

August 22, 2025 | Rowland Water District Multi-Jurisdictional Hazard Mitigation Plan



Base Plan



# Credits

## Q&A | ELEMENT A: PLANNING PROCESS | A1-a.

**Q:** Does the plan document how the plan was prepared, including the schedule or time frame and activities that made up the plan’s development, as well as who was involved? (Requirement 44 CFR § 201.6(c)(1))

**A:** See **Multi-Jurisdictional Hazard Mitigation Planning Team** below.

### Multi-Jurisdictional Hazard Mitigation Planning Team:

Name	Department	Position
<b>MJHMP Planning Team</b>		
<b><i>Bellflower-Somerset Mutual Water Company</i></b>		
Steve Lenton	Administration	General Manager
John Poehler	Administration	Assistant General Manager (Former)
Mike Vasquez	Operations	Superintendent
<b><i>Kinneloa Irrigation District</i></b>		
Tom Majich	Administration	General Manager
Martin Aragon	Administration	Office Manager
Chris Burt	Operations	Senior Facilities Operator
Michele Ferrell	Operations	Acting Senior Facilities Operator
<b><i>La Puente Valley County Water District</i></b>		
Paul Zampielo	Operations	Operations & Maintenance Superintendent (Former)
Roy Frausto	Operations	Operations & Maintenance Superintendent
<b><i>Pico Water District</i></b>		
Joe Basulto	Administration	General Manager
Matt Tryon	Operations	Superintendent
<b><i>Rowland Water District (Host Jurisdiction)</i></b>		
Tom Coleman	Administration	General Manager
Elisabeth Mendez	Administration	Compliance & Safety Manager
Dusty Moasio	Administration	Assistant General Manager
Myra Malner	Finance	Director of Finance
Gabriela Palomares	Administration	Executive Assistant
<b><i>San Gabriel County Water District</i></b>		
Jim Prior	Administration	General Manager
Casey Feilen	Administration	Assistant General Manager
<b><i>South Montebello Irrigation District</i></b>		



Alberto Corrales	Administration	General Manager
Jordan Betancourt	Administration	Project Engineer & Compliance Officer
<b>Three Valleys Municipal Water District</b>		
Kirk Howie	Administration	Chief Administrative Officer
Robert Peng	IT	IT Manager
<b>Valencia Heights Water Company</b>		
Dave Michalko	Administration	General Manager
Gloria Galindo	Administration	Office Manager
<b>Walnut Valley Water District</b>		
Erik Hitchman	Administration	General Manager
Jared Macias	Administration	Assistant General Manager
<b>Allied Partner</b>		
<b>Public Water Agencies Group</b>		
Alix Stayton	PWAG	Emergency Management Coordinator

## Acknowledgements

### *Bellflower-Somerset Mutual Water Company Board of Directors*

- ✓ Rick Cook, Board President
- ✓ Leo Struiksma, Board Member
- ✓ Cheryl Harris, Board Member
- ✓ Eric Ikeda, Board Member
- ✓ Robert Wilson, Board Member

### *Kinneloa Irrigation District Board of Directors*

- ✓ Gerrie Kilburn, Board Member
- ✓ Stephen Brown, Board Member
- ✓ Gordon Johnson, Board Member
- ✓ Timothy Eldridge, Board Member
- ✓ Vacant, Board Member

### *La Puente Valley County Water District Board of Directors*

- ✓ Henry P. Hernandez, Board President
- ✓ William R. Rojas, Vice President
- ✓ David E. Argudo, Director
- ✓ John P. Escalera, Director
- ✓ Cesar J. Barajas, Director

### *Pico Water District Board of Directors*

- ✓ Elpidio "Pete" Ramirez, President
- ✓ Raymond Rodriguez, Vice President
- ✓ David Angelo, Director



- ✓ Victor Caballero, Director
- ✓ David Gonzales, Director

### *Rowland Water District Board of Directors*

- ✓ Szu Pei Lu-Yang, Board President
- ✓ John Bellah, Board Vice President
- ✓ Vanessa Hsu, Board Member
- ✓ Robert W. Lewis, Board Member
- ✓ Anthony J. Lima, Board Member

### *San Gabriel County Water District Board of Directors*

- ✓ Mary Cammarano, Board President
- ✓ Charles DeLaTorre, Board Vice President
- ✓ Larry Taylor, Board Member
- ✓ Domingo Saucedo, Board Member
- ✓ Anagh Mamdapurkar, Board Member

### *South Montebello Irrigation District Board of Directors*

- ✓ Harris Mataalii, Board President
- ✓ Darrell Heacock, Board Vice President
- ✓ Annette Sanchez, Director

### *Three Valleys Municipal Water District Board of Directors*

- ✓ Jody Roberto, Board President
- ✓ Mike Ti, Board Vice-President
- ✓ Carlos Goytia, Board Secretary
- ✓ Bob Kuhn, Board Treasurer
- ✓ David De Jesus, Director
- ✓ Jeff Hanlon, Director
- ✓ Danielle Soto, Director

### *Valencia Heights Water Company Board of Directors*

- ✓ Sylvia Beltran, Chairwoman
- ✓ Daniel Liese, Vice-Chairman
- ✓ Ronald Wheeler, Treasurer
- ✓ Robert Ghirelli, Secretary
- ✓ John Akerboom, Director
- ✓ Curtis Feese, Director
- ✓ Dr. Sergio Hernandez, Director

### *Walnut Valley Water District Board of Directors*

- ✓ Edwin M. Hilden, Board President
- ✓ Theresa Lee, Board First Vice President
- ✓ Scarlett Kwong, Board Second Vice President
- ✓ Jerry Tang, Board Assistant Treasurer
- ✓ Henry Woo, Director



## Rowland Water District MJHMP Point of Contact

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## Consulting Services

### *Emergency Planning Consultants*

- ✓ Planning Director: Ms. Carolyn J. Harshman, CEM
- ✓ Planning Associate and HAZUS Specialist: Ms. Jill Caputi, CEM

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## Mapping

The maps in this plan were provided by the Bellflower-Somerset Mutual Water Company, Kinneloa Irrigation District, La Puente Valley County Water District, Pico Water District, Rowland Water District, San Gabriel County Water District, South Montebello Irrigation District, Three Valleys Municipal Water District, Valencia Heights Water Company, Walnut Valley Water District, Emergency Planning Consultants, County of Los Angeles, Federal Emergency Management Agency (FEMA), or were acquired from public Internet sources. Care was taken in the creation of the maps contained in this plan, however they are provided "as is". The District cannot accept any responsibility for any errors, omissions or positional accuracy, and therefore, there are no warranties that accompany these products (the maps). Although information from land surveys may have been used in the creation of these products, in no way does this product represent or constitute a land survey. Users are cautioned to field-verify information on this product before making any decisions.



## Mandated Content

In an effort to assist the readers and reviewers of this document, the jurisdiction has inserted “markers” emphasizing mandated content as identified in the Disaster Mitigation Act of 2000 (Public Law – 390). The following is a sample marker:

**\*EXAMPLE\***

**Q&A | ELEMENT A: PLANNING PROCESS | A1-a.**

**Q** Does the Plan document the planning process, including how it was prepared and who was involved in the process for each jurisdiction? (Requirement 44 CFR § 201.6(c)(1))

**A:**



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- Bellflower-Somerset Mutual Water Company
- Kinneloa Irrigation District
- La Puente Valley County Water District
- Pico Water District
- San Gabriel County Water District
- South Montebello Irrigation District
- Three Valleys Municipal Water District
- Valencia Heights Water Company
- Walnut Valley Water District



# Executive Summary

Hazard Mitigation Plans are strategic frameworks designed to reduce the loss of life and property by lessening the impact of disasters. The primary goal of a mitigation plan is to identify potential hazards, assess their risks, and implement long-term strategies to mitigate their effects on a community. This comprehensive plan involves a systematic process of identifying hazards, evaluating vulnerabilities, and developing actions to minimize the damage and disruption caused by natural hazard events.

The Rowland Water District Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) involved ten planning participants: Rowland Water District (Base Plan Host), Bellflower-Somerset Mutual Water Company, Kinneloa Irrigation District, La Puente Valley County Water District, Pico Water District, San Gabriel County Water District, South Montebello Irrigation District, Three Valleys Municipal Water District, Valencia Heights Water Company, and Walnut Valley Water District. In addition, the Public Water Agencies Group provided facilitation and expertise in its capacity as the Emergency Management Coordinator for each of the participating agencies.

For a multi-jurisdictional plan, FEMA regulations require one of the jurisdictions to serve as the plan host and prepare a “Base Plan” which identifies the project’s planning process and hazard profiles for the entire project area. Since Rowland Water District served as the host jurisdiction, the RWD-specific information is included in the Base Plan along with plan-wide information about the planning process and hazard profiles. The Annexes are attached to the Base Plan for the nine remaining participating agencies.

Before we go into the details of the planning process, it’s important to define hazard mitigation as actions taken to minimize or eliminate threats associated with hazards.

In 2019, the National Institute of Building Sciences issued an update to its landmark report “Natural Hazard Mitigation Saves”. The study analyzed the benefit cost ratio of a range of mitigation activities including mitigation planning and building retrofits. The findings revealed a dramatic return on investment. For mitigation activities, every dollar spent yielded a six dollar return on avoided losses in the future. For building retrofits, every dollar spent yielded a four dollar return on avoided losses in the future.

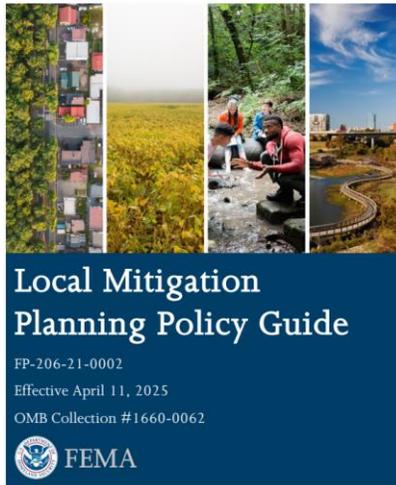


FEMA’s mitigation website recommends 4 steps in the overall planning process: Step #1 is to organize the planning process and resources which includes creation of a Planning Team to assist with research and writing as well as the development of a Community Outreach Strategy. Step #2 is to assess risks and capabilities including a Risk and Vulnerability Assessment as well as a review of the jurisdiction’s capability to respond and recover from a major disaster. Step #3 is to develop a Mitigation Strategy which includes a comprehensive list of mitigation actions and projects. Step #4 is to Adopt and Implement the Plan which includes a formal review by Cal OES and FEMA and adoption by eleven decision making bodies involved in the MJHMP.



The tool used by Cal OES and FEMA to judge the adequacy of a plan is the Plan Review Tool and Annex Review Tool. Within the PRT and ART, the plan requirements are divided into elements including planning process, risk assessment, vulnerability and impacts assessment, mitigation strategy, plan maintenance, and plan review-adoption-approval.

The MJHMP–Base Plan is formatted in seven chapters with some covering the entire project area and others focusing on RWD. Chapter 1: Planning Process covers the entire project area; Chapter 2: Rowland Water District Profile focuses on the plan’s host jurisdiction (separate Annexes include a profile for each of the planning participants); Chapter 3: Risk Assessment is background information on hazards impacting the project area; Chapter 4: Vulnerability and Impacts Assessment focuses on RWD; Chapter 5: Mitigation Strategy focuses on RWD; Chapter 6: Plan Maintenance is blended; and Chapter 7: Plan Review-Adoption-Approval is blended.



The development of the plan was guided by FEMA’s 2025 Local Mitigation Planning Policy Guide and 2023 Local Mitigation Planning Handbook. The documents contained updated official policy on and interpretation of applicable statutes and mitigation planning regulations in 44 Code of Federal Regulations (CFR) Part 201, more commonly referred to as the Disaster Mitigation Act of 2000. FEMA is the sole entity allowed to approve a mitigation plan.

In developing the MJHMP, a Planning Team was formed to undertake a detailed analysis of the project area’s unique risks and challenges. The Team met a total of four times with the consultant and contributed to the Initial Draft Plan. In addition to the planning document itself, the Team developed and was actively involved in an aggressive community outreach strategy. As pointed out in the plan, people are the most important asset in need of protection.

The planning process involved collaboration among the plan participants, adjoining local governments and special districts, businesses organization, residents, and other stakeholders to gather data, assess vulnerabilities, and prioritize mitigation actions. The process ensured that the project area is better prepared to respond to and recover from disasters, while enhancing overall resilience.

The risk, vulnerability, and impacts assessments involved a comprehensive evaluation of the hazard events that could result in significant damage and loss of life. The assessment process involves four key steps: 1) identifying hazards - this step helps you understand what hazards may occur in the project area; 2) profiling hazards - this step helps you know more about the hazards by looking at where they can happen, how impactful they might be, when they happened before, how often and with what intensity they may occur in the future; 3) identifying assets - this step looks at which assets are most vulnerable to loss during a disaster; 4) analyzing impacts - this step describes how each hazard could affect the assets of each community; and 5) summarize vulnerability - this step brings all the analysis together by using the risk assessment to draw conclusions.

The vulnerability and impacts assessment underscores the importance of understanding and preparing for various hazards to mitigate their impact on the community's people, structures, economy, and valued resources. This comprehensive approach ensures that the project area will



be better equipped to handle potential emergencies and protect its residents and businesses from future hazard events. Additionally, the assessment discusses social vulnerability populations and underserved communities within the project area. Studies on this topic commonly identify six categories as indicators of social vulnerability: socioeconomic status, age, gender, race and ethnicity, English language proficiency and medical issues and disability. These are the factors chosen by the Planning Team for consideration in the plan.

Throughout the entire planning process, the MJHMP Planning Team kept the public and stakeholders informed of the Team's progress and opportunities to provide input. These outreach activities began in July 2023 with press releases, social media postings, briefings at public forums, bill stuffers, and website postings.

The plan will go through a formal review by Cal OES and FEMA capped by FEMA's issuance of Approvable Pending Adoption. Once the MJHMP-Base Plan is adopted by the Rowland Water District Board of Directors, FEMA will issue a Letter of Approval which will grant the District's eligibility for mitigation-related grants for a period of five years. Each of the Annexes will also require adoption from their respective decision making body.

Following FEMA approval, each of the jurisdictional planning teams will immediately begin the process of plan implementation which will include the process of sharing and incorporating input from the public and stakeholders.



# Chapter 1: Planning Process

## Introduction

### Q&A | ELEMENT A: PLANNING PROCESS | A1-b.

**Q:** Does the plan list the jurisdiction(s) participating in the plan that seek approval, and describe how they participated in the planning process? (Requirement 44 CFR § 201.6(c)(1))

**A:** See **Introduction** below.

Mitigation planning provides a framework local government can build on to lessen the impacts of natural disasters. By encouraging whole-community involvement, assessing risk and using a range of resources, local governments can reduce risk to people, economies and natural environments.

This Rowland Water District Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) was prepared in response to the Disaster Mitigation Act of 2000 (DMA 2000). DMA 2000 (also known as Public Law 106-390) since 2005 has required state and local governments (including special districts and joint powers authorities) to prepare mitigation plans to document their mitigation planning process, and identify hazards, potential losses, mitigation needs, goals, and strategies. This type of planning supplements the comprehensive land use planning and emergency management planning programs for the participating agencies. This is the first Rowland Water District MJHMP. Once adopted by the agency decision makers and approved by FEMA, the Plan will ensure eligibility for Hazard Mitigation Grant Program (HMGP) and other mitigation-related funding opportunities.

### Q&A | ELEMENT A: PLANNING PROCESS | A1-a.

**Q** Does the Plan document the planning process, including how it was prepared and who was involved in the process for each jurisdiction? (Requirement 44 CFR § 201.6(c)(1))

**A:** See **Project Area** below.

## Project Area

The agencies included in this MJHMP are:

- Bellflower-Somerset Mutual Water Company
- Kinneloa Irrigation District
- La Puente Valley County Water District
- Pico Water District
- Rowland Water District
- San Gabriel County Water District
- South Montebello Irrigation District
- Three Valleys Municipal Water District
- Valencia Heights Water Company
- Walnut Valley Water District

It's important to note that these agencies came together from shared participation in the Public Water Agencies Group which is a California non-profit mutual benefit corporation made up of 20 public water districts, mutual water companies, and irrigation districts (including a wholesaler and a watermaster) situated in Los Angeles County. The Group was formed in the 1960's to



collaborate and cost share on issues of common concern among the members. In recent years, the Group began to focus on emergency planning and preparedness among its members, and specifically with respect to the lack of an organized emergency planning system among water agencies in Los Angeles County.

Over the years, the Group has been involved in administrative and regulatory matters, including:

- ✓ Negotiation of the County Water Ordinance
- ✓ National Pollution Discharge Elimination System Permit and MS4 Permit issues
- ✓ Flood Control District permits
- ✓ Excavation and encroachment permit issues

The Group also serves as a clearinghouse for legislative matters that may impact water agencies in Los Angeles County and will take positions on bills that may positively or negatively impact the Group's members.

The Group continues to focus on current issues of concern among public agency water suppliers, including:

- ✓ Water use efficiency requirements
- ✓ Water quality issues
- ✓ Rate-setting and compliance with Propositions 218 and 26
- ✓ Legislative matters
- ✓ Discharge permitting
- ✓ Emergency preparedness

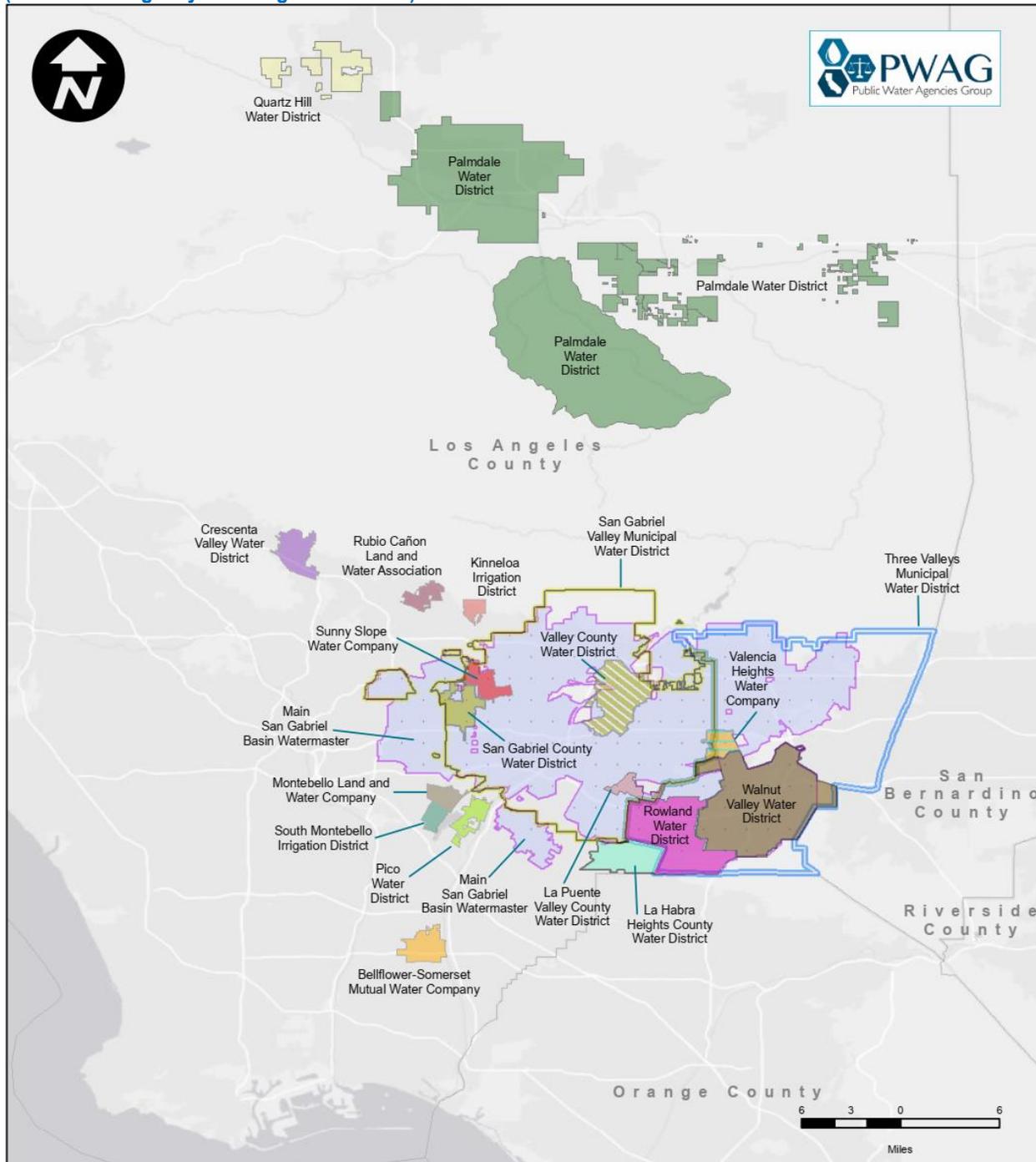
In the area of emergency preparedness, the Group has taken a leading role in establishing a county-wide, water-oriented emergency management and assistance network. The Group's elected, six-member Board of Directors supervises the affairs and business of the Group, and a subset of the Board supervises the Emergency Response Group along with the Emergency Management Coordinator.

PWAG's Ms. Alix Stayton serves as the Emergency Management Coordinator for all of PWAG's 20 participating entities. In that regard, she played a vital role in assisting the 9 agencies involved in the MJHMP. Assistance included web hosting, facilitated agency-specific planning team meetings, development of a project-wide stakeholder list, capability assessments, identifying critical and essential facilities, and developing a mitigation actions matrix. Because of the important role she plays as a multi-agency emergency management coordinator and her assistance with the development of the Base Plan and Annexes, PWAG is included in each of the Capability Assessments.

**Map 1-1** shows all of the PWAG member agencies, including the 10 planning participants identified above.



Map 1-1: PWAG Member Agencies  
(Source: Emergency Planning Consultants)

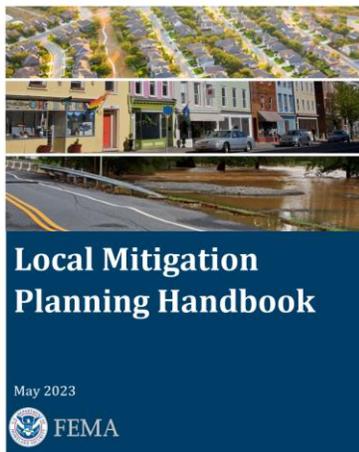




The MJHMP is organized into a Base Plan and Annexes. The Base Plan includes project-wide information on the planning process, plan goals, and risk assessment (including hazard profiles), plan maintenance, and plan review/adoption/approval. The Base Plan also includes information specific to the host jurisdiction – Rowland Water District. The information includes an agency profile, capability assessment, risk summary, vulnerability and impacts assessment, and a mitigation strategy. Attached separately are the 9 Annexes for each of the remaining planning participants. Each Annex contains information including an agency profile, capability assessment, risk summary, vulnerability and impacts assessment, and a mitigation strategy.

DMA 2000 was designed to establish a national program for pre-disaster mitigation, streamline disaster relief at the federal and state levels, and control federal disaster assistance costs. Congress believed these requirements would produce the following benefits:

- ✓ Reduce loss of life and property, human suffering, economic disruption, and disaster costs.
- ✓ Prioritize hazard mitigation at the local level with increased emphasis on planning and public involvement, assessing risks, implementing loss reduction measures, and ensuring critical facilities/services survive a disaster.
- ✓ Promote education and economic incentives to form community-based partnerships and leverage non-federal resources to commit to and implement long-term hazard mitigation activities.



The following FEMA key terms are used throughout this plan (Source: FEMA, May 2023, *Local Mitigation Planning Handbook*):

**Hazard Mitigation** is any sustained action taken to reduce or eliminate long-term risk to life and property from hazards.

**Mitigation Planning** is a community-driven process to help state, local, tribal and territorial governments plan for hazard risk. By planning for risk and setting a strategy for action, governments can reduce the negative impacts of future disasters.

**Community Resilience** is a community’s ability to prepare for anticipated hazards, adapt to changing conditions, and withstand and recover rapidly from disruptions. Activities such as disaster preparedness (which includes prevention, protection, mitigation, response and recovery) and reducing community stressors (the underlying social, economic and environmental conditions that can weaken a community) are key steps to resilience.

**Community Lifelines** are the most fundamental services in the community that, when stabilized, enable all other aspects of society to function. The integrated network of assets, services and capabilities that make up community lifelines are used day to day to support recurring needs. Lifelines enable the continuous operation of critical government and business functions and are essential to human health and safety or economic security.

**Q&A | ELEMENT E: PLAN UPDATE | E2-c.**

**Q:** Does the plan describe how jurisdictions integrated the mitigation plan, when appropriate, into other planning mechanisms? (Requirement 44 CFR § 201.6(d)(3))

**A:** See **Authority** below.



## Authority

Although the following language is not presently applicable to the plan participants, it does apply to partner jurisdictions.

### Federal

Local governments (including special districts) are not required to prepare a Mitigation Plan, but state and federal regulations encourage it with financial incentives. The federal Robert T. Stafford Disaster Relief and Emergency Act, amended by the Disaster Management Act of 2000, creates a federal framework for local hazard mitigation planning. It states that jurisdictions that wish to be eligible for federal hazard mitigation grant funding must prepare a hazard mitigation plan that meets a certain set of guidelines and submit this plan to FEMA for review and approval. The following regulations and guidelines apply to this plan:

#### Federal Laws

- Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), as amended.

#### Federal Regulations

- 44 CFR Part 201 Mitigation Planning.
- 44 CFR, Part 60, Subpart A, including § 60.3 Floodplain management criteria for flood-prone areas.
- 44 CFR Part 77 Flood Mitigation Grants.
- 44 CFR Part 206 Subpart N. Hazard Mitigation Grant Program.

#### Federal Guidance

- FEMA Local Mitigation Planning Policy Guide (FP 206-21-0002), effective April 19, 2023.

### State

*California Government Code Sections 8685.9 and 65302.6  
(also known as Assembly Bill 2140)*

Passed in 2006, Assembly Bill 2140 allows California counties and cities to be considered for additional state cost-share on eligible Public Assistance projects by adopting their current FEMA-approved mitigation plan into the Safety Element of their General Plan. This adoption, along with other requirements, makes the county or city eligible to be considered for part or all of its local-share costs on eligible Public Assistance projects to be provided by the state through the California Disaster Assistance Act. AB 2140 compliance is not a requirement; however, if the city is compliant, it is eligible to be considered for up to an additional 6.25% local share to be funded by the state, essentially covering the entire local-share cost for eligible Public Assistance projects in the future. It's important to note that AB 2140 compliance expires when the 2018 HMP expired and in order to continue compliance, the city must adopt the newer mitigation plan as well as adopt the mitigation plan into the Safety Element of the General Plan each time the mitigation plan is updated. Each time, the jurisdiction must provide the necessary documentation when seeking AB 2140 compliance – e.g. resolution(s) and direction to the appropriate section(s) of the Safety Element within the General Plan.

In order to issue a letter of AB 2140 compliance, Cal OES will review and verify that the county or city has performed the following:

- ✓ Has a current, FEMA-approved or approvable pending adoption (APA) mitigation plan.
- ✓ Formally adopted the mitigation plan via resolution.
- ✓ Formally adopted the most current, approved mitigation plan into the Safety Element of the General Plan via resolution.
- ✓ Included language within the Safety Element of the General Plan that references the mitigation plan.



- ✓ Included a web link, appendix, or language within the Safety Element that directs the public to the most current, approved mitigation plan in its entirety.
- ✓ E-mailed the link to the updated Safety Element web page along with the signed, adoption resolution(s) to the Cal OES AB 2140 inbox [ab2140@caloes.ca.gov](mailto:ab2140@caloes.ca.gov) for review and approval.

*California Government Code Section 65302 (G)(4)*

California Government Code Section 65302 (g)(4), (also known as Senate Bill 379), requires that the General Plan Safety Element address the hazards created or exacerbated by climate change. The Safety Element must identify how climate change is expected to affect hazard conditions in the community and include measures to adapt and be more resilient to these anticipated changes. Because the mitigation plan can be incorporated into the Safety Element, including these items in the mitigation plan can satisfy the state requirement. SB 379 requires that climate change be addressed in the Safety Element when the mitigation plan is updated after January 1, 2017, for communities that already have a mitigation plan, or by January 1, 2022, for communities without a FEMA-approved mitigation plan.

**Q&A | ELEMENT C: MITIGATION STRATEGY | C2-a.**

**Q:** Does the plan contain a narrative description or a table/list of their participation activities? (Requirement 44 CFR § 201.6(c)(3)(ii))

**A:** See **National Flood Insurance Program** below.

## National Flood Insurance Program

Established in 1968, the NFIP provides federally backed flood insurance to homeowners, renters, and businesses in communities that adopt and enforce floodplain management ordinances to reduce future flood damage. The Flood Insurance Rate Maps for the project area are included in Base Plan - Chapter 3: Risk Assessment.

### *NFIP Participation*

All of the MJHMP participating agencies (including Rowland Water District) are exempt from implementing or purchasing flood insurance through NFIP.

**Q&A | ELEMENT B: RISK ASSESSMENT | B2-c.**

**Q:** Does the plan address repetitively flooded NFIP-insured structures by including the estimated Numbers and types (residential, commercial, institutional, etc.) of repetitive/severe repetitive loss properties? (Requirement 44 CFR § 77.2(i)(ii))

**A:** See **Repetitive/Severe Repetitive Loss Properties** below.

### *Repetitive/Severe Repetitive Loss Properties*

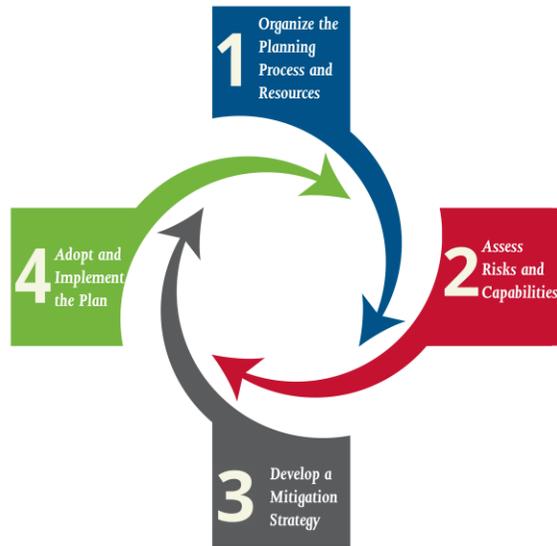
Repetitive Loss Properties (RLPs) and Severe Repetitive Loss Properties (SRLP) are most susceptible to flood damage and therefore have been the focus of flood hazard mitigation programs.

According to FEMA resources, there are no RLP or SRLP areas located in the MJHMP planning area.

## Planning Approach Steps

### Graphic 1-1: Planning Approach Steps

Source: FEMA's Hazard Mitigation Planning Website



The four-step planning approach outlined in the FEMA Local Mitigation Planning Handbook (Handbook) was followed by the MJHMP Planning Team.

### *Step 1: Organize the Planning Process and Resources*

At the start, a state, local, tribal nation, or territorial government should focus on assembling the resources needed for a successful mitigation planning process. This includes securing technical expertise, defining the planning area, and identifying key individuals, agencies, neighboring jurisdictions, businesses, and/or other stakeholders to participate in the process. The planning process for local and tribal governments

must include opportunities for the public to comment on the plan. This subject matter is discussed in **Chapter 1: Planning Process**.

### *Step 2: Assess Risks and Capabilities*

Next, the state, local, tribal nation, or territorial government needs to identify the characteristics and potential consequences of hazards. It is important to understand what geographic areas the hazards might impact and how people, property, or other assets might be vulnerable.

The risk assessment process involves four key steps: 1) identifying hazards - this step helps you understand what hazards may occur in the project area; 2) profiling hazards - this step helps you know more about the hazards by looking at where they can happen, how impactful they might be, when they happened before, how often and with what intensity they may occur in the future; 3) identifying assets - this step looks at which assets are most vulnerable to loss during a disaster; 4) analyzing impacts - this step describes how each hazard could affect the assets of each community; and 5) summarize vulnerability - this step brings all the analysis together by using the risk assessment to draw conclusions. This subject matter is discussed in **Chapter 3: Risk Assessment** and **Chapter 4: Vulnerability and Impacts Assessment**.

Equally important are the jurisdiction's capabilities to respond and recover from the identified hazards. The four capability types included in assessment include planning and regulatory, administrative and technical, financial, and education and outreach. This subject matter is discussed in **Chapter 2: Rowland Water District Profile**.

### *Step 3: Develop a Mitigation Strategy*

The state, local, tribe, or territory government then set priorities and develop long-term strategies for avoiding or minimizing the undesired effects of disasters. The strategy is based on an assessment of the unique set of regulatory, administrative, and financial capabilities to undertake



mitigation. The mitigation strategy also includes a description of how the mitigation actions will be implemented and administered. This subject matter is discussed in **Chapter 5: Mitigation Strategy**.

### *Step 4: Adopt and Implement the Plan*

Once FEMA receives proof of adoption from the governing body and the plan is approved, the state, local tribe, or territory government can bring the mitigation plan to life in a variety of ways, ranging from implementing specific mitigation actions to changing aspects of day-to-day organizational operations. To ensure success, the plan must remain a relevant, living document through routine maintenance. The state, tribe, or local government needs to conduct periodic evaluations to assess changing risks and priorities and make revisions as needed. This subject matter is discussed in **Chapter 6: Plan Maintenance** and **Chapter 7: Plan Review, Adoption, and Approval**.

#### **Q&A | ELEMENT A: PLANNING PROCESS | A1-a.**

**Q:** Does the plan document the planning process, including how it was prepared and who was involved in the process for each jurisdiction? (Requirement 44 CFR § 201.6(c)(1))

**A:** See **Planning Process, Table 1.1, Table 1.2, and Table 1.3** below.

#### **Q&A | ELEMENT A: PLANNING PROCESS | A1-b.**

**Q:** Does the plan list the jurisdiction(s) participating in the plan that seek approval, and describe how they participated in the planning process? (Requirement 44 CFR § 201.6(c)(1))

**A:** See **Planning Process** below.

## Planning Process

### *Planning Area*

Initial considerations included agreeing that this is a multi-jurisdictional plan and that the planning area would include each of the ten planning participants.

### *Organizing Resources*

In the guidance documents, FEMA suggests that critical resources to the planning process are the agencies partners, data resources, plans and studies, and technical assistance. The planning process was powered by planning participant staff, the customers, and stakeholders.

Data resources, plans, and studies are discussed later in this Chapter under **Using Existing Data**. Also, we utilized FEMA’s HAZUS loss projection software for 3 scenario earthquakes for each of the planning participants. See the Risk Assessment – Earthquake Profile for HAZUS information. Maps and report are attached separately.

The capability of the planning participants to support mitigation activities are discussed in this Chapter under **Capability Assessment** for Rowland Water District and separately in the 10 annexes for the other planning participants.



**Q&A | ELEMENT A: PLANNING PROCESS | A2-a.**

**Q:** Does the plan identify all stakeholders involved or given an opportunity to be involved in the planning process, and how each stakeholder was presented with this opportunity? (Requirement 44 CFR § 201.6(b)(2))

**A:** See **Table 1.1, 1.2a, 1.2b** below.

*MJHMP Planning Team*

Throughout the entire planning process, the planning participant representatives on the MJHMP Planning Team served as stakeholders while also making a concerted effort to gather input and ideas from other stakeholders and the customers.

Additional stakeholders were informed via email of the planning process and availability of the First Draft Plan. For stakeholders with unknown email addresses, the notifications were sent through the mail. See **Stakeholders** discussion later in this chapter.

The MJHMP Planning Team was the core group of people responsible for:

- Developing and reviewing drafts of the plan
- Informing the risk assessment
- Developing the mitigation goals and strategy
- Submitting the plan for local adoption
- Promoting the project through various community outreach venues

Appointees to the MJHMP Planning Team were chosen based on agency expertise about the community’s assets as defined by FEMA to include people, structures, economy, and other assets. Other assets include natural, historic, and cultural resources as well as activities bringing value to the communities served. **Table 1.1** below aligns the represented departments and divisions with the assets:

**Table 1.1: MJHMP Planning Team Technical Expertise**

MJHMP Planning Team Member Departments	Assets				
	People	Structures	Economy	Natural, Historic, and Cultural Resources	Activities Bringing Value to the Community
<b>Bellflower-Sommerset Mutual Water Company</b>					
Administration and Operations	X	X	X	X	X
<b>Kinneloa Irrigation District</b>					
Administration and Operations	X	X	X	X	X
<b>La Puente Valley County Water District</b>					
Operations	X	X	X		
<b>Pico Water District</b>					
Administration and Operations	X	X	X	X	X
<b>Rowland Water District</b>					
Administration and Finance	X	X	X	X	X



MJHMP Planning Team Member Departments	Assets				
	People	Structures	Economy	Natural, Historic, and Cultural Resources	Activities Bringing Value to the Community
<b>San Gabriel Counter Water District</b>					
Administration	X	X	X	X	X
<b>Three Valleys Municipal Water District</b>					
Administration and IT	X	X	X	X	X
<b>Valencia Heights Water Company</b>					
Administration	X	X	X	X	X
<b>Walnut Valley Water District</b>					
Administration	X	X	X	X	X

### *MJHMP and Agency Planning Teams*

The project included two layers of planning teams: 1) Multi-Jurisdictional Planning Team consisted of at least one representative for each of the 10 plan participants; and 2) an Agency (or District, Company) Planning Team for each of the planning participants. Details on the agency-level planning teams can be found in the individual Annexes.

### *MJHMP Planning Team Involvement*

The MJHMP Planning Team worked with Emergency Planning Consultants to create the MJHMP. Planning Team members were sent email invitations on September 7, 2022 (see **Attachments**), announcing the purpose of the Team and overall schedule. The Planning Team members were told the represented jurisdiction was considered a “planning participant” while the department they represented was considered a “stakeholder”.

Throughout the planning process, the Team confirmed the planning approach, drafted and reviewed content, made revisions, and actively engaged the customers and stakeholders in their own jurisdiction. As indicated below, the Planning Team meetings were designed to maximize contributions from the Team. Insights, opinions, and facts were gathered ranging from hazard history and rankings, capabilities, ongoing and future mitigation activities, and opportunities to engage customers and stakeholders through existing public forums and other communication mediums. Planning Team members participated in a total of 4 MJHMP Planning Team meetings. In addition, 2 one-on-one meetings were planned for separate discussions with each of the planning participants.

- MJHMP Planning Team Meeting #1 was facilitated by the consultant who provided an overview of hazard mitigation planning and an initial hazard assessment including earthquake simulation videos. The meeting included a PowerPoint with hazard-related information from the County of Los Angeles General Plan and All Hazards Mitigation Plan. Also, the Planning Team identified the hazards to be included in the MJHMP and each jurisdiction completed the Calculated Priority Risk Index for the hazards identified for the project area. The requirements for community outreach were discussed along with the use of existing venues and public forums including Board of Director meetings, copies of project flyers, and a robust social media effort. Also, a discussion was held on the need to post the availability of the First Draft Plan once completed.



- MJHMP Planning Team Meeting #2 was facilitated by the consultant who introduced the HAZUS maps and reports for each of the planning participant jurisdictions. Next, a PowerPoint was shared with the Planning Team explaining mitigation concepts and categories. The consultant also shared draft “Capability Assessment” for each jurisdiction. The drafts were created from the jurisdiction websites and budgets. Additionally, the draft “Hazard Proximity to Critical Facilities” table was shared showing the hazard ratings for each facility. The consultant requested assistance on gathering information for each facility including number of buildings, staff assigned, property value, and content value.
- One-on-One Meeting #1 with each planning participant to confirm the accuracy of the draft Capability Assessment and Table: Hazard Proximity to Critical Facilities.
- MJHMP Planning Team Meeting #3 was facilitated by the consultant who shared the finalized Capability Assessments and Critical Facilities table. Building on the discussion from Meeting #2 on developing mitigation action items, water utility-related mitigation action items were shared from the County of Los Angeles All Hazards Mitigation Plan. The consultant provided sample mitigation action items from other water agencies. A scoring system was shared with the Team for ranking “priority, benefit, and cost” of the action items. Also, the consultant shared examples from the Rowland Water District’s Capital Improvement Program relating to hazard mitigation.
- One-on-One Meeting #2 with each planning participant to develop a Mitigation Actions Matrix.
- MJHMP Meeting #4 was facilitated by the consultant who shared a copy of the Initial Draft MJHMP Base Plan and Annexes. Copies were distributed in advance and Team members were encouraged to read their documents in advance of the meeting. The consultant encouraged comments, corrections, and overall thoughts on the documents. The Team was told that the information would be gathered into a First Draft Plan which would be made available to the public and stakeholders through the community outreach process.



**Table 1.2a: MJHMP Planning Team Level of 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	Distribute First Draft Plan to Customers and Stakeholders	Submit Second Draft Plan to Cal OES/FEMA	Present Final Draft Base Plan and Annexes to RWD Board	Present Annexes to Other Boards of Directors	Submit Proof of Adoption to FEMA	Incorporate FEMA Approval into Final Plan
<b>Bellflower-Somerset Mutual Water Company</b>														
Steve Lenton, General Manager	X	X	X	X	X		X	X						
John Poehler, Assistance General Manager (Former)	X			X		X	X	X						
Mike Vasquez, Superintendent								X						
<b>Kinneloa Irrigation District</b>														
Tom Majich, General Manager	X						X	X						
Martin Aragon, Office Manager	X	X	X	X	X	X								
Chris Burt, Senior Facilities Operator	X	X		X										
Michele Ferrell, Acting Senior Facilities Operator	X			X	X									
<b>La Puente Valley County Water District</b>														
Paul Zampiello, Operations & Maintenance Superintendent (Former)	X	X	X	X	X	X	X	X						
<b>Pico Water District</b>														
Joe Basulto, General Manager	X	X	X	X	X	X	X	X						
Matt Tryon, Superintendent	X				X	X		X						
<b>Rowland Water District</b>														
Tom Coleman, General Manager	X	X	X		X	X	X	X						
Elisabeth Mendez, Compliance & Safety Manager	X	X	X	X	X	X	X							
Dusty Moisio, Assistant General Manager	X			X	X	X	X							
Myra Malner, Director of Finance	X	X												



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	Distribute First Draft Plan to Customers and Stakeholders	Submit Second Draft Plan to Cal OES/FEMA	Present Final Draft Base Plan and Annexes to RWD Board	Present Annexes to Other Boards of Directors	Submit Proof of Adoption to FEMA	Incorporate FEMA Approval into Final Plan
<b>San Gabriel County Water District</b>														
Jim Prior, General Manager	X	X	X	X			X							
Casey Feilen, Assistant General Manager	X	X	X	X	X		X	X						
<b>South Montebello Irrigation District</b>														
Alberto Corrales, General Manager	X	X			X		X							
Jordan Betancourt, Project Engineer & Compliance Officer	X	X	X	X	X	X	X	X						
<b>Three Valleys Municipal Water District</b>														
Kirk Howie, Chief Administrative Officer	X	X	X	X	X	X	X							
Robert Peng, IT Manager	X			X		X	X	X						
<b>Valencia Heights Water Company</b>														
Dave Michalko, General Manager	X	X		X	X	X	X	X						
Gloria Galindo, Office Manager	X			X			X	X						
<b>Walnut Valley Water District</b>														
Erik Hitchman, General Manager	X				X									
Jared Macias, Assistant General Manager	X	X	X	X	X	X	X	X						
<b>Allied Partner - Public Water Agencies Group</b>														
Alix Stayton, Emergency Management Coordinator	X	X	X	X	X	X	X	X						
<b>Emergency Planning Consultants</b>														
Carolyn Harshman, Planning Director	X	X	X			X	X	X						
Jill Caputi, Planning Associate and HAZUS Specialist	X													



**Table 1.2b: Rowland Water District Planning Team Level of Participation**

	Tom Coleman, General Manager	Dusty Moio, Assistant General Manager	Elisabeth Mendez, Compliance & Safety Manager	Myra Malner, Director of Finance	Gabriela Palomares, Executive Assistant
Research and Writing of Plan	X	X	X		
Planning Team Meeting 1: 9/14/22	X		X		
Collaborative Meeting: 9/27/22	X		X		
Planning Team Meeting 2: 9/28/22	X		X		
Collaborative Meeting: 10/3/22		X	X		
One-on-One Mentoring Session: 11/3/22		X	X		
Collaborative Meeting: 11/9/22		X	X		
Collaborative Meeting: 11/14/22		X	X		
Planning Team Meeting 3: 1/19/23	X	X	X		
One-on-One Mentoring Session: 2/27/23	X	X	X		
Planning Team Meeting 4: 6/28/23	X				
Planning Team Comment on Initial Draft Plan-7/6/23	X	X	X	X	
Strategic Staff Meeting: 10/31/22, 11/9/22, 12/6/22, 1/17/24,7/2/24	X	X	X		
Conduct Community Outreach including distribution of First Draft Base Plan and Annex to Customers and Stakeholders					X
Post Final Draft Base Plan and Annexes in Advance of Board of Directors Meeting					
Present Final Draft Base Plan to Board of Directors for Adoption					



**Table 1.3: MJHMP Planning Team Timeline**

Tasks	August 2022	September	October	November	December	January 2023	February-May	June	July	August-December	January 2024	February-December	January 2025	February	March	April-June	July	August	September
<b>Task I: Planning Process</b>																			
Planning Team Meeting #1		X																	
Planning Team Meeting #2		X																	
1:1 Meetings with Planning Participants				X															
Collaborative Meeting					X														
Planning Team Meeting #3						X													
1:1 Meeting with Planning Participants							X												
Planning Team Meeting #4								X											
Encourage Customer and Stakeholder Input on First Draft Plan											X								
<b>Task II: Planning</b>																			
Conduct Risk Assessment	X	X	X	X															
Prepare HAZUS maps and reports				X	X														
Prepare Agency Hazard-Specific Maps with Critical Facilities					X														
Prepare Capability Assessments							X												
Prepare Vulnerability and Impacts Assessments								X	X										



Tasks	August 2022	September	October	November	December	January 2023	February-May	June	July	August-December	January 2024	February-December	January 2025	February	March	April-July	August	September	October
<b>Task III: Goals, Objectives, and Mitigation Measures</b>																			
Prepare Mitigation Actions		X		X			X	X	X	X									
Develop Hazard Mitigation Plan Maintenance Process		X																	
<b>Task IV: Draft Plans and Final Plan</b>																			
Prepare Initial Draft Plan	X	X	X	X	X	X	X	X											
Prepare First Draft Plan									X	X									
Prepare and Post Second Draft Plan											X	X	X	X	X				
Submit Second Draft Plan to Cal OES/FEMA. Complete Mandated Revisions.																X			
Post and Conduct RWD Board of Directors Meeting for Adoption of Base Plan and Annexes																			
Post and Conduct Board of Directors Meetings for Annex Adoptions																			
Submit Proof of Adoptions to FEMA																			
Receive FEMA Letters of Approval																			
Incorporate FEMA Approval into Final Base Plan and Annexes																			

### Plan Writing

An Initial Draft Plan was prepared by the consultant with considerable input from the Planning Team during the Planning Team Meetings. The Initial Draft Plan was distributed in advance of the fourth meeting of the Planning Team. The day of the meeting, the consultant facilitated a



discussion of the Initial Draft Plan while soliciting input, corrections, and other suggestions from the Planning Team.

With amendments gathered from MJHMP Planning Team Meeting #4, the First Draft Plan was ready for notice and distribution by the 11 planning participants to their customers and stakeholders. The community outreach took place in January 2024 with the sharing of the First Draft Plan. The Planning Team wanted to ensure gathering as many perspectives as possible. Also, sharing and gathering input served as an excellent means to enlist local champions interested in mitigation opportunities regarding their own homes and businesses. See **Attachments** for customer and stakeholder input for information received on the First Draft Plan.

After documenting the outreach activities, the Second Draft Plan is ready for submission to Cal OES and FEMA along with a completed Plan Review Tool. Throughout the formal review process, the Planning Team and the consultant will complete amendments to the Plan as mandated by Cal OES and FEMA.

Once Cal OES determines the plan to be complete, it will be forwarded to FEMA. Meanwhile, the plan will be scheduled with the Rowland Water District Board of Directors for adoption. In advance of the meeting, the Final Draft Base Plan will be posted on the District and PWAG websites and noticed according to their standard protocols. In addition, the customers and stakeholders will be informed of the Board meeting via email and social media. The purpose of the meeting will be to provide a public forum where additional comments can be gathered from the Board and attendees. The public meeting will include a presentation of a staff report and PowerPoint outlining the planning process and benefits of hazard mitigation. Staff will request an adoption from the Board of Directors and proof of adoption will be forwarded to FEMA along with a request for a Letter of Approval.

<b>Q&amp;A   ELEMENT A: PLANNING PROCESS   A2-a.</b>
<b>Q:</b> Does the plan identify all stakeholders involved or given an opportunity to be involved in the planning process, and how each stakeholder was presented with this opportunity? (Requirement 44 CFR § 201.6(b)(2))
<b>A:</b> See <b>Stakeholder Outreach, Stakeholder Opportunities for Input by Category, Table 1.4-1.6</b> below.

### Stakeholder Outreach

The planning process was powered by planning participant staff, the customers and stakeholders from across the private, public and non-governmental sectors. These resources were needed to assist with technical expertise, historical knowledge, and to provide insights into hazards and mitigation strategies. Below, the stakeholder categories are defined as in the Handbook. *As the categories apply to the Rowland Water District, the specific engagements are indicated in italics:*

### Stakeholder Opportunities for Input by Category

- **Local and Regional Agencies involved in Hazard Mitigation activities.** Examples include public works, emergency management, local floodplain administration and Geographic Information Systems (GIS) departments.
  - 1) *Planning Team invitations were sent to all planning participants. The invitation included an overview of the role of the Team and the time requirements of 4 meetings as well as reviewing the Initial Draft Plan. Team members were engaged in a discussion on*



a community outreach strategy including posting of the First Draft Base Plan once available. Also, they will be encouraged to attend public forums including the Base Plan and Annex adoption meetings.

- **Agencies that have the Authority to Regulate Development.** Examples include zoning, planning, community and economic development departments, building officials, planning commission, and other elected officials.  
*Such agencies were on the Stakeholder List which received information about the planning process and availability of the First Draft Base Plan. The same entities will also be invited to provide input prior to the Board of Directors adoption meeting.*
- **Neighboring Communities.** Examples include adjacent local governments, including special districts, such as those that are affected by similar hazard events or may share a mitigation action or project that crosses jurisdictional boundaries. Neighboring communities may be partners in hazard mitigation and response activities, or maybe where critical assets, such as dams, are located.  
*All neighboring communities and special districts were informed of the planning process through the community outreach activities with invitations to provide input on the First Draft Base Plan. The same entities will also be invited to provide input prior to the Board of Directors adoption meeting.*
- **Businesses, Academia and other Private Interests.** Examples include a chamber of commerce, institutions of learning, private utilities or major employers that sustain community lifelines (providers of vital services in a community that when stabilized enable all other aspects of society to function).  
*These entities were informed of the planning process through the community outreach activities with invitations to provide input on the First Draft Base Plan. The same entities will also be invited to provide input prior to the Board of Directors adoption meeting.*
- **Nonprofit Organizations and Community-Based Organizations.** It is key to bringing partners to the table who can speak to the unique needs of these organizations. Examples include housing, healthcare and social services agencies.  
*The PWAG representative gathered the information into a master list of NPOs and CBOs that was shared with Rowland Water District and the rest of the planning participants. These stakeholders were informed of the planning process through the community outreach strategy and invited to provide input to the First Draft Plan. The same entities will also be invited to provide input prior to the Board of Directors adoption meeting.*



**Table 1.4: Stakeholder Entities by FEMA Categories – Rowland Water District**

Local and Regional Agencies Involved in Hazard Mitigation Activities	Agencies with Authority to Regulate Development	Neighboring Communities	Business Organizations, Academia, and other Private Interests (including Community Lifelines)	Nonprofit and Community-Based Organizations*	Other	Agency Represented, Name, Position Title
						<b>Rowland Water District Planning Team</b>
X						Tom Coleman, General Manager
X						Dusty Moasio, Assistant General Manager
X						Elisabeth Mendez, Compliance & Safety Manager
X						Myra Malner, Director of Finance
X						Gabriela Palomares, Executive Assistant
						<b>Rowland Water District Board of Directors</b>
	X					Szu Pei Lu-Yang, Board President
	X					John Bellah, Board Vice President
	X					Vanessa Hsu, Board Member
	X					Robert W. Lewis, Board Member
	X					Anthony J. Lima, Board Member
						<b>Neighboring Communities</b>
		X				City of Industry, Joshua Nelson, City Manager
		X				City of Industry, Bing Hyun, Assistant City Manager
		X				City of West Covina, David Carmany, City Manager
		X				City of West Covina, Paulina Morales, Assistant City Manager/Community Development Director
		X				Hacienda La Puente Unified School District, Dr. Alfonso Jimenez, Superintendent
					X	Los Angeles County Chief Executive Office, Ron Morales, Office of Legislation and Intergovernmental Affairs
	X					Los Angeles County Fire, Karen Zarsadias-Ige, Communications Section Chief
	X					Los Angeles County Fire Department Station 118, Steve Jones, Captain
	X					Los Angeles County Fire Department Station 145, Mark Rebishaw, Captain
			X			Los Angeles County Sheriff's Department, Louie Denver, Deputy (Community Lifelines – security)
		X				Rowland Unified School District, Dr. Julie Mitchell, Superintendent
		X				Rowland Unified School District, Gina Ward, Public Information Officer
		X				Kindercare - Dip Site #10982, Maryam Massoudi, N/A



Local and Regional Agencies Involved in Hazard Mitigation Activities	Agencies with Authority to Regulate Development	Neighboring Communities	Business Organizations, Academia, and other Private Interests (including Community Lifelines)	Nonprofit and Community-Based Organizations*	Other	Agency Represented, Name, Position Title
			X			Davita Healthcare Partners, Inc, Rudy Aguilar, N/A (Community Lifelines – Health & Medical)
	X					Los Angeles County Fire, 24 Hours, N/A
				X		Archdiocese Of Los Angeles FMSC, N/A
				X		Archdiocese Of Los Angeles FMSC - RC, , N/A
			X			DFA Dairy Brands Fluid Llc, David Burney, N/A (Community Lifelines – Food, Water, Shelter)
			X			DFA Dairy Brands Fluid Llc, Ralph Haber, N/A (Community Lifelines – Food, Water, Shelter)
			X			DFA Dairy Brands Fluid Llc, N/A (Community Lifelines – Food, Water, Shelter)
			X			Ecolab Inc, N/A
			X			La Serena Apt Homes, N/A
			X			Morningstar Foods, N/A (Community Lifelines – Food, Water, Shelter)
			X			Morningstar Foods-Small Bottle, N/A (Critical Lifelines – Food, Water, Shelter)
			X			R H Mobile Estates, N/A
			X			The Palms Apartments, Rigo Martin, N/A
			X			Walnut Creek Energy LLC, N/A (Community Lifelines – Energy)
			X			Best Western Exec Inn, N/A
			X			Marriott CFRST Site # 311/8, N/A
			X			Motel 6 - Rowland Heights, N/A
			X			La Puente Valley Medical Group Inc, N/A (Community Lifelines – Health & Medical)
			X			Interhealth Corp, N/A (Community Lifelines – Health & Medical)
			X			Nogales Medical Plaza, N/A (Community Lifelines – Health & Medical)
			X			US Healthworks, N/A (Community Lifelines – Health & Medical)
		X				Alvarado School, N/A
		X				Bixby Elementary School, N/A
		X				Blandford School, N/A
		X				Hacienda La Puente USD, N/A
		X				Jellick School, N/A
		X				La Seda School, N/A



Local and Regional Agencies Involved in Hazard Mitigation Activities	Agencies with Authority to Regulate Development	Neighboring Communities	Business Organizations, Academia, and other Private Interests (including Community Lifelines)	Nonprofit and Community-Based Organizations*	Other	Agency Represented, Name, Position Title
		X				Nogales High School, N/A
		X				Northam School, N/A
			X			Options Daycare / Blandford, N/A
			X			Options Daycare / Jellick, N/A
			X			Options Daycare / La Seda, N/A
			X			Options-Rorimer Sp, N/A
		X				Rincon School, N/A
		X				Rorimer School, N/A
		X				Rowland Elementary School, N/A
		X				Southlands Schools International, N/A
		X				Wedgeworth School, N/A
		X				Wilson High School, N/A
		X				Yorbita School, N/A
		X				Oxford School, George Wong, N/A
			X			Hacienda Senior Villas, N/A
			X			Windsor At Victoria Heights, N/A

\* See **Table 1.5** below for an extensive list of Nonprofit and Community-Based Organizations sent out by PWAG on behalf of all of the planning participants.



**Table 1.5: Stakeholder Entities by FEMA Categories – Supplied by Public Water Agencies Group (PWAG) for use by all planning participants.**

Local and Regional Agencies Involved in Hazard Mitigation Activities	Agencies with Authority to Regulate Development	Neighboring Communities	Business Organizations, Academia, and other Private Interests (including community lifelines)	Nonprofit and Community-Based Organizations	Other	Agency Represented, Name, Position Title
						<b>PWAG Members</b>
X					X	Bellflower-Somerset Mutual Water Company, Steve Lenton, General Manager
					X	Crescenta Valley Water District, James Lee, General Manager
X					X	Kinneloa Irrigation District, Tom Majich, General Manager
					X	La Cañada Irrigation District, Justin Bailey, General Manager
					X	La Habra Heights County Water District, Joe Matthews, General Manager
X					X	La Puente Valley County Water District, Roy Frausto, General Manager
					X	Montebello Land and Water Company, Korey Bradbury, General Manager
					X	Palmdale Water District, Dennis La Moreaux, General Manager
X					X	Pico Water District, Joe Basulto, General Manager
X					X	Quartz Hill Water District, Brent Byrne, General Manager
X					X	Rowland Water District, Tom Coleman, General Manager
					X	Rubio Cañon Land and Water Association, Lisa Yamashita-Lopez, General Manager
X					X	San Gabriel County Water District, Jim Prior, General Manager
					X	San Gabriel Valley Municipal Water District, Darin Kasamoto, General Manager
X					X	South Montebello Irrigation District, Alberto Corrales, General Manager
					X	Sunny Slope Water Company, Ken Tchong, General Manager
					X	Three Valleys Municipal Water District, Matthew Litchfield, General Manager
X					X	Valencia Heights Water Company, Dave Michalko, General Manager
					X	Valley County Water District, Jose Martinez, General Manager
X					X	Walnut Valley Water District, Sherry Shaw, General Manager
X						<b>PWAG Board</b>
	X					Tom Coleman, Board President
	X					Erik Hitchman, Vice President



Local and Regional Agencies Involved in Hazard Mitigation Activities	Agencies with Authority to Regulate Development	Neighboring Communities	Business Organizations, Academia, and other Private Interests (including community lifelines)	Nonprofit and Community-Based Organizations	Other	Agency Represented, Name, Position Title
	X					Dave Michalko, Board Member
	X					Jose Martinez, Board Member
	X					Roy Frausto, Board Member
	X					James Lee, Board Member
						<b>MJHMP Planning Team</b>
						<b>Bellflower-Somerset Mutual Water Company</b>
X						Steve Lenton, General Manager
X						John Poehler, Assistance General Manager (Former)
X						Mike Vasquez, Superintendent
						<b>Kinneloa Irrigation District</b>
X						Tom Majich, General Manager
X						Martin Aragon, Office Manager
X						Chris Burt, Senior Facilities Operator
X						Michele Ferrell, Acting Senior Facilities Operator
						<b>La Puente Valley County Water District</b>
X						Paul Zampielo, Operations & Maintenance Superintendent (Former)
						<b>Pico Water District</b>
X						Joe Basulto, General Manager
X						Matt Tryon, Superintendent
						<b>Rowland Water District</b>
X						Tom Coleman, General Manager
X						Elisabeth Mendez, Compliance & Safety Manager
X						Dusty Moiso, Assistant General Manager
X						Myra Malner, Director of Finance
						<b>San Gabriel County Water District</b>
X						Jim Prior, General Manager
X						Casey Feilen, Assistant General Manager
						<b>South Montebello Irrigation District</b>
X						Alberto Corrales, General Manager
X						Jordan Betancourt, Project Engineer & Compliance Officer
						<b>Three Valleys Municipal Water District</b>
X						Kirk Howie, Chief Administrative Officer
X						Robert Peng, IT Manager
						<b>Valencia Heights Water Company</b>



Local and Regional Agencies Involved in Hazard Mitigation Activities	Agencies with Authority to Regulate Development	Neighboring Communities	Business Organizations, Academia, and other Private Interests (including community lifelines)	Nonprofit and Community-Based Organizations	Other	Agency Represented, Name, Position Title
X						Dave Michalko, General Manager
X						Gloria Galindo, Office Manager
						<b>Walnut Valley Water District</b>
X						Erik Hitchman, General Manager
X						Jared Macias, Assistant General Manager
						<b>Allied Partner - Public Water Agencies Group</b>
X						Alix Stayton, Emergency Management Coordinator
						<b>Utility Providers</b>
		X				California Water Service Company - Antelope Valley District, Jon Yasin, District Manager
		X				White Fence Farms Mutual Water Company, Mark Horwedel, General Manager
		X				Sunnyside Farms Mutual Water Company, Jeanne Miller, Operator
		X				Antelope Park Mutual Water Company, Elizabeth Green, President
		X				Littlerock Creek Irrigation District, James Chaisson, General Manager
		X				Santa Clarita Valley Water Agency, Michael Alvord, Director of Operations & Maintenance
		X				Valley Water Company, Bob Fan, General Manager
		X				City of Glendale Water & Power, Mark Young, General Manager
		X				Burbank Water & Power, Dawn Roth Lindell, General Manager
		X				City of Pasadena Water & Power Department, Sidney Jackson, General Manager
		X				Sierra Madre Water & Sewer, Arnulfo Yanez, Director Public Works
		X				CalAm Water San Marino, Kevin Tilden, President
		X				CalAm Water East Pasadena, Kevin Tilden, President
		X				City of Alhambra Utility Department, Dennis Ahlen, Deputy Director of Utilities
		X				Golden State Water Company - San Gabriel, Benjamin Lewis, General Manager Foothill District
		X				City of El Monte Water Department, Alma Martinez, City Manager



Local and Regional Agencies Involved in Hazard Mitigation Activities	Agencies with Authority to Regulate Development	Neighboring Communities	Business Organizations, Academia, and other Private Interests (including community lifelines)	Nonprofit and Community-Based Organizations	Other	Agency Represented, Name, Position Title
		X				City of Arcadia Water & Sewer, Paul Cranmer, Director of Public Works Services
		X				Valley View Mutual Water Company, Jan Barendregt, Chief Executive Officer
		X				Azusa Light & Water, Tikan Singh, General Manager
		X				South West Water Company, Craig Gott, President, Suburban Water Systems
		X				Covina Water Division, Andy Bullington, Director of Public Works
		X				City of Pomona Water & Power, Rene Guerrero, Public Works Director
		X				City of Industry Waterworks, Joshua Nelson, City Manager
		X				City of Santa Fe Springs Water Utility Authority, Rene Bobadilla, City Manager
		X				Liberty Utilities Bellflower Norwalk, Gabriel Gomez, Operations Supervisor - Production
		X				City of Paramount Water Services, John Moreno, City Manager
		X				Long Beach Water, Tai Tseng, Director of Operations
		X				City of Cerritos Water Department, Dario Simoes, Acting Director of Public Works/City Engineer
		X				CalAm Water Commerce, Kevin Tilden, President
		X				City of Montebello Public Works, Danilo Batson, Director Public Works
		X				City of Bellflower, Len Gorecki, Director of Public Works
		X				City of La Puente, John Dimario, Director of Development Services
		X				City of Industry, Sam Pedroza, Assistant City Manager
		X				City of Pico Rivera, Noe Negrete, Director of Public Works
		X				City of San Gabriel, Mark Lazzaretto, City Manager
		X				City of San Gabriel, Captain Antonio Negrete, Fire Department PIO
		X				City of San Marino, Philippe Eskandar, City Manager
		X				City of Alhambra, Jessica Binnquist, City Manager
		X				City of Alhambra, Ron Dalessandro, Fire Department Communications Supervisor
		X				Temple City, Brian Ariizumi, Public Safety Supervisor



Local and Regional Agencies Involved in Hazard Mitigation Activities	Agencies with Authority to Regulate Development	Neighboring Communities	Business Organizations, Academia, and other Private Interests (including community lifelines)	Nonprofit and Community-Based Organizations	Other	Agency Represented, Name, Position Title
		X				City of Montebello, Darrol Hunt, PIO
		X				City of Glendora, Greg Morton, PIO
		X				City of La Verne, Richard J. Martinez, Utilities Manager
		X				City of San Dimas, Anissa Livas, PIO
		X				City of Claremont, Shelley Desautels, City Clerk
		X				City of Pomona, Mark Gluba, PIO
		X				City of West Covina, Lisa Sherrick, Assistant City Clerk
		X				City of Walnut, Tom Weiner, City Manager
		X				City of Diamond Bar, Marsha Roa, Public Information Manager
				X		Los Angeles Regional Food Bank, Michael Flood, Executive Director
				X		Salvation Army, Nick Nguyen, Emergency Disaster Services Director
				X		Buddhist Tzu Chi Foundation, Curtis Hsing, Emergency Disaster Services Manager
				X		Volunteers of America, Andrew Grundig, Safety Coordinator II
				X		211 LA County, Maribel Marin, Executive Director
				X		American Red Cross, Bee Kong, Regional Volunteer Services Officer
				X		United American Indian Involvement, Eric Honanie, Director of Operations
				X		Church of Scientology, Janet Weiland, CSDR Greater LA/So. CA Regional Office
				X		Los Angeles Region Community Recovery Organization (LARCRO), Jennifer Campbell, Executive Director
				X		Habitat for Humanity, Jessica Lawson, Disaster Recovery Program Manager
				X		Service Center for Independent Life, Larry Grable, Executive Director
				X		BAPS Charities, Mehul Patel, Volunteer
				X		Buddhist Tzu Chi Foundation, Norman Yang, Emergency Disaster Services Program Associate
				X		West Valley Counseling Center, Dr Sharon Burnett, Founder, Executive Director
				X		Christian Church – Disciples of Christ, Rev. Richie Sanchez, Regional Minister and President



Local and Regional Agencies Involved in Hazard Mitigation Activities	Agencies with Authority to Regulate Development	Neighboring Communities	Business Organizations, Academia, and other Private Interests (including community lifelines)	Nonprofit and Community-Based Organizations	Other	Agency Represented, Name, Position Title
				X		Didi Hirsch Mental Health Foundation, Lynn Morris, Chief Executive Officer
				X		Neighborhood Legal Services LA, Yvonne Mariajimenez, President and CEO
				X		California Southern Baptist Convention Disaster Response Ministries, Laura Johnson, CSBCDR Operations Coordinator
				X		North Los Angeles County Regional Center, Ruth Janka, Executive Director
				X		Eastern Los Angeles Regional Center, Gina Esparza, Emergency Management Officer
				X		San Gabriel Pomona Regional Center, Jesse Weller, Executive Director
				X		Lanterman Regional Center, Melinda Sullivan, Executive Director
				X		Jewish Family Service of Los Angeles, Nancy Volpert, Senior Director of Public Policy & Community Engagement
				X		Thai Community Development Center, Chancee Martorell, Executive Director
				X		Catholic Charities, Shaun McCarty, Program Manager, Disaster Recovery Program
				X		California Community Foundation, Antonia Hernández, President and CEO
				X		Church World Service, Matthew Stevens, Director of Congregational Campaign
				X		United Way Greater Los Angeles, Elise Buik, President and CEO
					X	Federal Emergency Management Agency (FEMA), Charles Craig, Voluntary Agency Liaison
					X	City of Los Angeles Emergency Management Department, Carol Parks, General Manager
					X	Los Angeles County Office of Emergency Management, Jeanne O'Donnell, Program Manager
					X	Los Angeles County Public Social Services, John Cvjetkovic, Administrative Services Manager II
					X	Los Angeles County Department of Health Services, Coral Itzcalli, PIO



Local and Regional Agencies Involved in Hazard Mitigation Activities	Agencies with Authority to Regulate Development	Neighboring Communities	Business Organizations, Academia, and other Private Interests (including community lifelines)	Nonprofit and Community-Based Organizations	Other	Agency Represented, Name, Position Title
					X	Los Angeles County Department of Mental Health, Laura Relph, Sr. Disaster Services Analyst
					X	Los Angeles County Department of Public Works, Loni Eazell, Disaster Services Specialist
					X	Los Angeles County Department of Public Works, Steven Frasher, PIO
					X	Los Angeles County Department of Aging and Disabilities, Nikolette Orlandou, PIO
					X	Los Angeles County Department of Military & Veteran Affairs, Kathleen Piché, PIO
					X	Los Angeles County Department of Public Health, Stella Fogleman, Director, Emergency Preparedness and Response
				X		Emergency Network of Los Angeles, Yosef Jalil, Program Director
	X					Los Angeles County Fire Department, Battalion Chief Chad Sourbeer, PIO
	X					Los Angeles County Fire Department, Mario Tresieras, Division Chief Health HazMat
			X			Los Angeles County Sheriff's Department, Captain Lorena Rodriguez, PIO (community lifeline - security)
			X			California Highway Patrol, Sergeant Alejandro Rubio, PIO, Southern Division (community lifeline - transportation)
					X	Los Angeles Unified School District, Mojgan Moazzez Interim Administrator of Emergency Management, Office of Emergency Services
					X	Disaster Management Area A, Christine Parra, Disaster Management Area Coordinator
					X	Disaster Management Area B, Debbie Pedrazzoli, Disaster Management Area Coordinator
					X	Disaster Management Area C, Soraya Sutherlin, Disaster Management Area Coordinator
					X	Disaster Management Area D, Diana Manzano-Garcia, Disaster Management Area Coordinator
					X	Disaster Management Area E, David Ashman, Disaster Management Area Coordinator



Local and Regional Agencies Involved in Hazard Mitigation Activities	Agencies with Authority to Regulate Development	Neighboring Communities	Business Organizations, Academia, and other Private Interests (including community lifelines)	Nonprofit and Community-Based Organizations	Other	Agency Represented, Name, Position Title
					X	Disaster Management Area F, Francisco Soto, Disaster Management Area Coordinator
					X	Disaster Management Area G, Brandy Villanueva, Disaster Management Area Coordinator
					X	Disaster Management Area H, Darryl Pedigo, Disaster Management Area Coordinator
					X	Board of Supervisors - 1st District, Kimberly Ortega, Acting Communications Deputy
					X	Board of Supervisors - 2nd District, Lenee Richards, Chief Communications Officer
					X	Board of Supervisors - 3rd District, Constance Farrell, Director of Communications
					X	Board of Supervisors - 4th District, Liz Odendahl, Press Deputy
					X	Board of Supervisors - 5th District, Helen Chavez, Director of Communications

**Q&A | ELEMENT A: PLANNING PROCESS | A3-a.**

**Q:** Does the plan document how the public was given the opportunity to be involved in the planning process and how their feedback was included in the plan? (Requirement 44 CFR § 201.6(b)(1))

**A:** See **Customer Outreach, Table 1.6** below.

### Customer Outreach

The First Draft Plan was announced and posted on the RWD and PWAG website in January 2024 (see **Attachments**). A hard copy of the First Draft Base Plan was available at RWD Headquarters. Customers were informed of the planning process and plan's availability via social media including Facebook, X, Instagram, and Nixle.



## Community Outreach Strategy

**Table 1.6: RWD Outreach Methods and Activities for Stakeholders and Customers**

Outreach Methods and Activities (See <b>Attachments</b> for samples)	Stakeholder Categories					Customers
	Local and Regional Agencies Involved in Hazard Mitigation	Agencies with Authority to Regulate Development	Neighboring Communities (including adjacent communities and special districts)	Businesses, Academia, and Private Organizations	Nonprofit Organizations, Community-Based Organizations working with Socially Vulnerable Populations	
<b>Initial Draft Plan</b> – Reviewed by MJHMP Planning Team members and Agency Planning Teams (June 2023).	X					
<b>Public Forums</b> – Briefing to Board of Directors (February 13, 2024).	X	X	X	X	X	X
<b>Email and/or Mail</b> – announcing planning process and availability of First Draft Base Plan and Annexes. (via Constant Contact to customers and emails to stakeholders)	X	X	X	X	X	
<b>RWD and PWAG Websites</b> – Posted plan- related documents and community outreach materials.	X	X	X	X	X	X
<b>Social Media</b> – Facebook, X, and Instagram including announcement of the First Draft Base Plan and Annexes at Board of Directors hearing for input on the plan.	X	X	X	X	X	X

See **Attachments** – Summary of Outreach Activities for All Planning Participants.

**Q&A | ELEMENT C. MITIGATION STRATEGY | C1-a.**

**Q:** Does the plan describe how the existing capabilities of each participant are available to support the mitigation strategy? Does this include a discussion of the existing building codes and land use and development ordinances or regulations? (Requirement 44 CFR § 201.6(c)(3))

**A:** See **Capability Assessment – Existing Processes and Programs, Table 1.7** below.



## Capability Assessment – Existing Processes and Programs

The planning participants will incorporate mitigation planning as an integral component of daily operations. This will be accomplished by the RWD Planning Team working with their respective departments to integrate mitigation strategies into the planning documents and the agency operational guidelines. In addition to the Capability Assessment below for the Rowland Water District, the Assessments for the other participating agencies are located in the Annexes. The RWD Planning Team will strive to identify additional policies, programs, practices, and procedures that could be created or modified to address mitigation activities.

The individual agencies will incorporate mitigation planning as an integral component of daily operations. This will be accomplished by the RWD Planning Team members with their respective departments to integrate mitigation strategies into their planning documents and operational guidelines. FEMA identifies four types of capabilities: Planning and Regulatory, Administrative and Technical, Financial, and Education and Outreach. Following are explanations drawn from “Beyond The Basics” a website developed as part of a multi-year research study funded by the U.S. Department of Homeland Security, Coastal Resilience Center and led by the Center for Sustainable Community Design within the Institute for the Environment at the University of North Carolina at Chapel Hill and the Institute for Sustainable Coastal Communities at Texas A&M University. This excellent resource ties FEMA regulations together with best practices in hazard mitigation.

### **Planning and Regulatory**

Planning and regulatory capabilities are based on the implementation of ordinances, policies, local laws and State statutes, and plans and programs that relate to guiding and managing growth and development. Examples of planning capabilities that can either enable or inhibit mitigation include comprehensive land use plans, capital improvements programs, transportation plans, small area development plans, disaster recovery and reconstruction plans, and emergency preparedness and response plans. Plans describe specific actions or policies that support community goals and drive decisions. Likewise, examples of regulatory capabilities include the enforcement of zoning ordinances, subdivision regulations, and building codes that regulate how and where land is developed and structures are built. Planning and regulatory capabilities refer not only to the current plans and regulations, but also to the community’s ability to change and improve those plans and regulations as needed.

### **Administrative and Technical**

Administrative and technical capability refers to the community’s staff and their skills and tools that can be used for mitigation planning and to implement specific mitigation actions. It also refers to the ability to access and coordinate these resources effectively. Think about the types of personnel employed by each agency, the public and private sector resources that may be accessed to implement mitigation activities in the service area, and the level of knowledge and technical expertise from all of these sources. These include engineers, planners, emergency managers, GIS analysts, building inspectors, grant writers, floodplain managers, and more. For agencies with limited staff resources, capacity should also be considered; while staff members may have specific skills, they may not have the time to devote to additional work tasks.

The RWD Planning Team can identify resources available through other government entities, such as cities, counties or special districts, which may be able to provide technical assistance to communities with limited resources. For example, a small town may turn to county planners, engineers, or a regional planning agency to support its mitigation planning efforts and provide assistance. For large jurisdictions, reviewing administrative and technical capabilities may involve



targeting specific staff in various departments that have the expertise and are available to support hazard mitigation initiatives. The degree of intergovernmental coordination among departments also affects administrative capability.

**Financial**

Financial capabilities are the resources that a jurisdiction has access to or is eligible to use to fund mitigation actions. The costs associated with implementing mitigation activities vary. Some mitigation actions, such as building assessment or outreach efforts, require little to no costs other than staff time and existing operating budgets. Other actions, such as the acquisition of flood-prone properties, could require substantial monetary commitments from local, state, and federal funding sources. Some local governments (including special districts) may have access to a recurring source of revenue beyond property, sales, and income taxes, such as stormwater utility or development impact fees. These communities may be able to use the funds to support local mitigation efforts independently or as the local match or cost-share often required for grant funding.

**Education and Outreach**

This type of capability refers to education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information.

**Table 1.7** below includes a broad range of capabilities within the Rowland Water District to successfully accomplish mitigation.

**Table 1.7: Capability Assessment - Existing Processes and Programs**  
(Source: Rowland Water District Planning Team, 2023)

Type of Capability				Name of Capability	Capability Description and Ability to Support Mitigation
Planning and Regulatory	Administrative and Technical	Financial	Education and Outreach		
<b>Rowland Water District</b>					
	X	X	X	General Manager	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 Foundational Principles provide 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. The General Manager is appointed by the Board to oversee the daily operations of the District. The General Manager will be instrumental in supporting the development, maintenance, and implementation of the Hazard Mitigation Plan, including the mitigation actions. Support will include providing funding and



Type of Capability				Name of Capability	Capability Description and Ability to Support Mitigation	
Planning and Regulatory	Administrative and Technical	Financial	Education and Outreach			
					staff.	
				X	Human Resources - Human Resources Manager	Human Resources (HR) is responsible for ensuring that the District initiates and facilitates strategies for building a workforce which supports and enhances organizational objectives and values. In addition to workforce development, the division is responsible for overseeing employee benefits, classification and compensation, workers compensation, general auto and property liability insurance, policies and procedures, employee relations, administrative support, and employee development.
					X	Education & Community Outreach -Education & Community Outreach Coordinator
X	X		Information Technology (Contracted)	Information Technology (IT) provides comprehensive technology planning, development, integration, operation, maintenance, and support to all areas of the District to maximize efficiency. The 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,		



Type of Capability				Name of Capability	Capability Description and Ability to Support Mitigation	
Planning and Regulatory	Administrative and Technical	Financial	Education and Outreach			
					telecommunications, telephone system, WI-FI, and Internet. Identified as the lead department for several mitigation action items.	
				X	Director of Operations, Project Manager; Contracted	With the support of the Director of Operations the Project Manager oversees the management of capital improvement projects, water resource management, the District's Master Plans for water, recycled water, water supplies, and all engineering and planning work. The AGM and Director actively participate in regional water and wastewater planning committees. The Director of Operations also oversees Operations and Maintenance Departments and therefore allocates efforts evenly between the Departments, respectively.
				X	Water Resource – General Manager; Assistant General Manager	This division falls primarily under the purview of the General Manager and the Assistant General Manager with the general support of department staff. They conduct water supply analysis and make projections of future water supply needs based on estimates of development activities and other factors; develop and recommend short- and long-term plans and strategies for meeting expected demand. This division helps develop and coordinate a variety of water conservation programs and activities, including but not limited to, use of recycled water, groundwater basin management, maximizing the efficiency of groundwater recharge facilities and similar efforts, and planning and conducting research projects associated with water resources and water conservation. Maintains and runs the District's water hydraulic models for the purpose of planning and design. This Division is identified as the lead department for several mitigation action items.
	X			Design & Construction Division - Director of Operations; Project Manager; Contracted	This Director of Operations and Project Manager prioritize and establish schedules and methods for the design and construction of District capital improvement projects. They monitor and oversee engineering design activities, including those prepared by consultants; prepare or review engineering plans, cost estimates, labor proposals, agreements, public works contracts, and project specifications. The Project Manager conducts construction inspections of water and	



Type of Capability				Name of Capability	Capability Description and Ability to Support Mitigation		
Planning and Regulatory	Administrative and Technical	Financial	Education and Outreach				
					recycled water systems for a variety of District or developer-built projects. This division implements construction management methods to manage contractors that are building the District's capital improvements projects in the field.		
				X	X	Geographic Information Systems Division – Assistant General Manager; Director of Operations; Contracted	This division is responsible for coordination and participation in database management for both the Geographic Information System (GIS). This division updates and maintains GIS databases for water, recycled water, and wastewater facilities from 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. This division utilizes professional Global Positioning System (GPS) equipment to collect geographical information in the field; locates District assets, resolves accuracy issues using GPS and integrates GPS data into GIS database. GIS viewing application provides accurate, accessible, and functional data to both the desktop and mobile devices within the District. GIS also functions as a helpful reporting tool and has asset management capabilities. Although the division is not specifically identified in the mitigation actions, the staff will be involved in implementing many of the mitigation action items.
				X	X	Development Division – General Manager; Assistant General Manager; Project Manager	This division 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 Development Division is identified as the lead department for several mitigation action items.
				X	X	Operations - Water Treatment Division – Operations Supervisor' Compliance & Safety Manager	Water Treatment responsibilities include District-wide water quality monitoring, state and federal drinking water regulatory compliance, and the operation and maintenance of water treatment. Water sources include local ground water, local surface water, and imported surface water. The Operations – Water Treatment Division is identified as the lead department for several mitigation action items.



Type of Capability				Name of Capability	Capability Description and Ability to Support Mitigation
Planning and Regulatory	Administrative and Technical	Financial	Education and Outreach		
	X			Operations – Maintenance: Facilities Division Facilities Maintenance; Education & Community Outreach Coordinator; Executive Services Manager	Facilities’ responsibilities include the maintenance, repair, and general upkeep of the District’s buildings and building equipment. The Facilities Division is also responsible for logistical set-up for all District events, including the District’s monthly Board of Director’s Meetings. The Operations – Maintenance: Facilities Division is identified as the lead department for several mitigation action items.
	X	X	X	Operations - Fleet Maintenance Division Facilities Maintenance; Contracted	Fleet Maintenance’s responsibilities include the maintenance and repair of the District’s vehicles and heavy equipment. The Operations – Fleet Maintenance Division is identified as the lead department for several mitigation action items.
X				Operations - Water Maintenance Division – Director of Operations; Field Operations Supervisor	Water Maintenance’s responsibilities include 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 prompt turnaround times on all customer requests, exceptional customer service and responds 24 hours a day, 365 days a year to all water emergencies. The Operations – Water Maintenance Division is identified as the lead department for several mitigation action items.



Type of Capability				Name of Capability	Capability Description and Ability to Support Mitigation
Planning and Regulatory	Administrative and Technical	Financial	Education and Outreach		
<b>Allied Partner</b>					
X	X	X	X	Public Water Agencies Group	The PWAG Emergency Management Coordinator provides emergency management services to all of the 20 PWAG members. Services include development and maintenance of agency-specific Emergency Response Plans, updates to AWIA reports, training and exercises, and support throughout the development of the Rowland Water District MJHMP.
<b>Policies and Procedures</b>					
X	X	X	X	Hazard Mitigation Planning Team – General Manager; Assistant General Manager; Director of Finance; Compliance & Safety Manager	The Hazard Mitigation Planning Team is made up of representatives from various departments and divisions that are assigned mitigation action items in the Hazard Mitigation Plan. In addition to responsibility to prepare each of the 5-year plan updates as required by FEMA, the Planning Team is responsible for implementing, monitoring, and evaluating the plan during its quarterly meetings. The Planning Team is assigned several mitigation action items and plays a pivotal role in implementing and funding the overall Hazard Mitigation Plan.
X	X	X	X	Urban Water Management Plan – Contracted	The Urban Water Management Plan was last updated in 2020. This plan outlines the water infrastructure needs until the District reaches build-out.
X	X			California Building Code	<p>Rowland Water District is a special district.</p> <p>Special districts and mutual water companies are subject to different requirements when it comes to permitting for buildings and facilities. Special districts are only subject to the local permitting authority (city, county, or state) when constructing publicly accessible buildings within a local jurisdiction’s boundaries. Special districts are not subject to the local permitting authority of a local agency when constructing or repairing water-related facilities, such as water storage, treatment, and distribution infrastructure. For such water-related facilities, special districts are subject to California Code of Regulations, Title 22 Division 4, Chapter 16 California Waterworks Standards that apply when constructing public water system sources, materials, disinfection, and operations.</p> <p>Mutual water companies are subject to the permitting authority</p>



Type of Capability				Name of Capability	Capability Description and Ability to Support Mitigation
Planning and Regulatory	Administrative and Technical	Financial	Education and Outreach		
					of a local agency having jurisdiction (city, county, or state) and the codes adopted by that agency will apply. For mutual water companies this includes publicly accessible buildings, as well as water-related facilities such as water storage/production facilities, treatment facilities, and distribution infrastructure.

**Q&A | ELEMENT C: MITIGATION STRATEGY | C1-b.**

**Q:** Does the plan describe each participant’s ability to expand and improve the identified capabilities to achieve mitigation? (Requirement 44 CFR § 201.6(c)(3))

**A:** See **Expanding and Improving Capabilities** below.

**Expanding and Improving Capabilities**

Planning and Regulatory Capabilities –

Future plans are laid out in the Urban Water Management Plan and Capital Improvement Program. Some of the funding of future construction relies on successful bond measures where plans and justifications are shared with the public. Although the hazard mitigation plan is new, the District is very experienced in adhering to federal and state mandates. See **Chapter 5: Mitigation Strategies** – Mitigation Actions Matrix column “Expanding & Improving Capabilities”.

Administrative and Technical –

Existing capabilities for RWD are typical for a special district. The District already has grant writing and GIS capabilities along with mutual aid agreements, and a warning/notification system. Grant writing capabilities will continue to be especially important once the mitigation plan is approved by FEMA. That approval will trigger eligibility for a range of federal and state grants. Also, the Board of Directors could form a sub-committee dedicated to land use matters and mitigation plan implementation. The Plan’s opportunities for success will be increased by the Board’s involvement. See **Chapter 5: Mitigation Strategies** – Mitigation Actions Matrix column “Expanding & Improving Capabilities”.

Finance -

All local governments have a broad range of funding sources. Taxation, impact fees, bonds, grants, and in-kind donations are included in the spectrum. As such, the District needs to keep these resources in mind for future mitigation activities. See **Chapter 5: Mitigation Strategies** – Mitigation Actions Matrix column “Expanding & Improving on Capabilities”.



### Education and Outreach –

Utilize existing community groups, local citizen groups, and non-profit organizations to support and encourage mitigation as well as home and business mitigation. Involve the General Manager and Education & Community Outreach Coordinator in learning and talking about the Hazard Mitigation Plan. See **Chapter 5: Mitigation Strategies** – Mitigation Actions Matrix column “Expanding & Improving Capabilities”.

#### **Q&A | ELEMENT A: PLANNING PROCESS | A4-a.**

**Q:** Does the plan document what existing plans, studies, reports, and technical information were reviewed for the development of the plan, as well as how they were incorporated into the document? (Requirement 44 CFR § 201.6(b)(3))

**A:** See **Use of Existing Data** below.

## Use of Existing Data

The Planning Team gathered and reviewed existing data and plans during plan writing and specifically noted as “sources”. Numerous electronic and hard copy documents were used to support the planning process:

### **Rowland Water District Website**

<https://www.rwd.org>

*Applicable Incorporation: Department Information for Capability Assessment in Chapter 2: Rowland Water District Profile.*

### **Rowland Water District Urban Water Management Plan (2020)**

<https://www.rwd.org/urban-water-management-plan/>

*Applicable Incorporation: Information about hazards contributed to the hazard-specific sections. Also contains environmental justice content used in Chapter 2: Rowland Water District Profile.*

### **Rowland Water District Strategic Plan (2022)**

<https://www.rwd.org/wp-content/uploads/2022/03/2022-Strategic-Plan.pdf>

*Applicable Incorporation: Information about hazards contributed to the hazard-specific sections. Also contains environmental justice content used in Chapter 2: Rowland Water District Profile.*

### **County of Los Angeles 2035 General Plan**

[https://planning.lacounty.gov/assets/upl/project/gp\\_final-general-plan.pdf](https://planning.lacounty.gov/assets/upl/project/gp_final-general-plan.pdf)

*Applicable Incorporation: Information about the planning area and geography in Chapter 2: Rowland Water District Profile.*

### **County of Los Angeles All-Hazards Mitigation Plan (2020)**

<https://ceo.lacounty.gov/wp-content/uploads/2022/04/County-of-Los-Angeles-All-Hazards-Mitigation-Plan-APPROVED-05-2020.pdf>

*Applicable Incorporation: Information about hazards in Chapter 3: Risk Assessment – Identify Hazards and Hazard Profiles.*

### **State of California Hazard Mitigation Plan (2023)**

[https://www.caloes.ca.gov/wp-content/uploads/Hazard-Mitigation/Documents/2023-California-SHMP\\_Volume-1\\_12.15.2023-FINAL.pdf](https://www.caloes.ca.gov/wp-content/uploads/Hazard-Mitigation/Documents/2023-California-SHMP_Volume-1_12.15.2023-FINAL.pdf)

*Applicable Incorporation: Information about hazards in Chapter 3: Risk Assessment – Hazard Identification.*



## **HAZUS Maps and Reports**

Created by Emergency Planning Consultants

*Applicable Incorporation: Numerous HAZUS maps and reports have been included in Chapter 3: Risk Assessment - Earthquake.*

## **National Flood Insurance Program**

<https://www.fema.gov/national-flood-insurance-program>

*Applicable Incorporation: General information on NFIP included in Chapter 3: Risk Assessment - Flooding.*

## **Local Flood Insurance Rate Maps**

<https://msc.fema.gov/portal/home>

*Applicable Incorporation: Used in Chapter 3: Risk Assessment - Flood.*

## **California Department of Forestry and Fire Protection (CAL FIRE)**

<https://www.fire.ca.gov/>

*Applicable Incorporation: Wildland fire hazard map in Chapter 3: Risk Assessment - Wildfire.*

## **California Department of Conservation**

[www.conservation.ca.gov/cgs](http://www.conservation.ca.gov/cgs)

*Applicable Incorporation: Seismic hazards mapping used in earthquake hazard section.*

## **U.S. Geological Survey (USGS)**

[www.usgs.gov](http://www.usgs.gov)

*Applicable Incorporation: Earthquake records and statistics used in Chapter 3: Risk Assessment - Earthquakes.*

## **Using HAZUS for Mitigation Planning (2018)**

[https://www.fema.gov/sites/default/files/documents/fema\\_using-hazus-mitigation-planning.pdf](https://www.fema.gov/sites/default/files/documents/fema_using-hazus-mitigation-planning.pdf)

*Applicable Incorporation: Used in Risk Assessment in HAZUS Information.*

## **California's Fourth Climate Change Assessment: Los Angeles Region Report (2019)**

<https://www.ioes.ucla.edu/project/los-angeles-regional-climate-assessment/>

*Applicable Incorporation: Used in Chapter 2: Rowland Water District Profile - Climate Information.*

## **Weather Spark**

*Applicable Incorporation: Weather information used in Chapter 2: Rowland Water District Profile.*

## **The Fifth National Climate Assessment (2023)**

*Applicable Incorporation: Climate considerations in Chapter 3: Risk Assessment – Hazard Profiles.*

## **Planning for an Emergency: Strategies for Identifying and Engaging At-Risk Groups (2015)**

*Applicable Incorporation: Social vulnerability information used in Chapter 4: Vulnerability and Impacts Assessment.*

## **Guide to Expanding Mitigation: Making the Connection to Equity (2020)**

*Applicable Incorporation: Social vulnerability information used in Chapter 4: Vulnerability and Impacts Assessment.*



**How Climate Change Impacts each Type of Natural Disaster (2022)**

*Applicable Incorporation: Climate considerations in Chapter 2: Rowland Water District Profile.*

**Proceedings of the National Academy of Sciences (2021)**

*Applicable Incorporation: Probability findings included in Chapter 3: Risk Assessment.*

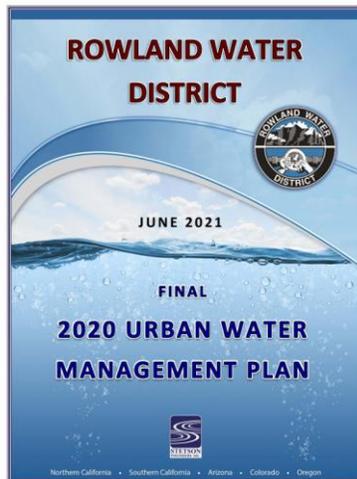
**Public Broadcasting Service (2022)**

*Applicable Incorporation: Chapter 3: Risk Assessment - Earthquake - Local Conditions.*



# Chapter 2: Rowland Water District Profile

## Geography and the Environment



According to the 2020 Rowland Water District Urban Water Management Plan, the District was formed in 1953 and is approximately 17.2 square miles in size, located in southeastern Los Angeles County. See **Map 2.1**.

An urban water supplier is defined (pursuant to Section 10617 of the California Water Code or CWC1) as “a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. An urban water supplier includes a supplier or contractor for water, regardless of the basis of right, which distributes or sells for ultimate resale to customers.” As such, the Rowland Water District is classified as an urban water supplier and is therefore required by the “Urban Water Management Planning Act” (1983) to prepare and adopt an

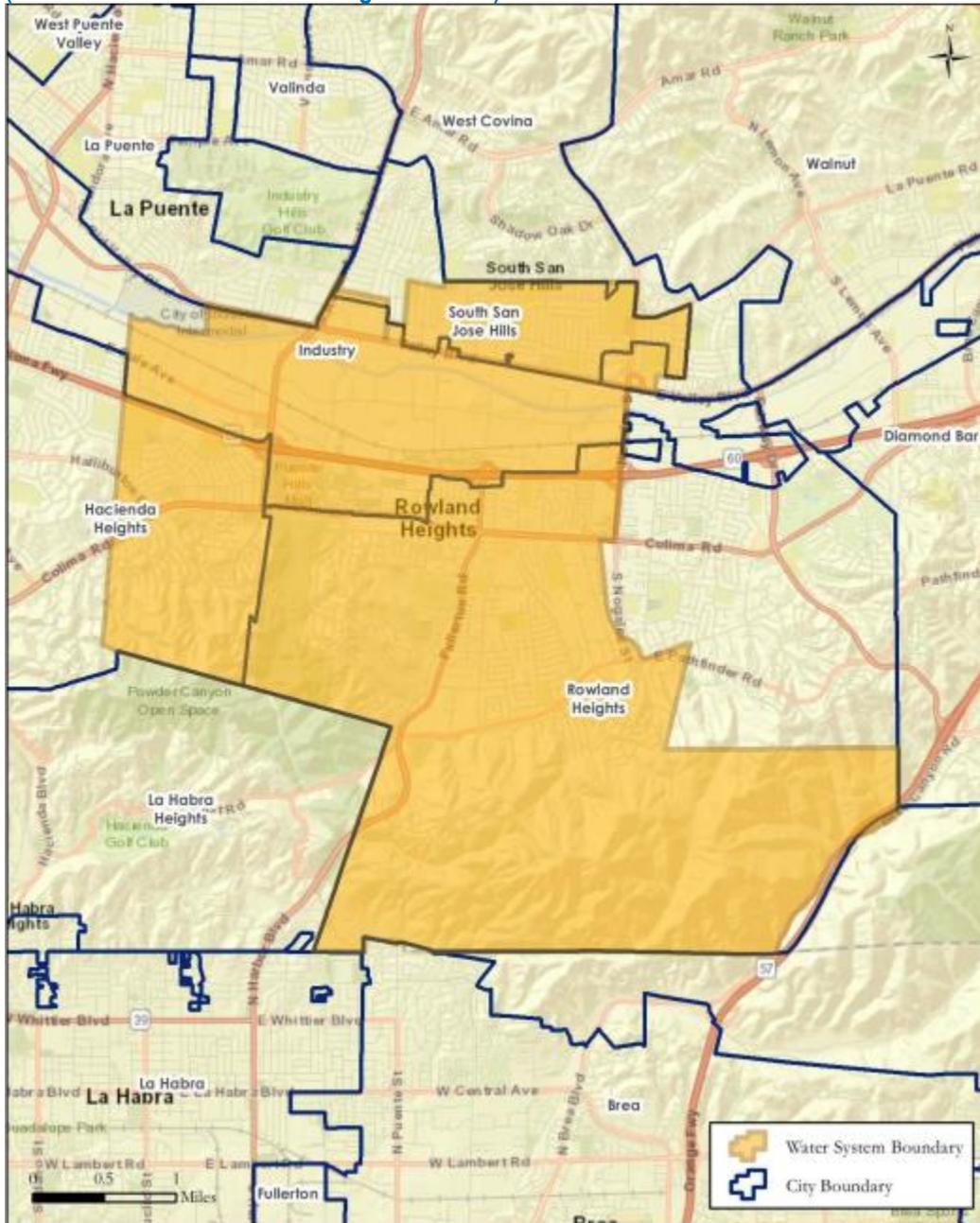
Urban Water Management Plan, periodically, review its UWMP, and incorporate updated and new information into an updated UWMP at least once every five years.

The District’s 2020 UWMP consists of the following chapters:

- Chapter 1 Urban Water Management Plan Introduction and Overview
- Chapter 2 Plan Preparation
- Chapter 3 System Description
- Chapter 4 Water Use Characterization
- Chapter 5 SB X7-7 Baseline, Targets, and Compliance
- Chapter 6 Water Supply Characterization
- Chapter 7 Water Service Reliability and Drought Risk Assessment
- Chapter 8 Water Shortage Contingency Plan
- Chapter 9 Demand Management Measures
- Chapter 10 Plan Adoption, Submittal, and Implementation



Map 2.1: Rowland Water District Service Area with City Boundaries  
(Source: 2020 Urban Water Management Plan)





## Services

According to the Rowland Water District Strategic Plan (2022), the District manages 13,800 customer service connections, services 1,650 fire hydrants, maintains more than 200 miles of potable water mains, and 18 miles of recycled water mains.

### Graphic 2.1: About the District

(Source: Rowland Water District Strategic Plan, 2022)



According to the RWD Urban Water Management Plan, the District transports, maintains, and delivers potable and recycled water to close to 60,000 people in portions of the cities of Industry, La Puente, and West Covina, as well as in the County’s unincorporated areas of Hacienda Heights and Rowland Heights. The District relies mostly on imported drinking water supplies and also receives local groundwater from the Main San Gabriel Groundwater Basin. In addition, there are eight booster pump stations, consisting of 22 booster pumps pumping water to various elevations throughout our service area. The District primarily obtains its water supply by purchasing treated imported water supplies from the Metropolitan Water District of Southern California (MWD) through Three Valleys. The imported potable water is treated either at MWD’s Weymouth Treatment Plant or at Three Valleys’ Miramar Water Treatment Plant. The potable water supplies are delivered to the District through three imported water connections.

The District’s total water demands (including potable and recycled water) over the past 10 years have ranged from 10,366 AFY to 12,490 AFY, with an average of 11,271 AFY. The District currently measures its water use through meter data and billing records.

## Climate

According to the RWD 2020 Urban Water Management Plan, the historical average rainfall in the vicinity of the District’s service area is 17.2 inches. The District’s service area has a Mediterranean climate and summers can reach average maximum daily temperatures in the high 80s to low 90s. The District’s water supplies and demands are projected during an average year, a single dry year and a five consecutive year drought and are based on historical data and projected demands. Nonetheless, it is recognized that changes in climate conditions may have an impact on water supplies.



#### Q&A | ELEMENT B: RISK ASSESSMENT | B1-e.

**Q:** Does the plan include the probability of future events for each identified hazard? Does the plan describe the effects of future conditions, including climate change (e.g., long-term weather patterns, average temperature and sea levels), on the type, location and range of anticipated intensities of identified hazards? (Requirement 44 CFR § 201.6(c)(2)(i))

**A:** See **Climate Change Hazards, Table 2-1** below.

### Climate Change Hazards

**Increased Temperature:** Annual maximum temperatures in Rowland Heights are expected to rise steadily through the end of the century. The community's historical average maximum temperatures based on data from 1961-1990, is 77.5°F. Under the medium emissions scenario, the average annual maximum temperature is projected to increase to 81.5°F. Between 2070 and 2099 the annual average maximum temperature under the high-emission scenario is projected to increase to 85.6°F.

**More Extreme Heat Days:** Extreme heat days occur when the maximum temperature is above 100.5°F. Historically, Rowland Heights 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 13 under medium emission scenarios and 16 under high emission scenarios. By the end of the centuries, 2070 and 2099, the number of extreme heat days is expected to rise to 17 under medium emission scenarios and 35 under high emission scenarios.

**Static Annual Precipitation:** Historically the community has experienced an annual average of 16.7 inches of precipitation. Annual precipitation is expected to slightly increase during the mid-century. Under the medium emission scenario, it is expected that the annual precipitation will remain steady at 16.3 inches. Under the high emission scenario, it is expected that the annual precipitation will increase to 16.5 inches. By the end of the century, annual precipitation is expected to increase to 16.9 inches under the medium emission scenario and 16.5 inches under the high emission scenario.

**Longer and more extreme Droughts:** The community can expect to see an 11.6% increase in average temperature and a 26.8% decrease in precipitation during drought conditions. This will lead to longer, more extreme droughts by mid-century.

**Steady Wildfire Threat:** 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.



**Table 2.1: Service Area Climate Information**  
 (Source: RWD 2020 Urban Water Management Plan)

**Service Area Climate Information**  
Service Area Climate Information

Month	Average Temperature (F)	Average Min. Temperature (F)	Average Max. Temperature (F)	Average Total Precipitation (Inches)	ETo (Inches)
January	51.9	38.5	65.6	3.4	1.95
February	54.2	40.8	67.7	3.5	2.41
March	56.4	42.6	70.3	2.7	3.75
April	59.9	45.9	74.1	1.2	4.55
May	64.0	50.2	77.9	0.4	5.19
June	69.1	53.9	84.3	0.1	5.97
July	74.4	58.0	91.0	0.0	6.60
August	74.7	58.3	91.2	0.1	6.41
September	72.0	55.6	88.6	0.3	4.88
October	65.3	50.2	80.6	0.8	3.46
November	58.1	42.9	73.2	1.5	2.31
December	52.7	38.7	66.5	2.7	1.72
Annual	62.2	47.6	77.4	17.2	49.20

**Q&A | ELEMENT B: RISK ASSESSMENT | B2-b.**

**Q:** For each participating jurisdiction, does the plan describe the potential impacts of each of the identified hazards on each participating jurisdiction? (Requirement §201.6(c)(2)(ii))

**A:** See **Climate Change, Population, and Land Use Considerations, Tables 2-2 and 2-3, Maps 2-2 and 2-3** below.

## Climate Change Considerations

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 service area, 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](http://cal-adapt.com)). It's important to note that the Cal-Adapt tool is limited to a drop-down list of cities, counties, census tracts, and watershed areas. As such, since the majority of Rowland Water District is within the County's unincorporated area known as Rowland Heights. Below is a summary of the data reviewed for Rowland Heights.

## Environmental Justice

Environmental justice is the movement to recognize and ameliorate the disproportionate and unfair burden of environmental pollution and other toxins faced by low-income communities and communities of color. In 2016, Senate Bill 1000 was signed into law which requires local jurisdictions that have disadvantaged communities to incorporate environmental justice policies into their general plans. *Although Rowland Water District is not required to maintain a general plan, the jurisdictions served. Therefore, the Planning Team thought it best to satisfy the requirements regarding environmental justice.*

For the purpose of local government general plan requirements, environmental justice is defined as: "the fair treatment and meaningful involvement of people of all races, cultures, incomes, and national origins, with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies" (California Government Code Section 65040.12). Residents living in or neighborhoods with high levels of pollution are at an increased risk for developing respiratory diseases, such as asthma, and cardiovascular diseases, such as stroke. Pregnant women living in highly polluted neighborhoods are also at an increased risk for experiencing poor birth outcomes, such as preterm birth. The environmental justice movement is intended to address these types of inequities by addressing the specific environmental hazards faced by disadvantaged communities.

## Population Considerations

The District provides water service to an area with a current population of 59,283. **Table 2.2** presents the current and projected population of the area encompassed by the District's service area from FY 2019-20 to FY 2044-45. The District is projected to have a population of 61,387 by FY 2044-45.

Projected populations in the District's service area were based on growth rate projections obtained from data provided by the Southern California Association of Governments (SCAG). The data provided by SCAG was based on their "The 2020-2045 Regional Transportation Plan / Sustainable Communities Strategy of the SCAG", dated September 2020, and incorporates demographic trends, existing land use, general plan land use policies, and input and projections through the year 2045 from the Department of Finance (DOF) and the US Census Bureau for counties, cities and unincorporated areas within Southern California.



**Table 2.2: Population – Current and Projected**  
 (Source: Rowland Water District 2020 Urban Water Management Plan, 2022)

Submittal Table 3-1 Retail: Population - Current and Projected						
Population Served	2020	2025	2030	2035	2040	2045(opt)
	59,283	59,714	60,147	60,584	60,984	61,387

NOTES: The 2020 population and the populations projected through 2045 is based on the annual growth rate estimated in SCAG's 2020-2045 Regional Transportation Plan applied to the 2018 population obtained from the United States Census Bureau's American Community Survey (See Section 3.4.1 and Section 5.4.1).

## Land Use

The District reviewed the current and projected land uses within its service area during the preparation of the 2020 UWMP. Information regarding current and projected land uses are included in the Los Angeles County 2035 General Plan. The existing land uses within the District's service area include residential (single-family and multi-family), commercial, and open space. Based on the Los Angeles County 2035 General Plan, the projected land uses within the District's service area are expected to remain similar to the existing land uses. In addition, although mostly built-out, the projected population within the District's service area is anticipated to increase.

**Table 2.3: Projected Water Use by Use Types**  
 (Source: Rowland Water District 2020 Urban Water Management Plan)

Use Type	Additional Description (as needed)	Projected Water Use <sup>2</sup> <i>Report To the Extent that Records are Available</i>				
		2025	2030	2035	2040	2045 (opt)
<u>Drop down list</u> May select each use multiple times These are the only Use Types that will be recognized by the WUedata online submittal tool						
Add additional rows as needed						
Single Family		4,591	4,597	4,604	4,607	4,611
Multi-Family		1,424	1,426	1,428	1,429	1,430
Commercial		4,956	4,963	4,970	4,974	4,977
Losses		644	645	646	647	647
Other		24	24	24	24	24
	<b>TOTAL</b>	<b>11,639</b>	<b>11,655</b>	<b>11,672</b>	<b>11,681</b>	<b>11,689</b>

The Use Types as defined in the California Water Code include:

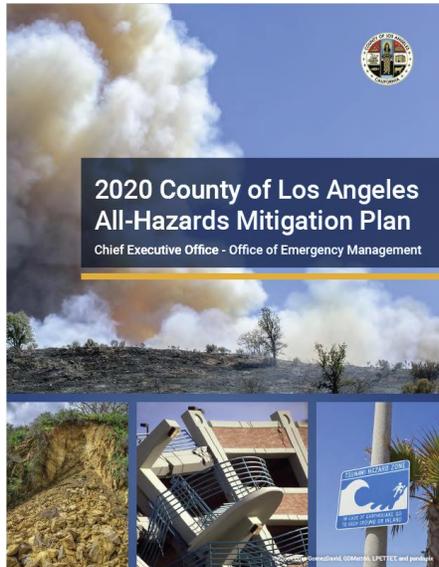
- Single-family residential (A single-family dwelling unit is a lot with a free-standing building containing one dwelling unit that may include a detached secondary dwelling. Single-family residential water demands are included in retail demands.)
- Multi-family (Multiple dwelling units are contained within one building or several buildings within one complex. Multi-family residential water demands are included in retail demands.)
- Commercial (Commercial users are defined as water users that provide or distribute a product or service.)



- Landscape (Landscape connections supply water solely for landscape irrigation. Landscapes users may be associated with multi-family, commercial, industrial, or institutional/governmental sites, but are considered a separate water use sector if the connection is solely for landscape irrigation. Landscape water demands are included in retail demands.)
- Distribution system losses (Distribution system losses represent the potable water losses from the pressurized water distribution system and water storage facilities, up to the point of delivery to the customers.)

# Chapter 3: Risk Assessment

## What is a Risk Assessment?



Conducting a risk assessment can provide information regarding: the location of hazards; the value of existing land and property in hazard locations; and an analysis of risk to life, property, and the environment that may result from natural hazard events. Specifically, the five levels of a risk assessment are as follows:

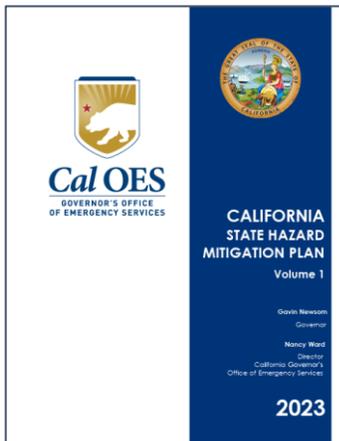
- Identify Hazards (Chapter 3: Risk Assessment)*
- Hazard Profiles (Chapter 3: Risk Assessment)*
- Identify Community Assets (Chapter 4: Vulnerability & Impacts Assessment)*
- Analyze Impacts (Chapter 4: Vulnerability & Impacts Assessment)*
- Summarize Vulnerability (Chapter 4: Vulnerability & Impacts Assessment)*

### Q&A | ELEMENT B: RISK ASSESSMENT | B1-a.

**Q:** Does the plan describe all natural hazards that can affect the jurisdiction(s) in the planning area, and does it provide the rationale if omitting any natural hazards that are commonly recognized to affect the jurisdiction(s) in the planning area? (Requirement 44 CFR § 201.6(c)(2)(i))

**A:** See **Identify Hazards, Tables 3.1, 3.2 (a-k), 3.3, and 3.4** below.

### Identify Hazards



This section is the description of the geographic extent, potential intensity, and the probability of occurrence of a given hazard. Maps are used in this plan to display hazard identification data. To determine the hazard with significant potential to impact to the entire project area, the Planning Team examined three resources: California’s 2023 State Hazard Mitigation Plan (SHMP), 2020 County of Los Angeles All-Hazards Mitigation Plan (AHMP), and historical observations from the Planning Team members. Additionally, many of the participating agencies have Urban Water Management Plans which include hazard-related information.

Next, the MJHMP Planning Team reviewed the state and county documents to determine which of the hazards posed the most significant threat to the project area and the ability of the participating agencies to deliver services. *In other words, which hazard would likely result in a local declaration of emergency.*

The SHMP identifies 15 hazards identified as “natural hazards of interest” with earthquake, flood, and wildfire deemed as posing the greatest threat to the state overall. The AHMP identified 8



hazards as posing the greatest threat to the county: earthquake, flood, wildfire, climate change, dam inundation, drought, landslide, and tsunami. The geographic extent of each of the identified hazards was considered by the MJHMP Planning Team utilizing maps and data. Based on the findings of each of the planning participants, the Team decided to rank earthquake, flood, wildfire, dam inundation, drought, and power outages. Climate change is integrated into each hazard profile.

Next, the Team utilized FEMA’s Calculated Priority Risk Index (CPRI) ranking technique to quantify the probability, maximum strength, during, and warning time for each of the hazards. The hazard ranking system is described below.

**Table 3.1: Calculated Priority Risk Index**  
(Source: Federal Emergency Management Agency)

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 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 between 1 in 10 years and 1 in 100 years.	3	
	Highly Likely	Frequent events with a well-documented history of occurrence. Annual probability greater than 1 every year.	4	
Magnitude & Severity	Negligible	Negligible property damage (less than 5% of 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 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 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 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	



### CPRI Summaries

The following are the CPRI Summaries for each of the MJHMP planning participants.

**Table 3.2a: Bellflower-Somerset Mutual Water Company CPRI**  
(Source: BSMWC Planning Team, Emergency Planning Consultants)

Hazards	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	2	0.90	2	0.60	1	0.15	1	0.10	1.75	L
Drought	2	0.90	2	0.60	1	0.15	4	0.40	2.05	L
Earthquake	3	1.35	4	1.20	4	0.60	1	0.10	3.25	H
Flood	1	0.45	1	0.30	1	0.60	2	0.20	1.10	n/a
Power Outage	2	0.90	3	0.90	4	0.60	3	0.30	2.70	M
Wildfire	1	0.45	1	0.30	4	0.60	1	0.10	1.45	n/a
Windstorm	2	0.90	1	0.30	1	0.15	3	0.30	1.65	L

**\*Hazard Priority Rankings:**  
*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 3.2b: Kinneloa Irrigation District CPRI**  
(Source: KID Planning Team, Emergency Planning Consultants)

Hazards	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	1	0.15	1	0.10	1.00	n/a
Drought	3	1.35	2	0.60	4	0.60	2	0.20	2.75	M
Earthquake	3	1.35	4	1.20	4	0.60	1	0.10	3.25	H
Flood	3	1.35	2	0.60	1	0.15	2	0.20	2.30	M
Power Outage	4	1.80	2	0.60	4	0.60	3	0.30	3.30	H
Wildfire	3	1.35	4	1.20	4	0.60	3	0.30	3.45	H
Windstorm	3	1.35	2	0.60	2	0.30	3	0.30	2.40	M

**\* Hazard Priority Rankings:**  
*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 3.2c: La Puente Valley County Water District CPRI**  
(Source: LPVCWD Planning Team, Emergency Planning Consultants)

Hazards	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	1	0.15	1	0.10	1.10	n/a
Drought	3	1.35	2	0.60	1	0.15	4	0.40	2.50	M
Earthquake	3	1.35	4	1.20	4	0.60	2	0.20	3.35	H
Flood	2	0.90	2	0.60	4	0.60	2	0.20	2.30	L
Power Outage	3	1.35	2	0.60	4	0.60	3	0.30	2.85	M
Wildfire	2	0.90	2	0.60	1	0.15	2	0.20	1.85	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 3.2d: Pico Water District CPRI and Hazard Priority Ranking**  
(Source: PWD Planning Team, Emergency Planning Consultants)

Hazards	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	2	0.90	2	0.60	1	0.15	3	0.30	1.95	L
Drought	3	1.35	2	0.60	1	0.15	4	0.40	2.50	M
Earthquake	3	1.35	4	1.20	4	0.60	1	0.10	3.25	H
Flood	2	0.90	2	0.60	2	0.30	3	0.30	2.10	L
Power Outage	2	0.90	3	0.90	4	0.60	1	0.10	2.50	M
Wildfire	2	0.90	4	1.20	2	0.30	3	0.30	2.70	H
Windstorm	2	0.90	2	0.60	1	0.15	3	0.30	1.95	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 3.2e: Rowland Water District CPRI**  
(Source: RWD Planning Team, Emergency Planning Consultants)

Hazards	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	1	0.15	1	0.10	1.00	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	1	0.10	3.25	H
Flood	2	0.90	1	0.30	1	0.15	1	0.10	1.45	L
Power Outage	3	1.35	2	0.60	4	0.60	1	0.10	2.65	M
Wildfire	3	1.35	2	0.60	4	0.60	2	0.20	2.75	M
Windstorm	2	0.90	1	0.30	1	0.15	4	0.40	1.75	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 3.2f: San Gabriel County Water District CPRI**  
(Source: SGCWD Planning Team, Emergency Planning Consultants)

Hazards	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	1	0.15	1	0.10	1.00	n/a
Drought	4	1.80	3	0.90	1	0.15	4	0.40	3.25	H
Earthquake	3	1.35	4	1.20	4	0.60	4	0.40	3.55	H
Flood	1	0.45	1	0.30	2	0.30	3	0.30	2.10	L
Power Outage	3	1.35	2	0.60	4	0.60	3	0.30	2.85	H
Wildfire	1	0.45	1	0.30	1	0.15	1	0.10	1.00	n/a
Windstorm	3	1.35	2	0.60	3	0.45	3	0.30	2.75	M

**\* Hazard Priority Rankins:**  
**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 3.2g: South Montebello Irrigation District CPRI**  
(Source: SMID Planning Team, Emergency Planning Consultants)

Hazards	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	2	0.90	2	0.60	4	0.60	4	0.40	2.50	L
Drought	4	1.80	2	0.60	1	0.15	4	0.40	2.95	H
Earthquake	3	1.35	4	1.20	4	0.60	1	0.10	3.25	H
Flood	2	0.90	1	0.30	1	0.15	2	0.20	1.55	L
Power Outage	4	1.80	1	0.30	4	0.60	2	0.20	2.90	M
Wildfire	2	0.90	2	0.60	4	0.60	1	0.10	2.20	L
Windstorm	2	0.90	1	0.30	1	0.15	3	0.30	1.65	L

**\* Hazard Priority Rankings:**  
**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 3.2h: Three Valleys Municipal Water District CPRI**  
(Source: TVMWD Planning Team, Emergency Planning Consultants)

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	2	0.90	1	0.30	1	0.15	2	0.20	1.55	L
Drought	4	1.80	2	0.60	1	0.15	4	0.40	2.95	H
Earthquake	3	1.35	4	1.20	4	0.60	1	0.10	3.25	H
Flood	1	0.45	2	0.60	1	0.15	2	0.20	1.40	L
Power Outage	2	0.90	3	0.90	1	0.15	3	0.30	2.25	M
Wildfire	2	0.90	3	0.90	2	0.30	3	0.30	2.40	M
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 3.2i: Valencia Heights Water Company CPRI**  
 (Source: VHWC Planning Team, Emergency Planning Consultants)

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	2	0.90	2	0.60	1	0.15	1	0.10	1.75	L
Drought	2	0.90	3	0.90	1	0.15	4	0.40	2.35	M
Earthquake	3	1.35	4	1.20	4	0.60	1	0.10	3.25	H
Flood	1	0.45	1	0.30	1	0.60	2	0.20	1.10	n/a
Power Outage	2	0.90	3	0.90	4	0.60	3	0.30	2.70	M
Wildfire	2	0.90	3	0.90	4	0.60	1	0.10	2.50	M
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 3.2j: Walnut Valley Water District CPRI**  
 (Source: WVWD Planning Team, Emergency Planning Consultants)

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
Power Outage	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



## MJHMP Project Area Hazard Priority Ranking Summary

Table 3-3 is a project-wide summary of the hazard priority rankings discussed in the previous section.

**Table 3.3: Hazard Priority Ranking Summary**  
(Source: Emergency Planning Consultants)

	Bellflower-Somerset Mutual Water Company	Kinnetoa Irrigation District	La Puente Valley County Water District	Pico Water District	Rowland Water District	San Gabriel County Water District	South Montebello Irrigation District	Three Valleys Municipal Water District	Valencia Heights Water Company	Walnut Valley Water District
Dam Failure	L	n/a	n/a	L	n/a	n/a	L	L	L	n/a
Drought	L	M	M	M	M	H	H	H	M	M
Earthquake	H	H	H	H	H	H	H	H	H	H
Flood	n/a	M	L	L	L	L	L	L	n/a	n/a
Power Outage	M	H	M	M	M	H	M	M	M	M
Wildfire	n/a	H	L	H	M	n/a	L	M	M	L
Windstorm	L	M	L	L	L	M	L	L	L	L

### Q&A | ELEMENT B: RISK ASSESSMENT | B1-a.

**Q:** Does the plan describe all natural hazards that can affect the jurisdiction(s) in the planning area, and does it provide the rationale if omitting any natural hazards that are commonly recognized to affect the jurisdiction(s) in the planning area? (Requirement 44 CFR § 201.6(c)(2)(i))

**A:** See Table 3.4 below.

## MJHMP Project Area Hazard Priority Ranking Summary of Inclusion/Omission

Table 3.4 identifies the hazards profiled in the Base Plan. This table captures any hazard ranked as posing a significant threat (e.g., “medium” or “high” in the Hazard Priority Ranking) to the project area. The rankings for the host jurisdiction RWD are indicated with an asterisk (\*).

**Table 3.4: MJHMP Hazard Source Review and Status of Inclusion/Omission**  
(Source: California State Hazard Mitigation Plan [SHMP]; Los Angeles County All-Hazards Mitigation Plan, [AHMP]; MJHMP Planning Team [PT], National Risk Index [NRI])

Hazard	Source				Hazard Profiled in Base Plan	Status of Inclusion/Omission
Avalanche	NRI	SHMP			N	The Planning Team determined that this hazard poses no threat to the project area.
Climate Change			AHMP		Y	The Planning Team determined that climate change does pose a threat to the project area. Impacts of climate change have been integrated into each of the profiled hazards.
Coastal Flooding	NRI	SHMP			N	The Planning Team determined that this hazard poses no threat to the project area.



Hazard	Source				Hazard Profiled in Base Plan	Status of Inclusion/Omission
	NRI	SHMP	AHMP	PT		
Cold Wave	NRI	SHMP			N	The Planning Team determined that this hazard poses no threat to the project area.
Dam Failure		SHMP	AHMP		N	The Planning Team determined that dam failure poses a “n/a-low” threat to the project area.
Drought	NRI	SHMP	AHMP		Y*	The Planning Team determined that drought poses a “low-medium-high” threat to the project area.
Earthquake	NRI	SHMP	AHMP		Y*	The Planning Team determined that earthquake poses a “high” threat to the project area.
Hail	NRI				N	The Planning Team determined that this hazard poses no threat to the project area.
Heat Wave	NRI	SHMP			N	The Planning Team determined that this hazard poses no threat to the project area.
Hurricane	NRI				N	The Planning Team determined that this hazard poses no threat to the project area.
Ice Storm	NRI				N	The Planning Team determined that this hazard poses no threat to the project area.
Landslide	NRI	SHMP	AHMP		N	The Planning Team determined that this hazard poses no threat to the project area.
Levee Failure		SHMP			N	The Planning Team determined that this hazard poses no threat to the project area.
Lighting	NRI				N	The Planning Team determined that this hazard poses no threat to the project area.
Power Outage				PT	Y*	The Planning Team determined that power outage poses a “medium-high” threat to the project area.
Riverine Flooding	NRI	SHMP	AHMP		Y	The Planning Team determined that flooding poses a “n/a-low-medium” threat to the project area.
Strong Wind	NRI	SHMP			Y	The Planning Team determined that strong wind poses a “low-medium” threat to the project area.
Subsidence		SHMP			N	The Planning Team determined that this hazard poses no threat to the project area.
Tornado	NRI				N	The Planning Team determined that this hazard poses no threat to the project area.
Tsunami	NRI	SHMP	AHMP		N	The Planning Team determined that this hazard poses no threat to the project area.
Volcanic Activity	NRI	SHMP			N	The Planning Team determined that this hazard poses no threat to the project area.
Wildfire	NRI	SHMP	AHMP		Y*	The Planning Team determined that wildfire poses a “n/a-low-medium-high” threat to the project area.
Winter Weather	NRI				N	The Planning Team determined that this hazard poses no threat to the project area.

Additionally, the Planning Team reviewed Federal Disaster Declarations for Los Angeles County. **Table 3.5** outlines those disaster declarations.



**Table 3.5: Federal Disaster Declarations 2018-2025 Los Angeles County**  
 (Source: FEMA State and County Disaster Declarations, 2025; Cal OES Open State of Emergency Proclamations, 2025)

Year	Federal Declaration Number	State of Emergency Declaration Issued by California	Declaration Title
2025	DR-4856-CA	Yes	Wildfire and Straight-line winds
2025	DR-5550-CA	Yes	Eaton Fire
2025	DR-5551-CA	Yes	Hurst Fire
2025	DR-5549-CA	Yes	Palisades Fire
2023	DR-4699-CA	Yes	Severe Winter Storms, Straight-Line Winds, Flooding, Landslides, and Mudslides
2023	EM-3591-CA	Yes	Severe Winter Storms, Flooding, and Mudslides
2023	EM-3592-CA	Yes	Severe Winter Storms, Flooding, Landslides, and Mudslides
2022	NA	Yes	Extreme Heat
2022	NA	Yes	Tropical Storm Kay
2021	DR-4569-CA		Wildfires
2021	FM-5381-CA		Blue Ridge Fire
2021	NA	Yes	Winter Storms
2021	NA	Yes	Drought
2020	DR-4482-CA		Covid-19 Pandemic
2020	EM-3428-CA		Covid-19
2020	NA	Yes	Extreme Heat Event
2018	EM-3409-CA		Wildfire
2023	DR-4683-CA		Severe Winter Storms, Flooding, Landslides, and Mudslides
2020	FM-5374-CA		Bobcat Fire
2019	FM-5297-CA		Getty Fire
2019	FM-5296-CA		Wildfires
2019	FM-5293-CA		Saddleridge Fire
2018	DR-4407-CA		Wildfires
2018	DR-5280-CA	Yes	Woolsey Fire
2018	DR-4353-CA		Wildfires, Flooding, Mud Flow, Debris Flow



## Summary of Hazard Location, Extent, Probability, and Recent Significant Occurrence

<p><b>Q&amp;A   ELEMENT B: RISK ASSESSMENT   B1-b.</b></p> <p><b>Q:</b> Does the plan include information on the location of each identified hazard? (Requirement 44 CFR § 201.6(c)(2)(i))</p> <p><b>A:</b> See <b>Table 3.6</b> below.</p>
<p><b>Q&amp;A   ELEMENT B: RISK ASSESSMENT   B1-c.</b></p> <p><b>Q:</b> Does the plan describe the extent for each identified hazard? (Requirement 44 CFR § 201.6(c)(2)(i))</p> <p><b>A:</b> See <b>Table 3.6</b> below.</p>
<p><b>Q&amp;A   ELEMENT B: RISK ASSESSMENT   B1-d.</b></p> <p><b>Q:</b> Does the plan include the history of previous hazard events for each identified hazard? (Requirement 44 CFR § 201.6(c)(2)(i))</p> <p><b>A:</b> See <b>Table 3.6</b> below.</p>
<p><b>Q&amp;A   ELEMENT B: RISK ASSESSMENT   B1-e.</b></p> <p><b>Q:</b> Does the plan include the probability of future events for each identified hazard? Does the plan describe the effects of future conditions, including climate change (e.g., long-term weather patterns, average temperature and sea levels), on the type, location and range of anticipated intensities of identified hazards? (Requirement 44 CFR § 201.6(c)(2)(i))</p> <p><b>A:</b> See <b>Tables 3.6</b> below.</p>

**Tables 3.6** includes a hazard summary of the location, extent, probability, and recent significant occurrence for each of the profiled hazards in Rowland Water District. Also, see the Annexes for an agency-specific Summary of Hazard Location, Extent, and Probability.

**Table 3.6: Rowland Water District Summary of Hazard Location, Extent, Probability, and Recent Significant Occurrence**  
(Source: RWD Planning Team, Emergency Planning Consultants)

Hazard	Location (Where)	Extent (How Big an Event)	Probability* (How Often)	Most Recent Significant Occurrence
Drought	Entire Service Area	Droughts in urban areas 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	RWD 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.
Earthquake	Entire Service Area	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. Earthquake would	Possible	The most recent damaging earthquake was the M6.7 Northridge Earthquake in 1994.



Hazard	Location (Where)	Extent (How Big an Event)	Probability* (How Often)	Most Recent Significant Occurrence
		most likely originate from the San Andreas fault.		
Power Outage	Entire Service Area	Public Safety Power Shutoff poses significant threat to RWD staff, facilities, and customers.	Likely	2024
Wildfire	East and west of RWD Headquarters	State/Local Responsibility Area designated as Very High Fire Hazard Severity Zone.	Likely	2008 Freeway Complex Fire
* 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				
<sup>1</sup> Uniform California Earthquake Rupture Forecast				

### Hazard Profiles

This section discusses general information on all of the hazards ranked as medium or high in the entire project area. Specific local conditions relate to Rowland Water District while the Annexes (attached separately) contain conditions pertinent to their own service areas.

### Earthquake

	Bellflower-Somerset Mutual Water Company	Kinneloa Irrigation District	La Puente Valley County Water District	Pico Water District	Rowland Water District	San Gabriel County Water District	South Montebello Irrigation District	Three Valleys Municipal Water District	Valencia Heights Water Company	Walnut Valley Water District
Earthquake	H	H	H	H	H	H	H	H	H	H

**Q&A | ELEMENT B: RISK ASSESSMENT | B1-a.**

**Q:** Does the plan describe all natural hazards that can affect the jurisdiction(s) in the planning area, and does it provide the rationale if omitting any natural hazards that are commonly recognized to affect the jurisdiction(s) in the planning area? (Requirement 44 CFR § 201.6(c)(2)(i))

**A:** See **Description, Local Conditions** below.



## Description

An earthquake is a sudden motion or trembling that is caused by a release of strain accumulated within or along the edge of the Earth's tectonic plates. The effects of an earthquake can be felt far beyond the site of its occurrence. They usually occur without warning and, after just a few seconds, can cause massive damage and extensive casualties. Common effects of earthquakes are ground motion and shaking, surface fault ruptures, and ground failure.

### Ground Shaking

Ground shaking is the motion felt on the earth's surface caused by seismic waves generated by the earthquake. It is the primary cause of earthquake damage. The strength of ground shaking depends on the magnitude of the earthquake, the type of fault, and distance from the epicenter (where the earthquake originates). Buildings on poorly consolidated and thick soil will typically see more damage than buildings on consolidated soils and bedrock.

### Liquefaction

Liquefaction is a phenomenon in which the strength and stiffness of soil is reduced by earthquake shaking or other events. Liquefaction occurs in saturated soils, which are soils in which the space between individual soil particles is completely filled with water. This water exerts pressure on the soil particles that influences how tightly the particles themselves are pressed together. Prior to an earthquake, the water pressure is relatively low. However, earthquake shaking can cause water pressure to increase to the point where the soil particles can readily move with respect to each other. Because liquefaction only occurs in saturated soil, its effects are most commonly observed in low lying areas. Typically, liquefaction is associated with shallow groundwater, which is less than 50 feet beneath the earth's surface.

#### Q&A | ELEMENT B: RISK ASSESSMENT | B1-c.

**Q:** Does the plan describe the extent for each identified hazard? (Requirement 44 CFR § 201.6(c)(2)(i))

**A:** See **HAZUS, Table 3.7** below.

## HAZUS-MH



The hazard maps in the Mitigation Plan were generated by Emergency Planning Consultants using FEMA's Hazards United States – Multi Hazard (HAZUS-MH) software program. The HAZUS reports are included in the Earthquake Profile and the associated reports are available separately.

Once the location and size of a hypothetical earthquake are identified, HAZUS-MH estimates the intensity of the ground shaking, the number of buildings damaged, the number of casualties, the amount of damage to transportation systems and utilities, the number of people displaced from their homes, and the estimated cost of repair and clean up. It's important to note that the "project are" is based on Census Tracts not jurisdictional boundaries.

As per FEMA's HAZUS Guidebook, HAZUS is a GIS-based software that can be used to estimate potential damage, economic loss, and social impacts from earthquakes, flooding, tsunami and hurricane wind hazards. The HAZUS software includes nationwide general GIS datasets, and a model for the four natural disasters below. The model results can support the risk assessment piece of mitigation planning.

**Graphic 3.1: Model Results to Support Risk Assessment for Mitigation Planning**  
 (Source: Using HAZUS for Mitigation Planning, Federal Emergency Management Agency, 2018)

 <p><b>Earthquake model</b></p>	<p>Estimates damages and losses to buildings, essential facilities, transportation, and utility lifelines from a single scenario or probabilistic earthquake analysis. There are also tools that allow the user to integrate earthquake hazard data generated outside of Hazus into the earthquake model. This model estimates debris generation, shelter requirements, casualties, and fire following an earthquake disaster.</p>
 <p><b>Flood model</b></p>	<p>Generates flood hazard data using nationwide hydrological datasets. There are also tools that allow the user to integrate flood hazard data generated outside of Hazus software into the flood model. This model estimates the expected levels of damage to infrastructure and buildings. Debris generation and shelter requirements, as well as agricultural losses, can be calculated with this model.</p>
 <p><b>Tsunami model</b></p>	<p>Can produce analyses that have several pre-tsunami and/or post-tsunami applications. Use of the methodology will generate an estimate of the consequences to a county or region of a "scenario tsunami," i.e., a tsunami with a specified inundation depth, velocity, and location. The resulting "loss estimate" generally will describe the scale and extent of damage and disruption that may result from the scenario tsunami.</p>
 <p><b>Hurricane wind model</b></p>	<p>Can create the wind hazard data from a historical or real-time event, probabilistic event, or from a user-defined scenario. Estimates of potential damage and economic loss to buildings can then be calculated. The storm surge analysis combines the wind and coastal flood model to simulate storm surge for historical, and manual hurricanes. The model combines the wind and flood losses.</p>

HAZUS is packaged with datasets that include building inventories and infrastructure for the entire United States. Because HAZUS is currently built on GIS technology, the inventory and infrastructure datasets can be mapped and intersected with the hazard information created from the four models.

Following the intersection, HAZUS determines the effects of wind, ground shaking, and water depths on buildings and infrastructure to calculate losses and damages. The outputs and estimates can be used in hazard mitigation planning, emergency response, and planning for recovery and reconstruction.

Losses estimated in HAZUS are based on the accuracy of input data. Basic analysis can be developed using the default data and parameter data provided within HAZUS. Users can conduct more advanced analysis using more accurate data that is specific to the region, hazard, population, etc. User-supplied data improves the accuracy of inventories and/or parameters.

Advanced-level analyses may also incorporate data from third-party studies. The user must determine the appropriate level of analysis to meet the user's needs and resources.

HAZUS analysis can be performed at three different levels:

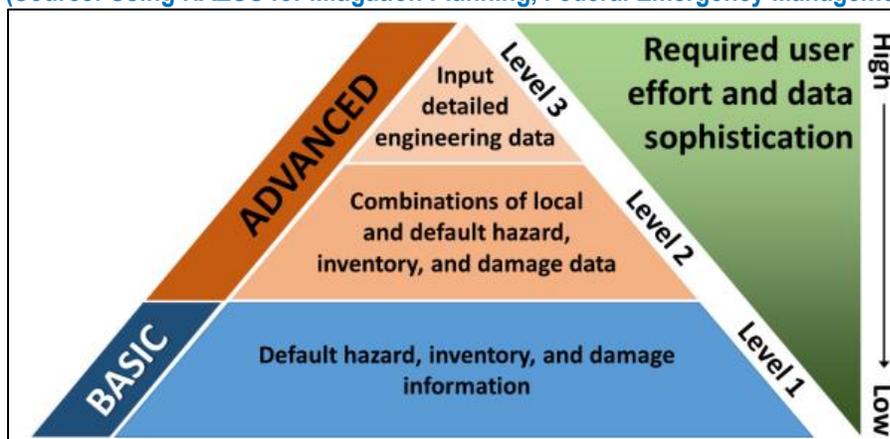


- A Level 1 basic analysis can be performed simply using the default data provided. This level of analysis is very coarse, and because the results will be subject to a much higher level of uncertainty, this should serve primarily as a baseline for further study. The user will still be able to produce basic maps and results. Limited additional data will be required to complete the flood analysis. Site specific input data produces more accuracy in vulnerability identification and loss estimation amounts. If the data is available, it is highly recommended that a user integrate site specific data to reduce uncertainty associated with the results of default data. Using a user defined depth grid, in the flood model, against default state data is classified as a level 1 analysis and is the recommendation of HAZUS Program.
- A Level 2 advanced analysis increases the accuracy and precision of an analysis by incorporating user-supplied data relevant to a given hazard. While the data included with the HAZUS software can be utilized to run a basic level one analysis, level two inputs are supplied by local sources and contain a higher level of detail. This can include datasets that model the hazards in more detail, or datasets that increase the accuracy of the inventory information. Incorporating more detailed data will improve the quality of the results. Level 2 is broadly defined as the incorporation of user-defined hazard and updated GBS or site-specific data.
- A Level 3 advanced analysis achieves the highest degree of precision and involves modifying or substituting the model parameters and/or equations, relevant to a given hazard. Users can modify inputs depending on the time and resources available. Keeping track of the data used is suggested so that any relationships between input and results is documented. It is usually done by advanced users experienced with both the hazard and the HAZUS software.

FEMA’s Natural Hazard Risk Assessment Program (NHRAP) encourages users to conduct Level 2 or 3 analyses to improve the accuracy of results and recommends the use of user defined data (e.g., depth grids for all flood analysis) for mitigation planning.

### Graphic 3.2: HAZUS Analysis Levels

(Source: Using HAZUS for Mitigation Planning, Federal Emergency Management Agency, 2018)



HAZUS creates credible estimates for losses and damages; datasets created on the local level typically provide greater detail than the datasets that are packaged with HAZUS (Level 1). Incorporating local datasets into the analysis will improve the results.



## HAZUS Outputs

The user plays a major role in selecting the scope and nature of the output of a HAZUS analysis. A variety of maps can be generated to visualize the extent of the losses. Numerical results may be examined at the level of the census block or tract or may be aggregated by county or region. There are three main categories of HAZUS outputs including direct physical damage, induced damage, and direct losses. Direct physical damage includes general building stock (GBS), essential facilities, high potential loss facilities, transportation systems, utility systems, and user defined facilities. Induced damage includes building debris, tree debris generation and fire following disaster occurrence. Direct losses include losses for buildings, contents, inventory, income, crop damage, vehicle loss, injuries, casualties, sheltering needs and displaced households.

### Mercalli Scale and Peak Ground Acceleration Comparison

One tool used to describe earthquake intensity is the Magnitude Scale. The Magnitude Scale is sometimes referred to as the Richter Scale. The two are similar but not exactly the same. The Magnitude Scale was devised as a means of rating earthquake strength and is an indirect measure of seismic energy released. The Scale is logarithmic with each one-point increase corresponding to a 10-fold increase in the amplitude of the seismic shock waves generated by the earthquake. In terms of actual energy released, however, each one-point increase on the Richter scale corresponds to about a 32-fold increase in energy released. Therefore, a Magnitude 7 (M7) earthquake is 100 times (10 X 10) more powerful than an M5 earthquake and releases 1,024 times (32 X 32) the energy. **Table 3.7** summarizes the Mercalli Scale and Peak Ground Acceleration Comparison.

**Table 3.7: Mercalli Scale and Peak Ground Acceleration Comparison**

(Source: USGS)

Modified Mercalli Scale	Perceived Shaking	Potential Structure Damage		Estimated PGA* (%g)
		Resistant Buildings	Vulnerable Buildings	
I	Not Felt	None	None	<0.17%
II-III	Weak	None	None	0.17% - 1.4%
IV	Light	None	None	1.4% - 3.9%
V	Moderate	Very Light	Light	3.9% - 9.2%
VI	Strong	Light	Moderate	9.2% - 18%
VII	Very Strong	Moderate	Moderate/Heavy	18%-34%
VIII	Severe	Moderate/Heavy	Heavy	34%-65%
IX	Violent	Heavy	Very Heavy	65% - 124%
X-XIII	Extreme	Very Heavy	Very Heavy	>124%

\*PGA = peak ground acceleration. Measured in percent of g, where g is the acceleration of gravity

Sources: USGS, 2008; USGS, 2010

#### Q&A | ELEMENT B: RISK ASSESSMENT | B1-b.

**Q:** Does the plan include information on the location of each identified hazard? (Requirement 44 CFR § 201.6(c)(2)(i))

**A:** See **Local Conditions, Maps 3.1 and 3.2, Liquefaction Area** below.



## Local Conditions

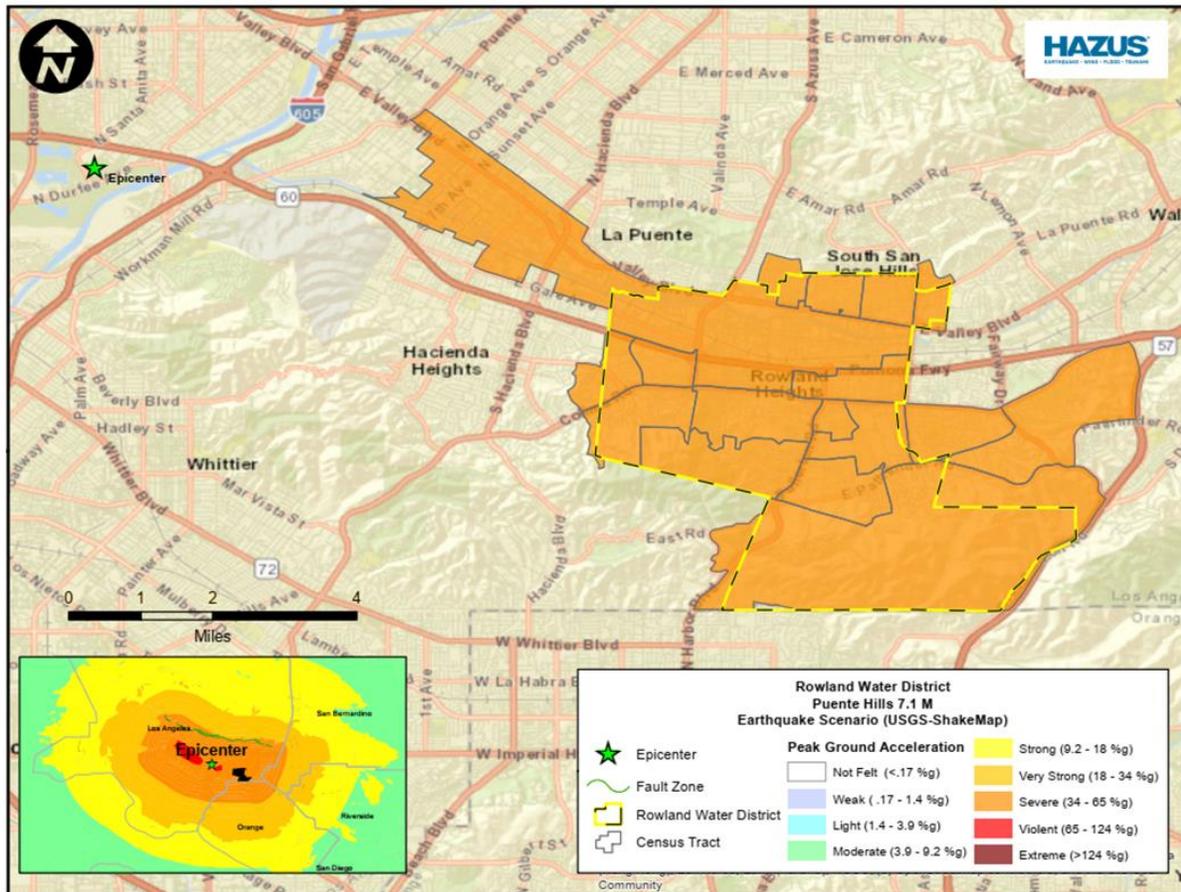
According to the UWMP, the California Geological Survey has published the locations of numerous faults which have been mapped in the Southern California region. Although the San Andreas Fault is the most recognized and is capable of producing an earthquake with a magnitude greater than 8 on the Richter Scale, some of the lesser-known faults have the potential to cause significant damage. The locations of these earthquake faults in the vicinity of the Rowland Water District's water service area are provided in the figure below. The faults that are located in close proximity to and could potentially cause significant shaking in the District's service area include the San Andreas Fault, the Walnut Creek Fault, the Whittier Fault, the San Jose Fault, the Cucamonga Fault, the Chino Fault, the Central Avenue Fault, and the Sierra Madre Fault. Equally important is the Puente Hills Fault which was identified in 1999 and considered to pose the greatest threat to RWD due to proximity.

### **Puente Hills Fault**

The Puente Hills Fault is an active geological fault that was discovered in 1999 and runs about 40 km (25 mi) in three discrete sections from the Puente Hills region in the southeast to just south of Griffith Park in the northwest. The fault is known as a blind thrust fault, as the fault plane does not extend to the surface. Large earthquakes on the fault are relatively infrequent but computer modeling has indicated that a major event could have substantial impact in the Los Angeles area. The fault is now thought to be responsible for one moderate earthquake in 1987 (the 1987 Whittier Narrows earthquake) and another light event that took place in 2010, with the former causing considerable damage and deaths.

**Map 3.1** depicts the shaking intensity for a 7.1 magnitude earthquake along the Puente Hills fault. The entire water district could experience severe shaking intensities ranging from 34 to 65 %g.

**Map 3.1: HAZUS – Puente Hills M7.1**  
 (Source: Emergency Planning Consultants, 2023)



### Southern San Andreas Fault

The San Andreas Fault is a continental right-lateral strike-slip transform fault that extends roughly 1,200 kilometers through the California. It forms the tectonic boundary between the Pacific Plate and the North American Plate. Traditionally, for scientific purposes, the fault has been classified into three main segments (northern, central, and southern), each with different characteristics and a different degree of earthquake risk. The average slip rate along the entire fault ranges from 0.79 to 1.38 inches per year.

In the north, the fault terminates offshore near Eureka, where three tectonic plates meet. It has been hypothesized that a major earthquake along the subduction zone could rupture the San Andreas Fault and vice versa. In the south, the fault terminates near Bombay Beach in the Salton Sea. Here, the plate motion is being reorganized from right-lateral to divergent. In this region, the plate boundary has been rifting and pulling apart, creating a new mid-ocean ridge that is an extension of the Gulf of California. Sediment deposited by the Colorado River is preventing the trough from being filled in with sea water from the gulf.

### Whittier Fault

The Whittier Fault is a 25 mile right-lateral strike-slip fault that runs along the Chino Hills range between the cities of Chino Hills and Whittier. The fault has a slip rate of 0.098 to 0.118 inches



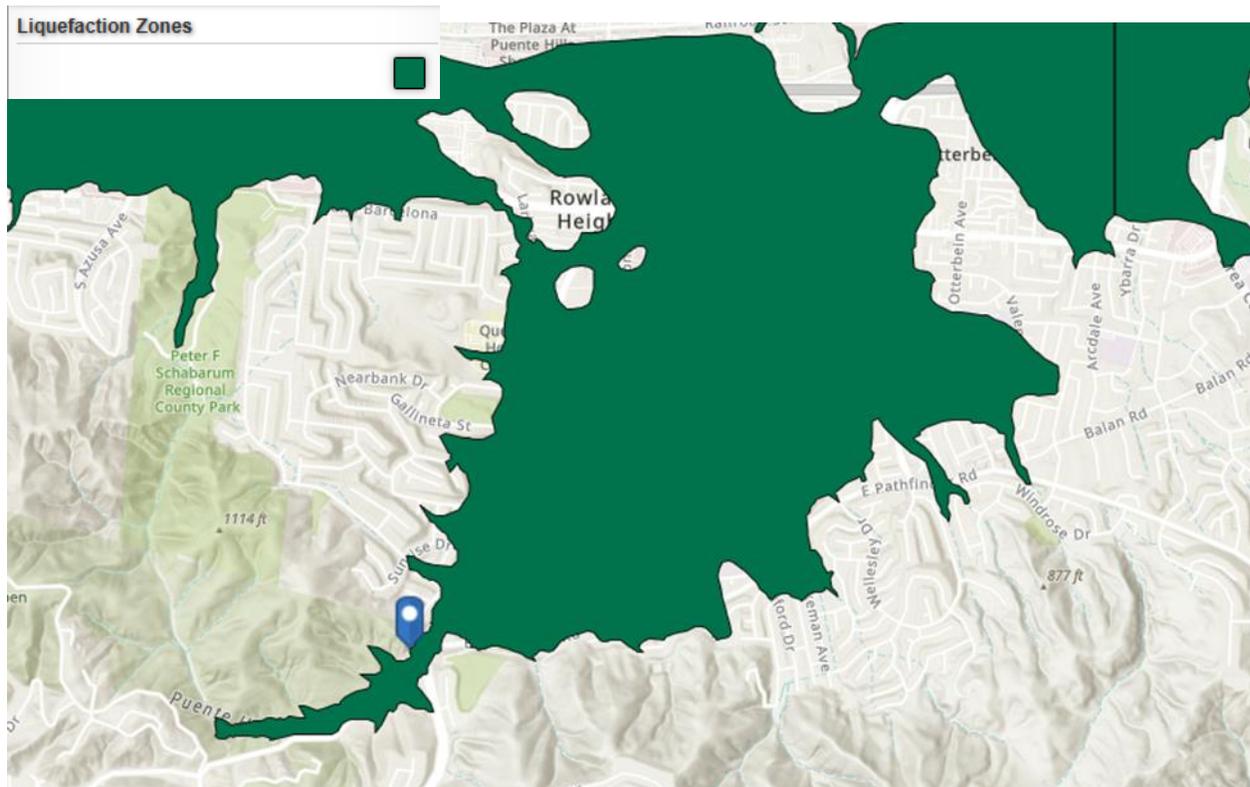
per year. It is estimated that this fault could generate a quake of M 6.0–7.2 on the moment magnitude scale.

### Liquefaction Area

According to the California Department of Conservation – Earthquake Zones of Required Information (2023), liquefaction presents the most prominent secondary earthquake ground failure issue in the RWD service area. Liquefaction-related lateral spreads can occur adjacent to stream channels and deep washes that provide a free face toward which the liquefied mass of soil fails. Lateral spreads can cause extensive damage to pipelines, utilities, bridges, roads and other structures.

**Map 3.2** depicts the liquefaction areas in the Rowland Water District. More than half of the water district is at risk of liquefaction.

**Map 3.2: Liquefaction Area**  
(Source: MyPlan CalOES, 2024)  
Note: Liquefaction shown in green



**Q&A | ELEMENT B: RISK ASSESSMENT | B1-d.**  
**Q:** Does the plan include the history of **previous** hazard events for each identified hazard? (Requirement 44 CFR § 201.6(c)(2)(i))  
**A:** See **Previous Earthquakes in the Rowland Water District, Previous Earthquakes in Los Angeles County**, and **Table 3.8** below.



### Previous Earthquakes in the Rowland Water District

According to the Planning Team, the most recent earthquake to cause minimal damage in Rowland Water District was the magnitude 6.7 Northridge earthquake in 1994.

### Previous Earthquakes in Los Angeles County

According to the County of Los Angeles All-Hazards Mitigation Plan (2020), significant earthquakes in the county over the past 50 years included the following:

**Table 3.8: Previous Earthquakes in Los Angeles County**  
(Source: County of Los Angeles AHMP; FEMA Disaster Declaration, 2024)

Date	Location	Federal Declaration	Impact
July 6, 2019	Ridgecrest (M 7.1)	NA	fires reported as a result of gas leaks no reported major injuries, deaths or major building damage
March 28, 2014	La Habra (M 5.1)	NA	few injuries and \$10 million dollars in damages
July 29, 2008	Chino Hills (M 5.5)	NA	8 injuries and limited damages
January 17, 1994	Northridge (M 6.7)	DR-1008-CA	57 deaths, 8,700 injuries and up to \$40 billion dollars in damages
June 28, 1991	Sierra Madre (M 5.6)	NA	1 death, 100+ injuries and up to \$40 million dollars in damages
February 28, 1990	Upland (M 5.7)	NA	30 injuries and \$12.7 million dollars in damages
October 1, 1987	Whittier (M 5.9)	DR-799-CA	8 deaths, 200 injuries and \$358 million in damages
February 9, 1971	San Fernando (M 6.6)	DR-299-CA	58 – 65 deaths, 200 – 2,000 injuries and up to \$553 million in damages

#### Q&A | ELEMENT B: RISK ASSESSMENT | B1-e.

**Q:** Does the plan include the probability of future events for each identified hazard? Does the plan describe the effects of future conditions, including climate change (e.g., long-term weather patterns, average temperature and sea levels), on the type, location and range of anticipated intensities of identified hazards? (Requirement 44 CFR § 201.6(c)(2)(i))

**A:** See **Probability of Future Earthquakes** below.

### Probability of Future Earthquakes

Earthquakes occur every day throughout California. However, earthquakes that cause widespread catastrophic damage do not happen often. When conducting the risk assessment, the planning team determined that the probability of a catastrophic earthquake affecting the Rowland Water District is possible with an annual probability of occurrence being between 1 in 100 and 1 in 1000 years.



## Wildfire

	Bellflower-Somerset Mutual Water Company	Kinneloa Irrigation District	La Puente Valley County Water District	Pico Water District	Rowland Water District	San Gabriel County Water District	South Montebello Irrigation District	Three Valleys Municipal Water District	Valencia Heights Water Company	Walnut Valley Water District
Wildfire	n/a	H	L	H	M	n/a	L	M	M	L

### Q&A | ELEMENT B: RISK ASSESSMENT | B1-a.

**Q:** Does the plan describe all natural hazards that can affect the jurisdiction(s) in the planning area, and does it provide the rationale if omitting any natural hazards that are commonly recognized to affect the jurisdiction(s) in the planning area? (Requirement 44 CFR § 201.6(c)(2)(i))

**A:** See **Description, Local Conditions** below.

### Description

Wildfire is an uncontrolled fire spreading through vegetative fuels and exposing or possibly consuming structures. They often begin unnoticed and spread quickly. Naturally occurring and non-native species of grass, brush, and trees fuel wildfires. A wildland fire is a wildfire in an area in which development is essentially nonexistent, except for roads, railroads, power lines and similar facilities. A wildland/urban interface fire is a wildfire in a geographical area where structures and other human development meet or intermingle with wildland or vegetative fuels.

### Wildfire Characteristics

There are three categories of wildland/urban interface fire: classic wildland/urban interface exists where well-defined urban and suburban development presses up against open expanses of wildland areas; the mixed wildland/urban interface is characterized by isolated homes, subdivisions, and small communities situated predominantly in wildland settings. The occluded wildland/urban interface exists where islands of wildland vegetation occur inside a largely urbanized area. Certain conditions must be present for significant interface fires to occur. The most common conditions include hot, dry and windy weather; the inability of fire protection forces to contain or suppress the fire; the occurrence of multiple fires that overwhelm committed resources; and a large fuel load (dense vegetation). Once a fire has started, several conditions influence its behavior, including fuel topography, weather, drought, and development.

### Q&A | ELEMENT B: RISK ASSESSMENT | B1-b.

**Q:** Does the plan include information on the location of each identified hazard? (Requirement 44 CFR § 201.6(c)(2)(i))

**A:** See **Local Conditions**



## Local Conditions

Fire prevention and protection is provided by several agencies, including the Los Angeles County Fire Department. Extremely low moisture in the vegetation of these hillsides poses a dangerous and volatile fire risk. The area southern portion of the service area is rated as High or Very High Wildfire Hazard Severity Zones by CAL FIRE as shown on the map below.

According to the County of Los Angeles All-Hazards Mitigation Plan (2020), the climate is characterized as Mediterranean, featuring cool, wet winters and warm, dry summers. High moisture levels during the winter rainy season significantly increase the growth of plants. However, the vegetation dries during the long, hot summers, decreasing plant moisture content, and increasing the ratio of dead fuel to living fuel. As a result, fire susceptibility increases dramatically, particularly in late summer and early autumn. In addition, the presence of chaparral, a drought-resistant variety of vegetation that is dependent on occasional wildfires, is expected in Mediterranean dry-summer climates.

A local meteorological phenomenon, known as the Santa Ana winds, contributes to the high incidence of wildfires in each county. These winds originate during the autumn months in the hot, dry interior deserts to the north and east of Los Angeles County. They often sweep west into the county, bringing extremely dry air and high wind speeds that further desiccate plant communities during the period of the year when the constituent species have extremely low moisture content. The effect of these winds on existing fires is particularly dangerous; the winds can greatly increase the rate at which fires spread.

### Q&A | ELEMENT B: RISK ASSESSMENT | B1-c.

**Q:** Does the plan describe the extent for each identified hazard? (Requirement 44 CFR § 201.6(c)(2)(i))

**A:** See **Map 3.3, Table 3.9** below.

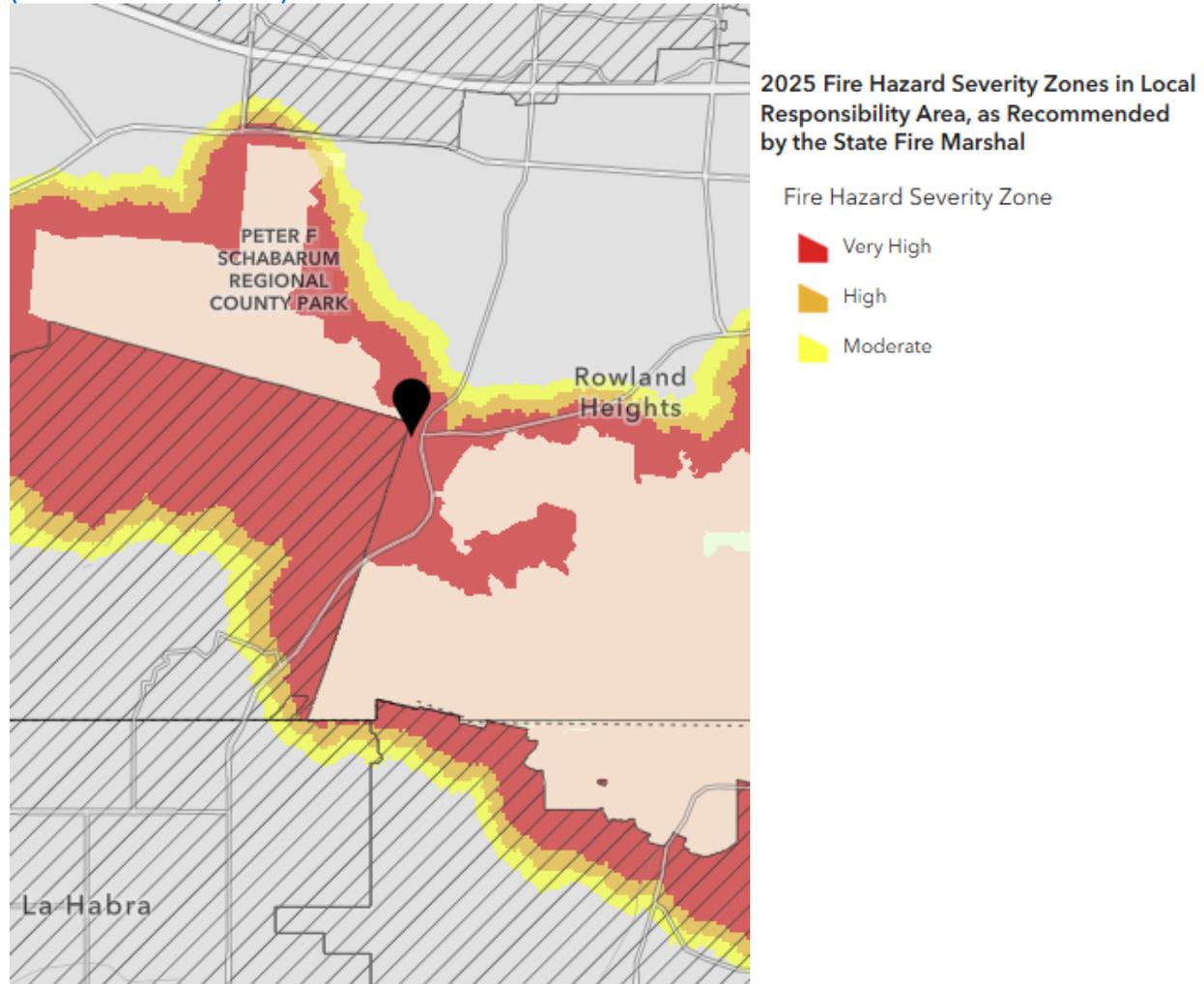
### Fire Hazard Severity Zones

Fire Hazard Severity Zones (FHSZs) are geographic areas designated by CAL FIRE based on the likelihood and potential intensity of wildfire hazards. The zones—classified as Moderate, High, or Very High—help guide building codes, defensible space requirements, and fire prevention efforts.

Local Responsibility Areas (LRAs) are areas where fire protection is primarily the responsibility of local government agencies, such as cities, counties, or special fire districts. CAL FIRE does not typically provide direct fire protection services in LRAs.

State Responsibility Areas (SRAs) are lands where CAL FIRE is responsible for wildfire prevention and suppression. SRAs generally include unincorporated, rural areas with significant wildland vegetation but exclude incorporated cities and federally owned lands.

**Map 3.3: Fire Hazard Severity Zones – RWD Headquarters**  
(Source: CAL FIRE, 2025)



**Q&A | ELEMENT B: RISK ASSESSMENT | B1-d.**

**Q:** Does the plan include the history of **previous** hazard events for each identified hazard? (Requirement 44 CFR § 201.6(c)(2)(i))

**A:** See **Previous Wildfires in the Rowland Water District, Previous Wildfires in Los Angeles County,** and **Table 3.9** below.

*Previous Wildfires in the Rowland Water District*

According to CAL FIRE, what was originally known as the Freeway Fire ignited at 9:01 a.m. PDT on November 15, 2008, along the Riverside Freeway (State Route 91, SR 91) in the riverbed of the Santa Ana River, located in Corona. The fire spread west and north into the hillsides of Yorba Linda and south into Anaheim Hills, where multiple businesses and residences were destroyed. It also burned homes in Olinda Ranch along Carbon Canyon Road in Brea, burned through much of Chino Hills, then spread north into Diamond Bar.



Next, the Landfill Fire, also known as the "Brea Fire," was reported at 10:43 a.m. PDT on November 15, 2008, and started near the 1900 block of Valencia Avenue in Brea, just south of the Olinda Landfill. It quickly spread west and eventually crossed over the Orange Freeway (SR 57).

The Landfill Fire merged with the Freeway Fire at 3:30 a.m. PDT on November 16, 2008. At approximately 7:00 a.m. PDT the two fires were officially renamed the Triangle Complex Fire. Around 12:45 p.m. the Triangle Complex Fire had been renamed once again to the Freeway Complex Fire still using the OCFA incident number CA-ORC-08075221. ] According to the final cause report released by the California Department of Forestry and Fire Protection (CAL FIRE) on January 4, 2010, it was confirmed that the Freeway Fire was caused by a faulty catalytic converter

The RWD service area was not directly impacted however indirect impacts were to access to roads and availability of resources.

### *Previous Wildfires in Los Angeles County*

The most recent significant wildfire events to impact Los Angeles County were the Palisades Fire, Eaton Fire, and Hughes Fire. These fires were part of a wildfire outbreak that impacted Southern California for a two-week period starting on January 7, 2025. As of the writing this plan, the fires had reached the following sizes:

- Palisades Fires – 23,448 Acres
- Eaton Fire – 14,021 Acres
- Hughes Fire – 10,425 Acres

The January 2025 wildfire outbreak resulted in 16,353 structures destroyed, 2,089 structures damaged, and 28 deaths. The cause of the fires is still under investigation.

Another significant wildfire event to impact Los Angeles County was the Tick Fire in October 2019. The fire burned 4,615 acres in the Canyon County area. The combination of warm and dry Santa Ana winds and critically dry vegetation allowed for significant fire growth. The fire destroyed 23 homes and damaged 40 other housing types. During the incident, four firefighter injuries were reported.

According to the NOAA Storm Events Database, some of the counties' most destructive fires have occurred since 2018, including:

**Table 3.9: Previous Hazard Events of Wildfires in Los Angeles County**  
(Source: County of Los Angeles AHMP; FEMA Disaster Declaration, 2024)

Date	Fire	Damage
10/28/2019	The Getty Fire	Burned 745 acres. The fire destroyed 10 residences and damaged 15 other homes.
10/24/2019	The Tick Fire	Burned 4,615 acres in the Canyon County area of Los Angeles county. The fire destroyed 23 homes and damaged 40 other homes. During the incident, four firefighter injuries were reported.
10/10/2019	The Saddle Ridge Fire	Burned 8,799 acres across the foothills of the San Fernando Valley as well as the Santa Clarita Valley and the Los Angeles county mountains. The fire destroyed 19 residences and damaged 88 additional homes.



		One civilian death was reported (due to cardiac arrest) and eight firefighters were injured.
11/8/2018	The Woolsey Fire	Burned a total of 96,949 acres in Los Angeles and Ventura counties including Thousand Oaks, Agoura Hills, Calabasas, the Santa Monica Mountains, Malibu, and West Hills. A total of 1,643 structures were destroyed and 3 people were killed.
6/4/2018	The Stone Fire	Burned 1,352 acres in the mountains of Los Angeles County.

**Q&A | ELEMENT B: RISK ASSESSMENT | B1-e.**

**Q:** Does the plan include the probability of future events for each identified hazard? Does the plan describe the effects of future conditions, including climate change (e.g., long-term weather patterns, average temperature and sea levels), on the type, location and range of anticipated intensities of identified hazards? (Requirement 44 CFR § 201.6(c)(2)(i))

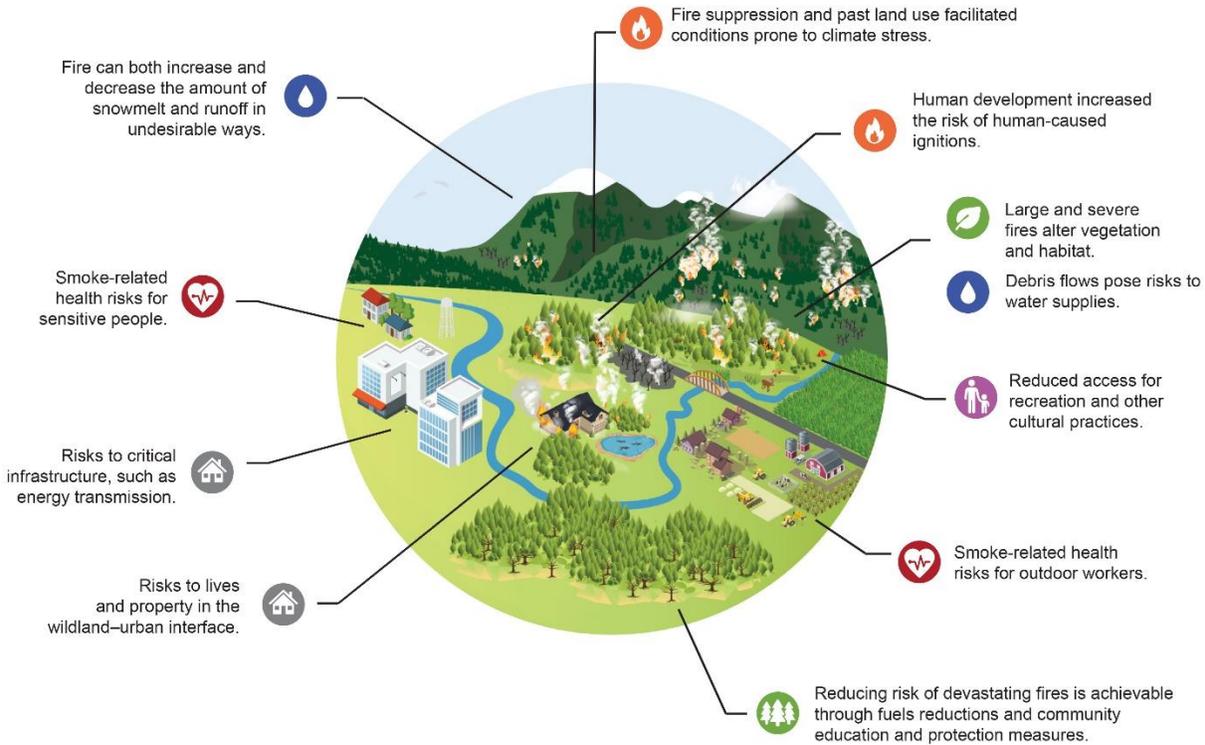
**A:** See **Probability of Future Wildfires** below.

### *Probability of Future Wildfires*

Wildfires occur every year throughout California. Wildfires that cause widespread catastrophic damage do not happen often. When conducting the risk assessment, the planning team determined that the probability of a catastrophic earthquake affecting the Rowland Water District is likely with an annual probability of occurrence being between 1 in 10 and 1 in 100 years.

**Infographic 3-1: Wildfire Impacts**  
 Source: Fifth National Climate Assessment (2023)

**Wildfire Impacts**



Since climate change is increasing the size and severity of wildfires, Rowland Water District should be prepared for more frequent impacts from nearby wildfires. Smoke from wildfires will cause air quality and visibility challenges for the water district. Additionally, nearby fires can strain resources.

**Power Outages**

	Bellflower-Somerset Mutual Water Company	Kinneloa Irrigation District	La Puente Valley County Water District	Pico Water District	Public Water Agencies Group	Rowland Water District	San Gabriel County Water District	South Montebello Irrigation District	Three Valleys Municipal Water District	Valencia Heights Water Company	Walnut Valley Water District
Power Outage	M	H	M	M	M	M	H	M	M	M	M



#### Q&A | ELEMENT B: RISK ASSESSMENT | B1-a.

**Q:** Does the plan describe all natural hazards that can affect the jurisdiction(s) in the planning area, and does it provide the rationale if omitting any natural hazards that are commonly recognized to affect the jurisdiction(s) in the planning area? (Requirement 44 CFR § 201.6(c)(2)(i))

**A:** See **Description, Local Conditions** below.

### *Description*

Utility providers provide communities with vital services. Because of training and rigorous safety programs, delivery of services is typically very reliable and without incident. However, in certain hazardous circumstances, like an earthquake, power outage, or high wind, utility providers are impacted just like their customers. In an effort to minimize this vulnerability, power utility providers have developed protocols like Public Safety Power Shutoff.

Over the last decade, California has experienced increased, intense, and record-breaking wildfires in California. These wildfires have resulted in a devastating loss of life and billions of dollars in property and infrastructure damage. Historically, electric utility infrastructure has been responsible for less than 10% of reported wildfires. However, wildfires attributed to electrical infrastructure consist of roughly half of the most destructive wildfires in California history. With the continuing threat of wildfire, the electric investor-owned utilities (IOUs) may proactively cut power to electrical lines as a measure of last resort if the utility reasonably believes that there is an imminent and significant risk that strong winds may topple power lines or cause major vegetation-related issues leading to increased risk of wildfires. This effort is called a Public Safety Power Shutoff (PSPS). While PSPS events may reduce the risk of utility-associated wildfires, PSPS events can leave communities and essential facilities without power, which brings its own risks and hardships, especially for vulnerable communities and individuals.

#### Q&A | ELEMENT B: RISK ASSESSMENT | B1-b.

**Q:** Does the plan include information on the location of each identified hazard? (Requirement 44 CFR § 201.6(c)(2)(i))

**A:** See **Local Conditions**

### *Local Conditions*

Southern California Edison (SCE) provides electricity to the MJHMP Project Area. There have been brief power failures and deliberate outages (Public Safety Power Shutoff). According to the 2023 State Hazard Mitigation Plan, California's 33 reported PSPS events between 2013 and 2019 represent an average of almost five events per year. The State is expected to continue to experience multiple PSPS events each year. Specific PSPS events impacting Los Angeles County was not available, however, it is reasonable to assume that if severe weather threatens a portion of electrical grids, it may be necessary for SCE to turn off electricity in the interest of public safety.

Power failure is defined as any interruption or loss of electrical service caused by disruption of power transmission caused by accident, sabotage, natural hazards, or equipment failure (also referred to as a loss of power or power outage). A significant power failure is defined as any incident of a long duration, which would require the involvement of the local and/or State emergency management organizations to coordinate provision of food, water, heating, cooling,



and shelter. Power failures in the planning area are usually localized and are usually the result of a natural hazard event involving high winds or storms.

The massive 2011 Southern California electricity outage brought to light many critical issues surrounding the state’s power generation and distribution system, including its dependency on out-of-state resources. Although California has implemented effective energy conservation programs, the state continues to experience both population growth and weather cycles that contribute to a heavy demand for power.



Hydro-generation provides approximately 25% of California’s electric power, with the balance coming from fossil fuels, nuclear, and green sources. As experienced in 2000 and 2001, blackouts can occur due to losses in transmission or generation and/or extremely severe temperatures that lead to heavy electric power consumption.

The effects of an energy shortage would affect all occupants of the project area. Perhaps most at risk would be medically challenged individuals with health care equipment reliant on electricity (e.g., oxygen), businesses, emergency service locations, and vulnerable population centers (e.g., schools).

In 2018, the California Public Utilities Commission (CPUC) directed California’s three largest energy companies to coordinate to prepare all Californians for the threat of wildfires and power outages during times of extreme weather. To help protect customers and communities during extreme weather events, electric power may now be shut off for reasons of public safety. This new protocol is referred to as Public Safety Power Shutoff (PSPS).

**Q&A | ELEMENT B: RISK ASSESSMENT | B1-c.**  
**Q:** Does the plan describe the extent for each identified hazard? (Requirement 44 CFR § 201.6(c)(2)(i))  
**A:** See **Types of Outages, Infographic 3.2** below.

**Types of Outages**

The unexpected outages are the ones posing the greatest threat to RWD. They include rotating outages during times of extreme demand and Public Safety Power Shutoff which is a preventative strategy during times of high wind and wildfire conditions.

Rotating Outage

A rotating outage is a brief, controlled power outage mandated by the California Independent System Operator (CAISO). It is enacted by California’s publicly owned utilities, including SCE, to protect the integrity of our statewide electric system by easing demand on the overall electric supply during times of critically high usage, preventing wider, longer power outages. Such an outage is named for the way it alternates evenly throughout our service territory to ensure that no neighborhood is impacted more than any other. It remains rare and lasts only about one hour.

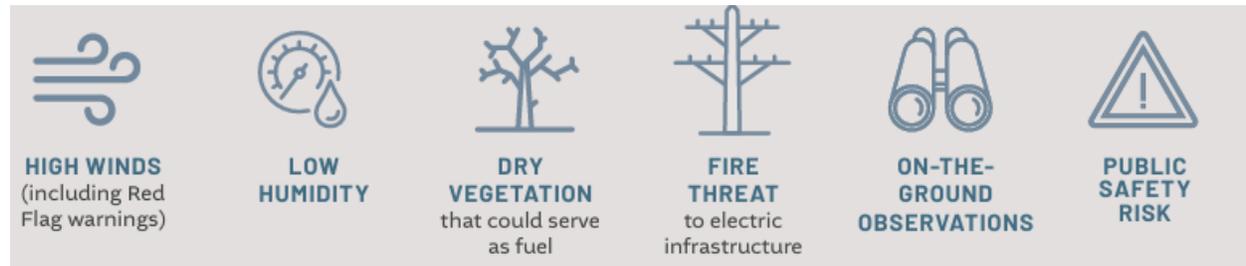
Public Safety Power Shutoff

As a safety precaution, San Diego Gas & Electric (SDG&E), Southern California Edison (SCE) and Pacific Gas and Electric (PG&E) monitor local fire danger and extreme weather conditions across California and evaluate whether to turn off electric power. The decision and action to turn off power is made by each individual energy company and is based on a combination of the following factors.



### Infographic 3.2

Source: Power of Being Prepared Website, 2025



#### Q&A | ELEMENT B: RISK ASSESSMENT | B1-d.

**Q:** Does the plan include the history of previous hazard events for each identified hazard? (Requirement 44 CFR § 201.6(c)(2)(i))

**A:** See **Previous Power Outages in Rowland Water District, Previous Power Outages in Los Angeles County** below.

#### *Previous Power Outages in Rowland Water District*

The most recent PSPS event impacting RWD was in 2024.

#### *Previous Power Outages in Los Angeles County*

Historical PSPS events impacting Los Angeles County were not available, however PSPS was definitely initiated in advance of the January 2025 Palisades and Eaton Fires.

#### Q&A | ELEMENT B: RISK ASSESSMENT | B1-e.

**Q:** Does the plan include the probability of future events for each identified hazard? Does the plan describe the effects of future conditions, including climate change (e.g., long-term weather patterns, average temperature and sea levels), on the type, location and range of anticipated intensities of identified hazards? (Requirement 44 CFR § 201.6(c)(2)(i))

**A:** See **Probability of Future Power Outages** below.

#### *Probability of Future Power Outages*

A widespread power outage (e.g., PSPS) can have a catastrophic impact on RWD. When conducting the risk assessment, the Planning Team determined that the probability of a catastrophic utility related hazards affecting the Rowland Water District is likely with an annual probability of occurrence being between 1 in 10 and 1 in 100 years.



## Drought

	Bellflower-Somerset Mutual Water Company	Kinneloa Irrigation District	La Puente Valley County Water District	Pico Water District	Public Water Agencies Group	Rowland Water District	San Gabriel County Water District	South Montebello Irrigation District	Three Valleys Municipal Water District	Valencia Heights Water Company	Walnut Valley Water District
Drought	L	M	M	M	M	M	H	H	H	M	M

### Q&A | ELEMENT B: RISK ASSESSMENT | B1-a.

**Q:** Does the plan describe all natural hazards that can affect the jurisdiction(s) in the planning area, and does it provide the rationale if omitting any natural hazards that are commonly recognized to affect the jurisdiction(s) in the planning area? (Requirement 44 CFR § 201.6(c)(2)(i))

**A:** See **Description** below.

### Description

Drought is defined as a deficiency of precipitation over an extended period of time, usually a season or more. This deficiency results in a water shortage for some activity, group, or environmental sector. Drought should be considered relative to some long-term average condition such as balance between precipitation and evapotranspiration (i.e., evaporation + transpiration) in a particular area, a condition often perceived as "normal". It is also related to the timing (e.g., principal season of occurrence, delays in the start of the rainy season, occurrence of rains in relation to principal crop growth stages) and the effectiveness of the rains (e.g., rainfall intensity, number of rainfall events).

Other climatic factors such as high temperature, high wind, and low relative humidity are often associated with it in many regions of the world and can significantly aggravate its severity. Drought should not be viewed as merely a physical phenomenon or natural event. Its impacts on society result from the interplay between a natural event (less precipitation than expected resulting from natural climatic variability) and the demand people place on water supply. Human beings often exacerbate the impact of drought. Recent droughts in both developing and developed countries and the resulting economic and environmental impacts and personal hardships have underscored the vulnerability of all societies to this natural hazard.

One dry year does not normally constitute a drought in California but serves as a reminder of the need to plan for droughts. California's extensive system of water supply infrastructure — its reservoirs, groundwater basins, and inter-regional conveyance facilities — mitigates the effect of short-term dry periods for most water users. Defining when a drought begins is a function of drought impacts to water users. Hydrologic conditions constituting a drought for water users in one location may not constitute a drought for water users elsewhere, or for water users having a different water supply. Individual water suppliers may use criteria such as rainfall/runoff, amount of water in storage, or expected supply from a water wholesaler to define their water supply conditions.



Drought is a gradual phenomenon. Although droughts are sometimes characterized as emergencies, they differ from typical emergency events. Most natural disasters, such as floods or forest fires, occur relatively rapidly and afford little time for preparing for disaster response. Droughts occur slowly, over a multiyear period. There is no universal definition of when a drought begins or ends. Impacts of drought are typically felt first by those most reliant on annual rainfall - ranchers engaged in dry land grazing, rural residents relying on wells in low-yield rock formations, or small water systems lacking a reliable source. Criteria used to identify statewide drought conditions do not address these localized impacts. Drought impacts increase with the length of a drought, as carry-over supplies in reservoirs are depleted and water levels in groundwater basins decline.

There are four different ways that drought can be defined:

- **Meteorological** - a measure of departure of precipitation from normal. Due to climatic differences, what is considered a drought in one location may not be a drought in another location.
- **Agricultural** - refers to a situation when the amount of moisture in the soil no longer meets the needs of a particular crop.
- **Hydrological** - occurs when surface and subsurface water supplies are below normal.
- **Socioeconomic** - refers to the situation that occurs when physical water shortage begins to affect people.

**Q&A | ELEMENT B: RISK ASSESSMENT | B1-c.**

**Q:** Does the plan describe the extent for each identified hazard? (Requirement 44 CFR § 201.6(c)(2)(i))

**A:** See **U.S. Drought Monitor** below.

### *U.S. Drought Monitor*

The U.S. Drought Monitor (USDM) is a map that is updated weekly to show the location and intensity of drought across the country. The USDM uses a five-category system (USDM, 2021):

- D0—Abnormally Dry
  - Short-term dryness slowing planting, growth of crops
  - Some lingering water deficits
  - Pastures or crops not fully recovered
- D1—Moderate Drought
  - Some damage to crops, pastures
  - Some water shortages developing
  - Voluntary water-use restrictions requested
- D2—Severe Drought
  - Crop or pasture loss likely
  - Water shortages common
  - Water restrictions imposed
- D3—Extreme Drought
  - Major crop/pasture losses
  - Widespread water shortages or restrictions
- D4—Exceptional Drought
  - Exceptional and widespread crop/pasture losses
  - Shortages of water creating water emergencies



The USDM categories show experts' assessments of conditions related to drought. These experts check variables including temperature, soil moisture, stream flow, water levels in reservoirs and lakes, snow cover, and meltwater runoff. They also check whether areas are showing drought impacts such as water shortages and business interruptions. Associated statistics show what proportion of various geographic areas are in each category of dryness or drought, and how many people are affected. U.S. Drought Monitor data go back to 2000.

**Q&A | ELEMENT B: RISK ASSESSMENT | B1-c.**

**Q:** Does the plan describe the extent for each identified hazard? (Requirement 44 CFR § 201.6(c)(2)(i))

**A:** See **Infographic 3.3** below.

**Infographic 3.3: U.S. Drought Monitor – Los Angeles County, California**  
(Source: Website – U.S. Drought Monitor 6.4.2024)



**Map released: Thurs. May 30, 2024**

Data valid: May 28, 2024 at 8 a.m. EDT

**Intensity**

- None
- D0 (Abnormally Dry)
- D1 (Moderate Drought)
- D2 (Severe Drought)
- D3 (Extreme Drought)
- D4 (Exceptional Drought)
- No Data

Week	Date	None	D0-D4	D1-D4	D2-D4	D3-D4	D4	DSCI
Current	<a href="#">2024-05-28</a>	73.55	26.45	12.55	4.23	0.72	0.06	44
Last Week to Current	<a href="#">2024-05-21</a>	72.62	27.38	12.55	4.18	0.75	0.06	45
3 Months Ago to Current	<a href="#">2024-02-27</a>	53.16	46.84	21.59	7.79	1.49	0.14	78
Start of Calendar Year to Current	<a href="#">2023-12-26</a>	45.71	54.29	32.35	16.74	6.44	1.16	111
Start of Water Year to Current	<a href="#">2023-09-26</a>	43.65	56.35	38.23	22.46	10.15	2.82	130
One Year Ago to Current	<a href="#">2023-05-30</a>	49.95	50.05	18.95	8.14	3.28	1.24	82

**Q&A | ELEMENT B: RISK ASSESSMENT | B1-b.**

**Q:** Does the plan include information on the location of each identified hazard? (Requirement 44 CFR § 201.6(c)(2)(i))

**A:** See **Local Conditions** below.

*Local Conditions*

According to the County of Los Angeles All-Hazard Mitigation Plan (2020), the RWD service area is like the entire greater Los Angeles basin, is semi-arid, with relatively limited annual rainfall.



Early settlers drew local groundwater resources for agricultural and domestic water needs. As the region grew, increasingly more wells tapped into groundwater basins. In many areas, groundwater levels have declined as water use continues to exceed natural recharge through rainfall and stream flow. Much of Southern California now relies upon imported water to greatly supplement local resources, both to meet volume demands and to ensure water quality meets state and federal drinking water standards.

The service area's location in arid Southern California underscores the importance of continued education regarding wise water use and water conservation technologies. The area remains committed to water conservation strategies that ensure a healthy, clean, and reliable supply of water remains available for residents. The District actively encourages the use of simple water conservation measures in homes and in the workplace.

Water resources are limited to the groundwater basins that provide a local source of water to the region. The San Gabriel Basin is the groundwater basin drained by the San Gabriel River and the Rio Hondo. The groundwater basin is bounded by the San Gabriel Mountains to the north, San Jose Hills to the east, Puente Hills to the south, and Raymond Fault to the west. Local groundwater accounts for a major portion of the area's water supply.

Due to past San Gabriel Valley industrial practices, the basin has been contaminated with a variety of pollutants ranging from pesticides to industrial chemicals and solvents. According to the Environmental Protection Agency (EPA), over 30 square miles of San Gabriel Valley groundwater may be contaminated. The contaminated sites underlie several San Gabriel Valley communities. The District participates in Los Angeles County's NPDES program to reduce the amount of water polluted by pesticides, engine oil, and household chemicals that run into the storm drain system and pollute groundwater. As part of this effort, the District must comply with the County's Stormwater Quality Management Program and implement Best Management Practices (BMPs) in several areas including public outreach, planning and construction, public agency activities, business inspections, and illicit connection and flow.

#### Q&A | ELEMENT B: RISK ASSESSMENT | B1-d.

**Q:** Does the plan include the history of previous hazard events for each identified hazard? (Requirement 44 CFR § 201.6(c)(2)(i))

**A:** See **Previous Droughts in Rowland Water District**, and **Previous Droughts in Los Angeles County**, and **Table 3.10** below.

#### *Previous Droughts in Rowland Water District*

Fortunately, there is no history of severe drought impacting Rowland Water District. Even so, the district has embraced state-level requirements to conserve water. The district updated its water conservation standards most recently in June of 2022, which requires Level 2 water supply shortage.

#### *Previous Droughts in Los Angeles County*

The region's Mediterranean climate makes it especially susceptible to variations in rainfall. Though the potential risk to the service area is in no way unique, severe water shortages could have a bearing on the economic well-being of the community. Comparison of climate (rainfall) records from Los Angeles with water well records beginning in 1930 from the San Gabriel Valley indicates the existence of wet and dry cycles on a 10-year scale as well as for much longer



periods. The climate record for the Los Angeles region beginning in 1890 suggests drying conditions over the last century. With respect to the present day, climate data also suggests that the last significant wet period was the 1940s. Well level data and other sources seem to indicate the historic high groundwater levels (reflecting recharge from rainfall) occurred in the same decade. Since that time, rainfall (and groundwater level trends) appears to be in decline. This slight declining trend, however, is not believed to be significant. Climatologists compiled rainfall data from 96 stations in the State that spanned a 100-year period between 1890 and 1990. An interesting note is that during the first 50 years of the reporting period, there was only one year (1890) that had more than 35 inches of rainfall, whereas the second 50-year period recording of 5 year intervals (1941, 1958, 1978, 1982, and 1983) that exceeded 35 inches of rainfall in a single year. The year of maximum rainfall was 1890 when the average annual rainfall was 43.11 inches. The second wettest year on record occurred in 1983 when the State’s average was 42.75 inches.

The driest year of the 100-year reported in the study was 1924 when the State’s average rainfall was only 10.50 inches. The region with the most stations reporting the driest year in 1924 was the San Francisco Bay area. The second driest year was 1977 when the average was 11.57 inches. The most recent major drought (1987 to 1990) occurred at the end of a sequence of very wet years (1978 to 1983). The debate continues whether “global warming” is occurring, and the degree to which global climate change will have an effect on local micro-climates. The semi-arid southwest is particularly susceptible to variations in rainfall. A study that documented annual precipitation for California since 1600 from reconstructed tree ring data indicates that there was a prolonged dry spell from about 1755 to 1820 in California. Fluctuations in precipitation could contribute indirectly to a number of hazards including wildfire and the availability of water supplies.

**Table 3.10** outlines the State of California drought related executive orders. There were no federal declarations related to droughts found for Los Angeles County.

**Table 3.10: Drought Related Executive Orders in Los Angeles County**  
(Source: Cal OES Open State of Emergency Proclamations, 2024)

Date	Location	State Executive Order	Cause
July 8, 2021	Los Angeles County	N-7-33 N-3-23 N-4-23	Drought Conditions
May 10, 2021	Los Angeles County	N-7-33 N-3-23 N-4-23	Drought Conditions
April 12, 2021	Los Angeles County	N-7-33 N-3-23 N-4-23	Drought Conditions

**Q&A | ELEMENT B: RISK ASSESSMENT | B1-e.**

**Q:** Does the plan include the probability of future events for each identified hazard? Does the plan describe the effects of future conditions, including climate change (e.g., long-term weather patterns, average temperature and sea levels), on the type, location and range of anticipated intensities of identified hazards? (Requirement 44 CFR § 201.6(c)(2)(i))

**A:** See **Probability of Future Events** below.



## *Probability of Future Events*

Droughts are not uncommon. When conducting the risk assessment, the planning team determined that the probability of a catastrophic drought affecting the water district is highly likely with an annual probability of occurrence being between 1 in 1 year.

According to the Fifth National Climate Assessment, drought is such a complex phenomenon that it is a challenge to even define what it is: more than 150 different definitions have appeared in scientific literature. Broadly, drought results when there is a mismatch between moisture supply and demand. Meteorological drought happens when there is a severe or ongoing lack of precipitation. Hydrological drought results from deficits in surface runoff and subsurface moisture supply. Drying soil moisture affects crop yields and can lead to agricultural droughts. The timing of droughts is also complex. Droughts can last for weeks or decades. They may develop slowly over months or come on rapidly. A drought may be immediately apparent or detectable only in retrospect.

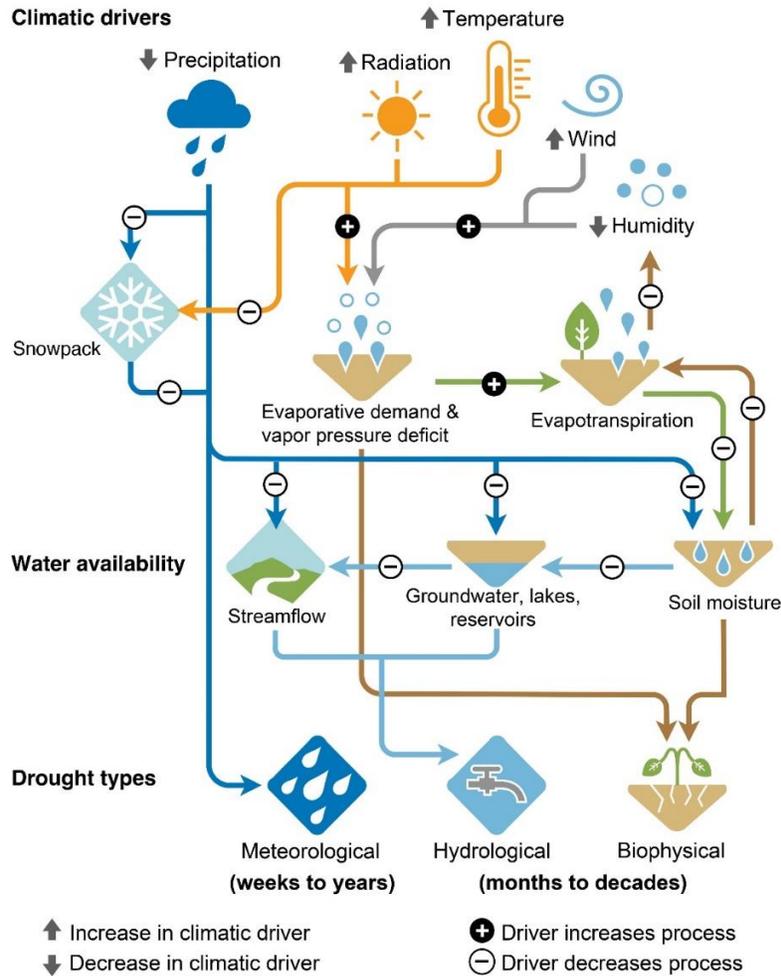
Despite this complexity, some robust regional trends are emerging. Colorado River streamflow over the period 2000–2014 was 19% lower than the 20th-century average, largely due to a reduction in snowfall, less reflected sunlight, and increased evaporation. The period 2000–2021 in the Southwest had the driest soil moisture of any period of the same length in at least the past 1,200 years. While this drought is partially linked to natural climate variability, there is evidence that climate change exacerbated it, because warmer temperatures increase atmospheric “thirst” and dry the soil. Droughts in the region are lasting longer and reflect not a temporary extreme event but a long-term aridification trend—a drier “new normal” occasionally punctuated by periods of extreme wetness consistent with expected increases in precipitation volatility in a warming world.

The Southwest is the only region in which the total area of unusually dry soil moisture is increasing. In the eastern regions of the country, hydrological droughts have become less frequent since the late 19th century due to increases in precipitation that compensate for warming-driven increases in evaporation. However, there is evidence that the likelihood of drought in the Northeast did not decrease as much as would be expected given these wetter conditions and that higher increases in evapotranspiration make the Southeast more drought-prone than the Northeast. Additionally, much of the US is vulnerable to rapid-onset flash droughts that can materialize in a matter of days, driven by extreme high temperatures or wind speeds and a lack of rainfall. These events are difficult to predict and prepare for and can have outsized impacts. There is evidence that these events are drying out soil more quickly as the world warms.

Changes to climate can alter the hydrologic cycle and is expected to increase drought in some regions through various process pathways. The figure below shows how climate change alters the hydrologic cycle. According to the Fifth National Climate Assessment (2023), changes in climatic drivers (e.g., precipitation, temperature, wind, etc.) affect different aspects of the hydrologic cycle (e.g., evapotranspiration, snowpack, streamflow, soil moisture). In turn, these hydrologic shifts translate into changes in the severity, frequency, and risk of different drought types. Plus, and minus signs denote the direction of change in the driver that would cause increases in drought. For example, where precipitation declines (down arrow), all drought types will increase because this reduces snowpack, streamflow, groundwater and reservoir storage, and soil moisture. Similarly, increasing temperatures (up arrow) are also expected to increase hydrological and biophysical drought by reducing snowpack and increasing evaporative losses from streams, surface reservoirs, and soils.

**Infographic 3.4: Climate Drivers of Drought, Effects on Water Availability, and Impacts**  
 (Source: Fifth National Climate Assessment, 2023)

Climatic Drivers of Drought, Effects on Water Availability, and Impacts



The Rowland Water District can expect to see longer and more frequent droughts due to the impact of changes in climate on drought conditions.

# Flood

	Bellflower-Somerset Mutual Water Company	Kinneloa Irrigation District	La Puente Valley County Water District	Pico Water District	Rowland Water District	San Gabriel County Water District	South Montebello Irrigation District	Three Valleys Municipal Water District	Valencia Heights Water Company	Walnut Valley Water District
Flood	n/a	M	L	L	L	L	L	L	n/a	n/a

### Q&A | ELEMENT B: RISK ASSESSMENT | B1-a.

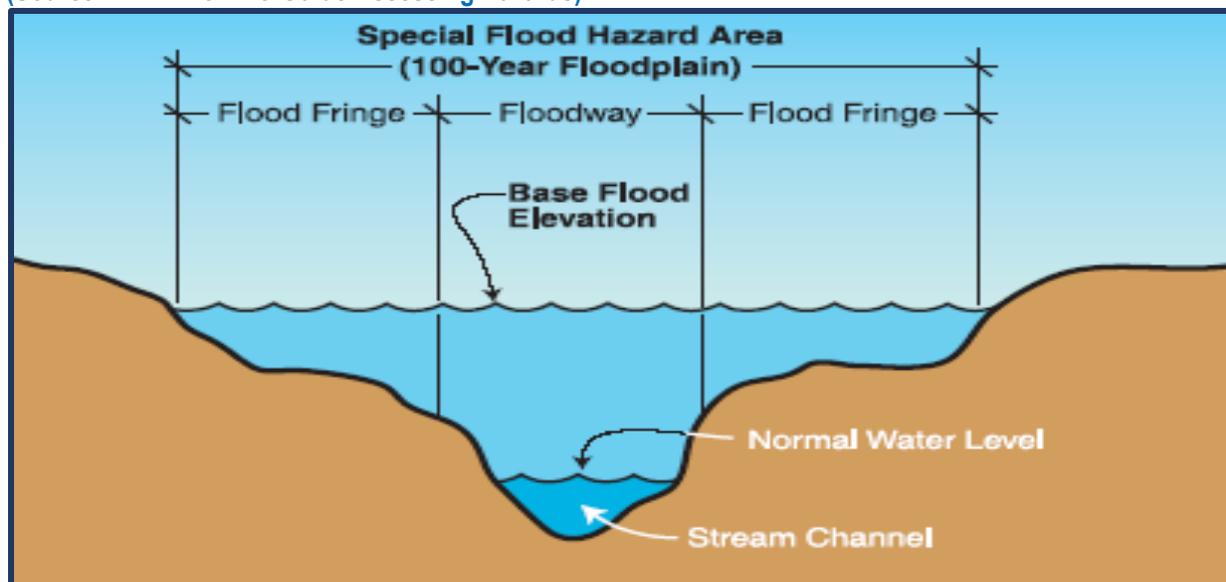
**Q:** Does the plan describe all natural hazards that can affect the jurisdiction(s) in the planning area, and does it provide the rationale if omitting any natural hazards that are commonly recognized to affect the jurisdiction(s) in the planning area? (Requirement 44 CFR § 201.6(c)(2)(i))

**A:** See **Description** below.

### Description

A floodplain is a land area adjacent to a river, stream, lake, estuary, or other water body that is subject to flooding. This area, if left undisturbed, acts to store excess flood water. The floodplain is made up of two sections: the floodway and the flood fringe. The 100-year flooding event is the flood having a one percent chance of being equaled or exceeded in magnitude in any given year. Contrary to popular belief, it is not a flood occurring once every 100 years. The 100-year floodplain is the area adjoining a river, stream, or watercourse covered by water in the event of a 100-year flood. **Figure 3-1** shows the relationship of the floodplain and the floodway.

**Figure 3.1: Floodplain and Floodway**  
(Source: FEMA How-To-Guide Assessing Hazards)





### Types of Flooding

Two types of flooding primarily affect the region: slow-rise or flash flooding. Slow-rise floods may be preceded by a warning period of hours or days. Evacuation and sandbagging for slow-rise floods have often effectively lessened flood related damage. Conversely, flash floods are most difficult to prepare for, due to extremely limited, if any, advance warning and preparation time.

### Atmospheric Rivers

According to the National Oceanic and Atmospheric Administration (NOAA), atmospheric rivers are relatively long, narrow regions in the atmosphere – like rivers in the sky – that transport most of the water vapor outside of the tropics. These columns of vapor move with the weather, carrying an amount of water vapor roughly equivalent to the average flow of water at the mouth of the Mississippi River. When the atmospheric rivers make landfall, they often release this water vapor in the form of rain or snow.



### *Definitions of FEMA Flood Zone Designations*

Flood zones are geographic areas that the FEMA has defined according to varying levels of flood risk. These zones are depicted on a community's Flood Insurance Rate Map (FIRM) or Flood Hazard Boundary Map. Each zone reflects the severity or type of flooding in the area.

#### **Q&A | ELEMENT B: RISK ASSESSMENT | B1-c.**

**Q:** Does the plan describe the extent for each identified hazard? (Requirement 44 CFR § 201.6(c)(2)(ii))

**A:** See **FEMA Flood Zones, Table 3.11** below.

### **Moderate to Low Risk Areas**

In communities that participate in the NFIP, flood insurance is available to all property owners and renters in these zones:



**Table 3.11: FEMA Flood Zones**  
(Source: FEMA)

ZONE	DESCRIPTION
B and X (shaded)	Area of moderate flood hazard, usually the area between the limits of the 100-year and 500-year floods. B Zones are also used to designate base floodplains of lesser hazards, such as areas protected by levees from 100-year flood, or shallow flooding areas with average depths of less than one foot or drainage areas less than 1 square mile.
C and X (unshaded)	Area of minimal flood hazard usually depicted on FIRMs as above the 500-year flood level. Zone C may have ponding and local drainage problems that do not warrant a detailed study or designation as base floodplain. Zone X is the area determined to be outside the 500-year flood and protected by levee from 100-year flood.

### High Risk Areas

In communities that participate in the NFIP, mandatory flood insurance purchase requirements apply to all of these zones:

ZONE	DESCRIPTION
A	Areas with a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage. Because detailed analyses are not performed for such areas; no depths or base flood elevations are shown within these zones.
AE	The base floodplain where base flood elevations are provided. AE Zones are now used on new format FIRMs instead of A1-A30 Zones.
A1-30	These are known as numbered A Zones (e.g., A7 or A14). This is the base floodplain where the FIRM shows a BFE (old format).
AH	Areas with a 1% annual chance of shallow flooding, usually in the form of a pond, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Base flood elevations derived from detailed analyses are shown at selected intervals within these zones.
AO	River or stream flood hazard areas, and areas with a 1% or greater chance of shallow flooding each year, usually in the form of sheet flow, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Average flood depths derived from detailed analyses are shown within these zones.
AR	Areas with a temporarily increased flood risk due to the building or restoration of a flood control system (such as a levee or a dam). Mandatory flood insurance purchase requirements will apply, but rates will not exceed the rates for unnumbered A zones if the structure is built or restored in compliance with Zone AR floodplain management regulations.
A99	Areas with a 1% annual chance of flooding that will be protected by a Federal flood control system where construction has reached specified legal requirements. No depths or base flood elevations are shown within these zones.

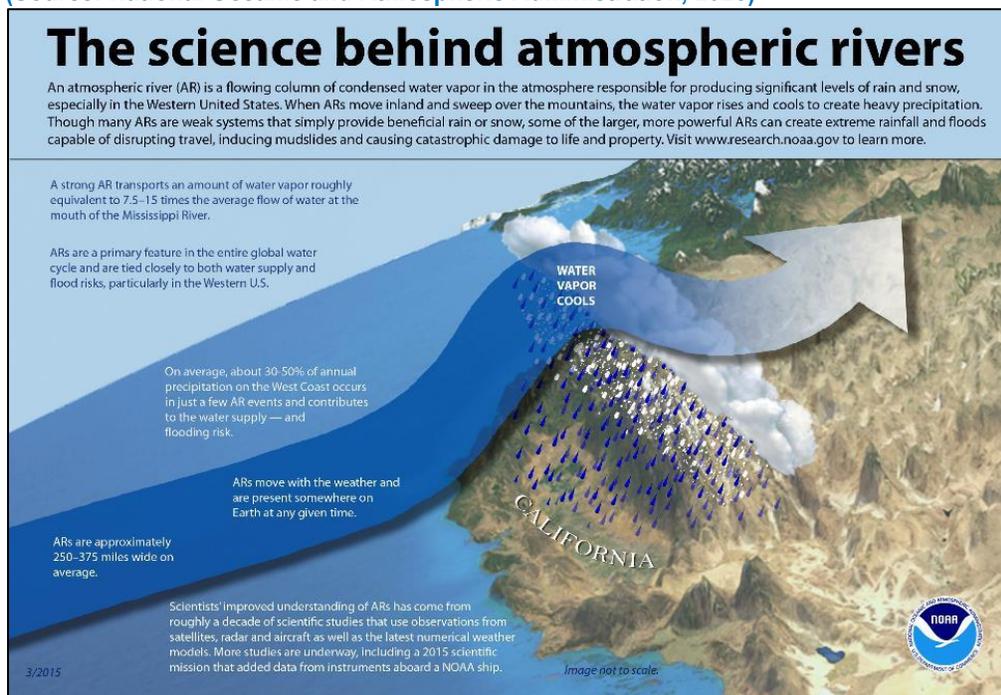
### Undetermined Risk Areas

ZONE	DESCRIPTION
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D	Areas with possible but undetermined flood hazards. No flood hazard analysis has been conducted. Flood insurance rates are commensurate with the uncertainty of the flood risk.
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Although atmospheric rivers come in many shapes and sizes, those that contain the largest amounts of water vapor and the strongest winds can create extreme rainfall and floods, often by stalling over watersheds vulnerable to flooding. These events can disrupt travel, induce mudslides, and cause catastrophic damage to life and property. A well-known example is the "Pineapple Express," a strong atmospheric river that can bring moisture from the tropics near Hawaii over to the U.S. West Coast.

**Figure 3.2: Atmospheric Rivers**  
(Source: National Oceanic and Atmospheric Administration, 2023)



While atmospheric rivers are responsible for great quantities of rain that can produce flooding, they also contribute to beneficial increases in snowpack. A series of atmospheric rivers fueled the strong winter storms that battered the U.S. West Coast from western Washington to southern California from December 10–22, 2010, producing 11 to 25 inches of rain in certain areas. These rivers also contributed to the snowpack in the Sierras, which received 75 percent of its annual snow by December 22, the first full day of winter.

NOAA research (e.g., [NOAA Hydrometeorological Testbed](#) and Cal Water) uses satellite, radar, aircraft and other observations, as well as major numerical weather model improvements, to better understand atmospheric rivers and their importance to both weather and climate.



**Q&A | ELEMENT B: RISK ASSESSMENT | B1-b.**

**Q:** Does the plan include information on the location of each identified hazard? (Requirement 44 CFR § 201.6(c)(2)(i))

**A:** See **Local Conditions** below.

### *Local Conditions*

Flooding is not a high or medium priority risk for Rowland Water District. For specific information on location conditions for water districts that ranked flooding as a high or medium priority risk please see the Kinneloa Irrigation District Annex.

**Q&A | ELEMENT B: RISK ASSESSMENT | B1-d.**

**Q:** Does the plan include the history of **previous** hazard events for each identified hazard? (Requirement 44 CFR § 201.6(c)(2)(i))

**A:** See **Previous Flooding in Rowland Water District, Previous Flooding in Los Angeles County, and Table 3.8** below.

### *Previous Flooding in Rowland Water District*

Flooding is not a high or medium priority risk for Rowland Water District. For specific information on previous hazard event of flooding for water districts that ranked flooding as a high or medium priority risk please see the Kinneloa Irrigation District Annex.

### *Previous Flooding in Los Angeles County*

According to the 2035 General Plan, historic flooding records in Los Angeles County show that since 1811, the Los Angeles River has flooded 30 times, on average once every 6.1 years. But averages are deceiving, for the Los Angeles basin goes through periods of drought and then periods of above average rainfall. Between 1889 and 1891, the river flooded every year, from 1941 to 1945, the river flooded 5 times. Conversely, from 1896 to 1914, and again from 1944 to 1969, a period of 25 years, the river did not have serious floods.

Average annual precipitation in Los Angeles County ranges from 13 inches on the coast to approximately 40 inches on the highest point of the Peninsular Mountain Range that transects the county. Several factors determine the severity of floods, including rainfall intensity and duration. A large amount of rainfall over a short time span can result in flash flood conditions. A sudden thunderstorm or heavy rain, dam failure, or sudden spills can cause flash flooding. The National Weather Service's definition of a flash flood is a flood occurring in a watershed where the time of travel of the peak of flow from one end of the watershed to the other is less than six hours.

The towering mountains that give the Los Angeles region its spectacular views also bring a great deal of rain out of the storm clouds that pass through. Because the mountains are so steep, the rainwater moves rapidly down the slopes and across the coastal plains on its way to the ocean.

“The Santa Monica, Santa Susana and Verdugo Mountains, which surround three sides of the valley, seldom reach heights above three thousand feet. The western San Gabriel Mountains, in contrast, have elevations of more than seven thousand feet. These higher ridges often trap eastern-moving winter storms. Although downtown Los Angeles averages just fifteen inches of rain a year, some peaks in the San Gabriel Mountains receive more than forty inches of precipitation annually, as much as many locations in the humid eastern United States” (Source:



The Los Angeles River: It's Life, Death, and Possible Rebirth, Gumprecht 2001). Naturally, this rainfall moves rapidly downstream, often with severe consequences for anything in its path. In extreme cases, flood-generated debris flows will roar down a canyon at speeds near 40 miles per hour with a wall of mud, debris and water, tens of feet high. Flooding occurs when climate, geology, and hydrology combine to create conditions where water flows outside of its usual course.

**Table 3.12: Previous Flooding in Los Angeles County**  
(Source: FEMA Disaster Declaration, 2024)

Date	Location	Federal Declaration	State Executive Order/State of Emergency	Declaration Title
March 10, 2023	Los Angeles County	EM-3592-CA		Severe Winter Storms, Flooding, Landslides, and Mudslides
January 14, 2023	Los Angeles County	DR-4683-CA		Severe Winter Storms, Flooding, Landslides, and Mudslides
January 9, 2023	Los Angeles County	EM-3591-CA		Severe Winter Storms, Flooding, and Mudslides
August 18, 2023	Fresno, Imperial, Inyo, Kern, Los Angeles, Orange, Riverside, San Bernardino, San Diego, Tulare, and Ventura	NA	State of Emergency	Hurricane Hilary related flooding
March 16, 2017	Los Angeles County	DR-4305-CA		Severe Winter Storms, Flooding, and Mudslides
February 3, 1993	Los Angeles County	DR-979-CA		Severe Winter Storms, Mud & Landslides, Flooding
February 25, 1992	Los Angeles County	DR-935-CA		Rain/Snow/Windstorms, Flooding, Mudslides
February 5, 1988	Los Angeles County	DR-812-CA		Severe Storms, High Tides & Flooding
February 21 1980	Los Angeles County	DR-615-CA		Severe Storms, Mudslides & Flooding
February 15 1978	Los Angeles County	DR-547-CA		Coastal Storms, Mudslides & Flooding
January 26, 1969	Los Angeles County	DR-253-CA		Severe Storms & Flooding

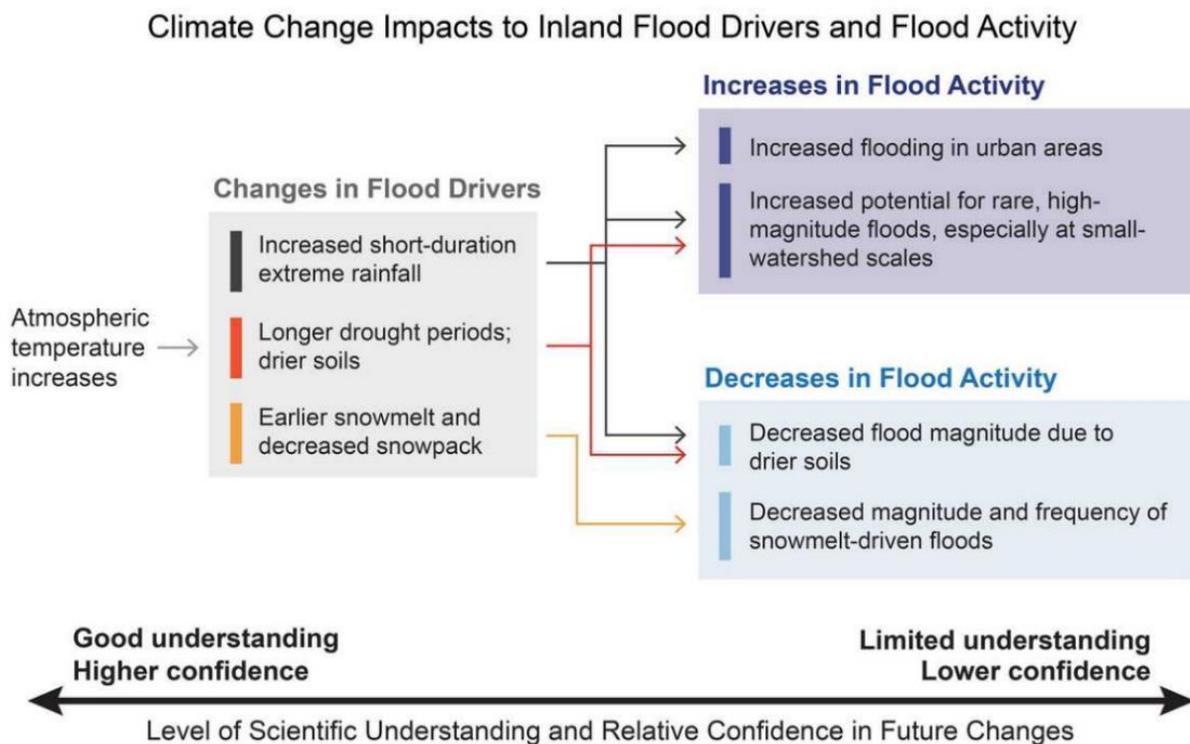
### Probability of Future Flooding Events

For specific information on probability of future flooding events for water districts that ranked flooding as a high or medium priority risk please see the Kinneloa Irrigation District Annex.

According to the Fifth National Climate Assessment, extreme precipitation–producing weather systems ranging from tropical cyclones to atmospheric rivers are *very likely* to produce heavier precipitation at higher global warming levels. Recent increases in the frequency, severity, and

amount of extreme precipitation are expected to continue across the US even if global warming is limited to the Paris Agreement targets. Changes in extreme precipitation events differ seasonally—they are *very likely* to increase in spring and winter across the continental U.S. and Alaska and in eastern and northwestern states in the fall, while projected changes in the summer season are more uncertain.

**Figure 3.3: Climate Change Impacts to Inland Flood Drivers and Flood Activity**  
(Source: Fifth National Climate Assessment, 2023)



According to Cal Adapt, Rowland Water District has a 30-year average baseline of 16.8 inches of precipitation. During the mid-century (2035-2064) this 30-year average is projected to remain static at 16.5 inches of precipitation under high emissions scenario. During the end-century (2070-2099) it is projected that Rowland Water District’s 30-year average precipitation will remain near 16.5 inches.



## Windstorm

	Bellflower-Somerset Mutual Water Company	Kinneloa Irrigation District	La Puente Valley County Water District	Pico Water District	Rowland Water District	San Gabriel County Water District	South Montebello Irrigation District	Three Valleys Municipal Water District	Valencia Heights Water Company	Walnut Valley Water District
Windstorm	L	M	L	L	L	M	L	L	L	L

### Q&A | ELEMENT B: RISK ASSESSMENT | B1-a.

**Q:** Does the plan describe all natural hazards that can affect the jurisdiction(s) in the planning area, and does it provide the rationale if omitting any natural hazards that are commonly recognized to affect the jurisdiction(s) in the planning area? (Requirement 44 CFR § 201.6(c)(2)(i))

**A:** See **Description** below.

A windstorm is a weather phenomenon characterized by strong winds, typically occurring over a relatively short period of time. Windstorms can vary in intensity and duration, ranging from localized gusts to widespread and sustained high winds. These events can be caused by various atmospheric conditions, including pressure gradients, temperature differentials, and weather systems such as cyclones, hurricanes, or thunderstorms.

### **Santa Ana Winds**

Santa Ana winds are generally defined as warm, dry winds that blow from the east or northeast (offshore). These winds occur below the passes and canyons of the coastal ranges of Southern California and in the Los Angeles basin. Santa Ana winds often blow with exceptional speed in the Santa Ana Canyon. Forecasters at the National Weather Service offices in Oxnard and San Diego usually place speed minimums on these winds and reserve the use of “Santa Ana” for winds greater than 25 knots. These winds accelerate to speeds of 35 knots as they move through canyons and mountain passes with gusts to 50 or even 60 knots.

The complex topography of Southern California combined with various atmospheric conditions creates numerous scenarios that may cause widespread or isolated Santa Ana events. Commonly, Santa Ana winds develop when a region of high pressure builds over the Great Basin (the high plateau east of the Sierra Mountains and west of the Rocky Mountains including most of Nevada and Utah). Clockwise circulation around the center of this high-pressure area forces air down slope from the high plateau. The air warms as it descends toward the California coast at the rate of 5 °F per 1,000 feet due to compressional heating. Thus, compressional heating provides the primary source of warming. During Santa Ana conditions, the air is dry since it originates in the desert and dries out even more as it is heated.

These regional winds typically occur from October to March, but with climate change those months can vary each year. According to most accounts, the winds are named either for the Santa Ana River Valley where they originate or for the Santa Ana Canyon, southeast of Los Angeles, where they pick up speed.

**Graphic 3.3: Santa Ana Winds**  
(Source: AccuWeather)



### **Microbursts**

Microbursts are strong, damaging winds which strike the ground and often give the impression a tornado has struck. They frequently occur during intense thunderstorms. The origin of a microburst is downward moving air from a thunderstorm's core. But unlike a tornado, they affect only a rather small area. Macrobursts are downbursts with winds up to 117 mph which spread across a path greater than 2.5 miles wide at the surface and which last from 5 to 30 minutes. The microburst on the other hand is confined to an even smaller area, less the 2.5 miles in diameter from the initial point of downdraft impact. An intense microburst can result in damaging winds near 270 km/hr (170 mph) and often last for less than five minutes.

Downbursts of all sizes descend from the upper regions of severe thunderstorms when the air accelerates downward through either exceptionally strong evaporative cooling or by very heavy rain which drags dry air down with it. When the rapidly descending air strikes the ground, it spreads outward in all directions, like a fast-running faucet stream hitting the sink bottom.

When the microburst wind hits an object on the ground such as a house, garage or tree, it can flatten the buildings and strip limbs and branches from the tree. After striking the ground the powerful outward running gust can wreak further havoc along its path. Damage associated with a microburst is often mistaken for the work of a tornado, particularly directly under the microburst. However, damage patterns away from the impact area characteristic of straight-line winds rather than a twisted pattern of tornado damage.

#### **Q&A | ELEMENT B: RISK ASSESSMENT | B1-c.**

**Q:** Does the plan describe the extent for each identified hazard? (Requirement 44 CFR § 201.6(c)(2)(ii))

**A:** See **Table 3.13** below.



**Table 3.13: Beaufort Scale**  
(Source: National Weather Service)

Force	Speed (mph)	Description
0	0 to 1	Calm: Smoke rises vertically
1	1 to 3	Light air: The direction of the wind is shown by smoke drift, but not wind vanes.
2	4 to 7	Light breeze: Wind is felt on the face, leaves rustle, and wind vanes are moved.
3	8 to 12	Gentle breeze: Leaves and small twigs are in motion, and light flags are extended.
4	13 to 18	Moderate breeze: Dust and loose paper become airborne, and small branches are moved.
5	19 to 24	Fresh breeze: Small trees begin to sway
6	25 to 31	Strong breeze: Large branches are in motion, and using an umbrella becomes difficult.
7	32 to 38	High wind: Whole trees are in motion and walking against the wind can be hard.
8	39 to 46	Strong wind: Walking is difficult and twigs break off trees.
9	47 to 54	Severe wind: Slight structural damage.
10	55 to 63	Storm: Trees are uprooted and considerable damage to structures.
11	63 to 72	Violent storm: Widespread damage.
12	73 and above	Hurricane: Devastating damage.

**Q&A | ELEMENT B: RISK ASSESSMENT | B1-b.**

**Q:** Does the plan include information on the location of each identified hazard? (Requirement 44 CFR § 201.6(c)(2)(i))

**A:** See **Local Conditions** below.

*Local Conditions*

For specific information on population change considerations for water districts that ranked flooding as a high or medium priority risk please see the Kinneloa Irrigation District and San Gabriel County Water District Annexes.

**Q&A | ELEMENT B: RISK ASSESSMENT | B1-d.**

**Q:** Does the plan include the history of **previous** hazard events for each identified hazard? (Requirement 44 CFR § 201.6(c)(2)(i))

**A:** See **Previous Windstorms in Rowland Water District, Previous Windstorms in Los Angeles County,** and **Table 3.8** below.

*Previous Windstorms in Rowland Water District*

For specific information on population change considerations for water districts that ranked flooding as a high or medium priority risk please see the Kinneloa Irrigation District and San Gabriel County Water District Annexes.



## Previous Windstorms in Los Angeles County

Based on local history, most incidents of high wind in Los Angeles County are the result of the Santa Ana and El Niño–related wind conditions. While high-impact wind incidents are not frequent in the area, significant wind events and sporadic tornado activity have been known to negatively affect the county. Between 2020-2023, Los Angeles County experienced 62 wind related events in excess of 70mph. **Table 3.14** below is a history of wind related events in Los Angeles County within the last five years:

**Table 3.14: High Wind, Strong Wind and Tornado Events in Los Angeles County, 2015-2019**  
(Source: NOAA, Storm Events Database, Above 60kts, 2023)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
<b>Totals:</b>								0	0	0.00K	0.00K
<a href="#">LOS ANGELES COUNTY MOUNT...</a>	LOS ANGELES COUNTY MOUNT...	CA	01/05/2020	13:47	PST-8	High Wind	83 kts. MG	0	0	0.00K	0.00K
<a href="#">LOS ANGELES COUNTY MOUNT...</a>	LOS ANGELES COUNTY MOUNT...	CA	02/04/2020	01:43	PST-8	High Wind	61 kts. MG	0	0	0.00K	0.00K
<a href="#">LOS ANGELES COUNTY MOUNT...</a>	LOS ANGELES COUNTY MOUNT...	CA	04/22/2020	21:43	PST-8	High Wind	60 kts. MG	0	0	0.00K	0.00K
<a href="#">LOS ANGELES COUNTY MOUNT...</a>	LOS ANGELES COUNTY MOUNT...	CA	06/08/2020	02:20	PST-8	High Wind	66 kts. MG	0	0	0.00K	0.00K
<a href="#">LOS ANGELES COUNTY MOUNT...</a>	LOS ANGELES COUNTY MOUNT...	CA	10/26/2020	02:30	PST-8	High Wind	83 kts. MG	0	0	0.00K	0.00K
<a href="#">LOS ANGELES COUNTY SAN F...</a>	LOS ANGELES COUNTY SAN F...	CA	10/26/2020	08:00	PST-8	High Wind	65 kts. MG	0	0	0.00K	0.00K
<a href="#">SANTA MONICA MOUNTAINS R...</a>	SANTA MONICA MOUNTAINS R...	CA	10/26/2020	08:10	PST-8	High Wind	60 kts. MG	0	0	0.00K	0.00K
<a href="#">LOS ANGELES COUNTY MOUNT...</a>	LOS ANGELES COUNTY MOUNT...	CA	11/26/2020	09:20	PST-8	High Wind	74 kts. MG	0	0	0.00K	0.00K
<a href="#">LOS ANGELES COUNTY MOUNT...</a>	LOS ANGELES COUNTY MOUNT...	CA	12/02/2020	23:00	PST-8	High Wind	74 kts. MG	0	0	0.00K	0.00K
<a href="#">SANTA MONICA MOUNTAINS R...</a>	SANTA MONICA MOUNTAINS R...	CA	12/03/2020	01:32	PST-8	High Wind	67 kts. MG	0	0	0.00K	0.00K
<a href="#">LOS ANGELES COUNTY MOUNT...</a>	LOS ANGELES COUNTY MOUNT...	CA	12/07/2020	13:53	PST-8	High Wind	62 kts. MG	0	0	0.00K	0.00K



<a href="#">LOS ANGELES COUNTY MOUNT...</a>	LOS ANGELES COUNTY MOUNT...	CA	01/19/2021	02:53	PST-8	High Wind	86 kts. MG	0	0	0.00K	0.00K
<a href="#">SANTA CLARITA VALLEY (ZO...</a>	SANTA CLARITA VALLEY (ZO...	CA	01/19/2021	03:50	PST-8	High Wind	63 kts. MG	0	0	0.00K	0.00K
<a href="#">LOS ANGELES COUNTY SAN F...</a>	LOS ANGELES COUNTY SAN F...	CA	01/19/2021	08:50	PST-8	High Wind	65 kts. MG	0	0	0.00K	0.00K
<a href="#">LOS ANGELES COUNTY MOUNT...</a>	LOS ANGELES COUNTY MOUNT...	CA	02/13/2021	13:50	PST-8	High Wind	63 kts. MG	0	0	0.00K	0.00K
<a href="#">LOS ANGELES COUNTY MOUNT...</a>	LOS ANGELES COUNTY MOUNT...	CA	02/16/2021	05:53	PST-8	High Wind	62 kts. MG	0	0	0.00K	0.00K
<a href="#">LOS ANGELES COUNTY MOUNT...</a>	LOS ANGELES COUNTY MOUNT...	CA	02/25/2021	02:53	PST-8	High Wind	72 kts. MG	0	0	0.00K	0.00K
<a href="#">SANTA MONICA MOUNTAINS R...</a>	SANTA MONICA MOUNTAINS R...	CA	02/25/2021	03:53	PST-8	High Wind	61 kts. MG	0	0	0.00K	0.00K
<a href="#">LOS ANGELES COUNTY SAN F...</a>	LOS ANGELES COUNTY SAN F...	CA	02/25/2021	04:00	PST-8	High Wind	76 kts. MG	0	0	0.00K	0.00K
<a href="#">LOS ANGELES COUNTY MOUNT...</a>	LOS ANGELES COUNTY MOUNT...	CA	02/28/2021	01:00	PST-8	High Wind	63 kts. MG	0	0	0.00K	0.00K
<a href="#">LOS ANGELES COUNTY SAN F...</a>	LOS ANGELES COUNTY SAN F...	CA	02/28/2021	04:30	PST-8	High Wind	63 kts. MG	0	0	0.00K	0.00K
<a href="#">LOS ANGELES COUNTY MOUNT...</a>	LOS ANGELES COUNTY MOUNT...	CA	10/11/2021	10:58	PST-8	High Wind	60 kts. MG	0	0	0.00K	0.00K
<a href="#">LOS ANGELES COUNTY MOUNT...</a>	LOS ANGELES COUNTY MOUNT...	CA	11/21/2021	03:10	PST-8	High Wind	61 kts. MG	0	0	0.00K	0.00K
<a href="#">LOS ANGELES COUNTY MOUNT...</a>	LOS ANGELES COUNTY MOUNT...	CA	11/24/2021	16:40	PST-8	High Wind	74 kts. MG	0	0	0.00K	0.00K
<a href="#">LOS ANGELES COUNTY SAN F...</a>	LOS ANGELES COUNTY SAN F...	CA	11/24/2021	17:00	PST-8	High Wind	77 kts. MG	0	0	0.00K	0.00K
<a href="#">SANTA MONICA MOUNTAINS R...</a>	SANTA MONICA MOUNTAINS R...	CA	11/24/2021	22:00	PST-8	High Wind	64 kts. MG	0	0	0.00K	0.00K
<a href="#">LOS ANGELES COUNTY COAST...</a>	LOS ANGELES COUNTY COAST...	CA	11/25/2021	00:20	PST-8	High Wind	67 kts. MG	0	0	0.00K	0.00K
<a href="#">LOS ANGELES COUNTY MOUNT...</a>	LOS ANGELES COUNTY MOUNT...	CA	01/14/2022	09:40	PST-8	High Wind	70 kts. MG	0	0	0.00K	0.00K
<a href="#">LOS ANGELES COUNTY MOUNT...</a>	LOS ANGELES COUNTY MOUNT...	CA	01/21/2022	14:55	PST-8	High Wind	78 kts. MG	0	0	0.00K	0.00K
<a href="#">SANTA CLARITA VALLEY (ZO...</a>	SANTA CLARITA VALLEY (ZO...	CA	01/21/2022	16:47	PST-8	High Wind	60 kts. MG	0	0	0.00K	0.00K
<a href="#">SANTA MONICA MOUNTAINS R...</a>	SANTA MONICA MOUNTAINS R...	CA	01/21/2022	16:56	PST-8	High Wind	63 kts. MG	0	0	0.00K	0.00K
<a href="#">LOS ANGELES COUNTY MOUNT...</a>	LOS ANGELES COUNTY MOUNT...	CA	01/26/2023	04:40	PST-8	High Wind	97 kts. MG	0	0	0.00K	0.00K
<a href="#">LOS ANGELES COUNTY MOUNT...</a>	LOS ANGELES COUNTY MOUNT...	CA	01/30/2023	23:30	PST-8	High Wind	70 kts. MG	0	0	0.00K	0.00K
<a href="#">CATALINA AND SANTA BARBA...</a>	CATALINA AND SANTA BARBA...	CA	02/21/2023	21:40	PST-8	High Wind	60 kts. MG	0	0	0.00K	0.00K
<a href="#">SANTA MONICA MOUNTAINS (...)</a>	SANTA MONICA MOUNTAINS (...)	CA	02/24/2023	09:10	PDT-7	High Wind	81 kts. MG	0	0	0.00K	0.00K
<a href="#">WESTERN SAN GABRIEL MOUN...</a>	WESTERN SAN GABRIEL MOUN...	CA	03/14/2023	09:20	PST-8	High Wind	67 kts. MG	0	0	0.00K	0.00K
<a href="#">NORTHWESTERN LOS ANGELES...</a>	NORTHWESTERN LOS ANGELES...	CA	03/14/2023	10:34	PST-8	High Wind	65 kts. MG	0	0	0.00K	0.00K
<a href="#">WESTERN SAN FERNANDO VAL...</a>	WESTERN SAN FERNANDO VAL...	CA	04/03/2023	13:50	PST-8	High Wind	60 kts. MG	0	0	0.00K	0.00K
<a href="#">SANTA CLARITA VALLEY (ZO...</a>	SANTA CLARITA VALLEY (ZO...	CA	04/03/2023	13:57	PST-8	High Wind	60 kts. MG	0	0	0.00K	0.00K
<b>Totals:</b>								0	0	0.00K	0.00K



### *Probability of Future Events*

For specific information on probability of future events considerations for water districts that ranked flooding as a high or medium priority risk please see the Kinneloa Irrigation District and San Gabriel County Water District Annexes.



# Chapter 4: Vulnerability and Impacts Assessment

The vulnerability and impacts assessment process analyzes the potential harm of the prioritized hazard events discussed in **Chapter 3: Risk Assessment**.

## Vulnerability and Impact Assessment Process

The vulnerability and impact assessment examines the potential harm that may result from a hazard event, without factoring in its likelihood. This means that equal attention is given to hazards regardless of their probability. The assessment evaluates three key aspects of each hazard on assets: the physical threat posed to facilities, the social threat to vulnerable populations, and the potential impact on other assets. The FEMA Handbook categorizes the five assets as follows:

- People*
- Structures*
- Economy*
- Natural, Historic, and Cultural Resources*
- Activities Bringing Value to the Community*

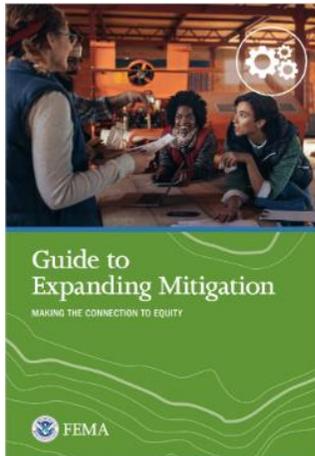
## People

People are the community’s most important asset. People include individuals who live and/or work within the Rowland Water District service area.

<b>Q&amp;A   ELEMENT B: RISK ASSESSMENT   B2-a.</b>
<b>Q:</b> Does the plan provide an overall summary of each jurisdiction’s vulnerability to the identified hazards? (Requirement 44 CFR § 201.6(c)(2)(ii))
<b>A:</b> See <b>Vulnerability of People</b> below.

## Vulnerability of People

Disasters affect all populations; however, some populations are more adversely affected because of a higher level of social vulnerability. According to **The Guide to Expanding Mitigation – Making the Connection to Equity**, social vulnerability is defined in terms of the characteristics of a person or group that affect “their capacity to anticipate, cope with, resist, and recover from the impact” of a discrete and identifiable disaster in nature or society.



Using **FEMA’s Resilience Analysis and Planning Tool (RAPT)**, census tract data was used to understand what census tracts might be more vulnerable. Many of the maps in the People section were created using data provided by RAPT. RAPT is a free, publicly available geographic information systems (GIS) tool to help emergency managers and community partners of all GIS skill levels to visualize and assess potential challenges to community resilience. RAPT includes over 100 pre-loaded data layers and the tool’s functionality allows users to visualize combinations of these data layers for a specific location. One of the layers includes community demographics for counties, census tracts, and tribes drawn primarily from the U.S. Census Bureau. RAPT includes 27 demographic layers, including 22 community resilience challenges indicators identified from peer-reviewed research, and **FEMA’s Community Resilience Challenges Index (CRCI)** for counties and census tracts, a composite value of all 22 community resilience challenges indicators. The graphics below outline the community resilience indicators.

**Graphic 4.1: RAPT People & Community Indicators**  
(Source: FEMA Resilience Analysis and Planning Tool)

## People & Community Indicators

### County and Census Tract Community Resilience Challenges Index (CRCI) combining 22 indicators.

Population Characteristics	Household Characteristics	Housing
<ul style="list-style-type: none"> <li>Population without a High School Education</li> <li>Population 65 and Older</li> <li>Population with a Disability</li> <li>Population by Race and Hispanic Origin</li> </ul>	<ul style="list-style-type: none"> <li>Households without a Vehicle</li> <li>Households with Limited English</li> <li>Single-Parent Households</li> <li>Households without a Smartphone</li> <li>Households without Broadband Subscription</li> </ul>	<ul style="list-style-type: none"> <li>Mobile Homes as Percentage of Housing</li> <li>Owner-Occupied Housing</li> <li>Rental Housing Costs</li> <li>Residential Structures in SHFA with Flood Insurance</li> </ul>
Healthcare	Economic	Connection to Community
<ul style="list-style-type: none"> <li>Number of Hospitals</li> <li>Medical Professional Capacity</li> <li>Population without Health Insurance</li> <li>Medicare Recipients with Power-Dependent Devices</li> </ul>	<ul style="list-style-type: none"> <li>Population Below Poverty Level</li> <li>Median Household Income</li> <li>Unemployed Labor Force</li> <li>Unemployed Women Labor Force</li> <li>Income Inequality</li> <li>Workforce in Predominant Sector</li> </ul>	<ul style="list-style-type: none"> <li>Presence of Civic and Social Organizations</li> <li>Population without Religious Affiliation</li> <li>Percentage of Inactive Voters</li> <li>Population Change</li> </ul>



Graphic 4.2: RAPT Infrastructure Indicators  
(Source: FEMA Resilience Analysis and Planning Tool)

## Infrastructure Indicators

### Homeland Infrastructure Foundation-Level Data (Open)

- Hospitals
- Nursing Homes
- Pharmacies
- Urgent Care Facilities
- Dialysis Centers
- Mobile Home Parks
- Fire Stations
- Local Law Enforcement Locations
- Public Health Departments
- 911 Service Area Boundaries
- SNAP Authorized Retailers
- Places of Worship
- Colleges and Universities
- Private Schools
- Public Schools
- Prison Boundaries
- Power Plants
- Wastewater Treatment Plants
- Solid Waste Landfills
- High-Hazard Dams
- Electric Power Transmission Lines

Graphic 4.3: RAPT Hazard and Risk Indicators  
(Source: FEMA Resilience Analysis and Planning Tool)

## Hazard & Risk Indicators

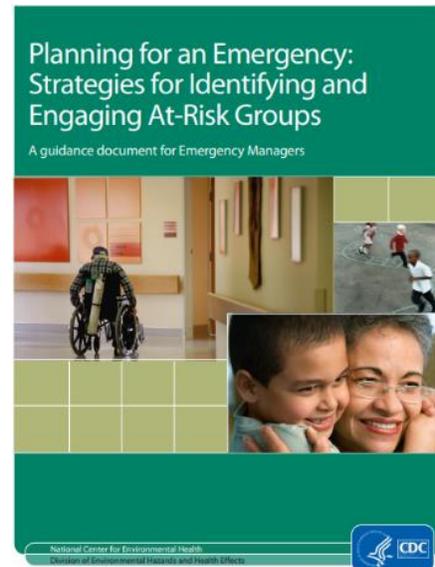
### National Weather Service Live Data Feeds

- Live Stream Gauges
- Flood Hazard
- Hurricane Tracks (1990+)
- Historical Tornado Tracks
- Wildfires - Current Incidents (Points)
- Wildfires - Current incidents (Perimeters)
- Seismic Hazard
- National Risk Index Census Tracts
- NOAA Sea Level Rise (4-6 ft.)
- NWS Severe Weather Watches and Warnings
- NWS Severe Weather Outlook
- NWS Atlantic/Caribbean Tropical Cyclones
- NWS Eastern Pacific Tropical Cyclones
- NWS Excessive Rainfall Outlook
- NEXRAD Real-Time Weather Radar



A person's vulnerability to disaster is influenced by many factors. According to **CDC's Planning for an Emergency: Strategies for Identifying and Engaging At-Risk Group**, the following six categories are among the most commonly accepted factors: socioeconomic status, age, gender, race and ethnicity, English language proficiency, and medical issues and disability. These categories were used to analyze the vulnerability of people in Rowland Water District. The compounding effects of these factors will further impact an individual's ability to withstand the effects of disasters and other hazards.

Below is an overview of the Rowland Water District's service area population broken down by the six contributing factors of social vulnerability. The graphics are from ESRI Business Analyst and provide an overview of the Rowland Water District's population.



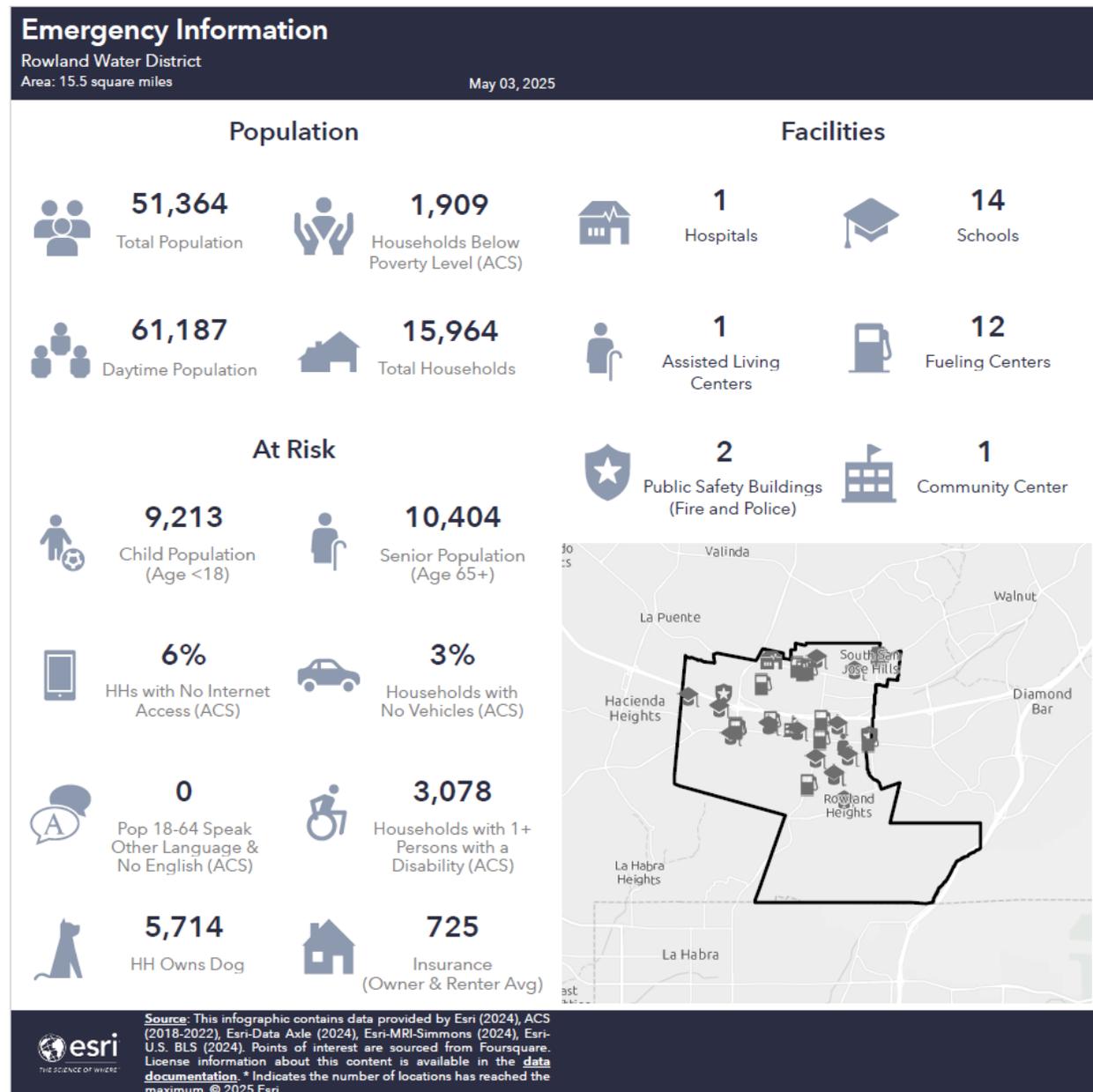


**Graphic 4.3: At Risk Population Profile – Rowland Water District**  
 Source: Esri Business Analyst, 2025





**Graphic 4.4: Emergency Information – Rowland Water District**  
 Source: ESRI Business Analyst, 2025





The Rowland Water District, encompassing 15.5 square miles, serves a diverse and densely populated region with a total population of 51,364 and a daytime population of over 61,000. The community includes significant vulnerable populations, such as 9,213 children under 18 and 10,403 seniors aged 65 and over. Additionally, 3,078 households include individuals with disabilities, and 663 lack access to a vehicle - factors that may complicate evacuation or access to essential services during emergencies. Socioeconomic vulnerabilities are also present, with 12% of households living below the poverty line and 6% lacking internet access, which can hinder timely access to emergency alerts and services.

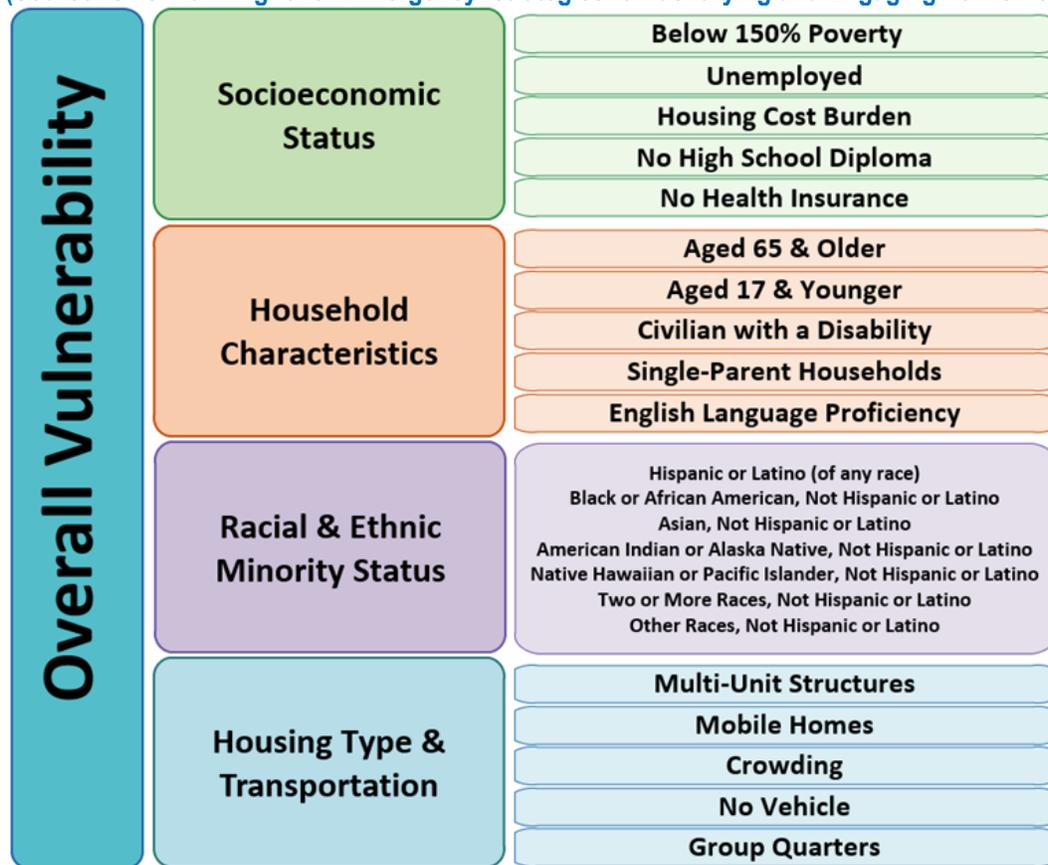
Language barriers further heighten risk. A substantial portion of the population speaks Spanish or Asian-Pacific Island languages, and over 3,100 individuals speak English either not well or not at all—most notably among the elderly. These communication challenges underscore the importance of multilingual outreach and inclusive emergency preparedness strategies. Meanwhile, the average household size is 3.21, and housing affordability is relatively low, contributing additional stress during emergencies, especially for families in financial hardship.

## Social Vulnerability Index

The CDC Social Vulnerability Index (SVI) is a tool developed by the Centers for Disease Control and Prevention (CDC) to help identify communities that may need support before, during, or after disasters. Social vulnerability refers to the resilience of communities when confronted by external stresses on human health, such as natural or human-caused disasters, or disease outbreaks. The SVI is calculated based on 16 social factors grouped into four themes as shown below in **Figure 4.1**.



**Figure 4.1: Social Vulnerability Index Themes and Social Factors**  
 (Source: CDC Planning for an Emergency: strategies for identifying and Engaging At-Risk Groups)

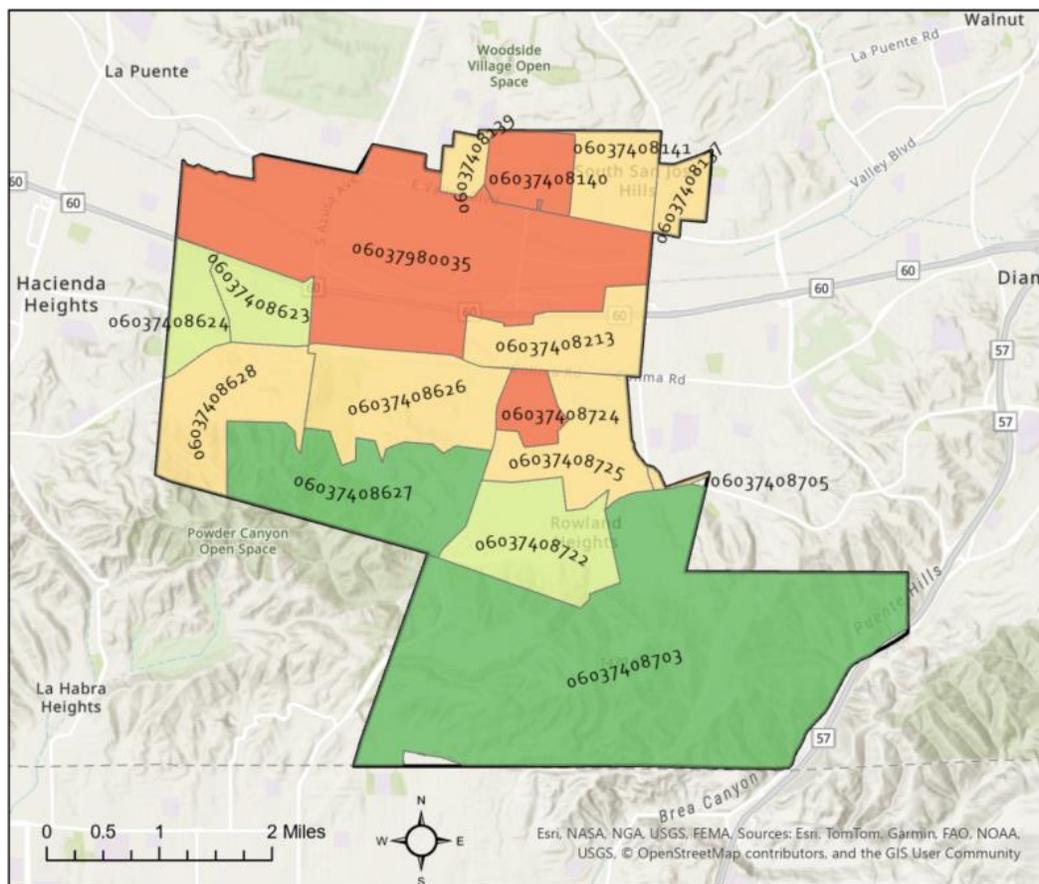


The CDC Social Vulnerability Index (SVI) is calculated using data from the U.S. Census Bureau’s American Community Survey on 15 social factors. Each factor is ranked at the census tract level and converted into percentiles. These percentiles are averaged to create composite scores for four themes: socioeconomic status, household composition and disability, minority status and language, and housing type and transportation. The overall SVI is then determined by summing these theme-specific percentile ranks, resulting in a value that reflects the overall social vulnerability of each census tract. Finally, census tracts are categorized into quartiles, with higher values indicating greater vulnerability.

**Map 4.1** below depicts the overall social vulnerability for the Rowland Water District. The areas in red represent the census tracts that are in the 75th percentile or above for overall SVI rating. This means that these census tracts are more vulnerable than at least 75% of the other census tracts in California. The following census tracts have a high SVI rating: 06037408141, 06037980035, 06037408724. These census tracts will be evaluated in the risk assessment to determine their exposure to the specific hazard.



Map 4.1 Rowland Water District SVI Ratings  
(Source: CDC, Emergency Planning Consultants)



**Social Vulnerability Index**

- Low SVI (25th Percentile)
- Low-Medium SVI (50th Percentile)
- Medium-High SVI (75th Percentile)
- High (Above 75th Percentile)
- Rowland Water District

**Q&A | ELEMENT B: RISK ASSESSMENT | B2-b.**

**Q:** For each participating jurisdiction, does the plan describe the potential impacts of each of the identified hazards on each participating jurisdiction? (Requirement §201.6(c)(2)(ii))

**A:** See **Impact Profile of People** below.

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. 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 higher pollution burdens and population sensitives. These tracts are depicted in the darker



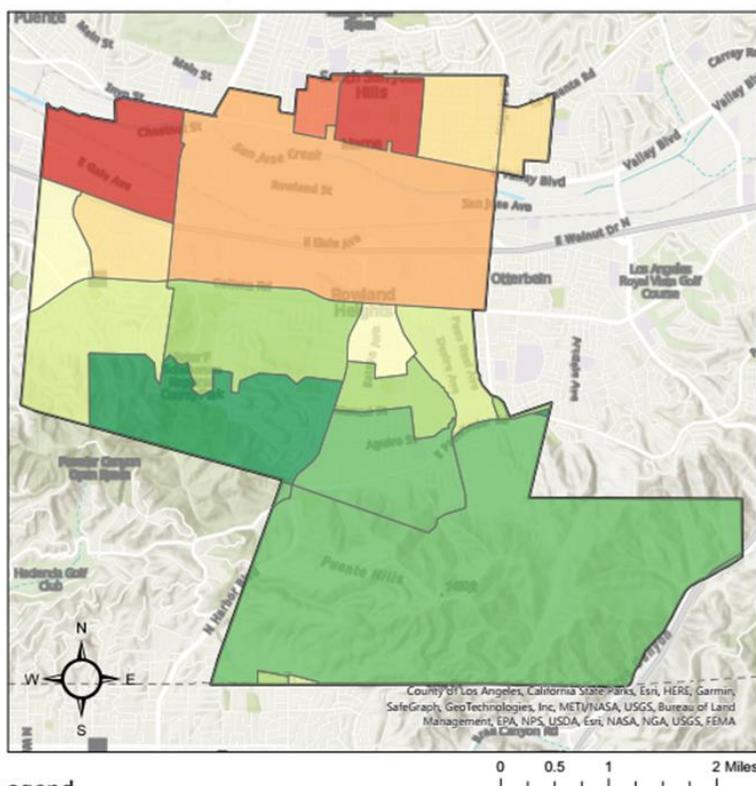
red colors on the map. Census tracts with lower overall percentile scores have lower pollution burdens and population sensitivity. These tracts are depicted in a darker green color on the map. The Rowland Water District CalEnviroScreen percentages are between 10 and 100 overall percentages. The majority of the district is between 10 and 70 percentile range

**Map 4.2: Rowland Water District CalEnviroScreen 4.0 Results**

Source: CalEnviroScreen, 2023

**Rowland Water District CalEnviroScreen 4.0 Results**

Source: CalEnviroScreen, 2022



Legend	
Percentage	
10- 20	60 - 70
20 - 30	70 - 80
30 - 40	80 - 90
40 - 50	90 - 100 (Highest)
50 - 60	Rowland Water District

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



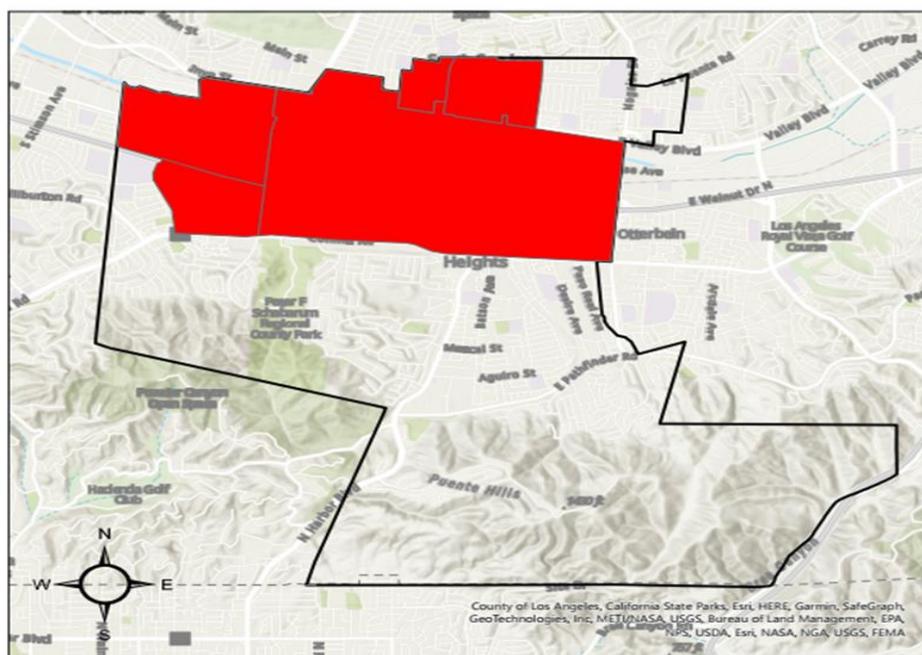
pollution. Pollution burden indicators measure different types of pollution that residents may be exposed to, and the proximity of environmental hazards to a community. Population characteristics represent characteristics of the community that can make them more susceptible to environmental hazards.

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 poorly on a range of health and socioeconomic indicators than areas with low scores.

The majority of the Rowland Water District is not considered a disadvantaged community based on the CalEnviroScreen scores. However, there are 5 census tracts that are designated as a disadvantaged community.

**Map 4.3: Rowland Water District SB 535 Disadvantaged Communities**  
 Source: CALEPA SB535 Disadvantaged Communities, 2023

**Rowland Water District SB 535 Disadvantaged Communities**  
 Source: CALEPA SB 535 Disadvantaged Communities (2022 update)



**Legend**  
 ■ SB 535 Disadvantaged Community  
 □ Rowland Water District



## Impact Profile of People

### *Earthquake*

Rowland Water District has a diverse population that includes several vulnerable groups, such as elderly residents, low-income families, non-English speakers, and disabled individuals. The elderly population in the water district are particularly vulnerable during emergencies due to mobility issues and potential isolation. Low-income families in the district may lack the resources to adequately prepare for or recover from a disaster, such as securing emergency supplies or making necessary housing repairs. Non-English speakers, primarily immigrants of Asian descent, face language barriers that can impede their access to crucial information and services during an emergency. Additionally, individuals with physical, sensory, or cognitive disabilities face added challenges in evacuating and accessing emergency services.

In the event of an earthquake, these vulnerable populations in Rowland Water District would face significant risks and challenges. Elderly residents may have difficulty evacuating quickly and could be living in older, less earthquake-resistant buildings. The disruption of healthcare services could critically impact those with medical needs. Low-income families might struggle with the financial burden of property damage and loss of income if their workplaces are affected, with limited access to insurance and emergency funds exacerbating their vulnerability. Non-English speakers could be hindered by communication barriers that prevent them from receiving timely warnings and instructions, and they may also face difficulties in navigating relief services and understanding available resources. Disabled individuals may face increased risks due to mobility issues and the potential inaccessibility of emergency shelters and services.

### *Wildfire*

Wildfire in Rowland Water District can significantly impact vulnerable populations, including the elderly, low-income families, and individuals with health issues. Health risks from smoke inhalation can worsen existing conditions, while evacuation challenges disproportionately affect those without transportation or resources. Economic hardships arise from property loss and job disruption, complicating recovery efforts for low-income families. Additionally, limited access to timely information can hinder effective responses, and environmental hazards can threaten water supplies, impacting health further.

### *Power Outages*

Planned and spontaneous disruptions to power can significantly affect people's health, safety, and daily lives. Power outages can disable medical devices, refrigeration for medications, and heating or cooling systems, putting vulnerable populations at risk. Interruptions to water supply and telecommunications disrupt essential services like drinking water, sanitation, and emergency communication. These hazards can lead to economic losses, social disruptions, and heightened stress, particularly for vulnerable groups. Resilient infrastructure, effective planning, and community preparedness are key to mitigating these impacts.

### *Drought*

Drought significantly impacts Rowland Water District 's vulnerable populations, including the elderly, low-income families, non-English speakers, and individuals with disabilities. Elderly individuals are particularly susceptible to the effects of drought. Limited mobility and health issues make them more vulnerable to heat-related illnesses, which can be exacerbated by water shortages and reduced availability of cooling options. Additionally, the elderly may have fixed



incomes, making it difficult to cope with increased utility bills and the cost of purchasing bottled water. Low-income families are disproportionately affected by drought due to their limited financial resources. These families may struggle to afford higher water bills, and the cost of purchasing additional water or implementing water-saving measures can be prohibitive. Drought can also lead to increased food prices, as agricultural production declines, further straining household budgets. Reduced availability of water for hygiene and sanitation can lead to health issues, compounding the challenges faced by these families. Non-English speakers may face difficulties accessing information and resources related to drought.

Language barriers can impede their understanding of water conservation measures, drought warnings, and available assistance programs. This population might also have limited access to services that provide drought relief, such as financial assistance for increased utility costs or resources for securing alternative water supplies. People with disabilities often require additional water for medical and personal care needs. Drought conditions can make it more difficult for them to access sufficient water, affecting their health and well-being. Mobility issues can also hinder their ability to access relief services and emergency supplies. Drought can lead to increased utility costs and maintenance expenses for households. Vulnerable populations may face difficult choices between paying for water and other essential expenses, potentially leading to housing instability or displacement if they are unable to keep up with costs. Furthermore, those with cognitive disabilities may find it challenging to understand and implement necessary water conservation practices. Drought can lead to poor water quality, as reduced water levels can concentrate contaminants. Vulnerable populations are at higher risk of waterborne illnesses due to weakened immune systems and limited access to healthcare. Heatwaves associated with drought can exacerbate chronic health conditions and increase the incidence of heatstroke and dehydration.

### *Climate Change*

Climate change impacts people in Rowland Water District in various ways, including through extreme heat events, changes in air quality, increased risk of wildfires, and potential impacts on water supply and infrastructure. These effects can lead to health issues, such as heat-related illnesses and respiratory problems, as well as challenges related to water availability and infrastructure resilience, highlighting the importance of adaptation and mitigation strategies to protect the well-being of the community.

### *Changes in Population*

Changes in population in Rowland Water District can significantly impact residents by influencing the demand for services, housing affordability, cultural diversity, traffic congestion, economic opportunities, and community services. A growing population may strain existing infrastructure and services, leading to longer wait times and crowded facilities. Additionally, population changes can affect the availability of affordable housing and create challenges related to cultural integration and inclusivity. However, population growth can also bring new job opportunities and enrich the cultural fabric of the community. Effective urban planning and community development strategies are crucial to address these impacts and ensure the well-being of residents in Rowland Water District.

### *Land Use Development*

Land use development in Rowland Water District can impact residents by affecting housing availability and affordability, access to services such as healthcare and education, quality of life



factors like access to green spaces and community amenities, economic opportunities through job creation and local business growth, and environmental considerations such as traffic congestion and pollution. Thoughtful planning and community engagement are crucial to ensure that development meets the needs of residents and enhances the overall quality of life in the district.

## Structures

A vulnerability assessment in its simplest form is a simultaneous look at the geographical location of hazards and an inventory of the underlying land uses (populations, structures, etc.). Facilities that provide critical and essential services following a major emergency are of particular concern because these locations house staff and equipment necessary to provide important public safety, emergency response, and/or disaster recovery functions.

### Q&A | ELEMENT B: RISK ASSESSMENT | B2-a.

**Q:** Does the plan provide an overall summary of each jurisdiction’s vulnerability to the identified hazards? (Requirement 44 CFR § 201.6(c)(2)(ii))

**A:** See **Table 4.1** below.

FEMA separates critical buildings and facilities into the five categories shown below based on their loss potential. All of the following elements are considered critical facilities:

**Essential Facilities** are essential to the health and welfare of the whole population and are especially important following hazard events. Essential facilities include hospitals and other medical facilities, police and fire stations, emergency operations centers and evacuation shelters, and schools.

**Transportation Systems** include airways – airports, heliports; highways – bridges, tunnels, roadbeds, overpasses, transfer centers; railways – trackage, tunnels, bridges, rail yards, depots; and waterways – canals, locks, seaports, ferries, harbors, drydocks, piers.

**Lifeline Utility Systems** such as potable water, wastewater, oil, natural gas, electric power and communication systems.

**High Potential Loss Facilities** are facilities that would have a high loss associated with them, such as nuclear power plants, dams, and military installations.

**Hazardous Material Facilities** include facilities housing industrial/hazardous materials, such as corrosives, explosives, flammable materials, radioactive materials, and toxins.

**Table 4.1: Critical Facility Hazards and Values** below illustrates the hazards with potential to impact critical facilities owned by Rowland Water District.



**Table 4.1: Critical Facilities Hazards and Values**  
 (Source: RWD Planning Team, Emergency Planning Consultants)  
 (Based on CPRI Medium/High Hazard Priority Rankings)

Facility Name and Type	# Occupants	# Buildings	\$ Building Value	\$ Contents Value	\$ Total Value	Hazard - Drought	Hazard - Earthquake	Hazard - Power Outage	Hazard - Wildfire
District Headquarters: Administrative building, warehouse, storage unit, Fullerton Booster Station, Reservoirs #1, # 5 & #11	26	3	\$18,823,368	\$1,116,924	\$19,940,292	X	X	X	X
Reservoirs #2 & #16 Granby Booster Station	0	2	\$7,808,144	N/A	\$7,808,144	X	X	X	
Reservoirs #3 & #13	0	0	\$2,535,366	N/A	\$2,535,366	X	X	X	X
Reservoirs #4 & #9 Artigas Booster Station	0	1	\$3,465,432	N/A	\$3,465,432	X	X	X	X
Reservoir #6	0	1	\$4,797,823	N/A	\$4,797,823	X	X	X	
Reservoir #7	0	0	\$2,221,553	N/A	\$2,221,553	X	X	X	X
Reservoir #8	0	1	\$1,870,167	N/A	\$1,870,167	X	X	X	X
Reservoir #10 Harbor Booster Station	0	1	\$2,558,240	N/A	\$2,558,240	X	X	X	X
Reservoir #12 Ashbourne Booster Station	0	1	\$1,850,227	N/A	\$1,850,227	X	X	X	X
Reservoir #14	0	0	\$1,677,193	N/A	\$1,677,193	X	X	X	X
Reservoir #15	0	0	\$1,816,799	N/A	\$1,816,799	X	X	X	X
2A Booster Station	0	0	\$782,020	N/A	\$782,020	X	X	X	
Cuatro Booster Station	0	0	\$43,644	N/A	\$43,644	X	X	X	
Well #1	0	0	\$727,753	N/A	\$727,753	X	X	X	
PM22	0	0	\$214,663	N/A	\$214,663	X	X	X	
Sentous (Sentous & La Puente, LP)	0	0	\$195,851	N/A	\$195,851	X	X	X	
PM9 t	0	0	\$68,718	N/A	\$68,718	X	X	X	
Joint Line- JLR1 & JLR2	0	1	\$10,264,100	N/A	\$10,264,100	X	X	X	X
<b>TOTAL</b>	26	11	\$62,726,361	\$1,116,924	<b>\$62,837,985</b>				

Based on available data provided by the water district, there is a minimum of \$62,726,361 worth of district owned property and \$1,116,924 worth of city owned contents that were analyzed. The total potential loss value of all district-owned assets is much higher but is unknown due to data limitations.

The possibility that all facilities will be completely damaged simultaneously is extremely rare. Most of the impacts of the hazards that were analyzed are anticipated to be isolated to certain locations. To better understand the magnitude of impacts, this plan identifies representative percentages of potential impact based on the total valuation of district assets. For planning purposes, we identified different tiers of impact that could occur. It is reasonable to assume that impacts would not exceed 50% of the total asset value district-wide during a single event. The following are parameters to help understand how much a proposed investment/improvement compares to the existing assets:



- 1% Impact – \$628,373.61
- 5% Impact – \$3,141,868.05
- 10% Impact – \$6,283,736.10
- 20% Impact – \$12,567,472.20
- 50% Impact – \$31,418,680.50

#### Q&A | ELEMENT B: RISK ASSESSMENT | B2-b.

**Q:** For each participating jurisdiction, does the plan describe the potential impacts of each of the identified hazards on each participating jurisdiction? (Requirement §201.6(c)(2)(ii))

**A:** See **Impact Profile of Structures** below.

## Impact Profile of Structures

### *Earthquake*

Structures include physical buildings, lifelines, and critical infrastructure in a community. All properties and occupants in Rowland Water District can be either directly impacted or affected by earthquakes. It is estimated more than a third of the planning area's building stock was built prior to 1975, when seismic provisions became uniformly applied through building code applications. These buildings are at a higher risk of damage from earthquakes. Due to limitations in current modeling abilities, the risk to critical facilities in the planning area from the earthquake hazard is likely understated. A more thorough review of the age of critical facilities, codes they were built to, and location on liquefiable soils should be conducted. Damage to transportation systems in the planning area after an earthquake has the potential to significantly disrupt response and recovery efforts and lead to isolation of populations. Additionally, seismic events can damage communication systems, complicating efforts to coordinate response to the event. Many structures may need seismic retrofits in order to withstand a moderate earthquake. Residential retrofit programs, such as Earthquake Brace+Bolt, may be able to assist in the costs of these efforts.

The district-owned critical facilities (buildings, wells, and reservoirs) vulnerable to earthquakes include 30 facilities with property and contents valued at \$62,726,361 based on estimates in 2023. The severe ground shaking and soil liquefaction will result in significant damage or total destruction of these facilities and can be catastrophic for the Rowland Water District.

### *Wildfire*

Rowland Water District is particularly vulnerable to wildfire due to several factors. The area's dry climate, combined with high temperatures and seasonal winds, creates ideal conditions for fire spread. The abundant vegetation, including shrubs and grass, serves as fuel, especially during drought periods. The district's proximity to wildland areas increases the risk of ignitions from natural causes or human activity. Firefighting resources can be stretched thin, especially during peak wildfire seasons. Efforts to manage vegetation, create defensible space around homes, and promote community awareness are essential to mitigate these risks.

Ten of the critical facilities in the Rowland Water District could be affected by wildfire. District-owned critical facilities have property and contents valued at \$48,199,369 based on estimates in 2023.



## *Power Outage*

A power outage can have significant impacts on a water district, affecting both its operations and the communities it serves. If the water supply or treatment facilities are disrupted, residents and businesses may face immediate shortages of clean water, compromising public health and sanitation. Loss of electricity can halt water pumping, treatment processes, and distribution systems, leading to service outages. Infrastructure damage, such as broken pipes or compromised water reservoirs, could further exacerbate water shortages or contamination risks. In addition, there may be challenges in restoring service due to transportation disruptions, difficulties accessing repair sites, or a lack of necessary resources or personnel. The economic and social consequences could be severe, especially if the district struggles to maintain operations or provide clean water for an extended period.

The district-owned critical facilities vulnerable to earthquakes include 30 facilities (buildings, wells, and reservoirs) with property and contents valued at \$62,726,361 based on estimates in 2023. Any utility related hazard can result in significant challenges to operations; specifically, being able to provide customers with clean water.

## *Drought*

The most immediate impact of a drought is on the water supply. Rowland Water District relies on both surface and groundwater sources, which can become depleted during prolonged droughts. This could lead to water rationing, affecting residential, institutional, commercial, and industrial users. Reduced water availability could strain the district's ability to provide adequate water for drinking, sanitation, and fire suppression, compromising public health and safety. All properties in Rowland Water District could be directly impacted or affected by drought. Most of the impact will be from the related hazards such as competition for water supply and disruption of public infrastructure. Reduced water supply could leave property vulnerable to fires. Dried vegetation around properties could also increase the vulnerability to fires.

Prolonged drought conditions could weaken soil stability, leading to ground subsidence. This can cause damage to roads, bridges, and pipelines, increasing maintenance costs and potentially leading to hazardous conditions. Water mains and sewage systems could be impacted by a loss of water or pressure. Also, those systems could be affected by soil movement, leading to leaks and breaks that further strain the district's water resources. Public parks and recreational areas may face restrictions on water use for irrigation, leading to degraded landscapes and reduced green spaces.

All of the critical facilities in the Rowland Water District could be affected by drought. This includes the 30 facilities with property and contents valued at \$62,726,361 based on estimates in 2023.

## *Climate Change*

Climate change impacts critical facilities and structures in the Rowland Water District by increasing the frequency and severity of heatwaves, flooding, wildfires, and poor air quality. These events strain energy and water resources, damage infrastructure, and heighten health risks, particularly for hospitals, emergency services, and community centers. To mitigate these effects, the water district needs to upgrade infrastructure, improve energy efficiency, and enhance emergency response plans. These measures will help ensure that critical facilities remain operational and continue to serve the community effectively amidst the challenges posed by



climate change. See *Mitigation Actions Matrix in Chapter 5 (Table 5.1) for actions relating to climate change.*

### Changes in Population

Population changes in the Rowland Water District, can significantly impact critical facilities and structures by influencing demand for services, infrastructure, and resources. Population growth leads to increased pressure on existing facilities, such as schools and healthcare services, requiring upgrades and expansions. Demographic shifts, such as an aging population or increased cultural diversity, can also impact the types of services needed. Urban development driven by population changes requires careful planning to ensure infrastructure can support the growing community. Effective planning and management are crucial to adapting critical facilities to meet the evolving needs of the population and ensure the continued resilience of the community.

### Land Use Development

Changes in land use development in the Rowland Water District can impact structures and critical facilities by influencing accessibility, infrastructure needs, environmental considerations, community services, economic development, and require effective planning and management to ensure the continued functionality and resilience of critical facilities.

## Economy

<b>Q&amp;A   ELEMENT B: RISK ASSESSMENT   B2-a.</b>
<b>Q:</b> Does the plan provide an overall summary of each jurisdiction’s vulnerability to the identified hazards? (Requirement 44 CFR § 201.6(c)(2)(ii))
<b>A:</b> See <b>Vulnerability to Economy</b> and <b>Table 4.2</b> below.

## Vulnerability to Economy

Rowland Water District serves several cities including West Covina, La Puente, Industry, Diamond Bar, and La Habra Heights. There is also a large unincorporated portion of Los Angeles County that is included in the RWD service area. Economic assets, other than residential customers, that are particularly vulnerable to hazards include Rowland Unified School District, Puente Hills Mall and surrounding shopping centers, Eastwood Village Shopping Center, Rowland Hights Plaza Shopping Center, and Nogales Medical Plaza.

**Table 4.2: Hazard Vulnerability to Economic Assets**  
(Source: District Planning Team, Emergency Planning Consultants)

	Drought	Earthquake	Power Outage	Wildfire
<b>Economic Assets</b>				
<b>Rowland Unified School District</b> Address: 1830 Nogales Street, Rowland Heights, CA 91748	X	X	X	
<b>Puente Hills Mall</b> Address: 1600 S. Azusa Avenue, City of Industry, CA 91748	X	X	X	



	Drought	Earthquake	Power Outage	Wildfire
<b>Economic Assets</b>				
<b>Rose Plaza Shopping Center</b> Address: 17384 Colima Road, Rowland Heights, CA 91748	X	X	X	X
<b>Eastwood Village Shopping Center</b> 18230 Colima Road, Rowland Heights, CA 91748	X	X	X	
<b>Rowland Heights Plaza Shopping Center</b> 18922 Gale Avenue, Rowland Heights, CA 91748	X	X	X	
<b>Nogales Medical Plaza</b> 2707 E. Valley Boulevard, Suite 309, West Covina, CA 91792	X	X	X	

**Q&A | ELEMENT B: RISK ASSESSMENT | B2-b.**

**Q:** For each participating jurisdiction, does the plan describe the potential impacts of each of the identified hazards on each participating jurisdiction? (Requirement §201.6(c)(2)(ii))

**A:** See **Impact Profile of Economy** below.

## Impact Profile of Economy

An earthquake, wildfire, power outage, or drought in the Rowland Water Districts would significantly impact its key economic centers especially if water service is impacted. The economic centers analyzed include Rowland Unified School District, Nogales Medical Plaza, and shopping centers including Puente Hills Mall, Eastwood Village Shopping Center, and Rowland Heights Plaza Shopping Center.

### Rowland Unified School District

**Drought:** Schools need to implement water conservation measures, potentially affecting landscaping, maintenance, and sanitation practices. Water shortages could impact school operations, including the availability of drinking water and functioning of restrooms. Educational programs might need to be adjusted to include information on water conservation and the effects of drought. Job loss from a drought is not likely, however changes in educational structure could lead to increased costs or reduced pay for faculty and staff.

**Earthquake:** The school district will likely experience damage to buildings and facilities, disrupting the education of thousands of students. The impact of an earthquake will be amplified if the water district is impacted and clean water is not able to be supplied to the school. Schools might need to close temporarily for inspections and repairs, affecting students, staff, and families. Closure of schools could lead to reduced or no pay for faculty and staff which will cause financial hardship. This financial hardship is not limited to the employees but will also spread to district area as these employees may need to move out of the town for employment.

**Power Outage:** Power outages in schools impact electricity and water supply. Also, flood control equipment could be impacted. Such problems can significantly impact the safety, health, and learning environment. These hazards can cause disruptions like fires, illnesses, uncomfortable conditions, and even school closures. Contaminated water, faulty plumbing, and poor air quality



can lead to health issues, while electrical and gas problems pose serious safety risks. To mitigate these impacts, regular maintenance, safety measures, and emergency preparedness plans are essential for ensuring a safe and conducive learning environment.

**Wildfire:** Although the Rowland Unified School District schools are not situated in a designated fire hazard area, they remain vulnerable to poor air quality from nearby wildfires. This can pose health risks to students and staff, potentially leading to the cancellation of outdoor activities. In more severe cases, schools may be closed or shift to remote learning to minimize outdoor exposure to hazardous air conditions. If water supply is impacted due to fire-fighting efforts, the schools may need to close temporarily

**Q&A | ELEMENT B: RISK ASSESSMENT | B2-b.**

**Q:** For each participating jurisdiction, does the plan describe the potential impacts of each of the identified hazards on each participating jurisdiction? (Requirement §201.6(c)(2)(ii))

**A:** See **Climate, Population, and Land Use Development Change Considerations** below.

**Climate Change:** Climate change poses significant challenges to schools within the Rowland Water District (RWD), particularly through increased water resource pressures. In Southern California, rising temperatures and prolonged droughts have escalated the frequency and severity of wildfires, threatening commercial properties. Additionally, climate change has led to more intense and frequent rainfall events, increasing the risk of flooding. Heavy downpours can overwhelm drainage systems, posing threats to properties. Proactive measures, such as infrastructure investments in recycled water and comprehensive risk assessments, are essential to enhance the resilience of these properties in the face of a changing climate.

**Changes in Population:** Population growth within the Rowland Water District (RWD) directly influences the demand for schools and other district facilities. As the population is projected to increase from 59,283 in 2020 to 61,387 by 2045, this growth requires strategic planning to ensure that schools and other district facilities have access to a reliable water supply for sanitation, irrigation, and daily operations.

**Changes in Land Use Development:** Land use development and population growth within the Rowland Water District (RWD) have significant implications for schools and other district facilities. As the population increases, the demand for school-related services rise, leading to the establishment and expansion of district facilities. This growth necessitates careful planning to ensure that water resources are adequately managed to support both existing and new district facilities.

*Puente Hills Mall, Rose Plaza Shopping Center Eastwood Village Shopping Center, and Rowland Heights Plaza Shopping Center*

**Drought:** Businesses will need to implement water conservation measures, potentially affecting landscaping, maintenance, and sanitation practices. Water shortages could impact facility operations, including the availability of drinking water and functioning of restrooms. Job loss from a drought is not likely, however changes in store hours could lead to increased costs or reduced pay for staff.

**Earthquake:** The shopping centers will likely experience damage to buildings and facilities, disrupting the education of thousands of students. The impact of an earthquake will be amplified if the water district is impacted and clean water is not able to be supplied to the shopping centers. Stores might need to close temporarily for inspections and repairs, affecting shoppers and



employees. Closure of stores could lead to reduced or no pay for staff members which will cause financial hardship. This financial hardship is not limited to the employees but will also spread to other areas within the district as these employees may need to move out of the town for employment.

**Power Outage:** Power outage impacts water supply, HVAC failures, ignition for gas appliances. These issues can significantly impact safety and health. Contaminated water, faulty plumbing, and poor air quality can lead to health issues, while electrical and gas problems pose serious safety risks. These hazards can cause disruptions like fires, illnesses, uncomfortable conditions, and even business closures.

**Wildfire:** Rose Plaza Shopping Center is the only shopping center situated in a designated fire hazard area. The other shopping centers remain vulnerable to poor air quality from nearby wildfires.

**Q&A | ELEMENT B: RISK ASSESSMENT | B2-b.**

**Q:** For each participating jurisdiction, does the plan describe the potential impacts of each of the identified hazards on each participating jurisdiction? (Requirement §201.6(c)(2)(ii))

**A:** See **Climate, Population, and Land Use Development Change Considerations** below.

**Climate Change:** Climate change poses significant challenges to shopping centers within the Rowland Water District (RWD), particularly through increased water resource pressures. In Southern California, rising temperatures and prolonged droughts have escalated the frequency and severity of wildfires, threatening commercial properties. Additionally, climate change has led to more intense and frequent rainfall events, increasing the risk of flooding. Heavy downpours can overwhelm drainage systems, posing threats to properties. Proactive measures, such as infrastructure investments in recycled water and comprehensive risk assessments, are essential to enhance the resilience of these properties in the face of a changing climate.

**Changes in Population:** Population growth within the Rowland Water District (RWD) directly influences the demand for shopping opportunities. As the population is projected to increase from 59,283 in 2020 to 61,387 by 2045, this growth requires strategic planning to ensure that shopping locations and centers have access to a reliable water supply for sanitation, irrigation, and daily operations.

**Changes in Land Use Development:** Land use development and population growth within the Rowland Water District (RWD) have significant implications for shopping centers. As the population increases, the demand for shopping services rises, leading to the establishment and expansion of shopping locations and centers. This growth necessitates careful planning to ensure that water resources are adequately managed to support both existing and new shopping centers.

### *Nogales Medical Plaza*

**Drought:** Medical offices will need to implement water conservation measures, potentially affecting landscaping, maintenance, and sanitation practices. Water shortages could impact operations, including the availability of drinking water and functioning of restrooms. This can have a negative impact on the spread of infections and other communicable diseases especially in a medical office.



**Earthquake:** The medical offices will likely experience damage to buildings and facilities, disrupting the hours of operation. The impact of an earthquake will be amplified if the water district is impacted and clean water is not able to be supplied to the shopping centers. Offices might need to close temporarily for inspections and repairs, affecting patients and employees. Delays in care can exasperate chronic medical conditions leading to overall higher medical costs.

**Power Outage:** Power outage in medical offices can impact use of electrical equipment, compromise security, affect water supply and HVAC systems, prevent ignition of gas appliance, and impact air quality. Contaminated water, faulty plumbing, and poor air quality can lead to health issues, while electrical and gas problems pose serious safety risks. These hazards can cause disruptions like fires, illnesses, uncomfortable conditions, and even business closures.

**Wildfire:** Nogales Medical Plaza is not situated in a designated fire hazard area; however, it remains vulnerable to poor air quality and other indirect impacts from nearby fires. This can pose health risks to patients and staff, potentially leading to an increase in patient visits, changing office hours, or in worse case closing offices and direct patients to other medical offices. If water supply is impacted due to firefighting efforts, the medical offices may need to close temporarily.

#### Q&A | ELEMENT B: RISK ASSESSMENT | B2-b.

**Q:** For each participating jurisdiction, does the plan describe the potential impacts of each of the identified hazards on each participating jurisdiction? (Requirement §201.6(c)(2)(ii))

**A:** See **Climate, Population, and Land Use Development Change Considerations** below.

**Climate Change:** Climate change poses significant challenges to medical offices within the Rowland Water District (RWD), particularly through increased water resource pressures. In Southern California, rising temperatures and prolonged droughts have escalated the frequency and severity of wildfires, threatening commercial properties. Additionally, climate change has led to more intense and frequent rainfall events, increasing the risk of flooding. Heavy downpours can overwhelm drainage systems, posing threats to properties. Proactive measures, such as infrastructure investments in recycled water and comprehensive risk assessments, are essential to enhance the resilience of these properties in the face of a changing climate.

**Changes in Population:** Population growth within the Rowland Water District (RWD) directly influences the demand for medical services, necessitating the expansion of healthcare facilities. As the population is projected to increase from 59,283 in 2020 to 61,387 by 2045, this growth requires strategic planning to ensure that medical offices have access to a reliable water supply for sanitation, medical procedures, and daily operations.

**Changes in Land Use Development:** Land use development and population growth within the Rowland Water District (RWD) have significant implications for medical offices in the area. As the population increases, the demand for healthcare services rises, leading to the establishment and expansion of medical facilities. This growth necessitates careful planning to ensure that water resources are adequately managed to support both existing and new medical offices.

## Natural, Historic, and Cultural Resources

Natural, historic, and cultural resources are essential elements that define the identity and heritage of a community. Natural resources include native flora and fauna, water bodies, landscapes, and climate, providing ecological and recreational benefits. Historic resources



consist of buildings, archaeological sites, monuments, and historic districts that hold historical significance. Cultural resources encompass museums, traditional practices, languages, literature, festivals, and public art, reflecting the community's cultural heritage and values. Together, these resources contribute to preserving the community's history, environment, and cultural identity, enriching the quality of life for its residents.

<b>Q&amp;A   ELEMENT B: RISK ASSESSMENT   B2-a.</b>
<b>Q:</b> Does the plan provide an overall summary of each jurisdiction’s vulnerability to the identified hazards? (Requirement 44 CFR § 201.6(c)(2)(ii))
<b>A:</b> See <b>Vulnerability of Natural, Historic, and Cultural Resources, Table 4.3</b> below.

## Vulnerability of Natural, Historic, and Cultural Resources

Rowland Water District includes several areas of large open space that make up several county parks. Most notably is Peter F Schabarum Regional County Park. According to Los Angeles County Parks, “Peter F. Schabarum Regional Park, located in Rowland Heights, is a 575-acre facility with 75 acres developed for walking, hiking, picnics, youth camping, soccer and tennis. Youth tennis lessons are offered year-round and exercise classes are free of charge. There is a new “Life Trail” exercise area, a federally protected blue-line stream and the remaining acres of the park have been left in their natural state and crisscross with hiking, biking and horseback riding trails that connect to the historic Juan Bautista De Anza National Historic Trail.”

**Table 4.3: Hazard Proximity to Natural, Historic, and Cultural Resources**  
(Source: Rowland Water District Planning Team, Emergency Planning Consultants)

	Drought	Earthquake	Power Outages	Wildfire
<b>Natural, Historic, and Cultural Resources</b>				
<b>Peter F Schabarum Regional County Park</b> 17250 E. Colima Rd. Hacienda Heights, CA 91745	X	X	X	X

<b>Q&amp;A   ELEMENT B: RISK ASSESSMENT   B2-b.</b>
<b>Q:</b> For each participating jurisdiction, does the plan describe the potential impacts of each of the identified hazards on each participating jurisdiction? (Requirement §201.6(c)(2)(ii))
<b>A:</b> See <b>Impact Profile of Natural, Historic, and Cultural Resources</b> below.

## Impact Profile of Natural, Historic, and Cultural Resources

### Drought

A drought at Peter F. Schabarum Regional County Park could lead to several significant impacts, primarily related to water shortages and environmental stress. Reduced water availability would strain irrigation systems, potentially harming the park’s landscaping, trees, and recreational areas. Lawns, gardens, and other green spaces may dry out, affecting the aesthetic appeal and function of the park. The lack of water could also affect wildlife, as natural water sources might dry up, forcing animals to relocate or face survival challenges. Additionally, the dry conditions could



increase the risk of wildfires in the area, as vegetation becomes more flammable. Visitors may experience reduced access to certain park amenities, such as water-based activities or lush areas for picnicking. Long-term drought conditions could further stress the park’s ecosystem, requiring careful management and conservation efforts to protect both the environment and public safety.

### *Earthquake*

An earthquake at Peter F. Schabarum Regional County Park could cause significant damage to infrastructure, including pavilions, restrooms, and trails, as well as disrupt utilities like water and electricity. Ground instability, such as landslides or soil liquefaction, could create hazardous conditions and damage the park’s natural landscape. Visitors may face injury risks from falling debris or unstable terrain, and wildlife could be displaced or harmed. In the aftermath, the park might need to close temporarily for safety and repairs, emphasizing the importance of preparedness plans and emergency protocols to protect both visitors and the park environment.

### *Wildfire*

Wildfire could have severe impacts on Peter F. Schabarum Regional County Park, including the destruction of vegetation, wildlife habitats, and park infrastructure. The fire could spread quickly through dry grass, shrubs, and trees, threatening park facilities like picnic areas, restrooms, and trails, potentially causing significant damage. The smoke and heat from the fire would pose health risks to visitors, potentially leading to evacuation orders and closure of the park for safety. Wildlife in the area could be displaced, injured, or killed, and the park’s ecosystem might take years to recover. Additionally, air quality would worsen, affecting not only park-goers but also surrounding communities. Emergency services would be required for firefighting efforts and to assist with evacuations, and restoration efforts would be necessary to rehabilitate damaged areas and replant vegetation.

### *Power Outages*

Power outages related hazards at Peter F. Schabarum Regional County Park, such as electrical, water, or gas issues, could disrupt park operations and pose safety risks. For example, electrical failures could cause outages of lighting, security systems, and other essential facilities, leading to a loss of services for park visitors. Water supply problems, like contamination or plumbing issues, could affect restrooms, drinking fountains, and irrigation systems, creating unsanitary conditions and hindering park maintenance. Utility disruptions could also affect communication systems, delaying emergency responses or closure procedures. Timely inspections, regular maintenance, and emergency preparedness are critical to mitigating these risks and ensuring the safety of visitors and the protection of park resources.

#### **Q&A | ELEMENT B: RISK ASSESSMENT | B2-b.**

**Q:** For each participating jurisdiction, does the plan describe the potential impacts of each of the identified hazards on each participating jurisdiction? (Requirement §201.6(c)(2)(ii))

**A:** See **Climate, Population, and Land Use Development Change Considerations** below.

### *Climate Change*

Climate change poses significant risks to the natural, cultural, and historic resources in the Rowland Water District, including rising temperatures, altered precipitation patterns, increased wildfires, and higher humidity levels. These changes can accelerate the deterioration of historic



structures, cause flooding and erosion of archaeological sites, and promote mold growth that threatens organic materials. To protect these resources, proactive adaptation strategies such as vulnerability assessments, climate-resilient conservation techniques, and community engagement are essential to mitigate the long-term impacts of climate change. See Mitigation Actions Matrix in Chapter 5 (Table 5.1) for actions relating to climate change.

### *Changes in Population*

Population growth within the Rowland Water District can significantly impact natural, cultural, and historic resources. Increased development to accommodate a growing population often leads to the loss of natural habitats, affecting local biodiversity and altering the landscape. Urban expansion can also encroach upon historic sites, potentially leading to their degradation or destruction. Moreover, a denser population elevates the demand for water resources, which may strain existing supplies and necessitate infrastructure projects that could further disrupt natural and cultural sites. To mitigate these effects, the district has implemented educational initiatives, such as the Splash Cash program, to promote environmental awareness and water conservation among students. These efforts aim to foster community engagement in preserving the area's valuable resources amidst ongoing population changes

### *Land Use Development*

Land use development within the Rowland Water District can significantly impact its natural, cultural, and historic resources. Urban expansion and infrastructure projects may lead to the alteration or destruction of natural habitats, affecting local biodiversity and potentially encroaching upon historic sites.

## **Activities Bringing Value to the Community**

Activities bringing value to the community are those that contribute positively to the well-being, cohesion, and development of the community as a whole. These activities can take various forms and serve different purposes, but they generally aim to enhance the quality of life for community members and promote a sense of belonging and connectedness.

#### **Q&A | ELEMENT B: RISK ASSESSMENT | B2-a.**

**Q:** Does the plan provide an overall summary of each jurisdiction's vulnerability to the identified hazards? (Requirement 44 CFR § 201.6(c)(2)(ii))

**A:** See **Vulnerability of Activities Bringing Value to the Community** below.

## **Vulnerability Of Activities Bringing Value to the Community**

Rowland Water District offers several programs to promote water conservation in the communities. These programs provide a direct value to both the water district and area schools, organizations, and community members. As indicated on the RWD website, these programs include:

- Education Programs – “The water education program is a comprehensive approach aligned towards helping our local educators teach students that water is an important natural resource. Students are encouraged to use water wisely and make environmentally sustainable choices to ensure reliable water supply for now and the future. The water



education presentations are offered in-class for K-6th grade students and teachers throughout the District’s service area. All programs are intended to enhance the school curriculum on water awareness.”

- Patch Program – “The patch program is designed to teach our local Scouts or individual students about the importance of their water supply, where it comes from and how to conserve the natural resource. With this program, we intend for the Scouts to take care of our precious resource and learn how to make conservation a way of life.”
- Water Awareness Poster Contest – “Each year, Rowland Water District hosts an Annual Poster Contest to inspire students to think about the importance of water and how we can use it wisely. Students are encouraged to create posters that showcase: water being used wisely at home, in the community, in recreation, or the environment; and creative new water-saving ideas for the future.”

**Q&A | ELEMENT B: RISK ASSESSMENT | B2-b.**

**Q:** For each participating jurisdiction, does the plan describe the potential impacts of each of the identified hazards on each participating jurisdiction? (Requirement §201.6(c)(2)(ii))

**A:** See **Impact Profile of Activities Bringing Value to the Community** below.

## Impact Profile of Activities Bringing Value to the Community

The programs offered by Rowland Water District are virtual or delivered in person at various locations such as schools in the water district. Therefore, the impact profile is the same as the one discussed earlier in the Economy section on “schools”.

### *Rowland Unified School District*

**Drought:** Schools need to implement water conservation measures, potentially affecting landscaping, maintenance, and sanitation practices. Water shortages could impact school operations, including the availability of drinking water and functioning of restrooms. Educational programs might need to be adjusted to include information on water conservation and the effects of drought. Job loss from a drought is not likely, however changes in educational structure could lead to increased costs or reduced pay for faculty and staff.

**Earthquake:** The school district will likely experience damage to buildings and facilities, disrupting the education of thousands of students. The impact of an earthquake will be amplified if the water district is impacted and clean water is not able to be supplied to the school. Schools might need to close temporarily for inspections and repairs, affecting students, staff, and families. Closure of schools could lead to reduced or no pay for faculty and staff which will cause financial hardship. This financial hardship is not limited to the employees but will also spread to district area as these employees may need to move out of the town for employment.

**Power Outage:** Power outages in schools impact electricity and water supply. Also, flood control equipment could be impacted. Such problems can significantly impact the safety, health, and learning environment. These hazards can cause disruptions like fires, illnesses, uncomfortable conditions, and even school closures. Contaminated water, faulty plumbing, and poor air quality can lead to health issues, while electrical and gas problems pose serious safety risks. To mitigate these impacts, regular maintenance, safety measures, and emergency preparedness plans are essential for ensuring a safe and conducive learning environment.



**Wildfire:** Although the Rowland Unified School District schools are not situated in a designated fire hazard area, they remain vulnerable to poor air quality from nearby wildfires. This can pose health risks to students and staff, potentially leading to the cancellation of outdoor activities. In more severe cases, schools may be closed or shift to remote learning to minimize outdoor exposure to hazardous air conditions. If water supply is impacted due to fire-fighting efforts, the schools may need to close temporarily.

**Q&A | ELEMENT B: RISK ASSESSMENT | B2-b.**

**Q:** For each participating jurisdiction, does the plan describe the potential impacts of each of the identified hazards on each participating jurisdiction? (Requirement §201.6(c)(2)(ii))

**A:** See **Climate, Population, and Land Use Development Change Considerations** below.

**Climate Change:** Climate change poses significant challenges to schools within the Rowland Water District (RWD), particularly through increased water resource pressures. In Southern California, rising temperatures and prolonged droughts have escalated the frequency and severity of wildfires, threatening commercial properties. Additionally, climate change has led to more intense and frequent rainfall events, increasing the risk of flooding. Heavy downpours can overwhelm drainage systems, posing threats to properties. Proactive measures, such as infrastructure investments in recycled water and comprehensive risk assessments, are essential to enhance the resilience of these properties in the face of a changing climate.

**Changes in Population:** Population growth within the Rowland Water District (RWD) directly influences the demand for schools and other district facilities. As the population is projected to increase from 59,283 in 2020 to 61,387 by 2045, this growth requires strategic planning to ensure that schools and other district facilities have access to a reliable water supply for sanitation, irrigation, and daily operations.

**Changes in Land Use Development:** Land use development and population growth within the Rowland Water District (RWD) have significant implications for schools and other district facilities. As the population increases, the demand for school-related services rise, leading to the establishment and expansion of district facilities. This growth necessitates careful planning to ensure that water resources are adequately managed to support both existing and new district facilities.



# Chapter 5: Mitigation Strategies

## Overview of Mitigation Strategy

As the cost of damage from disasters continues to increase nationwide, the Rowland Water District and other participating agencies in the MJHMP recognize the importance of identifying effective ways to reduce vulnerability to disasters. Mitigation Plans assist communities in reducing risk from natural hazards by identifying resources, information and strategies for risk reduction, while helping to guide and coordinate mitigation activities at the project area facilities.

The plan provides a set of action items to reduce risk from hazards through education and outreach programs, and to foster the development of partnerships. Further, the plan provides for the implementation of preventative activities.

The resources and information within the Multi-Jurisdictional Hazard Mitigation Plan:

1. Establish a basis for coordination and collaboration among agencies and the public in the Rowland Water District and other MJHMP participating agencies.
2. Identify and prioritize future mitigation projects.
3. Assist in meeting the requirements of federal assistance programs.

The Mitigation Plan is integrated with other District plans including the Urban Water Management Plan, Strategic Plan, and Emergency Response Plan.

## Mitigation Measure Categories

The **FEMA Handbook** identifies four broad types of mitigation actions. Rather than listing by “type”, the Planning Team chose to list the action items by hazard. See **Mitigation Actions Matrix**.

Mitigation Type	Description	Examples
Local Plans and Regulations	These actions include government authorities, policies or codes that	<ul style="list-style-type: none"> <li>▪ Comprehensive plans</li> <li>▪ Land use ordinances</li> </ul>



Mitigation Type	Description	Examples
	influence the way land and buildings are developed and built.	<ul style="list-style-type: none"> <li>▪ Subdivision regulations</li> <li>▪ Development review</li> <li>▪ Building codes and enforcement</li> <li>▪ NFIP CRS</li> <li>▪ Capital improvement programs</li> <li>▪ Open space preservation</li> <li>▪ Stormwater management regulations and master plans</li> </ul>
Structure and Infrastructure Projects	These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure.	<ul style="list-style-type: none"> <li>▪ Acquisitions and elevations of structures in flood-prone areas</li> <li>▪ Utility undergrounding</li> <li>▪ Structural retrofits</li> <li>▪ Floodwalls and retaining walls</li> <li>▪ Detention and retention structures</li> <li>▪ Culverts</li> <li>▪ Safe rooms</li> </ul>
Natural Systems Protection and Nature-based Solutions	This type of action can include green infrastructure and low impact development, nature-based solutions, Engineering with Nature and bioengineering to incorporate natural features or processes into the built environment.	<ul style="list-style-type: none"> <li>▪ Sediment and erosion control</li> <li>▪ Stream corridor restoration</li> <li>▪ Forest management</li> <li>▪ Conservation easements</li> <li>▪ Wetland restoration and preservation</li> <li>▪ Land conservation</li> <li>▪ Greenways</li> <li>▪ Rain gardens</li> <li>▪ Living shorelines</li> </ul>
Education and Awareness Programs	These types of actions keep residents informed about potential natural disasters. Many of these types of actions are eligible for funding through the FEMA HMA program.	<ul style="list-style-type: none"> <li>▪ Radio or television spots</li> <li>▪ Social media outreach</li> <li>▪ Websites with maps and information</li> <li>▪ Real estate disclosure</li> <li>▪ Presentations to school groups or neighborhood organizations</li> <li>▪ Mailings to residents in hazard-prone areas</li> </ul>



#### Q&A | ELEMENT C. MITIGATION STRATEGY | C3-a.

**Q:** Does the plan include goals to reduce the risk from the hazards identified in the plan? (Requirement 44 CFR § 201.6(c)(3)(i))

**A:** See **State Hazard Mitigation Plan Goals, MJHMP Goals** below.

## State Hazard Mitigation Plan Goals

The 2023 State Hazard Mitigation Plan identified the following goals that reflect State's current priorities:

**Goal 1** - Significantly reduce risk to life, community lifelines, the environment, property, and infrastructure by planning and implementing whole-community risk reduction and resilience strategies.

**Goal 2** - Build capacity and capabilities to increase disaster resilience among historically underserved populations, individuals with access and functional needs, and communities disproportionately impacted by disasters and climate change.

**Goal 3** - Incorporate equity metrics, tools, and strategies into all mitigation planning, policy, funding, outreach, and implementation efforts.

**Goal 4** - Apply the best available science and authoritative data to design, implement, and prioritize projects that enhance resilience to natural hazards and climate change impacts.

**Goal 5** - Integrate mitigation principles into laws, regulations, policies, and guidance to support equitable outcomes to benefit the whole community.

**Goal 6** - Significantly reduce barriers to timely, efficient, and effective hazard mitigation planning and action.

## MJHMP Goals

The overall goals for the MJHMP guided the direction of goal setting, design of the community outreach strategy, and development of mitigation activities aimed at reducing risk and preventing loss from natural hazards. During the first meeting of the MJHMP Planning Team, sample goals were reviewed and consideration given to a regional desire for hazard reduction and enhanced mitigation capabilities.

Each of the MJHMP goals is supported by mitigation action items. The Planning Team developed these action items through its knowledge of the local area, risk assessment, review of past efforts, identification of mitigation activities, and qualitative analysis. The five MJHMP goals and descriptions are listed below:

### *Protect Life and Property*

Implement activities that assist in protecting lives by making homes, businesses, infrastructure, critical facilities, and other properties more resistant to losses from natural, human-caused, and technological hazards.



Reduce losses and repetitive damages for chronic hazard events while promoting insurance coverage for catastrophic hazards.

Improve hazard assessment information to make recommendations for avoiding new development in high hazard areas and encouraging preventative measures for existing development in areas vulnerable to natural, human-caused, and technological hazards.

### *Public Awareness*

Develop and implement education and outreach programs to increase public awareness of the risks associated with natural hazards.

Provide information on tools, partnership opportunities, and funding resources to assist in implementing mitigation activities.

### *Natural Systems*

Balance watershed planning, natural resource management, and land use planning with natural hazard mitigation to protect life, property, and the environment.

Preserve, rehabilitate, and enhance natural systems to serve natural hazard mitigation functions.

### *Partnerships and Implementation*

Strengthen communication and coordinate participation among and within public agencies, citizens, non-profit organizations, business, and industry to gain a vested interest in implementation.

Encourage leadership within public and private sector organizations to prioritize and implement local, county, and regional hazard mitigation activities.

### *Emergency Services*

Establish policy to ensure mitigation projects for critical facilities, services, and infrastructure.

Strengthen emergency operations by increasing collaboration and coordination among public agencies, non-profit organizations, business, and industry.

Coordinate and integrate natural hazard mitigation activities, where appropriate, with emergency operations plans and procedures.

## **How are the Mitigation Action Items Organized?**

The action items are organized within the following Mitigation Actions Matrix, categorized by hazard. Data collection and research and the public participation process resulted in the development of these action items. The Matrix includes the following information for each action item.

### *Action Item*

The action item is a brief description of the project, service, or change that will result in hazard mitigation.



## Lead Department

Each action item assigns primary responsibility. The hierarchies of the assignments vary – some are departments while others are positions. The identified department has the responsibility to address hazards, or that is willing and able to organize resources, find appropriate funding, or oversee activity implementation, monitoring, and evaluation. Supporting agencies may also be listed which would include outside agencies that are capable of or responsible for assisting in implementing activities and programs.

## Timeline

The mitigation plan will be updated every 5 years according to FEMA regulations. However, there are projects and programs in the Mitigation Actions Matrix that will require more than 5 years to complete.

## Funding Source

External Resources could include a range of FEMA mitigation grants perhaps including Hazard Mitigation Grant Program (HMGP).

Internal Resources could include the annual/general fund, capital improvement projects, impact/development fees, human capital, in-kind resources, etc.

## Plan Goals Addressed

The plan goals addressed by each action item are included as a way to monitor and evaluate how well the mitigation plan is achieving its goals once implementation begins.

The plan goals are organized into the following five areas:

- ✓ Protect Life and Property
- ✓ Enhance Public Awareness
- ✓ Preserve Natural Systems
- ✓ Encourage Partnerships and Implementation
- ✓ Strengthen Emergency Services

### Q&A | ELEMENT D: PLAN MAINTENANCE | D3-b.

**Q:** Does the plan identify the planning mechanisms for each plan participant into which the ideas, information and strategy from the mitigation plan may be integrated? (Requirement 44 CFR § 201.6(c)(4)(ii))

**A:** See **Planning Mechanism** below.

## Planning Mechanism

It's important that each action item be implemented. Perhaps the best way to ensure implementation is through integration with one or many of the District's existing "planning mechanisms" including policy guidelines and internal/external funding resources. Policy guidelines might include the Urban Water Management Plan and the Strategic Plan. The internal funding resources could include Capital Improvement Projects, and Annual/General Fund while external funding resources could include grants and donations. Opportunities for integration will be simple and easy in cases where the action item is already compatible with the content of the planning mechanism. As an example, if the action item calls for the creation of a water



conservation ordinance and the same action is already identified in the Strategic Plan’s policies, then the Strategic Plan will assist in implementation. On the contrary, if preparation of a water conservation ordinance is not already included in the Strategic Plan policies, then the item will need to be added during the next update to the Strategic Plan.

The Capital Improvement Program, depending on the budgetary environment, is updated every 5 years. The CIP includes infrastructure projects built and owned by the District. As such, the CIP is an excellent medium for funding and implementing action items from the Mitigation Plan. The Mitigation Actions Matrix includes several items from the existing CIP. The authors of the CIP served on the Planning Team and are already looking to funding addition Mitigation Plan action items in future CIPs.

The Annual or General Fund is the budget document that guides all of the District’s expenditures and is updated on an annual basis. Although primarily a funding mechanism, it also includes descriptions and details associated with tasks and projects. Grants come from a wide variety of sources – some annually and others triggered by events like disasters. Whatever the source, the District uses the Annual/General Fund to identify successful grants as funding sources.

### *Building and Infrastructure*

This addresses the issue of whether or not a particular action item results in the reduction of the effects of hazards on new and existing buildings and infrastructure.

### *Comments*

The purpose of the “Comments” is to capture the notes and status of the various action items. Since Planning Team members frequently change between plan updates and annual reviews, the Comments provide a history to help in tracking the progress and status of each action. Most of the comments relate to cost estimates as of 2024.

### *Benefit/Cost Ratings*

The benefits of proposed projects were weighed against estimated costs as part of the project prioritization process. The benefit/cost analysis is not of the detailed variety required by FEMA for project grant eligibility under the Hazard Mitigation Grant Program (HMGP) and Building Resilient Infrastructure and Communities (BRIC) grant program. A less formal approach was used because some projects may not be implemented for up to 10 years, and associated costs and benefits could change dramatically in that time. Therefore, a review of the apparent benefits versus the apparent cost of each project will be performed in the future as needed. Parameters were established for assigning subjective ratings (high, medium, and low) to the costs and benefits of these projects.

**Cost ratings** were defined as follows:

**High:** Existing funding within the jurisdiction will not cover the cost of the action item so outside sources of revenue would be required.

**Medium:** The action item could be funded through existing jurisdictional funding but would require budget modifications.

**Low:** The action item could be funded under existing jurisdictional funding within the assigned lead department.



**Benefit ratings** were defined as follows:

**High:** The action item will provide short-term and long-term impacts on the reduction of risk exposure to life and property.

**Medium:** The action item will have long-term impacts on the reduction of risk exposure to life and property.

**Low:** The action item will have only short-term impacts on the reduction of risk exposure to life and property.

**Q&A | ELEMENT C. MITIGATION STRATEGY | C5-a.**

**Q:** Does the plan describe the criteria used for prioritizing actions? (Requirement 44 CFR § 201.6(c)(3)(iv))

**A:** See **Priority Ranking** below.

### Priority Ranking

The Planning Team utilized the following rating tool to establish priorities. Designations of “High”, “Medium”, and “Low” priority have been assigned to all of the action item using the following criteria:

Does the Action:

- solve the problem?
- address Vulnerability Assessment?
- reduce the exposure or vulnerability to the highest priority hazard?
- address multiple hazards?
- benefits equal or exceed costs?
- implement a goal, policy, or project identified in the Urban Water Management Plan or Capital Improvement Project?

Can the Action:

- be implemented with existing funds?
- be implemented by existing state or federal grant programs?
- be completed within the 5-year life cycle of the LHMP?
- be implemented with currently available technologies?

Will the Action:

- be accepted by the community?
- be supported by community leaders?
- adversely impact segments of the population or neighborhoods?
- require a change in local ordinances or zoning laws?
- positive or neutral impact on the environment?
- comply with all local, state and federal environmental laws and regulations?

Is there:

- sufficient staffing to undertake the project?
- existing authority to undertake the project?

As mitigation action items were updated or written the Planning Team, representatives were provided worksheets for each of their assigned action items. Answers to the criteria above determined the priority according to the following scale.

- 1-6 = Low priority
- 7-12 = Medium priority
- 13-18 = High priority



**Q&A | ELEMENT C: MITIGATION STRATEGY | C1-b.**

**Q:** Does the plan describe each participant's ability to expand and improve the identified capabilities to achieve mitigation? (Requirement 44 CFR § 201.6(c)(3))

**A:** See **Mitigation Actions Matrix (Expanding and Improving Capabilities)** below.

**Q&A | ELEMENT C: MITIGATION STRATEGY | C4-a.**

**Q:** Does the plan include an analysis of a comprehensive range of actions/projects that each jurisdiction considered to reduce the impacts of hazards identified in the risk assessment? (Requirement 44 CFR § 201.6(c)(3)(ii))

**A:** See **Mitigation Actions Matrix (Action Items)** below.

**Q&A | ELEMENT C: MITIGATION STRATEGY | C4-b.**

**Q:** Does the plan include one or more action(s) per jurisdiction for each of the hazards as identified within the plan's risk assessment? (Requirement 44 CFR § 201.6(c)(3)(ii))

**A:** See **Mitigation Actions Matrix (Action Items)** below.

**Q&A | ELEMENT C: MITIGATION STRATEGY | C5-a.**

**Q:** Does the plan describe the criteria used for prioritizing actions? (Requirement 44 CFR § 201.6(c)(3)(ii))

**A:** See **Mitigation Actions Matrix (Priority, Goals)** below.

**Q&A | ELEMENT C: MITIGATION STRATEGY | C5-b.**

**Q:** Does the plan identify the position, office, department, or agency responsible for implementing/administering the identified mitigation actions, as well as potential funding sources and expected time frame? (Requirement 44 CFR § 201.6(c)(3)(iii))

**A:** See **Mitigation Actions Matrix (Lead Department/Position, Timeline, Funding Source)** below.

**Q&A | ELEMENT D: PLAN MAINTENANCE | D3-a.**

**Q:** Does the plan describe the process the community will follow to integrate the ideas, information and strategy of the mitigation plan into other planning mechanisms? (Requirement 44 CFR § 201.6(c)(4)(ii))

**A:** See **Mitigation Actions Matrix (Planning Mechanism)** below.



## Mitigation Actions Matrix – Rowland Water District

Table 5.1: Mitigation Actions Matrix

Action Item	Lead Department/Position	Timeline	Goal: Protect Life and Property	Goal: Enhance Public Awareness	Goal: Protect Natural Environment	Goal: Protect Emergency Services	Goal: Encourage Partnerships	Benefit (L-Low, M-Medium, H-High)	Cost (L-Low, M-Medium, H-High)	Priority (L-Low, M-Medium, H-High)	Funding Source: GF-General Fund, CIP-Capital Improvement Project, HMGP-Hazard Mitigation Grant Program	Planning Mechanism: GF, CIP, HMGP, SP-Strategic Plan, UWMP-Urban Water Management Plan	Expanding & Improving Capabilities: P-Planning & Regulatory, A-Administrative & Technical, F-Finance, E-Education & Outreach	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Comments 2025
<b>Multi-Hazard Action Items</b>															
MH-1 Upgrade and replace server hardware and software to effectively accommodate new business applications, transfer increased amounts of data quickly and increase security and reliably.	General Manager	2-5 years	X			X	X	H	M	L	CIP	CIP	A	Y	\$160,000
MH-2 Upgrade and replace Computer Software (based off IT vendor recommendations).	General Manager	1-2 years	X			X		H	L	H	CIP	CIP	A		\$15,000
MH-3 Security Fencing - Replace existing fence and increase height of fence at Tomich Booster Station to improve security.	Project Manager	Complete	X			X		H	M	M	CIP	CIP		Y	Completed; \$200,000
MH-4 Security Fencing - Increase height of fence at	Project Manager	1-2 years	X			X		H	M	M	CIP	CIP		Y	\$350,000



Action Item	Lead Department/Position	Timeline	Goal: Protect Life and Property	Goal: Enhance Public Awareness	Goal: Protect Natural Environment	Goal: Protect Emergency Services	Goal: Encourage Partnerships	Benefit (L-Low, M-Medium, H-High)	Cost (L-Low, M-Medium, H-High)	Priority (L-Low, M-Medium, H-High)	Funding Source: GF-General Fund, CIP-Capital Improvement Project, HMGP-Hazard Mitigation Grant Program	Planning Mechanism: GF, CIP, HMGP, SP-Strategic Plan, UWMP-Urban Water Management Plan	Expanding & Improving Capabilities: P-Planning & Regulatory, A-Administrative & Technical, F-Finance, E-Education & Outreach	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Comments 2025
District Yard to improve security.															
MH-5 Security Fencing - Replace existing fence and increase height of fence at Reservoir 10.	Project Manager	2-5 years	X			X		H	H	M	CIP, HMGP	CIP		Y	\$250,000
MH-6 Security Fencing - Replace existing fence and increase height of fence at Reservoir 14.	Project Manager	2-5 years	X			X		H	H	M	CIP, HMGP	CIP		Y	\$250,000
MH-7 Security Fencing - Replace existing fence and increase the height of fencing at Reservoir 3 & 13.	Project Manager	2-5 years	X			X		H	H	M	CIP, HMGP	CIP		Y	\$250,000
MH-8 Security Fencing - Replace existing fence and increase height of fence at Reservoir 7.	Project Manager	2-5 years	X			X		H	H	M	CIP, HMGP	CIP		Y	\$250,000
MH-9 Security Fencing - Replace existing fence and increase height of fence at Reservoir 8.	Project Manager	2-5 years	X			X		H	H	M	CIP, HMGP	CIP		Y	\$250,000



Action Item	Lead Department/Position	Timeline	Goal: Protect Life and Property	Goal: Enhance Public Awareness	Goal: Protect Natural Environment	Goal: Protect Emergency Services	Goal: Encourage Partnerships	Benefit (L-Low, M-Medium, H-High)	Cost (L-Low, M-Medium, H-High)	Priority (L-Low, M-Medium, H-High)	Funding Source: GF-General Fund, CIP-Capital Improvement Project, HMGP-Hazard Mitigation Grant Program	Planning Mechanism: GF, CIP, HMGP, SP-Strategic Plan, UWMP-Urban Water Management Plan	Expanding & Improving Capabilities: P-Planning & Regulatory, A-Administrative & Technical, F-Finance, E-Education & Outreach	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Comments 2025
MH-10 Security Fencing - Replace existing fence and increase height of fence at Reservoir 4 & 9.	Project Manager	2-5 years	X			X		H	H	M	CIP, HMGP	CIP		Y	\$250,000
MH-11 Replace AC Units at district office.	Facility Maintenance; Project Manager	2-6 years	X			X		H	L	M	CIP	CIP	P	Y	\$70,000
MH-12 Upgrade Website-graphics, user access, etc.	Education & Outreach Coordinator	1-2 years		X		X	X	H	L	H	CIP	CIP	E		\$15,000
MH-13 Replace Reservoir 1 with new Secondary Warehouse to provide additional storage.	Project Manager; Facility Maintenance	6 years	X					H	H	L	CIP, HMGP	CIP	P	Y	\$1,000,000
MH-14 RCS (Residual Control System) Structure- Tomich Booster Station.	Water Systems Supervisor	Complete	X					H	H	H	CIP	CIP	P	Y	Completed; \$350,000
MH-15 RCS Structure- Granby Booster Station. Built a structure to house chemical injection equipment.	Water Systems Supervisor	Complete	X					H	H	H	CIP	CIP	P	Y	Completed; \$450,000



Action Item	Lead Department/Position	Timeline	Goal: Protect Life and Property	Goal: Enhance Public Awareness	Goal: Protect Natural Environment	Goal: Protect Emergency Services	Goal: Encourage Partnerships	Benefit (L-Low, M-Medium, H-High)	Cost (L-Low, M-Medium, H-High)	Priority (L-Low, M-Medium, H-High)	Funding Source: GF-General Fund, CIP-Capital Improvement Project, HMGP-Hazard Mitigation Grant Program	Planning Mechanism: GF, CIP, HMGP, SP-Strategic Plan, UWMP-Urban Water Management Plan	Expanding & Improving Capabilities: P-Planning & Regulatory, A-Administrative & Technical, F-Finance, E-Education & Outreach	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Comments 2025
MH-16 RCS Structure- Artigas Booster Station. Build a structure to house chemical injection equipment.	Water Systems Supervisor	1-5 years	X					H	H	H	CIP, HMGP	CIP	P	Y	\$250,000
MH-17 RCS Structure- Ashbourne Booster Station. Build a structure to house chemical injection equipment.	Water Systems Supervisor	1-5 years	X					H	H	H	CIP, HMGP	CIP	P	Y	\$450,000
MH-18 Replace Mixers and Water Quality Station at Reservoir 2 & 16.	Water Systems Supervisor	1-7 years	X		X	X		H	L	M	CIP	CIP	P	Y	\$70,000
MH-19 Replace Mixers and Water Quality Station at Reservoir 4.	Water Systems Supervisor	1-7 years	X		X	X		H	L	M	CIP	CIP	P	Y	\$35,000
MH-20 Replace Mixers and Water Quality Station at Reservoir 5.	Water Systems Supervisor	1-7 years	X		X	X		H	L	M	CIP	CIP	P	Y	\$35,000
MH-21 Replace Mixers and Water Quality Station at Reservoir 6.	Water Systems Supervisor	1-7 years	X		X	X		H	L	M	CIP	CIP	P	Y	\$35,000



Action Item	Lead Department/Position	Timeline	Goal: Protect Life and Property	Goal: Enhance Public Awareness	Goal: Protect Natural Environment	Goal: Protect Emergency Services	Goal: Encourage Partnerships	Benefit (L-Low, M-Medium, H-High)	Cost (L-Low, M-Medium, H-High)	Priority (L-Low, M-Medium, H-High)	Funding Source: GF-General Fund, CIP-Capital Improvement Project, HMGP-Hazard Mitigation Grant Program	Planning Mechanism: GF, CIP, HMGP, SP-Strategic Plan, UWMP-Urban Water Management Plan	Expanding & Improving Capabilities: P-Planning & Regulatory, A-Administrative & Technical, F-Finance, E-Education & Outreach	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Comments 2025
MH-22 Replace Mixers and Water Quality Station at Reservoir 7.	Water Systems Supervisor	1-7 years	X		X	X		H	L	M	CIP	CIP	P	Y	\$35,000
MH-23 Replace Mixers and Water Quality Station at Reservoir 8.	Water Systems Supervisor	1-7 years	X		X	X		H	L	M	CIP	CIP	P	Y	\$35,000
MH-24 Replace of Mixers and Water Quality Station at Reservoir 10.	Water Systems Supervisor	1-7 years	X		X	X		H	L	M	CIP	CIP	P	Y	\$35,000
MH-25 Replace of Mixers and Water Quality Station at Reservoir 12.	Water Systems Supervisor	1-7 years	X		X	X		H	L	M	CIP	CIP	P	Y	\$35,000
MH-26 Replace of Mixers and Water Quality Station at Reservoir 13.	Water Systems Supervisor	1-7 years	X		X	X		H	L	M	CIP	CIP	P	Y	\$35,000
MH-27 Replace of Mixers and Water Quality Station at Reservoir 14.	Water Systems Supervisor	1-7 years	X		X	X		H	L	M	CIP	CIP	P	Y	\$35,000
MH-28 Replace of Mixers and Water Quality Station at Reservoir 15.	Water Systems Supervisor	1-7 years	X		X	X		H	L	M	CIP	CIP	P	Y	\$35,000



Action Item	Lead Department/Position	Timeline	Goal: Protect Life and Property	Goal: Enhance Public Awareness	Goal: Protect Natural Environment	Goal: Protect Emergency Services	Goal: Encourage Partnerships	Benefit (L-Low, M-Medium, H-High)	Cost (L-Low, M-Medium, H-High)	Priority (L-Low, M-Medium, H-High)	Funding Source: GF-General Fund, CIP-Capital Improvement Project, HMGP-Hazard Mitigation Grant Program	Planning Mechanism: GF, CIP, HMGP, SP-Strategic Plan, UWMP-Urban Water Management Plan	Expanding & Improving Capabilities: P-Planning & Regulatory, A-Administrative & Technical, F-Finance, E-Education & Outreach	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Comments 2025
MH-29 Replace of Mixers and Water Quality Station at Reservoir.	Water Systems Supervisor	1-7 years	X		X	X		H	L	M	CIP	CIP	P	Y	\$35,000
MH-30 Replace of Mixers and Water Quality Station at Reservoir.	Water Systems Supervisor	1-7 years	X		X	X		H	L	M	CIP	CIP	P	Y	\$35,000
MH-31 Replace of Mixers and Water Quality Station at Reservoir.	Water Systems Supervisor	1-7 years	X		X	X		H	L	M	CIP	CIP	P	Y	\$35,000
MH-32 Booster Station Rehab- Harbor Booster Station: Roof, Hatches, Paint, Safety, Lights & MCC.	Project Manager; Water Systems Supervisor	2-6 years	X			X		H	H	H	CIP, HMGP	CIP	P	Y	\$350,000
MH-33 Booster Station Rehab- Granby Booster Station: Roof, Hatches, Paint, Safety, Lights & MCC.	Project Manager; Water Systems Supervisor	2-6 years	X			X		H	H	H	CIP, HMGP	CIP	P	Y	\$350,000
MH-34 Booster Station Rehab- Ashbourne Booster	Project Manager; Water	2-6 years	X			X		H	H	H	CIP, HMGP	CIP	P	Y	\$350,000



Action Item	Lead Department/Position	Timeline	Goal: Protect Life and Property	Goal: Enhance Public Awareness	Goal: Protect Natural Environment	Goal: Protect Emergency Services	Goal: Encourage Partnerships	Benefit (L-Low, M-Medium, H-High)	Cost (L-Low, M-Medium, H-High)	Priority (L-Low, M-Medium, H-High)	Funding Source: GF-General Fund, CIP-Capital Improvement Project, HMGP-Hazard Mitigation Grant Program	Planning Mechanism: GF, CIP, HMGP, SP-Strategic Plan, UWMP-Urban Water Management Plan	Expanding & Improving Capabilities: P-Planning & Regulatory, A-Administrative & Technical, F-Finance, E-Education & Outreach	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Comments 2025
Station: Roof, Hatches, Paint, Safety, Lights & MCC.	Systems Supervisor														
MH-35 Booster Station Rehab- Zone 6 Booster Station: Roof, Hatches, Paint, Safety, Lights & MCC.	Project Manager; Water Systems Supervisor	2-6 years	X			X		H	H	H	CIP, HMGP	CIP	P	Y	\$350,000
MH-36 Booster Station Rehab- Artigas Booster Station: Roof, Hatches, Paint, Safety, Lights & MCC.	Project Manager; Water Systems Supervisor	2-6 years	X			X		H	H	H	CIP, HMGP	CIP	P	Y	\$350,000
MH-37 Asphalt Repair-Reservoir 6.	Project Manager; Water Systems Supervisor	Complete	X					H	L	H	CIP	CIP	P	Y	Completed; \$100,000
MH-38 Asphalt Repair-Reservoir 7.	Project Manager; Water Systems Supervisor	Complete	X					H	L	H	CIP	CIP	P	Y	Completed; \$200,000



Action Item	Lead Department/Position	Timeline	Goal: Protect Life and Property	Goal: Enhance Public Awareness	Goal: Protect Natural Environment	Goal: Protect Emergency Services	Goal: Encourage Partnerships	Benefit (L-Low, M-Medium, H-High)	Cost (L-Low, M-Medium, H-High)	Priority (L-Low, M-Medium, H-High)	Funding Source: GF-General Fund, CIP-Capital Improvement Project, HMGP-Hazard Mitigation Grant Program	Planning Mechanism: GF, CIP, HMGP, SP-Strategic Plan, UWMP-Urban Water Management Plan	Expanding & Improving Capabilities: P-Planning & Regulatory, A-Administrative & Technical, F-Finance, E-Education & Outreach	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Comments 2025
MH-39 Asphalt Repair-Reservoir 4 & 9.	Project Manager; Water Systems Supervisor	1-6 years	X					H	H	H	CIP, HMGP	CIP	P	Y	\$350,000
MH-40 Asphalt Repair-Reservoir 14.	Project Manager; Water Systems Supervisor	1-6 years	X					H	H	H	CIP, HMGP	CIP	P	Y	\$350,000
MH-41 Asphalt Repair-Reservoir 3 & 13.	Project Manager; Water Systems Supervisor	1-6 years	X					H	H	H	CIP, HMGP	CIP	P	Y	\$350,000
MH-42 Asphalt Repair-Reservoir 8.	Project Manager; Water Systems Supervisor	1-6 years	X					H	H	H	CIP, HMGP	CIP	P	Y	\$350,000
MH-43 Asphalt Repair-Reservoir 12.	Project Manager;	1-6 years	X					H	H	H	CIP, HMGP	CIP	P	Y	\$200,000



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	Water Systems Supervisor														
MH-44 New Recycled Water Groundwater Well on Chestnut Ave, City of Industry.	Project Manager; Water Systems Supervisor	5-6 years	X					H	H	M	CIP, HMGP	CIP	P	Y	\$1,200,000
MH-45 Fullerton Booster Pump Station- Increase capacity and ability to pump recycled water to higher zone.	Project Manager; Water Systems Supervisor	4-5 years	X					H	H	M	CIP, HMGP	CIP	P	Y	\$1,100,000
MH-46 Rehab Reservoir 10 Replace interior and exterior coating, replace vent, make safety upgrades.	Project Manager; Water Systems Supervisor	Complete	X					H	M	H	CIP	CIP	P	Y	Completed; \$750,000
MH-47 Rehab Reservoir JLR1 Replace interior and exterior coating, replace vent, make safety upgrades.	Project Manager; Water	1-6 years	X					H	H	H	CIP, HMGP	CIP	P	Y	\$1,300,000



Action Item	Lead Department/Position	Timeline	Goal: Protect Life and Property	Goal: Enhance Public Awareness	Goal: Protect Natural Environment	Goal: Protect Emergency Services	Goal: Encourage Partnerships	Benefit (L-Low, M-Medium, H-High)	Cost (L-Low, M-Medium, H-High)	Priority (L-Low, M-Medium, H-High)	Funding Source: GF-General Fund, CIP-Capital Improvement Project, HMGP-Hazard Mitigation Grant Program	Planning Mechanism: GF, CIP, HMGP, SP-Strategic Plan, UWMP-Urban Water Management Plan	Expanding & Improving Capabilities: P-Planning & Regulatory, A-Administrative & Technical, F-Finance, E-Education & Outreach	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Comments 2025
	Systems Supervisor														
MH-48 Rehab Reservoir JLR2 Replace interior and exterior coating, replace vent, make safety upgrades.	Project Manager; Water Systems Supervisor	1-6 years	X					H	H	H	CIP, HMGP	CIP	P	Y	\$1,900,000
MH-49 Rehab Reservoir 7 Replace interior and exterior coating, replace vent, make safety upgrades.	Project Manager; Water Systems Supervisor	1-6 years	X					H	H	H	CIP, HMGP	CIP	P	Y	\$800,000
MH-50 Rehab Reservoir 8 Replace interior and exterior coating, replace vent, make safety upgrades.	Project Manager; Water Systems Supervisor	1-6 years	X					H	H	H	CIP, HMGP	CIP	P	Y	\$550,000
MH-51 Rehab Reservoir 9 Replace interior and exterior coating, replace vent, make safety upgrades.	Project Manager; Water Systems Supervisor	1-6 years	X					H	H	H	CIP, HMGP	CIP	P	Y	\$450,000



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MH-52 Rehab Reservoir 12 Replace interior and exterior coating, replace vent, make safety upgrades.	Project Manager; Water Systems Supervisor	1-6 years	X					H	H	H	CIP, HMGP	CIP	P	Y	\$500,000
MH-53 Rehab Reservoir 14 Replace interior and exterior coating, replace vent, make safety upgrades.	Project Manager; Water Systems Supervisor	1-6 years	X					H	H	H	CIP, HMGP	CIP	P	Y	\$500,000
MH-54 Rehab Cuatro Booster- Install structure to house pumps, MCC, etc. Install SCADA, security system, replace security fencing, etc.	Project Manager; Water Systems Supervisor	1-2 years	X					H	H	H	CIP, HMGP	CIP	P	Y	\$750,000
MH-55 Scada Server Upgrades- Software, Security, failover, etc.	Project Manager; Water Systems Supervisor	3-6 years	X					H	M	H	CIP	CIP	P	Y	\$250,000



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MH-56 Granby Booster Station Valve Replacement to improve isolation and mitigate the number of customers impacted by shutdown in the event of a natural disaster.	Water Systems Supervisor	Complete	X					H	L	H	CIP	CIP	P	Y	Completed; \$50,000
MH-57 Tomich Booster Station Valve Replacement to improve isolation and mitigate the number of customers impacted by shutdown in the event of a natural disaster.	Water Systems Supervisor	1-6 years	X					H	M	H	CIP	CIP	P	Y	\$50,000
MH-58 Granby Booster Station Valve Replacement to improve isolation and mitigate the number of customers impacted by shutdown in the event of a natural disaster.	Water Systems Supervisor	1-6 years	X					H	M	H	CIP	CIP	P	Y	\$50,000
MH-59 Harbor Booster Station Valve Replacement to improve isolation and mitigate the number of customers	Water Systems Supervisor	1-6 years	X					H	M	H	CIP	CIP	P	Y	\$60,000



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impacted by shutdown in the event of a natural disaster.															
MH-60 Ashbourne Booster Station Valve Replacement to improve isolation and mitigate the number of customers impacted by shutdown in the event of a natural disaster.	Water Systems Supervisor	1-6 years	X					H	M	H	CIP	CIP	P	Y	\$60,000
MH-61 Zone 6 Booster Station Valve Replacement to improve isolation and mitigate the number of customers impacted by shutdown in the event of a natural disaster.	Water Systems Supervisor	1-6 years	X					H	H	H	CIP, HMGP	CIP	P	Y	\$60,000
MH-62 Artigas Booster Station Valve Replacement to improve isolation and mitigate the number of customers impacted by shutdown in the event of a natural disaster.	Water Systems Supervisor	1-6 years	X					H	H	H	CIP, HMGP	CIP	P	Y	\$60,000



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MH-63 Upgrade Security for Remote Sites- Granby Booster Station.	Facility Maintenance; Water Systems Supervisor	Complete	X		X	X		H	M	H	CIP	CIP	P	Y	Completed; \$40,000
MH-64 Upgrade Security for Remote Site- Whittier Booster Station.	Facility Maintenance; Water Systems Supervisor	Complete	X		X	X	X	H	M	H	CIP	CIP	P	Y	Completed; \$40,000
MH-65 Upgrade Security for Remote Sites- Tomich Booster Station.	Facility Maintenance; Water Systems Supervisor	Complete	X		X	X		H	M	H	CIP	CIP	P	Y	Completed; \$40,000
MH-66 Upgrade Security for Remote Sites- Reservoir 8.	Facility Maintenance; Water Systems Supervisor	Complete	X		X	X		H	M	H	CIP	CIP	P	Y	Completed; \$40,000



Action Item	Lead Department/Position	Timeline	Goal: Protect Life and Property	Goal: Enhance Public Awareness	Goal: Protect Natural Environment	Goal: Protect Emergency Services	Goal: Encourage Partnerships	Benefit (L-Low, M-Medium, H-High)	Cost (L-Low, M-Medium, H-High)	Priority (L-Low, M-Medium, H-High)	Funding Source: GF-General Fund, CIP-Capital Improvement Project, HMGP-Hazard Mitigation Grant Program	Planning Mechanism: GF, CIP, HMGP, SP-Strategic Plan, UWMP-Urban Water Management Plan	Expanding & Improving Capabilities: P-Planning & Regulatory, A-Administrative & Technical, F-Finance, E-Education & Outreach	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Comments 2025
MH-67 Upgrade Security for Remote Sites- Artigas Booster Station.	Facility Maintenance; Water Systems Supervisor	1-5 years	X		X	X		H	H	H	CIP, HMGP	CIP	P	Y	\$40,000
MH-68 Upgrade Security for Remote Sites- Ashbourne Booster Station.	Facility Maintenance; Water Systems Supervisor	1-5 years	X		X	X		H	H	H	CIP, HMGP	CIP	P	Y	\$40,000
MH-69 Upgrade Security for Remote Sites- Harbor Booster Station.	Facility Maintenance; Water Systems Supervisor	1-5 years	X		X	X		H	H	H	CIP, HMGP	CIP	P	Y	\$40,000
MH-70 Upgrade Security for Remote Sites- Zone 6 Booster Station.	Facility Maintenance; Water Systems Supervisor	1-5 years	X		X	X		H	H	H	CIP, HMGP	CIP	P	Y	\$40,000



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MH-71 Upgrade Security for Remote Sites- Reservoir 3 & 13.	Facility Maintenance; Water Systems Supervisor	1-5 years	X		X	X		H	H	H	CIP, HMGP	CIP	P	Y	\$40,000
MH-72 Upgrade Security for Remote Sites- Reservoir 7.	Facility Maintenance; Water Systems Supervisor	1-5 years	X		X	X		H	H	H	CIP, HMGP	CIP	P	Y	\$40,000
MH-73 Upgrade Security for Remote Sites- Reservoir 14.	Facility Maintenance; Water Systems Supervisor	1-5 years	X		X	X		H	H	H	CIP, HMGP	CIP	P	Y	\$40,000
MH-74 Rehab Pump- Zone 6 Booster Station.	Water Systems Supervisor	1-6 years	X					H	H	H	CIP, HMGP	CIP	P	Y	\$75,000
MH-75 Rehab Pump- Cuatro Booster Station.	Water Systems Supervisor	1-6 years	X					H	H	H	CIP, HMGP	CIP	P	Y	\$75,000



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MH-76 Rehab Pump- Artigas Booster Station.	Water Systems Supervisor	1-6 years	X					H	H	H	CIP, HMGP	CIP	P	Y	\$75,000
MH-77 Rehab Pump- Ashbourne Booster Station.	Water Systems Supervisor	1-6 years	X					H	H	H	CIP, HMGP	CIP	P	Y	\$75,000
MH-78 Rehab Pump- Harbor Booster Station.	Water Systems Supervisor	1-6 years	X					H	H	H	CIP, HMGP	CIP	P	Y	\$75,000
MH-79 Rehab Pump- Granby Booster Station.	Water Systems Supervisor	1-6 years	X					H	H	H	CIP, HMGP	CIP	P	Y	\$75,000
MH-80 Rehab Pump- Fullerton Booster Station.	Water Systems Supervisor	1-6 years	X					H	H	H	CIP, HMGP	CIP	P	Y	\$75,000
MH-81 Restoration of JWL Reservoir Vault Lid.	Project Manager; Water Systems Supervisor	1-2 years	X				X	H	L	H	CIP	CIP	P	Y	\$15,000
MH-82 PLC Upgrade SCADA Cabinets.	Project Manager;	3 years	X					H	M	H	CIP	CIP	P	Y	\$450,000



Action Item	Lead Department/Position	Timeline	Goal: Protect Life and Property	Goal: Enhance Public Awareness	Goal: Protect Natural Environment	Goal: Protect Emergency Services	Goal: Encourage Partnerships	Benefit (L-Low, M-Medium, H-High)	Cost (L-Low, M-Medium, H-High)	Priority (L-Low, M-Medium, H-High)	Funding Source: GF-General Fund, CIP-Capital Improvement Project, HMGP-Hazard Mitigation Grant Program	Planning Mechanism: GF, CIP, HMGP, SP-Strategic Plan, UWMP-Urban Water Management Plan	Expanding & Improving Capabilities: P-Planning & Regulatory, A-Administrative & Technical, F-Finance, E-Education & Outreach	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Comments 2025
	Water Systems Supervisor														
MH-83 Valve Replacement (La Seda, Cantaria, Altario, Galleano, Johnson, Bixby).	Project Manager; Field Operations Supervisor	1-6 years	X		X			H	H	H	CIP	CIP	P	Y	\$2,075,000
MH-84 Meter/Module Replacements.	Field Operations Supervisor	6 years	X		X	X	X	H	H	M	CIP, HMGP	CIP	P	Y	\$500,000
MH-85 Replace Service Lines.	Project Manager; Field Operations Supervisor	2-6 years	X		X	X	X	H	H	H	CIP, HMGP	CIP	P	Y	\$625,000
MH-86 Blowoffs Replacement.	Field Operations Supervisor	1-6 years	X		X			H	M	H	CIP	CIP	P	Y	\$285,000
MH-87 Fullerton Grade Separation.	Project Manager	1-2 years	X			X	X	H	H	H	CIP	CIP	P	Y	\$1,224,000



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MH-88 Six Basins	General Manager	1-2 years	X				X	H	H	H	CIP	CIP	P	Y	\$1,400,000
MH-89 Mainline Replacements.	Project Manager; Field Operations Supervisor	Ongoing	X		X	X	X	H	H	H	CIP	CIP	P	Y	
MH-90 2.5 Ton Dump Truck.	Field Operations Supervisor	1 year	X					H	L	H	CIP	CIP	P		\$150,000
MH-91 10 Wheel Dump Truck.	Field Operations Supervisor	4 years	X					H	M	M	CIP	CIP	P		\$275,000
MH-92 John Deere Flatbed Cart.	Field Operations Supervisor	2 years	X					H	L	H	CIP	CIP	P		\$25,000
MH-93 EOC Trailer to operate in the event of an emergency.	Project Manager; Compliance & Safety Coordinator	1-2 years	X		X	X	X	H	M	H	CIP	CIP	P		\$200,000



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MH-94 CAT 430F2 IT	Field Operations Supervisor	3 years	X					H	L	M	CIP	CIP	P		\$150,000
MH-95 Vactor Truck	Field Operations Supervisor	5-6 years	X			X		H	H	L	CIP, HMGP	CIP	P	Y	\$400,000
MH-96 Purchase vehicles & equipment- Field Trucks (#5 & #11) F150, F350 4x4 Crew Cab, Short Bed .	Facility Maintenance	1-6 years				X		H	H	H	CIP, HMGP	CIP	P	Y	\$425,000
MH-97 Block Retaining Wall behind reservoirs 5 & 11 to provide space for pipe storage.	Project Manager	1-2 years	X					H	M	H	CIP	CIP	P	Y	\$750,000
MH-98 District Main Office- Asphalt and paving.	Project Manager; Facility Maintenance	1-3 years	X					H	L	M	CIP	CIP	P	Y	\$500,000
MH-99 Recycled Water Retrofits. This multiyear project will fund the conversion of customers from	Project Manager	Ongoing	X	X		X		H	L	L	CIP	CIP	P	Y	\$100K/per year



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potable water to recycled water.															
MH-100 Recycled Water Valve replacements are part of ongoing operations and maintenance to ensure reliable service.	Project Manager	Ongoing	X	X		X	X	H	L	L	CIP	CIP	P	Y	\$100K/per year
MH-101 Purchase a mass notification system "911" for Public Notification and Guidance during Emergency Events.	Compliance & Safety Coordinator; Education & Outreach Coordinator	3-5 years	X	X		X	X	M	H	M	CIP, HMGP	GF	P		\$15,000
MH-102 Purchase a system that allows employees to provide secured 2-way electronic communications and has an app to see existing situational status maps and reports, receives Situation/Status information,	Project Manager; Compliance & Safety Coordinator	4-7 years	X	X		X	X	H	H	L	CIP, HMGP	CIP	P	Y	



Action Item	Lead Department/Position	Timeline	Goal: Protect Life and Property	Goal: Enhance Public Awareness	Goal: Protect Natural Environment	Goal: Protect Emergency Services	Goal: Encourage Partnerships	Benefit (L-Low, M-Medium, H-High)	Cost (L-Low, M-Medium, H-High)	Priority (L-Low, M-Medium, H-High)	Funding Source: GF-General Fund, CIP-Capital Improvement Project, HMGP-Hazard Mitigation Grant Program	Planning Mechanism: GF, CIP, HMGP, SP-Strategic Plan, UWMP-Urban Water Management Plan	Expanding & Improving Capabilities: P-Planning & Regulatory, A-Administrative & Technical, F-Finance, E-Education & Outreach	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Comments 2025
and can integrate with GIS Software.															
MH-103 Purchase & install Emergency Response Notification and/or Information System for our Emergency Operation Center that will also include visual & audible hubs/monitors throughout the “employee only” areas on campus that is capable of remotely displaying and sending audible emergency alert messaging for employees and ties into software.	Project Manager; Compliance & Safety Coordinator	3-5 years	X	X		X	X	H	H	M	CIP, HMGP	CIP	P	Y	
MH-104 Design & Build Educational & Training Facility near/on the main campus.	Project Manager; Compliance & Safety Coordinator; Education &	5-10 years	X	X		X	X	H	H	H	CIP, HMGP	CIP	P	Y	\$2M+



Action Item	Lead Department/Position	Timeline	Goal: Protect Life and Property	Goal: Enhance Public Awareness	Goal: Protect Natural Environment	Goal: Protect Emergency Services	Goal: Encourage Partnerships	Benefit (L-Low, M-Medium, H-High)	Cost (L-Low, M-Medium, H-High)	Priority (L-Low, M-Medium, H-High)	Funding Source: GF-General Fund, CIP-Capital Improvement Project, HMGP-Hazard Mitigation Grant Program	Planning Mechanism: GF, CIP, HMGP, SP-Strategic Plan, UWMP-Urban Water Management Plan	Expanding & Improving Capabilities: P-Planning & Regulatory, A-Administrative & Technical, F-Finance, E-Education & Outreach	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Comments 2025
	Outreach Coordinator														
MH-105 Install more Hydration Stations at Schools.	Education & Outreach Coordinator	3-7 years	X	X		X	M	H	L		CIP, HMGP	CIP	P	Y	\$100,000
MH-106 A mobile hydration station –to deploy to community events and emergency situations to provide drinking water. It will have spouts as well as larger bottled water refill stations to allow visitors to have a drink or refill their own bottle. The Water Wagon would be used instead of bottled water at community events, helping to improve the environment by reducing the waste stream. In emergency situations The Water Wagon can provide water on a larger scale and be	Project Manager; Education & Outreach Coordinator	7 years	X	X	X	X	H	H	L		CIP, HMGP	CIP	P	Y	



Action Item	Lead Department/Position	Timeline	Goal: Protect Life and Property	Goal: Enhance Public Awareness	Goal: Protect Natural Environment	Goal: Protect Emergency Services	Goal: Encourage Partnerships	Benefit (L-Low, M-Medium, H-High)	Cost (L-Low, M-Medium, H-High)	Priority (L-Low, M-Medium, H-High)	Funding Source: GF-General Fund, CIP-Capital Improvement Project, HMGP-Hazard Mitigation Grant Program	Planning Mechanism: GF, CIP, HMGP, SP-Strategic Plan, UWMP-Urban Water Management Plan	Expanding & Improving Capabilities: P-Planning & Regulatory, A-Administrative & Technical, F-Finance, E-Education & Outreach	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Comments 2025
deployed to a neighborhood that needs water in the event of a fire or water quality concern. The water is RWD tap water, affirming the message that RWD tap water is safe to drink and tastes great. The Water Wagon would feature educational signage for visitors to learn more about tap water.															
MH-107 Construct Protective Warehouse Canopies for Large Vehicles.	Project Manager	1-5 years	X					H	H	M	CIP, HMGP	CIP	P	Y	\$450,000
MH-108 Recycled Water Master Plan Update.	General Manager	3-10 years				X	H	H	L		HMGP	CIP	P	Y	\$200,000
MH-109 Recycled Water Master Plan- System Expansion Drought and Conservation Mandates	Project Manager; Water Systems Supervisor	3-10 years				X	H	H	L		HMGP	CIP	P	Y	\$55,000,000



Action Item	Lead Department/Position	Timeline	Goal: Protect Life and Property	Goal: Enhance Public Awareness	Goal: Protect Natural Environment	Goal: Protect Emergency Services	Goal: Encourage Partnerships	Benefit (L-Low, M-Medium, H-High)	Cost (L-Low, M-Medium, H-High)	Priority (L-Low, M-Medium, H-High)	Funding Source: GF-General Fund, CIP-Capital Improvement Project, HMGP-Hazard Mitigation Grant Program	Planning Mechanism: GF, CIP, HMGP, SP-Strategic Plan, UWMP-Urban Water Management Plan	Expanding & Improving Capabilities: P-Planning & Regulatory, A-Administrative & Technical, F-Finance, E-Education & Outreach	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Comments 2025
MH-110 Motor Control Center Rehab Project- Harbor Pump Station.	Project Manager; Water Systems Supervisor	3-6 years	X			X		M	H	M	CIP, HMGP	CIP	P	Y	\$250,000
MH-111 MCC Rehab Project- Ashbourne Pump Station.	Project Manager; Water Systems Supervisor	3-6 years	X			X		M	H	M	CIP, HMGP	CIP	P	Y	\$250,000
MH-112 MCC Rehab Project- Zone 6 Pump Station.	Project Manager; Water Systems Supervisor	3-6 years	X			X		M	H	M	CIP, HMGP	CIP	P	Y	\$250,000
MH-113 MCC Rehab Project- Granby Pump Station.	Project Manager; Water Systems Supervisor	3-6 years	X			X		M	H	M	CIP, HMGP	CIP	P	Y	\$250,000
MH-114 MCC Rehab Project- Fullerton Pump Station.	Project Manager;	3-6 years	X			X		M	H	M	CIP, HMGP	CIP	P	Y	\$250,000



Action Item	Lead Department/Position	Timeline	Goal: Protect Life and Property	Goal: Enhance Public Awareness	Goal: Protect Natural Environment	Goal: Protect Emergency Services	Goal: Encourage Partnerships	Benefit (L-Low, M-Medium, H-High)	Cost (L-Low, M-Medium, H-High)	Priority (L-Low, M-Medium, H-High)	Funding Source: GF-General Fund, CIP-Capital Improvement Project, HMGP-Hazard Mitigation Grant Program	Planning Mechanism: GF, CIP, HMGP, SP-Strategic Plan, UWMP-Urban Water Management Plan	Expanding & Improving Capabilities: P-Planning & Regulatory, A-Administrative & Technical, F-Finance, E-Education & Outreach	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Comments 2025
	Water Systems Supervisor														
MH-115 MCC Rehab Project-Artigas Pump Station.	Project Manager; Water Systems Supervisor	3-6 years	X			X		M	H	M	CIP, HMGP	CIP	P	Y	\$250,000
MH-116 Purchase Drones – Reservoir & Site Inspections.	Project Manager; Water Systems Supervisor	3-6 years	X	X		X	X	M	H	L	HMGP	CIP	A	Y	\$25,000
MH-117 Hire Consultant for Emergency Response Plan (ERP).	Compliance & Safety Coordinator	Completed	X	X	X	X	X	H	M	H	CIP	CIP	A		Completed; \$200,000
MH-118 Hire Consultant for Emergency Response Plan (ERP).	Compliance & Safety Coordinator	3-4 years	X	X	X	X	X	H	H	H	CIP, HMGP	CIP	A		\$200,000
MH-119 Hire an Emergency Response Coordinator	General Manager	4-8 years	X	X	X	X	X	M	L	L	GF	GF			



Action Item	Lead Department/Position	Timeline	Goal: Protect Life and Property	Goal: Enhance Public Awareness	Goal: Protect Natural Environment	Goal: Protect Emergency Services	Goal: Encourage Partnerships	Benefit (L-Low, M-Medium, H-High)	Cost (L-Low, M-Medium, H-High)	Priority (L-Low, M-Medium, H-High)	Funding Source: GF-General Fund, CIP-Capital Improvement Project, HMGP-Hazard Mitigation Grant Program	Planning Mechanism: GF, CIP, HMGP, SP-Strategic Plan, UWMP-Urban Water Management Plan	Expanding & Improving Capabilities: P-Planning & Regulatory, A-Administrative & Technical, F-Finance, E-Education & Outreach	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Comments 2025
<b>Drought Action Items</b>															
DR-1 Design and construct water supply connection with La Habra Heights to provide RWD with alternative water supply source. This was a multi-agency project with Walnut Valley Water District through Puente Basin Water Agency. Project included pipeline, connection structure with chemical injection, meter, etc.	General Manager; Project Manager	Complete	X		X	X	X	H	H	M	CIP	CIP	P	Y	Completed; \$2,000,000
DR-2 Design and construct water supply connection with California Domestic Water Company to provide RWD with alternative water supply source. This was a multi-agency project with Walnut	General Manager; Project Manager	Complete	X		X	X	X	H	H	M	CIP	CIP	P	Y	Completed; \$3,000,000



Action Item	Lead Department/Position	Timeline	Goal: Protect Life and Property	Goal: Enhance Public Awareness	Goal: Protect Natural Environment	Goal: Protect Emergency Services	Goal: Encourage Partnerships	Benefit (L-Low, M-Medium, H-High)	Cost (L-Low, M-Medium, H-High)	Priority (L-Low, M-Medium, H-High)	Funding Source: GF-General Fund, CIP-Capital Improvement Project, HMGP-Hazard Mitigation Grant Program	Planning Mechanism: GF, CIP, HMGP, SP-Strategic Plan, UWMP-Urban Water Management Plan	Expanding & Improving Capabilities: P-Planning & Regulatory, A-Administrative & Technical, F-Finance, E-Education & Outreach	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Comments 2025
Valley Water District through Puente Basin Water Agency. Project included pipeline, pump station with chemical injection, meter, pressure reducing station, etc.															
DR-3 Design and construct water supply inter-connection with City of La Verne & Golden State Water to add additional water supply diversity & resiliency.	General Manager; Project Manager		X		X	X	X	H	H	M	CIP, HMGP	CIP	P	Y	
DR-3 Replace Large Meters that are below accuracy standards to reduce water loss.	Field Operations Supervisor	1-6 years	X		X			H	M	H	CIP	CIP	P	Y	\$663,400
<b>Earthquake Action Items</b>															
EQ-1 Conduct Reservoir Seismic Vulnerability Study. Hire a consultant to conduct a study on the structural stability of the existing reservoirs and	Project Manager; Water Systems Supervisor	3-5 years	X		X	X		M	M	M	CIP	CIP	P	Y	\$300,000



Action Item	Lead Department/Position	Timeline	Goal: Protect Life and Property	Goal: Enhance Public Awareness	Goal: Protect Natural Environment	Goal: Protect Emergency Services	Goal: Encourage Partnerships	Benefit (L-Low, M-Medium, H-High)	Cost (L-Low, M-Medium, H-High)	Priority (L-Low, M-Medium, H-High)	Funding Source: GF-General Fund, CIP-Capital Improvement Project, HMGP-Hazard Mitigation Grant Program	Planning Mechanism: GF, CIP, HMGP, SP-Strategic Plan, UWMP-Urban Water Management Plan	Expanding & Improving Capabilities: P-Planning & Regulatory, A-Administrative & Technical, F-Finance, E-Education & Outreach	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Comments 2025
the feasibility of retrofitting reservoir sites with flexible couplings and earthquake automatic valve controllers. Design plans for all reservoir sites (Reservoirs 1,2,3,4,5,6,7,8,9,10,11,12,13, 14, 15, 16).															
EQ-2 Install earthquake control valves at reservoirs lacking the capability to close reservoirs and prevent reservoir drainage and assist availability for use of water for fire protection.	Project Manager; Water Systems Supervisor	5-10 years	X		X	X		M	L	M	CIP	CIP	P	Y	\$1,200,000
<b>Power Outage Action Items</b>															
PO-1 Purchase additional Emergency Portable Generator to provide power to booster station 2024 Tomich Rd., Hacienda Height, CA 91745	Water Systems Supervisor	Complete	X		X	X		H	M	H	CIP	CIP		Y	Completed; \$200,000



Action Item	Lead Department/Position	Timeline	Goal: Protect Life and Property	Goal: Enhance Public Awareness	Goal: Protect Natural Environment	Goal: Protect Emergency Services	Goal: Encourage Partnerships	Benefit (L-Low, M-Medium, H-High)	Cost (L-Low, M-Medium, H-High)	Priority (L-Low, M-Medium, H-High)	Funding Source: GF-General Fund, CIP-Capital Improvement Project, HMGP-Hazard Mitigation Grant Program	Planning Mechanism: GF, CIP, HMGP, SP-Strategic Plan, UWMP-Urban Water Management Plan	Expanding & Improving Capabilities: P-Planning & Regulatory, A-Administrative & Technical, F-Finance, E-Education & Outreach	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Comments 2025
PO-2 Purchase additional Emergency Portable Generator to provide power to booster station 18940 Granby Pl., Rowland Heights, CA 91748	Water Systems Supervisor	2-8 years	X		X	X		H	H	H	CIP, HMGP	CIP		Y	\$200,000
PO-3 Purchase additional Emergency Portable Generator to provide power to booster station 2505 Artigas Dr., Rowland Heights, CA 91748	Water Systems Supervisor	2-8 years	X		X	X		H	H	H	CIP, HMGP	CIP		Y	\$200,000
PO-4 Purchase additional Emergency Portable Generator to provide power to booster station 4000 Harbor Blvd., Rowland Heights, CA 91748	Water Systems Supervisor	2-8 years	X		X	X		H	H	H	CIP, HMGP	CIP		Y	\$200,000
PO-5 Purchase additional Emergency Portable Generator to provide power to booster station 3400	Water Systems Supervisor	2-8 years	X		X	X		H	H	H	CIP, HMGP	CIP		Y	\$200,000



Action Item	Lead Department/Position	Timeline	Goal: Protect Life and Property	Goal: Enhance Public Awareness	Goal: Protect Natural Environment	Goal: Protect Emergency Services	Goal: Encourage Partnerships	Benefit (L-Low, M-Medium, H-High)	Cost (L-Low, M-Medium, H-High)	Priority (L-Low, M-Medium, H-High)	Funding Source: GF-General Fund, CIP-Capital Improvement Project, HMGP-Hazard Mitigation Grant Program	Planning Mechanism: GF, CIP, HMGP, SP-Strategic Plan, UWMP-Urban Water Management Plan	Expanding & Improving Capabilities: P-Planning & Regulatory, A-Administrative & Technical, F-Finance, E-Education & Outreach	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Comments 2025
Ashbourne Pl., Rowland Heights, CA 91748															
PO-6 Purchased two (2) Portable Fuel Trailers	Facility Maintenance	Completed	X		X	X		H	L	H	CIP	CIP		Y	Completed \$35,000 Each
PO-7 Purchase either 1 or 2 additional Portable Fuel Trailers	Facility Maintenance	2-4 years	X		X	X		H	H	H	CIP, HMGP	CIP		Y	\$35,000 Each
PO-8 Purchased two (2) Suitcase Generators	Facility Maintenance	Completed	X		X	X		H	L	H	CIP	CIP		Y	Completed
PO-9 Purchase 3 additional Suitcase Generators	Facility Maintenance	2-4 years	X		X	X		H	H	H	CIP, HMGP	CIP		Y	
PO-10 Install solar panel carports and solar panels on available rooftops across main campus.	Project Manager; Water Systems Supervisor	5-10 years	X		X	X	X	M	H	L	HMGP	CIP		Y	\$250,000
<b>Wildfire Action Items</b>															
WLD-1 Vegetation and Brush Removal (weed abatement) to areas surrounding District facilities within wildfire hazard zones.	Water Systems Supervisor	Ongoing	X		X	X	X	H	L	M	CIP	CIP		Y	\$30,000/annually



Action Item	Lead Department/Position	Timeline	Goal: Protect Life and Property	Goal: Enhance Public Awareness	Goal: Protect Natural Environment	Goal: Protect Emergency Services	Goal: Encourage Partnerships	Benefit (L-Low, M-Medium, H-High)	Cost (L-Low, M-Medium, H-High)	Priority (L-Low, M-Medium, H-High)	Funding Source: GF-General Fund, CIP-Capital Improvement Project, HMGP-Hazard Mitigation Grant Program	Planning Mechanism: GF, CIP, HMGP, SP-Strategic Plan, UWMP-Urban Water Management Plan	Expanding & Improving Capabilities: P-Planning & Regulatory, A-Administrative & Technical, F-Finance, E-Education & Outreach	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Comments 2025
WLD-2 Retrofit existing units to fire suppression system in the IT server room in the Admin Bldg.	Project Manager	1-3 years	X			X	X	H	H	L	CIP, HMGP	CIP		Y	\$90,000
WLD-3 Retrofit/Resurface all pump buildings, roofs, reservoirs and facilities with Flame Retardant or resistant materials/coatings	Project Manager; Water Systems Supervisor	5-10 years	X			X	X	H	H	H	CIP, HMGP	CIP		Y	\$1M-\$3M
WLD-4 Retrofit with fire-resistant roofs for all pump houses.	Project Manager; Water Systems Supervisor	3-5 years	X		X	X		H	H	M	HMGP	CIP		Y	
<b>Terrorism Action Items</b>															
T-1 Replace exterior windows with Bullet-Resistant glass in areas with public access	Project Manager; Compliance & Safety Coordinator	5-7 years	X			X		H	H	M	CIP, HMGP	CIP		Y	\$500,000



Action Item	Lead Department/Position	Timeline	Goal: Protect Life and Property	Goal: Enhance Public Awareness	Goal: Protect Natural Environment	Goal: Protect Emergency Services	Goal: Encourage Partnerships	Benefit (L-Low, M-Medium, H-High)	Cost (L-Low, M-Medium, H-High)	Priority (L-Low, M-Medium, H-High)	Funding Source: GF-General Fund, CIP-Capital Improvement Project, HMGP-Hazard Mitigation Grant Program	Planning Mechanism: GF, CIP, HMGP, SP-Strategic Plan, UWMP-Urban Water Management Plan	Expanding & Improving Capabilities: P-Planning & Regulatory, A-Administrative & Technical, F-Finance, E-Education & Outreach	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Comments 2025
T-2 Partner with the Law Enforcement for access/sharing. May require additional hardware to support the project.	Compliance & Safety Coordinator	3-5 years	X			X	X	H	H	L	CIP, HMGP	CIP		Y	
T-3 Cyber Security Assessment, Testing and Protection	General Manager	1-5 years	X		X	X	X	H	H	H	CIP, HMGP	CIP			



## Chapter 6: Plan Maintenance

The plan maintenance process includes a schedule for monitoring and evaluating the Plan annually and producing a plan revision every five years. This section describes how the MJHMP Planning Team and the Rowland Water District will integrate public participation throughout the plan maintenance process.

### Q&A | ELEMENT D: PLAN MAINTENANCE | D2-a.

**Q:** Does the plan describe the process that will be followed to track the progress/status of the mitigation actions identified within the Mitigation Strategy, along with when this process will occur and who will be responsible for the process? (Requirement 44 CFR § 201.6(c)(4)(i))

**A:** See **Local Mitigation Officer, Method and Scheduling of Plan Implementation, Monitoring and Implementing the Plan** below.

### *Local Mitigation Officer*

The Planning Team that was involved in research and writing of the Plan will also be responsible for implementation. The MJHMP Planning Team will be led by Planning Team Chair Tom Coleman. Mr. Coleman will also serve as the RWD Planning Team Chair as well as the Local Mitigation Officer following a declared disaster. Each of the other participating agencies will have its own Planning Team Chair who will serve as their Local Mitigation Officer (see separately attached Annexes).

Under the direction of the MJHMP Planning Team Chair Tom Coleman, the MJHMP Planning Team will reconvene on an annual basis to monitor and evaluate progress on the Base Plan and Annexes.

Under the direction of the Local Mitigation Officer, the RWD Planning Team will take responsibility for plan maintenance and implementation of the MJHMP Base Plan. The Local Mitigation Officer will facilitate the RWD Planning Team meetings and will assign tasks such as updating and presenting the Plan to the members of the RWD Planning Team. Plan implementation and evaluation will be a shared responsibility among all of the Planning Team members. The Local Mitigation Officer will coordinate with the RWD leadership to ensure funding for 5-year updates to Plan as required by FEMA.

The Planning Team will be responsible for coordinating the implementation of the Plan's action items and undertaking the formal review process. The Local Mitigation Officer will be authorized to make changes in assignments to the current RWD Planning Team.

The RWD Planning Team will meet no less than bi-annually. Meeting dates will be scheduled once the final Planning Team has been established. These meetings will provide an opportunity to discuss the progress of the action items and maintain the partnerships that are essential for the sustainability of the mitigation plan. The Local Mitigation Officer or designee will be responsible for contacting the Planning Team members and organizing the bi-annual meetings.

Plan updates will need to be approved by FEMA every 5 years. However, adequate time should be allowed to secure grant funding (if necessary), allow adequate time for a thorough planning process, and time for the formal review by Cal OES and FEMA. All said, if grant funding is going to be needed, the update timeline should begin 3 years prior to the plan's due date to FEMA.



## Method and Scheduling of Plan Implementation

	Year 1	Year 2	Year 3	Year 4	Year 5
<b>Monitoring</b>					
MJHMP Planning Team	XX	XX	XX	XX	XX
RWD Planning Team	XXXX	XXXX	XXXX	XXXX	XXXX
<b>Evaluating</b>					
MJHMP Planning Team	X	X	X	X	X
RWD Planning Team	X	X	X	X	X
<b>Updating</b>					
MJHMP Planning Team					X
RWD Planning Team					X

## Monitoring and Implementing the Plan

### *Monitoring the Plan*

The MJHMP Planning Team Chair will convene the Planning Team on a bi-annual basis to gather status updates on the mitigation action items for the Base Plan and Annexes. Additionally, each of the participating agencies will hold bi-annual meetings with their respective Planning Teams to monitor their own Annex.

The RWD Planning Team Chair Local Mitigation Officer will hold quarterly meetings with the RWD Planning Team to gather status updates on the mitigation action items. These meetings will provide an opportunity to discuss the progress of the action items and maintain the partnerships that are essential for the sustainability of the mitigation plan. See the **Bi-Annual Implementation Report** discussed below which will be a valuable tool for the Planning Team to measure the success of the Hazard Mitigation Plan. The focus of the MJHMP Bi-Annual meetings will be on the progress and changes to the Mitigation Action Items.

### **Q&A | ELEMENT D: PLAN MAINTENANCE | D3-a.**

**Q:** Does the plan describe each community will follow to integrate the ideas, information and strategy of the mitigation plan into other planning mechanisms? (Requirement 44 CFR § 201.6(c)(4)(ii))

**A:** See **Integration into other Planning Mechanisms** below.

### *Integration into other Planning Mechanisms*

The District addresses statewide planning goals and legislative requirements through the General Fund, Capital Improvement Projects, Urban Water Management Plan, Strategic Plan and Grants. The Mitigation Plan provides a series of recommendations - many of which are closely related to the goals and objectives of existing planning programs (aka planning mechanisms). The District will implement recommended mitigation action items through existing programs and procedures, as possible.

The District is responsible for adhering to the State of California's Building and Safety Codes; however, in accordance with Section 53091 (d)(e) the District is exempt from having to comply with county and/or city building and zoning ordinances when constructing facilities for the production, generation, storage, treatment, or transmission of water. In addition, the District may



work with other agencies at the state level to review, develop and ensure Building and Safety Codes are adequate to mitigate or prevent damage by hazards. This is to ensure that life-safety criteria are met for new construction.

Some of the goals and action items in the Mitigation Plan will be achieved through activities recommended in the strategic and other budget documents. During the bi-annual reviews, the planning teams will work with the departments to identify areas within the Mitigation Plan action items that are consistent with the strategic and budget documents to ensure the Mitigation Plan goals and action items are implemented in a timely fashion.

Specifically, the Planning Team will utilize the updates of the following documents to implement the Mitigation Plan:

- ✓ Risk Assessment, District Profile, Planning Process (stakeholders) – Emergency Response Plan, Risk and Resilience Assessment, Urban Water Management Plan, Strategic Plan, etc.
- ✓ Mitigation Actions Matrix – General Fund, Capital Improvement Projects, Urban Water Management Plan, Strategic Plan, Grants

### *Bi-Annual Implementation Report*

The Bi-Annual Implementation Matrix is the same as the Mitigation Actions Matrix but with a column added to track the bi-annual status of each action item. Upon approval and adoption of the Plan, the Bi-Annual Implementation Reports will be added to the Plan's **Attachments**. Following is a view of the Bi-Annual Implementation Matrix:

Insert here once plan is finalized and approved.

An equally important part of the monitoring process is the need to maintain a strategic planning process which needs to include funding and organizational support. In that light, at least one year in advance of the FEMA-mandated 5-year submission of an update, the Local Mitigation Officer will convene the Planning Team (as well as any other departments with responsibilities on the Mitigation Actions Matrix) to discuss funding and timing of the update planning process. On the fifth year of the planning cycles, the Planning Team will broaden its scope to include discussions and research on all of the sections within the Plan with particular attention given to goal achievement and public participation.

### *Economic Analysis of Mitigation Projects*

FEMA's approach to identifying the costs and benefits associated with hazard mitigation strategies, measures, or projects fall into two general categories: benefit/cost analysis and cost-effectiveness analysis.

Conducting benefit/cost analysis for a mitigation activity can assist communities in determining whether a project is worth undertaking now, in order to avoid disaster-related damages later. Cost-effectiveness analysis evaluates how best to spend a given amount of money to achieve a specific goal. Determining the economic feasibility of mitigating hazards can provide decision-makers with an understanding of the potential benefits and costs of an activity, as well as a basis upon which to compare alternative projects.

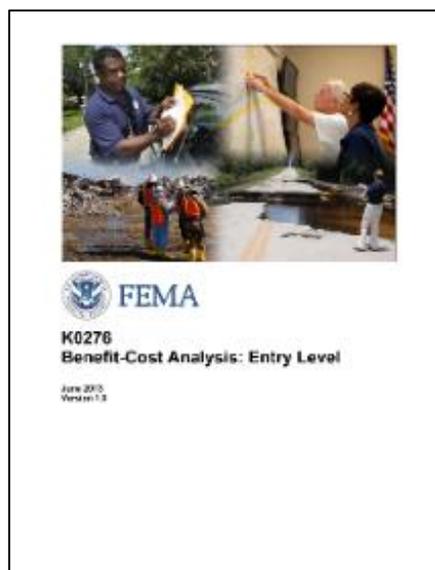


Given federal funding, the Planning Team will use a FEMA-approved benefit/cost analysis approach to identify and prioritize mitigation action items. For other projects and funding sources, the Planning Team will use other approaches to understand the costs and benefits of each action item and develop a prioritized list.

The “benefit”, “cost”, and overall “priority” of each mitigation action item was included in the Mitigation Actions Matrix located in Part III: Mitigation Strategies. A more technical assessment will be required in the event grant funding is pursued through the Hazard Mitigation Grant Program. FEMA Benefit-Cost Analysis Guidelines are discussed below.

### *FEMA Benefit-Cost Analysis Guidelines*

The Stafford Act authorizes the President to establish a program to provide technical and financial assistance to state and local governments to assist in the implementation of hazard mitigation measures that are cost effective and designed to substantially reduce injuries, loss of life, hardship, or the risk of future damage and destruction of property. To evaluate proposed hazard mitigation projects prior to funding FEMA requires a Benefit-Cost Analysis (BCA) to validate cost effectiveness. BCA is the method by which the future benefits of a mitigation project are estimated and compared to its cost. The end result is a benefit-cost ratio (BCR), which is derived from a project’s total net benefits divided by its total project cost. The BCR is a numerical expression of the cost effectiveness of a project. A project is considered to be cost effective when the BCR is 1.0 or greater, indicating the benefits of a prospective hazard mitigation project are sufficient to justify the costs.



Although the preparation of a BCA is a technical process, FEMA has developed software, written materials, and training to support the effort and assist with estimating the expected future benefits over the useful life of a retrofit project. It is imperative to conduct a BCA early in the project development process to ensure the likelihood of meeting the cost-effective eligibility requirement in the Stafford Act.

The BCA program consists of guidelines, methodologies, and software modules for a range of major natural hazards including:

- ✓ Flood (Riverine, Coastal Zone A, Coastal Zone V)
- ✓ Hurricane Wind
- ✓ Hurricane Safe Room
- ✓ Damage-Frequency Assessment
- ✓ Tornado Safe Room
- ✓ Earthquake
- ✓ Wildfire

The BCA program provides up to date program data, up to date default and standard values, user manuals and training. Overall, the program makes it easier for users and evaluators to conduct and review BCAs and to address multiple buildings and hazards in a single BCA module run.



## Evaluating and Updating the Plan

### Q&A | ELEMENT D: PLAN MAINTENANCE | D2-b.

**Q:** Does the plan describe the process that will be followed to evaluate the plan for effectiveness? This process must identify the criteria that will be used to evaluate the information in the plan, along with when this process will occur and who will be responsible. (Requirement 44 CFR § 201.6(c)(4)(i))

**A:** See **Evaluation** below.

### *Evaluation*

As discussed at the beginning of this section, the representatives from the coordinating agencies (as identified in the Mitigation Actions Matrix) will meet twice a year to gather status updates on the mitigation action items. During the second of those bi-annual implementation meetings each year, the Local Mitigation Officer will lead a discussion on the success (or failure) of the Mitigation Plan to be effective and to meet the plan goals. Examples of measuring the plan's effectiveness will include assessing effectiveness include evaluating whether new hazards have emerged, whether vulnerability has changed, and whether stated mitigation strategies are still appropriate for the District's circumstances. The plan goals are defined in the beginning of the Mitigation Strategies Section and each of the mitigation action items is aligned with a goal or goals.

The results of that discussion will be added to the Evaluation portion of the Bi-Annual Implementation Report and inclusion in the 5-year update to the Plan. Efforts will be made immediately by the Local Mitigation Officer to address any failing or failed plan goals.

### Q&A | ELEMENT D: PLAN MAINTENANCE | D2-c.

**Q:** Does the plan describe the process that will be followed to update the plan, along with when this process will occur and who will be responsible for the process? (Requirement 44 CFR § 201.6(c)(4)(i))

**A:** See **Formal Update Process** below.

### *Formal Update Process*

As identified above, the Mitigation Action Items will be monitored for status on a bi-annual basis as well as an evaluation of the Plan's goals. The Local Mitigation Officer or designee will be responsible for contacting the coordinating agency members and organizing the bi-annual meetings which will take place based on the month of the Plan's approval. Planning Team members will also be responsible for participating in the formal update to the Plan every fifth year of the planning cycle. In the event the District desires to seek grant funding for the update, the application process should begin 2 years in advance of the plan's expiration. Even without grant funding, the planning process should begin at least 1.5 years ahead of the plan's expiration.

The Planning Team will begin the update process with a review the goals and mitigation action items to determine their relevance to changing situations within the District as well as changes in state or federal policy, and to ensure they are addressing current and expected conditions. The Planning Team will also review the Plan's **Chapter 3: Risk Assessment** portion of the Plan to determine if this information should be updated or modified, given any new available data. The lead department/position responsible for the various action items will report on the status of their projects, including the success of various implementation processes, difficulties encountered, success of coordination efforts, and which strategies should be revised. Amending will be made to the Mitigation Actions Matrix and other sections in the Plan as deemed necessary by the Planning Team.



**Q&A | ELEMENT D: PLAN MAINTENANCE | D1-a.**

**Q:** Does the plan describe how communities will continue to seek future public participation after the plan has been approved? (Requirement 44 CFR § 201.6(c)(4)(iii))

**A:** See **Continued Public Involvement** below.

### *Continued Public Involvement*

The District is dedicated to involving the public directly in the continual review and updates to the Mitigation Plan. Copies of the plan will be made available at District Headquarters and on the District's website. The existence and location of these copies will be publicized in the District's bill and on the website, including social media channels: Facebook, Twitter, Instagram, and LinkedIn. This website will also contain an email address and phone number where customers can direct their comments and concerns. At the discretion of the Local Mitigation Officer, a public meeting may be held after the Bi-Annual Implementation Meeting. The meeting would provide a public forum in which interested individuals and/or agencies could express their concerns, opinions, or ideas about the plan.

The Local Mitigation Officer will be responsible for using the District's resources to publicize any public meetings and always free to maintain public involvement through the public access channel, website, and newspapers.



# Chapter 7: Plan Review, Adoption and Approval

## Plan Review

The MJHMP Base Plan and Annexes are required to go through a formal review with Cal OES and FEMA (see **Chapter 1: Planning Process**). Once Cal OES determines the Base Plan and Annexes are complete, the Final Draft Plan will be forwarded to FEMA.

### Q&A | ELEMENT F: PLAN ADOPTION | F1-a.

**Q:** Does the participant include documentation of adoption? (Requirement 44 CFR § 201.6(c)(5))

**A:** See **Plan Adoption Process** below.

## Adoption Process

Simultaneously with FEMA’s review of the Final Draft Base Plan and Annexes, the adoption process will be initiated with the planning participant decision makers.

The Final Draft Base Plan will be placed on the docket for the RWD Board of Directors for input and adoption. The Board’s signed resolution of adoption will be forwarded to FEMA. Unless FEMA has identified the need for additional changes, a Letter of Approval will be issued. The letter will be added to the Final Draft Base Plan along with the Board’s resolution and any other input gathered which will result in a Final Plan.

In the same time period, the rest of the planning participants will submit their Annex to their decision making body for adoption. The Chair of the Agency Planning Team will forward the proof of adoption to FEMA. Upon receipt, FEMA will issue a Letter of Approval for the Annex. The Letter of Approval will be added to the Final Annex.

In preparation for the public meetings with the decision makers, the Chairs of the Agency Planning Teams will post the Final Draft Base Plan on the PWAG website. Notification of the Plan’s availability will also be distributed via the mediums utilized during the community outreach phase. Also, a staff report will be prepared including an overview of the Planning Process, Risk Assessment, Vulnerability and Impacts Assessment, Mitigation Goals, and Mitigation Actions. The staff presentation will conclude with a summary of the input received during the community outreach activities. During the public meeting with the decision makers, participants will be encouraged to present their views and suggestions. Any gathered information will be added to the Final Base Plan and/or Annex.

The RWD Board of Directors will hear the item on [redacted]. The Board voted to \_\_\_\_\_ (adopt) the MJHMP Base Plan. The Board’s signed resolution is below:

Insert resolution



## Plan Approval

Upon adoption by the RWD Board of Directors, the signed resolution will be forwarded to FEMA. The FEMA Letter of Approval was issued on [REDACTED]. FEMA issued a Letter of Approval on [REDACTED] and is below:

**Insert letter of approval**



# Attachments

## Web Posting and Notifications - PWAG

The following content was also used on websites, emails, and mailings from other planning participants.



[ABOUT US](#) [NEWS](#) [PROGRAMS & ACTIVITIES](#) [COMMITTEES & WORKING GROUPS](#) [CALENDAR](#)



### News

[Home / News](#)

## Multi-Jurisdictional Hazard Mitigation Plan Project Underway – We Need Your Input!

Ten PWAG member agencies are working on a Multi-Jurisdictional Hazard Mitigation Plan (MJHMP); this is a regional plan that allows us to work together to protect our service areas from the effects of a disaster. We invite you to look at the draft plans and provide input during this planning process.

An MJHMP consists of a "base plan" that describes the whole group's geographic area – including seismic and weather information, census data and more. To understand our MJHMP, [start with the base plan and then choose the "annex" \(or detailed plan\) for the member district you are interested in.](#) Click the name of the plan you want to read to access the PDF file:

#### **PWAG Draft Base Plan**

[Rowland Base Plan 1.1.2024](#)

#### **PWAG Member Agency Draft Plan Annexes**

[Annex-Bellflower 1.1.2024](#)

[Annex-Kinnetoa 1.1.2024](#)

[Annex-La Puente Valley CWD 1.1.2024](#)

[Annex-Pico 1.1.2024](#)

[Annex-PWAG 1.1.2024](#)

[Annex-SGCCWD 1.1.2024](#)

[Annex-South Montebello 1.1.2024](#)

[Annex-Three Valleys 1.1.2024](#)

[Annex-Valencia Heights 1.1.2024](#)

[Annex-Walnut Valley 1.1.2024](#)





# Scroll down for more information on the draft plans and to access the feedback form.

## We Need Your Input

Public Water Agencies Group Member Agencies are seeking input from our customers and other stakeholders as we prepare our Hazard Mitigation Plan. The Plan will help all of us be more resilient against natural hazards. We have completed the Initial Draft Plan and are now ready to proceed with the rest of the planning process. The next step is to reach out to our customers and other stakeholders to gather their questions, thoughts, and recommendations for creating the best plan possible.

### What is a Hazard Mitigation Plan?

A Hazard Mitigation Plan is a framework that will guide PWAG Member Agencies in making decisions and developing policies to reduce or eliminate risks to life and property. The plan identifies the types of hazards that threaten the service area, evaluates our vulnerability to those threats, and outlines a strategy to reduce or eliminate the risk posed by those threats. Whether retrofitting infrastructure or adding storm drains, the Plan identifies a range of actions and projects that will help us avoid damage and recover quickly from hazard events.

### Why is the Plan Important?

The Disaster Mitigation Act of 2000 passed by Congress requires that all forms of local government maintain an approved hazard mitigation plan to be eligible for and receive certain types of Federal Emergency Management Agency (FEMA) and other hazard mitigation funds. Receipt of these funds can be critical to the implementation of identified hazard mitigation programs that break the cycle of disaster, damage, restoration, and repeated damage.

### Why is My Input Needed?

In order to do a thorough job of identifying and planning for future disasters, we need your input. PWAG Member Agencies want to hear your thoughts on the hazards and mitigation strategy identified in the Hazard Mitigation Plan.

Name (optional)

First

Last

Email (optional)

### I Want to Tell You About:

- The Draft Plan as a Whole
- The Draft Base Plan
- A Draft Plan Annex for a Specific Agency

### Draft Plan Annex I Am Writing About:

### My Comments



## RWD Customer and Stakeholders Input from January 2024 Outreach

Agency Represented, Name, Position Title	Information Received and Incorporated
<b>Customers</b>	No input received
<b>Water Agencies</b>	No input received
Palm Ranch Irrigation District, Peter Tuculet, General Manager	
California Water Service Company - Antelope Valley District, Jon Yasin, District Manager	
White Fence Farms Mutual Water Company, Mark Horwedel, General Manager	
Sunnyside Farms Mutual Water Company, Jeanne Miller, Operator	
Antelope Park Mutual Water Company, Elizabeth Green, President	
Littlerock Creek Irrigation District, James Chaisson, General Manager	
Santa Clarita Valley Water Agency, Michael Alvord, Director of Operations & Maintenance	
La Canada Irrigation District, Justin Bailey, Assistant General Manager	
Valley Water Company, Bob Fan, General Manager	
City of Glendale Water & Power, Mark Young, General Manager	
Burbank Water & Power, Dawn Roth Lindell, General Manager	
City of Pasadena Water & Power Department, Sidney Jackson, General Manager	
Sierra Madre Water & Sewer, Arnulfo Yanez, Director Public Works	
CalAm Water San Marino, Kevin Tilden, President	
CalAm Water East Pasadena, Kevin Tilden, President	
City of Alhambra Utility Department, Dennis Ahlen, Deputy Director of Utilities	
Golden State Water Company - San Gabriel, Benjamin Lewis, General Manager Foothill District	
City of El Monte Water Department, Alma Martinez, City Manager	
City of Arcadia Water & Sewer, Paul Cranmer, Director of Public Works Services	
Valley View Mutual Water Company, Jan Barendregt, Chief Executive Officer	
Azusa Light & Water, Tikan Singh, General Manager	
South West Water Company, Craig Gott, President, Suburban Water Systems	
Covina Water Division, Andy Bullington, Director of Public Works	
City of Pomona Water & Power, Rene Guerrero, Public Works Director	
City of Industry Waterworks, Joshua Nelson, City Manager	
La Habra Heights County Water District, Michael Gualtieri, General Manager	
City of Santa Fe Springs Water Utility Authority, Rene Bobadilla, City Manager	
Liberty Utilities Bellflower Norwalk, Gabriel Gomez, Operations Supervisor - Production	
City of Paramount Water Services, John Moreno, City Manager	
Long Beach Water, Tai Tseng, Director of Operations	
City of Cerritos Water Department, Dario Simoes, Acting Director of Public Works/City Engineer	
CalAm Water Commerce, Kevin Tilden, President	
City of Montebello Public Works, Danilo Batson, Director Public Works	
<b>Cities</b>	No input received
City of Bellflower, Len Gorecki, Director of Public Works	
City of La Puente, John Dimario, Director of Development Services	
City of Industry, Sam Pedroza, Assistant City Manager	
City of Pico Rivera, Noe Negrete, Director of Public Works	
City of San Gabriel, Mark Lazzaretto, City Manager	



Agency Represented, Name, Position Title	Information Received and Incorporated
City of San Gabriel, Captain Antonio Negrete, Fire Department PIO	
City of San Marino, Philippe Eskandar, City Manager	
City of Alhambra, Jessica Binnquist, City Manager	
City of Alhambra, Ron Dalessandro, Fire Department Communications Supervisor	
Temple City, Brian Ariizumi, Public Safety Supervisor	
City of Montebello, Darrol Hunt, PIO	
City of Glendora, Greg Morton, PIO	
City of La Verne, Richard J. Martinez, Utilities Manager	
City of San Dimas, Anissa Livas, PIO	
City of Claremont, Shelley Desautels, City Clerk	
City of Pomona, Mark Gluba, PIO	
City of West Covina, Lisa Sherrick, Assistant City Clerk	
City of Walnut, Tom Weiner, City Manager	
City of Diamond Bar, Marsha Roa, Public Information Manager	
<b>Target Agencies</b>	No input received
Los Angeles Regional Food Bank, Michael Flood, Executive Director	
Salvation Army, Nick Nguyen, Emergency Disaster Services Director	
Buddhist Tzu Chi Foundation, Curtis Hsing, Emergency Disaster Services Manager	
Volunteers of America, Andrew Grundig, Safety Coordinator II	
211 LA County, Maribel Marin, Executive Director	
American Red Cross, Bee Kong, Regional Volunteer Services Officer	
United American Indian Involvement, Eric Honanie, Director of Operations	
Church of Scientology, Janet Weiland, CSDR Greater LA/So. CA Regional Office	
Los Angeles Region Community Recovery Organization (LARCRO), Jennifer Campbell, Executive Director	
Habitat for Humanity, Jessica Lawson, Disaster Recovery Program Manager	
Service Center for Independent Life, Larry Grable, Executive Director	
BAPS Charities, Mehul Patel, Volunteer	
Buddhist Tzu Chi Foundation, Norman Yang, Emergency Disaster Services Program Associate	
West Valley Counseling Center, Dr Sharon Burnett, Founder, Executive Director	
Christian Church – Disciples of Christ, Rev. Richie Sanchez, Regional Minister and President	
Didi Hirsch Mental Health Foundation, Lynn Morris, Chief Executive Officer	
Neighborhood Legal Services LA, Yvonne Mariajimez, President and CEO	
California Southern Baptist Convention Disaster Response Ministries, Laura Johnson, CSBCDR Operations Coordinator	
North Los Angeles County Regional Center, Ruth Janka, Executive Director	
Eastern Los Angeles Regional Center, Gina Esparza, Emergency Management Officer	
San Gabriel Pomona Regional Center, Jesse Weller, Executive Director	
Lanterman Regional Center, Melinda Sullivan, Executive Director	
Jewish Family Service of Los Angeles, Nancy Volpert, Senior Director of Public Policy & Community Engagement	
Thai Community Development Center, Chancee Martorell, Executive Director	
Catholic Charities, Shaun McCarty, Program Manager, Disaster Recovery Program	
California Community Foundation, Antonia Hernández, President and CEO	
Church World Service, Matthew Stevens, Director of Congregational Campaign	



Agency Represented, Name, Position Title	Information Received and Incorporated
United Way Greater Los Angeles, Elise Buik, President and CEO	
Federal Emergency Management Agency (FEMA), Charles Craig, Voluntary Agency Liaison	
City of Los Angeles Emergency Management Department, Carol Parks, General Manager	
Los Angeles County Office of Emergency Management, Jeanne O'Donnell, Program Manager	
Los Angeles County Public Social Services, John Cvjetkovic, Administrative Services Manager II	
Los Angeles County Department of Health Services, Coral Itzcalli, PIO	
Los Angeles County Department of Mental Health, Laura Relph, Sr. Disaster Services Analyst	
Los Angeles County Department of Public Works, Loni Eazell, Disaster Services Specialist	
Los Angeles County Department of Public Works, Steven Frasher, PIO	
Los Angeles County Department of Aging and Disabilities, Nikolette Orlandou, PIO	
Los Angeles County Department of Military & Veteran Affairs, Kathleen Piché, PIO	
Los Angeles County Department of Public Health, Stella Fogleman, Director, Emergency Preparedness and Response	
Emergency Network of Los Angeles, Yosef Jalil, Program Director	
Los Angeles County Fire Department, Battalion Chief Chad Sourbeer, PIO	
Los Angeles County Fire Department, Mario Tresieras, Division Chief Health HazMat	
Los Angeles County Sheriff's Department, Captain Lorena Rodriguez, PIO	
California Highway Patrol, Sergeant Alejandro Rubio, PIO, Southern Division	
Los Angeles Unified School District, Jill Barnes, Executive Emergency Strategist, Office of Emergency Services	
Disaster Management Area A, Christine Parra, Disaster Management Area Coordinator	
Disaster Management Area B, Debbie Pedrazzoli, Disaster Management Area Coordinator	
Disaster Management Area C, Soraya Sutherlin, Disaster Management Area Coordinator	
Disaster Management Area D, Diana Manzano-Garcia, Disaster Management Area Coordinator	
Disaster Management Area E, David Ashman, Disaster Management Area Coordinator	
Disaster Management Area F, Francisco Soto, Disaster Management Area Coordinator	
Disaster Management Area G, Brandy Villanueva, Disaster Management Area Coordinator	
Disaster Management Area H, Darryl Pedigo, Disaster Management Area Coordinator	
Board of Supervisors - 1st District, Kimberly Ortega, Acting Communications Deputy	
Board of Supervisors - 2nd District, Lenee Richards, Chief Communications Officer	
Board of Supervisors - 3rd District, Constance Farrell, Director of Communications	
Board of Supervisors - 4th District, Liz Odendahl, Press Deputy	
Board of Supervisors - 5th District, Helen Chavez, Director of Communications	



## Social Media – February 2024

X:



**Rowland Water District** @RowlandWater · Jan 29, 2024

Notice of Public Hearing: “Draft” Multi-Jurisdictional Hazard Mitigation Plan

Tuesday, February 13, 2024 at 6:00 p.m.

Rowland Water District

#RWD is seeking input from our customers.

To view the plan & provide your comments visit [rwd.org/mjhmp](http://rwd.org/mjhmp).

The graphic features a blue and white color scheme with a background image of a town and mountains. In the top left corner is the Rowland Water District logo. The central text reads: "NOTICE OF PUBLIC HEARING To Receive Comments on 'Draft' Multi-Jurisdictional Hazard Mitigation Plan". To the right of this text is a circular callout containing the date and time: "Date: 2/13/24 Time: 6:00 p.m." and a calendar icon with the number 13 highlighted. At the bottom, a blue banner says "Visit [www.rwd.org](http://www.rwd.org) to learn more and provide input" next to a hand cursor icon. The bottom portion of the graphic shows an aerial view of a large white water storage tank.



Instagram:

**NOTICE OF PUBLIC HEARING**

To Receive Comments on  
**“Draft” Multi-Jurisdictional Hazard Mitigation Plan**

Visit [www.rwd.org](http://www.rwd.org) to learn more and provide input

Date: 2/13/24  
 Time: 6:00 p.m.

rowlandwaterdistrict

rowlandwaterdistrict NOTICE OF PUBLIC HEARING: “Draft” Multi-Jurisdictional Hazard Mitigation Plan

Tuesday, February 13, 2024 at 6:00 p.m.  
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#RWD is seeking input from our customers and other stakeholders as we prepare our Hazard Mitigation Plan.

To view the plan and provide your comments visit [rwd.org/mjhmp](http://rwd.org/mjhmp).

60w

View insights Boost post

Liked by [scwua1](#) and 5 others  
 January 29, 2024

Add a comment... Post



**Nextdoor:**



**Rowland Water District** ✓

Rowland Water District · 30 Jan 24



We need your input!

The Rowland Water District is seeking input from our customers and other stakeholders as we prepare our Hazard Mitigation Plan. The Plan will help all of us be more resilient against natural hazards. We have completed the Initial Draft Plan and are now ready to proceed with the rest of the planning process. The next step is to reach out to our customers and other stakeholders to gather their questions, thoughts, and recommendations for creating the best plan possible.

If you would like to provide your comments in person, join us for a Public Hearing on Tuesday, February 13, 2024, at 6:00 p.m. The public hearing will take place at Rowland Water District, located at 3021 Fullerton Road in Rowland Heights.

You can view the plan at [www.rwd.org/mjhmp](http://www.rwd.org/mjhmp). Customers, stakeholders and community members who are unable to attend the public hearing can submit comments online by visiting the same link.

What is a Hazard Mitigation Plan?

A Hazard Mitigation Plan is a framework that will guide Rowland Water District in making decisions and developing policies to reduce or eliminate risks to life and property. The plan identifies the types of hazards that threaten the service area, evaluates our vulnerability to those threats, and outlines a strategy to reduce or eliminate the risk posed by those threats. Whether retrofitting infrastructure or adding storm drains, the Plan identifies a range of actions and projects that will help us avoid damage and recover quickly from hazard events. Learn more at [www.rwd.org/mjhmp](http://www.rwd.org/mjhmp).

**NOTICE OF PUBLIC HEARING**  
**To Receive Comments on**  
**“Draft” Multi-Jurisdictional Hazard Mitigation Plan**

Date: 2/13/24  
Time: 6:00 p.m.

[Click here to learn more and provide input](#)

Posted to **Subscribers of Rowland Water District**



## Web Posting: RWD Board of Directors Meeting – February 2024

The Rowland Water District is seeking input from our customers and other stakeholders as we prepare our Hazard Mitigation Plan. The Plan will help all of us be more resilient against natural hazards. We have completed the Initial Draft Plan and are now ready to proceed with the rest of the planning process. The next step is to reach out to our customers and other stakeholders to gather their questions, thoughts, and recommendations for creating the best plan possible.

To view the Plan and provide your comments, please go to the following link to view the PWAG Draft Base Plan and the Annexes: <https://pwagroup.org/news/>



If you would like to provide your comments in person, the public hearing is scheduled for Tuesday, February 13, 2024 at 6:00 p.m., at Rowland Water District.

### What is a Hazard Mitigation Plan?

A Hazard Mitigation Plan is a framework that will guide Rowland Water District in making decisions and developing policies to reduce or eliminate risks to life and property. The plan identifies the types of hazards that threaten the service area, evaluates our vulnerability to those threats, and outlines a strategy to reduce or eliminate the risk posed by those threats. Whether retrofitting infrastructure or adding storm drains, the Plan identifies a range of actions and projects that will help us avoid damage and recover quickly from hazard events.

### Why is the Plan Important?

The Disaster Mitigation Act of 2000 passed by Congress requires that all forms of local government maintain an approved hazard mitigation plan to be eligible for and receive certain types of Federal Emergency Management Agency (FEMA) and other hazard mitigation funds. Receipt of these funds can be critical to the implementation of identified hazard mitigation programs that break the cycle of disaster, damage, restoration, and repeated damage.

### Why is my input needed?

In order to do a thorough job of identifying and planning for future disasters, we need your input. The Rowland Water District wants to hear your thoughts on the hazards and mitigation strategy identified in the Hazard Mitigation Plan.

## Constant Contact Distribution Data



### February 13, 2024 Public Hearing

Sent



• Sent Jan 29, 2024 at 1:10pm PDT

13,948 sends • 5,822 (50%) opens • 196 (2%) clicks • 2,272 (16%) bounces • 15 (1%) unsubscribes



## Board of Directors Minutes – February 13, 2024



Minutes of the Regular Meeting  
of the Board of Directors of the Rowland Water District  
February 13, 2024 – 6:00 p.m.  
3021 Fullerton Road  
Rowland Heights, CA 91748

### PLEDGE OF ALLEGIANCE

### ROLL CALL OF DIRECTORS

President Szu Pei Lu-Yang  
Vice President John Bellah  
Director Vanessa Hsu  
Director Robert W. Lewis  
Director Anthony J. Lima

### ABSENT:

None

### OTHERS PRESENT:

Joseph Byrne, Legal Counsel, Best, Best & Krieger  
Mike Ti, TVMWD  
Sylvie Lee, TVMWD  
Erin LaCombe, CV Strategies  
Tara Bravo-Mullaly, CV Strategies

### ROWLAND WATER DISTRICT STAFF

Tom Coleman, General Manager  
Dusty Moisiso, Assistant General Manager  
Allen Davidson, Director of Operations  
Myra Malner, Director of Finance  
Gabby Sanchez, Executive Services Manager  
Elisabeth Mendez, Compliance & Safety Manager  
Brittnie Gildea, Education & Community Outreach Coordinator

**ADDITION(S) TO THE AGENDA** – None.

**PUBLIC COMMENT ON NON-AGENDA ITEMS** - None.

### I. PUBLIC HEARING: “Draft Multi-jurisdictional Hazardous Mitigation Plan

- 1.1 President Lu-Yang opened the public hearing at 6:01 p.m. to receive public comment on the “Draft” Multi-jurisdictional Hazardous Mitigation Plan (Plan).
- 1.2 General Manager Tom Coleman reported that the Hazard Mitigation Plan is a framework that will guide Rowland Water District in making decisions and developing policies to reduce or eliminate risks to life and property. The Plan identifies the types of hazards that threaten the service area, evaluates our vulnerability to those threats, and outlines a strategy to reduce or eliminate the risk posed by those threats. He advised that the draft Plan was made available for public review via the District’s and Public Water Agencies Group (PWAG) websites concurrently with posting the notice of public hearing. Mr. Coleman concluded his report by noting that the purpose of the public hearing is to receive public and stakeholder input before finalizing the Plan.
- 1.3 President Lu-Yang invited members of the public to comment on the Plan, however, no public comment was received.
- 1.4 President Lu-Yang closed the public hearing at 6:05 p.m.



## Planning Team Agenda: Meeting #1 – September 14, 2022

### Agenda

#### Public Water Agencies Multi-Jurisdictional Hazard Mitigation Plan

#### Planning Team Meeting #1 (Virtual)

September 14, 2022

1. Examine the purpose of hazard mitigation.
2. Discuss the concepts and terms related to hazard mitigation planning.
3. Review the project schedule and public involvement during the plan writing phase.
4. Discuss results of the Initial Risk Assessment.
5. Gather District Profiles Data
  - a. History, Geography, Land Use, Demographics, CIP



## Planning Team Agenda: Meeting #2 – September 28, 2022

### Agenda

#### Public Water Agencies Group Multi-Jurisdictional Hazard Mitigation Plan

#### Planning Team Meeting #2 (Virtual)

September 28, 2022

1. Introduce Calculated Priority Risk Index tool. Announce One-on-One Mentoring sessions with Emergency Planning Consultants and each of the participating agencies.
2. Review HAZUS maps for each of the 11 participating agencies.
3. Review examples of hazard mitigation activities.
4. Review sample Mitigation Actions Matrices from Jurupa Community Services District and Cucamonga Valley Water District.
5. Discuss shift from a PWAG Base Plan to a Rowland Water District Base Plan. (RWD is the holder of the project-funding grant.)



## One-on-One Mentoring Sessions – November 2-12, 2022

### Agenda

#### Rowland Water District Multi-Jurisdictional Hazard Mitigation Plan

#### One-on-One Mentoring Sessions (Virtual)

November 2-12, 2022

1. Review Hazards Identified in Los Angeles County All-Hazards Mitigation Plan along with hazards agreed to by the MJHMP Planning Team.
2. Based on MJHMP hazard list, identify hazards impacting the participating agency.
3. Examine agency's MyHazards Map.
4. Review and complete CPRI Tool.
5. Review process for completing Mitigation Actions Matrix.



## **Collaborative Meeting – December 6, 2022**

### **Agenda**

#### **Rowland Water District Multi-Jurisdictional Hazard Mitigation Plan**

#### **Collaborative Meeting Among Participating Agencies (Live/Virtual)**

**December 6, 2022**

- 1. Recap Hazard Identification process and selected hazards: Drought, Dam Inundation, Earthquake, Flood, Wildfire, Utility Related.**
- 2. Field questions about eligibility of mitigation action ideas for federal grant funding.**
- 3. Discuss potential collaborative hazard mitigation projects.**



## Planning Team Agenda: Meeting #3 – January 19, 2023

### Agenda

#### Rowland Water District Multi-Jurisdictional Hazard Mitigation Plan

#### Planning Team Meeting #3 (Live)

January 19, 2023

1. Share PowerPoint on the FEMA regulations going into effect on April 19, 2023. Discuss impact on the MJHMP.
2. Review updated Mitigation Action Matrix based on first Planning Team meeting and One-on-One Mentoring Sessions.
3. Develop additional mitigation action items.
4. Continue to gather and develop mitigation action item information including:
  - a. Comments: Cost Estimates (not required), Ongoing
  - b. Ratings: Priority, Benefit, Cost
  - c. Funding Source and Planning Mechanism
  - d. Impact to Buildings/Infrastructure
  - e. Lead Department/Position
  - f. Timeline
  - g. Plan Goals Accomplished
5. Introduce Capability Assessment and Critical Facilities Assets List tools.



# One-on-One Mentoring Sessions – February through May 2023

## Agenda

### Rowland Water District Multi-Jurisdictional Hazard Mitigation Plan

### One-on-One Mentoring Sessions (Virtual)

### February through May 2023

1. Review draft Capability Assessment
2. Review draft Critical Facilities Assets List
3. Answer questions about planning process and next steps



## Planning Team Agenda: Meeting #4 – June 28, 2023

### Agenda

#### Rowland Water District Multi-Jurisdictional Hazard Mitigation Plan

#### Planning Team Meeting #4 (Live)

June 28, 2023

- I. **Note: distributed First Draft Plans in advance to the MJHMP Planning Team.**
  - a. **Provide Plan overview**
  - b. **Gather missing information and answer questions**
  - c. **Discuss strategy for community outreach, formal plan review, adoption, approval**
    - i. **Discuss order of gathering input to the Base Plan First Draft and Annex First Drafts**
      1. **MJHMP Planning Team members**
      2. **Agency-specific Planning Team members**
      3. **General Public and External Agencies**
        - a. **Public (notice of plan availability)**
        - b. **Note: new FEMA outreach requirements: underserved communities and socially vulnerable populations – recommend using city and county government Housing Element contact resources**
        - c. **External Agencies (Community Lifelines, Adjoining Jurisdictions)**



## Summary of Outreach Activities – All Planning Participants

Outreach Activities	Bellflower-Somerset Mutual Water Company	Kinneloa Irrigation District	La Puente Valley County Water District	Pico Water District	Public Water Agencies Group	Rowland Water District	San Gabriel County Water District	South Montebello Irrigation District	Three Valleys Municipal Water District	Valencia Heights Water Company	Walnut Valley Water District
<b>Public Forums</b> – Briefing to Board of Directors (note: members are residents in the service area)	X		X	X	X	X	X	X	X	X	X
<b>Press Releases</b> – distributed as per District protocols											
<b>Social Media</b> – Facebook, X, Instagram, Nixle including announcement of the planning process and availability of the draft plan. (note: not all of the participating agencies utilize all of the types of social media)	X		X	X		X	X				
<b>Customer Bill Insert</b> – included in December 2023 bill								X			
<b>Newsletter/Local Newspaper</b> – Digital or hard copy as available to the participating districts	X			X			X	X			
<b>Website</b> – PWAG hosted a project-wide website including introductory language about the planning process. The Base Plan and 9 Annexes were also posted. Participants who additionally posted on their own website are indicated with an asterisk (*)	X*	X	X	X*	X	X*	X	X*	X*	X*	X*
<b>Stakeholder Email or Mail</b> – used to inform stakeholders of the planning process and availability of the First Draft Plan (Base Plan, Annexes).	X	X	X	X	X	X	X	X	X	X	X
<b>Customer Email</b> – used to inform customers of the planning process and availability of the First Draft Plan (Base Plan, Annexes).						X					



## Initial Email to Planning Team – September 7, 2022

### PWAG MJHMP Planning Team Meeting Scheduling - response needed

From: Alix Stayton (astayton@pwagroup.org)  
To: steve@bsmwc.com; joebakpak@gmail.com; martin@kinneloirrigationdistrict.info; rfrausto@lapuentewater.com; jbasulto@picowaterdistrict.net; tcoleman@rowlandwater.com; EMendez@rwd.org; jim@sgc wd.com; a.corrales@pacbell.net; mlitchfield@tvmwd.com; dmichalko@vhwc.org; ehitchman@wwwd.com; jmacias@wwwd.com  
Cc: epc@pacbell.net  
Date: Wednesday, September 7, 2022 at 05:48 PM PDT

Good evening PWAG members,

We are very pleased to have selected Carolyn Harshman of Emergency Preparedness Consultants to develop our Multi-Jurisdictional Hazard Mitigation Plan (MJHMP). Thanks again to our hard-working scoring group for completing that process with me. We'd like to get the project going as quickly as possible, in order to meet our deadline. Each participating agency must send at least one representative to each of four PWAG Planning Team meetings throughout the course of the project. You may, of course send as many representatives as you like, but a minimum of one is required to keep your agency on track.

#### WHO SHOULD GO

EPC recommends that the Planning Team consist of at least one representative from each of the participating agencies. Since hazard mitigation planning focuses on impacts to critical facilities, it's particularly important to appoint representatives familiar with construction and maintenance of the agency's buildings and infrastructure. (you may decide to send different people to different meetings, see below)

**I have put together a Doodle poll for the first meeting next week, please complete as soon as you are able:**

<https://doodle.com/meeting/participate/id/e32KWznd>

#### MEETING TOPICS

##### Planning Team Meeting #1 (2 hours)

- The purpose of the first meeting is to provide a general overview of the project, determine overall plan goals, review Project Schedule, gather pertinent documents, confirm roles and membership of the Planning Team, review the concepts and standards contained in the DMA 2000 regulations and FEMA Review Tool, discuss results of initial hazard assessment. Opportunities relating to the community outreach approach will also be discussed.

##### Planning Team Meeting #2 (2 hours)

The purpose of the second meeting is to begin work on the Mitigation Strategy (plan goals and mitigation action items). This will involve capturing the status of the mitigation actions identified in previous agency-specific Hazard Mitigation Plans along with other existing mitigation activities since that plan. EPC will work in advance of the meeting to review the General Plans and Capital Improvement Programs of the jurisdictions served by each agency in order to best align with local and regional mitigation activities.

##### Planning Team Meeting #3 (2 hours)

- The purpose of the third meeting is to develop new mitigation action items. During the meeting EPC will distribute a planning tool that contains a comprehensive list of mitigation actions from a wide variety of jurisdictional plans. The use of this comprehensive list will assist and expedite the Planning Team's process of identifying existing and future mitigation actions.

##### Planning Team Meeting #4 (2 hours)

- Review of the First Draft Plan will be preceded by advance distribution of the document to the Planning Team. The meeting will provide an opportunity for the Team to provide input to the First Draft Plan. Also, this meeting will



include a discussion on final preparations and logistics for soliciting input from the general public and external agencies during the distribution of the Second Draft Plan.

#### SECOND MEETING SCHEDULING

I do have Carolyn's availability for the second meeting, and have put together a Doodle poll for that as well, so we can plan further into the future for easier attendance:

<https://doodle.com/meeting/participate/id/dPZ530na>

Please call, text or email anytime with questions or for more information. Looking forward to a great project.

Best,

Alix