Walnut	0	0		\$1.1	\$1.1
Reclaimed Well #4 21535 Baker Parkway, City of Industry	0	0		\$1	\$1
Reclaimed Well #5	0	0		\$1.1	\$1.1



Facility Name, Type, Address	# Occupants	# Buildings	\$ Structure Value (millions)	\$ Contents Value (millions)	\$ Total Value (millions)
20405 Business Parkway, City of Industry					
Ridgecrest Reservoir 23720 Ridgecrest Court, Diamond Bar	0	0	\$2.7	\$4.1	\$6.8
Ridge Line Reservoir & Pump Station 22938 Ridge Line Road, Diamond Bar	0	2	\$13.9	\$27.6	\$41.5
Snow Creek Pump Station 22000 La Puente Road, Walnut	0	0	\$.176	\$0.4	\$.576
Sylvan Glen Reservoir & Pump Station 24398 Sylvan Glen Road, Diamond Bar	0	0	\$4.4	\$5.6	\$9.9
Terminal Storage Reservoir 1070 Ironshoe Court, Walnut	0	3	\$31	\$110	\$141
Walnut Leaf Pressure Monitoring Station 1629 Walnut Leaf Drive, Walnut	0	0	\$.275	\$0.1	\$.375
Totals	57	13	\$186.856 million	\$277.4 million	\$463.856 million

Geography and Climate

According to the 2019 County of Los Angeles All-Hazards Mitigation Plan, the 2018 Our County: Landscapes and Ecosystems, and the City of Walnut General Plan the following information identifies the geography and climate of the project area.

Geography

Walnut’s topography varies from gradual slopes to steep terrain. The major areas of steep terrain occur primarily in the eastern, central, and northern sections of the City. The City’s steepest and highest terrain is known as Buzzards Peak, a 1,375-foot-high point at the City’s northern edge. Lemon Creek and Snow Creek are two key defining water features in the City. These two water courses flow through existing neighborhoods and open spaces ultimately feeding into the San Gabriel River watershed via San Jose Creek located just south of Valley Boulevard.

Amid the dense urban landscape of the San Gabriel and Pomona valleys, Walnut stands apart with its abundance of natural features, such as: the hillsides, creek corridors, and rich animal and plant habitats. Existing open space and conservation easements protect much of this land. Preservation of hillside and natural environments not covered by easements will be strengthened by this Element. Walnut will strive to preserve these natural areas through land use and development design decisions.



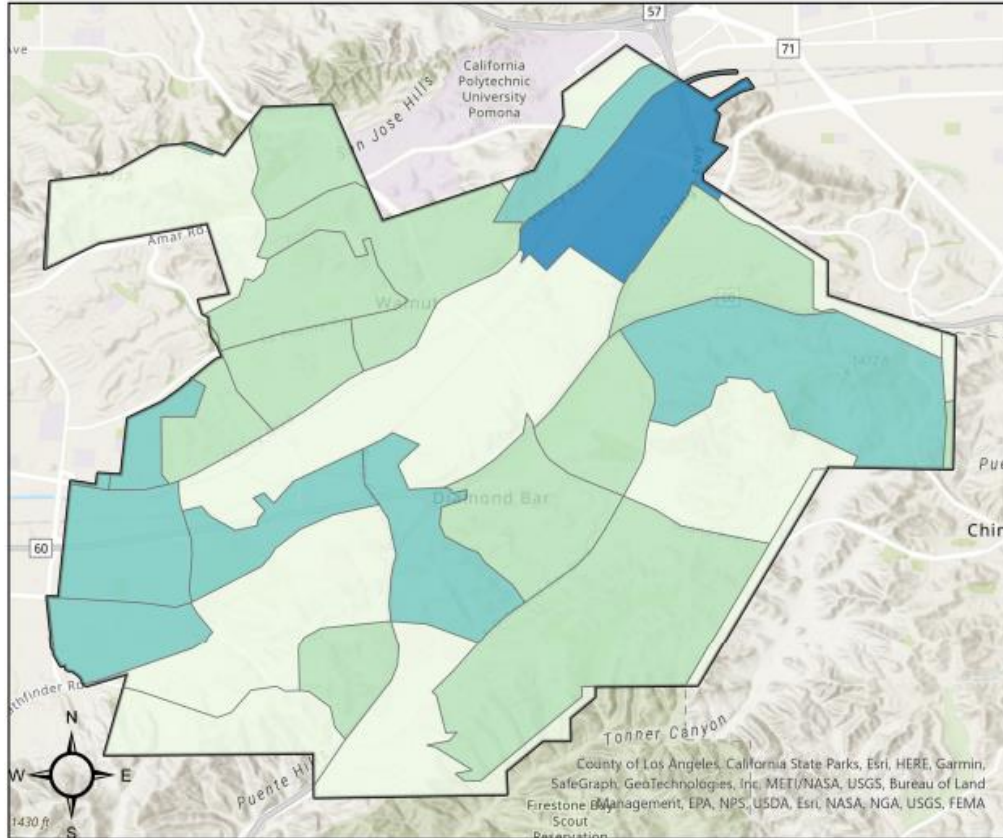
Social Vulnerability

Social vulnerability considerations were included in this plan to identify populations across the service area that might be more vulnerable to hazards. Social Vulnerability refers to a community's capacity to prepare for and respond to the stress of hazardous events ranging from natural disasters such as tornadoes or disease outbreaks, to human caused threats such as toxic chemical spills (CDC/ATSDR, 2020). To better assist emergency planners, the CDC Agency for Toxic Substances and Disease Registry (CDC/ATSDR) developed the Social Vulnerability Index (SVI) as a way to depict the social vulnerability of communities, as the census tract level within a specified county. Tracts with a higher SVI will likely need support before, during and after a hazardous event. The SVI can help public health officials and local planners better prepare for and respond to emergency events by displaying what areas of the jurisdiction have a high vulnerability ranking to low vulnerability ranking.

The map below depicts the SVI map for the Walnut Valley Water District. There is 1 census tract within the district boundary that has a high SVI and 7 census tracts that have a medium-high SVI. The high SVI rated census tract area depicted in the darker blue area on the map. The medium light blue represents the medium-high SVI census tracts and the lightest blue represents the low-medium SVI census tracts.



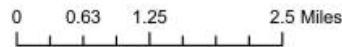
Map: Walnut Valley Water District Social Vulnerability Index
Source: CDC/ATSDR Social Vulnerability Index, 2023



Legend

SVI

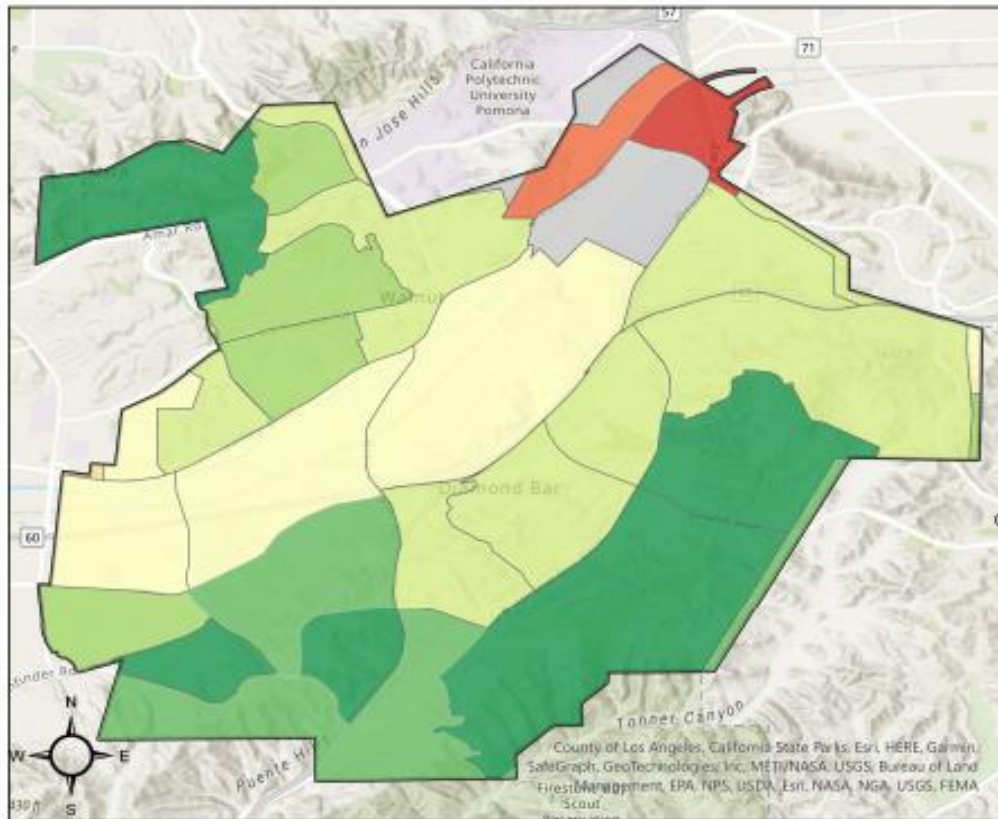
-  Low
-  Low - Medium
-  Medium - High
-  High
-  Walnut Valley Water District



The census tracts depicted in the SVI maps correspond to the California Office of Environmental Health Hazard Assessment (OEHHA) CalEnviroScreen 4.0 mapping tool and census tract datasets. The CalEnviroScreen 4.0 is a mapping tool that helps identify California communities that are most affected by many sources of pollution, where people are often especially vulnerable to pollution's effects. CalEnviroScreen ranks census tracts in California based on potential exposures to pollutants, adverse environmental conditions, socioeconomic factors and the prevalence of certain health conditions. Those census tracts with a higher overall percentile score have a higher pollution burdens and population sensitivities. These tracts are depicted in the darker red colors on the map. Census tracts with lower overall percentile scores have a lower pollution burdens and population sensitivities. These tracts are depicted in a darker green color on the map. The majority of the project area is between the 10 and 50 overall percentile range.



Map: Walnut Valley Water District CalEnviroScreen 4.0 Results
Source: CalEnviroScreen, 2023



Legend

Percentage

- 10 - 20
- 20 - 30
- 30 - 40
- 40 - 50
- 50 - 60

- 60 - 70
- 70 - 80
- 80 - 90
- 90 - 100

No Data

Walnut Valley Water District

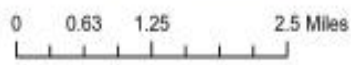
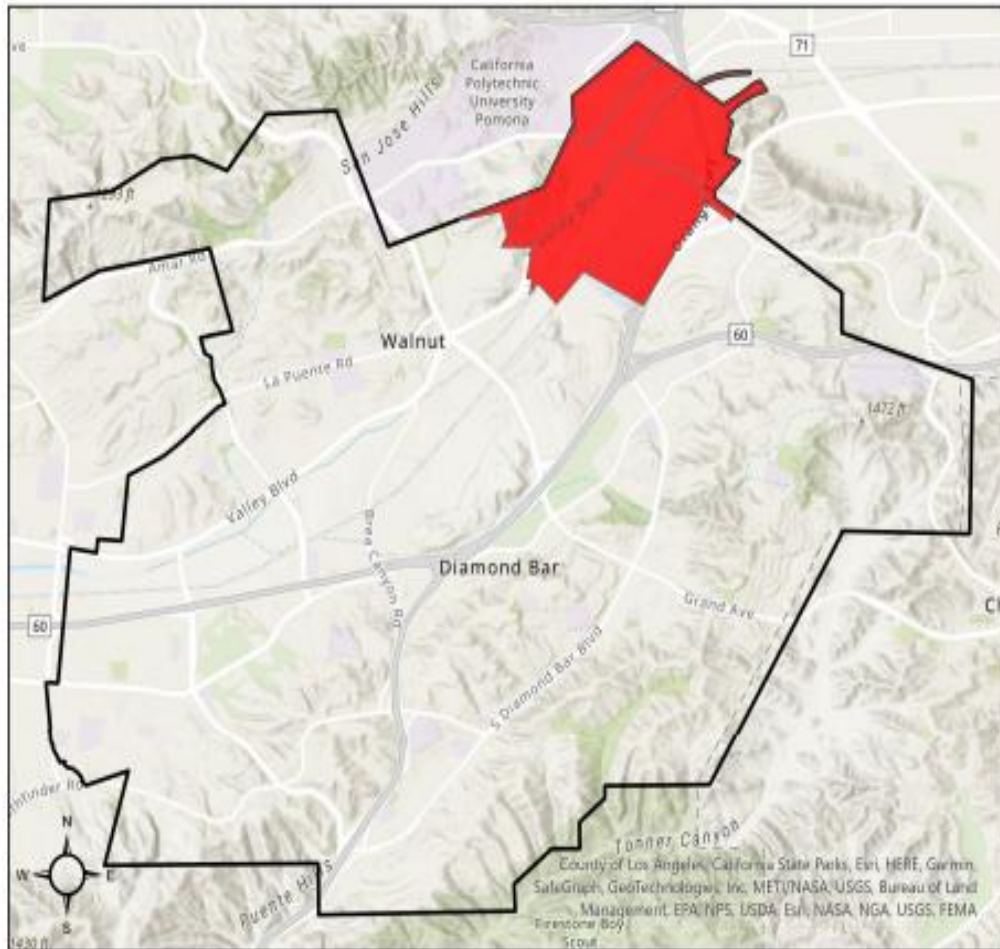
Identification of Disadvantaged Communities

SB 1000 defines “disadvantaged communities” as areas identified by the California Environmental Protection Agency pursuant to Section 39711 of the Health and Safety Code or as an area that is low-income that is disproportionately affected by environmental pollution and other hazards that can lead to negative health effects, exposure, or environmental degradation. To assist in identifying disadvantaged communities, the State has provided a mapping tool called “CalEnviroScreen.” CalEnviroScreen uses several factors, called “indicators” that have been shown to determine whether a community is disadvantaged and disproportionately affected by pollution. Pollution burden indicators measure different types of pollution that residents may be exposed to, and the proximity of environmental hazards to a community. Population characteristics represent characteristics of the community that can make them more susceptible to environmental hazards.



CalEnviroScreen provides an overall percentile score determined by combining weighted individual scores for all the individual indicators analyzed. SB 1000 considers a 75 percent or higher score in this category to be a qualifier for consideration as a disadvantaged community. The overall scores are represented in a statewide map, with red representing the highest percentile range and green representing the lowest. Areas with higher scores generally experience higher pollution burdens and fare poorer on a range of health and socioeconomic indicators than areas with low scores. Most of the census tracts within the Walnut Valley Water District service area fall below the 75 percentiles. There is a small section in the northern part of the service that is considered a disadvantaged community.

Map: Walnut Valley Water District SB 535 Disadvantaged Communities
Source: CALEPA SB535 Disadvantaged Communities, 2023



- Legend**
- SB535 Disadvantaged Communities
 - Walnut Valley Water District



Climate

Los Angeles County has a Mediterranean-type climate, characterized by cool wet winters and warm dry summers. With a population of over 10 million residents, the county is the most populated in California, and one of the largest counties in size in the nation. Los Angeles County boasts a diversity of landscapes, and species and is made up of a vast unincorporated area and 88 cities that span mountains, deserts, beaches, and islands. The County is also biologically diverse. Southern California is home to the largest set of threatened and endangered plants and animals in the continental United States, making it the most urbanized area to be designated one of Conservation International's global Biodiversity Hotspots.

Urban ecosystems are dynamic combinations of natural, social, and constructed features. The County's ecosystems span natural and urban landscapes and can be thought of as an interconnected system of biological communities with organisms interacting with a range of physical environments. This diverse ecosystem not only serves as important habitat for the region's biodiversity, but provides extraordinary value to residents through recreational and educational opportunities, agricultural and other extractive land uses, aesthetic enjoyment, and a variety of other ecosystem services such as shading, air purification, water filtration, and flood control. (<https://ourcountyla.lacounty.gov>)

Climate Vulnerability Assessment

According to "California's Fourth Climate Change Assessment" developed by the State of California, continued climate change will have a severe impact on California. Increased temperatures, drought, wildfires, and sea level rise are several of the main concerns related to climate change in the Southwest. Other impacts anticipated from climate change include food insecurity, increases in vector-borne diseases, degradation of air quality, reduced ability to enjoy outdoors, and potential economic impacts due to uncertainty and changing conditions.

Climate change disproportionately affects those with existing disadvantages. Low-income communities and communities of color often live in areas with conditions that expose them to more severe hazards, such as higher temperatures and worse air quality. These communities also have fewer financial resources to adapt to these hazards. For instance, low-income populations may reduce air conditioning usage out of concerns about cost. Outdoor workers, individuals with mobility constraints, and sensitive populations such as the very young, elderly, and poor, as well as those with chronic health conditions, are particularly at risk of climate change hazards.

To understand how climate change might affect the Walnut Valley Water District, the Cal-Adapt tool was used to analyze data. "Cal-Adapt provides a way to explore peer-reviewed data that portrays how climate change might affect California at the state and local level" (cal-adapt.com). Cal-Adapt can provide a climate snapshot for an address, county, city, census tract, or watershed. The City of Walnut was used to analyze climate effect on the water district.

Increased Temperature: Annual maximum temperatures in the City of Walnut are expected to rise steadily through the end of the century. The City's historical average maximum temperature is based on data from 1961-1990, is 78.0°F. Under the medium emissions scenario, the average annual maximum temperature is projected to increase to 82.2°F during the Mid-Century (2035-2064). Between 2070 and 2099 the annual average maximum temperature under the high-emission scenario is projected to increase to 86.5°F.



More Extreme Heat Days: Extreme Heat Days occur when the maximum temperature is above 100.5°F. Historically the City of Walnut has experienced an average of 3 extreme heat days per year. By mid-century, 2025-2064, the annual number of extreme heat days is expected to rise to 14 under medium emission scenarios and 18 under high emission scenarios. By the end of the century, 2070 and 2099, the number of extreme heat days is expected to rise to 19 under medium emission scenarios and 37 under high emission scenarios.

Static Annual Precipitation: Historically the City of Walnut has experienced an annual average of 16.5 inches of precipitation. Annual precipitation is expected to remain static during the mid-century. Under the medium emission scenario, it is expected that the annual precipitation will remain steady at 16.1 inches. Under the high emission scenario, it is expected that the annual precipitation will be 16.2 inches. By the end of the century annual precipitation is expected to increase to 16.6 inches under the medium emission scenario and 16.2 inches under the high emission scenario.

Longer and More Extreme Droughts: The City of Walnut can expect to see a 11.7% Increase in average temperature and a 26.6% decrease in precipitation during drought conditions. This will lead to longer, more extreme drought conditions in the late century.

Steady Wildfire Threat: Wildfire data is analyzed at the county level. The City of Walnut is within the county of Los Angeles. Based on historical data from 1961–1990, Los Angeles County experiences a decadal average loss of 4,436.1 hectares to wildfire. The probability that a wildfire will occur in any one year over a 10-year period, known as the decadal probability, is projected to remain constant through 2099 under both high-emissions and low emissions scenarios. Under the low-emissions scenario, the decadal average loss to wildfire is expected to increase to 5,719.2 hectares by mid-century and 5662.9 hectares by 2099. Under the high-emissions scenario, the decadal average loss to wildfire is projected to rise to 5,579.7 hectares by 2065 and 5,275.4 hectares by the end of the century.

Hazard Map

Utilizing California’s “MyHazards” online hazard mapping resource, the following map identifies earthquake, flooding, liquefaction, and wildfire threats. MyHazards was designed by the State of California as a tool for the general public to discover hazards in their area (earthquake, flood, fire, and tsunami) and learn steps to reduce personal risk. Using the MyHazards tool, users may enter an address, city, zip code, or may select a location from a map. The map targets the location and allows users to zoom and scroll to their desired view. The screen then presents information on the risks identified within the search radius, and recommended actions. MyHazards website performs best when using Internet Explorer. Hazard Data is approximate and data layer visibility are subject to the extent of the Map. To access MyHazards to create a map of your own, follow the link to MyHazards (<https://myhazards.caloes.ca.gov/>).

Below is the MyHazards map prepared for the Walnut Valley Water District.



Map: MyHazards for Walnut Valley Water District
(Source: Cal OES 2022)



State Responsibility Areas (2007), Severity

-  SRA, Very High
-  SRA, High
-  SRA, Moderate

California_Tsunami_Hazard_Areas




Earthquake Fault Zone of Required Investigation



100-Year Floodplains

-  FEMA/DWR Awareness/Regional Studies /USACE Comprehensive Study

Liquefaction Zone of Required Investigation

-  Liquefaction Zone Area

The State Responsibility Area (SRA) is the area of the state where the State of California is financially responsible for the prevention and suppression of wildfires. SRA does not include lands within city boundaries or in federal ownership. FEMA's Flood Map Service Center (<https://msc.fema.gov/portal/>)



Hazard Identification and Profile

The MJHMP Planning Team identified hazards posing a significant threat to the entire project area (Public Water Agencies Group Footprint). That determination was based on reviewing the State Hazard Mitigation Plan and the 2019 County of Los Angeles All-Hazards Mitigation Plan.

The MJHMP Planning Team chose to analyze all of the hazards included in the County of Los Angeles AHMP which included: earthquake, flood, landslide, wildfire, tsunami, dam failure, climate change, and drought.

The MJHMP consists of two parts: 1) Rowland Water District Base Plan, including the planning process, risk assessment and other FEMA mandated information, and 2) Annexes for each of the other agencies participating in the MJHMP planning process.

Next, the MJHMP Planning Team utilized a hazard ranking tool known as the Calculated Priority Risk Index. As a whole, the MJHMP Planning Team completed a CPRI for the project area. The CPRI instructions, key, and results are located in the MJHMP Base Plan – Risk Assessment. The Base Plan also includes a hazard assessment for each of the identified hazards including hazard identification, previous occurrences, local conditions, impacts, and vulnerabilities.

Then, each of the participating agencies worked off of the Project Area CPRI to rank the hazards for their particular agency. Each agency was provided with a list of the Project Area hazards, a copy of the project area CPRI, instructions, and index key to complete an agency-specific CPRI with the assistance of district staff. The results were used to prioritize hazard rankings (high, medium, and low) which drove development of the Agency’s Mitigation Actions Matrix (located at the end of the Annex).

Following is the Walnut Valley Water District CPRI and the CPRI Index Key which explains the rating system:

Table: Walnut Valley Water District CPRI

Source: District Planning Team, Emergency Planning Consultants, 2023

Hazard	Probability	Weighted 45% (x.45)	Magnitude Severity	Weighted 30% (x.3)	Warning Time	Weighted 15% (x.15)	Duration	Weighted 10% (x.1)	CPRI Total	Hazard Priority Ranking* (H-High, M-Medium, L-Low)
Dam Failure	1	0.45	1	0.30	2	0.30	1	0.10	1.15	N/A
Drought	4	1.80	1	0.30	1	0.15	4	0.40	2.65	M
Earthquake	3	1.35	4	1.20	4	0.60	2	0.20	3.35	H
Flood	1	0.45	1	0.30	1	0.15	2	0.20	1.10	N/A
Utility Related	3	1.35	2	0.60	4	0.60	1	0.10	2.65	M
Wildfire	2	.90	1	0.30	4	0.60	3	0.30	2.10	L
Windstorm	2	0.90	1	0.30	1	0.15	3	0.30	1.65	L

* Hazard Priority Ranking:

High = CPRI score for probability + magnitude/severity (impact) = 6 or higher

Medium = CPRI score for probability + magnitude/severity (impact) = 5

Low = CPRI score for probability + magnitude/severity (impact) = 3 or 4

N/A = CPRI score for probability + magnitude/severity (impact) = 2



Table: Calculated Priority Risk Index Key
Source: FEMA Emergency Management Institute

CPRI Category	Degree of Risk			Assigned Weighting Factor
	Level ID	Description	Index Value	
Probability	Unlikely	Extremely rare with no documented history of occurrences or events. Annual probability of less than 1 in 1,000 years.	1	45%
	Possibly	Rare occurrences. Annual probability of between 1 in 100 years and 1 in 1,000 years.	2	
	Likely	Occasional occurrences with at least 2 or more documented historic events. Annual probability of between 1 in 10 years and 1 in 100 years.	3	
	Highly Likely	Frequent events with a well-documented history of occurrence. Annual probability of greater than 1 every year.	4	
Magnitude/ Severity	Negligible	Negligible property damage (less than 5% of agency-owned critical and non-critical facilities and infrastructure). Injuries or illnesses are treatable with first aid and there are no deaths. Negligible loss of quality of life. Shut down of critical public facilities for less than 24 hours.	1	30%
	Limited	Slight property damage (greater than 5% and less than 25% of agency-owned critical and non-critical facilities and infrastructure). Injuries or illnesses do not result in permanent disability, and there are no deaths. Moderate loss of quality of life. Shut down of critical public facilities for more than 1 day and less than 1 week.	2	
	Critical	Moderate property damage (greater than 25% and less than 50% of agency-owned critical and non-critical facilities and infrastructure). Injuries or illnesses result in permanent disability and at least 1 death. Shut down of critical public facilities for more than 1 week and less than 1 month.	3	
	Catastrophic	Severe property damage (greater than 50% of agency-owned critical and non-critical facilities and infrastructure). Injuries and illnesses result in permanent disability and multiple deaths. Shut down of critical public facilities for more than 1 month.	4	
Warning Time	> 24 hours	Population will receive greater than 24 hours of warning.	1	15%
	12–24 hours	Population will receive between 12-24 hours of warning.	2	
	6-12 hours	Population will receive between 6-12 hours of warning.	3	
	< 6 hours	Population will receive less than 6 hours of warning.	4	
Duration	< 6 hours	Disaster event will last less than 6 hours	1	10%
	< 24 hours	Disaster event will last less than 6-24 hours	2	
	< 1 week	Disaster event will last between 24 hours and 1 week.	3	
	> 1 week	Disaster event will last more than 1 week	4	



Hazard Profile

The Base Plan – Risk Assessment described hazards by location, extent, probability, and recent occurrence. Table: Hazard Profile from the Base Plan was customized below for the Walnut Valley Water District hazards identified as “medium” or “high” in the Priority Rankings.

Table: Hazard Profile of Location, Extent, Probability, and Recent Significant Occurrence for the District
Source: District Planning Team, Emergency Planning Consultants

Hazard	Location (Where)	Extent (How Big an Event)	Probability (How Often) *	Recent Significant Occurrence
Earthquake	Entire District	The Southern California Earthquake Center (SCEC) in 2007 concluded that there is a 99.7 % probability that an earthquake of M6.7 or greater will hit California within 30 years. ¹	Likely	The most recent damaging earthquake was the M6.7 Northridge Earthquake in 1994.
Drought	Entire District	Whether a regional severe drought or an outage, the District is totally dependent on imported water. Urban areas could vary considerably in scope and intensity. Likely emergency water shortage regulations would restrict such activities as watering of landscape, washing of cars, and other non-safety related activities.	Highly Likely	Water providers following Governor Newsom’s Executive Order N-7-22 on March 22, 2022 calling on urban water suppliers to implement actions to reduce water usage by 20-30 percent, depending on local conditions.
Utility Related	Entire District	Public Safety Power Shutoff poses significant threat to water providers and customers.	Likely	No recent significant events.
* Probability is defined as: Unlikely = 1:1,000 years, Possibly = 1:100-1:1,000 years, Likely = 1:10-1:100 years, Highly Likely = 1:1 year				
¹ Uniform California Earthquake Rupture Forecast				



Critical and Essential Facilities List

The Critical and Essential Facilities List was prepared for each of the water district offices and facilities within the project area. Hazard maps from the 2019 County of Los Angeles All-Hazards Mitigation Plan were used as a basis for determining whether or not a facility was located in or near a hazard. See additional language below on vulnerability to the identified hazards.

Table: Hazard Proximity to Critical and Essential Facilities
(Source: Emergency Planning Consultants)

Y – Yes, area is within hazard zone **N** – No, area is not within hazard zone

District Facilities	Earthquake	Drought	Utility Related
Ambushers 21500 Ambushers Street, Diamond Bar	Y	Y	Y
Arbor Ridge 19725 Arbor Ridge Drive, Walnut	Y	Y	Y
Armitos 631 Armitos Place, Diamond Bar	Y	Y	Y
J.P. Bourdet NW Corner of Grand Avenue & Valley Boulevard, Walnut	Y	Y	Y
Brea Canyon Cut-off 2101 Brea Canyon Cut-off Road, Diamond Bar	Y	Y	Y
Brea Canyon Road – skid mounted recycled 1401 S. Brea Canyon Rd., Diamond Bar	Y	Y	Y
Chestnut Hill 1624 Chestnut Hill Drive, Walnut	Y	Y	Y
Colima 21092 Colima Road, Rowland Heights	Y	Y	Y
Diamond Bar 261 S. Diamond Bar Boulevard, Diamond Bar	Y	Y	Y
Main District Office – Front and Rear Buildings 271 S. Brea Canyon Road, Walnut	Y	Y	Y
New District Office (2023 under construction) 21220 Commerce Pointe Drive, Walnut 235 S. Brea Canyon Road, Walnut	Y	Y	Y
Eastgate 24495 Eastgate Drive, Diamond Bar	Y	Y	Y
Eldertree 1560 Eldertree Drive, Diamond Bar	Y	Y	Y
Fern Hollow 1815 Fern Hollow Drive, Diamond Bar	Y	Y	Y
Grand Crossings 21401 Grand Crossings Parkway, City of Industry	Y	Y	Y

Multi-Jurisdictional Hazard Mitigation Plan
Annex: Walnut Valley Water District



District Facilities	Earthquake	Drought	Utility Related
Heidelberg 20349 Temple Avenue, Walnut	Y	Y	Y
Hillrise 2799 S. Hillrise Drive, Walnut	Y	Y	Y
IBC Reservoir 21959 Industry Way, Diamond Bar	Y	Y	Y
North Diamond Bar 148 S. Diamond Bar Boulevard, Diamond Bar	Y	Y	Y
Oakleaf Canyon 2400 Oakleaf Canyon Road., Walnut,	Y	Y	Y
Parker Canyon (Recycled) 1355 Parker Canyon Road., Walnut	Y	Y	Y
Parker Canyon (Potable) 1355 Parker Canyon Road., Walnut	Y	Y	Y
Pathfinder 21014 Pathfinder Road, Diamond Bar	Y	Y	Y
Pepperdale 2320 Pepperdale Drive, Rowland Heights	Y	Y	Y
Pioneer 1452 N. Pioneer Way, Walnut	Y	Y	Y
Rapidview 1324 Rapidview Drive, Diamond Bar	Y	Y	Y
Reclaimed Well #1 711 Fairway Drive, Walnut	Y	Y	Y
Reclaimed Well #2 280 Machlin Court, Industry	Y	Y	Y
Reclaimed Well #3 20625 ½ Lycoming Street, Walnut	Y	Y	Y
Reclaimed Well #4 21535 Baker Parkway, Industry	Y	Y	Y
Reclaimed Well #5 20405 Business Parkway, Industry	Y	Y	Y
Ridgecrest 23720 Ridgecrest Court, Diamond Bar	Y	Y	Y
Ridge Line 22938 Ridge Line Road, Diamond Bar	Y	Y	Y
Snow Creek	Y	Y	Y



District Facilities	Earthquake	Drought	Utility Related
22000 La Puente Road, Walnut			
Sylvan Glen 24398 Sylvan Glen Road, Diamond Bar	Y	Y	Y
Terminal Storage 1070 Ironshoe Court, Walnut	Y	Y	Y
Walnut Leaf 1629 Walnut Leaf Drive, Walnut	Y	Y	Y

* See Base Plan for information regarding NFIP regulations.

Summary of Vulnerability

The MJHMP Base Plan – Risk Assessment provides a complete risk and vulnerability assessment for each of the project area hazards.

Following is a summary of vulnerability to the hazards identified as impacting the Walnut Valley Water District offices, 8 warehouse buildings, 5 wells, and other assets valued at \$463,856,000. Note: these estimates are based on 2023.

Mitigation actions are located at the end of this Annex that directly address these vulnerabilities.

Capability Assessment

The agency will incorporate mitigation planning as an integral component of daily operations. This will be accomplished through the leadership of the agency’s Planning Team representative in coordination with agency departments or positions involved in integrating mitigation strategies into their planning documents and operational guidelines. FEMA identifies four types of capabilities (see MJHMP Base Plan for definitions of the four capabilities):

- ✓ Planning and Regulatory
- ✓ Administrative and Technical
- ✓ Financial
- ✓ Education and Outreach

The table below includes a broad range of capabilities within the agency to successfully accomplish mitigation.



Table: Capability Assessment for Walnut Valley Water District
Source: District Planning Team

Type of Capability				Name of Capability	Capability Description and Ability to Support Mitigation
Planning and Regulatory	Administrative and Technical	Financial	Education and Outreach		
X	X			Administration Department	Administration consists of the General Manager, Assistant General Manager, and Executive Secretary. The General Manager is the liaison to the Board of Directors and oversees the day to day operations of the District. The General Manager provides leadership and initiates strategic planning to implement the goals and the vision of the Board of Directors. The Strategic Plan provides guidance in establishing long-term organizational goals, and the General Manager utilizes the talent and skills of the entire staff to fulfill the organizational objectives. Administration will be instrumental in supporting the development, maintenance, and implementation of the Hazard Mitigation Plan, including the mitigation actions.
X	X		X	Administrative Services Department - Human Resources & Risk Management Division	Administrative Services – Human Resources and Risk Management is responsible for ensuring the District initiates and facilitates strategies for building a workforce which supports and enhances the organizational objectives and values. In addition to workforce development, this Division is responsible for overseeing employee benefits, classification and compensation, policies and procedures, employee relations, administrative support, and employee development. Risk Management promotes and provides a safe and secure work environment for employees. The risk management program includes employee safety and training programs, workers compensation, emergency management and disaster preparedness, loss prevention, and general auto and property liability insurance for the District. The Human Resources & Risk Management Division is identified as a coordinating agency for several mitigation actions.
X	X			Administrative Services Department - Information Technology Division	Administrative Services – Information Technology provides comprehensive technology planning, development, integration, operation, maintenance, and support to all areas of the District to maximize efficiency. The Division’s primary responsibilities include day-to-day network center operation and the provision of a safe and secure network environment for centralized data libraries and equipment. Extended responsibilities include access control systems, audiovisual systems, data storage, database systems, disaster recovery, mobile devices, network intrusion prevention, printers, scanners, multifunction copiers, servers, workstations, software development, software implementation, telecommunications, telephone system, video surveillance security systems, WI-FI, and Internet. Administrative Services – Information Technology is identified as a coordinating agency for several mitigation action items.
X	X		X	External Affairs and	External Affairs and Sustainability oversees strategic communications,



Type of Capability				Name of Capability	Capability Description and Ability to Support Mitigation
Planning and Regulatory	Administrative and Technical	Financial	Education and Outreach		
				Sustainability Department	community outreach, water conservation programs, public education, drought outreach, special events, school education programs, regional collaboration projects focused on water-use efficiency, brand management, social media, and media relations for the District. A number of communication methods are used to disseminate information to customers, community members, locally elected representatives, the WVWD workforce, and regional industry partners to strengthen the WVWD brand within the community and throughout the water industry. Efforts include e-newsletters, specialized messaging, website management, social media outreach, community workshops, community marketing, videos and commercials, District apparel, logos, and signage on vehicles and billboards. Each of these elements plays a critical role in promoting the District's strategic vision, mission, and values. Mitigation actions related to the private construction of new structures or retrofits or improvements to existing structures may be supported by strategic outreach and public education efforts by the External Affairs and Sustainability Department. External Affairs and Sustainability is identified as a coordinating agency for several mitigation action items.
X	X	X		Engineering Department	Engineering oversees the management of capital improvement projects, water resource management, the District's Master Plans for water and recycled water, and all engineering and planning work. The Department conducts water supply analysis and makes projections of future water supply needs based on estimates of development activities and other factors; develops and recommends short- and long-term plans and strategies for meeting expected demand. This Department helps develop and coordinate a variety of water resource programs and activities, including but not limited to, use of recycled water, groundwater basin management, and planning and conducting research projects associated with water resources. Engineering maintains and runs the District's water hydraulic model for the purposes of planning and design. This Department prioritizes and establishes schedules and methods for the design and construction of District capital improvement projects; monitors and oversees engineering design activities, including those prepared by consultants; prepares or reviews engineering plans, cost estimates, labor proposals, agreements, public works contracts, and project specifications. In addition, the Engineering Department is identified as the coordinating agency for several mitigation action items. This Department is responsible for coordination and participation in database management for both the Geographic Information System (GIS) and AutoCAD applications. This Department updates and maintains GIS and AutoCAD databases for water and recycled water facilities from



Type of Capability				Name of Capability	Capability Description and Ability to Support Mitigation
Planning and Regulatory	Administrative and Technical	Financial	Education and Outreach		
					construction drawings to as-built information; performs data capturing and conversion, data entry, and graphic editing activities; develops user friendly file management systems and completes geographic data analyses. Engineering enforces and gains compliance of applicable District, local, regional, state and federal rules and best practices related to water and recycled water from residential, commercial and industrial developers. This is done by an application and plan check process for all new development projects and tenant improvements of existing developments. The Engineering Department will actively support numerous mitigation action items.
X	X	X		Finance Department – Accounting Division	Finance Department - Accounting Division manages the budgeting process, forecasting financial needs, and tracking expenses related to operating and capital expenditures. This Division works closely with other departments to ensure that costs are spent according to the procurement policy, track the costs related to different funding sources, and ensure compliance or applicable regulations with those funding sources. As a way to ensure transparency, the Finance Department - Accounting prepares monthly financial statements and as well prepares an Annual Comprehensive Financial Report. In addition, this Division maintains federal, state, and local regulatory compliance with regards to payroll, accounts payable, accounts receivable, and reporting.
X	X			Operations Department – Construction Inspection Division	Operations – Construction Inspection Division conducts construction inspections of water and recycled water systems for a variety of District or developer-built projects.
X	X			Operations Department – Production Division	Operations - Production and Storage is responsible for District-wide water quality monitoring, state and federal drinking water regulatory compliance, and the operation and maintenance of the reservoirs, pump stations, wells, pressure relief valves, emergency booster stations, and import water connections. Water sources include reclaimed and local ground water used as recycled water, as well as imported treated water. In addition, the Division is responsible for daily monitoring, maintenance, and repair of the District's 5 reclaimed groundwater wells, 56 boosters, 28 reservoirs, 41 pressure reducing stations, and 5 import water connections. This Division operates and maintains the District's telemetry, including electrical, communications, and controls for the District's facilities. The Operations – Production and Storage Division is identified as the coordinating agency for several mitigation action items.
X	X			Operations Department – Field Services Division	Operations – Field Services is responsible for the maintenance and repair of the District's water system infrastructure, which includes mains, hydrants, valves, services, and implementation of preventative maintenance programs. The Division strives to provide timely service on all customer requests, exceptional customer service and responds 24



Type of Capability				Name of Capability	Capability Description and Ability to Support Mitigation
Planning and Regulatory	Administrative and Technical	Financial	Education and Outreach		
					hours a day, 365 days a year to all water emergencies. The Operations – Field Services Division is identified as the coordinating agency for several mitigation action items.
	X	X	X	Finance Department – Customer Service Division	Finance – Customer Service are the first responders to customer inquiries. They provide information and assist customers with their bill statement, new service applications, customer account issues, payment processing and bill pay assistance, leak detection, backflow and recycled system compliance, and water quality calls for over 27,000 accounts. Finance – Customer Service is identified as supporting several mitigation action items.
X	X			Finance Department – General Services and Procurement Division	Finance - General Services and Procurement is responsible for the maintenance, repair, and general upkeep of the District’s buildings, and coordinates the maintenance and repair of the District’s vehicles and heavy equipment. General Services is also responsible for logistical set-up for all District events, including the District’s Board of Director’s and committee meetings. This Division also serves as central purchasing for the District and assists in the research and procurement of District materials and supplies. They issue Requests for Bids/Proposals, evaluate proposals for compliance, and coordinate orders and deliveries. The General Services and Procurement Division is identified as the coordinating agency for several mitigation action items.
X	X		X	Emergency Response Plan	Emergency Response Plan is a reference and guidebook to operations during a major emergency impacting the District. The Plan includes a discussion on a wide range of hazards, organization and staffing of the Emergency Operations Center, and connectivity with field responders and external agencies.
X	X	X		Urban Water Management Plan	The Urban Water Management Plan was last updated in 2021. This plan outlines water infrastructure and supply needs, as well as drought response.
X	X	X		Long-Term Financial Master Plan	The District completed a Long-Term Financial Master Plan during FY 2023.
X	X		X	Strategic Vision Plan	The District completed a Strategic Vision Plan setting District priority during FY 2019.

Expanding and Improving District Capabilities

Planning and Regulatory Capabilities – The Walnut Valley Water District oversees the management of capital improvement projects, water resource management, the District’s Master Plans for water, and water supplies as well as all engineering and planning work. The District also updated the Urban Water Management Plan in 2021. This plan outlines the water infrastructure needs until the district reaches build-out.



Administrative and Technical - The District has existing capabilities that are typical for water service providers. The District has a General Manager who leads strategic planning and overall management of day-to-day activities. Third party consultants manage the information technology, engineering, engineering design, and Geographic Information Systems. Additionally, the District has an Emergency Response Plan to reference and guide operations during a major emergency impacting the service area.

Finance - The District completed a 10 year financial master plan. This plan identifies key infrastructure upgrades and allocated budgets. Additionally, the Urban Water Management Plan outlines water infrastructure needs. Other funding sources should be kept in mind for future mitigation activities.

Education and Outreach – The District has a team that oversees strategic community outreach, water conservation outreach, special events, and other education programs. The team utilizes a number of different communication methods to disseminate information. Mitigation actions related to the private construction of new structures or retrofits or improvements to existing structures may be supported with public education and other efforts of the External Affairs and Sustainability Department.

Plan Implementation

As identified in the MJHMP Base Plan, the MJHMP Planning Team has agreed to reconvene on a bi-annual basis to review the Base Plan and Annexes. In addition to those meetings, the district representative will gather a Planning Team together on a quarterly basis to discuss the Agency's Mitigation Actions Matrix. The members of the District's Team will represent the departments/positions with responsibilities identified in the Mitigation Actions Matrix. See MJHMP Base Plan – Mitigation Strategies section for a description of the categories portrayed in the Matrix.

Integration with Existing Programs

The Mitigation Plan provides a series of recommendations - many of which are closely related to the goals and objectives of existing planning programs. The District's Local Mitigation Officer will be responsible for implementing recommended mitigation action items through existing programs and procedures.

Some of the goals and action items in the MJHMP will be achieved through activities recommended in the agency's policy, capital, and funding documents. The MJHMP will be reviewed on a bi-annual basis during a gathering of the various MJHMP Local Mitigation Officers. Upon the bi-annual review, the District's Local Mitigation Officer will work with other agency departments or positions to identify areas that the Mitigation Actions Matrix items are consistent with the policy, capital, and funding documents to ensure the Plan goals and action items are implemented in a timely fashion.

Upon FEMA approval, the MJHMP Planning Team will begin the process of incorporating risk information and mitigation action items into existing planning mechanisms. The bi-annual meetings of the Team will provide an opportunity for Team members to report back on the progress made on the integration of mitigation planning elements into the planning documents



and procedures of the various jurisdictions. Specifically, the District's Local Mitigation Officer will utilize the following sections of the Plan to make revisions to other documents within the Agency:

- ✓ Risk Assessment Section (Base Plan), Agency Profile, Planning Process (stakeholders) – Emergency Response Plan, Facilities Maintenance Plans, Urban Water Management Plan, Risk and Resilience Assessment, etc.
- ✓ Mitigation Actions Matrix – Capital Projects, Grants, Bonds



Mitigation Actions Matrix

Action Item	Lead Department or Position	Timeline	Goal: Protect Life and Property	Goal: Increase Public Awareness	Goal: Protect Natural Systems	Goal: Improve Partnerships and Implementation	Emergency Services	Priority: L-Low, M-Medium, H-High	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, CIP-Capital Improvement Program, STEP-Strategic Plan, WP-Water Plan	Planning Mechanism: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, CIP-Capital Improvement Program, STEP-Strategic Plan, WP-Water Plan	Buildings & Infrastructure: Does the Action item involve new and/or existing Buildings & Infrastructure? Y=Yes, N=No	Comments 2023
Multi-Hazard Action Items														
MH-1 Purchase solar power equipment, storage, and charging stations for emergency and SCADA equipment.	Engineering, Operations, and Procurement	2-5 years			X	X	X	M	H	M	HMGP, BRIC, GF, CIP	HMGP, BRIC, GF, CIP	Y	
MH-2 Purchase of critical piping or hardware to facilitate emergency repairs.	Operations and Procurement	1-2 years			X	X	X	H	H	I	CIP, GF	CIP, GF	Y	
MH-3 Purchase emergency mobile & fixed power generators	Operations and Procurement	2-5 years			X		X	H	H	M	CIP	CIP, STEP	Y	
MH-4 Purchase of Reverse 911 system for public notification and guidance during emergency events.	IT, Customer Service, and External Affairs	3-5 years	X	X		X	X	H	H	L	GF	STEP, GF	N	
MH-5 Purchase an emergency water quality Reservoir Control	Operations and General Services	2-5 years					X	H	H	H	HMGP, BRIC, CIP	HMGP, BRIC, CIP, STEP	Y	

Multi-Jurisdictional Hazard Mitigation Plan
Annex: Walnut Valley Water District



Action Item	Lead Department or Position	Timeline	Goal: Protect Life and Property	Goal: Increase Public Awareness	Goal: Protect Natural Systems	Goal: Improve Partnerships and Implementation	Emergency Services	Priority: L-Low, M-Medium, H-High	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, CIP-Capital Improvement Program, STEP-Strategic Plan, WP-Water Plan	Planning Mechanism: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, CIP-Capital Improvement Program, STEP-Strategic Plan, WP-Water Plan	Buildings & Infrastructure: Does the Action Item involve new and/or existing Buildings & Infrastructure? Y=Yes, N=No	Comments 2023
System (RCS) trailer for use in emergency disinfection.														
MH-6 Purchase of emergency inter-tie pumps, pressure regulators, and piping for the potable water system.	Operations and Finance	2-5 years				X	X	H	H	M	HMGP, BRIC, CIP	HMGP, BRIC, CIP, STEP, WP	Y	
MH-7 Purchase a trailer or truck mounted fuel mobile tanker (<500 gal) to facilitate the on-site fueling of equipment during emergency events.	General Services	2-5 years				X	X	M	H	H	HMGP, BRIC, CIP	HMGP, BRIC, CIP, STEP	N	
MH-8 Purchase construction equipment (i.e., shoring plates and excavators) to facilitate response and recovery in emergency events.	Operations and Finance	2-5 years	X		X		X	M	H	M	HMGP, BRIC, CIP	HMGP, BRIC, CIP, STEP	N	
MH-9 Purchase of specialized equipment and training for confined space rescue.	Operations, Administrative Services, and Procurement	1-3 years	X			X	X	H	H	L	GF, CIP, HMGP, BRIC	GF, CIP, HMGP, BRIC, STEP	N	

Multi-Jurisdictional Hazard Mitigation Plan
Annex: Walnut Valley Water District



Action Item	Lead Department or Position	Timeline	Goal: Protect Life and Property	Goal: Increase Public Awareness	Goal: Protect Natural Systems	Goal: Improve Partnerships and Implementation	Emergency Services	Priority: L-Low, M-Medium, H-High	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, CIP-Capital Improvement Program, STEP-Strategic Plan, WP-Water Plan	Planning Mechanism: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, CIP-Capital Improvement Program, STEP-Strategic Plan, WP-Water Plan	Buildings & Infrastructure: Does the Action Item involve new and/or existing Buildings & Infrastructure? Y=Yes, N=No	Comments 2023
MH-10 Purchase and store emergency food, water, and supplies for staff and families to facilitate response and recovery to long term emergency event.	Administrative Services and Procurement	Ongoing	X	X		X	X	H	H	L	GF, HMGP, BRIC	GF, HMGP, BRIC, STEP	Y	
MH-11 Purchase and provide training for personal protective equipment in preparation for natural hazard events.	Administrative Services and Procurement	Ongoing	X			X	X	H	H	L	GF	GF, STEP	N	
MH-12 Purchase additional satellite phones for use during natural events resulting in utility outages.	Administrative Services and Procurement	2-5 years	X	X		X	X	M	H	H	HMGP, BRIC	HMGP, BRIC, STEP	N	
MH-13 Purchase water truck for dust control, fire suppression, and emergency water delivery.	Operations and Finance	3-5 years	X	X	X	X	X	M	H	H	HMGP, BRIC	HMGP, BRIC, STEP	N	
MH-14 Purchase high line water piping for emergency water repairs and distribution.	Operations and Finance	2-5 years	X	X		X	X	H	H	M	GF, CIP	STEP, WP	N	

Multi-Jurisdictional Hazard Mitigation Plan
Annex: Walnut Valley Water District



Action Item	Lead Department or Position	Timeline	Goal: Protect Life and Property	Goal: Increase Public Awareness	Goal: Protect Natural Systems	Goal: Improve Partnerships and Implementation	Emergency Services	Priority: L-Low, M-Medium, H-High	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Funding Source: GF-General Fund, HMGF-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, CIP-Capital Improvement Program, STEP-Strategic Plan, WP-Water Plan	Planning Mechanism: GF-General Fund, HMGF-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, CIP-Capital Improvement Program, STEP-Strategic Plan, WP-Water Plan	Buildings & Infrastructure: Does the Action Item involve new and/or existing Buildings & Infrastructure? Y=Yes, N=No	Comments 2023
MH-15 Purchase off-road utility vehicles for use during inclement weather and other emergencies requiring immediate access to otherwise impassable service areas.	Operations and Finance	3-5 years	X			X	X	M	H	M	CIP	STEP	N	
MH-16 Purchase hydro-excavator truck which will provide Operations with the ability to dig and repair water leaks by combining high-pressure water jetting and a high-flow vacuum.	Operations and Finance	3-5 years	X		X		X	M	H	H	HMGP, BRIC, CIP	STEP, CIP	N	
MH-17 Purchase emergency lighting equipment for use during inclement weather and nighttime emergency repairs and construction.	Operations and Procurement	1-3 years	X	X			X	H	H	L	GF	STEP	N	
MH-18 Purchase K-Rails for use in retaining and controlling	Operations and Finance	3-5 years	X	X	X	X	X	M	H	H	HMGP, BRIC	STEP	N	

Multi-Jurisdictional Hazard Mitigation Plan
Annex: Walnut Valley Water District



Action Item	Lead Department or Position	Timeline	Goal: Protect Life and Property	Goal: Increase Public Awareness	Goal: Protect Natural Systems	Goal: Improve Partnerships and Implementation	Emergency Services	Priority: L-Low, M-Medium, H-High	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, CIP-Capital Improvement Program, STEP-Strategic Plan, WP-Water Plan	Planning Mechanism: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, CIP-Capital Improvement Program, STEP-Strategic Plan, WP-Water Plan	Buildings & Infrastructure: Does the Action Item involve new and/or existing Buildings & Infrastructure? Y=Yes, N=No	Comments 2023
flood waters and other spills during emergencies.														
MH-19 Purchase high reach man lift for use during emergencies.	Operations and Finance	3-5 years					X	M	H	M	HMGP, BRIC, CIP	STEP, CIP	N	
MH-20 Purchase a large articulating forklift for placing K-Rails and other heavy equipment during emergency mitigation, response, and recovery.	Operations and Finance	3-5 years	X	X	X		X	M	H	H	HMGP, BRIC	STEP	N	
MH-21 Purchase two storage facilities for emergency repairs supplies including valves and pumps at Terminal Storage and Operations Building.	Operations, Engineering, and Finance	3-5 years	X			X	X	M	H	M	HMGP, BRIC, CIP	STEP, CIP	Y	
MH-22 Purchase a 10,000-gallon emergency fuel tank at satellite location.	Operations and General Services	3-5 years	X			X	X	H	H	H	HMGP, BRIC, CIP	STEP, CIP	Y	

Multi-Jurisdictional Hazard Mitigation Plan
Annex: Walnut Valley Water District



Action Item	Lead Department or Position	Timeline	Goal: Protect Life and Property	Goal: Increase Public Awareness	Goal: Protect Natural Systems	Goal: Improve Partnerships and Implementation	Emergency Services	Priority: L-Low, M-Medium, H-High	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, CIP-Capital Improvement Program, STEP-Strategic Plan, WP-Water Plan	Planning Mechanism: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, CIP-Capital Improvement Program, STEP-Strategic Plan, WP-Water Plan	Buildings & Infrastructure: Does the Action Item involve new and/or existing Buildings & Infrastructure? Y=Yes, N=No	Comments 2023
MH-23 Upgrade server hardware and software to effectively accommodate new business applications and transfer increased amounts of data quickly and reliably.	IT	Ongoing					X	M	H	M	HMGP, BRIC, CIP, GF	STEP, GF	N	
MH-24 Consider providing laptops, tablets, smartphones, wireless data, SCADA and DMMS to staff to increase communications	IT	Ongoing					X	H	H	L	HMGP, BRIC, CIP, GF	STEP, CIP	N	
MH-25 Joint Equipment and Supply Yard with Rowland Water District at Nogales St. and Gale Ave. Rowland Heights.	Administration and Operations	3-5 years	X	X	X	X	X	H	H	H	HMGP, BRIC, CIP	STEP, CIP	Y	
MH-26 Construct joint hydrogen fueling station with Rowland Water District and the City of Industry for utility vehicles and heavy equipment	Administration and Finance	3-5 years	X	X		X	X	H	H	H	HMGP, BRIC, CIP	STEP, CIP	Y	



Action Item	Lead Department or Position	Timeline	Goal: Protect Life and Property	Goal: Increase Public Awareness	Goal: Protect Natural Systems	Goal: Improve Partnerships and Implementation	Emergency Services	Priority: L-Low, M-Medium, H-High	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, CIP-Capital Improvement Program, STEP-Strategic Plan, WP-Water Plan	Planning Mechanism: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, CIP-Capital Improvement Program, STEP-Strategic Plan, WP-Water Plan	Buildings & Infrastructure: Does the Action Item involve new and/or existing Buildings & Infrastructure? Y=Yes, N=No	Comments 2023
MH-27 Purchase and installation of fire-resistant enclosures for SCADA and telemetry equipment.	Operations and Engineering	3-5 years					X	H	H	M	HMGP, BRIC, CIP	CIP	N	
MH-28 Upgrade and capital improvement of deficient or obsolete Infrastructure to enhance firefighting capabilities.	Engineering	Ongoing	X	X	X	X	X	H	H	M	HMGP, BRIC, CIP	CIP	N	
MH-29 Purchase sandbag filling machine or other form of barrier protection equipment for use during emergency mitigation and response.	Operations and General Services	3-5 years	X	X	X	X	X	L	H	L	HMGP, BRIC, CIP	STEP, CIP	N	
Earthquake Mitigation Action Items														
EQ-1 Purchase and Installation of Engineered Seismic Retrofits (e.g., Seismic Valves and Couplings) at Ambushers Reservoir	Operations and Engineering	3-5 years	X		X	X	X	H	H	M	HMGP, BRIC, CIP	STEP, CIP	N	



Action Item	Lead Department or Position	Timeline	Goal: Protect Life and Property	Goal: Increase Public Awareness	Goal: Protect Natural Systems	Goal: Improve Partnerships and Implementation	Emergency Services	Priority: L-Low, M-Medium, H-High	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, CIP-Capital Improvement Program, STEP-Strategic Plan, WP-Water Plan	Planning Mechanism: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, CIP-Capital Improvement Program, STEP-Strategic Plan, WP-Water Plan	Buildings & Infrastructure: Does the Action Item involve new and/or existing Buildings & Infrastructure? Y=Yes, N=No	Comments 2023
EQ-2 Purchase and Installation of Engineered Seismic Retrofits (e.g., Seismic Valves and Couplings) at Arbor Ridge Reservoir A.	Operations and Engineering	3-5 years	X		X	X	X	H	H	M	HMGP, BRIC, CIP	STEP, CIP	N	
EQ-3 Purchase and Installation of Engineered Seismic Retrofits (e.g., Seismic Valves and Couplings) at Arbor Ridge Reservoir B.	Operations and Engineering	3-5 years	X		X	X	X	H	H	M	HMGP, BRIC, CIP	STEP, CIP	N	
EQ-4 Purchase and Installation of Engineered Seismic Retrofits (e.g., Seismic Valves and Couplings) at Armitos Reservoir A.	Operations and Engineering	3-5 years	X		X	X	X	H	H	M	HMGP, BRIC, CIP	STEP, CIP	N	
EQ-5 Purchase and Installation of Engineered Seismic Retrofits (e.g., Seismic Valves and Couplings) at Armitos Reservoir B.	Operations and Engineering	3-5 years	X		X	X	X	H	H	M	HMGP, BRIC, CIP	STEP, CIP	N	



Action Item	Lead Department or Position	Timeline	Goal: Protect Life and Property	Goal: Increase Public Awareness	Goal: Protect Natural Systems	Goal: Improve Partnerships and Implementation	Emergency Services	Priority: L-Low, M-Medium, H-High	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, CIP-Capital Improvement Program, STEP-Strategic Plan, WP-Water Plan	Planning Mechanism: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, CIP-Capital Improvement Program, STEP-Strategic Plan, WP-Water Plan	Buildings & Infrastructure: Does the Action Item involve new and/or existing Buildings & Infrastructure? Y=Yes, N=No	Comments 2023
EQ-6 Purchase and Installation of Engineered Seismic Retrofits (e.g., Seismic Valves and Couplings) at Brea Canyon Reservoir A.	Operations and Engineering	3-5 years	X		X	X	X	H	H	M	HMGP, BRIC, CIP	STEP, CIP	N	
EQ-7 Purchase and Installation of Engineered Seismic Retrofits (e.g., Seismic Valves and Couplings) at Brea Canyon Reservoir B.	Operations and Engineering	3-5 years	X		X	X	X	H	H	M	HMGP, BRIC, CIP	STEP, CIP	N	
EQ-8 Purchase and Installation of Engineered Seismic Retrofits (e.g., Seismic Valves and Couplings) at Chestnut Hill Reservoir.	Operations and Engineering	3-5 years	X		X	X	X	H	H	M	HMGP, BRIC, CIP	STEP, CIP	N	
EQ-9 Purchase and Installation of Engineered Seismic Retrofits (e.g., Seismic Valves and Couplings) at Eldertree Reservoir A.	Operations and Engineering	3-5 years	X		X	X	X	H	H	M	HMGP, BRIC, CIP	STEP, CIP	N	



Action Item	Lead Department or Position	Timeline	Goal: Protect Life and Property	Goal: Increase Public Awareness	Goal: Protect Natural Systems	Goal: Improve Partnerships and Implementation	Emergency Services	Priority: L-Low, M-Medium, H-High	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Funding Source: GF-General Fund, HMGF-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, CIP-Capital Improvement Program, STEP-Strategic Plan, WP-Water Plan	Planning Mechanism: GF-General Fund, HMGF-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, CIP-Capital Improvement Program, STEP-Strategic Plan, WP-Water Plan	Buildings & Infrastructure: Does the Action Item involve new and/or existing Buildings & Infrastructure? Y=Yes, N=No	Comments 2023
EQ-10 Purchase and Installation of Engineered Seismic Retrofits (e.g., Seismic Valves and Couplings) at Eldertree Reservoir B.	Operations and Engineering	3-5 years	X		X	X	X	H	H	M	HMGP, BRIC, CIP	STEP, CIP	N	
EQ-11 Purchase and Installation of Engineered Seismic Retrofits (e.g., Seismic Valves and Couplings) at Oak Leaf Canyon Reservoir A.	Operations and Engineering	3-5 years	X		X	X	X	H	H	M	HMGP, BRIC, CIP	STEP, CIP	N	
EQ-12 Purchase and Installation of Engineered Seismic Retrofits (e.g., Seismic Valves and Couplings) at Oak Leaf Canyon Reservoir B.	Operations and Engineering	3-5 years	X		X	X	X	H	H	M	HMGP, BRIC, CIP	STEP, CIP	N	
EQ-13 Purchase and Installation of Engineered Seismic Retrofits (e.g., Seismic Valves and Couplings) at Pioneer Reservoir.	Operations and Engineering	3-5 years	X		X	X	X	H	H	M	HMGP, BRIC, CIP	STEP, CIP	N	



Action Item	Lead Department or Position	Timeline	Goal: Protect Life and Property	Goal: Increase Public Awareness	Goal: Protect Natural Systems	Goal: Improve Partnerships and Implementation	Emergency Services	Priority: L-Low, M-Medium, H-High	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, CIP-Capital Improvement Program, STEP-Strategic Plan, WP-Water Plan	Planning Mechanism: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, CIP-Capital Improvement Program, STEP-Strategic Plan, WP-Water Plan	Buildings & Infrastructure: Does the Action Item involve new and/or existing Buildings & Infrastructure? Y=Yes, N=No	Comments 2023
EQ-14 Purchase and Installation of Engineered Seismic Retrofits (e.g., Seismic Valves and Couplings) at Ridgecrest Reservoir.	Operations and Engineering	3-5 years	X		X	X	X	H	H	M	HMGP, BRIC, CIP	STEP, CIP	N	
EQ-15 Conduct inventory and identify action plan for retrofitting non-structural equipment and furniture, etc. against seismic activity.	Administrative Services and Operations	2-5 years	X				X	H	H	L	CIP, GF	CIP	N	
Drought Mitigation Action Items														
DR-1 Develop Water Master Plan to identify new potable source wells.	Engineering	2-5 years		X		X	X	H	H	M	HMGP, BRIC, CIP	STEP, CIP	Y	
DR-2 Encourage drought tolerant landscape and conservation outreach to facilitate greater resilience against drought and catastrophic water loss.	External Affairs	Ongoing		X		X		M	H	M	HMGP, BRIC, GF	STEP	N	



Action Item	Lead Department or Position	Timeline	Goal: Protect Life and Property	Goal: Increase Public Awareness	Goal: Protect Natural Systems	Goal: Improve Partnerships and Implementation	Emergency Services	Priority: L-Low, M-Medium, H-High	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Funding Source: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, CIP-Capital Improvement Program, STEP-Strategic Plan, WP-Water Plan	Planning Mechanism: GF-General Fund, HMGP-Hazard Mitigation Grant Program, BRIC-Building Resilient Infrastructure & Communities, CIP-Capital Improvement Program, STEP-Strategic Plan, WP-Water Plan	Buildings & Infrastructure: Does the Action Item involve new and/or existing Buildings & Infrastructure? Y=Yes, N=No	Comments 2023
DR-3 Develop Recycled Water Master Plan to expand non-potable water system to facilitate greater resilience against drought and catastrophic water loss.	Engineering	2-5 years		X		X	X	H	H	M	HMGP, BRIC, CIP	STEP, CIP	N	
Utility Related Action Items														
UR-1 Enhance website/public notification/outreach application to notify customers of outages and provide information.	External Affairs	1-3 years	X	X		X	X	M	H	L	HMGP, BRIC, CIP, GF	STEP, CIP	N	