Multi-Jurisdictional Hazard Mitigation Plan:

Rainbow Municipal Water District Annex

San Diego County, California

2023

This page is intentionally left blank.

1. SECTION ONE: Determine the Planning Area and Resources

1.1. Planning Area: (Rainbow Municipal Water District)

Rainbow Municipal Water District is located at 3707 Old Highway 395 in Fallbrook California. As a public agency providing water and wastewater service, the District's objective is to provide and maintain reliable service to its customers. The District currently serves approximately 19,000 retail water customers with water from both the Colorado River and the State Water Project. Water distribution is accomplished through over 300 miles of pipeline and over 8,771 service connections. The District also operates a wastewater conveyance system with over 2,718 sewer connections that serves approximately 8,771 customers. The wastewater system has a capacity of 1.5 main gallons per day (mgd). Wastewater treatment is performed through a contract by the City of Oceanside at the San Luis Rey Wastewater Treatment Plant.

The Rainbow Municipal Water District was established in 1953 and is a Special District, organized under Section 71000 of the California Water Code. RMWD is a member of the San Diego County Water Authority. The District provides water and sanitation services to the unincorporated communities of Rainbow, Bonsall, and portions of Vista, Oceanside and Fallbrook. It's comprised of a 5 member elected Board and 5 Divisions.

100 percent of the District's water is imported from two locations; the Lake Skinner Water Treatment Plant in Hemet and the Twin Oaks Valley Water Treatment Plant in San Marcos.

Rainbow MWD maintains over 320 miles of water main, 7 pump stations, 4 reservoirs, and 13 storage tanks to deliver water to its customers. We also provide sewer services to parts of our District and maintain 6 lift stations and 60 miles of sewer main.

1.2. Community Rating System Requirements

The Community Rating System (CRS) is a FEMA program and rewards communities that go beyond the minimum standards for floodplain management under the National Flood Insurance Program (NFIP). Communities can potentially improve their Community Rating System and lower NFIP premiums by developing a CRS Plan.

For more information on the National Flood Insurance Program, see http://www.fema.gov/national-flood-insurance-program.

Community Rating System (CRS) Planning Steps	Local Mitigation Planning Handbook Tasks (44 CFR Part 201)
Step 1. Organize	**Task 1:** Determine the Planning Area and Resources **Task 2:** Build the Planning Team 44 CFR 201.6(c)(1)
Step 2. Involve the public	**Task 3:** Create an Outreach Strategy 44 CFR 201.6(b)(1)
Step 3. Coordinate	**Task 4:** Review Community Capabilities 44 CFR 201.6(b)(2) & (3)
Step 4. Assess the hazard	**Task 5:** Conduct a Risk Assessment 44 CFR 201.6(c)(2)(i) 44 CFR 201.6(c)(2)(ii) & (iii)
Step 5. Assess the problem	
Step 6. Set goals	**Task 6:** Develop a Mitigation Strategy 44 CFR 201.6(c)(3)(i) 44 CFR 201.6(c)(3)(ii) 44 CFR 201.6(c)(3)(iii)
Step 7. Review possible activities	
Step 8. Draft an action plan	
Step 9. Adopt the plan	**Task 8:** Review and Adopt the Plan 44 CFR 201.6(c)(5)
Step 10. Implement, evaluate, revise	**Task 7:** Keep the Plan Current **Task 9:** Create a Safe and Resilient Community 44 CFR 201.6(c)(4)

TABLE 1: FEMA LOCAL MITIGATION PLANNING HANDBOOK WORKSHEET 1.1 DESCRIBES THE CRS REQUIREMENTS MET BY THE SAN DIEGO COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN.

Any jurisdiction or special district may participate in the hazard mitigation planning process. However, to request FEMA approval, each of the local jurisdictions must meet all requirements of 44 CFR §201.6. In addition to the requirement for participation in the process, the Federal regulation specifies the following requirements for multi-jurisdictional plans:

- The risk assessment must assess each jurisdiction's risk where they may vary from the risks facing the entire planning area. (44 CFR §201.6(c)(2)(iii))
- There must be identifiable action items specific to the jurisdiction requesting FEMA approval or credit of the plan. (44 CFR §201.6(c)(3)(iv))
- Each jurisdiction requesting approval of the plan must document that is has been formally adopted. (44 CFR §201.6(c)(5))

The hazard mitigation plan must clearly list the jurisdictions that participated in the plan and are seeking plan approval. The San Diego County Multi-Jurisdictional Hazard Mitigation Plan and annexes meet all requirements.

2. SECTION TWO: Build the Planning Team

2.1. Planning Participants

The following members comprised the Planning Team:

Robert Gutierrez	Operations Manager	**Department**
Robert Gutierrez	Operations Manager	Operations
Chad Williams	Engineering Manager	Engineering
Amanda Parra	Project Manager	Engineering
Malik Tammi	Project Manager	Engineering
Ahmed Khattab	IT Manager	IT
Michael Powers	Engineer	Engineering
Tracy Largent	Finance Manager	Finance
Esaud Lagunas	Construction and Meters Supervisor	Operations
Steve Coffey	Water Operations Supervisor	Operations
Ramon Zuniga	Wastewater Supervisor	Operations
Renee Rubio	Finance Supervisor	Finance
Charmaine W. Esnard	Risk Management Officer	Human Resources

2.2. Planning Process

The process of updating the District's LHMP and mitigation strategies was conducted via formal meetings, email, and phone discussions. The District's Risk Management Officer and Grants Specialist coordinated with and attended planning meetings hosted by the County Office of Emergency Services. The Planning Team members identified the objectives of the Plan, discussed and prioritized the relevant hazards to the District, conducted a review and incorporation of existing information and prepared and reviewed mitigation strategies to address vulnerabilities.

Informal meetings with District Staff (subject matter experts, engineering team, managers,) were conducted by planning team members to complete FEMA worksheets The review and incorporation of existing information and the updating of the plan sections involved consideration of the prior efforts, the hazard and risk information drawn from vulnerability assessments, historical data. *See the San Diego County Multi-Jurisdictional Hazard Mitigation Plan's Section Two for details about the county-wide Planning Process.*

3. SECTION THREE: Create an Outreach Strategy

See the *San Diego County Multi-Jurisdictional Hazard Mitigation Plan's* Section Three for details about the county-wide outreach strategy.

4. SECTION FOUR: Review Community Capabilities

Local mitigation capabilities are existing authorities, policies, programs, and resources that reduce hazard impacts or that could be used to implement hazard mitigation activities and must be included in a hazard mitigation plan by the planning team.
The planning team also may identify additional types of capabilities relevant to mitigation planning.

4.1. Capability Assessment

The primary types of capabilities for reducing long-term vulnerability through mitigation planning are:

- Planning and regulatory
- Administrative and technical
- Financial
- Education and outreach

4.1.1. Planning and Regulatory

Planning and regulatory capabilities are the plans, policies, codes, and ordinances that prevent and reduce the impacts of hazards. Please indicate which of the following your jurisdiction has in place:

The Rainbow Municipal Water District was organized on December 20, 1953, under the Municipal Water District Act of 1911 (commencing with section 71000 of the California Water Code). The Board of Directors is composed of five members who are elected by divisions of the District for four-year alternating terms, with the president being elected by the Board from among its members. Advisory Committees composed of residents from all divisions of the District assist the Board in water issues and financial planning. Operation, maintenance, and administration of the system is carried out by a staff of 58.5 full time employees under the direction of the General Manager, Thomas Kennedy.

DISTRICT POWERS

The District has broad general powers to perform all necessary or proper acts, including but limited to the authority to acquire, plan, construct, maintain, improve, operate and repair necessary works for the transmission and distribution

of water for irrigation and other purposes and for reclamation of such water; the right of eminent domain; authority to levy taxes or, in lieu thereof, to fix and collect charges for water, including standby charges made to holders of title to land to which water may be made available, whether or not the water is actually used; authority to establish rules and regulations for the sale and distribution of water including rules for providing that water shall not be furnished to persons against whom there are delinquent water charges; authority to contract with the Unites States, the State and the agencies of either; and the power to join with one or more public agencies, private corporations or other persons for the purpose of carrying out any of the powers of the District.

FINANCIAL POLICIES

The District maintains certain policies that govern aspects of the District's financial management. The District's maintains the following policies:

- Debt Management Policy - Defines the District's debt management.
- Investment Policy - Establishes permitted investments in compliance with State Code.
- Fund Balance/Reserve Policies - Set target balances for reserves and working capital.
- Capitalization Policy - Establishes the parameters for defining an operating or capital expenditure.
- Purchasing Policy - Establishes rules and limits for approval of purchases to ensure efficient buying and control of District assets.

These policies can be found on the District's website as part of the District's Administrative Code.

Plans	Yes/No Year	Does the plan address hazards? Does the plan identify projects to include in the mitigation strategy? Can the plan be used to implement mitigation actions?
Comprehensive/Master Plan		
Capital Improvements Plan	Yes	Yes
Economic Development Plan	N/A	N/A

Local Emergency Operations Plan	Yes	District
Continuity of Operations Plan	Yes	Yes
Transportation Plan	N/A	N/A
Stormwater Management Plan	N/A	N/A
Community Wildfire Protection Plan	N/A	N/A
M. Real estate disclosure requirements	N/A	N/A
Other special plans (e.g., brownfields redevelopment, disaster recovery, coastal zone management, climate change adaptation)	N/A	N/A

TABLE 2: FEMA LOCAL MITIGATION PLANNING HANDBOOK WORKSHEET 4.1 DATA.

4.1.2. Administrative and Technical

Administrative and technical capabilities include staff and their skills and tools that can be used for mitigation planning and to implement specific mitigation actions. For smaller jurisdictions without local staff resources, if there are public resources at the next higher-level government that can provide technical assistance, indicate so in your comments:

Administration	Yes/No	Describe capability Is coordination effective?
Planner(s) or engineer(s) with knowledge of land development and land management practices	Yes	
Engineer(s) or professional(s) trained in construction practices related to buildings and/or infrastructure	Yes	Engineer on staff as well as three Project Managers

Planners or Engineer(s) with an understanding of natural and/or manmade hazards	Yes	Contracted/ Engineering Committee Chair
Mitigation Planning Committee	Yes	Risk Management, CIP Team, Operations Department and Finance
Maintenance programs to reduce risk (e.g., tree trimming, clearing drainage systems)	Yes	Contracted and in-house
Mutual aid agreements	Yes	Yes
Staff	**Yes/No FT/PT1**	**Is staffing adequate to enforce regulations? Is staff trained on hazards and mitigation?** **Is coordination between agencies and staff effective?**
Chief Building Official	N/A	N/A
Floodplain Administrator	N/A	N/A
Emergency Manager	Yes	Risk Management Officer
Surveyors	N/A	N/A
Staff with education or expertise to assess the community's vulnerability to hazards	Yes	TEEX Training and consulting with DHS experts. Training through GovEvents for cyber threats
Community Planner	N/A	N/A
Scientists familiar with the hazards of the community	N/A	N/A
Civil Engineer	Yes	On staff and contracted
Personnel skilled in GIS and/or HAZUS	Yes	IT team and Engineering. All Operations personnel are also trained in the use of the District's GIS system
Grant writers	Yes	Grant Specialist assigned to Finance Team
Other		

How can these capabilities be expanded and improved to reduce risk?
Assess areas where expanding staffing best serve the District's hazard mitigation needs. Train with subject matter experts (first responders, San Diego UASI etc.) to effectively respond to hazards threating District assets.

TABLE 3: FEMA LOCAL MITIGATION PLANNING HANDBOOK WORKSHEET 4.1 DATA CONTINUED.

4.1.3. Financial

Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation:

Funding Resource	Access/ Eligibility (Yes/No)	Has the funding resource been used in past and for what type of activities? Could the resource be used to fund future mitigation actions?
Community Development Block Grants (CDBG)	N/A	N/A
Capital improvements project funding	Yes	General District Funds
Authority to levy taxes for specific purposes	N/A	
Fees for water, sewer, gas, or electric service	Yes	Water and sewer services purveyor
Impact fees for homebuyers or developers for new developments/homes	No	
Incur debt through general obligation bonds	No	
Incur debt through special tax and revenue bonds	No	
Incur debt through private activity bonds	No	
Community Development Block Grants (CDBG)	No	
Capital improvements project funding	Yes	General District Fund
Authority to levy taxes for specific purposes	N/A	N/A

How can these capabilities be expanded and improved to reduce risk?
RMWD's intention with the completion of this Hazard Mitigation Plan to leverage state and federal grant funding as much as possible to increase the resilience of RMWD.

TABLE 4: FEMA LOCAL MITIGATION PLANNING HANDBOOK WORKSHEET 4.1 DATA CONTINUED.

4.1.4. Education and Outreach

Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information:

Program/Organization	Yes/No	Describe program/organization and how relates to disaster resilience and mitigation. Could the program/organization help implement future mitigation activities?
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	N/A	N/A
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Yes	Water conservation training
Natural disaster or safety related school programs	N/A	N/A
StormReady certification	N/A	N/A
Firewise Communities certification	No	No
Public-private partnership initiatives addressing disaster-related issues	No	No
Other	N/A	

How can these capabilities be expanded and improved to reduce risk?
Continue to provide educational information to the public on our website to aid in conserving water to keep people informed of drought and other hazards. Develop an information and education outreach plan to increase awareness of wildfire protection program opportunities available to communities at risk.

TABLE 5: FEMA LOCAL MITIGATION PLANNING HANDBOOK WORKSHEET 4.1 DATA CONTINUED.

4.2. Safe Growth Audit

Identify gaps in your community's growth guidance instruments and improvements that could be made to reduce vulnerability to future development:

Comprehensive Plan	Yes	No
Land Use		
1. Does the future land-use map clearly identify natural hazard areas?	N/A	N/A
2. Do the land-use policies discourage development or redevelopment within natural hazard areas?	N/A	N/A
3. Does the plan provide adequate space for expected future growth in areas located outside natural hazard areas?	N/A	N/A
Transportation		
1. Does the transportation plan limit access to hazard areas?	N/A	N/A
2. Is transportation policy used to guide growth to safe locations?	N/A	N/A
3. Are movement systems designed to function under disaster conditions (e.g., evacuation)?	N/A	N/A

TABLE 6: FEMA LOCAL MITIGATION PLANNING HANDBOOK WORKSHEET 4.2 DATA.

Comprehensive Plan (continued)	Yes	No
Environmental Management		
1. Are environmental systems that protect development from hazards identified and mapped?	N/A	N/A
2. Do environmental policies maintain and restore protective ecosystems?	N/A	N/A
3. Do environmental policies provide incentives to development that is located outside protective ecosystems?	N/A	N/A
Public Safety		
1. Are the goals and policies of the comprehensive plan related to those of the FEMA Local Hazard Mitigation Plan?		
2. Is safety explicitly included in the plan's growth and development policies?	N/A	
3. Does the monitoring and implementation section of the plan cover safe growth objectives?	N/A	

TABLE 7: FEMA LOCAL MITIGATION PLANNING HANDBOOK WORKSHEET 4.2 DATA CONTINUED.

Zoning Ordinance	Yes	No
1. Does the zoning ordinance conform to the comprehensive plan in terms of discouraging development or redevelopment within natural hazard areas?	N/A	N/A
2. Does the ordinance contain natural hazard overlay zones that set conditions for land use within such zones?	N/A	N/A
3. Do rezoning procedures recognize natural hazard areas as limits on zoning changes that allow greater intensity or density of use?	N/A	N/A
4. Does the ordinance prohibit development within, or filling of, wetlands, floodways, and floodplains?	N/A	N/A
Subdivision Regulations	**Yes**	**No**
1. Do the subdivision regulations restrict the subdivision of land within or adjacent to natural hazard areas?	N/A	N/A
2. Do the regulations provide for conservation subdivisions or cluster subdivisions in order to conserve environmental resources?	N/A	N/A
3. Do the regulations allow density transfers where hazard areas exist?	N/A	N/A

TABLE 8: FEMA LOCAL MITIGATION PLANNING HANDBOOK WORKSHEET 4.2 DATA CONTINUED.

Capital Improvement Program and Infrastructure Policies	Yes	No
1. Does the capital improvement program limit expenditures on projects that would encourage development in areas vulnerable to natural hazards?	N/A	N/A
2. Do infrastructure policies limit extension of existing facilities and services that would encourage development in areas vulnerable to natural hazards?	N/A	N/A
3. Does the capital improvement program provide funding for hazard mitigation projects identified in the FEMA Mitigation Plan?	Yes	
Other	**Yes**	**No**
1. Do small area or corridor plans recognize the need to avoid or mitigation natural hazards?	N/A	
2. Does the building code contain provisions to strengthen or elevate construction to withstand hazard forces?	N/A	
3. Do economic development or redevelopment strategies include provisions for mitigation natural hazards?	N/A	
4. Is there an adopted evacuation and shelter plan to deal with emergencies from natural hazards?	Yes	

TABLE 9: FEMA LOCAL MITIGATION PLANNING HANDBOOK WORKSHEET 4.2 DATA CONTINUED.

Questions were adapted from Godschalk, David R. Practice Safe Growth Audits, Zoning Practice, Issue Number 10, October 2009, American Planning Association.

4.3. National Flood Insurance Program (NFIP)

As a participant in the National Flood Insurance Program (NFIP), a community develops capabilities for conducting flood mitigation activities. The hazard mitigation plan must describe each jurisdiction's participation in the NFIP. Participating communities must describe their continued compliance with NFIP requirements. The mitigation plan must do more than state that the community will continue to comply with the NFIP. Each jurisdiction must describe their floodplain management program and address how they will continue to comply with the NFIP requirements. The local floodplain administrator is often the primary source for this information.

Jurisdictions where FEMA has issued a floodplain map but are currently not participating in the NFIP may meet this requirement by describing the reasons why the community does not participate. Plan updates must meet the same requirements and document any change in floodplain management programs.

NFIP Topic	Source of Information	Comments
Insurance Summary		
How many NFIP policies are in the community? What is the total premium and coverage?	State NFIP Coordinator or FEMA NFIP Specialist	RMWD is a Special District. Special Districts are not eligible for NFIP.
How many claims have been paid in the community? What is the total amount of paid claims? How many of the claims were for substantial damage?	FEMA NFIP or Insurance Specialist	N/A
How many structures are exposed to flood risk within the community?	Community Floodplain Administrator (FPA)	N/A
Describe any areas of flood risk with limited NFIP policy coverage	Community FPA and FEMA Insurance Specialist	N/A
Staff Resources		
Is the Community FPA or NFIP Coordinator certified?	Community FPA	N/A
Is floodplain management an auxiliary function?	Community FPA	N/A
Provide an explanation of NFIP administration services (e.g., permit review, GIS, education or outreach, inspections, engineering capability)	Community FPA	N/A

What are the barriers to running an effective NFIP program in the community, if any?	Community FPA	N/A
Compliance History		
Is the community in good standing with the NFIP?	State NFIP Coordinator, FEMA NFIP Specialist, community records	N/A
Are there any outstanding compliance issues (i.e., current violations)?		N/A
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?		
Is a CAV or CAC scheduled or needed?		

TABLE 10: FEMA LOCAL MITIGATION PLANNING HANDBOOK WORKSHEET 4.3 DATA.

NFIP Topic	Source of Information	Comments
Regulation		
When did the community enter the NFIP?	Community Status Book http://www.fema.gov/national-flood-insurance-program/national-flood- insurance-program- community-status-book	N/A
Are the FIRMs digital or paper?	Community FPA	N/A
Do floodplain development regulations meet or exceed FEMA or State minimum requirements? If so, in what ways?	Community FPA	N/A
Provide an explanation of the permitting process.	Community FPA, State, FEMA NFIP Flood Insurance Manual http://www.fema.gov/flood-insurance-manual Community FPA, FEMA CRS Coordinator, ISO representative	N/A

Community Rating System (CRS)		
Does the community participate in CRS?	Community FPA, State, FEMA NFIP	N/A
What is the community's CRS Class Ranking?	Flood Insurance Manual http://www.fema.gov/flood-insurance-manual	N/A
What categories and activities provide CRS points and how can the class be improved?		N/A
Does the plan include CRS planning requirements	Community FPA, FEMA CRS Coordinator, ISO representative	N/A

TABLE 11: FEMA LOCAL MITIGATION PLANNING HANDBOOK WORKSHEET 4.3 DATA CONTINUED.

4.4. Opportunities for Improvement and Expansion

The District has begun to integrate concurrent planning efforts for this hazard mitigation plan and the planning requirements of the America's Water Infrastructure Act. The hazard mitigation plan includes information that can be used for future Improvements such as the following:

- Updates to the District's Strategic Plan.
- Emergency Response Planning
- Updates to the District's Capital Facilities
- Updates to the Wildfire Resiliency Planning
- District's Ground Water Study

Hazard mitigation activities can be implemented by staff throughout the District's organization, as different types of mitigation strategies require skills and capabilities from different internal and external groups. The Planning Team and other key staff responsible for implementation will coordinate efforts to avoid unnecessary redundancies and ensure that reduction strategies are being implemented efficiently.

The District will implement a continuous improvement plan for hazard mitigation by periodically assess the need for changes in staffing levels, as well as for additional or updated supplies, equipment, technologies, and in- agency training exercises.

The results of these assessments will be used in developing and maintaining a system of interoperable communications between District personnel and first responders as well as the need for further participation in expanding traditional disaster exercises.

5. SECTION FIVE: Conduct a Risk Assessment

The planning team conducts a risk assessment to determine the potential impacts of hazards to the people, economy, and built and natural environments of the community. The risk assessment provides the foundation for the rest of the mitigation planning process, which is focused on identifying and prioritizing actions to reduce risk to hazards.

In addition to informing the mitigation strategy, the risk assessment also can be used to establish emergency preparedness and response priorities, for land use and comprehensive planning, and for decision making by elected officials, city and county departments, businesses, and organizations in the community.

5.1. Hazards Summary

Summarize hazard description information and identify which hazards are most significant to the planning area:

Hazard	Location (Geographic Area Affected)	Maximum Probable Extent (Magnitude/Strength)	Probability of Future Events	Overall Significance Ranking
Avalanche	Negligible	Weak	Unlikely	Low
Dam Failure	Negligible	Weak	Unlikely	Low
Drought	Significant	Severe	Likely	Medium
Earthquake	Significant	Severe	Likely	Low
Erosion	Limited	Moderate	Likely	Low
Expansive Soils	Negligible	Weak	Unlikely	Low
Extreme Cold	Negligible	Weak	Unlikely	Low
Extreme Weather (Thunderstorms, Lightning, Heavy Rains, Severe Wind, Extreme Heat)	Significant	Moderate	Likely	Medium
Flood	Significant	Severe	Unlikely	Low
Hail	Negligible	Weak	Unlikely	Low

Hurricane	Negligible	Weak	Unlikely	Low
Landslide	Limited	Moderate	Occasional	Low
Sea Level Rise	Negligible	Weak	Unlikely	Low
Severe Winter Weather	Limited	Moderate	Occasional	Low
Storm Surge	Negligible	Weak	Unlikely	Low
Subsidence	Negligible	Weak	Unlikely	Low
Tornado	Negligible	Weak	Unlikely	Low
Tsunami	Negligible	Weak	Unlikely	Low
Wildfire	Extensive	Severe	Highly Likely	High

TABLE 12: FEMA LOCAL MITIGATION PLANNING HANDBOOK WORKSHEET 5.1 DATA.

Definitions for Classifications
Location (Geographic Area Affected)

- **Negligible:** Less than 10 percent of planning area or isolated single-point occurrences
- **Limited:** 10 to 25 percent of the planning area or limited single-point occurrences
- **Significant:** 25 to 75 percent of planning area or frequent single-point occurrences
- **Extensive:** 75 to 100 percent of planning area or consistent single-point occurrences

Maximum Probable Extent (Magnitude/Strength based on historic events or future probability)

- **Weak:** Limited classification on scientific scale, slow speed of onset or short duration of event, resulting in little to no damage
- **Moderate:** Moderate classification on scientific scale, moderate speed of onset or moderate duration of event, resulting in some damage and loss of services for days
- **Severe:** Severe classification on scientific scale, fast speed of onset or long duration of event, resulting in devastating damage and loss of services for weeks or months
- **Extreme:** Extreme classification on scientific scale, immediate onset or extended duration of event, resulting in catastrophic damage and uninhabitable conditions

APPENDICES

Summary of Potential Hazard-Related Exposure/Loss in Rainbow Municipal Water District

Hazard Type	Exposed Population	Number of Critical Facilities
Wildfire	22500	33
Lightning	22500	33
Flooding	3230	13
Extreme Wind	22500	33
Drought	22500	33

Top three hazards impacting the District service area: Wildfire, Drought and Extreme Weather (Thunderstorms, Lightning, Heavy Rains, Severe Wind, Extreme Heat)

The risk factors for each hazard include two variables: (1) Probability and (2) Impact. Using these two variables, the District's planning team screened each of the hazards using the criteria presented in the previous section.

The District prioritized the identified hazards by assigning each hazard a ranking based on probability of occurrence and the potential impact. These rankings were assigned based on a group discussion, knowledge of past occurrences, and familiarity with each RMWD's vulnerabilities.

Wildfire:

Probability of Future Events

- **Highly Likely:** 90 to 100 percent probability of occurrence in the next year or a recurrence interval of less than 1 year.

Overall Significance

- **High:** The criteria consistently fall in the high classifications and the event is likely/highly likely to occur with severe strength over a significant to extensive portion of the planning area.

A wildfire is any uncontrolled fire occurring on undeveloped land that requires fire suppression. Wildfires can occur naturally, such as those ignited by lightning, and are important to many ecosystem processes; however, most are started by human activity such as smoking, campfires, equipment use, and arson.

Factors Influencing Wildfire Behavior

Fire behavior is based on factors such as the following (CAL FIRE, 2012):

- Fuel—Fuel may include living and dead vegetation on the ground, along the surface as brush and small trees, and above the ground in tree canopies. Lighter fuels such as grasses, leaves quickly expel moisture and burn rapidly, while heavier fuels such as tree branches, logs and trunks take longer to

warm and ignite. Trees killed or defoliated by insects and diseases are more susceptible to wildfire.

- Weather—Relevant weather conditions include temperature, relative humidity, wind speed and direction, cloud cover, precipitation amount and duration, and the stability of the atmosphere. When the temperature is high, relative humidity is low, wind speed is increasing and coming from the east (offshore flow), and there has been little or no precipitation, so vegetation is dry, conditions are very favorable for extensive and severe wildfires. These conditions occur more frequently inland where temperatures are higher, and fog is less prevalent.
- Terrain—Topography includes slope and elevation. The topography of a region influences the amount and moisture of fuel; the impact of weather conditions such as temperature and wind; potential barriers to fire spread, such as highways and lakes; and elevation and slope of landforms (fire spreads more easily uphill than downhill).

The seasonal climatic conditions during late summer and fall create numerous serious difficulties regarding the control and protection against fires in the District. The hot, dry weather typical of this area in summer and fall, coupled with Santa Ana winds and low humidity frequently results in wildfires that threaten Pump Stations, Lift Stations, water storage tanks and above ground water reservoirs. All are susceptible to wildfire because they are situated near open space containing highly flammable, native vegetation and agricultural groves. In the case of Turner, Magee and Gomez tanks and pump stations, their locations are remote and surrounded by dense vegetation. The roads leading to these locations are also one lane country roads or limited access gated communities which can impede firefighting efforts.

Wildfires are usually signaled by dense smoke that fills the area for miles around. Wildfires present a significant potential for disaster in the southwest, a region of relatively high temperatures, low humidity, and low precipitation during the summer, and during the spring, moderately strong daytime winds. Combine these severe burning conditions with people or lightning and the stage is set for the occurrence of large, destructive wildfires.

History/Past Occurrences

Location	Date	Type	Extent of Damage
Lilac Fire	12/2017	Wildfire	The second-costliest one of multiple wildfires that erupted in Southern California costing an estimated $8.9 million (2018 USD), including $5 million in firefighting expenses and property damage, and an additional $3.9 million in cleanup and erosion control costs. The fire destroyed 157 structures and burned 4,100 acres.

			The cost in destruction of agricultural output is still felt throughout the area since several long-standing groves were permanently destroyed.
Rice Fire	10/2007	Wildfire	Was one of the most destructive fires in Fallbrook history, with 248 structures being destroyed and burning 9,472 acres.

Drought:

Probability of Future Events

- **Likely:** 10 to 90 percent probability of occurrence in the next year or a recurrence interval of 1 to 10 years

Overall Significance

- **Medium:** The criteria fall mostly in the middle ranges of classifications and the event's impacts on the planning area are noticeable but not devastating. This rating is sometimes used for hazards with a high extent rating but very low probability rating.

Description

Droughts are long-term water shortages, often the result of extended periods with little or no precipitation. Droughts can cause declines in available water supplies, which may lead to increases in water rates or restrictions to water use. In extreme cases, some communities may not have enough water to meet demand or may have to seek alternative water supplies.

Agricultural activities may suffer, particularly in areas that grow water-intensive crops. In urban areas, vegetation such as street trees and landscaped areas can become water stressed, increasing the risk of disease or plant death. Aquatic species may also be affected as streams, rivers and reservoirs have less water available to support biological health.

Droughts may also cause secondary impacts. Soil often hardens and becomes less permeable during drought conditions, which can lead to increased flooding when precipitation does occur because the soil cannot absorb water as easily. Droughts can also dry out wildland vegetation, which may increase fire risks. In severe water shortages over extended droughts, significant local hazards could develop such as, reduced reliability of water supplies to meet basic human health and safety needs, land subsidence (which could affect basic infrastructure such as roads and underground utilities and buildings), and the potential for saltwater intrusion if the groundwater basin cannot be managed to prevent it.

APPENDICES

US Drought Monitor Classification Scheme

Category	Description	Possible Impacts
D0	Abnormally dry	Slower growth of crops and pastures compared to normal activities.
D1	Moderate drought	Some damage to crops and pastures. Streams, reservoirs, or wells low. Some water shortages may be developing or imminent.
D2	Severe drought	Likely crop and pasture losses. Water shortages are common, leading to restrictions.
D3	Extreme drought	Major crop and pasture losses. Widespread water shortages.
D4	Exceptional drought	Exceptional and widespread crop and pasture losses. Emergency shortages develop.

Source: US Drought Monitor 2017a

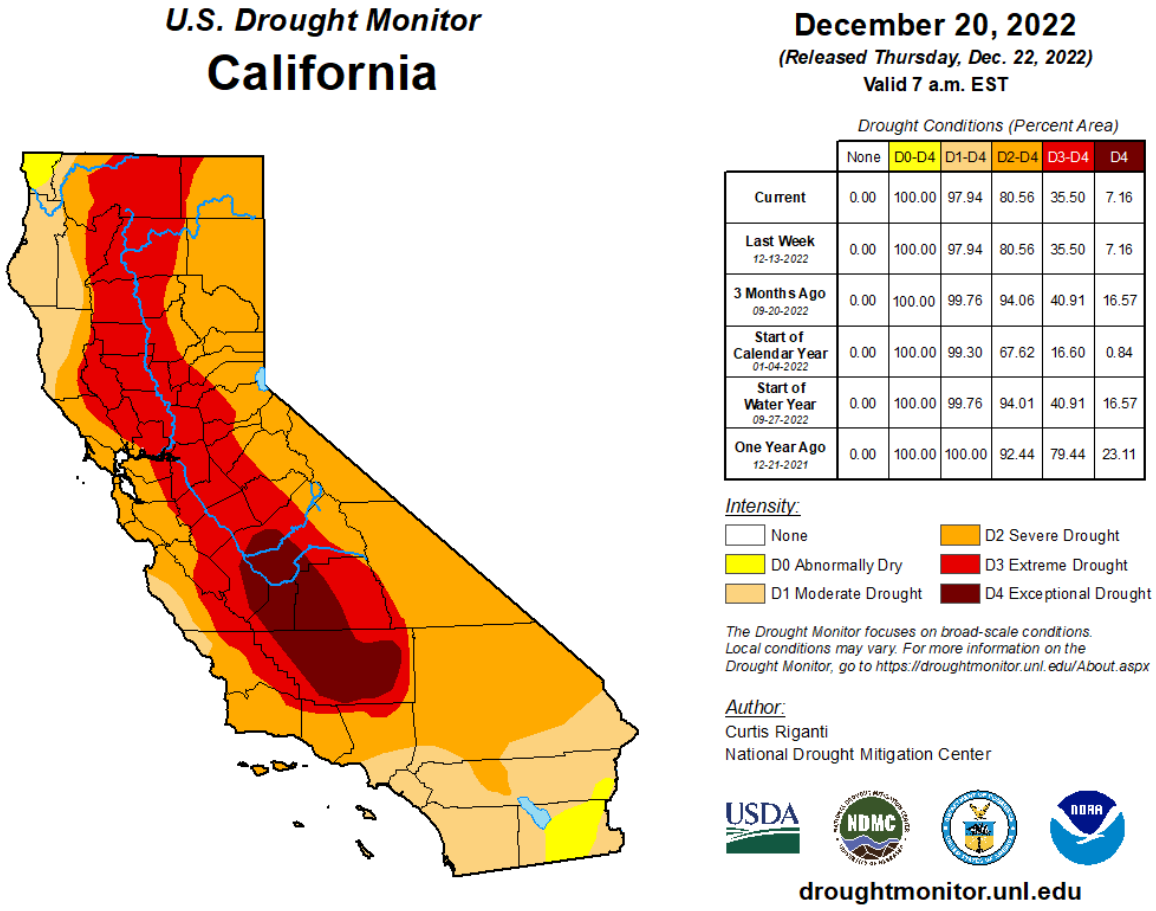

Figure 5-1: California Drought Conditions

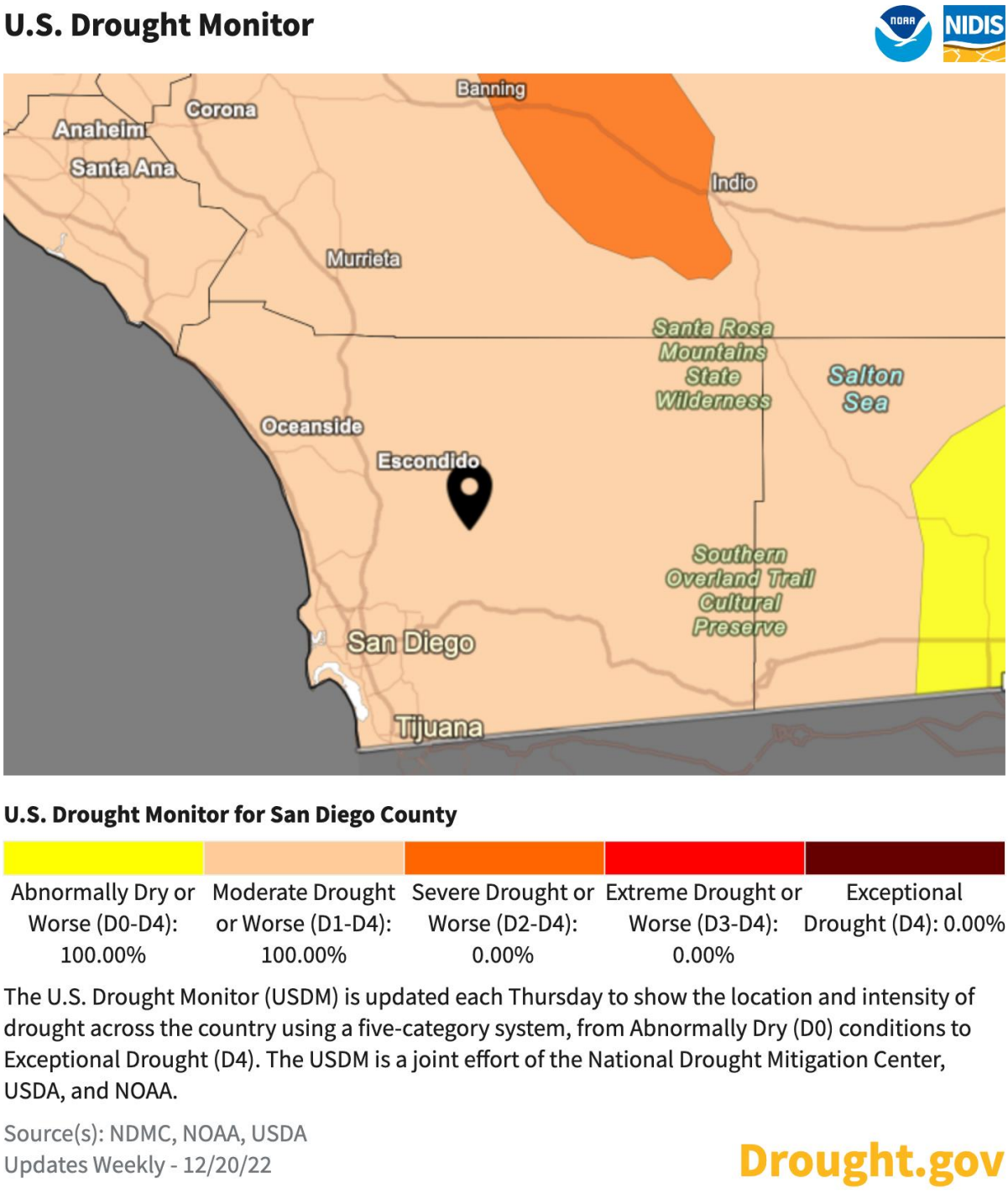

Figure 5-2: San Diego County Drought Conditions

APPENDICES

History/Past Occurrences

Based on years of recorded water trends in Southern California, it is apparent this region is subject to periods of droughts and water shortages. California has been experiencing varying degrees of drought conditions since 2012. This is the most severe drought in California's recorded history and is believed to be the most severe in at least 1,200 years.

Average to above-average levels of rainfall in the winters of 2015–2016 and 2016–2017 have helped to remove drought conditions in large sections of the state and decrease the severity of the drought in many others.

In September 2017, approximately 22 percent of California (predominantly the coastal plains and Coast Ranges of central and southern California) is faced some level of drought, and less than one-half of 1 percent of the state is facing severe drought conditions.

Hazard	Scale / Index	Weak	Moderate	Severe	Extreme
Drought	Palmer Drought Severity Index3	-1.99 to +1.99	-2.00 to -2.99	-3.00 to -3.99	-4.00 and below
Earthquake	Modified Mercalli Scale4	I to IV	V to VII	VII	IX to XII
	Richter Magnitude5	2, 3	4, 5	6	7, 8
Hurricane Wind	Saffir-Simpson Hurricane Wind Scale6	1	2	3	4, 5
Tornado	Fujita Tornado Damage Scale7	F0	F1, F2	F3	F4, F5

Probability of Future Events

- **Unlikely:** Less than 1 percent probability of occurrence in the next year or a recurrence interval of greater than every 100 years.
- **Occasional:** 1 to 10 percent probability of occurrence in the next year or a recurrence interval of 11 to 100 years.
- **Likely:** 10 to 90 percent probability of occurrence in the next year or a recurrence interval of 1 to 10 years
- **Highly Likely:** 90 to 100 percent probability of occurrence in the next year or a recurrence interval of less than 1 year.

Overall Significance

- **Low:** Two or more criteria fall in lower classifications, or the event has a minimal impact on the planning area. This rating is sometimes used for

hazards with a minimal or unknown record of occurrences or for hazards with minimal mitigation potential.

- **Medium:** The criteria fall mostly in the middle ranges of classifications and the event's impacts on the planning area are noticeable but not devastating. This rating is sometimes used for hazards with a high extent rating but very low probability rating.
- **High:** The criteria consistently fall in the high classifications and the event is likely/highly likely to occur with severe strength over a significant to extensive portion of the planning area.

- *Cumulative meteorological drought and wet conditions: http://ncdc.noaa.gov/*
- *Earthquake intensity and effect on population and structures: http://earthquake.usgs.gov*
- *Earthquake magnitude as a logarithmic scale, measured by a seismograph: http://earthquake.usgs.gov*
- *Hurricane rating based on sustained wind speed: http://nhc.noaa.gov*
- *Tornado rating based on wind speed and associated damage: http://spc.noaa.gov*

Extreme Weather (Thunderstorms, Lightning, Severe Wind, Heavy Rains, Extreme Heat)

Description

Extreme weather hazards for the Rainbow Municipal Water District include:

- Thunderstorms/ Lightning / Severe Wind
- Heavy Rains
- Extreme Heat

Public safety power shutoff (PSPS) events are weather-related mitigation actions taken by electric utility providers; they are associated with weather conditions posing a substantially extreme fire risk. For this risk assessment, the term "severe weather" refers to all the above-mentioned weather events in aggregate. According to the stand procedures of local power suppliers, the duration of a shutoff is tied directly to the severe weather that triggers it; regular service is usually resumed within 24 hours after the severe weather has passed.

History

Thunderstorms, lightning storms, strong winds, extreme heat, and heavy rainfall have all caused damage to RMWD infrastructure in the past and pose a threat in the future. RMWD planning area has had a history of extreme weather hazards.

APPENDICES

Date	Weather	Adverse Impacts
10.21-23.2007	Very strong Santa Ana winds. A gust of 85 mph was recorded at Fremont Canyon, 79 mph at San Bernardino, 75 mph at Descanso and Mira Loma, 74 mph at Fallbrook and Rancho Cucamonga. Some locations experienced winds over 50 mph for more than 36 consecutive hours.	Winds caused at least $60 million in damage and destruction to buildings, fences, vehicles, etc. The devastating wildfires of 2007 were fanned by these winds. These fires caused one million Californians to evacuate, the largest mass evacuation in California history. Several notable fires that started on this day include the Witch Creek, Harris, and Santiago Fires. The Witch Creek fire eventually grew into the sixth largest wildfire in California since 1932, consuming 197,990 acres, 1,650 structures, injuring 40, and causing two fatalities. The combined cost of damages and fighting the fire was estimated at more than $1 billion. The Harris and Santiago Fires would scorch 90,440 and 28,445 acres respectively and cost a combined $43 million to fight. On 10.22, the Poomacha Fire would result from a house fire, and ultimately scorch 49,410 acres and destroy 216 structures. Near the coast, the Ammo Fire would burn 21,084 acres on Camp Pendleton Marine Corps Base before being extinguished.
11.28.2019	A squall line of strong winds and thunderstorms came ashore in San Diego County with wind gusts 40 to 50 mph	Roof and tree damage was incurred in various areas of San Diego County.
2.25-26.2020	Strong surface high pressure over the Great Basin brought intense east to northeast winds to Southern California. The strongest winds were in the foothills of San Diego County where a peak wind gust of 106 mph from a mountain wave was recorded at Sill Hill. This is believed to be the strongest wind gust ever measured in San Diego County. Many other mountain locations reported wind gusts of 65-75 mph.	Two tractor trailers were overturned on I-8 in San Diego County, and many trees fell due to high wind.

Location

Severe weather events have the potential to happen anywhere in the RMWD planning area. Infrastructure in low-lying areas are particularly susceptible to the impacts of these events.

Extent

All RMWD assets are exposed to the impacts of severe weather. During a blackout, all critical facilities that rely on electricity for power will be severely impacted unless they are connected to a backup power source. Facilities on higher ground may also be exposed to wind damage or damage from falling trees. Extreme weather incidents can cause extensive and costly damage to private property, commercial and industrial structures, infrastructure, and even injury or loss of life. The danger is multiplied by the risks of power line downing, floods, and landslides/mudslides.

Hazards

Extreme heat can contribute to drought conditions. Extreme temperatures also can dry vegetation, contributing to possible of wildfire. Wind can accelerate the flames of a wildfire, helping the fire grow in area or intensity.
High temperatures, extreme dryness, and high winds can create conditions in which any spark at the wrong time and place can lead to a major wildfire.

Public Safety Power Shutoffs

Public safety power shutoff (PSPS) events are secondary hazards associated with severe weather. Under certain severe weather conditions, utility service providers shut off power to help prevent wildfire and keep communities safe. A combination of dry vegetation and high winds can uproot trees, blow branches onto power lines or create sparks if power lines contact one another. These conditions call for a PSPS. These outages occur across the state to prevent wildfires and keep communities safe. These events can impact areas beyond where severe weather conditions are being observed due to the grid nature of electrical power distribution systems. Sustained periods of downtime could lead to significant economic impacts.

6. SECTION SIX: Develop a Mitigation Strategy

The mitigation strategy serves as the long-term blueprint for reducing potential losses identified in the risk assessment. The mitigation strategy describes how the community will accomplish the overall purpose, or mission, of the planning process.

The mitigation strategy is made up of three main required components: mitigation goals, mitigation actions, and an action plan for implementation. These provide the framework to identify, prioritize, and implement actions to reduce risk to hazards.

Mitigation goals are general guidelines that explain what the community wants to achieve with the plan They are usually broad policy-type statements that are long-term, and they represent visions for reducing or avoiding losses from the identified hazards

Mitigation actions are specific projects and activities that help achieve the goals.

The action plan describes how the mitigation actions will be implemented, including how those actions will be prioritized, administered, and incorporated into the community's existing planning mechanisms. In a multi-jurisdictional plan, each jurisdiction must have an action plan specific to that jurisdiction and its vulnerabilities.

Although not required, some communities choose to develop **objectives** to help define or organize mitigation actions. Objectives are broader than specific actions, but are measurable, unlike goals. Objectives connect goals with the actual mitigation actions.

6.1. Mitigation Action Evaluation

Use this worksheet to help evaluate and prioritize each mitigation action being considered by the planning team. For each action, evaluate the potential benefits and/or likelihood of successful implementation for the criteria defined below. Rank each of the criteria with a -1, 0 or 1 using the following scale:

- 1 = Highly effective or feasible
- 0 = Neutral
- -1 = Ineffective or not feasible

Example Evaluation Criteria:

- **Life Safety** – How effective will the action be at protecting lives and preventing injuries?

- **Property Protection** – How significant will the action be at eliminating or reducing damage to structures and infrastructure?
- **Technical** – Is the mitigation action technically feasible? Is it a long-term solution? Eliminate actions that, from a technical standpoint, will not meet the goals.
- **Political** – Is there overall public support for the mitigation action? Is there the political will to support it?
- **Legal** – Does the community have the authority to implement the action?
- **Environmental** – What are the potential environmental impacts of the action? Will it comply with environmental regulations?
- **Social** – Will the proposed action adversely affect one segment of the population? Will the action disrupt established neighborhoods, break up voting districts, or cause the relocation of lower income people?
- **Administrative** – Does the community have the personnel and administrative capabilities to implement the action and maintain it or will outside help be necessary?
- **Local Champion** – Is there a strong advocate for the action or project among local departments and agencies that will support the action's implementation?
- **Other Community Objectives** – Does the action advance other community objectives, such as capital improvements, economic development, environmental quality, or open space preservation? Does it support the policies of the comprehensive plan?

APPENDICES

Wildfire

Mitigation Action	Life Safety	Property Protection	Technical	Political	Legal	Environmental	Social	Administrative	Local Champion	Other Community Objectives	Total Score
Local Plans and Regulations											
Clear potential fuels on property such as dry underbrush and diseased trees.	1	1	1	0	1	1	0	0	1	1	7
Continue to expand the use of Pulse Point to track fires emergencies within District boundaries.	1	1	1	0	0	0	0	1	0	1	5
Integrate communication system with Fire Department to stay connected and deploy units as needed.	1	1	1	1	0	0	1	1	0	1	7
Structure and Infrastructure Projects											
Encourage or require fire-resistant construction techniques	1	1	1	0	0	0	1	1	1	1	7
Expand use of ignition-resistant materials and sprinkler systems at critical facilities	1	1	1	1	1	0	1	1	1	1	9
Create /establish stored water supplies such as helo-hydrants, to be utilized for firefighting.	1	1	1	0	0	1	0	0	1	1	6
Equip vital facilities with emergency power sources to facilitate water delivery during power outages.	1	1	1	0	0	0	0	0	0	0	3
Natural Systems Protection											
Create and maintain defensible space around structures	1	1	1	1	0	0	1	1	1	1	8

APPENDICES

Education and Awareness Programs											
Support Firewise community initiatives.	1	1	0	0	0	1	0	1	1	1	6
Participate in Fire Safety Symposium hosted by North County Fire.	1	1	0	0	0	0	0	0	1	1	4
Encourage ratepayers to create defensible spaces around home and property	1	1	0	1	1	1	1	1	1	1	9

Drought

Local Plans and Regulations											
Mitigation Action	**Life Safety**	**Property Protection**	**Technical**	**Political**	**Legal**	**Environmental**	**Social**	**Administrative**	**Local Champion**	**Other Community Objectives**	**Total Score**
Codify the criteria and triggers for drought-related actions and activation of the Drought Emergency Plan	0	0	1	0	0	1	1	1	1	1	6
Identify alternative water supplies for times of drought; mutual aid agreements with alternative suppliers	0	0	1	1	1	1	1	1	1	1	8
Structure and Infrastructure Projects											
Implement/expand water reuse projects	0	0	1	0	1	1	1		0	1	5
Natural Systems Protection											
Encourage farmers to practice active water conservation practices	0	0	1	1	1	1	1	1	1	0	7
Education and Awareness Programs											
Provide educational opportunities for residents to learn about water-saving measures through modification of plumbing systems	0	0	1	1	1	1	1	1	1	1	8

Public education on drought resistance landscaping			1	1	1	1	1	1	1	1	8

Extreme Weather (Thunderstorms, Lightning, Heavy Rains, Severe Wind, Extreme Heat)

Local Plans and Regulations											
Mitigation Action	**Life Safety**	**Property Protection**	**Technical**	**Political**	**Legal**	**Environmental**	**Social**	**Administrative**	**Local Champion**	**Other Community Objectives**	**Total Score**
Mitigate severity of impact of extreme weather events through increased community awareness.	0	0	1	1	1	1	1	1	1	1	8
Identify alternative power sources to mitigate power outages; mutual aid agreements with alternative suppliers	0	0	1	1	1	1	1	1	0	1	7
Structure and Infrastructure Projects											
Implement recommendations in service area master plans related to critical sewer facilities	0	1	1	0	1	1	1		0	1	6
Natural Systems Protection											
Develop better communication with SDG&E	0	0	1	0	1	1	0	1	1	1	6
Education and Awareness Programs											
Provide employees with education and resources for extreme heat hazards.		0	1	0	1	0	1	1	0	0	4

6.2. Mitigation Action Implementation

A mitigation action is a specific action, project, activity, or process taken to reduce or eliminate long-term risk to people and property from hazards and their impacts. Implementing mitigation actions helps achieve the plan's mission and goals. The actions to reduce vulnerability to threats and hazards form the core of the plan and are a key outcome of the planning process. This annex details the following mitigation action implementations:

Wildfire

Wildfires are a natural feature of California's ecosystem, and many native species have adapted to cycles of recurring fires. However, due to increased human activities which have impacted the natural vegetation wildfires have become a yearly occurrence in many Counties. The risk of wildfires depends on the amount and type of vegetation, the local topography, and weather factors (including temperature, humidity, and wind). The District is located in a high elevation and mostly arid summer climate area that increases threats from lightning, sparks from power lines, arson and other human-error.

The District is also concerned about the secondary effect of landslide and erosion hazards post wildfire event.

Jurisdiction:	Rainbow Municipal Water District
Mitigation Action/Project Title:	-Frequently monitor the status of dry vegetation on District property and around District facilities conduct aggressive weed abatement and pesticide application activities as needed -Work with surrounding landowners to ensure adequate fire road access to District facilities. -Install helo-hydrants at remote sites to provide a ready water source for aerial firefighting efforts.
Background/Issue:	Wildfire damage in 2007 and 2017
Ideas for Integration:	Wildfire impacts the District's ability to sustain a reliable water service to it. There are risks to surrounding ecosystems, water infrastructure, debris flows and water quality recovery. A loss of water quantities can be impacted due to increased withdrawals for firefighting activities.
Responsible Agency:	Rainbow Municipal Water District: Engineering Department Safety Office Operations Department

Partners:	Cal Fire/ North County Fire/ SMS ~ Specialty Mowing Services Inc.
Potential Funding:	General District Funds External fire partners
Cost Estimate:	$150,000
Benefits: (Losses Avoided)	Minimizing the risk on employee and public safety, property, and natural resources. Ensures that the District continues to be a reliable source of water for its service area.
Timeline:	Ongoing
Priority:	Medium
Worksheet Completed by:	Charmaine W. Esnard (Risk Management) & Amanda Para/ Malik Tamimi (Engineering)

Extreme Weather (Thunderstorms, Lightning, Severe Wind, Extreme Heat) / Wildfire

Jurisdiction:	Rainbow Municipal Water District
Mitigation Action/Project Title:	- Install generators at pump stations. - Develop a fuel plan for generator $5,000
Background/Issue:	Wildfire damage in 2007 and 2017
Ideas for Integration:	Wildfire impacts the District's ability to sustain a reliable water service to it. There are risks to surrounding ecosystems, water infrastructure, debris flows and water quality recovery. A loss of water quantities can be impacted due to increased withdrawals for firefighting activities.
Responsible Agency:	Rainbow Municipal Water District: Engineering Department Safety Office Operations Department
Partners:	Operations and Maintenance, California Governor's Office of Emergency Services (Cal OES)

Potential Funding:	Fiscal Year (FY) 2020 Community Power Resiliency Allocation to Special Districts Program
Cost Estimate:	$300,000
Benefits: (Losses Avoided)	Minimizing the risk on employee and public safety, property, and natural resources. Ensures that the District continues to be a reliable source of water for its service area.
Timeline:	Ongoing
Priority:	High
Worksheet Completed by:	Charmaine W. Esnard (Risk Management) & Amanda Para/ Malik Tamimi (Engineering), Robert Gutierrez (Operations)

Drought

Unlike other hazards droughts occur over extended periods of time and these conditions my last for several years. Droughts can lead multiple negative impacts on the District to include; loss of natural vegetation and low yield for agricultural enterprises in the service area.

Secondary impacts include increased risk of soil erosion and susceptibility to wildfires due to the drying out of wildland vegetation. Drought conditions also lead to the hardening of the topsoil rendering it less permeable, thus increasing the chance of flooding when rains eventually fall.

Jurisdiction:	Rainbow Municipal Water District
Mitigation Action/Project Title:	Education and Awareness for Ratepayers/ Use control measures
Background/Issue:	Drought & Climate Change / Climate change can make it more difficult for the District to provide drinking water and wastewater services, protect water quality, and maintain healthy aquatic environments.
Ideas for Integration:	- In coordination with retail water suppliers, host regular workshops and classes on water conservation, including providing information on drought-tolerant landscaping, available rebates for water retrofits, and water efficiency strategies in new buildings. Continue to offer workshops and classes even when drought conditions are not present. - Develop outreach materials for water conservation. - Implement projects that increase the resiliency or reliability of future water supplies.

	- Continue to prioritize water supply improvements as they relate to the risks outlined in this Plan, such as the purchase of water rights and drilling wells. Coordinate future updates to the CIP to support mitigation actions outlined in this Plan.
Responsible Agency:	Rainbow Municipal Water District
Partners:	Ratepayers
Potential Funding:	General District funds
Cost Estimate:	$250,000
Benefits: (Losses Avoided)	Using water saving techniques can save customers money and diverts less water from resources, which helps keep the environment healthy. It can also reduce water and wastewater treatment costs and the amount of energy used to treat, pump, and heat water.
Timeline:	Ongoing
Priority:	Low
Worksheet Completed by:	Charmaine W. Esnard- Risk Management Officer

7. SECTION SEVEN: Keep the Plan Current

Hazard Mitigation Plan maintenance is the process the planning team establishes to track the plan's implementation progress and to inform the plan update. The plan must include a description of the method and schedule for monitoring, evaluating, and updating it within a 5-year cycle. These procedures help to:

- Ensure that the mitigation strategy is implemented according to the plan.
- Provide the foundation for an ongoing mitigation program in your community.
- Standardize long-term monitoring of hazard-related activities.
- Integrate mitigation principles into community officials' daily job responsibilities and department roles.
- Maintain momentum through continued engagement and accountability in the plan's progress.

Hazard Mitigation Plan updates provide the opportunity to consider how well the procedures established in the previously approved plan worked and revise them as needed. This annex is part of the most recent *San Diego County Multi-Jurisdictional Hazard Mitigation Plan* update. The plan was last updated in 2018. See the *San Diego County Multi-Jurisdictional Hazard Mitigation Plan* for more information.

7.1. Mitigation Action Progress

RMWD Risk Management Officer and Operations Manager will be responsible for monitoring the plan, and the District's Project Managers will track the status of all mitigation actions outlined in the plan. The Districts Engineering and Finance Committees also keeps track of CIP progress.

RMWD did not participate in the 2018 Hazard Mitigation planning but will track mitigation efforts over the next 5-year cycle.

7.2. Incorporation into Existing Planning Mechanisms

The District has begun to integrate concurrent planning efforts for this hazard mitigation plan and the planning requirements of the America's Water Infrastructure Act. The hazard mitigation plan includes information that will be incorporated into future Improvements and emergency planning such as the following:

- Updates to the District's Strategic Plan- Integrating hazard mitigation into the District's comprehensive or general plan is considered a best practice. The

RMWD Strategic Plan includes hazard information gleaned from the District's Vulnerability Assessment; those cited in this HMP in order to support the District's ultimate mission of providing safe drinking water to its rate payers.

- Emergency Response Planning-The District Emergency Response Plan (ERP) contains a list of hazards and vulnerabilities the District is exposed to. The LHMP provides a detailed description of these hazards. Updates to the LHMP can inform revisions to the Emergency Response Plan. Hazards in both plans should be correlated. Risk Management Officer, Operations Manager and Supervisors will be responsible for implementing elements of the LHMP into the ERP to ensure effective response by District personnel.
- Updates to the District's Capital Facilities-The District will review the mitigation action plan in this LHMP when considering future CIP. Several mitigation actions address facility improvement and resiliency, that can be expanded across the District's infrastructure to increase resiliency. Grant funding for these projects may support CIP projects.
- Updates to the Wildfire Resiliency Planning-The Plan includes a number of action items relating to wildfire mitigation practices, if implemented, these would reduce loss from this hazard in the planning area.
- District's Ground Water Study-Mitigation strategies related to drought will also be a part of the update of the District's Water Management Plan due every five years to the California Department of Water Resources (DWR). This plan is related to drought planning efforts.

The approved LHMP will be included in all project planning stages throughout the District. This will clarify the hazards in the District regarding the location of infrastructure and hazards. This will ensure that new or revamping infrastructure designed takes into consideration the hazards at different locations in the RMWD service area. The LHMP will be reviewed annually to ensure projects have met implementation as identified in the LHMP.

The District will utilize the LHMP to submit a Notice of Intent to the State of California to help facilitate funding opportunities in obtaining FEMA and State funding to mitigate hazards within the RMWD service area.

Elements of this plan will be used to drive capital improvement projects aimed at hardening the district's infrastructure against changing environmental strains.