QUARTZ HILL WATER DISTRICT

URBAN WATER MANAGEMENT PLAN – 2025 UPDATE

OCTOBER 15, 2026

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BIBLIOGRAPHY

The following studies, reports, and other materials were reviewed during the preparation of this Urban Water Management Plan update:

1. 2025 Urban Water Management Plans Guidebook for Urban Water Suppliers dated January 2026 and prepared by the California Department of Water Resources.
2. Quartz Hill Water District Water Master Plan dated April 2025 prepared by MKN & Associates.
3. Antelope Valley Watermaster 2024 Annual Report dated July 24, 2025 prepared by Tood Groundwater.
4. Completed American Water Works Association 2021 to 2025 Water Audits.
5. 2025 County of Los Angeles All-Hazards Mitigation Plan.
6. Demographics and Growth Forecast Technical Report for Southern California Council of Governments dated April 4, 2024.
7. Antelope Valley Watermasters Rule and Regulations dated June 24, 2020.
    a. Amendments to Watermasters Rule and Regulations as of October 2023

List of Abbreviations

AB	Assembly Bill
AF	Acre-Feet
AFY	Acre-Feet per Year
Ardurra	Ardurra Group, Inc.
AV	Antelope Valley
AVEK	Antelope Valley-East Kern Water Agency
AWWA	American Water Works Association
CA	California
CII	Commercial, Industrial, Institutional (Water Use Sectors)
CIMIS	California Irrigation Management Information System
COG	Council of Governments
CUWCC	California Urban Water Conservation Council
CWC	California Water Code
DAWN	Domestic Agricultural Water Network
DDW	Division of Drinking Water
District	Quartz Hill Water District
DMM	Demand Management Measures
DRA	Drought Risk Assessment
DU	Dwelling Unit
DWR	Department of Water Resources
eARDWP	Electronic Annual Reports to the Drinking Water Program (SWRCB)
ERP	Emergency Response Plan
ETo	Reference Evapotranspiration
FY	Fiscal Year
GIS	Geographic Information System
GPCD	Gallons per Capita per Day
GPM	Gallons per Minute
GSA	Groundwater Sustainability Agency
ID	Identifier
IRWMP	Integrated Regional Water Management Plan
KWI	Key Wells Index
LAFCO	Local Agency Formation Commission for the County of Los Angeles

MCL	Maximum Contaminant Level
MG	Million Gallons
MGD	Million Gallons per Day
N/A	Not Applicable
NWIS	National Water Information System
PWRP	Palmdale Water Reclamation Plant
PWS	Public Water System
QHWD	Quartz Hill Water District
RHNA	Regional Housing Needs Assessment
RUWMP	Regional Urban Water Management Plan
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SB X7-7	Senate Bill Seven of the Senate's Seventh Extraordinary Session of 2009
SCADA	Supervisory Control and Data Acquisition
SCAG	Southern California Association of Governments
SNIP	South North Intertie Pipeline and Pump Station/Turnout Project
SNMP	Salt Nutrient Management Plan
SOI	Sphere of Influence
sq. ft	Square Feet
SRA	Seismic Risk Assessment
SWP	State Water Project
SWRCB	State Water Resources Control Board
TDS	Total Dissolved Solids
US	United States
US EPA	United States Environmental Protection Agency
UWMP	Urban Water Management Plan
WBBRS	Water Budget-Based Rate Structure
WSCP	Water Shortage Contingency Plan
WUE	Water Use Efficiency
WWTP	Wastewater Treatment Plant

Chapter 1 UWMP INTRODUCTION AND OVERVIEW

This report comprises the 2025 Urban Water Management Plan (UWMP) update for the Quartz Hill Water District (District or QHWD). QHWD provides water to 19,878 residents as of 2026. The QHWD service area is approximately a 6 square mile area located in the City of Lancaster, a small area in the City of Palmdale, and unincorporated portions of the County of Los Angles. The water supply system has ten active wells, and water is conveyed from the wells to the consumers via 97 miles of distribution piping with pipe sizes ranging between 4 to 24-inches in diameter. The District currently operates and maintains eight storage reservoirs within the service area having a total capacity of 13.6 million gallons, six booster stations, seventeen pressure regulating stations, and two hydro-pneumatic tanks.

The UWMP is a valuable planning document used for the following purposes:

- Meet a statutory requirement of the California Water Code (CWC)
- Provide a key source of information for Water Supply Assessments (WSAs) and Written Verifications of Water Supply required by SB 610 and SB 221
- Support regional long-range planning documents including County General Plans
- Serve as a critical component of developing Integrated Regional Water Management Plan (IRWMPs)

As part of the California Water Code (CWC), the California Urban Water Management Planning Act (UWMP Act) requires all urban water suppliers with more than 3,000 connections or distributing more than 3,000 acre feet per year (AFY) to complete an UWMP every five years ending in '5' or '0'. The UWMP Act is administered by the California Department of Water Resources (DWR), who is responsible for developing guidance for preparation of the UWMPs, reviewing the submitted plans for completeness, compiling the data for statewide and regional analysis, and publishing the documents online for public access.

In 2025, QHWD produced approximately 1,895 acre-feet (AF) of water, imported 2,543 AF of supplemental water from State Water Project (SWP) through the Antelope Valley-East Kern Water Agency (AVEK), and had 5,782 customer connections. QHWD adopted its first UWMP in January 2004. Since the first adopted UWMP in 2000, QHWD has completed and submitted the 2005, 2010, 2015, and 2020 updates.

New Requirements for 2025 Update

The 2025 UWMP requires a clearer explanation of how the document aligns with recent legislative changes, including updates to reporting timelines and planning horizons. This chapter now must reference integration with other long-range planning documents (e.g., Water Shortage Contingency Plan updates, climate vulnerability assessments) and describe how new data sources—particularly updated

demand projections and SB 606/AB 1668 requirements—inform the overall plan. Compared to 2020, the emphasis on coordination with land-use agencies and statewide conservation programs has increased.

The following new requirements have been identified in the 2025 Urban Water Management Plan Guidebook for Urban Water Suppliers and have been addressed in QHWD's 2025 UWMP update:

- Water Loss Standard Reporting
- Submittal Tables

All other changes from the 2020 UWMP are classified as updated to existing requirements.

1.1 Updated Guidance for 2025 Urban Water Management Plans

Table 1-1 provides an overview of the applicable changes to the CWC since the 2020 UWMP, which have been included in this 2025 update. Chapter 9, Parts 2.55 and 2.56 of the CWC contain the primary statutory provisions governing the changes summarized below, which were adopted under the Urban Water Management Planning Act and related urban water conservation legislation.

Table 1-1: California Water Code Changes Since 2020 UWMP

Topic Area	CWC Section(s)	Summary	2025 UWMP Guidebook Chapter(s)
Urban Water Use Objectives & Conservation Standards	10609.2 10609.4 10609.12 – 10609.20 10609.33	Updates indoor residential standards (47 gpcd in 2025; 42 gpcd in 2030), formalizes long-term efficiency regulations ("Making Conservation a California Way of Life"), and standardizes methodologies for calculating and reporting Urban Water Use Objectives (UWUOs), directly affecting demand forecasting and compliance reporting.	5 & 7
Drought Planning & Water Shortage Reporting	10609.50 10632.1 10632 – 10634	Expands drought planning requirements to small water suppliers and certain school systems, operationalizes annual Water Shortage Assessment (WSA) reporting, and reorganizes WSCP requirements and submittal formats, while retaining core statutory elements.	7 & 8

Table 1-1: California Water Code Changes Since 2020 UWMP			
Topic Area	**CWC Section(s)**	**Summary**	**2025 UWMP Guidebook Chapter(s)**
Water Use Characterization & Water Loss Reporting	10631 10631.1 10631.2	Introduces updated mandatory reporting tables, aligns water loss reporting with the 2028 Water Loss Performance Standard, expands climate change considerations, and separates historical, current, and projected water use more clearly.	3 - 5
SBX7-7 Compliance & Verification Reporting	10608	Shifts SBX7-7 reporting from general compliance to verification of 2020 achievements and required 2025 reporting status, with clarified pathways for suppliers that met or did not meet conservation targets.	7
Water Supply Characterization & Energy Use	10631 10631.1	Reorganizes supply source reporting for clarity, integrates energy-use reporting, adds new wastewater and desalination tables, and emphasizes normal-year supply characterization.	6
Water Service Reliability & Drought Risk Assessment	10631.5 10635	Restructures WSRA and DRA frameworks to align with year-type characterization and supply-demand comparisons, and introduces consolidated submittal tables for improved consistency.	6 & 8
Demand Management Measures (DMMs)	10631.5	Clarifies distinctions between wholesale and retail supplier reporting, consolidates narrative requirements, and refreshes organization while maintaining required measures and five-year implementation reporting.	9
UWMP Preparation, Adoption, and Submittal Procedures	10610 – 10621 10644	Streamlines plan preparation guidance, introduces standardized submittal tables, updates adoption timelines and notice requirements, and consolidates submittal procedures to DWR, the State Library, and local agencies.	1 & 2 10

1.2 Submittal Tables

Law

CWC § 10608
The Legislature finds and declares all of the following:

(a) Water is a public resource that the California Constitution protects against waste and unreasonable use.

(b) Growing population, climate change, and the need to protect and grow California's economy while protecting and restoring our fish and wildlife habitats make it essential that the state manage its water resources as efficiently as possible.

(c) Diverse regional water supply portfolios will increase water supply reliability and reduce dependence on the Delta.

(d) Reduced water use through conservation provides significant energy and environmental benefits, and can help protect water quality, improve streamflows, and reduce greenhouse gas emissions.

(e) The success of state and local water conservation programs to increase efficiency of water use is best determined on the basis of measurable outcomes related to water use or efficiency.

(f) Improvements in technology and management practices offer the potential for increasing water efficiency in California over time, providing an essential water management tool to meet the need for water for urban, agricultural, and environmental uses.

(g) The Governor has called for a 20 percent per capita reduction in urban water use statewide by 2020.

(h) The factors used to formulate water use efficiency targets can vary significantly from location to location based on factors including weather, patterns of urban and suburban development, and past efforts to enhance water use efficiency.

(i) Per capita water use is a valid measure of a water provider's efforts to reduce urban water use within its service area. However, per capita water use is less useful for measuring relative water use efficiency between different water providers. Differences in weather, historical patterns of urban and suburban development, and density of housing in a particular location need to be considered when assessing per capita water use as a measure of efficiency.

The Department of Water Resources (DWR) now includes a set of Submittal Tables – SB X7-7, attached as **Appendix D** and included in relevant chapters, designed to ensure that all urban water suppliers report information in a consistent, comparable format. The tables function as a compliance checklist and data-reporting framework, translating narrative chapters into quantifiable entries. DWR emphasizes that UWMPs must address all requirements contained in the California Water Code (§10610–10656 and §10608 et seq.), and the submittal tables serve as a structured mechanism to demonstrate compliance with these statutory elements. As stated earlier in **Chapter 1**, the DWR has updated some submittal tables since the last UWMP submission for more accurate reporting.

1.2.1 Inclusion of Submittal Tables

Law

CWC § 10615

"Plan" means an urban water management plan prepared pursuant to this part. A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses, reclamation and demand management activities. The components of the plan may vary according to an individual community or area's characteristics and its capabilities to efficiently use and conserve water. The plan shall address measures for residential, commercial, governmental, and industrial water demand management as set forth in Article 2 (commencing with Section 10630) of Chapter 3. In addition, a strategy and time schedule for implementation shall be included in the plan.

CWC § 10620

(a) Every urban water supplier shall prepare and adopt an urban water management plan in the manner set forth in Article 3 (commencing with Section 10640).

(b) Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.

(c) An urban water supplier indirectly providing water shall not include planning elements in its water management plan as provided in Article 2 (commencing with Section 10630) that would be applicable to urban water suppliers or public agencies directly providing water, or to their customers, without the consent of those suppliers or public agencies.

(d) (1) An urban water supplier may satisfy the requirements of this part by participation in areawide, regional, watershed, or basinwide urban water management planning where those plans will reduce preparation costs and contribute to the achievement of conservation, efficient water use, and improved local drought resilience.

(2) Notwithstanding paragraph (1), each urban water supplier shall develop its own water shortage contingency plan, but an urban water supplier may incorporate, collaborate, and otherwise share information with other urban water suppliers or other governing entities participating in an areawide, regional, watershed, or basinwide urban water management plan, an agricultural management plan, or groundwater sustainability plan development.

(3) Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.

(e) The urban water supplier may prepare the plan with its own staff, by contract, or in cooperation with other governmental agencies.

(f) An urban water supplier shall describe in the plan water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions.

CWC § 10631

A plan shall be adopted in accordance with this chapter that shall do all of the following:

(a) Describe the service area of the supplier, including current and projected population, climate, and other social, economic, and demographic factors affecting the supplier's water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available. The description shall include the current and projected land uses within the existing or anticipated service area affecting the supplier's water management planning. Urban water suppliers shall coordinate with local or regional land use authorities to determine the most appropriate land use information, including, where appropriate, land use information obtained from local or regional land use authorities, as developed pursuant to Article 5 (commencing with Section 65300) of Chapter 3 of Division 1 of Title 7 of the Government Code.

(b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a), providing supporting and related information, including all of the following:

(1) A detailed discussion of anticipated supply availability under a normal water year, single dry year, and droughts lasting at least five years, as well as more frequent and severe periods of drought, as described in the drought risk assessment. For each source of water supply, consider any information pertinent to the reliability analysis conducted pursuant to Section 10635, including changes in supply due to climate change.

(2) When multiple sources of water supply are identified, a description of the management of each supply in correlation with the other identified supplies.

(3) For any planned sources of water supply, a description of the measures that are being undertaken to acquire and develop those water supplies.

(4) If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information:

(A) The current version of any groundwater sustainability plan or alternative adopted pursuant to Part 2.74 (commencing with Section 10720), any groundwater management plan adopted by the urban water supplier, including plans adopted pursuant to Part 2.75 (commencing with Section 10750), or any other specific authorization for groundwater management for basins underlying the urban water supplier's service area.

(B) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater. For basins that a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. For a basin that has not been adjudicated, information as to whether the department has identified the basin as a high- or medium-priority basin in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to coordinate with groundwater sustainability agencies or groundwater management agencies listed in subdivision (c) of Section 10723 to maintain or achieve sustainable groundwater conditions in accordance with a groundwater sustainability plan or alternative adopted pursuant to Part 2.74 (commencing with Section 10720).

(C) A detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(D) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(c) Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.

(d) (1) For an urban retail water supplier, quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, based upon information developed pursuant to subdivision (a), identifying the uses among water use sectors, including, but not necessarily limited to, all of the following:

(A) Single-family residential.

(B) Multifamily.

(C) Commercial.

(D) Industrial.

(E) Institutional and governmental.

(F) Landscape.

(G) Sales to other agencies.

(H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.

(I) Agricultural.

(J) Distribution system water loss.

(2) The water use projections shall be in the same five-year increments described in subdivision (a).

(3) (A) The distribution system water loss shall be quantified for each of the five years preceding the plan update, in accordance with rules adopted pursuant to Section 10608.34.

(B) The distribution system water loss quantification shall be reported in accordance with a worksheet approved or developed by the department through a public process. The water loss quantification worksheet shall be based on the water system balance methodology developed by the American Water Works Association.

(C) In the plan due July 1, 2021, and in each update thereafter, data shall be included to show whether the urban retail water supplier met the distribution loss standards enacted by the board pursuant to Section 10608.34.

(4) (A) Water use projections, where available, shall display and account for the water savings estimated to result from adopted codes, standards, ordinances, or transportation and land use plans identified by the urban water supplier, as applicable to the service area.

(B) To the extent that an urban water supplier reports the information described in subparagraph (A), an urban water supplier shall do both of the following:

(i) Provide citations of the various codes, standards, ordinances, or transportation and land use plans utilized in making the projections.

(ii) Indicate the extent that the water use projections consider savings from codes, standards, ordinances, or transportation and land use plans. Water use projections that do not account for these water savings shall be noted of that fact.

(e) Provide a description of the supplier's water demand management measures. This description shall include all of the following:

(1) (A) For an urban retail water supplier, as defined in Section 10608.12, a narrative description that addresses the nature and extent of each water demand management measure implemented over the past five years. The narrative shall describe the water demand management measures that the supplier plans to implement to achieve its water use targets pursuant to Section 10608.20.

(B) The narrative pursuant to this paragraph shall include descriptions of the following water demand management measures:

(i) Water waste prevention ordinances.

(ii) Metering.

(iii) Conservation pricing.

(iv) Public education and outreach.

(v) Programs to assess and manage distribution system real loss.

(vi) Water conservation program coordination and staffing support.

(vii) Other demand management measures that have a significant impact on water use as measured in gallons per capita per day, including innovative measures, if implemented.

(2) For an urban wholesale water supplier, as defined in Section 10608.12, a narrative description of the items in clauses (ii), (iv), (vi), and (vii) of subparagraph (B) of paragraph (1), and a narrative description of its distribution system asset management and wholesale supplier assistance programs.

(f) Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use, as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed description of expected future projects and programs that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in normal and single-dry water years and for a period of drought lasting five

consecutive water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.

(g) Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.

(h) An urban water supplier that relies upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (f). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (f).

The Submittal Tables align with the organization of the UWMP Guidebook and provide a standardized method for reporting information related to system description, water supply characterization, demand projections, water shortage contingency planning, and conservation program performance. DWR's UWMP checklist confirms that the tables serve as a structured framework to communicate how the urban water supplier satisfies statutory requirements across sections such as §10615, §10620, and §10631.

By including all required Submittal Tables, this UWMP enhances transparency, facilitates DWR review, and ensures comparability with other urban water suppliers throughout California. The tables also contribute to statewide data consistency, enabling DWR to compile water management information across five-year planning cycles.

1.2.2 Optional Planning Tool

The UWMP Guidebook allows suppliers to incorporate optional planning tools that can improve analytical rigor, support scenario evaluation, and enhance data quality. While DWR does not mandate the use of any specific planning tool, the Department provides access to templates, calculators, and data-entry resources through the WUE Data Portal and associated guidance materials. These tools help suppliers organize data, align assumptions with state methodologies, and streamline preparation of plan components such as population estimates, water reliability analyses, and annual assessments.

1.3 Recommended UWMP Organization

This UWMP update was prepared based on guidance from the final draft of the California Department of Water Resources (DWR) "2025 Urban Water Management Plan Guidebook for Urban Water Suppliers" dated January 2026 and follows the recommended chapter formatting identified in the guidebook and briefly described below.

Chapter 1 – UWMP Introduction and Overview: This chapter identifies changes since the 2020 UWMP, fundamentals of the 2025 UWMP, and the required lay description of QHWD and its service area. Some subsequent chapters also include an initial lay description.

Chapter 2 – Plan Preparation: This chapter provides information on processes used to develop the UWMP, including efforts in coordination and outreach.

Chapter 3 – Service Area Descriptions: This chapter includes maps of the service area, an explanation of the service area and climate, and detail on the public water system.

Chapter 4 – Water Use Characterization: This chapter provides a description and quantification of the current and projected water uses within QHWD's service area.

Chapter 5 – SBX&-7 Baselines, 2020 Targets, and 2025 Reporting: This chapter describes QHWD's compliance with the 2025 per-capita water conservation mandate, presents QHWD's 2025 per-capita target value that was adopted in the 2020 UWMP, and compliance with per-capita target based upon actual 2025 customer water use.

Chapter 6 – Normal-Year Water Supply Characterization: This chapter provides a description and quantification of current and projected potable and non-potable water supplies. A narrative description of each supply source and quantification of the supply availability for each supply source was identified.

Chapter 7 – Water Service Reliability and Drought Risk Assessment: This chapter describes QHWD's water system reliability through at least a 20-year planning horizon. The description includes normal, single dry year, and five consecutive dry years. The water system reliability differs from the Drought Risk Assessment (DRA) by allowing a different basis for characterizing the five consecutive dry years.

Chapter 8 – Water Shortage Contingency Plan: This chapter provides a structured plan for dealing with water shortages, incorporating prescriptive information and standardized action levels, along with implementation actions in the event of a catastrophic supply interruption.

Chapter 9 – Demand Management Measures: This chapter identifies QHWD's efforts to promote conservation and to reduce demand on the water supply; specifically including a narrative describing efforts to implement demand management measures.

Chapter 10 – Plan Adoption, Submittal, and Implementation: This chapter describes and documents the steps taken to make the UWMP publicly available, as well as the steps taken to adopt and submit the UWMP in accordance with the Water Code and also describes QHWD's plan to implement the UWMP.

Appendices: To support and further clarify information included in the main chapters of the UWMP, relevant information has been included in the appendix of this UWMP.

1.4 UWMPs in Relation to Other Efforts

An UWMP is prepared by local Suppliers that have the in-depth and practical knowledge of their water systems. The information contained in each Supplier's UWMP reflects the operations of its system in the context of the Supplier's customers, supplies, and service area. This local planning and preparation remains the fundamental focus of the UWMP.

In addition to the local Supplier focus, the UWMP requires coordination with other planning agencies and is most effective when integrated with other planning efforts. Land-use planning agencies, such as cities and counties, prepare General Plans and Specific Plans that affect a Supplier's analysis provided in its UWMP, and vice versa. Moreover, Water Master Plans, facility plans, Recycled Water Master Plans, Integrated Regional Water Management Plans, local or regional Hazard Mitigation Plans, and others need to be synthesized with a Supplier's UWMP to ensure a holistic planning process.

For QHWD's UWMP, elements of the following reports and documents were utilized to develop the required sections of the plan (a brief description is provided for the relevant information contained in each document):

- 2020 Urban Water Management Plan: Served as the basis for the 2025 update.
- Demographics and Growth Forecast Southern California Association of Governments Technical Report dated April 4, 2024. Used to estimate future population projections throughout 2050.
- 2025 County of Los Angeles All-Hazards Mitigation Plan: Contained information to address the seismic risk assessment and mitigation requirement of the UWMP update.
- Antelope Valley Watermaster 2024 Annual Report: Contained information to address climate change within the service area and water supply reliability.

1.5 Department of Water Resources' Review Process

Law

CWC § 10608.56

(a) On and after July 1, 2016, an urban retail water supplier is not eligible for a water grant or loan awarded or administered by the state unless the supplier complies with this part.

(b) On and after July 1, 2013, an agricultural water supplier is not eligible for a water grant or loan awarded or administered by the state unless the supplier complies with this part.

(c) Notwithstanding subdivision (a), the department shall determine that an urban retail water supplier is eligible for a water grant or loan even though the supplier has not met the per capita reductions required pursuant to Section 10608.24, if the urban retail water supplier has submitted to the department for approval a schedule, financing plan, and budget, to be included in the grant or loan agreement, for achieving the per capita reductions. The supplier may request grant or loan funds to achieve the per capita reductions to the extent the request is consistent with the eligibility requirements applicable to the water funds.

(d) Notwithstanding subdivision (b), the department shall determine that an agricultural water supplier is eligible for a water grant or loan even though the supplier is not implementing all of the efficient water management practices described in Section 10608.48, if the agricultural water supplier has submitted to the department for approval a schedule, financing plan, and budget, to be included in the grant or loan agreement, for implementation of the efficient water management practices. The supplier may request grant or loan funds to implement the efficient water management practices to the extent the request is consistent with the eligibility requirements applicable to the water funds.

(e) Notwithstanding subdivision (a), the department shall determine that an urban retail water supplier is eligible for a water grant or loan even though the supplier has not met the per capita reductions required pursuant to Section 10608.24, if the urban retail water supplier has submitted to the department for approval documentation demonstrating that its entire service area qualifies as a disadvantaged community.

(f) The department shall not deny eligibility to an urban retail water supplier or agricultural water supplier in compliance with the requirements of this part and Part 2.8 (commencing with Section 10800), that is participating in a multiagency water project, or an integrated regional water management plan, developed pursuant to Section 75026 of the Public Resources Code, solely on the basis that one or more of the agencies participating in the project or plan is not implementing all of the requirements of this part or Part 2.8 (commencing with Section 10800).

The DWR reviews each Urban Water Management Plan to ensure it satisfies the requirements of the CWC and aligns with the organizational structure and reporting expectations outlined in the UWMP Guidebook. Once a UWMP is submitted through the WUEdata portal, DWR conducts a completeness and compliance review and later compiles statewide findings for legislative reporting. DWR's review focuses on verifying that suppliers have addressed all required elements, appropriately used Submittal Tables, and incorporated accurate and consistent data as referenced in the UWMP Checklist. After the review, DWR will contact the Supplier with one of the following letter types:

- **UWMP Address Water Code Requirements:** The submitted UWMP addresses the requirements of the Water Code and has met the eligibility requirements for grants and loans under Water Code Section 10608.56.
- **UWMP Address Water Code Requirements with Recommendations:** The submitted UWMP addresses the requirements of the Water Code and has met the eligibility requirements for grants and loans under Water Code Section 10608.56, but DWR will provide recommendations for portions that could use slight adjustment in the next round of UWMPs.
- **UWMP Advisory Letter:** The submitted UWMP did not address all Water Code requirements or that it cannot be determined whether all requirements have been addressed. The Supplier must then submit an amended UWMP that addresses the deficiencies or necessary information documenting the requirements addressed.
- **UWMP Does Not Address Water Code Requirements:** The UWMP has not addressed all the requirements of the Water Code and is issued if no response has been received to a UWMP Advisory Letter.

- **Indeterminate:** It could not be determined whether the submitted UWMP has addressed the Water Code's UWMP requirements.

1.6 UWMP and Grant or Loan Eligibility

For a Supplier to be eligible for any water grant or loan administered by DWR, the Supplier must have a current UWMP on file that has been determined by DWR to address the requirements of the Water Code. A current UWMP must also be maintained by the Supplier throughout the term of any grant or loan administered by DWR. An UWMP may also be required in order to be eligible for other state funding, depending on the conditions that are specified in the funding guidelines. Suppliers are encouraged to seek guidance on the specifics of any state funding source from the respective funding agencies.

Law

CWC §10610–10656
This part shall be known and may be cited as the "Urban Water Management Planning Act."

CWC § 10610.2.
(a) The Legislature finds and declares all of the following:

(1) The waters of the state are a limited and renewable resource subject to ever-increasing demands.

(2) The conservation and efficient use of urban water supplies are of statewide concern; however, the planning for that use and the implementation of those plans can best be accomplished at the local level.

(3) A long-term, reliable supply of water is essential to protect the productivity of California's businesses and economic climate, and increasing long-term water conservation among Californians, improving water use efficiency within the state's communities and agricultural production, and strengthening local and regional drought planning are critical to California's resilience to drought and climate change.

(4) As part of its long-range planning activities, every urban water supplier should make every effort to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry water years now and into the foreseeable future, and every urban water supplier should collaborate closely with local land-use authorities to ensure water demand forecasts are consistent with current land-use planning.

(5) Public health issues have been raised over a number of contaminants that have been identified in certain local and imported water supplies.

(6) Implementing effective water management strategies, including groundwater storage projects and recycled water projects, may require specific water quality and salinity targets for meeting groundwater basins water quality objectives and promoting beneficial use of recycled water.

(7) Water quality regulations are becoming an increasingly important factor in water agencies' selection of raw water sources, treatment alternatives, and modifications to existing treatment facilities.

(8) Changes in drinking water quality standards may also impact the usefulness of water supplies and may ultimately impact supply reliability.

(9) The quality of source supplies can have a significant impact on water management strategies and supply reliability.

(b) This part is intended to provide assistance to water agencies in carrying out their long-term resource planning responsibilities to ensure adequate water supplies to meet existing and future demands for water.

CWC § 10610.4.

The Legislature finds and declares that it is the policy of the state as follows:

(a) The management of urban water demands and efficient use of water shall be actively pursued to protect both the people of the state and their water resources.

(b) The management of urban water demands and efficient use of urban water supplies shall be a guiding criterion in public decisions.

(c) Urban water suppliers shall be required to develop water management plans to achieve the efficient use of available supplies and strengthen local drought planning.

Chapter 2 PLAN PREPARATION

New Requirements for 2025 Update

The 2025 update requires agencies to incorporate the most recent demographic, land-use, and housing information, including updated RHNA allocations where applicable. This chapter now places greater emphasis on climate-related vulnerabilities and the geographic areas most sensitive to water supply reductions. Unlike the 2020 UWMP, the 2025 version requires more explicit coordination with local General Plans, hazard mitigation plans, and SB 379 climate adaptation updates.

2.1 Basis for Preparing a Plan

Law

CWC § 10617

"Urban water supplier" means 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. This part applies only to water supplied from public water systems subject to Chapter 4 (commencing with Section 116275) of Part 12 of Division 104 of the Health and Safety Code.

CWC 10620

(b) Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.

CWC 10621

(a) Each urban water supplier shall update its plan at least once every five years on or before July 1, in years ending in six and one, incorporating updated and new information from the five years preceding each update.

2.1.1 Suppliers with Both Wholesale and Retail Sales

QHWD is a Retail water supplier, operating its own water system and providing potable water directly to customers within its service boundaries. QHWD does not serve as a wholesale distributor to other retail agencies. QHWD imports potable water from the Antelope Valley-East Kern Water Agency (AVEK), which is a wholesale supplier.

2.1.2 Public Water Systems

Law

CWC 10644
(a)(2) The plan, or amendments to the plan, submitted to the department … shall include any standardized forms, tables, or displays specified by the department.

California Health and Safety Code 116275
(h) "Public Water System" means a system for the provision of water for human consumption through pipes or other constructed conveyances that has 15 or more service connections or regularly serves at least 25 individuals daily at least 60 days out of the year.

QHWD is a public urban water supplier serving an estimated population of 19,878 people. **Table 2-1** provides a summary of the number of connections and total volume of water supplied by QHWD to its customers for calendar year 2025. QHWD serves a single public water system and service area.

Table 2-1: Public Water Systems

Public Water System Number	Public Water System Name	Number of Municipal Connections 2025	Volume of Water Supplied 2025 (AF)
CA1910130	Quartz Hill Water District	5,782	4,438[1]
	TOTAL	**5,782**	**4,438**

Note: 1. Data from QHWD's Annual Production Data.

2.2 Individual or Regional Plans

Law

CWC 10608.20
(a)(1) …Urban retail water suppliers may elect to determine and report progress toward achieving these targets on an individual or regional basis as provided in subdivision (a) of Section 10608.28…

CWC 10608.28
(a) An urban retail water supplier may meet its urban water use target within its retail service area, or through mutual agreement by any of the following:

(1) Through an urban wholesale water supplier.
(2) Through a regional agency authorized to plan and implement water conservation, including, but not limited to, an agency established under the Bay Area Water Supply and Conservation Agency Act (Division 31 (commencing with Section 81300)).
(3) Through a regional water management group as defined in Section 10537.
(4) By an integrated regional water management funding area.
(5) By hydrologic region.

(6) Through other appropriate geographic scales for which computation methods have been developed by the department.

(b) A regional water management group, with the written consent of its member agencies, may undertake any or all planning, reporting, and implementation functions under this chapter for the member agencies that consent to those activities. Any data or reports shall provide information both for the regional water management group and separately for each consenting urban retail water supplier and urban wholesale water supplier.

QHWD has developed an UWMP that reports solely on its individual service area as identified in **Table 2-2**. This plan addresses all applicable CWC requirements, including necessary references to historical SB X7-7 targets, while meeting the current long-term water use efficiency requirements under AB 1668 and SB 606.

Table 2-2: Plan Identification		
Select One	**Type of Plan**	**Name of Regional Alliance or RUWMP**
☒	**Individual UWMP**	
	If Water Supplier is also a member of a SB X7-7 Regional Alliance, select name.	
☐	**Regional Urban Water Management Plan (RUWMP)**	

2.2.1 Regional Reporting

The Quartz hill District does not participate in a Regional Urban Water Management Plan (RUWMP), and therefore this UWMP is prepared solely as an individual retail supplier plan.

2.3 Fiscal or Calendar Year and Units of Measure

2.3.1 Fiscal or Calendar Year

QHWD has reported water-related information included in this UWMP based on calendar basis and all units are measured in acre-feet (AF) as identified in **Table 2-3**.

Table 2-3: Supplier Identification	
Type of Supplier	
☐	Supplier is a wholesaler
☒	Supplier is a retailer

Table 2-3: Supplier Identification	
Fiscal or Calendar Year	
☐	UWMP Tables Are in Calendar Years
☒	UWMP Tables Are in Fiscal Years
If using fiscal years provide month and date that the fiscal year begins (mm/dd) – 07/01	
Units of Measure Used in UWMP	
Unit	Acre-Feet (AF)

2.3.2 Units of Measure

Water volumes presented in this 2025 UWMP are measured in acre-feet (AF) as identified in **Table 2-3**.

2.4 Coordination and Outreach

2.4.1 Wholesale and Retail Coordination

Law

> ***CWC 10631***
> *(j) An urban water supplier that relies upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (c). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (c).*

As shown in **Table 2-4**, QHWD has provided the Antelope Valley-East Kern Water Agency (AVEK), a regional wholesale supplier, with projected water demands in five-year increments for the next 20 years.

Table 2-4: Water Supplier Information Exchange
The retail supplier has informed the following wholesale supplier(s) of projected water use in accordance with CWC 10631.
Wholesale Water Supplier Name
Antelope Valley – East Kern Water Agency (AVEK)

2.4.2 Coordination with Other Agencies and the Community

Law

CWC 10620

(d)(3) Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.

CWC 10642

Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan.

QHWD has coordinated with multiple neighboring and stakeholder agencies in the preparation of this UWMP. The coordination efforts were conducted to: 1) inform the agencies of the planning activities of QHWD; 2) gather data for use in developing this UWMP update; and 3) coordinate planning activities with other related regional plans and initiatives. The coordination activities conducted by QHWD in preparation of this plan are summarized in **Table 2-5**.

Table 2-5: Agency Coordination

Agency	Sent a notice of public hearing for draft UWMP	Commented on the draft	Attended public meetings	Contacted for assistance	Sent a copy of the draft plan	Sent a notice of intention to adopt	Notice of Plan Availability
City of Palmdale	X					X	X
City of Lancaster	X					X	X
Los Angeles County Dept. of Regional Planning	X					X	X
Palmdale Water District	X					X	X
Antelope Valley – East Kern Water Agency	X					X	X
Rosamond Community Services District	X					X	X

Table 2-5: Agency Coordination							
Agency	**Sent a notice of public hearing for draft UWMP**	**Commented on the draft**	**Attended public meetings**	**Contacted for assistance**	**Sent a copy of the draft plan**	**Sent a notice of intention to adopt**	**Notice of Plan Availability**
Los Angeles County Waterworks	X					X	X
Palm Ranch Irrigation District	X					X	X

2.4.3 Notice to Cities and Counties

Law

> ***CWC 10621 (b)***
> *Every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days before the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.*

QHWD has notified the County of Los Angeles, City of Palmdale, and City of Lancaster of the public hearing and this notification has been reported in **Table 10-1** in **Chapter 10**. A copy of the notification is included in **Appendix G** of this UWMP.

Chapter 3 SERVICE AREA DESCRIPTION

New Requirements for 2025 Update

Chapter 3 now includes enhanced reporting on system interties, backup supplies, and operational constraints that affect reliability. The 2025 update requires more detailed descriptions of groundwater basin conditions (consistent with SGMA progress) and any major infrastructure additions since 2020. The chapter also must reflect recent changes in treatment processes, surface water rights, recycled water infrastructure, and conveyance capacity, which were not as thoroughly required in 2020.

Law

> ***CWC Section 10631***
> *Describe the service area of the supplier, including current and projected population, climate, and other social, economic, and demographic factors affecting the supplier's water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available. The description shall include the current and projected land uses within the existing or anticipated service area affecting the supplier's water management planning. Urban water suppliers shall coordinate with local or regional land use authorities to determine the most appropriate land use information, including, where appropriate, land use information obtained from local or regional land use authorities, as developed pursuant to Article 5 (commencing with Section 65300) of Chapter 3 of Division 1 of Title 7 of the Government Code.*

3.1 General Description

The QHWD is located in the southwest portion of the Antelope Valley. It is 65 miles northwest of Los Angeles on the Antelope Valley Highway 14 and west of both Palmdale and Lancaster. QHWD occupies an area of about 6 square miles located in the City of Lancaster, a small area in the City of Palmdale, and includes unincorporated portions of the County of Los Angeles. Incorporation of QHWD occurred in May 1954 as a County Water District and water service is provided to all residential, commercial, industrial, and agricultural customers, and for environmental and fire protection uses.

QHWD's water system relies upon both groundwater and imported potable water from the Antelope Valley-East Kern Water Agency (AVEK), which extracts its water supply from underground aquifers via groundwater wells scattered throughout QHWD. The water supply system has ten active wells and water is conveyed from the wells to consumers via 97 miles of distribution piping. Distribution pipe sizes range between 4 to 24-inches in diameter.

QHWD currently operates and maintains eight storage reservoirs within the service area having a total capacity of 13.6 million gallons, six booster pump stations, twenty-one pressure regulating stations, and two hydro-pneumatic tanks. All facilities are monitored by a Supervisory Control and Data Acquisition

(SCADA) system, which activates wells and booster pump facilities based on storage tank water levels or pressure at selected locations in the distribution system.

3.2 Service Area Boundary Maps

Figure 3-1 illustrates the location of QHWD within the State of California and **Figure 3-2** shows the extent of the current Sphere of Influence (SOI) boundary.

Figure 3-1: QHWD Location Map

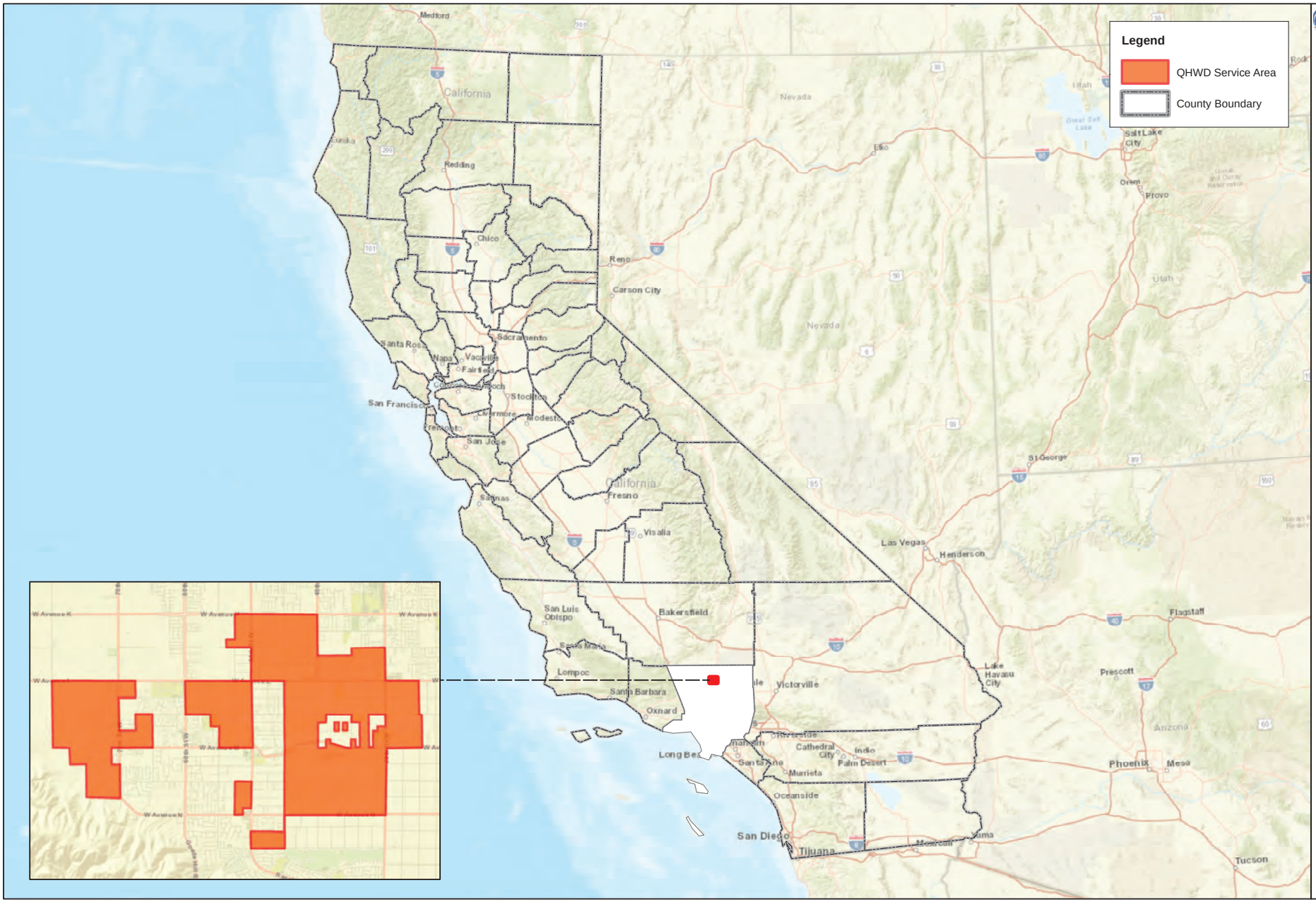
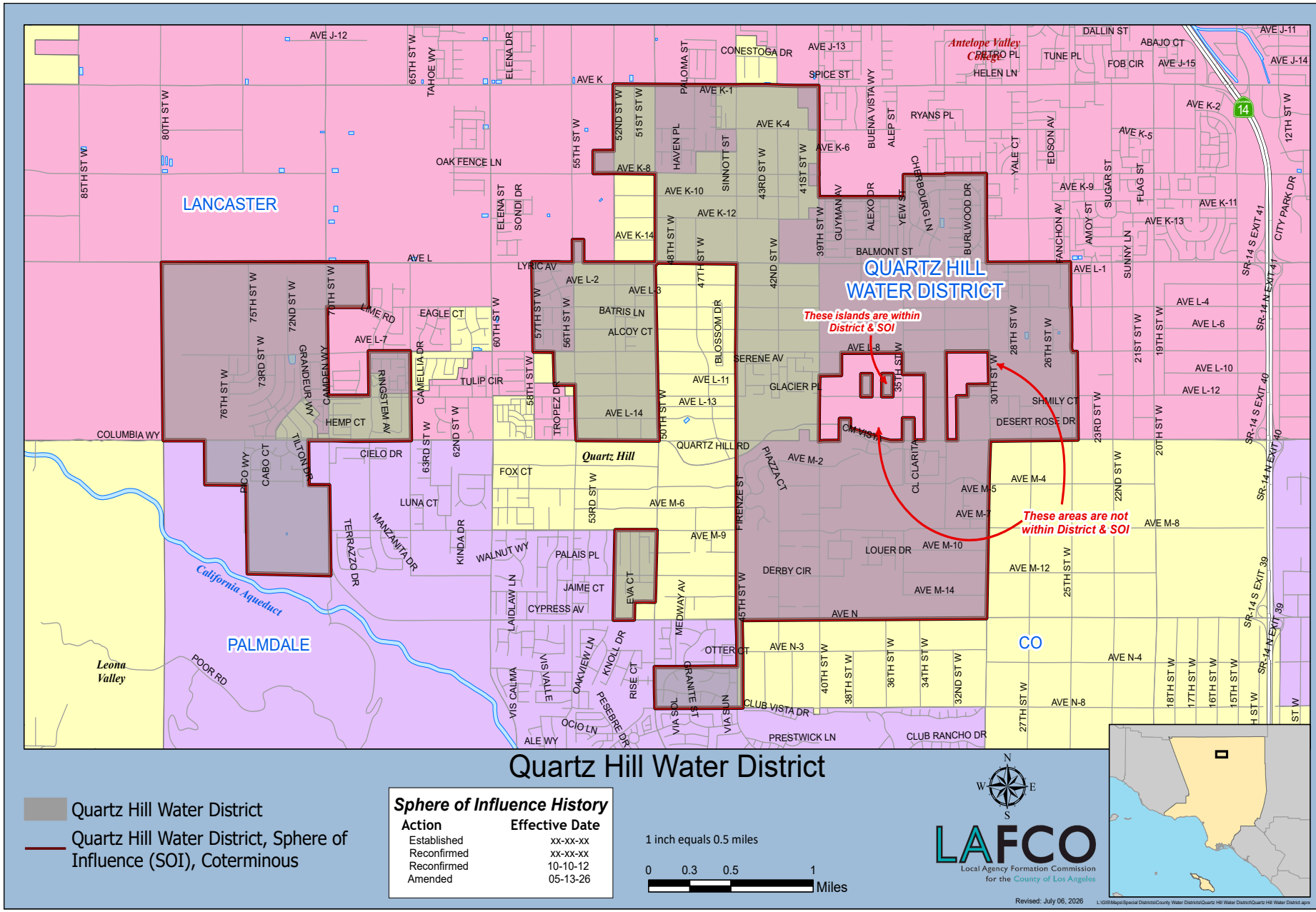


Figure 3-2: LAFCO QHWD Sphere of Influence Map



Quartz Hill Water District

2025 Urban Water Management Plan

Figure 3-2:

LAFCO QHWD Sphere of Influence Map

ARDURRA

3.3 Service Area Climate

Law

CWC Section 10631(a)
Describe the service area of the supplier, including climate.

CWC Section 10630
It is the intention of the Legislature, in enacting this part, to permit levels of water management planning… while accounting for impacts of climate change.

Located in the southwestern portion of the Mojave Desert, Antelope Valley ranges in elevation from approximately 2,300 feet to 3,500 feet above sea level. Vegetation native to the Antelope Valley is typical of the high desert and includes Joshua trees, saltbush, mesquite, sagebrush, and creosote bush. The climate is characterized by hot summer days, cool summer nights, cool winter days, and cool winter nights. Typical of a semiarid region, mean daily summer temperature ranges from 63°F to 93°F, and mean daily winter temperatures range from 34°F to 57°F. The growing season is primarily from April to October. Precipitation ranges from 5-inches per year along the northern boundary to 10-inches per year along the southern boundary.

Table 3-0: Climate Conditions for Calendar Year 2025

Month	Monthly Average ETo[1]	Monthly Rainfall[1]	Monthly Average Temperature[1]
	Inches	Inches	Fahrenheit
Jan	2.66	0.80	46.5
Feb	3.25	1.19	56.7
Mar	4.53	1.48	55.3
Apr	6.52	0.46	63.0
May	8.08	1.13	73.0
Jun	9.00	0.99	82.0
Jul	9.68	1.27	84.3
Aug	8.81	1.41	88.9
Sep	6.17	0.33	80.4
Oct	4.36	0.78	68.4
Nov	2.37	2.59	59.0
Dec	2.11	2.38	53.8
Average	**5.63**	**1.23**	**67.6**
Total	**67.54**	**14.8**	**-**

Note: Data from CIMIS Station #220 Palmdale Central – Los Angeles Basin, January 1, 2025 to December 31, 2025.

With respect to climate change, QHWD has not conducted an official climate change vulnerability or risk assessment for the existing water service area. However, climate change considerations for QHWD's groundwater supply were incorporated into the Antelope Valley Watermaster 2024 Annual Report, dated July 24, 2025. Section 3, Monitoring of Safe Yield Components, of the Antelope Valley Watermaster Annual Report has been included in **Appendix A**.

3.4 Service Area Population and Demographics

3.4.1 Service Area Population

Law

> ***CWC Section 10631(a)***
> *Describe the service area of the supplier, including current and projected population …The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available.*

QHWD provides water services within portions of the City of Lancaster, City of Palmdale, and unincorporated areas of Los Angeles County. QHWD does not have land use planning authority and relies on the Cities and County to identify potential new developments and overall population growth within the service area. The Cities and County will coordinate with QHWD during the review process for new developments within the service area. With respect to population growth within the service area, several planning documents were reviewed to determine the appropriate population and growth rate to use for the 2025 update. The following planning documents included proposed population growth rate estimates through 2050 for the County of Los Angeles:

- Demographics and Growth Forecast Technical Report for the Southern California Association of Governments (SCAG) dated April 4, 2024.
    - Annual Average Population Growth Rate from 1990-2050 for the SCAG Region is 0.59%.

The SCAG annual average population growth rate of 0.59% was used to calculate QHWD's population projections through 2050. **Table 3-1** provides a summary of 2025 and future population projections within the QHWD service area through 2050.

Table 3-1: Population – Current & Projected						
Population Served	**2025**	**2030**	**2035**	**2040**	**2045**	**2050**
QHWD[1]	19,878	20,471	21,082	21,840	22,492	23,163
Total	**19,878**	**20,471**	**21,082**	**21,840**	**22,492**	**23,163**

Note:

1. *Population increase of 0.59% applied as referenced in SCAG Demographics and Growth Forecast Technical Report dated April 4, 2024.*

3.4.2 Other Social, Economic, and Demographic Factors

Law

CWC Section 10631
Describe the service area of the supplier, including… other social, economic and demographic factors affecting the supplier's water management planning.

In 2009, the District became one of the State's first agencies to move from the traditional inclining tiers water rate structure to a water budget rate structure. The decision to move to an allocation-based rate structure was based on achieving both conservation of and efficient use of water by developing an individualized budget of water usage for each account. There were five tiers ranging from a 'conservation' tier to a 'wasteful' tier, and they were designed to send clear price signals to high-use customers that place undue burden on the District's water supply and the District's ability to meet State mandates such as the FY 2015 water reduction mandate under which the District was required to cut usage by 36 percent. The rate structure consists of fixed service charges and variable usage/consumption charges which incorporate pass-through adjustments as applied by AVEK.

The 2009 water budget rate structure and its allocations and tiers were developed internally by the District and based on cost-of-service principles per generally accepted American Water Works Association (AWWA) guidelines to the extent possible. The structure supported the District's mission statement that the District "…will be a responsible overseer of the resources, assets, and natural environments entrusted to [the District] in order to provide a high-quality water supply that is resilient, reliable, and supplied at a fair and equitable rate."

The following data was obtained from the US Census Bureau and was the best available information to describe the demographics of the customer base within QHWD's service area:

- The population consists of 50% male and 50% female with 38% of the population between the ages of 15 and 44
- Approximately 49% of the population is White with 35% Hispanic or Latino

- The median household income was identified to be $105,443 with 11.3% of the population within the poverty level

3.5 Land Uses within Service Area

Law

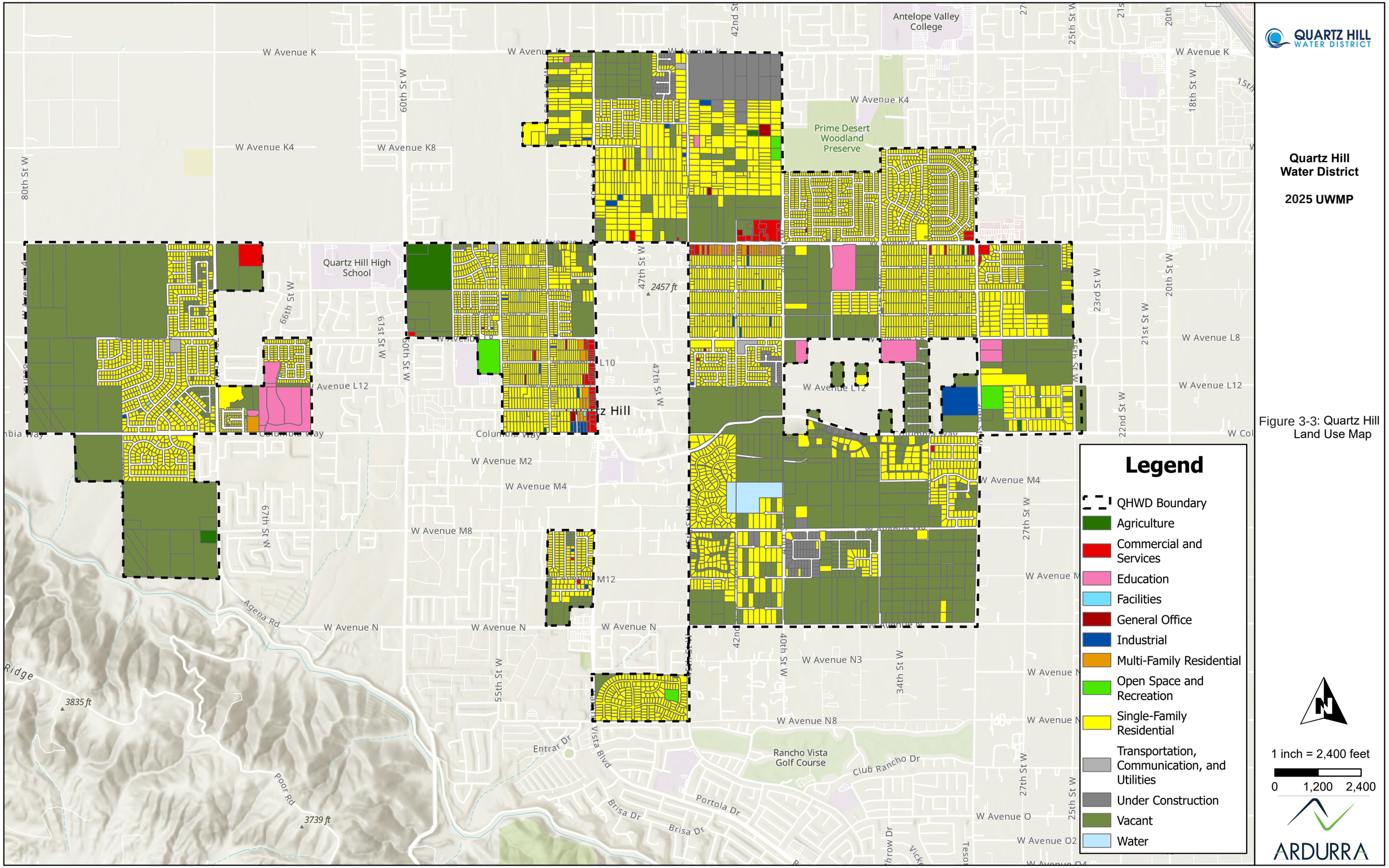
> ***CWC Section 10631(a)***
> *The description shall include the current and projected land uses within the existing or anticipated service area affecting the supplier's water management planning. Urban water suppliers shall coordinate with local or regional land use authorities to determine the most appropriate land use information, including, where appropriate, land use information obtained from local or regional land use authorities…*

The QHWD service area occupies an area of about 6 square miles within the City of Lancaster, a small area in the City of Palmdale, and unincorporated portions of the County of Los Angeles. QHWD does not have land use planning authority within their service area and does not collect land use data within the service area. The District relies of the Cities of Lancaster and Palmdale and Los Angeles County, to identify potential new developments and overall population growth in the service area. QHWD does not participate in the development of planning documents for either City. **Table 3-2** shows land use by type for the QHWD service area, the majority of the service area consists of single family residential and vacant land.

Table 3-2: Developed Land Use Summary within Service Area

Land Use Type	Gross Acres	Percent of Total
Single-Family Residential	1,955	46%
Multi-Family Residential	23	0%
Commercial	56	1%
Facilities	69	1%
Educational	52	1%
Industrial	14	0%
Transportation, Communications, and Utilities	50	1%
Under Construction	136	3%
Open Space and Recreation	30	0%
Agricultural	42	1%
Vacant	1,773	42%
Water	25	0%
Total	**4,225**	**100%**

Figure 3-3: QHWD Land Use by Type



Legend

- QHWD Boundary
- Agriculture
- Commercial and Services
- Education
- Facilities
- General Office
- Industrial
- Multi-Family Residential
- Open Space and Recreation
- Single-Family Residential
- Transportation, Communication, and Utilities
- Under Construction
- Vacant
- Water

QUARTZ HILL WATER DISTRICT

Quartz Hill Water District

2025 UWMP

Figure 3-3: Quartz Hill Land Use Map

1 inch = 2,400 feet

0 1,200 2,400

ARDURRA

Chapter 4 WATER USE CHARACTERIZATION

New Requirements for 2025 Update

New for 2025, agencies must incorporate updated water loss audit requirements, revised demand categories, and updated standards related to the statewide conservation framework. The chapter requires the use of the latest DWR demand reporting tables and clearer documentation of how future demand projections incorporate land-use, climate, and economic growth factors. Compared to 2020, the 2025 UWMP places stronger emphasis on distinguishing indoor vs. outdoor use and documenting non-revenue water trends.

4.1 Non-Potable Versus Potable Water Use

There is currently neither existing nor future recycled water demand within the QHWD service area.

4.2 Past, Current, and Projected Water Use by Sector

Law

CWC 10635

(a) Every urban water Supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the long-term total projected water use over the next 20 years, in five-year increments, for a normal water year, a asingle dry water year, and a drought lasting five consecutive water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.

CWC 10631 (d)

(1) For an urban retail water supplier, quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, based upon information developed pursuant to subdivision (a), identifying the uses among water use sectors, including, but not necessarily limited to, all of the following…

(2) The water use projections shall be in the same five-year increments described in subdivision (a).

(4)(A) Water use projections, where available, shall display and account for the water savings estimated to result from adopted codes, standards, ordinances, or transportation and land use plans identified by the urban water supplier, as applicable to the service area.

(B) To the extent that an urban water supplier reports the information described in subparagraph (A), an urban water supplier shall do both of the following: (i) Provide citations of the various codes, standards, ordinances, or transportation and land use plans utilized in making the projections. (ii) Indicate the extent that the water use projections consider savings from codes, standards, ordinances, or transportation and land use plans. Water use projections that do not account for these water savings shall be noted of that fact.

In this section, current and projected water usage is addressed. **Table 4-2** displays water use in five-year increments from 2030 to 2050.

4.2.1 Water Use Sectors Listed in Water Code

Law

CWC 10631(d)

(1) For an urban retail water supplier, quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, based upon information developed pursuant to subdivision (a), identifying the uses among water use sectors, including, but not necessarily limited to, all of the following uses:

(A) Single-family residential.

(B) Multifamily.

(C) Commercial.

(D) Industrial.

(E) Institutional and governmental.

(F) Landscape.

(G) Sales to other agencies.

(H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.

(I) Agricultural

(J) Distribution system water loss

QHWD's service area includes the following water demand sectors listed in the CWC applicable to the UWMP update:

- Single Family: Single family detached dwellings
- Multi-Family: Apartments, condominiums, town houses, duplexes and trailer parks
- Commercial: Retail establishments, office buildings, laundries, schools, prisons, hospitals, dormitories, nursing homes, hotels, churches, campgrounds
- Landscape: Parks, play fields, cemeteries, median strips, golf courses

The following sectors are not applicable to QHWD's UWMP update:

- Industrial
- Institutional and governmental: Tracked under Commercial customer class
- Agricultural
- Distribution system water loss

- Sales to other agencies
- Saline water intrusion barriers, groundwater recharge, or conjunctive use

4.2.2 Water Use Sectors in Addition to Those Listed in Water Code

To provide clarity, acknowledgement of these additional sectors is being addressed. However, the following sectors are not currently applicable to QHWD's current demands in this UWMP update:

- Exchanges
- Surface Water Augmentation
- Transfers
- Wetlands or Wildlife Habitat

4.2.3 Past Water Use

Table 4-0 provides historical water usage by customer type from 2020 through 2024.

Table 4-0: Historical Water Usage

Use Type	Water Use (AF)					% of Total
	2020	2021	2022	2023	2024	
Single Family	3,741	4,048	3,505	3,375	3,796	82
Multi-Family	272	312	267	258	280	6
Commercial	142	156	120	112	138	3
Landscape	222	229	165	149	200	5
Losses	429	106	151	107	43	4
Total (AF)	**4,806**	**4,851**	**4,208**	**4,001**	**4,457**	**100**

Note:

1. *Values represent metered use as reported to DWR for 2020-2024. Percentage of total based on average of the last 5 years. Water losses are based on total production minus metered use and do not reflect detailed loss values from the AWWA water loss worksheets.*

4.2.4 Current Water Use

Table 4-1 provides an overview of the existing water demands by use type within QHWD's service area for calendar year 2025.

Table 4-1: Total Uses for Potable and Non-Potable Water - Actual		
Use Type	2025 Actual Water Use	
	Potable or Non-Potable	Volume (AF)
Single-Family	Potable	3,745
Multi-Family	Potable	274
Commercial	Potable	128
Landscape	Potable	218
Losses	Potable	73
Total (AF)		**4,438**

Note:

1. *Values represent metered use as reported to DWR for 2025.*

4.2.5 Projected Water Use

Law

CWC 10635

(a) Every urban water Supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the long-term total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and a drought lasting five consecutive water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.

CWC 10631 (h)

An urban water supplier that relies upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (f). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (f).

CWC 10631 (d)(4)

(A) Water use projections, where available, shall display and account for the water savings estimated to result from adopted codes, standards, ordinances, or transportation and land use plans identified by the urban water supplier, as applicable to the service area.

(B) To the extent that an urban water supplier reports the information described in subparagraph (A), an urban water supplier shall do both of the following:

(i) Provide citations of the various codes, standards, ordinances, or transportation and land use plans utilized in making the projections.

(ii) Indicate the extent that the water use projections consider savings from codes, standards, ordinances, or transportation and land use plans. Water use projections that do not account for these water savings shall be noted of that fact.

Based on the 2020 UWMP, QHWD was required to comply with an urban water use target of 298 gallons per capita per day (gpcd) by 2020. QHWD's 2020 gpcd was 186 and therefore met the urban water use target. **Table 4-1a** provides a summary of historical gpcd within the service area.

Table 4-1a: Historical Use Rates (GPCD)

Year	Service Area Population	Water Production (MG)	Gross Water Use (gpcd)	Meter Residential Use (MG)	Residential Water Use (gpcd)
2020	19,283	1,566	222	1,308	186
2021	19,401	1,581	223	1,420	201
2022	19,519	1,371	199	1,229	173
2023	19,638	1,424	182	1,310	183
2024	19,758	1,452	201	1,328	184
2025	19,878	1,446	199	1.184	163
5-Year Average (2021-2025)			**203**		**181**

Note:

1. *Potable Demand based on historical production values provided by QHWD. The 5-year average includes 2021-2025.*

Annual water demand within the service area was assumed to increase in proportion to the population projection projected by COG for Los Angeles County and surrounding area. The demand projections in **Table 4-2** are based on historical gpcd trends (**Table 4-1a**), include mandatory water use prohibitions as requested by the State, and incorporate the required target per-capita water use per SB X7-7 (298 gpcd) for QHWD. QHWD future water demand projections were calculated by multiplying annual population projections by the historical 5-year running average gross water use.

$$Demands = Population\ x\ 203\ GPCD\ x\ Use\ Type\ Percentage$$

Table 4-2: Retail: Total Uses for Potable, and Non-Potable Water – Projected						
Use Type	Projected Water Use (AF)					
	Potable or Non-Potable	2030	2035	2040	2045	2050
Single Family	Potable	3,813	3,927	4,068	4,190	4,315
Multi-Family	Potable	286	294	305	314	323
Commercial	Potable	136	140	145	150	154
Landscape	Potable	202	208	216	222	229
Losses	Potable	217	223	231	238	245
	Total (AF)	**4,654**	**4,793**	**4,965**	**5,114**	**5,266**

Note:

1. *Note: District future demands based on population projections and the 5-year average (2021-2025) gross water use rate).*

4.2.5.1 Lower Income Households

Law

CWC 10631.1

(a) The water use projections required by Section 10631 shall include projected water use for single-family and multifamily residential housing needed for lower income households, as defined in Section 50079.5 of the Health and Safety Code, as identified in the housing element of any city, county, or city and county in the service area of the supplier.

California Health and Safety Code Section 50079.5 (a)

"Lower income households" means persons and families whose income does not exceed the qualifying limits for lower income families… In the event the federal standards are discontinued, the department shall, by regulation, establish income limits for lower income households for all geographic areas of the state at 80 percent of area median income, adjusted for family size and revised annually.

QHWD does not account for water savings from codes, standards, ordinances, or transportation and land use plans that are also known as "passive savings". However, for new development within the City of Lancaster and the City of Palmdale builders are required to implement water efficient landscape and irrigation per the City's building code. These various factors generally decrease the water use for new and future customers, compared to historical customers.

Lower income residential demands are included in QHWDs future demand projections via housing projections prepared by the City of Lancaster and County of Los Angeles, who are required to plan for lower income residential units within the City/County limits.

Table 4-3: Inclusion in Water Use Projections	
Are Future Water Savings Included in Projections?	No
If "Yes" to above, state the section or page number, in the cell to the right, where citations of the codes, ordinances, or otherwise are utilized in demand projections are found.	-
Are Lower Income Residential Demands Included in Projections?	Yes

4.2.5.2 Climate Change Considerations

Law

> ***CWC 10635***
> *(b) Every urban water supplier shall include, as part of its urban water management plan, a drought risk assessment for its water service to its customers as part of information considered in developing the demand management measures and water supply projects and programs to be included in the urban water management plan. The urban water supplier may conduct an interim update or updates to this drought risk assessment within the five-year cycle of its urban water management plan update. The drought risk assessment shall include each of the following…*
> *(4) Considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.*

QHWD has not conducted an official climate change vulnerability or risk assessment for the existing water service area. However, climate change considerations for QHWD's groundwater supply were incorporated into the Antelope Valley Watermaster 2024 Annual Report, dated July 24, 2025. Section 3 Monitoring of Safe Yield Components of the Antelope Valley Watermaster Annual Report has been included in **Appendix A**.

4.3 Distribution System Water Loss

Law

> ***CWC 10631(d)(1)***
> *For an urban retail water supplier, quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, based upon information developed pursuant to subdivision (a), identifying the uses among water use sectors, including, but not necessarily limited to, all of the following…*
>
> *(J) Distribution system water loss….*
>
> ***CWC 10631(d)(3)***
> *(A) The distribution system water loss shall be quantified for each of the five years preceding the plan update, in accordance with rules adopted pursuant to Section 10608.34*
> *(B) The distribution system water loss quantification shall be reported in accordance with a worksheet approved or developed by the department through a public process. The water loss quantification worksheet*

shall be based on the water system balance methodology developed by the American Water Works Association.
(C) In the plan due July 1, 2021, and in each update thereafter, data shall be included to show whether the urban retail water supplier met the distribution loss standards enacted by the board pursuant to Section 10608.34.

Distribution system water losses are defined by the Guidebook as the physical potable water losses from the pressurized water distribution system and the Supplier's storage facilities up to the point of delivery to the customer's system. The following sections summarize the distribution system losses for the previous five years, as well as QHWD's progress toward meeting water loss performance standards.

4.3.1 Previous Five-Year Distribution System Losses

Table 4-4 summarizes the distribution system water loss reporting for each of the five years preceding the plan update. The Water Loss Audit Reports are included in **Appendix B**.

Table 4-4: Water Loss Audit Reporting

Reporting Period	Submitted to DWR Water Loss Audit Program (Yes/No)
7/2020 – 6/2021	Yes
7/2021 – 6/2022	Yes
7/2022 – 6/2023	Yes
7/2023 – 6/2024	Yes
7/2024 – 6/2025	Yes

4.3.2 Progress Toward Meeting the Water Loss Performance Standard

QHWD is required to provide data demonstrating its efforts to meet the State Water Board Water Loss Performance Standard (23 CCR Section 980) set in 2023. The goal of the Water Loss Performance Standard is to minimize water losses in the system, improve system efficiency, support long-term water conservation and supply reliability. The Water Loss Performance Standard does not have to be met until 2028.

Table 4-5 quantifies QHWD's progress towards meeting the designated Water Loss Performance Standard. The Water Board's Calculated Water Loss Standards are included in **Appendix B**.

Table 4-5: Progress Towards 2028 Water Loss Standard

Public Water System ID	Did the Water Board Calculate a Water Loss Standard for this Public Water System?	Real Water Loss[1]					Apparent Water Loss[1]				
		State Water Board Standard		Most Recent AWWA Water Loss Audit			State Water Board Standard		Most Recent AWWA Water Loss Audit		
		2028 Real Water Loss Standard per Unit per Day	Units for Real Water Loss	Number of Units (Connec-tions or Miles corresponding with units selected)	Volume of Total Real Loss (from AWWA Water Loss Audit)	Real Water Loss Per Unit per Day	2028 Apparent Water Loss Standard per Unit per Day	Units for Apparent Water Loss[2]	Number of Connec-tions	Volume of Total Apparent Loss (from AWWA Water Audit)	Apparent Water Loss Per Unit per Day
CA1910130	Yes	19.7[2]	Gallons per Service Connection per Day (GPSCD)	5,901	77.8[3]	**11.8**	5.8[2]	Gallons per Service Connection per Day (GPSCD)	5,901	46.0[3]	**7.0**

Notes:

1. *Water Loss based on the AWWA 2025 water audit report worksheet values from July 01, 2024 to June 30, 2025 .*
2. *Water Board's Calculated Water Loss Standards.*
3. *AFY= Acre-feet per year*

Chapter 5 SB X7-7 Baselines, 2020 Targets, and 2025 Reporting

New Requirements for 2025 Update

This is a substantially new component that was not included in the 2020 plans. The 2025 UWMP must summarize the agency's progress toward meeting its urban water-use objective, describe compliance pathways, and document component standards (indoor residential use, outdoor residential use, CII performance measures, and water loss). Agencies must also describe variances and supply considerations relevant to objective calculations. This chapter represents one of the largest additions to the report compared to 2020.

5.1 Reporting Requirements for Wholesale Suppliers

QHWD is not a wholesale supplier; therefore, this section does not apply to QHWD.

5.2 Reporting Requirements for Retail Suppliers

5.2.1 Supplier Was Not an Urban Retail Water Supplier in 2020

QHWD was an urban retail water supplier in 2020; therefore, this section does not apply.

5.2.2 Supplier Met 2020 Target in 2020

QHWD successfully met its 2020 targeted reduction of 291 GPCD, achieving an actual use of 223 GPCD in 2020, and continued to maintain water use below the target with an even lower actual use of 199 GPCD in 2025.

Table 5-1: SB X7-7 2020 Target Progress

Was Supplier Part of a Merger or Consolidation Since 2020?	Individual Target	2020 Target	Actual 2020 GPCD	Did Supplier Achieve Targeted Reduction for 2020?	Actual 2025 GPCD
No	291	291	223	**Yes**	199

5.2.3 Supplier Did Not Meet 2020 Target in 2020 – No Change to Service Area

QHWD successfully met its 2020 targeted reduction in 2020; therefore, this section does not apply to QHWD.

5.2.4 Supplier Did Not Meet 2020 Target in 2020 – Change to Service Area

QHWD successfully met its 2020 targeted reduction in 2020; therefore, this section does not apply to QHWD.

5.2.5 Funding Eligibility

QHWD successfully met its 2020 targeted reduction in 2020; therefore, QHWD is eligible to receive water grants or loans from the State of California.

Chapter 6 NORMAL-YEAR WATER SUPPLY CHARACTERIZATION

New Requirements for 2025 Update

The 2025 update requires agencies to integrate the latest water reliability assessments from suppliers, wholesalers, and GSAs; account for SGMA-related limitations; and describe climate-adjusted supply projections. The chapter must now include more detailed descriptions of water rights constraints, hydrologic variability, wildfire effects on surface water quality, and drought-related supply restrictions. Compared to the 2020 UWMP, this chapter requires a more explicit comparison of multiple supply scenarios, including climate-stressed conditions.

6.1 Water Supply Analysis Overview

Law

CWC 10631 (b)
Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier [in five-year increments to 20 years or as far as data is available] providing supporting and related information, including all of the following:

(1) A detailed discussion of anticipated supply availability under a normal water year, single dry year, and droughts lasting at least five years, as well as more frequent and severe periods of drought, as described in the drought risk assessment. For each source of water supply, consider any information pertinent to the reliability analysis conducted pursuant to Section 10635, including changes in supply due to climate change.

(2) When multiple sources of water supply are identified, a description of the management of each supply in correlation with the other identified supplies.

(3) For any planned sources of water supply, a description of the measures that are being undertaken to acquire and develop those water supplies.

CWC 10631 (h)
An urban water supplier that relies upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (f). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (f).

6.2 Water Supply Characterization

6.2.1 Purchased or Imported Water

The only imported water supply for QHWD is State Water Project (SWP) water contracted through the Antelope Valley-East Kern Water Agency (AVEK). Water imported to QHWD through the SWP first became available in 1978. The SWP is the nation's largest state-built waterpower development and conveyance system. AVEK, the third largest SWP contractor, has a current contractual amount of 144,000 AFY. AVEK provides this water for both agricultural and Municipal and Industrial (M&I) use. AVEK's two largest M&I customer agencies are LA County District No. 40 and QHWD. Below is a description of AVEK's system taken from AVEK's 2020 UWMP:

> *"Antelope Valley-East Kern Water Agency (AVEK or Agency) is a wholesale supplier of State Water Project (SWP) water to the greater Antelope Valley region. The region is located in the western part of the Mojave Desert approximately 50 miles northeast of Los Angeles. AVEK's service area encompasses nearly 2,400 square miles northern Los Angeles and eastern Kern Counties as well as a small portion of Ventura County.*
>
> *AVEK has played a major role in the Valley's water system since it was granted a charter by the State Legislature in 1959 and became a SWP contractor in 1962. AVEK's mission is to deliver reliable, sustainable, and high-quality supplemental water to the region in a cost-effective and efficient manner. AVEK's goals include groundwater basin stewardship, water reliability, and water quality promotion.*
>
> *In 1962, AVEK signed a water supply contract with the California Department of Water Resources (DWR) for delivery of imported water supplies from the SWP to supplement Antelope Valley region's groundwater supplies. AVEK has the third-largest allotment of the 29 SWP contractors, with a contractual Table A amount of 144,844 acre-feet per year (AFY). Only the Metropolitan Water District of Southern California (Metropolitan) and Kern County Water Agency receive a larger allotment. Table A water is a reference to the amount of water listed in "Table A" of the contract between the SWP and the contractors and represents the maximum amount of water a contractor may request each year. Table A water is the primary delivery type of imported water AVEK receives; however, additional delivery types (e.g., Article 21 Water and Carryover Water) help to make up AVEK's full imported water supply. AVEK's imported water delivery types are further described in Chapter 6.*
>
> *AVEK's water system is connected to the California Aqueduct at 23 different turnouts. However, only 15 of the turnouts are currently operational. AVEK's turnouts feed into six separate subsystems that are hydraulically disconnected from each other: Acton; Eastside; Rancho Vista; Rosamond; Quartz Hill; and Willow. Distribution throughout AVEK's service area is carried out through a system of approximately 184 miles of pipeline. Water travels throughout the system using booster pump stations that pump water from the lower elevations to the higher elevations. AVEK's pump stations are located at water treatment plants (WTPs) or at customer connections. There are currently 11 existing pumping stations within AVEK's system.*
>
> *AVEK owns and operates four treatment plants that treat SWP water to drinking water standards from the aqueduct and deliver the treated water into the regional distribution system. The four WTPs and the year they were constructed are: Acton WTP (1991); Eastside WTP (1981); Quartz Hill WTP (1977); and Rosamond WTP (1978). AVEK's water distribution systems rely on stored water to help equalize fluctuations between supply and demand. In addition, storage is required to provide adequate water supply for emergency or unplanned outages of a major source of supply. Currently, the Agency's water system has clearwells co-located with each*

WTP and seven reservoirs that provide storage for the distribution system, five of which are owned and maintained by AVEK and two of which are owned by Los Angeles County Waterworks Districts (LACWD) and maintained by AVEK (Carollo, 2020).

In addition, AVEK developed groundwater banking programs to store surplus water available from the SWP during wet periods through groundwater recharge to increase water supply reliability in the greater Antelope Valley. The banking programs include recovery wells to supplement imported water during dry periods, high delivery periods, or during a disruption of SWP deliveries. Currently, AVEK's groundwater banks include the Westside Water Bank (started operations in 2010), Eastside Water Bank (started operations in 2016), Upper Amargosa Creek Recharge Project (started operations in 2019), and, most recently the High Desert Water Bank (currently in development).

AVEK has made many improvements to its water system since initially being constructed in the 1970s to allow for better distribution of water through system interconnections and expansions. The South North Intertie Pipeline and Pump Station/Turnout Project (SNIP) Phase 1 was constructed in 2011 to connect the existing Rosamond WTP and the Quartz Hill WTP by moving water through LACWD pipelines. SNIP also provides flexibility in the method of return of water banked in the Westside Water Bank (direct delivery or transfer). SNIP Phase 2 is currently in design. Other previous facility improvements include the Parallel South Feeder and the addition of 9 million gallons of storage at the Quartz Hill WTP. The Agency's major facilities are shown in Figure 3-1.

AVEK is currently developing a new storage program, the High Desert Water Bank, which is a partnership between AVEK and Metropolitan to increase water supply reliability by storing excess Metropolitan SWP supply in the Antelope Valley Groundwater Basin for use during periods of low SWP allocation. As the project expands and additional phases are constructed, AVEK will have dedicated capacity and the ability to recover stored imported water from the groundwater basin and pump the recovered water into the East Branch of the California Aqueduct for downstream deliveries to AVEK's existing water treatment facilities"

Through this supply source, QHWD receives an average annual delivery of 2,500 AFY to meet demands and offset groundwater pumping. QHWD receives AVEK water through two metered turnouts, and the water is then blended with groundwater and distributed to QHWD customers. QHWD does not have a maximum allocation from AVEK. Annual allocations are based on the District's annual requests submitted. QHWD can request to increase the allocation greater than the previous year's demand as needed.

Through AVEK, QHWD has additional water banked for years in which the SWP cannot supply the fully contracted amount. In 2013 QHWD signed an agreement with AVEK to participate in the Water Supply Stabilization Project No 2, which allows QHWD to store and bank imported water within the groundwater basin for later withdrawal. QHWD can request stored water to be delivered if needed. Based on the existing infrastructure of AVEK and contractual obligations, between QHWD and AVEK, this water supply source is considered reliable and available during normal, single, and multiply dry year conditions.

6.2.2 Groundwater

Law

CWC 10631 (b)(4)

If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:

(A) The current version of any groundwater sustainability plan or alternative adopted pursuant to Part 2.74 (commencing with Section 10720), any groundwater management plan adopted by the urban water supplier, including plans adopted pursuant to Part 2.75 (commencing with Section 10750), or any other specific authorization for groundwater management for basins underlying the urban water supplier's service area.

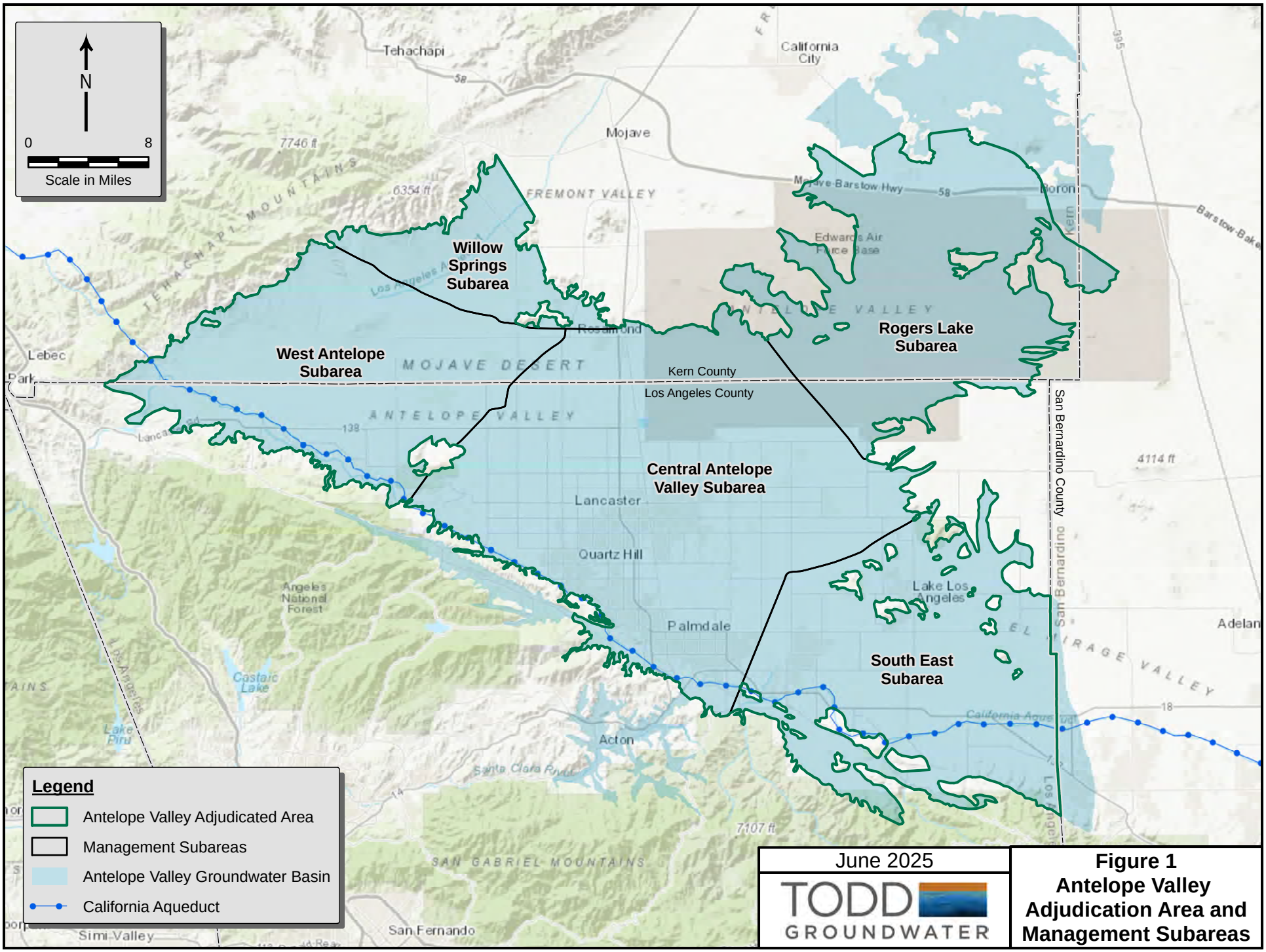
(B) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater. For basins that a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. For a basin that has not been adjudicated, information as to whether the department has identified the basin as a high- or medium-priority basin in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to coordinate with groundwater sustainability agencies or groundwater management agencies listed in subdivision (c) of Section 10723 to maintain or achieve sustainable groundwater conditions in accordance with a groundwater sustainability plan or alternative adopted pursuant to Part 2.74 (commencing with Section 10720).

(C) A detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(D) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

QHWD only pumps groundwater from the Antelope Valley Groundwater Basin (DWR Basin Number 6-44). QHWD operates ten active wells pumping from the basin with a total pumping capacity of 4,973 gpm or 8,021 AFY. The Antelope Valley Groundwater Basin is shown in **Figure 6-1**.

Figure 6-1: Antelope Valley Groundwater Basin



6.2.2.1 Basin Description

The District pumps groundwater from the Antelope Valley Groundwater Basin (DWR Basin Number 6-44) and operates ten active wells pumping from the basin with a total capacity of 4,973 gpm with pumps running up to 12 hours per day. The Antelope Valley Groundwater Basin encompasses 1,580 square miles and spans across three counties: Los Angeles, Kern, and San Bernardino. The basin is comprised of two primary aquifers: (1) the principal aquifer and (2) the deep aquifer. The principal aquifer is an unconfined aquifer. Separated from the principal aquifer by clay layers, the deep aquifer is generally considered to be confined. In general, the principal aquifer is thickest in the southern portion of the Valley near the San Gabriel Mountains, while the deep aquifer is thickest in the vicinity of the dry lakes on Edwards Air Force Base. The Basin is divided into twelve subunits. The subunits are Finger Buttes, West Antelope, Neenach, Willow Springs, Gloster, Chaffee, Oak Creek, Perland, Buttes, Lancaster, North Muroc, and Peerless. The Basin is principally recharged by deep percolation of precipitation and runoff from the surrounding mountains and hills.

Groundwater extractions between 1926 and 1972 resulted in the overdraft of the aquifer that caused groundwater levels to drop significantly. The implementation of the California State Water Project (SWP) in the 1970s resulted in stabilization of groundwater levels in some areas of the Antelope Valley, although groundwater levels in general have continued to fall to the present. From the 1990s to the present, agricultural uses have significantly increased groundwater production and exacerbated the drop in groundwater levels across the Basin. As a result, the Basin was adjudicated in 2016.

Groundwater production in Antelope Valley Groundwater Basin is restricted to adjudicated rights fixed by the Judgment and managed by a court appointed Watermaster. The adjudication defined the boundaries of the basin, established the safe yield, quantified groundwater production, identified a state of overdraft, established respective water rights among groundwater producers, and ordered a ramp down of production to the native basin safe yield. One of the main goals of the adjudication is to sustainably manage the basin and reduce water level declines and subsidence. In accordance with the Judgement, producers that are allotted a portion of the Native Safe yield must reduce water production over a seven-year ramp down period from 2016 to 2022, the reduction in production associated with the Rampdown occurred in years 2018 to 2022.

The Rampdown schedule for 2016 through 2022 for each party with a Pre-Rampdown Production Right is provided in **Appendix E**. Table A-1 on Appendix E lists the Rampdown schedule for the Exhibit 3 Non-Overlying Producers where the District is shown to Rampdown Production Right to 563.73 AFY by 2023. The District has the right to imported water return flows and carry over water from the Judgement.

The District has an imported water return flow credit of 39% per AF for SWP water purchased and brought into the basin to increase groundwater supply. This water can either be used to meet production demands and offset additional pumping needs or be banked for future use. QHWD can bank unused water for up to ten years. After ten years the District must enter into a storage agreement for reaming water with the Watermaster. Carry over water is defined by the Judgment as, the right to any unused portion of annual production right or a right to imported water return flows after which the right was originally available.

This right allows QHWD to bank any remaining water either from their allotment or from imported water return flows for future or emergency needs. Due to carry-over water rights the District has a stored supply to meet demands for several years in the event of a drought or emergency. QHWD also has an annual federal reserve right allocated by the Judgment to help meet production demands. The average quantity from years 2022-2025 is 281.58 AF and 292.31 AF for 2026.

6.2.2.2 Past Five Years Groundwater Pumping

Law

> ***CWC 10631***
> *(b) …If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:*
>
> *(4) A detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.*

Table 6-1 provides an overview of the groundwater sources and the annual quantity pumped to meet the demands of QHWD customers from 2021 to 2025.

Table 6-1: Groundwater Volume Pumped						
☐	Supplier does not pump groundwater. The supplier will not complete the table below.					
Groundwater Type	**Potable or Non-Potable**	**2021**	**2022**	**2023**	**2024**	**2025**
Alluvial Basin	Potable	2,136	1,825	1,822	1,783	1,895
	Total (AF)	**2,136**	**1,825**	**1,822**	**1,783**	**1,895**

6.2.3 Surface Water

QHWD does not have and does not plan to have any surface water resources.

6.2.4 Stormwater

QHWD does not currently nor does QHWD intend to supplement water supply demands through the capture and re-use of stormwater.

6.2.5 Wastewater and Recycled Water

6.2.5.1 Recycled Water Coordination

Law

> ***CWC 10633***
> *The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. The preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area.*

QHWD does not currently nor does QHWD intend to provide recycled water service to customers within the service area.

6.2.5.2 Wastewater Treatment and Discharge

Law

> ***CWC 10633 (a)***
> *A description of the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.*

QHWD does not provide wastewater collection, treatment, or disposal services for its customers. Wastewater collection, treatment and disposal within the QHWD water service area is provided by the neighboring wastewater providers. **Tables 6-2 and 6-3** do not apply for QHWD.

Table 6-2: Wastewater Collected within Service Area in 2025				
☒	Check the box if there is no wastewater collection system.			
Wastewater Collection			**Recipient of Collected Wastewater**	
Name of Wastewater Collection Agency	**Wastewater Volume Metered or Estimated?**	**Volume of Wastewater Collected from UWMP Service Area 2025**	**Name of Wastewater Treatment Plant (WWTP) and Place ID Number**	**Is WWTP Located within UWMP Area?**
Total Wastewater Received from UWMP Service Area in 2025:				

Table 6-3: Wastewater Treatment and Outcomes within UWMP Service Area in 2025									
☒				Check this box if no wastewater is treated or disposed of within the UWMP service area.					
Wastewater Treatment Plant (WWTP) and Place ID Number	Does This Plant Treat Wastewater Generated Outside the UWMP Service Area?	2025 Volume of Wastewater Received from UWMP Service Area	Total 2025 Volume of Water Treated	2025 Outcome of Treated Wastewater					
				Water Recycled within UWMP Service Area		Water Recycled Outside of UWMP Service Area	Effluent Discharge That Is Not a Permitted Recycled Water Use	Required Discharge for Instream Flow	Delivered to Another Entity for Additional Treatment
				Treatment Level	Volume (AF)				

6.2.5.3 Recycled Water System Description

Law

> ***CWC 10633 (c)***
> *(b) A description of the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.*

Recycled Water is not currently being used in QHWD's service area. **Tables 6-4, 6-5, and 6-6** do not apply to QHWD.

Table 6-4: Recycled Water District Beneficial Uses within Service Area							
☒	Check box if recycled water is not used and is not planned for use within the service area of the supplier. The supplier will only complete the column on "Potential Recycled Water Use" and submit an accompanying narrative on the feasibility of the potential recycled water use.						
Name of Agency Producing (Treating) the Recycled Water:							
Name of Supplemental Operating the Recycled Water Distribution System:							
Supplemental Water Added in 2025							
Source of 2020 Supplemental Water							
Use Type	**Potable or Non-Potable**	**2025**	**2030**	**2035**	**2040**	**2045**	**2050**
Total							

Table 6-5: 2020 UWMP Recycled-Water Use Projection Compared to 2025 Actual		
☒	Recycled water was not used in 2025 nor previously projected for use in 2020. The supplier will not complete the table below.	
Use Type	**2020 Projection for 2025**	**2025 Actual Use**
Total		

Table 6-6: Methods to Encourage Future Recycled Water Use			
☒	Supplier does not plan to expand recycled water use in the future. Supplier will not complete the table below but will provide narrative explanation.		
Name of Action	**Description**	**Planned Implementation Year**	**Expected Increase in Recycled Water Use**
N/A	N/A	N/A	N/A
		Total	**N/A**
N/A = not applicable.			

6.2.6 Desalinated Water Opportunities

QHWD has no plans for the development of desalinated water supplies within the planning horizon of this UWMP and neither does the water wholesaler AVEK. AVEK receives imported SWP supplies and recovers previously banked groundwater. Desalination of brackish groundwater would add cost to AVEK without increasing supplies.

6.2.7 Water Exchanges and Transfers

Law

> ***CWC 10631 (c)***
> *Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.*

QHWD does not anticipate any planned or potential future water exchanges and transfers.

6.2.8 Future Water Projects

Law

> ***CWC 10631***
> *(f) Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use, as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed description of expected future projects and programs… that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in average, single-dry, and multiple-dry water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.*

QHWD has two planned projects aimed at sustaining and increasing the District's water supply. The first project, Well 18, involves construction of a new groundwater well that will increase pumping capacity and provide an opportunity to improve water quality through blending with nearby wells. The District has already purchased the property and is currently in the planning and permitting phases. Construction is anticipated to being in late 2026 and be completed in 2027.

The second project, Site 32, will enable the District to blend and treat water from three existing groundwater wells. Land acquisition for this project is complete, and planning and design activities are expected to begin in late 2026

Table 6-7: Expected Future Water Supply Projects or Programs						
☐	No expected future water supply projects or programs that provide quantifiable increase to the agency's water supply. Supplier will not complete the table below.					
☐	Some of all of the supplier's future water supply projects or programs are not compatible with this table and are described in a narrative format.					
Page 6-10	Provide page location of narrative in the UWMP					
Name of Future Projects or Programs	**Joint Project with Other Suppliers?**		**Potable or Non-Potable**	**Planned Implementation Year**	**Planned for Use in Year Type**	**Expected Increase in Water Supply to Supplier**
	Yes/No	**If Yes, Supplier Name**				
Well 18	No		Potable	2027	Normal Year	400
Site 32	No		Potable	2027	Normal Year	400

6.2.9 Summary of Existing and Planned Sources of Water

Law

CWC 10631

(b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision 10631(a), providing supporting and related information, including all of the following…

(b)(2) When multiple sources of water supply are identified, a description of the management of each supply in correlation with the other identified supplies.

(h) An urban water supplier that relies upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (f). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (f).

QHWD's production strategy to serve customer demands is to pump from the Antelope Valley Groundwater Basin and supplement demands as well as bank groundwater within the basin using the District's imported water supply from AVEK. As previously noted, QHWD can increase the supply from AVEK by 3% each year. QHWD can also use carryover water and return flow credits to increase available supply. QHWD's existing water supply sources include local groundwater and imported surface water

supplies. The Antelope Valley Groundwater Basin is currently in a ramp down period for production and by 2023, QHWD's allotment will be 564 AFY. Based on historical production information provided by QHWD, the Judgement, and ongoing water resource planning efforts it was assumed that QHWD's water supplies are considered reliable and available during normal, single and multiple drought conditions.

Table 6-8 provides an overview of the actual sources and volume of water that were available to QHWD for 2025. It should be noted that groundwater pumping did exceed the 2025 groundwater allotment of 564 AF, as shown in **Appendix E**. However, the District supplemented supplies by pumping carry over and return flow credits.

Table 6-8: Water Supplies – 2025 Actual

Water Supply	2025	
	Potable or Non-Potable	**Actual Volume**
Groundwater	Potable	1,895
Purchased or Imported Water	Potable	2,543
Subtotal Potable		**4,438**
Subtotal Non-Potable		**0**
Total (AF)		**4,438**
Note: Groundwater volume includes carryover water rights or return flow credits used.		

Table 6-9 provides an overview of the projected groundwater and imported water supplies available to serve future demands within QHWD's service area through 2050.

Table 6-9: Water Supplies – Projected

Water Supply	Additional Detail on Water Supply	Potable or Non-Potable	2030 Reasonably Available Volume	2035 Reasonably Available Volume	2040 Reasonably Available Volume	2045 Reasonably Available Volume	2050 Reasonably Available Volume
Groundwater	Antelope Valley Groundwater Basin	Potable	564	564	564	564	564
Purchased or Imported Water	AVEK	Potable	4,090	4,229	4,401	4,550	4,702
Total			**4,654**	**4,793**	**4,965**	**5,114**	**5,266**
*Note: QHWD's allotment form the Antelope Valley Groundwater Basin will be 564 AFY as stated in the ramp down production schedule shown in **Appendix E**. Units in AF.*							

For the UWMP it is assumed that QHWD will still be granted carry over water rights and imported water use return flows and will receive the additional 10% increase from AVEK to supplement/offset future groundwater pumping as needed.

6.2.10 Specific Analysis Applicable to All Water Supply Sources

All District water supply sources are summarized and quantified in **Table 6-8** and **Table 6-9**.

6.2.11 Special Considerations

6.2.11.1 Climate Change Effects

QHWD has not conducted an official climate change vulnerability or risk assessment for the existing water service area. However, climate change considerations for QHWD's groundwater supply were incorporated into the Antelope Valley Watermaster 2024 Annual Report, dated July 24, 2025. Section 3 Monitoring of Safe Yield Components of the Antelope Valley Water has been included in **Appendix A**.

6.2.11.2 Regulatory Conditions and Project Development

There are no known regulatory changes that would impact future water characterization within the QHWD service area.

6.2.11.3 Other Locally Applicable Criteria

There are no known local flow criteria that would impact future water characterization within the QHWD service area.

6.3 Energy Use

Law

> ***CWC 10631.2. (a)***
> *In addition to the requirements of Section 10631, an urban water management plan shall include any of the following information that the urban water supplier can readily obtain:*
>
> *(1) An estimate of the amount of energy used to extract or divert water supplies.*
>
> *(2) An estimate of the amount of energy used to convey water supplies to the water treatment plants or distribution systems.*
>
> *(3) An estimate of the amount of energy used to treat water supplies.*
>
> *(4) An estimate of the amount of energy used to distribute water supplies through its distribution systems.*

(5) An estimate of the amount of energy used for treated water supplies in comparison to the amount used for nontreated water supplies.

(6) An estimate of the amount of energy used to place water into or withdraw from storage.

(7) Any other energy-related information the urban water supplier deems appropriate.

QHWD's existing water distribution system consists of 6 pressure zones (ranging in elevation from 2,418 feet to 2,725 feet above sea level), eight storage tanks, six booster pump stations, twenty-one pressure reducing stations and two imported water connections. Water is conveyed from the wells to the consumers via 97 miles of distribution piping and the District operates 10 active wells.

There are three reporting options included in the guidebook based on the available data which include following:

- Option 1: Energy Intensity – Water Supply Process Approach by the individual Water Management Processes
- Option 2: Energy Intensity – Total Utility Approach using the sum of all Water Management Processes and total energy for the system
- Option 3: Energy Intensity – Multiple Water Delivery Products by breaking down percentages for retail potable, retail non-potable, agricultural, etc.

Table 6-10 summarizes QHWD's supply facilities energy intensity using the total utility approach.

Table 6-10: Water Supplies – 2025 Actual				
Enter Start Date for Period	1/1/2025	**Urban Water Supplier Operational Control**		
End Date	12/31/2025	**Sum of All Water Processes**	**Non-Consequential Hydropower**	
		Total Utility	**Hydropower**	**Net Utility**
Volume of Water Entering Process (AF)		**4,438**		**4,438**
Energy Consumed (kWh)		**1,540,709**		**1,540,709**
Energy Intensity (kWh/AF)		**347**		**347**

Chapter 7 WATER SERVICE RELIABILITY AND DROUGHT RISK ASSESSMENT

New Requirements for 2025 Update

For 2025, DWR requires expanded quantitative reliability assessments, including five-year drought risk analyses and updated dry-year sequences. Agencies must also assess reliability under climate stress conditions and describe any new limitations identified since 2020 (e.g., SGMA pumping reductions, environmental flow requirements). This chapter now also integrates SB 552 requirements for small water supplier coordination when applicable. The level of climate modeling and scenario documentation is substantially greater than in 2020.

7.1 Constraints on Water Sources Considerations

Law

> ***CWC 10631 (b)(1)***
> *A detailed discussion of anticipated supply availability under a normal water year, single dry year, and droughts lasting at least five years, as well as more frequent and severe periods of drought, as described in the drought risk assessment. For each source of water supply, consider any information pertinent to the reliability analysis conducted pursuant to Section 10635, including changes in supply due to climate change.*

As described in **Chapter 6**, QHWD's water supply portfolio consists of imported water from AVEK that is used to supplement the demand for groundwater and recharge the Antelope Valley Groundwater Basin. QHWD currently has a maximum groundwater pumping allotment of 564 AFY as shown in **Appendix E**, however QHWD has rights to imported water return flows and carry over water which allows QHWD to pump more groundwater than allotted by utilizing stored supplies as needed. QHWD does not have a maximum allotment from AVEK and can increase their supply based on their previous year's demand. Based on redundancy within QHWD's existing well field and groundwater management practices, QHWD's water supply sources are considered reliable and available during normal, single and multiple dry year conditions. QHWD has never had a single year or multiple dry years in which it did not pump 100% of its demand, regardless of regional hydrology.

With respect to groundwater quality, the 2024 Antelope Valley Watermaster Annual Report provides an evaluation of the Antelope Valley Groundwater Basin:

> *Groundwater provides high-quality water supply for beneficial uses in the Antelope Valley groundwater basin (SNMP, 2014). Water quality data for the Basin are available from a variety of online sources that can be tracked for ongoing Basin management. Data from these monitoring programs can be accessed by the Watermaster Engineer for future analyses involving water quality concerns in local areas on an as-needed basis. Some baseline water quality data are provided herein for general information only.*

Figure 14 *shows a distribution of the maximum TDS concentrations in wells sampled between January 2010 and December 2024. As shown on* ***Figure 14****, groundwater contains relatively low TDS over most of the Basin. TDS concentrations are relatively high in the northern Basin with concentrations higher than 1,500 mg/L in a localized area in the northeast portion of the Rogers Lake Subarea and in the northeast Central Antelope Subarea. Many of the wells reporting high TDS concentrations are monitoring a regulated facility. Other local areas of elevated TDS concentrations are found in the northeastern and southern portions of the Central Antelope Valley Subarea.*

Consistent with other desert basin aquifers in Southern California, natural trace elements, such as arsenic and boron, can be elevated locally in the Antelope Valley (USGS and SWRCB, 2013). In general, groundwater quality for these constituents meets drinking water standards and water quality management goals throughout most areas of the Basin (SNMP, 2014).

The distribution of two additional water quality constituents, nitrate and arsenic, were reviewed for this report. Nitrate is a naturally occurring constituent in groundwater at low concentrations; elevated concentrations are typically related to fertilizers, wastewater effluent, septic systems, animal wastes, and other sources. ***Figure 15*** *shows a distribution of the maximum nitrate as nitrogen concentrations in wells sampled between January 2010 and December 2024. The primary MCL15 for nitrate (as nitrogen, N) is 10 mg/L. Nitrate (as N) concentrations are above 10 mg/L in some wells in the southern portion of the Central Antelope Valley Subarea, western portion of the South East Subarea, and eastern portion of the Willow Springs Subarea. Ten of the wells with nitrate concentrations near or above 10 mg/L are drinking water supply wells and the elevated nitrate concentrations in these wells ranged from 10 mg/L to 18 mg/L (2015-2024 maximums). Elevated concentrations in drinking water wells are treated or blended with other water so that delivered water meets water quality requirements.*

Arsenic occurs naturally in rocks and soil and can enter drinking water supplies from natural deposits in the earth or from agricultural and industrial practices (IRWMP, 2019). ***Figure 16*** *shows a distribution of the maximum arsenic concentrations in wells sampled between January 2010 and December 2024. The primary MCL for arsenic is 10 micrograms per liter (ug/L). Elevated arsenic concentrations occur in the west portion of the Central Antelope Valley Subarea, southwest portion of the West Antelope Subarea, and in monitoring wells in a concentrated area in the northeast portion of the Rogers Lake Subarea (****Figure 16****).*

Drinking water wells with elevated concentrations above 10 ug/L have either been shut down or the supply is blended with other water so that delivered water meets water quality requirements (IRWMP, 2019). Wellhead treatment is also an option for elevated arsenic concentrations.

Figure 7-1: Maximum TDS Concentration 2010 – 2024 (Figure 14: Final Antelope Valley Watermaster 2024 Annual Report, July 24, 2025)

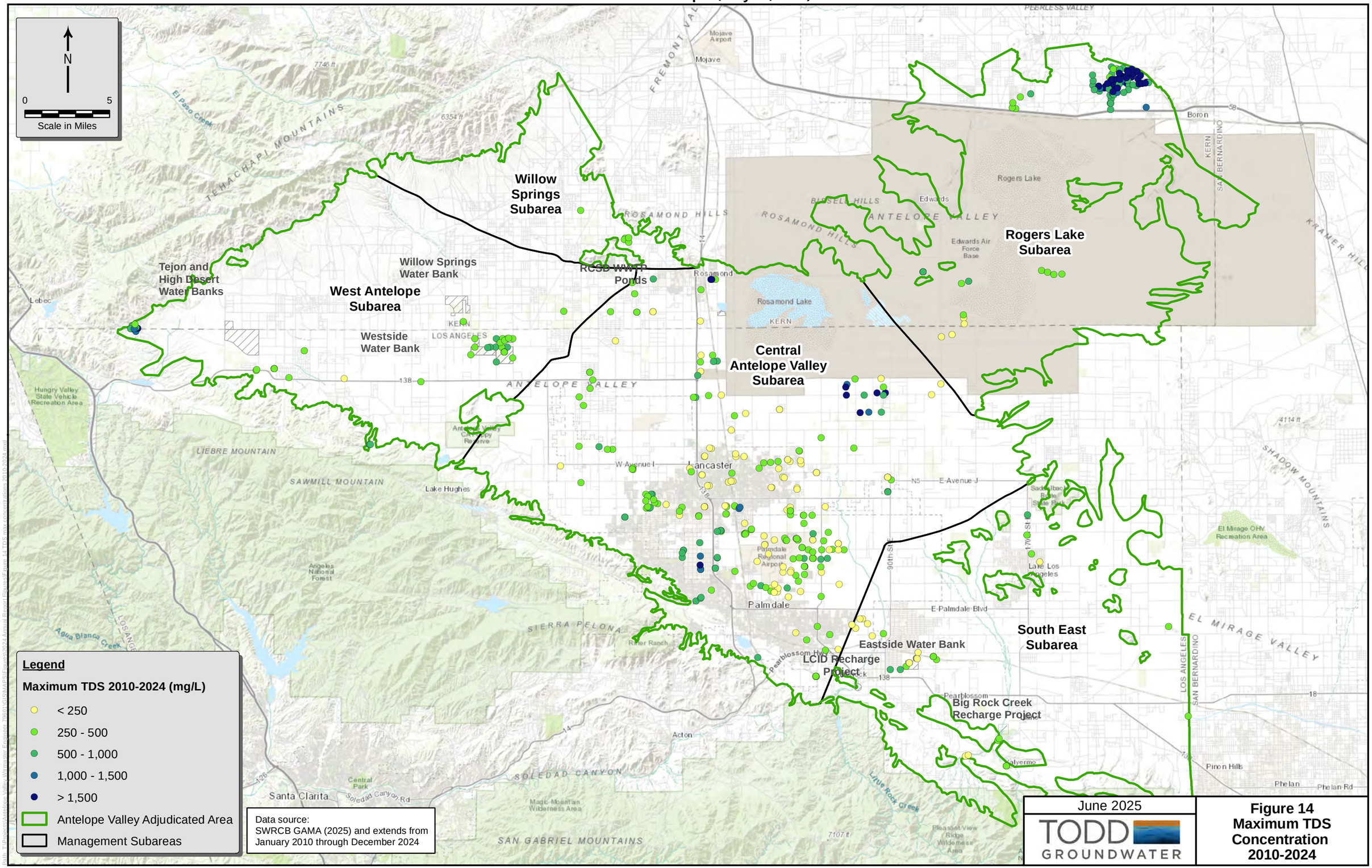


Figure 7-2: Maximum Nitrate (as Nitrogen) Concentration 2010 – 2024 (Figure 15: Final Antelope Valley Watermaster 2024 Annual Report, July 24, 2025)

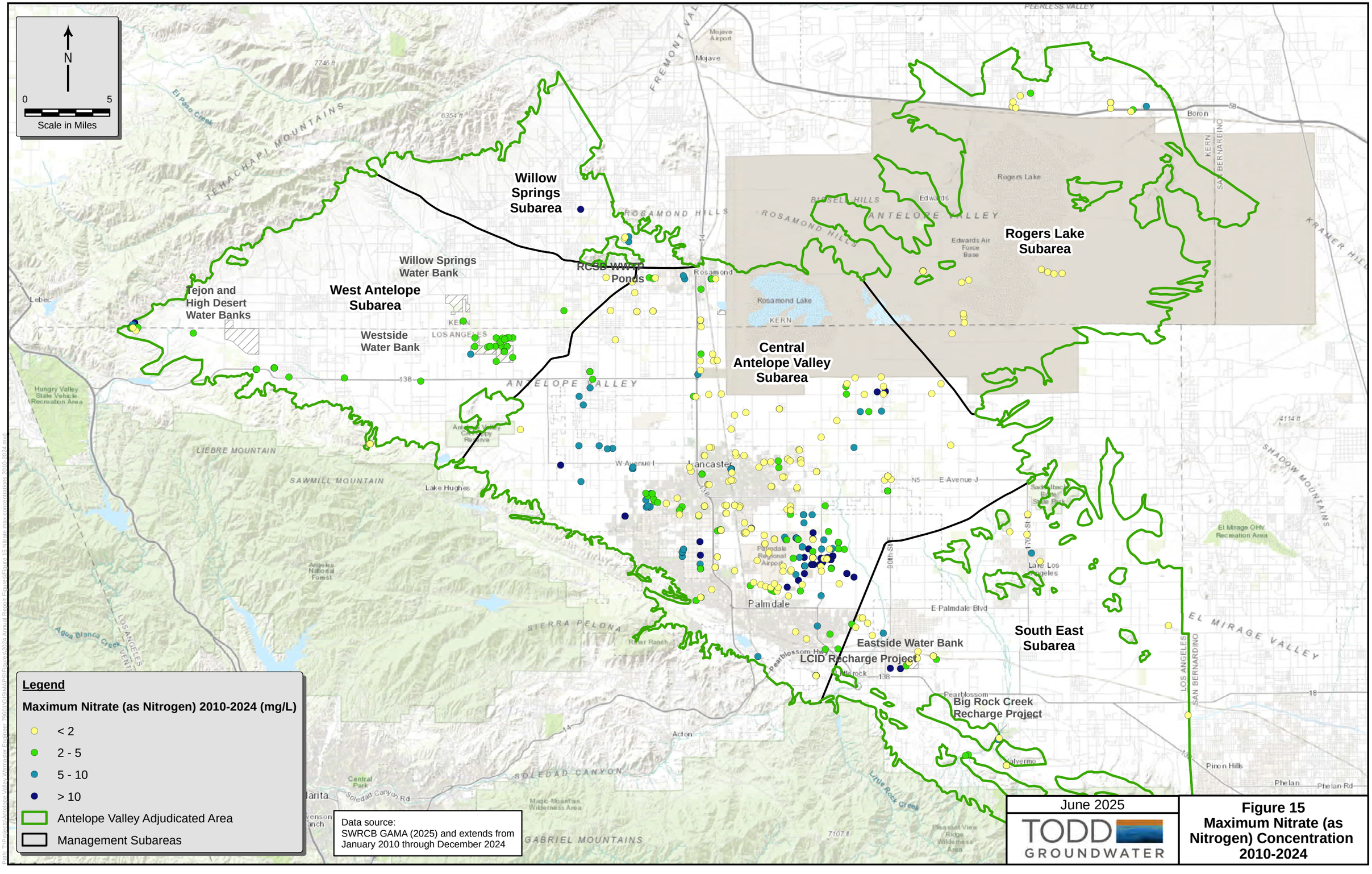
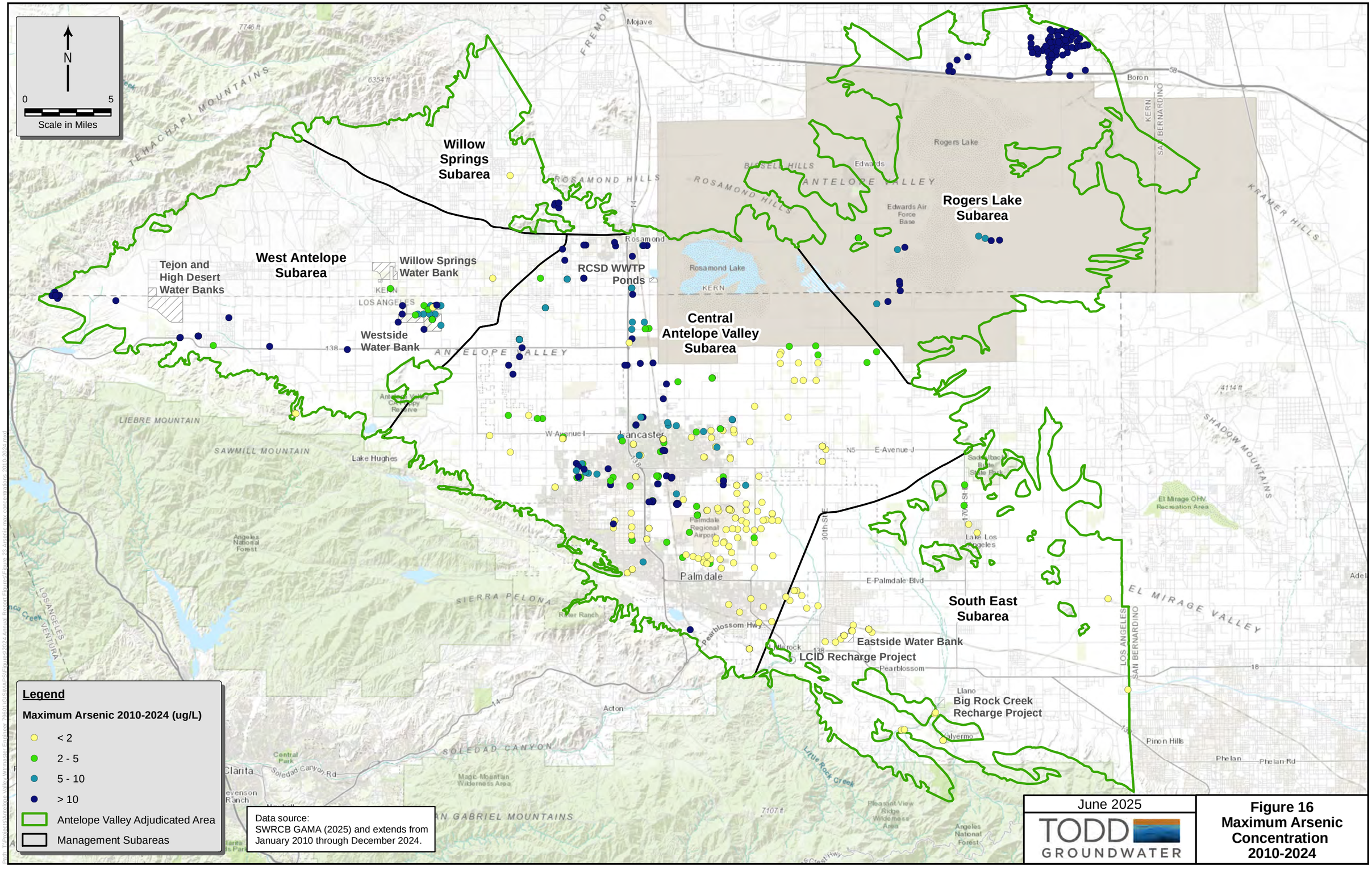


Figure 7-3: Maximum Arsenic Concentration 2010 – 2024 (Figure 16: Final Antelope Valley Watermaster 2024 Annual Report, July 24, 2025)



7.2 Water Service Reliability Assessment

Law

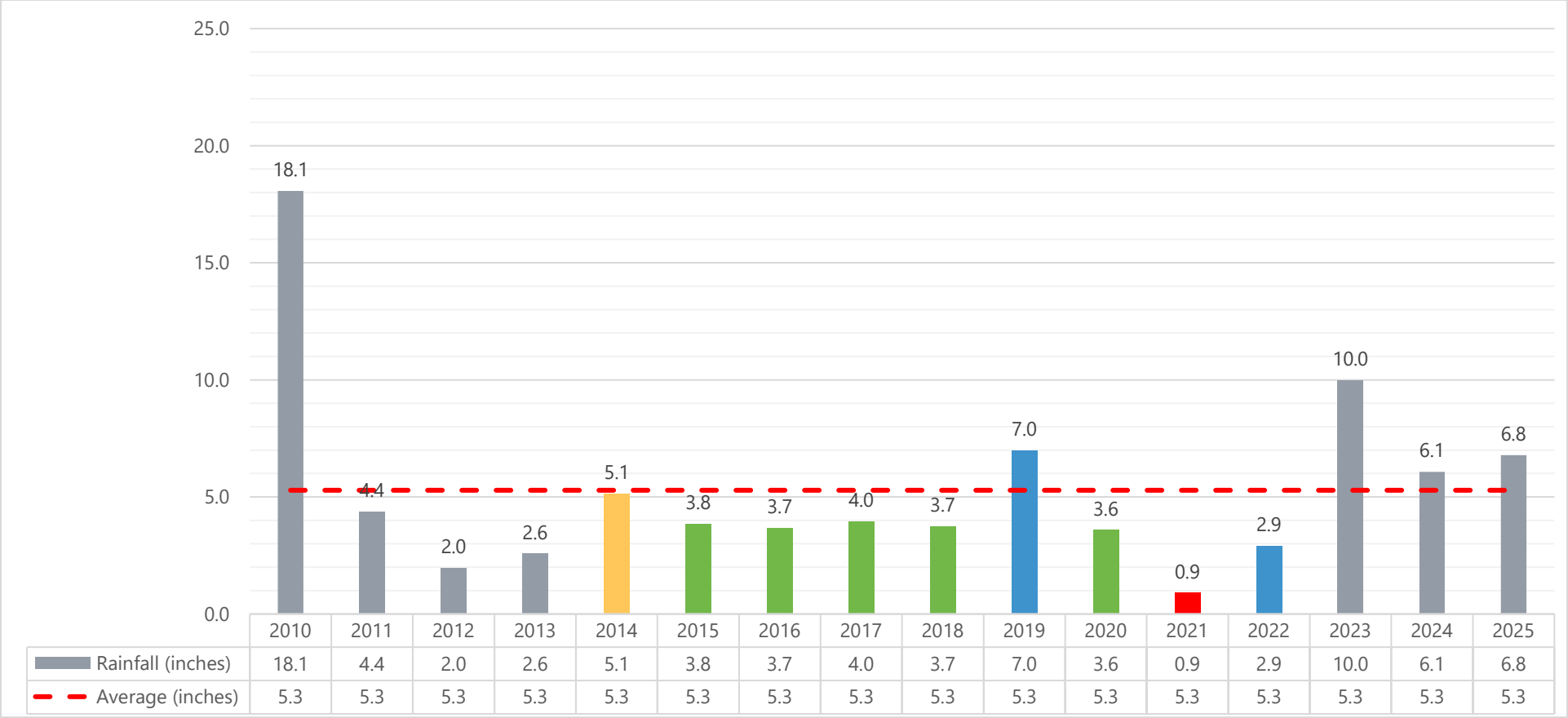
CWC 10635 (a)

Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional or local agency population projections within the service area of the urban water supplier.

7.2.1 WSRA Year-Type Characterization

To determine the typical normal, single dry year, and multiple dry years within the service area, QHWD reviewed historical rainfall data from the CIMIS Station #197 in Palmdale. The results of the historical rainfall data review are presented in **Figure 7-4**.

Figure 7-4: Historical Rainfall Data



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Rainfall (inches)	18.1	4.4	2.0	2.6	5.1	3.8	3.7	4.0	3.7	7.0	3.6	0.9	2.9	10.0	6.1	6.8
Average (inches)	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3

Table 7-1 identifies the basis of water year as required by the UWMP and identifies the volume of QHWD's water supply available during single and multiple dry year conditions. The volume available shown in the table represents both imported water from AVEK and groundwater pumping (note: QHWD's facilities have a maximum pumping capacity of 4,973 GPM or 8,021 AFY to serve demands).

Based on variations in available imported water and the limitations on groundwater pumping since the adjudication of the Basin, the "Volume Available" in **Table 7-1** are not representative of current and or future supply availability of QHWD.

Table 7-1: Supply Augmentation and Other Actions			
		Available Supplies If Year Type Repeats	
			Quantification of available supplies is not compatible with this table and is provided elsewhere
Year Type	Base Year	Volume Available	% of Average Supply
Average Year	2014	5,963	100%
Single-Dry Year	2013	5,802	97%
Multiple-Dry Years 1st Year	2015	4,698	91%
Multiple-Dry Years 2nd Year	2016	4,697	79%
Multiple-Dry Years 3rd Year	2017	4,345	73%
Multiple-Dry Years 4th Year	2018	4,555	76%
Multiple-Dry Years 5th Year	2020	4,725	79%

Note:

1. *Volume available includes groundwater supply (allotted and carry-over) and purchased water from AVEK*

7.2.2 Service Reliability – Supply and Demand Comparison

7.2.2.1 Normal Year

Table 7-2 provides a summary of QHWD's projected supply and water demands through 2050. The future demand projections are based on future population projections described in **Section 3.4** and historical per capita demands including the implementation of the required SBX7-7 as described in **Section 5.1**. The future supply projections are based on the reasonably available groundwater and imported water volumes as described in **Section 6.2.9**. The future supply projections are based on the reasonably available groundwater and imported water volumes as described in **Section 6.2.9.** Based on the analysis of QHWD's current/projected water supply sources QHWD has sufficient resources to serve existing and future demands.

Table 7-2: Normal-Year Supply and Demand Comparison					
	2030	**2035**	**2040**	**2045**	**2050**
Supply Totals (AF)	4,654	4,793	4,965	5,114	5,266
Use Totals (AF)	4,654	4,793	4,965	5,114	5,266
Surplus/(Shortfall) (AF)	**0**	**0**	**0**	**0**	**0**

7.2.2.2 Single Dry Year

Table 7-3 provides a summary of QHWD's projected supply and water demands through 2050 for a single dry year.

Table 7-3: Single Dry Year Supply and Demand Comparison					
	2030	**2035**	**2040**	**2045**	**2050**
Supply Totals (AF)	4,654	4,793	4,965	5,114	5,266
Use Totals (AF)	4,654	4,793	4,965	5,114	5,266
Surplus/(Shortfall) (AF)	**0**	**0**	**0**	**0**	**0**

7.2.2.3 Multiple Consecutive Dry Years

Table 7-4 provides a summary of QHWD's projected supply and water demands through 2050 for a multiple dry years.

Table 7-4: Multiple Dry Years Supply and Demand Comparison						
		2030	**2035**	**2040**	**2045**	**2050**
First Year	Supply Totals (MG)	4,654	4,793	4,965	5,114	5,266
	Demand Totals (MG)	4,654	4,793	4,965	5,114	5,266
	Difference	**0**	**0**	**0**	**0**	**0**
Second Year	Supply Totals (MG)	4,654	4,793	4,965	5,114	5,266
	Demand Totals (MG)	4,654	4,793	4,965	5,114	5,266
	Difference	**0**	**0**	**0**	**0**	**0**
Third Year	Supply Totals (MG)	4,654	4,793	4,965	5,114	5,266
	Demand Totals (MG)	4,654	4,793	4,965	5,114	5,266
	Difference	**0**	**0**	**0**	**0**	**0**
Fourth Year	Supply Totals (MG)	4,654	4,793	4,965	5,114	5,266
	Demand Totals (MG)	4,654	4,793	4,965	5,114	5,266
	Difference	**0**	**0**	**0**	**0**	**0**
Fifth Year	Supply Totals (MG)	4,654	4,793	4,965	5,114	5,266
	Demand Totals (MG)	4,654	4,793	4,965	5,114	5,266
	Difference	**0**	**0**	**0**	**0**	**0**

7.2.3 WSRA Description of Management Tools and Options

Law

CWC 10620 (f)

An urban water supplier shall describe in the plan water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions.

QHWD coordinates closely with the City of Lancaster, City of Palmdale, AVEK, and Los Angeles County with respect to regional water resource management. QHWD has and will continue to participate in the following regional water resource planning efforts:

- Integrated Regional Water Management Plan
- Antelope Valley Groundwater Basin Urban Water Management Plan 2020 Update
- AVEK Urban Water Management Plan 2020 Update

7.3 Drought Risk Assessment

Law

CWC 10635(b)

Every urban water supplier shall include, as part of its urban water management plan, a drought risk assessment for its water service to its customers as part of information considered in developing the demand management measures and water supply projects and programs to be included in the urban water management plan. The urban water supplier may conduct an interim update or updates to this drought risk assessment within the five-year cycle of its urban water management plan update. The drought risk assessment shall include each of the following:

(1) A description of the data, methodology, and basis for one or more supply shortage conditions that are necessary to conduct a drought risk assessment for a drought period that lasts five consecutive water years, starting from the year following when the assessment is conducted.

(2) A determination of the reliability of each source of supply under a variety of water shortage conditions. This may include a determination that a particular source of water supply is fully reliable under most, if not all, conditions.

(3) A comparison of the total water supply sources available to the water supplier with the total projected water use for the drought period.

(4) Considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.

7.3.1 DRA Data, Methods, and Basis for Water Shortage Conditions

The following information was used to support QHWD's DRA to identify water production and consumption to its customers and determine restrictions to supply sources:

- Large Water System Annual Report to The Drinking Water Program
- Annual AWWA Water Loss Audit Worksheet
- Antelope Valley Watermaster Annual Report
- Historical rainfall data from CIMIS station #197 Palmdale

7.3.2 DRA Individual Water Source Reliability

As identified in **Section 7.1**, QHWD has never had a single year or multiple dry years in which it did not meet 100% of its demand, regardless of regional hydrology. Therefore, there is no basis in the hydrologic record for reducing supply reliability based upon single and/or multiple dry year conditions when imported water supply is available in addition to historical groundwater production. On this assumption, QHWD's supply is presented as reliable for single and multiple dry year periods as summarized in the following sections.

7.3.3 DRA Total Water Supply and Use Comparison

Sustainable management of its existing groundwater resources through water-use efficiency measures and use of AVEK supplemental water will allow QHWD to serve existing and future water demands during normal years, single dry years, or multiple dry years.

Table 7-5: Five-Year Drought Risk Assessment	
2026	**Total**
Total Water Use	4,547
Total Supplies	4,547
Surplus/Shortfall without WSCP Action	**0**
2027	**Total**
Total Water Use	4,574
Total Supplies	4,574
Surplus/Shortfall without WSCP Action	**0**
2028	**Total**
Total Water Use	4,601
Total Supplies	4,601
Surplus/Shortfall without WSCP Action	**0**
2029	**Total**
Total Water Use	4,628
Total Supplies	4,628
Surplus/Shortfall without WSCP Action	**0**
2030	**Total**
Total Water Use	4,655
Total Supplies	4,655
Surplus/Shortfall without WSCP Action	**0**

Chapter 8 WATER SHORTAGE CONTINGENCY PLANNING

New Requirements for 2025 Update

The 2025 UWMP must include an updated summary of the agency's WSCP, including any revisions made to comply with SB 552, updated shortage stages, new communication protocols, and supply augmentation or demand response measures added since 2020. There is also a new requirement to document annual WSCP reporting procedures and describe how the WSCP aligns with updated reliability assessments. Compared to 2020, agencies must more clearly document decision-making processes, enforcement mechanisms, and coordination with local emergency management plans.

8.1 Water Supply Reliability Analysis

Law

CWC 10632(a)(1)
The analysis of water supply reliability conducted pursuant to Section 10635.

As described in **Chapter 7** of this UWMP QHWD's water supply has been determined to be reliable. More details about this section can be found in QHWD's Water Shortage Contingency Plan (WSCP) in **Appendix F**.

8.2 Annual Water Supply and Demand Assessment Procedures

Law

CWC 10632(a)(2)
The procedures used in conducting an annual water supply and demand assessment that include, at a minimum, both of the following:

(A) The written decision-making process that an urban water supplier will use each year to determine its water supply reliability.

(B) The key data inputs and assessment methodology used to evaluate the urban water supplier's water supply reliability for the current year and one dry year, including all of the following:

(i) Current year unconstrained demand, considering weather, growth, and other influencing factors, such as policies to manage current supplies to meet demand objectives in future years, as applicable.

(ii) Current year available supply, considering hydrological and regulatory conditions in the current year and one dry year. The annual supply and demand assessment may consider more than one dry year solely at the discretion of the urban water supplier.

(iii) Existing infrastructure capabilities and plausible constraints.

(iv) A defined set of locally applicable evaluation criteria that are consistently relied upon for each annual water supply and demand assessment.

(v) A description and quantification of each source of water supply.

CWC 10632.1.

An urban water supplier shall conduct an annual water supply and demand assessment pursuant to subdivision (a) of Section 10632 and, on or before July 1 of each year, submit an annual water shortage assessment report to the department with information for anticipated shortage, triggered shortage response actions, compliance and enforcement actions, and communication actions consistent with the supplier's water shortage contingency plan. An urban water supplier that relies on imported water from the State Water Project or the Bureau of Reclamation shall submit its annual water supply and demand assessment within 14 days of receiving its final allocations, or by July 1 of each year, whichever is later.

In accordance with CWC 10632 QHWD will conduct an annual water supply and demand assessment, or annual assessment by July 1st of each year. QHWD will draft and prepare a written report that discusses the results of the annual water supply and demand assessment. Descriptions of the methodology, key data inputs, and a timeline for the annual assessment can be found in the WSCP.

8.2.1 Decision-Making Process

The written decision-making process can be found in the WSCP.

8.2.2 Data and Methodologies

The data and methodologies can be found in the WSCP.

8.3 Six Standard Water Shortage Levels

Law

CWC 10632(a)(3)

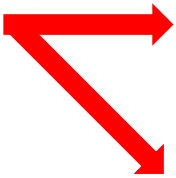
(A) Six standard water shortage levels corresponding to progressive ranges of up to 10, 20, 30, 40, and 50 percent shortages and greater than 50 percent shortage. Urban water suppliers shall define these shortage levels based on the suppliers' water supply conditions, including percentage reductions in water supply, changes in groundwater levels, changes in surface elevation or level of subsidence, or other changes in hydrological or other local conditions indicative of the water supply available for use. Shortage levels shall also apply to catastrophic interruption of water supplies, including, but not limited to, a regional power outage, an earthquake, and other potential emergency events.

(B) An urban water supplier with an existing water shortage contingency plan that uses different water shortage levels may comply with the requirement in subparagraph (A) by developing and including a cross-reference relating its existing categories to the six standard water shortage levels.

The WSCP establishes six stages of drought response actions to be implemented in times of shortage, with increasing restrictions on water use in response to decreasing supplies. The WSCP includes both voluntary and mandatory rationing depending on the causes, severity, and anticipated duration of the water supply shortage. A summary of the response actions taken for each shortage level are described in **Table 8-1**, shown below.

Table 8-1: Water Shortage Contingency Plan Levels		
Shortage Level	**Percent Shortage Range**	**Shortage Response Actions** ***(Narrative Description)***
1	Up to 10%	Reserve production capability of 20% above the maximum daily demand representing "Normal" water supply conditions with "Voluntary" (always in place) compliance with water savings measures.
2	Up to 20%	Reserve production capability of 10% above the maximum daily demand representing "Slightly Restricted" water supply conditions with "Mandatory" compliance with water savings measures.
3	Up to 30%	No reserve production capability representing "Moderately Restricted" water supply conditions with "Mandatory" compliance with water savings measures.
4	Up to 40%	Less than 0% reserve production capability representing "Restricted" water supply conditions with "Mandatory" compliance with water savings measures.
5	Up to 50%	Less than 0% reserve production capability representing "Severely Restricted" water supply conditions with "Mandatory" compliance with water savings measures.
6	>50%	Less than 0% reserve production capability representing "Extremely Restricted" water supply conditions with "Mandatory" compliance with water savings measures.

Figure 8-2: Comparison for the District's 2015 Shortage Levels and the 2025 WSCP Mandated Shortage Levels Historical Rainfall Data

Stages from 2015 UWMP			Crosswalk	2020 and 2025 WSCP Mandated Shortage Levels			
Stage	**% Supply Reduction**	**Water Supply Condition**		**Stage**	**% Supply Reduction**	**Water Supply Condition**	**Mandatory Compliance with Water Savings Measures**
1	5%	Insufficient supply to provide 95% for next two years		1	0% to 10%	Slightly Restricted	Mandatory Compliance
2	10%	Insufficient supply to provide 90% for next two years		2	11% to 20%	Slightly Restricted	Mandatory Compliance
3	20%	Insufficient supply to provide 80% for next two years		3	21% to 30%	Moderately Restricted	Mandatory Compliance
4	30%	Insufficient supply to provide 70% for next two years		4	31% to 40%	Moderately Restricted	Mandatory Compliance
5	50%	Insufficient supply to provide 60% for next two years		5	41% to 50%	Severely Restricted	Mandatory Compliance
				6	51% and above	Extremely Restricted	Mandatory Compliance

8.4 Shortage Response Actions

Law

CWC 10632

(a)(1) Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply, and an outline of specific water supply conditions which are applicable to each stage.

(a)(4) Shortage response actions that align with the defined shortage levels and include, at a minimum, all of the following:

(A) Locally appropriate supply augmentation actions.

(B) Locally appropriate demand reduction actions to adequately respond to shortages.

(C) Locally appropriate operational changes.

(D)Additional, mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions and appropriate to the local conditions.

(E) For each action, an estimate of the extent to which the gap between supplies and demand will be reduced by implementation of the action.

8.4.1 Supply Augmentation

Table 8-3 summarizes the supply augmentation and other actions on end users during each stage of water shortage responses implemented by QHWD in accordance with CWC §10632(a)(4)(A).

Table 8-3: Supply Augmentation and Other Actions

Shortage Level	Supply Augmentation Methods and Other Actions by Water Supplier	Estimate Extent of Reducing the Water Shortage Gap	Penalty, Charge or Other Enforcement?
All Stages	Expand Public Information Campaign	Medium	No
3,4,5,6	Implement or Modify Drought Rate Structure and Surcharge	High	Yes
6	Stored Emergency Supply	Low	No

8.4.2 Demand-Reduction Actions

Table 8-4 summarizes the restrictions and prohibitions on end uses during each stage of water shortage response implemented by QHWD in accordance with CWC §10632(a)(4)(B). The shortage response actions are aligned to the six water shortage levels with the goal of reducing the gap between supply and demand by the required amount per level.

Table 8-4: Demand-Reduction Actions			
Shortage Level	**Demand Reduction Actions**	**Estimated Extent of Reducing the Water Shortage Gap**	**Penalty, Charge or Other Enforcement?**
All Stages	Expand Public Information Campaign	Low	No
1	Expand Public Information Campaign	Low	No
2	Landscape – Restrict or prohibit runoff from landscape irrigation	Medium	Yes
2	Other water features or swimming pool restrictions	Low	Yes
3	Landscape – Other landscape restriction or prohibition	Medium	Yes
4	Other – Shareholders must repair leaks, breaks, and malfunctions in a timely manner	Low	Yes
5	Landscape – Limit landscape irrigation to specific days	High	Yes
3,4,5,6	Other – Progressively increasing fines for unsustainable, inefficient, and then non-essential water use	High	Yes

A complete description of operational and mandatory restrictions issued by QHWD can be found in the WSCP

8.4.3 Operational Changes

In the event of an extreme water shortage QHWD will implement the following operational changes in accordance with CWC §10632(a)(4)(C) and §10632.5(a):

- QHWD shall provide prompt notice to customers whenever QHWD obtains information that indicates a leak may exist within the end-user's exclusive control. The customer must repair all leaks within twenty-four (24) hours of notification by QHWD.
- Evaluate maintenance procedures and alter if needed to improve system efficiency.
- Evaluate infrastructure repairs, and complete if possible, to improve system efficiency.

The District will continue to evaluate operational and maintenance procedures in order to identify opportunities for improved efficiency in water delivery and reducing system water loss.

8.4.4 Additional Mandatory Restrictions

QHWD customers shall comply to the mandatory water shortage response actions listed in **Table 8-3** associated with a level 2 or higher water shortage event in accordance with §10632(a)(4)(D). In the event of a water shortage emergency or severe drought QHWD may enact additional mandatory restrictions:

- Implement drought water rates.
- Restrict or prohibit the issuance of new water services.

8.4.5 Emergency Response Plan

In the event of an emergency QHWD will declare a water shortage and enact the appropriate water savings actions until service is restored to pre-emergency conditions. A more detailed description of QHWD's emergency response plan and water shortage actions can be found in the WSCP.

8.4.6 Seismic Risk Assessment and Mitigation Plan

Law

> ***CWC 10632.5. (a)***
> *In addition to the requirements of paragraph (3) of subdivision (a) of Section 10632, beginning January 1, 2020, the plan shall include a seismic risk assessment and mitigation plan to assess the vulnerability of each of the various facilities of a water system and mitigate those vulnerabilities.*
>
> *(b) An urban water supplier shall update the seismic risk assessment and mitigation plan when updating its urban water management plan as required by Section 10621.*
>
> *(c) An urban water supplier may comply with this section by submitting, pursuant to Section 10644, a copy of the most recent adopted local hazard mitigation plan or multihazard mitigation plan under the federal Disaster Mitigation Act of 2000 (Public Law 106-390) if the local hazard mitigation plan or multihazard mitigation plan addresses seismic risk.*

The County of Los Angeles developed a Multi-Jurisdictional Hazard Mitigation plan which assess the seismic risk in the QHWD service area. A summary of the seismic risk assessment can be found in the WSCP.

8.4.7 Shortage Response Action Effectiveness

QHWD will monitor and evaluate the effectiveness of the shortage response actions. In the event that the shortage response actions are not effective QHWD will have the power to amend the WSCP. A more detailed description of QHWD's plan to monitor effectiveness can be found in the WSCP.

8.5 Communication Protocols

Law

> ***CWC 10632 (a)(5)***
> *Communication protocols and procedures to inform customers, the public, interested parties, and local, regional, and state governments, regarding, at a minimum, all of the following:*
>
> > *(A) Any current or predicted shortages as determined by the annual water supply and demand assessment described pursuant to Section 10632.1.*

(B) Any shortage response actions triggered or anticipated to be triggered by the annual water supply and demand assessment described pursuant to Section 10632.1.

QHWD will inform customers, the public, and the necessary local, regional, and state government entities in regard to any current or predicted water shortages based on the results of the Annual Water Supply and Demand Assessment or in the event of an emergency. QHWD will also notify all necessary entities of any shortage response actions mandated in response to the Annual Assessment. A detailed communication plan can be found in the WSCP.

8.6 Compliance and Enforcement

Law

CWC 10632 (a)(6)

For an urban retail water supplier, customer compliance, enforcement, appeal, and exemption procedures for triggered shortage response actions as determined pursuant to Section 10632.2.

QHWD's enforcement policies can be found in the WSCP.

8.7 Legal Authorities

Law

CWC 10632 (a)(7)

(A) A description of the legal authorities that empower the urban water supplier to implement and enforce its shortage response actions specified in paragraph (4) that may include, but are not limited to, statutory authorities, ordinances, resolutions, and contract provisions.

(B) A statement that an urban water supplier shall declare a water shortage emergency in accordance with Chapter 3 (commencing with Section 350) of Division 1. [see below]

(C) A statement that an urban water supplier shall coordinate with any city or county within which it provides water supply services for the possible proclamation of a local emergency, as defined in Section 8558 of the Government Code.

CWC Division 1, Section 350

Declaration of water shortage emergency condition. The governing body of a distributor of a public water supply, whether publicly or privately owned and including a mutual water company, shall declare a water shortage emergency condition to prevail within the area served by such distributor whenever it finds and determines that the ordinary demands and requirements of water consumers cannot be satisfied without depleting the water supply of the distributor to the extent that there would be insufficient water for human consumption, sanitation, and fire protection.

QHWD has the power to declare a water shortage. More details can be found on the District's WSCP for information on QHWD's declaration of a water shortage.

8.8 Financial Consequences of WSCP

Law

CWC 10632 (a)(8)

A description of the financial consequences of, and responses for, drought conditions, including, but not limited to, all of the following:

(A) A description of potential revenue reductions and expense increases associated with activated shortage response actions described in paragraph (4).

(B) A description of mitigation actions needed to address revenue reductions and expense increases associated with activated shortage response actions described in paragraph (4).

(C) A description of the cost of compliance with Chapter 3.3 (commencing with Section 365) of Division 1.

In the event of a water shortage QHWD has established drought water rates, see the WSCP for drought rates.

8.9 Monitoring and Reporting

Law

CWC 10632 (a)(9)

For an urban retail water supplier, monitoring and reporting requirements and procedures that ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance and to meet state reporting requirements.

Monitoring and reporting procedures can be found in the WSCP.

8.10 WSCP Refinement Procedures

Law

CWC 10632 (a)(10)

Reevaluation and improvement procedures for systematically monitoring and evaluating the functionality of the water shortage contingency plan in order to ensure shortage risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented as needed.

Refinement procedures can be found in the WSCP.

8.11 Special Water Feature Distinction

Law

CWC 10632 (b)

For purposes of developing the water shortage contingency plan pursuant to subdivision (a), an urban water supplier shall analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas, as defined in subdivision (a) of Section 115921 of the Health and Safety Code.

A description of special water features can be found in the WSCP.

8.12 Plan Adoption, Submittal, Availability, and Amendment Procedures

Law

CWC 10632 (a)(c)

The urban water supplier shall make available the water shortage contingency plan prepared pursuant to this article to its customers and any city or county within which it provides water supplies no later than 30 days after adoption of the water shortage contingency plan.

The procedures that were used to adopt the WSCP are detailed in the WSCP.

Chapter 9 DEMAND MANAGEMENT MEASURES

New Requirements for 2025 Update

The 2025 update expands reporting requirements for demand management, including documentation of program effectiveness, cost-benefit considerations, and integration with the SB 606/AB 1668 framework. Agencies must now report on performance measures for CII customers and provide more detailed explanations of outreach, education, landscape transformation programs, and conservation tracking methods. Compared to 2020, the level of detail required for conservation reporting is significantly higher.

9.1 Demand Management Measures for Retail Suppliers

Law

CWC 10631

(e) Provide a description of the supplier's water demand management measures. This description shall include all of the following:

(1)(A) For an urban retail water supplier, as defined in Section 10608.12, a narrative description that addresses the nature and extent of each water demand management measure implemented over the past five years. The narrative shall describe the water demand management measure that the supplier plans to implement to achieve its water use targets pursuant to Section 10608.20.

(B) The narrative pursuant to this paragraph shall include descriptions of the following water demand management measures:

(i) Water waste prevention ordinances.

(ii) Metering.

(iii) Conservation pricing.

(iv) Public education and outreach.

(v) Programs to assess and manage distribution system real loss.

(vi) Water conservation program coordination and staffing support.

(vii) Other demand management measures that have a significant impact on water use as measured in gallons per capita per day, including innovative measures, if implemented

The UWMP Act requires a discussion of Demand Management Measures (DMMs), including a description of each of the DMMs currently being implemented/scheduled for implementation, the schedule of implementation for all DMMs, and the methods, if any, QHWD will use to evaluate the effectiveness of DMMs. Since 2009, QHWD has dramatically expanded demand management programs as a core function of its efforts to reduce demand on its imported water supply. Although the District is well below its SBX7-7 target, conservation and supply reliability will remain high priorities.

9.1.1 Water Waste Prevention Ordinances

QHWD has adopted Resolution No. 16-0421A on April 21, 2016, which updated QHWD's Water Shortage Contingency Plan. This resolution established stages of action in response to water supply shortages, utilize the District's Water Budget Based Rate Structure, and detailed violations. QHWD also continues to implement water conservation actions listed by the California Executive Order B-40-17 issued on April 7th, 2017. Additionally, the District's Water Shortage Contingency Plan was adopted in October 15, 2026 and fully outlines the District's action plan for water conservation during emergencies.

9.1.2 Metering

Law

CWC 526

(a) Notwithstanding any other provisions of law, an urban water supplier that, on or after January 1, 2004, receives water from the federal Central Valley Project under a water service contract or subcontract... shall do both of the following:

(1) On or before January 1, 2013, install water meters on all service connections to residential and nonagricultural commercial buildings... located within its service area.

CWC 527

(a) An urban water supplier that is not subject to Section 526 shall do both the following:

(1) Install water meters on all municipal and industrial service connections located within its service area on or before January 1, 2025.

QHWD is currently fully metered and has a robust program in place to control distribution system losses. QHWD has a pressure management system to manage real water losses. For every 1% reduction in water pressure, the water loss percentage reduces by 1% and QHWD can maintain water pressure needs and reduce real losses. In addition, QHWD has a valve replacement program for the District's 6" to 12" main lines. Valve replacement provides the ability to localize line breaks and more accurately control distribution system losses.

9.1.3 Conservation Pricing

Demand management program expansion began with a transformation of the District's relatively flat rate structure to a water budget-based rate structure (WBBRS) which featured a strong conservation price signal. In January 2009, the District launched the Conservation Water Budget Rate Structure. Each residential customer has an allocation for usage based on the number of residents and the size of lot.

9.1.4 Public Education and Outreach

QHWD, along with Palmdale Water District, Los Angeles County Waterworks, Rosamond Community Service District and Antelope Valley College, promote customer water conservation on their website through educational videos and tips.

9.1.5 Programs to Assess and Manage Distribution System Losses

QHWD repairs main breaks, hydrant leaks or breaks, and meter leaks as they occur. A team of operators and maintenance staff are available to repair main or hydrant breaks and promptly restore water service. Water meters that are identified to be leaking are investigated and repaired promptly. QHWD uses a SCADA system to monitor and control both groundwater pumped and imported water.

9.1.6 Water Conservation Program Coordination and Staffing Support

The District has assigned the General Manger as its Conservation Coordinator to implement conservation programs within its service area. The Conservation Coordinator works collaboratively with other cities and water agencies within the region to enhance, promote, and manage water conservation efforts within the service area.

9.1.7 Other Demand Management Measures

Law

CWC 10631

(e) Provide a description of the supplier's water demand management measures. This description shall include all of the following:

(1)(A) For an urban retail water supplier, as defined in Section 10608.12, a narrative description that addresses the nature and extent of each water demand management measure implemented over the past five years. The narrative shall describe the water demand management measure that the supplier plans to implement to achieve its water use targets pursuant to Section 10608.20.

(B) The narrative pursuant to this paragraph shall include descriptions of the following water demand management measures:

(i) Water waste prevention ordinances

(ii) Metering.

(iii) Conservation pricing.

(iv) Public education and outreach.

(v) Programs to assess and manage distribution system real loss.

(vi) Water conservation program coordination and staffing support.

(vii) Other demand management measures that have significant impact on water use as measured in gallons per capita per day, including innovative measures, if implemented.

Water budget-based rates encourages conservation by providing each customer with a calculated water budget designed to meet efficient indoor and outdoor watering needs. Efficient water use is billed at the lowest price and usage that exceeds the budget is billed at progressively higher rates. By emphasizing efficient use, the rate structure motivates customers to partner with the District in its effort to meet SBX7-7 target and maintain a reliable source of water.

9.1.8 Implementation Over the Past Five Years

QHWD has implemented the required DMMs per CWC 10631 to achieve its water use targets pursuant to Section 10608.20 and described in Chapter 5. QHWD will continue to carry out the programs mentioned herein and implement new programs as available.

9.1.9 Implementation to Achieve Water-Use Targets

Law

> ***CWC 10631***
> *(f)(1)(A) For an urban retail water supplier, as defined in Section 10608.12, a narrative description that addresses the nature and extent of each water demand management measure implemented over the past five years. The narrative shall describe the water demand management measure that the supplier plans to implement to achieve its water use targets pursuant to Section 10608.20.*

QHWD has implemented the required DMM per CWC 10631 to achieve its water use targets pursuant to Section 10608.20. QHWD adopted its WSCP (see chapter 8) on October 15, 2026 which outlines measures QHWD will take to achieve water use targets.

9.2 Demand Management Measures for Wholesale Suppliers

QHWD is not a wholesale agency and is not required by DWR to complete **Section 9.2**.

Chapter 10 PLAN ADOPTION, SUBMITTAL, AND IMPLEMENTATION

New Requirements for 2025 Update

There have been no changes to the requirements for the plan adoption, submittal, and implementation since the 2020 update.

10.1 Plan Completion Timeline

Efforts to complete the 2025 UWMP began in March 2026. Notification Letters were provided to necessary agencies, cities and counties in August of 2026. QHWD will adopt the 2025 UWMP and WSCP at the October 2026 board meeting.

10.2 Notice of Plan Preparation

The District notified the agencies listed in **Table 10-1** at least 60 days prior to the public hearing of the preparation of the 2025 UWMP and invited them to participate in the development of the plan. A copy of the notification letters sent to these agencies is provided in **Appendix G**.

Table 10-1: Notice to Cities and Counties

Agency	60-Day Notice	Notice of Public Hearing
City of Palmdale	☒	☒
City of Lancaster	☒	☒
Los Angeles County	☒	☒

10.3 Notice of Public Hearing and Adoption

Law

CWC 10642

…Prior to adopting either, the [plan or water shortage contingency plan], the urban water supplier shall make both the plan and the water shortage contingency plan available for public inspection and shall hold a public hearing or hearings thereon.

CWC 10608.26

(a) In complying with this part, an urban retail water supplier shall conduct at least one public hearing to accomplish all of the following:

(1) Allow community input regarding the urban retail water supplier's implementation plan for complying with this part.

(2) Consider the economic impacts of the urban retail water supplier's implementation plan for complying with this part.

(3) Adopt a method, pursuant to subdivision (b) of Section 10608.20 for determining its urban water use target.

10.3.1 Notice of Public Hearing

The public hearing was noticed in the local newspaper as prescribed in Government Code 6066. This notice included time and place of hearing, as well as the location where the UWMP and WSCP is available for public inspection. A copy of the newspaper notice is included in **Appendix H**.

10.3.2 Public Hearing and Adoption

Prior to adopting the 2025 UWMP and WSCP, the District held a public hearing on October 15th, 2026, which included input from the community regarding the District's draft 2025 UWMP and WSCP. As part of the public hearing, the District provided information on determination of its water use targets and action plan in case of severe water shortage conditions.

Following the public hearing, the District adopted the draft UWMP and WSCP as its 2025 UWMP and WSCP. A copy of the resolution adopting the 2025 UWMP is provided in **Appendix I** of this UWMP.

10.4 Plan Submittal

Law

CWC 10621

(e) Each urban water supplier shall update and submit its 2020 plan to the department by July 1, 2021…

CWC 10644

(a)(1) An urban water supplier shall submit to the department, the California State Library, and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption.

(a)(2) The plan, or amendments to the plan, submitted to the department… shall be submitted electronically and shall include any standardized forms, tables, or displays specified by the department.

CWC 10635

(c) The urban water supplier shall provide that portion of its urban water management plan prepared pursuant to this article to any city or county within which it provides water supplies no later than 60 days after the submission of its urban water management plan.

10.4.1 Submitting a UWMP and Water Shortage Contingency Plan to DWR

Within 30 days of adoption of the 2025 UWMP by the Board of Directors, the District will submit the adopted 2025 UWMP to DWR, as required by CWC 10621 and 10644. The 2025 UWMP will be submitted through DWR's "Water Use Efficiency (WUE) Data Online Submittal Tool" website.

DWR previously provided a checklist to determine if an Urban Water Management Plan has addressed the requirements of the California Water Code. The District has completed the DWR checklist by indicating where the required CWC elements can be found within the QHWD's 2025 UWMP (See **Appendix J**).

10.4.2 Electronic Data Submittal

Law

> ***CWC 10644***
> *(a)(2) The plan, or amendments to the plan, submitted to the department… shall be submitted electronically and shall include any standardized forms, tables, or displays specified by the department.*

Within 30 days of adoption of the 2025 Plan, the QHWD will also submit all data tables associated with the 2025 Plan through DWR's "Water Use Efficiency (WUE) Data Online Submittal Tool" website.

10.4.3 Submitting a UWMP, Including WSCP, to the California State Library

Within 30 days of adoption of the 2025 UWMP by the City Council, a copy (compact disc (CD) or hardcopy) of the 2025 Plan will be submitted to the State of California Library. A copy of the letter to the State Library will be maintained in the City's file. The 2025 Plan will be mailed to the following address if sent by regular mail:

California State Library
Government Publications Section
P.O. Box 942837
Sacramento, CA 94237-0001
Attention: Coordinator, Urban Water Management Plans

The 2025 Plan will be delivered to the following address if sent by courier or overnight carrier:

California State Library
Government Publications Section
914 Capitol Mall
Sacramento, CA 95814

10.4.4 Submitting a UWMP to Cities and Counties

Within 30 days of adoption of the 2025 Plan by the City Council, a copy of the 2025 UWMP will be submitted to the County of Los Angeles Registrar/Recorders office, the City of Lancaster Registrar/Recorders office, City of Palmdale Registrar/Recorder's office and QHWD's office. A copy of

the letter to the County of Los Angeles, Cities of Palmdale and Lancaster will be maintained in the District's file.

10.5 Public Availability

Law

CWC 10645

(a) Not later than 30 days after filing a copy of its plan with the department, the urban water supplier and the department shall make the plan available for public review during normal business hours.

(b) Not later than 30 days after filing a copy of its water shortage contingency plan with the department, the urban water supplier and the department shall make the plan available for public review during normal business hours.

The adopted 2025 UWMP is available on QHWD's website at www.qhwd.org and at QHWD's office at 5034 W. Avenue L, Quartz Hill, CA 93536 between the hours of 8 AM and 4 PM Monday through Friday.

10.6 Notification to Public Utilities Commission

This section is not applicable to QHWD.

10.7 Amending an Adopted UWMP or WSCP

If the District amends the adopted 2025 UWMP, the amended UWMP will undergo adoption by the District's governing board. Within 30 days of adoption, the amended UWMP will then be submitted to DWR, the State of California Library, the County of Los Angeles Registrar / Recorders office, City of Lancaster and City of Palmdale Recorders Office and the QHWD office.

10.7.1 Submitting Revised Water Shortage Contingency Plan

If the District amends the adopted 2025 WSCP, the amended WSCP will undergo adoption by the District's governing board. Within 30 days of adoption, the amended WSCP will then be submitted to DWR, the State of California Library, the County of Los Angeles Registrar/Recorders office, the City of Lancaster Registrar/Recorders office and City of Palmdale Registrar/Recorder's office.

10.8 California Department of Water Resources Review of Submitted Plans

After the adopted UWMP is submitted to DWR, DWR will review the UWMP using the provided checklist (**Appendix J**) and determine whether the UWMP addresses Water Code requirements.

Appendix A

Final Antelope Valley Watermaster 2024 Annual Report
Section 3 Monitoring of Safe Yield Components

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3 MONITORING OF SAFE YIELD COMPONENTS

As required by the Judgment, monitoring data have been compiled for the safe yield components in the Adjudication Area. The monitoring program established for the basin includes data compilation for climate and streamflow, groundwater levels, groundwater quality, land subsidence, managed aquifer recharge (i.e., groundwater banking), amounts and use of imported water, groundwater production, and return flows. Groundwater levels are used to analyze annual changes in groundwater volume. Some data sets represent components of the Safe Yield calculation that can be monitored directly while other data sets support analyses to estimate components or check the reasonableness of components.

In addition to the data compiled for this 2024 Annual Report, the Watermaster Engineer has continued compiling historical hydrologic and hydrogeologic information regarding the safe yield components for the Watermaster. This hydrologic and hydrogeologic database supplements the water accounting spreadsheets and database developed by the Watermaster Engineer for the purposes of tracking production categories and other requirements of the Judgment. More detailed analyses of safe yield components will occur in future annual reports as funding is available.

3.1 GROUNDWATER BASIN AND ADJUDICATION AREA

The Antelope Valley Groundwater Basin underlies an alluvial valley with ground surface elevations ranging from 2,300 to 3,500 feet above mean sea level (msl). The basin is surrounded on the southwest and northwest by the San Gabriel Mountains and the Tehachapi Mountains, respectively, and on the southeast by a series of low ridges, buttes, and hills.

The southwest and northwest boundaries are controlled by two major geologic fault systems – the San Andreas fault at the base of the San Gabriel Mountains and the Garlock fault at the base of the Tehachapi Mountains. The northern boundary is defined by the contact of alluvial deposits with bedrock. An approximate five-mile section of the northern boundary abuts the alluvial deposits of the Fremont Valley (**Figure 1**) and is separated by a groundwater divide. To the east, an additional groundwater divide – generally located along the San Bernardino County line – has been used to separate the Antelope Valley from the El Mirage Valley and the Mojave adjudicated area. The Antelope Valley Adjudication Area, as defined by the Court, is slightly smaller than the groundwater basin (compare the shaded blue groundwater basin with the Adjudication Area on **Figure 1**).

Prior to development, groundwater flowed from the surrounding uplands toward natural surface depressions at ephemeral lake beds in the north (Rosamond Lake) and northeast (Rogers Lake). These natural flow directions have been re-directed locally toward pumping wells.

The basin has a long tradition of agricultural use dating back to the late 1800s. As both agriculture and urban land use increased during the post-World War II era, groundwater

provided about 90 percent of the overall supply. Reliance on groundwater decreased somewhat in the 1970s and 1980s after imported water was available in the basin. However, urban growth, an increase in irrigated acreage, and limitations on availability of imported water resulted in increases in pumping during the 1990s. In 2011, the Court ruled that the basin was in overdraft and required a physical solution to bring the basin into balance.

The physical solution in the Judgment establishes a safe yield for groundwater production and an allocation of that safe yield among basin producers. Two estimates of safe yield are provided in the Judgement:

- Native Safe Yield: 82,300 AFY
  Includes estimates of natural recharge plus return flows from groundwater use, percolation from wastewater, and conveyance system losses
- Total Safe Yield: 110,000 AFY
  Is the sum of Native Safe Yield plus the Imported Water Return Flows.

Native Safe Yield, set by the Court at 82,300 AFY, is based on estimates of natural groundwater recharge from the hydrologic system including subsurface inflows from the surrounding bedrock (referred to as mountain front recharge) and infiltration from precipitation and streamflow. Native Safe Yield also accounts for return flows from basin pumping (described below). As shown on **Figure 2**, the Native Safe Yield is the amount allocated among most of the basin producers. Recognizing that the importation of supplemental surface water adds to the safe yield, a Total Safe Yield of 110,000 AFY was set by the Court, based on average estimates of available imported water and the associated return flows. Allocations of return flows from imported water are assigned to certain Parties listed in the Judgment.

To provide context for data needed to monitor safe yield components, a summary of the Judgment's safe yield calculation is provided in the following sections. The details of the safe yield determination are documented in the Phase 3 Summary Expert Report (Beeby, et al., 2010)[7].

3.2 SAFE YIELD DETERMINATION IN THE JUDGMENT

The process to develop a safe yield for the Adjudication Area of the groundwater basin involved years of detailed hydrogeologic analyses by numerous technical experts representing various parties in the litigation. The analyses included delineation of basin boundaries, descriptions of the geologic and hydrogeologic setting, evaluation of aquifers and aquitards, examination of water levels, assessment of groundwater occurrence and flow, and detailed accounting of the water budget, including inflows and outflows from the

[7] This report was prepared in association with Phase 3 of the trial. It is recognized that there were multiple phases that are not discussed herein; the Phase 3 Expert Report contains the most relevant information for summarizing the Safe Yield determination in the Judgment.

groundwater system and change in groundwater volume. These analyses culminated in a Summary Expert Report, published in July 2010 (Beeby, et al., 2010).

3.2.1 Natural Groundwater Recharge

Estimates of natural recharge to the groundwater basin developed by technical experts during litigation were used as the foundation of the safe yield determination. For the purposes of this discussion, the use of *natural recharge* refers to recharge associated with the natural hydrologic environment such as precipitation and streamflow. It specifically excludes the concept of return flows associated with groundwater pumping or use of imported water.

It is recognized that the amount of natural recharge does not always equate to the amount of groundwater that can be pumped sustainably from a basin because it is difficult to capture all of the replenished water without losing a significant amount to natural groundwater discharge (e.g., subsurface outflow from a basin). For the Antelope Valley, groundwater discharge to the dry lakes appears to be minimal and to occur only during wet periods. Subsurface outflow is uncertain but likely occurs along limited segments of the basin boundary. Therefore, estimates of natural recharge were determined to be sufficient as a first approximation of the average annual amount of groundwater that could be used sustainably.

The natural groundwater recharge components were estimated by the technical experts during litigation using two separate methods:

1. a tabular mass balance (referred to as a water balance) approach, which accounted for each inflow and outflow associated with the groundwater system independently, while conserving the mass from the hydrologic cycle, and

2. estimates for changes of groundwater volume over time – developed through a comparison of groundwater elevation contour maps – and then using pumping estimates to solve for inflow (natural recharge). These two methods and results are described below.

3.2.1.1 Natural Groundwater Recharge using a Mass Balance Method

A mass balance approach to the water budget for the basin involves tracking of water into (inflows) and out of (outflows) the groundwater basin. This water tracking is illustrated by a schematic diagram on **Figure 3** (modified from Beeby, et al., 2010). The diagram represents the physical system of the groundwater basin and surrounding watershed. The mountains or uplands that surround the groundwater basin are represented on the left side of **Figure 3**; the playas (dry lakes) that represent a natural discharge area of the groundwater basin are shown on the right. Annual average flows estimated in the 2010 analyses are shown on the diagram in AFY for illustration purposes. In general, groundwater flows from the upland areas toward the dry lakes.

Precipitation provides the primary water source for the basin, including rainfall and snowmelt in the surrounding uplands and rainfall on the valley floor. In the uplands, rainfall either leaves the system through evapotranspiration (ET), runs off the surface into stream channels, or infiltrates into the fractured bedrock (upper left area of **Figure 3**). Some of the infiltrated water discharges back to the stream channels as baseflow; the remaining amount is available for subsurface groundwater recharge, also referred to as mountain front recharge. The 2010 analysis by the technical experts during litigation estimated this amount at about 19,800 AFY, as shown on **Figure 3.**

As mountain streams reach the valley floor, most of the water infiltrates into the permeable alluvium and serves as groundwater recharge (see the mass balance for stream channels on **Figure 3**). This component is considered the largest source of groundwater recharge with estimates of about 30,000 to 40,000 AFY (shown as an average of 36,600 AFY in the mass balance on **Figure 3**). The water budget also recognizes that a small amount of streamflow is diverted for use prior to infiltration. During wet years, flood flows reach the playas, where water pools and evaporates. Some of the flood water may infiltrate the surficial deposits, but the low permeability of the lakebed sediments restricts deep percolation and groundwater recharge. When groundwater levels are high, small amounts of groundwater can also discharge to the playas.

Given the desert climate of the area, rainfall volumes on the groundwater basin floor are small, with most of the area receiving less than eight inches per year on average. Given the corresponding high rates of ET in the basin, most of this rainfall evaporates quickly, limiting the available water for infiltration into the basin sediments. The 2010 analyses concluded that groundwater recharge from soil infiltration does not likely occur in basin areas with an average annual rainfall of less than eight inches (Beeby, et al., 2010); that conclusion is supported by numerous technical studies on groundwater recharge in desert basins. While minor recharge occurs from direct precipitation in localized alluvial fan deposits along the northwestern rim of the basin (western edge of the West Antelope Subarea, see **Figure 1**), the overall mass balance indicates that groundwater recharge from direct precipitation is small; as such, it is not quantified on **Figure 3**.

In summary, the two primary sources of natural recharge were determined by the technical experts during litigation to be mountain-front recharge (about 19,800 AFY on **Figure 3**) and infiltration from streamflow (about 36,600 AFY on **Figure 3)**, resulting in a total estimated natural recharge of about 56,400 AFY.

3.2.1.2 Natural Groundwater Recharge using a Change in Groundwater Volume Method

The estimates for groundwater recharge above were checked for reasonableness by the technical experts during litigation through a separate groundwater level analysis involving the change in groundwater volume over time. This method involved preparation of nine groundwater elevation contour maps for nine years spanning a 59-year period from 1951 through 2009 (study period). These maps were used to assess water level changes (rise or declines) during eight specific time intervals and over the entire study period. Water level

surfaces at the beginning and end of each period were electronically subtracted to estimate changes over the entire basin for each period (Beeby, et al., 2010).

In order to relate the water level changes to a volume of groundwater gain or loss, aquifer storage properties were developed based on a texture analysis (e.g., percentages of sand, gravel, silt, and clay) from geologic logs. Texture categories were assigned a storage property, referred to as specific yield (Sy). Sy is defined as the ratio of the volume of water that will drain under gravity compared to a unit volume of the aquifer (expressed as a percentage) and is used to estimate the volume of water released from storage for a unit change in head. Because Sy varies throughout the aquifer system, the method assigned a Sy that corresponded to the areal location and the vertical interval of the aquifer where water levels had changed. This analysis provided the Basin-wide change of groundwater volume for various time intervals.

The change in groundwater volume was applied to the water balance equation as shown below:

Change in Groundwater volume = Inflows (recharge) - Outflows

Because outflows consisted primarily of groundwater pumping, investigators estimated pumping (less return flows) for the same time intervals as the contour map analysis. With estimates for both Outflows and Change in Groundwater Volume, the equation above could be re-arranged to solve for inflows (natural recharge). The change in volume method indicated average annual natural recharge between 55,000 to 58,000 AFY, results very similar to the results of the mass balance analysis described above (56,400 AFY). Recognizing uncertainty in the analysis, a natural groundwater recharge of 60,000 AFY was selected by the technical experts during litigation for the purposes of the safe yield analysis (Beeby, et al., 2010).

3.2.2 Native Safe Yield

Safe yield is defined in the Judgment as "the amount of annual extractions…over time equal to the amount of water needed to recharge…groundwater…and maintain it in equilibrium..." Because safe yield is defined in terms of groundwater extraction, the efficiency of groundwater use requires consideration.

All groundwater pumped from a well may not be consumed; if unused water is allowed to percolate back into the groundwater basin, that amount is referred to as *return flow*s. Because it is difficult for irrigation systems to be 100 percent efficient, return flows result from almost all irrigation applications including agricultural, municipal (e.g., landscaping, parks), and domestic (e.g., lawns). In addition to irrigation, other water use practices can result in return flows including conveyance system losses, percolation of wastewater, or septic systems. The conceptual diagram of safe yield components (Figure 4[8]) illustrates the

[8] As noted on Figure 4, the diagram was developed to illustrate the concepts of safe yield and does not depict the complexity of the multi-aquifer system of the Antelope Valley Groundwater Basin.

various groundwater uses and associated return flows. The amount of return flows varies with irrigation method, type of losses, soil properties, evapotranspiration, and other factors.

Because these return flows offset the amount of groundwater production in the basin, the amount of sustainable production from the Antelope Valley Groundwater Basin can be higher than the 60,000 AFY estimate for natural recharge. For example, if 25 percent of pumping actually returns to the groundwater system as return flows (indicating that 75 percent of groundwater production is consumed through evaporation, crop transpiration, or human consumption), then a safe yield of 80,000 AFY would allow for consumption of the 60,000 AFY of recharge and 20,000 AFY of return flows (60,000/0.75 = 80,000).

Using a mix of historical and recent land use practices, the Summary Expert Report evaluated various return flow estimates for the purposes of developing a sustainable yield (Native Safe Yield) for the Basin. Given the mix of land use practices observed over a recent 15-year period, an overall return flow of about 27.1 percent[9] was estimated to be reasonable. Applying this to the 60,000 AFY estimate for natural recharge, a Native Safe Yield of 82,300 AFY was derived. As shown on **Figure 2**, this value was used for the total Production Right in the Basin. The Judgment prohibits the Watermaster Engineer from recommending a change to the Native Safe Yield ten years before the Year 17 of the Judgment.

3.2.3 Total Safe Yield

Total Safe Yield is defined in the Judgment as the amount of groundwater that may be safely pumped from the Basin on a long-term basis and is specified as the sum of the Native Safe Yield plus return flows from imported water (¶3.5.51 of the Judgment). Beginning in the 1970s, supplemental surface water supplies were imported into the Basin from the SWP. This supplemental water decreased the reliance on groundwater supply and provided water to meet the growing demand of the valley. Depending on use, the SWP water also provides an additional component of groundwater recharge through return flows, increasing the overall safe yield for the Basin. This amount varies substantially with the availability and use of imported water.

In order to consider this supplemental supply in the adjudication, the team of technical experts during litigation evaluated amounts of imported water and its use over time. This analysis led the team to conclude that return flows from imported water resulted in about 27,700 AFY of additional groundwater supply to the Basin. Adding to the Native Safe Yield of 82,300 AFY, this amount provided a Total Safe Yield of 110,000 AFY.

[9] This groundwater return flow *percentage* is different from the Imported Water Return Flow percentages specified in the Judgment. Imported Water Return Flows represent a new water source in the basin and increase groundwater availability. Imported water return flows are also associated with a different land use mix (i.e., more imported water is used for municipal purposes, a use associated with a larger *percentage* of return flows compared to agricultural use).

Credits for imported water return flows are assigned in the Judgment according to use (see **Section 5.4** for a description of these credits). Some imported water may be delivered to a recharge facility (e.g., a spreading basin) and recharged directly into the groundwater basin for subsequent recovery and use; such a recharge facility is illustrated conceptually on **Figure 4**. When imported water is recharged directly, there are no "return flows" as defined by the Judgment; return flows occur only after imported water is used directly in the Basin.

The technical analysis in 2010 recognized that safe yield is not necessarily a constant value and can change over time with varying land use and water management practices. As described above, the Native Safe Yield has embedded assumptions of land use and return flows. The Total Safe Yield will change based on average amounts of imported water available to the Basin over time. The Judgment allows the Watermaster Engineer to initiate recommendations to change both the Native Safe Yield and the return flows from imported water ten years after the seven-year Rampdown Period (Year 17 after entry of the Judgment in December 2015).

3.3 CLIMATE DATA

Precipitation in the Antelope Valley watershed is the primary source of natural groundwater recharge and controls the location and pathways of natural recharge in the Basin. Average annual precipitation across the Antelope Valley watershed, calculated during the adjudication process, ranges from 4 inches to 47 inches with an area-weighted average of 8.3 inches per year (Beeby et al., 2010). Upland areas within the watershed but outside of the Adjudication Area account for most of the precipitation available for recharge. Area-weighted average precipitation amounts in the upland watershed are listed below:

- San Gabriel Mountains – 15.4 inches per year
- Tehachapi Mountains – 13.1 inches per year
- Eastern buttes – 8.7 inches per year
- Northern buttes – 9.2 inches per year

Average annual precipitation on the valley floor is typically less than 8 inches per year. Most Subareas have an average annual precipitation rate less than about 5 inches per year.

For the original 2010 analyses, precipitation data for 23 stations covering a 57-year period (1949-2005) were compiled and analyzed. A portion of these data sets has been compiled for Watermaster files, with an emphasis on active state- or federal-operated weather stations. Data were also obtained from additional stations with recent data to support analyses in this Annual Report (Calendar Year 2024). Many of these stations also provide other climate information such as reference ET (ET_o) and temperature.

Precipitation (and other climate) data for the Antelope Valley Adjudication Area and surrounding watershed are available from the following primary sources: Los Angeles County, California Irrigation Management Information System (CIMIS), and National Weather Service cooperative stations (data available through the Desert Research Institute -

DRI). The monitoring centers have been confirmed to be active in 32 stations (as of April 9, 2025 or the most recent data available). **Table 3** provides station summary information; station locations are shown on **Figure 5.**

Precipitation data for 2024 are used to determine whether the year was wet, dry or average compared to long-term data. A graph of cumulative monthly 2024 precipitation was compared to similar curves for representative wet, average and dry conditions, using data from the Palmdale station (DRI, #46624). These data are shown graphically in the top chart on **Figure 6**; the general location of the Palmdale Station is indicated on **Figure 5**.

Table 3. Precipitation and Evapotranspiration Stations

ID	Station Name	Elevation	Latitude	Longitude	Source	Period of Record		Frequency
						Min	Max	
1250	AVEK Precip	2,825	34.52333	-117.9239	LA County		Current	Daily
83B	Big Pines Recreation Park Pcp	6,860	34.37889	-117.6919	LA County		Current	Daily
120	County Fire Station #80	3,120	34.48833	-118.1419	LA County		Current	Daily
1005B	County Fire Station #81	2,767	34.51917	-118.2869	LA County		Current	Daily
128B	Elizabeth Lake-Warm Springs Cmp Pcp	2,075	34.60833	-118.5594	LA County		Current	Daily
AL481	Fire Station # 140 (Leona Valley)	3,172	34.61778	-118.28500	LA County	Oct-2016	Current	Daily
AL480	Fire Station #112 (Antelope Acres) y	2,428	34.75444	-118.2883	LA County	Oct-2016	Current	Daily
AL388	Fire Station 114 (Lake Los Angles)	2,710	34.60667	-117.8256	LA County	Oct-2016	Current	Daily
AL468	Fire Station 77	3,459	34.75972	-118.7978	LA County	Oct-2016	Current	Daily
1249	G-168 Pump Station	2,941	34.73444	-117.8283	LA County	Oct-2016	Current	Daily
44749	Lancaster FF		34.74111	-118.2117	DRI	Jan-1974	Current	Monthly
AL485	Lancaster Waterworks	2,460	34.66694	-118.1253	LA County	Oct-2016	Current	Daily
517B	Lewis Ranch Precip	4,615	34.41972	-117.8861	LA County	Oct-2016	Current	Daily
1017B	Little Rock Crk Above Dam Precip	3,267	34.47778	-118.0247	LA County	Oct-2016	Current	Daily
1060B	Little Rock-Sycamore Camp Pcp	4,012	34.41722	-117.9703	LA County	Oct-2016	Current	Daily
564C	Llano	3,394	34.48556	-117.8344	LA County	Oct-2016	Current	Daily
1248	Mescal Smith Precip	3,810	34.46667	-117.7111	LA County	Oct-2016	Current	Daily
598D	Neenach - Check 43	2,973	34.79472	-118.6222	LA County	Oct-1999	Current	Daily
1247	North Lancaster Precip	2,340	34.76111	-118.1072	LA County	Oct-2016	Current	Daily
197	Palmdale	2,550	34.61498	-118.0325	CIMIS	Apr-2005	Current	Daily
220	Palmdale Central	2,630	34.59222	-118.1275	CIMIS	Mar-2011	Current	Daily
46624	Palmdale DRI		34.58778	-118.095	DRI	Jan-1903	Current	Monthly
1058B	Palmdale W.D.	2,627	34.58806	-118.0919	LA County	Oct-1999	Current	Daily
46773	Pear Blossom		34.50278	-117.8944	DRI	Jan-2015	Current	Monthly
321	Pine Canyon Patrol Station # 78	3,304	34.67417	-118.4308	LA County	Oct-1999	Current	Daily
1245	Quartz Hill Precip	2,427	34.64944	-118.2172	LA County	Oct-2016	Current	Daily
1243	Redman Precip	2,387	34.76500	-117.9261	LA County	Oct-2016	Current	Daily
1242	Rocky Buttes Precip	2,540	34.64611	-117.8453	LA County	Oct-2016	Current	Daily
1244	Roper Ranch Precip	2,438	34.67306	-118.0108	LA County	Oct-2016	Current	Daily
372	San Francisquito Canyon Power House No.	2,105	34.59028	-118.4542	LA County	Oct-1999	Current	Daily
747	Sanberg - Airways Station	4,510	34.74333	-118.72500	LA County	Oct-1999	Current	Daily
1246	Scott Ranch Precip	2,718	34.79056	-118.4597	LA County	Oct-2016	Current	Daily
117	Victorville	2,890	34.47591	-117.2635	CIMIS	Feb-1994	Current	Daily
45756	Mojave		35.04917	-118.1619	DRI	Jan-1904	May-2020	Monthly
1268	Palmdale Reclamation Plant	2,565	34.59167	-118.0861	LA County	Oct-2016	May-2019	Daily
1291	Rollin Ranch - Valyermo	5,040	34.41722	-117.7572	LA County	Mar-2011	May-2019	Daily
1240	Pearblossom-CALI.DW.R. Booster	3,050	34.50889	-117.9208	LA County	Oct-1999	May-2018	Daily
409B	Pyramid Reservoir	2,505	34.67611	-118.7797	LA County	Oct-2016	May-2018	Daily
82F	Table Mountain	7,420	34.38222	-117.6775	LA County	Oct-2016	May-2018	Daily
542	Fairmont	3,050	34.70417	-118.4278	LA County	Oct-2016	Apr-2018	Daily
322	Munz Valley Ranch	2,600	34.71389	-118.3542	LA County	Oct-1999	Apr-2018	Daily
455B	Lancaster - State Hwy. Maintenance Sta.	2,395	34.68250	-118.1339	LA County	Oct-1999	Jan-2018	Daily
1166B	Mile High Ranch	5,280	34.41111	-117.7708	LA County	Jan-2003	Dec-2017	Daily
1212	Lancaster Fss/Faa	2,320	34.73333	-118.2167	LA County	Oct-1999	Sep-2017	Daily
1267	Lancaster Reclamation Plant	2,302	34.77722	-118.1531	LA County	Oct-1999	Sep-2017	Daily
299F	Little Rock - Schwab	2,800	34.53667	-117.9786	LA County	Oct-2016	Jun-2017	Daily

Current - Operational as of April 27, 2024

Figure 6 documents precipitation in the Antelope Valley area of the Basin. The top portion shows cumulative precipitation through the months of the year for dry, average, and wet years plus 2024. As indicated, average annual precipitation is about 7.0 inches per year (e.g., 2001, a representative average year). Annual precipitation ranges from about 15.4 inches per year in a wet year (1983) to below 3 inches per year, with 2.9 inches per year (2012) used as a representative dry year. While other years may have been slightly drier, this year has good quality available data. The 2024 annual precipitation was 7.16 inches, slightly above normal rainfall.

The 2024 monthly precipitation at the Palmdale DRI station, along with average monthly precipitation at this station, is shown on the bar graph on the bottom of **Figure 6**. This chart has been extended through March 2025 for purposes of the discussion of groundwater levels, presented in **Section 4.5.** As shown on **Figure 13**, no rainfall occurred at the Palmdale station from May through December. However, higher than average precipitation during January through April caused the cumulative 2024 rainfall to be near the annual average rainfall rate.

3.4 STREAMFLOW DATA

As described above, runoff from the surrounding watershed provides significant groundwater recharge to the Basin (see **Figure 3**). Streams originate in the uplands and flow out onto the valley floor, where most of the water infiltrates into the basin sediments (as illustrated conceptually on **Figure 4**). The most hydrologically significant streams include drainages in the San Gabriel and the Tehachapi mountains, as listed below (Antelope Valley IRWMP, 2013):

- San Gabriel Mountains
    - Big Rock Creek
    - Little Rock Creek
    - Amargosa Creek
- Tehachapi Mountains
    - Oak Creek
    - Cottonwood Creek

The 2010 analyses compiled streamflow data from 18 stations spanning a 61-year period (1949-2009). These data were supplemented with characteristics of channel geometry at gaged and ungauged sites to allow for a more comprehensive assessment of runoff. Almost all historical data from these stations have been downloaded to supplement the Watermaster Engineer data files, but only five of these stations remain active. **Table 4** provides summary information for 24 streamflow stations, including most of the 18 stations used in the litigation, additional stations with available data, and three one-time measuring stations; the active stations provide data through May 12, 2025 (indicated as ‘current’ in the last column of **Table 4**). Locations of these streamflow stations are shown on **Figure 5** (a few closely positioned stations appear as one location on the map).

Table 4. Streamflow Gaging Stations

ID	Station Description	Source	Current Agency	Period of Record	
				Min	Max
10263630	Big Rock C Ab Pallett C Nr Valyermo Ca	USGS/LA County	LA County F394-R	11/2/1988	Current
10263500	Big Rock C Nr Valyermo Ca	USGS	USGS	1/25/1969	Current
10264000	Little Rock C At Little Rock Res Nr Littlerock Ca	USGS/LA County	LA County L1-R	1/1/2000	Current
10263665	Pallett C A Big Rock C Nr Valyermo Ca	USGS/LA County	County F12	11/3/1988	Current
10264100	Santiago Cyn C Ab Little Rock C Nr Littlerock Ca	USGS/LA County	LA County F125-R	1/1/2000	Current
10264682	Mescal C Nr Pinon Hills Ca	USGS/LA County		1/1/2000	5/21/2018
	Amargosa C Nr Leona Siphon Nr Palmdale, CA (infiltration data only)	USGS			11/29/2013
	Amargosa C A 25th Street W Nr Palmdale, CA (infiltration data only)	USGS			11/29/2013
	Amargosa C Nr Palmdale, CA (infiltration data only)	USGS			11/29/2013
10264640	Buckhorn C A E 120th Ave Nr Rogers Lake Ca	USGS		12/10/1996	3/7/2001
10264660	Mojave C A Rosamond Blvd A Edwards Ca	USGS		12/6/1997	3/7/2001
10264636	Sled Track Cyn A Lancaster Blvd Nr Rogers Lake Ca	USGS		12/10/1996	3/7/2001
10264658	Mojave C A Forbes Ave A Edwards AFB Ca	USGS		12/6/1997	9/27/2000
10264675	Rogers Lk Trib A Edwards Afb Ca	USGS		2/3/1998	2/3/1998
10264508	Somerset C A Palmdale Ca	USGS		1/24/1989	2/17/1994
10264530	Pine C Nr Palmdale Ca	USGS		1/13/1990	3/18/1993
10263675	Big Rock C Wash A Hwy 138 Nr Llano Ca	USGS		12/12/1988	3/17/1993
10264605	Joshua C Nr Mojave Ca	USGS		4/1/1992	3/16/1993
10264600	Oak C Nr Mojave Ca	USGS		12/21/1988	3/16/1993
10264555	Estates C Nr Quartz Hill Ca	USGS		5/1/1989	2/18/1993
10264550	City Ranch C Nr Palmdale Ca	USGS		1/13/1993	1/13/1993
10264510	Inn C A Palmdale Ca	USGS		12/16/1988	1/13/1993
10264502	Peach Tree C Nr Littlerock Ca	USGS		12/16/1988	3/31/1992
10264501	Little Rock C A Hwy 138 Nr Littlerock Ca	USGS		4/10/1989	2/24/1992
10264560	Spencer Cyn C Nr Fairmont Ca	USGS		2/14/1992	2/14/1992
10264503	Barrel Springs Trib A Ca Aq Xing Nr Palmdale Ca	USGS		10/21/1988	2/13/1992
10263900	Buckhorn C Nr Valyermo Ca	USGS		5/8/1991	5/8/1991

Current - Operational as of May 12, 2025

As shown in **Table 4**, discharge volumes are available for 19 streams (including tributaries to primary streams) at 24 gaging stations in the Adjudication Area and surrounding watershed. Also included in **Table 4** are three one-time measurement sites on Amargosa Creek, where the U.S. Geological Survey (USGS) documented infiltration rates for a potential enhanced recharge project for the City of Palmdale (see first three sites in **Table 4**).

Little Rock Creek contains an upstream reservoir, Littlerock Reservoir, jointly owned by PWD and LCID. As shown in **Table 4**, natural inflows are monitored by gage station ID 10264000. PWD maintains records of the discharge and diverts water from the reservoir. In 2024, PWD diverted 5,157.5 AF.

Previously, USGS monitored stream gage stations listed in **Table 4** and published data on the USGS National Water Information System (NWIS). Currently, USGS monitors only one station (Big Rock C Near Valyermo Ca). Los Angeles County now monitors four of the former USGS stations including Big Rock Creek, Little Rock Creek, Pallett Creek, and Santiago Canyon Creek (**Table 4**).

Although data are limited with respect to the number of streams being actively monitored, data from Big Rock Creek and Little Rock Creek provide consistent, long-term data for analysis. Streamflow on Big Rock Creek averaged 18.4 cubic feet per second (cfs) over the 1988 through 2024 time period. Average streamflow on Big Rock Creek in 2024 was 75.54 cfs, well above average. Above-average flows occurred throughout much of the year. In addition, previous work by USGS for the City of Palmdale provides some measured infiltration rates along Amargosa Creek to assist with future estimates of groundwater recharge.

In 2024, AVSWCA began exploring the feasibility of installing and maintaining additional stream gage stations with state funding.

3.5 GROUNDWATER LEVELS

Groundwater levels are monitored and analyzed to produce hydrographs (see **Figure 7**); monitored well locations are shown on **Figure 8**. Groundwater level data are also used to prepare groundwater elevation contour maps (**Figures 9, 10, and 11**).

USGS currently monitors water levels in approximately 145 wells within and adjacent to the Antelope Valley Adjudication Area. Wells in recent USGS monitoring programs are shown on **Figure 8**. The number of wells in this regional monitoring program varies from year to year based, in part, on access and well status/operation. Water level monitoring occurs in Spring, typically March, and a smaller subset of these wells is measured in the late Summer to Fall of each year. The network contains relatively good coverage for each of the Management Subareas (**Figure 8**). Although data are sparse in the Willow Springs and Rogers Lake Subareas, groundwater production only occurs in a few wells in those areas (see also **Figure 18** – discussed in subsequent sections of this report). The network also contains wells in alluvial areas adjacent to the Adjudication Area including Fremont Valley and north of the Rogers Lake Subarea, if needed.

The USGS monitoring program was developed, in part, to comply with the California Statewide Groundwater Elevation Monitoring (CASGEM) program for the groundwater basin. This program was developed by the Antelope Valley State Water Contractors Association (District 40, 2014[10]); program costs were previously shared by AVEK, LCID, and PWD, with additional funding from USGS. Recognizing its benefits for the safe yield component monitoring, the Antelope Valley Watermaster has agreed to support 25 percent of the total monitoring program costs and has provided about $15,000 to $18,000 per year to the program since 2017. AVSWC contributes 50 percent of the funding to support the monitoring program and the Antelope Valley Regional Water Management Group contributes the remaining 25 percent. In 2025, the Watermaster approved expenditure of $19,155 to support this program from October 2024 through September 2025.

Most of the wells in the monitoring program are production wells rather than dedicated monitoring wells. USGS has implemented monitoring protocols to avoid inaccurate water levels measurements that may be affected by recent pumping. To supplement these data, the Watermaster Engineer has been identifying and requesting data from monitoring wells owned by others in the Basin to incorporate into the program. This process includes any new monitoring well applications approved by Watermaster Staff in the Basin, which require well owners to provide monitoring data to the Antelope Valley Watermaster. In addition, water level data from monitoring and/or production wells have been provided to the Watermaster Engineer by many of the public water suppliers, imported water suppliers, and mutual water companies in support of the Annual Report analyses.

3.5.1 Water Level Trends and Fluctuations

To examine water level changes over time, hydrographs have been prepared for wells with relatively long records in the Watermaster Engineer database. Working hydrographs were initially developed for more than 5,000 wells with elevation data and reviewed to identify representative wells for water level tracking. A quantitative approach was developed in 2019 for hydrograph selection based on the number and duration of water level measurements, local trends and fluctuations, and the spatial distribution of hydrographs throughout the Basin. Specifically, each hydrograph in the program was rated using a simplified point system (low-5 points, medium-10 points, or high-15 points) for the following criteria:

- ***Ongoing/Recent monitoring*** – Wells that are part of the current USGS monitoring network or have recent data were prioritized. If a well had recent data from 2018 or 2019, it was scored high; wells with the most recent data occurring in 2010 to 2017 were scored medium; all other wells were scored low for this criterion.
- ***Historical monitoring*** – Wells were evaluated for the length of the monitoring record by prioritizing wells that provide sufficient data to compare water level trends over the last few decades. Wells with data extending back to 1973 were

[10] District 40 prepared the CASGEM Monitoring Plan for the Antelope Valley State Water Contractors Association on file with DWR.

given a high rating; wells with data only in the last five years were rated low with records in between scored medium.

- ***Number of measurements*** – Each hydrograph was assessed for continuity of monitoring to better evaluate local fluctuations in the Basin. Wells with greater than 50 measurements were scored high, greater than 25 and 15 records were medium and low respectively. Wells with less than 15 measurements were not scored.
- ***Location*** – Wells were prioritized for broad distribution across the Basin, distribution in each Subarea, and availability of other wells nearby. Wells were scored based on a high score for unique locations and a low score for numerous wells in clusters.
- ***Trends*** – Finally, each hydrograph was assessed on a qualitative basis for continuity of monitoring, representation of local or regional trends, and presence of outliers or unrealistic/questionable data. Wells demonstrating representative trends with consistent data were scored high, wells with representative trends but without consistent monitoring were scored medium, and remaining wells were scored low.

Hydrographs for the 17 top scoring wells (60 points and higher) are shown on **Figure 7**. For wells with similar trends and data, one from each trend group was selected for display. Accordingly, the selected wells are judged to adequately represent the range of local groundwater conditions across the Basin. Backup hydrographs are available for local specific analyses as needed. Available data are displayed on **Figure 7** hydrographs from 1997 through Spring 2025 representing about 27 years of groundwater elevations. Although groundwater elevations vary across the Basin, all vertical scales on the hydrographs cover 100 feet to facilitate comparison of water level trends and fluctuations.

As shown on **Figure 7**, most wells indicate an overall declining trend of varying magnitudes during the 28-year period including at least one well in each Basin Subarea (e.g., hydrographs shown clockwise by USGS_501, USGS_4301, USGS_3501, USGS_5001, USGS_2001, USGS_2901, USGS_31001, USGS_45101, USGS_4801, USGS_5201, USGS_44001, and USGS_101). However, for most of the wells with overall declining trends, water levels have either stabilized or the rates of decline have decreased in recent years. In general, declines are smaller in the northern portions of the Basin (e.g., USGS_4301, USGS_3501, USGS_5001, and USGS_2001) and other areas with lower amounts of pumping. The largest decline is indicated in the east-central portion of the Central Antelope Valley Subarea where one hydrograph indicates an overall decline of about 60 feet (USGS_5201); yet even in that well, water levels appear to have partially recovered in recent years. In addition, two representative hydrographs indicate areas where water levels have risen (USGS_1101, USGS_75101 USGS_4401), including one well near a groundwater banking project. Wells with semi-annual data indicate seasonable fluctuations (Spring to Fall) of a few feet to more than 10 feet.

With the hydrologic imprint of climate and imported water availability, along with the development of additional groundwater banking projects, it is difficult to directly relate improvements in water level trends to Rampdown. Nonetheless, most areas of the Basin appear to have either stable or improving groundwater conditions since the 2015 Judgment.

3.5.2 Groundwater Elevation Contour Maps

To further examine groundwater conditions for the 2024 Annual Report, two Basin-wide groundwater elevation contour maps have been prepared for Spring 2024 and Spring 2025, with most data measured in March representing seasonal high water levels. These time periods were selected based on the large amount of available data and the ability to analyze changes in groundwater levels over a one-year period. In addition, Spring measurements are less likely than Fall measurements to be affected by recent heavy pumping, which is typically associated with the summer irrigation season[11]. By developing these two maps one year apart, a change in groundwater volume can be approximated for most of calendar year 2024, the period covered in this Annual Report. This approach has been employed in all previous Antelope Valley Watermaster annual reports, providing a consistent methodology for comparison purposes. Only wells measured during Spring of both years are included in each map so that the contours sets can be compared.

Wells with water level measurements in either Spring 2024 or Spring 2025 are shown on **Figure 8**. Wells are color-coded by the agency (source) that provided the data. The number of wells for each of these data sets is summarized in **Table 5**. Water level data for Spring 2025 were not available from several of the agencies listed in **Table 5** in time for inclusion in this annual report.

[11] It is recognized that March irrigation occurs for some crops in the Antelope Valley, such as alfalfa and carrots, among others. According to a land use study by California State University, Los Angeles (Qiu, 2013), October appears to be the month when most crops in the Antelope Valley are not irrigated (i.e., end of the growing season for carrots and onions and prior to irrigation for winter grains). However, late fall measurements may be complicated by recovering water levels. In addition, other water supply wells may be pumping more in October than in spring. Spring data are also preferred by DWR for adjudication basin reporting. For these and other reasons, spring measurements are retained for the purposes of monitoring water levels and groundwater storage in the Basin.

Table 5. Groundwater Level Data by Source

Source of Water Level Data	Wells with Spring 2024 Data	Wells with Spring 2025 Data
U.S. Geological Survey (USGS)	159	174
Sanitation Districts of Los Angeles County (LACSD)	70	0
Antelope Valley-East Kern Water Agency (AVEK)	35	31
Los Angeles County Department of Public Works (LADPW) District 40[1]	56	0
Palmdale Water District (PWD)	24	21
Rosamond Community Services District (RCSD)	3	3
Quartz Hill Water District (QHWD)	10	10
City of Lancaster	1	0
Littlerock Creek Irrigation District (LCID)	0	0

1. Los Angeles County Department of Public Works (LADPW) District 40 data were only available for December 2024.

Contours were generated from these data using an electronic contouring program and adjusted locally, as needed. Wells outside the Adjudication Area were used to slightly adjust the orientation of the contours along the northern edge of the Adjudication Area, but those wells are not used in the change in storage analysis and are not shown on the contour maps to avoid confusion. Wells with measurements in only one of the two time periods were reviewed to determine if the incomplete data created artificial differences in the two contour maps. Where this occurred, wells were removed for the purposes of the change in groundwater in storage analysis. Wells were also removed if their water levels were believed to reflect recent or nearby pumping instead of static groundwater levels.

Management Subareas defined in the Judgment are considered in the analysis (**Figure 8**). Because some of these boundaries were developed along known or inferred geologic faults, data were examined to determine if groundwater elevations indicated a discontinuity across a Subarea boundary. In the southeast, the Subarea boundary between the South East Subarea and the Central Antelope Valley Subarea was observed to create a discontinuity, but the line of discordance was slightly different from the Judgment-defined Subarea

boundary. For the groundwater elevation analysis, an additional line was added in that area for purposes of contouring the data.

The contour maps for Spring 2024 and Spring 2025 are presented on **Figures 9** and **10**, respectively and discussed below.

Spring 2024 Water Levels: As shown on **Figure 9**, groundwater flows toward the south-central portion of the Basin, with the groundwater elevation contours in the southeast and west-northwest portions of the map indicating relatively steep hydraulic gradients (contours closely spaced). Water levels are lowest in northern Palmdale/southern Lancaster (north of the Palmdale Regional airport) and adjacent areas to the northeast – areas where most of the groundwater production occurs in the Basin. The lowest water levels during Spring 2024 are slightly below 2,050 feet msl in northern Palmdale. Relatively low groundwater elevations (below 2,200 feet msl) are also observed in the Rogers Lake Subarea beneath Edwards Air Force Base in the north. This dry lake area represents a natural discharge area of the Basin.

A portion of the South East Subarea is excluded from the contouring (see purple area on **Figure 9**). In this area, groundwater is relatively shallow, and contours must be manually controlled to prevent water levels appearing higher than the ground surface elevation. The area is sparsely populated and production or accurate monitoring well data are limited. The lack of data, shallow depth to groundwater, and large hydraulic gradients produce inaccurate contours in this area; accordingly, the area is excluded from the analysis to prevent artificial changes in groundwater in storage from being calculated.

As indicated by the contours in **Figure 9**, two Subarea boundaries appear to impede water levels and create discontinuities in water levels. In the northwest, the boundary between the Willow Springs Subarea and the West Antelope Subarea creates such a discontinuity as indicated by discontinuous contours (**Figure 9**; see **Figure 8** for Subarea names). This boundary is located generally along the fault zone of the Willow Springs, Cottonwood, and Rosamond faults, indicating that the faults impede water levels in the subsurface. The change in water levels across the fault zone ranges from about 50 feet on the eastern part of the boundary, near Rosamond, to about 200 feet in the west with higher water levels north of the fault zone.

In the southeast, the boundary between the Central Antelope Valley Subarea and the South East Subarea also indicates an area of disruption in water levels. The presence of the buttes and bedrock outcrops near and along the boundary suggests geologic faulting (inferred) and the Subarea boundary has been based on both geologic (faults) and hydrogeologic (water levels) data. Although recent data confirm a discontinuity in groundwater elevations along the northern portion of the Subarea boundary, the line of discontinuous groundwater elevations diverges from the Subarea boundary along its southern portion. (On **Figure 9**, compare the Management Subarea boundary shown in black with the line of discontinuous groundwater elevations shown in orange). For contouring purposes, an additional boundary line (shown in orange on **Figure 9**) has been interpreted. The water level declines around pumping wells northwest of the boundary do not appear to be affecting water levels

southeast of the boundary. In general, higher water levels occur south of the inferred faulting. The remaining Management Subarea boundaries of the Central Antelope Valley Subarea (with the Rogers Lake Subarea to the northeast and the West Antelope Subarea to the northwest) do not appear to impede groundwater flow.

Spring 2025 Water Levels: Groundwater elevation contours for Spring 2025 are shown on **Figure 10**. Given the scale and contour interval of the maps, water levels on **Figure 10** appear very similar to water levels on **Figure 9**. Previous analyses indicate that, except in areas of localized recharge or near certain pumping centers, water levels only change a few feet in most of the Basin from year to year; this observation is consistent with the 2024 and 2025 data and the hydrographs displayed on **Figure 7**. Patterns of groundwater flow and hydraulic gradients are also similar on both contour maps. The two boundaries that disrupted the contours for 2024 on **Figure 9** are also interpreted similarly on **Figure 10**.

Water Level Change from Spring 2024 to Spring 2025: Notwithstanding the similarities in **Figures 9** and **10**, several local areas have experienced significant water level changes from Spring 2024 to Spring 2025. Most of these changes are representative of the ongoing recharge of imported water in 2024 and the transport of water recharged in 2023. In 2024, 75,059.67 AF of water was recharged at water banking facilities and recharge projects (including 38,455.67 AF recharged by Metropolitan Water District), and only 5,394.09 AF was recovered. For example, in the Palmdale Water District, PWD Well 30 saw a rise in water levels by 38 feet between Spring 2023 and Spring 2024. This increase is attributed to the development of a recharge mound in the area. However, by Spring 2025, water levels had decreased slightly by 14 feet, reflecting the natural recession of the recharge mound as the water continued to move through the system.

For illustration purposes, the two contour maps have been electronically subtracted to develop a contour map of water level change, as presented on **Figure 11**. The changes are highlighted with color – areas of water level rise are shown in blue-violet, and water level declines are shown in orange-brown. Light yellow represents areas where water levels are generally unchanged. Contours have also been added to the map to differentiate among the areas of water level changes more clearly.

As shown on **Figure 11**, numerous areas show localized changes, the largest of which appear to be associated with groundwater banking areas. Many of these increased water levels are on top on groundwater recharge mounds from 2023 managed aquifer recharge. In general, groundwater levels increased near recharge sites from Spring 2024 to Spring 2025. They slightly decreased in areas with ongoing groundwater production.

In the West Antelope Subarea, water levels increased by over 60 feet near the High Desert Water Bank. In 2024, AVEK spread 38,455.67 AF of imported water for Metropolitan Water district. Water levels north of the High Desert Water Bank increased in response to recharge from 2023 and 2024. Water levels at Westside Water Bank increased by about three to seven feet, and water levels down-gradient (to the east and northeast) increased by about three to six feet. In 2024, AVEK recharged 22,525 AF of imported water at Westside Water

Bank. Increased water levels from recharge at the Westside Water Bank are also observed on the northwestern side of the Central Antelope Subarea.

In the Central Antelope Subarea, water levels increased in the south, reflecting recharge at the Upper Amargosa Creek recharge site and native recharge along the southern boundary. Spring 2025 water levels near the Upper Amargosa Creek are likely higher due to 1,244 AF recharged in 2024 and an additional 382 AF recharged during January through March 2025. Few data points exist near the Basin boundary, so locally high water levels near the creek may be extended further than actually occurred. Local declines in groundwater levels are observed near some production well fields. However, it is noted that water levels near these wells increased by more than ten feet from Spring 2023 to Spring 2024, so the lower groundwater levels may not indicate a declining trend.

In the South East Subarea, groundwater levels increased along Littlerock Creek, due to recharge. Increased water levels were observed near production wells several miles west of the creek, showing that recharge at the Littlerock Creek Pilot Project is affecting water levels at nearby production wells. Slightly west of the creek, water levels measured at a PWD well decreased from Spring 2024 to Spring 2025 by 19 feet. However, Spring 2025 water levels remain 19 feet higher than Spring 2023 water levels. The production well appears to be capturing recharged imported water.

3.6 SUBSIDENCE MONITORING

The historical decline of groundwater levels has been linked to land subsidence in the Basin. Water level declines cause a decrease in the aquifer pore pressure, allowing for re-arrangement and compaction of fined-grained units (i.e., clay) in the subsurface. As these sediments compact, the land surface can sink.

Historical land subsidence from groundwater pumping has been documented by USGS and others in the Antelope Valley (Ikehara and Phillips, 1994). Between 1930 and 1992, up to 6.6 feet of land subsidence occurred near Lancaster. At Edwards Air Force Base, land subsidence has caused cracked (fissured) runways and accelerated erosion on Rogers lakebed. USGS reports that this subsidence has also permanently reduced groundwater storage capacity by about 50,000 AF[12].

The distribution of land subsidence in the Antelope Valley from 1930 to 1992 is shown in feet of subsidence by the red contours on **Figure 12** (Ikehara and Phillips, 1994). Historical land subsidence has primarily affected the northern half of the Central Antelope Valley Subarea, and small portions of the West Antelope and Rogers Lake Subareas. An analysis of satellite-based InSAR[13] data indicates that an additional 0.2 to 0.6 feet of land subsidence

[12] In general, this loss of capacity is due to a one-time compaction of thick sequences of fine-grained layers that did not likely store significant quantities of usable groundwater.
[13] Interferometric Synthetic Aperture Radar (InSAR) provides high-resolution measurement of changes in the land surface over large areas using radar signals from Earth-orbiting satellites.

occurred between 1993 to 2005 in sections of the subsidence-prone area. Land subsidence from groundwater level declines can be a relatively slow process and continue for years after the pore pressure changes have occurred.

Additional information and data on historical land subsidence are available through USGS, which has established a network of 85 elevation benchmarks for the purposes of monitoring land subsidence. In addition, three extensometers have been installed at Edwards Air Force Base to measure land subsidence directly.

More recently, DWR has entered into an agreement with TRE ALTAMIRA, a satellite imagery processing firm, to provide annual InSAR data of ground surface displacement (including land subsidence), primarily for use in development of Groundwater Sustainability Plans (GSPs). InSAR data are published on the DWR online SGMA Data Viewer (TRE ALTAMIRA, 2024). Land subsidence data are presented on **Figure 13** for two time periods: the long term change (2015-2024) and the annual change. The total land subsidence from June 2015 to October 2024 is shown on the top map and annual data for the calendar year (January 2024 -January 2025) is shown on the bottom map of **Figure 13**. Vertical displacement data measured by InSAR during this period in California are accurate within 20 mm (0.8 inches) (Towill, 2024).

These InSAR data indicate that between 2015 and 2024, subsidence of up to approximately 0.3 feet (dark orange shade areas) has occurred in the center portion of the Central Antelope Valley Subarea and in small areas in the western portion of the Rogers Lake Subarea, eastern portion of the Willow Springs Subarea, and eastern portion of the South East Subarea (top figure of **Figure 13**). In general, detectable land subsidence was concentrated in the same areas where historical subsidence had been mapped by USGS (**Figure 12**). Between January 2024 and January 2025 only relatively low detectable rates of subsidence (less than 0.1 feet) have occurred throughout the Basin (bottom figure of **Figure 13**). This may be a response to the slight rise in ground surface that was observed throughout the entire Basin in 2023.

Currently, the Watermaster Engineer is using the ongoing groundwater level monitoring program as a proxy for subsidence monitoring. If water levels are maintained above historic lows in key areas of historical subsidence, then decreasing pore pressures in previously un-compacted clay layers can be avoided. By monitoring water levels and maintaining levels above historic lows, when possible, future land subsidence from groundwater pumping can be minimized.

For future Annual Reports, the Watermaster Engineer will continue to supplement groundwater level monitoring with DWR publicly available InSAR data, assuming the continuation of the DWR contract. Due to the time lag associated with land subsidence, it is recognized that local subsidence could continue as a result of historical conditions; however,

(https://www.usgs.gov/centers/ca-water-ls/science/interferometric-synthetic-aperture-radar-insar?qt-science_center_objects=0#qt-science_center_objects).

if water levels are maintained at or above historic low levels, this subsidence can be minimized.

3.7 GROUNDWATER QUALITY

Groundwater provides a high-quality water supply for beneficial uses in the Antelope Valley groundwater basin (SNMP, 2014). Water quality data for the Basin are available from a variety of online sources that can be tracked for ongoing Basin management. Data from these monitoring programs can be accessed by the Watermaster Engineer for future analyses involving water quality concerns in local areas on an as needed basis. Some baseline water quality data are provided herein for general information only.

3.7.1 Data Sources

As part of the CASGEM monitoring plan, USGS samples a subset of Antelope Valley wells for groundwater quality. In total, about 60 USGS NWIS wells have had water quality sampled since 2010. Typically, about 10 wells are selected for chemical analyses each year, with the remaining wells sampled for specific conductance and temperature only. Data are archived online in the USGS NWIS and often reported on GAMA Geotracker.

The USGS also collects water quality data as part of the State's ongoing Groundwater Ambient Monitoring & Assessment (GAMA) Program. Data are available from the State Water Resources Control Board (SWRCB or State Board) and can be downloaded from the GAMA Groundwater Information System (SWRCB, 2024).

In addition to the USGS analyses, public water suppliers are required to sample groundwater quality in public supply wells. Each entity has groundwater quality monitoring requirements associated with its permit from the Division of Drinking Water (DDW) of the SWRCB. Data are summarized in Consumer Confidence Reports prepared annually by the water purveyors. DDW (formerly Department of Public Health) also maintains these data in a public water quality database. Several public water suppliers have also provided recent groundwater quality data to the Watermaster Engineer.

The Salt and Nutrient Management Plan for the Antelope Valley (SNMP) has developed a groundwater quality monitoring plan using wells from the SWRCB GAMA program (SNMP, 2014). The plan includes 23 wells owned and operated by established water utilities or the U.S. Air Force in central and southeast portions of the Basin. The program supplements ongoing groundwater monitoring programs by monitoring constituents associated with management goals in the Basin including TDS, nitrate, chloride, arsenic, total chromium, fluoride, and boron.

3.7.2 Constituents in Groundwater

Total dissolved solids (TDS), an indicator of overall salt and mineral content, are present in groundwater at an average concentration of 420 milligrams per liter (mg/L) (DWR, 2004; SNMP 2014). TDS concentrations in monitoring wells are higher and are excluded from this

average value. These concentrations reflect a relatively low salt content and are significantly below the California Upper Secondary maximum contaminant level (MCL)[14] of 1,000 mg/L, which is based on aesthetic effects.

Figure 14 shows a distribution of the maximum TDS concentrations in wells sampled between January 2010 and December 2024. As shown on **Figure 14**, groundwater contains relatively low TDS over most of the Basin. TDS concentrations are relatively high in the northern Basin with concentrations higher than 1,500 mg/L in a localized area in the northeast portion of the Rogers Lake Subarea and in the northeast Central Antelope Subarea. Many of the wells reporting high TDS concentrations are monitoring a regulated facility. Other local areas of elevated TDS concentrations are found in the northeastern and southern portions of the Central Antelope Valley Subarea.

Consistent with other desert basin aquifers in Southern California, natural trace elements, such as arsenic and boron, can be elevated locally in the Antelope Valley (USGS and SWRCB, 2013). In general, groundwater quality for these constituents meets drinking water standards and water quality management goals throughout most areas of the Basin (SNMP, 2014).

The distribution of two additional water quality constituents, nitrate and arsenic, were reviewed for this report. Nitrate is a naturally occurring constituent in groundwater at low concentrations; elevated concentrations are typically related to fertilizers, wastewater effluent, septic systems, animal wastes, and other sources. **Figure 15** shows a distribution of the maximum nitrate as nitrogen concentrations in wells sampled between January 2010 and December 2024. The primary MCL[15] for nitrate (as nitrogen, N) is 10 mg/L. Nitrate (as N) concentrations are above 10 mg/L in some wells in the southern portion of the Central Antelope Valley Subarea, western portion of the South East Subarea, and eastern portion of the Willow Springs Subarea. Ten of the wells with nitrate concentrations near or above 10 mg/L are drinking water supply wells and the elevated nitrate concentrations in these wells ranged from 10 mg/L to 18 mg/L (2015-2024 maximums). Elevated concentrations in drinking water wells are treated or blended with other water so that delivered water meets water quality requirements.

Arsenic occurs naturally in rocks and soil and can enter drinking water supplies from natural deposits in the earth or from agricultural and industrial practices (IRWMP, 2019)**. Figure 16** shows a distribution of the maximum arsenic concentrations in wells sampled between January 2010 and December 2024. The primary MCL for arsenic is 10 micrograms per liter (ug/L). Elevated arsenic concentrations occur in the west portion of the Central Antelope Valley Subarea, southwest portion of the West Antelope Subarea, and in monitoring wells in a concentrated area in the northeast portion of the Rogers Lake Subarea (**Figure 16**).

[14] Secondary MCLs are non-mandatory water quality standards established as guidelines to assist public water systems in managing their drinking water for aesthetic considerations such as taste, color, and odor. These standards are not health-based and do not indicate a risk to human health.
[15] A primary maximum contaminant level (MCL) is the highest level of a constituent that is allowed in drinking water.

Drinking water wells with elevated concentrations above 10 ug/L have either been shut down or the supply is blended with other water so that delivered water meets water quality requirements (IRWMP, 2019). Wellhead treatment is also an option for elevated arsenic concentrations.

3.8 SURFACE WATER QUALITY

Numerous local agencies monitor the various sources of surface water in the Adjudication Area. Collection of the quality data for imported water (SWP water), recycled water, and stormwater is ongoing; data can be compiled into the Watermaster database in the future for analysis depending on priorities and budget.

SWP water is treated at the PWD Leslie O. Carter Water Treatment Plant (WTP) for use by PWD, LCID, and AVEK. AVEK's Acton WTP is currently off-line and PWD treats AVEK's SWP water for delivery to AVEK's Acton service area under an agreement between the two agencies. SWP water is also treated at three AVEK treatment facilities (Quartz Hill WTP, Eastside WTP, and Rosamond WTP). SWP water is high quality with TDS concentrations typically in the upper 200 mg/L range. In January 2025, SWP water at Palmdale had total dissolved solids concentration of 270 mg/L and a nitrate concentration of 0.42 mg/L (nitrate as nitrogen).

Littlerock Reservoir, jointly owned by PWD and LCID, collects runoff from the San Gabriel Mountains. Water from Littlerock Reservoir discharges to Lake Palmdale and is subsequently treated at the PWD treatment plant.

Recycled water is produced at the County Sanitation Districts of Los Angeles County (LACSD) Palmdale and Lancaster water reclamation plants (WRPs), Edwards Air Force Base (EAFB) Air Force Research Laboratory Treatment Plant and the Main Base Wastewater Treatment Plant (WWTP), and the RCSD's WWTP. Tertiary treated effluent from LACSD is used for agriculture, purple pipe system (parks, landscaping, etc.), and environmental purposes. Treated water from the two EAFB plants is used only on the base.

In 2022 RCSD's WWTP completed upgrades to their facilities to include denitrification of effluent. They have the capacity to treat up to 1.26 million gallons per day (mgd) of raw wastewater to acceptable levels for disposal by percolation to groundwater. In December 2022, percolation ponds for this tertiary treated water replaced the clay-lined evaporation ponds at RCSD WWTP. The new percolation ponds are operated under a new Waste Discharge Permit and Monitoring and Reporting Plan and a Storage Agreement with the Watermaster. In 2024, nitrate as NO3 concentrations, reported quarterly, at the twelve RCSD WWTP monitoring wells ranged from 0.13 mg/L to 21 mg/L, below the 45 mg/L nitrate as NO3 MCL.

Currently, recycled water in the Antelope Valley meets most drinking water standards (SNMP, 2014). EAFB recycled water quality tends to have higher salt and nutrient concentrations (e.g., TDS, nitrate, chloride); elevated TDS and chloride concentrations have

been linked to the higher mineral content in the lower aquifer, which serves as the source water for recycled water in that area (SNMP, 2014).

3.9 GROUNDWATER PRODUCTION MONITORING AND METER INSTALLATION

The Physical Solution allocates groundwater production of the Native Safe Yield among numerous parties to the Judgment including the U.S. Federal Government, the State of California, Overlying Producers (Exhibit 4 of the Judgment), Non-Overlying Producers (Exhibit 3 of the Judgment), and members of the Small Pumper Class (see **Figure 2**). The Watermaster is continuing to collect information on locations of active wells.

Known locations of wells owned by Parties in the Judgment are shown on **Figure 17**. The map shows locations of water supply wells owned by the public water suppliers (yellow), the U.S. Federal Government (purple), the State of California (blue), and agricultural, commercial, and other landowners (green). The service areas of the public water suppliers and mutual water companies are also shown on **Figure 17** to better differentiate among the wells.

A basin-wide map showing the distribution and amounts of groundwater pumping in 2024 has been developed from information provided by Parties on their 2024 Annual Production Reports (**Figure 18**). This map includes Exhibit 4, Exhibit 3, Federal, State, Non-Stipulating, and New Production Parties. It also includes production for the recovery of stored water. Only wells with known locations (most by APNs) are shown on the map. The large red circles indicate areas where production is over 1,000 AF in 2024 and can represent more than one well in close proximity. The slightly smaller orange circles designate areas where production ranged from 100 to 1,000 AFY, while yellow circles indicate areas where production was between 50 and 100 AFY. Green circles indicate areas with production greater than 0 but less than 50 and blue circles indicate wells that did not produce anything in 2024. As indicated on **Figure 18**, groundwater pumping occurs throughout the Basin with the most concentrated area of pumping in the eastern half of the Central Antelope Valley Subarea. Production totals for the Basin and by Party are included in the water accounting discussions in **Section 5** of this report, along with various related appendices.

The open purple circles on **Figure 18** represent wells where 2024 production has not yet been reported and only includes wells with known locations. A list of outstanding production reports is included in **Appendix M-2**. **Section 5.3** discusses the status of production reporting.

Table 6 shows the percentage of total reported production in 2024 by Subarea for the wells shown on **Figure 18. Table 6** also shows the distribution of Production Rights (for Exhibit 3, Exhibit 4, Federal, and State Parties) and Carry Over Water (Exhibit 3, Exhibit 4, and State Parties). The values shown in this table include the recovery of stored water. Some parties have active wells in multiple Subareas. Their Production Right and Carry Over Water volumes were attributed to each Subarea in proportion to their 2024 production volume for these calculations.

In 2024 over two-thirds of the total Basin production occurred in the Central Antelope Valley Subarea. Several parties reported their production but have not confirmed their well location. Overall production in 2024 was less than the sum of Production Rights. The total production in the Central Antelope Subarea, including reported New Production and the recovery of stored water, in each Subarea in 2024 was higher than the Production Right assigned to the Subarea. This is largely due to the use of imported water return flows, unused Federal Reserved Rights, and Carry Over. This also includes production by Non-Stipulating Parties, New Production parties, and others with rights to produce outside of the Native Safe Yield. Most of the Production Rights and Carry Over in the 'Unknown or No Point of Extraction' category are due to parties that intend to use their water for investment purposes and have not yet identified a point of extraction.

Carry Over water, shown in **Table 6**, includes water received through one-time transfers in 2024 or earlier. In general, the distribution of Carry Over water reflects the distribution of Production Rights by Subarea. A higher percentage of Carry Over water is located in the South East Subarea, compared to the Production Right percentages. More discussion of Carry Over Water, including a comparison of Carry Over by Subarea each year, is in **Section 5.5**.

Table 6. 2024 Production, Production right, and Carry Over by Subarea

	2024 Production	Percent Production	Production Right	Percent Production Right	Carry Over for use in 2024	Percent Carry Over
Central Antelope Valley Subarea	46,321	70%	44,676	55%	142,826	52%
Rogers Lake Subarea	2,301	3%	7,214	9%	13,154	5%
South East Subarea	9,940	15%	9,771	12%	20,672	8%
West Antelope Subarea	6,240	9%	14,526	18%	74,979	28%
Willow Springs Subarea	1,805	3%	2,428	3%	5,878	2%
Unknown or No Point of Extraction	22	0%	1,930	2%	14,821	5%

Figure 19 shows the resulting 2,380 known Small Pumpers as of early June 2025 and includes about 91 Unknown Small Pumpers (as referred to in the Judgment), who have now qualified as Small Pumpers. No new parties qualified as Small Pumpers in 2024.

3.9.1 Production Monitoring and Metering

The Judgment requires the Watermaster Engineer to monitor safe yield components, including groundwater production, and to ensure that reductions in pumping take place pursuant to the terms of the Judgment (¶18.5.2). Since 2018, production monitoring (i.e., reporting) has included documentation of how each Party measures the reported production. Although production in public water supply wells is measured directly with well meters, many of the agricultural and other wells in the Basin did not historically install

meters. As such, reported production for those wells has historically been estimated using a variety of methods including electrical records or crop consumption data.

As stated by the Judgment, all Parties (except the Small Pumper Class) have been required to install meters on their wells by December 23, 2017 (within two years after the Judgment) to measure production directly. The Watermaster requested and was granted an extension to March 1, 2018 to complete the required meter installation. The Watermaster Engineer has developed Rules and Regulations providing guidance and requirements for selection, installation, and testing of well meters. The approved Rules and Regulations are posted on the Watermaster website.

To ensure that meters were properly installed, the Watermaster Engineer has selected numerous contractors and qualified personnel as Pre-Qualified Meter Installers. All Pre-Qualified Meter Installers were required to comply with consistent reporting and documentation of new meter installations. In addition, the rules required documentation of existing well meters to ensure that all wells were metered in compliance with the regulations. The requirements also allow for a variance in the rules if well owners can demonstrate that an alternative meter installation will result in accurate production monitoring. Materials related to the meter requirements are available on the Watermaster website, including the pertinent Rules and Regulations, and the list of pre-approved meter installers and testers.

Administrative staff, Watermaster Counsel, and the Watermaster Engineer are working together on enforcement to achieve full compliance with meter requirements. Administrative staff maintains a list of non-compliant Parties for reporting to the Board. The Watermaster Board expressed a renewed interest in metering and reporting compliance enforcement in 2023. In 2024, the Watermaster Engineer conducted a detailed review and update of its database to include metering compliance and reporting by party and sent parties emails informing them of their metering compliance status.

3.9.2 Small Pumper Class Production Monitoring

The Judgment defined a Small Pumper Class of Producers as “all private (i.e., non-governmental) Persons and entities that own real property within the Basin, as adjudicated, and that have been pumping less than 25 acre-feet per Year on their property during any Year from 1946 to the present” (¶3.5.44). The Judgment allows any Small Pumper Class Member to produce up to 3 AFY for reasonable and beneficial use on their overlying land without being subject to a Replacement Water Assessment (¶5.1.3).

As mentioned above, the list of known Small Pumpers in the Judgment *(Exhibit A to Judgment Approving Small Pumper Class Action Settlements: List of Known Small Pumper Class Members for Final Judgment)* was reviewed to eliminate duplicates and to eliminate properties that receive water from a water district. The resulting list of known Small Pumpers totals 2,289. As mentioned above, an additional 91 Qualifying Small Pumpers have been identified since the Judgment was finalized, increasing the list of Small Pumpers to

2,380. These Small Pumpers are listed on the Notice list in **Appendix L** and are shown on **Figure 19**.

In May 2020, Administrative Staff mailed Administrative Assessment invoices to over 4,000 potential Small Pumper parcels, however, as mentioned before, many of these were duplicates or receive water from a water district. The current list of Small Pumpers totals 2,378. The invoices covered 2016 to 2020 Administrative Assessments based on an average production of 1.2 AFY per existing household or parcel (¶5.1.3). Each invoice was for $25.20. In addition to an invoice, each Small Pumper parcel also received a Small Pumper Information form to complete and return to the Watermaster with the invoice payment. The information form includes contact information, APN, and parcel address; this information was used to update the current Small Pumper list. As of June 2024, records show that 923 Small Pumpers have submitted invoice payments for a total of $ 23,196.96[16]. Another round of invoices for Small Pumper Administrative Assessments will be sent in 2025.

The Judgment states that the "primary means for monitoring the Small Pumper Class Members' Groundwater use…will be based on physical inspection by the Watermaster, including the use of aerial photographs and satellite imagery" (¶5.1.3.2). The Watermaster Engineer and Watermaster Counsel have been made aware of multiple Small Pumpers that appeared to be producing groundwater in excess of the maximum amount. As those parties have been identified, the Administrative Staff and Watermaster Counsel have contacted each, worked to obtain relevant data, eliminate any over-production under the Judgment, and require payment of assessments and other steps to bring them into compliance with the Judgment. Should the Watermaster develop a reasonable belief that any Small Pumper Class Member is using in excess of 3 AFY, the Watermaster can require, among other actions, the well owner to install a meter at the well owner's expense.

Starting in 2022, the Watermaster uses data from OpenET to assess potential water use on small pumper parcels. OpenET is a tool developed by a consortium of private and public partners and led by Environmental Defense Fund, NASA, Desert Research Institute, and HabitatSeven. The tool utilizes satellite-based estimates of the total ET by month by parcel. The data are available at a spatial resolution of 30 meters by 30 meters (0.22 acres per pixel). OpenET publishes data from remote sensing using a variety of methods. For this analysis the Watermaster is using the METRIC algorithm. **Figure 20** shows the estimated ET over the basin using OpenET. The darker areas indicate larger ET rates and are most likely irrigated agriculture. In the 2022 Annual Report, nineteen small pumper parcels were identified as using over 3 AFY and were investigated to see if irrigation on the parcel is from another metered source. In 2023, two small pumpers were identified as potentially overpumping in 2023. The analysis excluded Small Pumpers who are believed to also have Exhibit 4 rights or are believed to be receiving imported water. OpenET data were utilized in December 2024 to identify potential illegal pumping in the Western Antelope Subarea.

[16] Each invoice was for $25.20 based on an annual production of 1.2 AF and Administrative Assessments of $1 for 2016 and $5 for 2017 through 2020. Some Small Pumpers only paid for the years they owned the property.

3.9.3 2024 Land Use Monitoring

To provide a Basin-wide perspective for groundwater use, land use in the Adjudication Area has been incorporated into the monitoring program. Land use acreage from Department of Water Resources (DWR) and the Kern County Agricultural Commissioner and ET data from remote sensing on the OpenET[17] portal are used to estimate land use and areas of agricultural water use. The ET data for calendar year 2024 (**Figure 20**) allow for an estimation of irrigated agricultural lands, especially alfalfa fields as indicated by the dark blue circles in the Basin. These new data sets are publicly available and identify water use areas more accurately than the color-infrared aerial photographs shown in previous annual reports. As shown on the figure, most of the irrigated agriculture is indicated in the eastern half of the Central Antelope Subarea. Additional agriculture also occurs throughout the remainder of the Basin, with some fields visible on aerial photographs but not being irrigated as of the date of the ET data set on **Figure 20**. Limited change has occurred since last year. A comparison of **Figure 20** with **Figure 17** indicates a reasonable correlation between the location of agricultural wells and the higher ET values indicating irrigated fields across the Basin.

To standardize the tracking of irrigated agriculture across the basin, land use from the DWR was used. Land use maps are available for California for 2014, 2016, 2018, 2019, 2020, and 2021, 2022, and 2023. Only provisional data from the DWR LandUse Viewer were available for 2023 land use, and 2024 DWR LandUse Viewer data were not available. The number of acres associated with irrigated agriculture is shown in **Table 9** for each year since the Final Judgment (comparable data were unavailable for 2017). For 2024 agricultural acreage values, Kern County acreages are from the Department of Agriculture and Measurement Standards annual GIS crop maps. It was assumed that LA County acreages were the same as the DWR values in 2023.

By relying on the same DWR land use data sets for both counties, land use estimates are more accurate, comprehensive, and consistent over time than compiling information from each county separately. This data set replaces the previous land use data sets that had been estimated from other sources including the Kern County Department of Agriculture and Measurement Standards annual GIS crop maps and the Los Angeles County Pesticide and Restricted Material Permits from the Los Angeles County Agricultural Commissioner / Weights & Measures. The new data indicate a larger area of agricultural lands in LA County than in previous annual reports because the pesticide permit data used in previous reports underrepresented total acreage. In particular, the pesticide permit data excluded some lands used for pasture and grain production, which may not use pesticides.

[17] OpenET remote sensing data has been developed by a team of leading national and international experts in remote sensing of ET, cloud computing, water policy, and water markets in collaboration with USGS, NASA, USDA, EDF, major universities and others; see additional information at openetdata.org/about/.

As indicated on the last row of **Table 7**, the number of irrigated agricultural acres in the Basin decreased from 2016 to 2023 by about 65 and 33 percent, for Kern and LA County respectively. Key changes include reduced acreage for pasture and truck crops in Kern County and a significant decrease in pasture (alfalfa) acreage in LA County. Over the past few years, the acreage of alfalfa in LA county and idle agricultural areas have varied from 3,155 acres (2022) to 6,576 acres (2018) while acreages for truck, deciduous, and other crop types have remained steady in both counties. As Rampdown has been completed, we anticipate acreages to remain fairly steady, with a possible variation in alfalfa production based on hydrologic conditions.

The acreages from the DWR data (**Table 7**) align with the total agricultural acreage shown by the publicly available ET data (METRIC model) in **Figure 20**. These combined data sets will provide a more reliable data set for assessing water use in the Basin, screening for potential illegal pumping, and monitoring Small Pumper class production in future annual reports, as required by the Judgment. Land use data are also being incorporated into the Basin groundwater model (under development).

Table 7. DWR Estimated Agricultural Acreage in the Antelope Valley

County	Crop Type	2016	2017*	2018	2019	2020	2021	2022	2023	2024**
Kern	Deciduous	408	-	414	414	414	414	411	409	409
Kern	Field			266			106		0	
Kern	Grain	825	-	271	204	276	0			
Kern	Pasture	1,165	-	351	198	198	198	198	74	80
Kern	Truck	1,178	-	409	544	526	237	260	437	718
Kern	Vineyard	5	-	5	5	5	5	5	5	7
Kern	Idle	636	-	2,062	2,260	2,454	2,111	2,716	2,576	NA
Kern	Young Deciduous				153					
Los Angeles	Citrus			21	21	21	17	17	17	17
Los Angeles	Deciduous	413	-	350	346	333	349	252	258	258
Los Angeles	Field	117	-	16	166	20		92	254	254
Los Angeles	Grain	496	-	4,069	6,378	5,600	6,764	3,155	4,371	4,371
Los Angeles	Pasture	13,882	-	6,576	6,079	5,673	5,258	4,845	5,238	5,238
Los Angeles	Truck	2,195	-	4,134	3,240	3,446	3,091	3,080	3,102	3,102
Los Angeles	Vineyard	64	-	72	49	49	50	47	90	90
Los Angeles	Idle	7,078	-	10,025	8,832	10,137	9,284	12,272	11,535	11,535
Los Angeles	Young Deciduous	6	-				4	6	0	0
Kern	**Total (Active Ag)**	**3,582**	**-**	**1,716**	**1,518**	**1,419**	**960**	**875**	**925**	**1,214**
LA	**Total (Active Ag)**	**17,174**	**-**	**15,238**	**16,279**	**15,142**	**15,534**	**11,495**	**13,330**	**13,330**
Total	**Total (Active Ag)**	**20,756**	**-**	**16,955**	**17,798**	**16,561**	**16,493**	**12,369**	**14,255**	**14,544**

*No comparable land use data were available for 2017

**DWR Land Use data not yet available, Assumed same as 2023 for LA County. Used Kern County Department of Agriculture and Measurement Standards data for 2024 Kern County.

Data from DWR LandUse Viewer (including 2023 Provisional Data)

Appendix B

American Water Works Association Water Audit Results

ARDURRA

AWWA Free Water Audit Software:
Reporting Worksheet

WAS v5.0
American Water Works Association.
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? Click to access definition
+ Click to add a comment

Water Audit Report for: Quartz Hill Water District (CA1910130)
Reporting Year: 2021 7/2020 - 6/2021

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: ACRE-FEET PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

Master Meter and Supply Error Adjustments

WATER SUPPLIED

<---------- Enter grading in column 'E' and 'J' ---------->

					Pcnt:	Value:	
Volume from own sources:	9	2,128.150	acre-ft/yr	3			acre-ft/yr
Water imported:	5	2,855.710	acre-ft/yr	3			acre-ft/yr
Water exported:	n/a	0.000	acre-ft/yr				acre-ft/yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 4,983.860 acre-ft/yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

				Pcnt:	Value:	
Billed metered:	7	4,774.040	acre-ft/yr			
Billed unmetered:	n/a	0.000	acre-ft/yr			
Unbilled metered:	n/a	0.000	acre-ft/yr			
Unbilled unmetered:	3	11.935	acre-ft/yr		11.935	acre-ft/yr

Use buttons to select percentage of water supplied **OR** value

AUTHORIZED CONSUMPTION: 4,785.975 acre-ft/yr

WATER LOSSES (Water Supplied - Authorized Consumption) 197.885 acre-ft/yr

Apparent Losses

				Pcnt:	Value:	
Unauthorized consumption:		12.460	acre-ft/yr	0.25%		acre-ft/yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	8	23.990	acre-ft/yr	0.50%		acre-ft/yr
Systematic data handling errors:		11.935	acre-ft/yr	0.25%		acre-ft/yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: 48.385 acre-ft/yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 149.500 acre-ft/yr

WATER LOSSES: 197.885 acre-ft/yr

NON-REVENUE WATER

NON-REVENUE WATER: 209.820 acre-ft/yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	9	98.9	miles
Number of active AND inactive service connections:	10	5,827	
Service connection density:		59	conn./mile main

Are customer meters typically located at the curbstop or property line? Yes

Average length of customer service line: (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: 7 72.0 psi

COST DATA

Total annual cost of operating water system:	10	$5,140,712	$/Year	
Customer retail unit cost (applied to Apparent Losses):	10	$1.91	$/100 cubic feet (ccf)	
Variable production cost (applied to Real Losses):	7	$426.99	$/acre-ft	☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 73 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Water imported
2: Billed metered
3: Unauthorized consumption

AWWA Free Water Audit Software:
System Attributes and Performance Indicators

WAS v5.0
American Water Works Association.
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Water Audit Report for: Quartz Hill Water District (CA1910130)
Reporting Year: 2021 | 7/2020 - 6/2021

*** YOUR WATER AUDIT DATA VALIDITY SCORE IS: 73 out of 100 ***

System Attributes:

	Apparent Losses:	48.385	acre-ft/yr
+	Real Losses:	149.500	acre-ft/yr
=	**Water Losses:**	**197.885**	acre-ft/yr
?	Unavoidable Annual Real Losses (UARL):	113.64	acre-ft/yr
	Annual cost of Apparent Losses:	$40,256	
	Annual cost of Real Losses:	$63,835	Valued at **Variable Production Cost**

Return to Reporting Worksheet to change this assumpiton

Performance Indicators:

Financial:	Non-revenue water as percent by volume of Water Supplied:	4.2%	
	Non-revenue water as percent by cost of operating system:	2.1%	Real Losses valued at Variable Production Cost
Operational Efficiency:	Apparent Losses per service connection per day:	7.41	gallons/connection/day
	Real Losses per service connection per day:	22.90	gallons/connection/day
	Real Losses per length of main per day*:	N/A	
	Real Losses per service connection per day per psi pressure:	0.32	gallons/connection/day/psi
	From Above, Real Losses = Current Annual Real Losses (CARL):	149.50	acre-feet/year
?	Infrastructure Leakage Index (ILI) [CARL/UARL]:	1.32	

* This performance indicator applies for systems with a low service connection density of less than 32 service connections/mile of pipeline

AWWA Free Water Audit Software:
Reporting Worksheet

WAS v5.0

American Water Works Association.
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? Click to access definition
+ Click to add a comment

Water Audit Report for: Quartz Hill Water District (CA1910130)
Reporting Year: 2022 | 7/2021 - 6/2022

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: ACRE-FEET PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

Master Meter and Supply Error Adjustments

WATER SUPPLIED

<---------- Enter grading in column 'E' and 'J' ---------->

					Pcnt:	Value:	
Volume from own sources:	7	1,988.520	acre-ft/yr	3			acre-ft/yr
Water imported:	5	2,652.880	acre-ft/yr	3			acre-ft/yr
Water exported:	n/a	0.000	acre-ft/yr				acre-ft/yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 4,641.400 acre-ft/yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

				Pcnt:	Value:	
Billed metered:	7	4,491.950	acre-ft/yr			
Billed unmetered:	n/a	0.000	acre-ft/yr			
Unbilled metered:	n/a	0.000	acre-ft/yr			
Unbilled unmetered:	3	11.230	acre-ft/yr		11.230	acre-ft/yr

Use buttons to select percentage of water supplied **OR** value

AUTHORIZED CONSUMPTION: 4,503.180 acre-ft/yr

WATER LOSSES (Water Supplied - Authorized Consumption) 138.220 acre-ft/yr

Apparent Losses

				Pcnt:	Value:	
Unauthorized consumption:		11.604	acre-ft/yr	0.25%		acre-ft/yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	7	22.573	acre-ft/yr	0.50%		acre-ft/yr
Systematic data handling errors:		11.230	acre-ft/yr	0.25%		acre-ft/yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: 45.406 acre-ft/yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 92.814 acre-ft/yr

WATER LOSSES: 138.220 acre-ft/yr

NON-REVENUE WATER

NON-REVENUE WATER: 149.450 acre-ft/yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	10	98.9	miles
Number of active AND inactive service connections:	10	5,880	
Service connection density:		59	conn./mile main

Are customer meters typically located at the curbstop or property line? Yes

Average length of customer service line: (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: 7 | 72.0 psi

COST DATA

Total annual cost of operating water system:	10	$5,126,001	$/Year	
Customer retail unit cost (applied to Apparent Losses):	10	$1.88	$/100 cubic feet (ccf)	
Variable production cost (applied to Real Losses):	7	$530.28	$/acre-ft	☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 70 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Water imported
2: Volume from own sources
3: Billed metered

AWWA Free Water Audit Software:
System Attributes and Performance Indicators

WAS v5.0
American Water Works Association.
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Water Audit Report for: Quartz Hill Water District (CA1910130)
Reporting Year: 2022 | 7/2021 - 6/2022

*** YOUR WATER AUDIT DATA VALIDITY SCORE IS: 70 out of 100 ***

System Attributes:

	Apparent Losses:	45.406	acre-ft/yr
+	Real Losses:	92.814	acre-ft/yr
=	**Water Losses:**	**138.220**	acre-ft/yr
?	Unavoidable Annual Real Losses (UARL):	114.29	acre-ft/yr
	Annual cost of Apparent Losses:	$37,184	
	Annual cost of Real Losses:	$49,217	Valued at **Variable Production Cost**

Return to Reporting Worksheet to change this assumpiton

Performance Indicators:

Financial:	Non-revenue water as percent by volume of Water Supplied:	3.2%	
	Non-revenue water as percent by cost of operating system:	1.8%	Real Losses valued at Variable Production Cost
Operational Efficiency:	Apparent Losses per service connection per day:	6.89	gallons/connection/day
	Real Losses per service connection per day:	14.09	gallons/connection/day
	Real Losses per length of main per day*:	N/A	
	Real Losses per service connection per day per psi pressure:	0.20	gallons/connection/day/psi
	From Above, Real Losses = Current Annual Real Losses (CARL):	92.81	acre-feet/year
?	Infrastructure Leakage Index (ILI) [CARL/UARL]:	0.81	

* This performance indicator applies for systems with a low service connection density of less than 32 service connections/mile of pipeline

AWWA Free Water Audit Software: Worksheet

FWAS v6.0

American Water Works Association.

Water Audit Report for: Quartz Hill Water District

Audit Year: 2023 | Jul 01 2022 - Jun 30 2023 | Fiscal

Click 'n' to add notes

Click 'g' to determine data validity grade

To edit water system info: go to start page

To access definitions, click the input name

All volumes to be entered as: ACRE-FEET PER YEAR

Water Supplied Error Adjustments

WATER SUPPLIED

		n	g				n	g		choose entry option:		
VOS	Volume from Own Sources:	n	g	7	1,844.560	Acre-ft/Yr	n	g	8		percent	VOSEA
WI	Water Imported:	n	g	5	2,081.680	Acre-ft/Yr	n	g	3		percent	WIEA
WE	Water Exported:	n	g	n/a	0.000	Acre-ft/Yr						WEEA
	WATER SUPPLIED:				3,926.240	Acre-ft/Yr						

AUTHORIZED CONSUMPTION

							choose entry option:		
BMAC	Billed Metered:	n	g	8	3,819.050	Acre-ft/Yr			
BUAC	Billed Unmetered:	n	g	n/a	0.000	Acre-ft/Yr			
UMAC	Unbilled Metered:	n	g	n/a	0.000	Acre-ft/Yr			
UUAC	Unbilled Unmetered:	n	g	3	9.548	Acre-ft/Yr	0.25%	default	

Default option selected for Unbilled Unmetered, with automatic data grading of 3

AUTHORIZED CONSUMPTION: 3,828.598 Acre-ft/Yr

WATER LOSSES

97.642 Acre-ft/Yr

Apparent Losses

Default option selected for Systematic Data Handling Errors, with automatic data grading of 3

							choose entry option:		
SDHE	Systematic Data Handling Errors:	n	g	3	9.548	Acre-ft/Yr	0.25%	default	
CMI	Customer Metering Inaccuracies:	n	g	6	19.191	Acre-ft/Yr	0.50%	percent	under-registration
UC	Unauthorized Consumption:	n	g	3	9.548	Acre-ft/Yr	0.25%	default	

Default option selected for Unauthorized Consumption, with automatic data grading of 3

Apparent Losses: 38.286 Acre-ft/Yr

Real Losses

Real Losses: 59.356 Acre-ft/Yr

WATER LOSSES: 97.642 Acre-ft/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 107.190 Acre-ft/Yr

SYSTEM DATA

Lm	Length of mains:	n	g	10	98.9	miles	(including fire hydrant lead lengths)
Nc	Number of service connections:	n	g	10	5,892		(active *and* inactive)
	Service connection density:				60	conn./mile main	

Are customer meters typically located at the curbstop/property line? Yes

Lp: n g 10

Average length of customer service line has been set to zero and a data grading of 10 has been applied

AOP: Average Operating Pressure: n g 7 72.0 psi

COST DATA

CRUC	Customer Retail Unit Charge:	n	g	10	$1.85	$/100 cubic feet (ccf)	Total Annual Operating Cost	
VPC	Variable Production Cost:	n	g	10	$699.00	$/acre-ft	$5,356,527	$/yr (optional input)

WATER AUDIT DATA VALIDITY TIER:

***** The Water Audit Data Validity Score is in Tier IV (71-90). See Dashboard tab for additional outputs. *****

go to dashboard

A weighted scale for the components of supply, consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION TO IMPROVE DATA VALIDITY:

Based on the information provided, audit reliability can be most improved by addressing the following components:

1: Water Imported (WI)

2: Volume from Own Sources (VOS)

3: Billed Metered (BMAC)

KEY PERFORMANCE INDICATOR TARGETS:

OPTIONAL: If targets exist for the operational performance indicators, they can be input below:

Unit Total Losses:		gal/conn/day
Unit Apparent Losses:		gal/conn/day
Unit Real Losses[^]:		gal/conn/day
Unit Real Losses[=]:		gal/mile/day

If entered above by user, targets will display on KPI gauges (see Dashboard)

AWWA Free Water Audit Software: Worksheet

FWAS v6.0

American Water Works Association.

Water Audit Report for: Quartz Hill Water District

Audit Year: 2024 | Jul 01 2023 - Jun 30 2024 | Fiscal

Click 'n' to add notes

Click 'g' to determine data validity grade

To edit water system info: go to start page

To access definitions, click the input name

All volumes to be entered as: ACRE-FEET PER YEAR

Water Supplied Error Adjustments

WATER SUPPLIED

		n	g				n	g		choose entry option:		
VOS	Volume from Own Sources:	n	g	8	1,832.570	Acre-ft/Yr	n	g	8		percent	VOSEA
WI	Water Imported:	n	g	5	2,318.060	Acre-ft/Yr	n	g	3		percent	WIEA
WE	Water Exported:	n	g	n/a	0.000	Acre-ft/Yr						WEEA
	WATER SUPPLIED:				4,150.630	Acre-ft/Yr						

AUTHORIZED CONSUMPTION

							choose entry option:	
BMAC	Billed Metered:	n	g	8	4,060.930	Acre-ft/Yr		
BUAC	Billed Unmetered:	n	g	n/a	0.000	Acre-ft/Yr		
UMAC	Unbilled Metered:	n	g	n/a	0.000	Acre-ft/Yr		
UUAC	Unbilled Unmetered:	n	g	3	10.152	Acre-ft/Yr	0.25%	default

Default option selected for Unbilled Unmetered, with automatic data grading of 3

AUTHORIZED CONSUMPTION: 4,071.082 Acre-ft/Yr

WATER LOSSES

79.548 Acre-ft/Yr

Apparent Losses

Default option selected for Systematic Data Handling Errors, with automatic data grading of 3

							choose entry option:		
SDHE	Systematic Data Handling Errors:	n	g	3	10.152	Acre-ft/Yr	0.25%	default	
CMI	Customer Metering Inaccuracies:	n	g	6	20.407	Acre-ft/Yr	0.50%	percent	under-registration
UC	Unauthorized Consumption:	n	g	3	10.152	Acre-ft/Yr	0.25%	default	

Default option selected for Unauthorized Consumption, with automatic data grading of 3

Apparent Losses: 40.711 Acre-ft/Yr

Real Losses

Real Losses: 38.836 Acre-ft/Yr

WATER LOSSES: 79.548 Acre-ft/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 89.700 Acre-ft/Yr

SYSTEM DATA

Lm	Length of mains:	n	g	10	98.9	miles	(including fire hydrant lead lengths)
Nc	Number of service connections:	n	g	10	5,896		(active *and* inactive)
	Service connection density:				60	conn./mile main	

Are customer meters typically located at the curbstop/property line? Yes

Lp: n | g | 10

Average length of customer service line has been set to zero and a data grading of 10 has been applied

AOP: Average Operating Pressure: n | g | 7 | 72.0 psi

COST DATA

CRUC	Customer Retail Unit Charge:	n	g	10	$1.80	$/100 cubic feet (ccf)	Total Annual Operating Cost	
VPC	Variable Production Cost:	n	g	10	$752.00	$/acre-ft	$5,741,440	$/yr (optional input)

WATER AUDIT DATA VALIDITY TIER:

***** The Water Audit Data Validity Score is in Tier IV (71-90). See Dashboard tab for additional outputs. *****

go to dashboard

A weighted scale for the components of supply, consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION TO IMPROVE DATA VALIDITY:

Based on the information provided, audit reliability can be most improved by addressing the following components:

1: Water Imported (WI)

2: Billed Metered (BMAC)

3: Volume from Own Sources (VOS)

KEY PERFORMANCE INDICATOR TARGETS:

OPTIONAL: If targets exist for the operational performance indicators, they can be input below:

Unit Total Losses:		gal/conn/day
Unit Apparent Losses:		gal/conn/day
Unit Real Losses[^]:		gal/conn/day
Unit Real Losses[=]:		gal/mile/day

If entered above by user, targets will display on KPI gauges (see Dashboard)

AWWA Free Water Audit Software: Worksheet

FWAS v6.0

American Water Works Association.

Water Audit Report for: Quartz Hill Water District

Audit Year: 2025 | Jul 01 2024 - Jun 30 2025 | Fiscal

Click 'n' to add notes

Click 'g' to determine data validity grade

To edit water system info: go to start page

To access definitions, click the input name

All volumes to be entered as: ACRE-FEET PER YEAR

Water Supplied Error Adjustments

WATER SUPPLIED

		n	g				n	g				
VOS	Volume from Own Sources:	n	g	7	1,846.860	Acre-ft/Yr	n	g	8		percent	VOSEA
WI	Water Imported:	n	g	5	2,878.050	Acre-ft/Yr	n	g	3		percent	WIEA
WE	Water Exported:	n	g	n/a	0.000	Acre-ft/Yr						WEEA
	WATER SUPPLIED:				4,724.910	Acre-ft/Yr						

AUTHORIZED CONSUMPTION

		n	g				choose entry option:	
BMAC	Billed Metered:	n	g	8	4,589.670	Acre-ft/Yr		
BUAC	Billed Unmetered:	n	g	n/a	0.000	Acre-ft/Yr		
UMAC	Unbilled Metered:	n	g	n/a	0.000	Acre-ft/Yr		
UUAC	Unbilled Unmetered:	n	g	3	11.474	Acre-ft/Yr	0.25%	default

Default option selected for Unbilled Unmetered, with automatic data grading of 3

AUTHORIZED CONSUMPTION: 4,601.144 Acre-ft/Yr

WATER LOSSES

123.766 Acre-ft/Yr

Apparent Losses

Default option selected for Systematic Data Handling Errors, with automatic data grading of 3

		n	g				choose entry option:		
SDHE	Systematic Data Handling Errors:	n	g	3	11.474	Acre-ft/Yr	0.25%	default	
CMI	Customer Metering Inaccuracies:	n	g	6	23.064	Acre-ft/Yr	0.50%	percent	under-registration
UC	Unauthorized Consumption:	n	g	3	11.474	Acre-ft/Yr	0.25%	default	

Default option selected for Unauthorized Consumption, with automatic data grading of 3

Apparent Losses: 46.012 Acre-ft/Yr

Real Losses

Real Losses: 77.754 Acre-ft/Yr

WATER LOSSES: 123.766 Acre-ft/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 135.240 Acre-ft/Yr

SYSTEM DATA

		n	g				
Lm	Length of mains:	n	g	10	98.9	miles	(including fire hydrant lead lengths)
Nc	Number of service connections:	n	g	10	5,901		(active *and* inactive)
	Service connection density:				60	conn./mile main	

Are customer meters typically located at the curbstop/property line? Yes

Lp: n g 10

Average length of customer service line has been set to zero and a data grading of 10 has been applied

AOP: Average Operating Pressure: n g 7 72.0 psi

COST DATA

		n	g				
CRUC	Customer Retail Unit Charge:	n	g	10	$1.91	$/100 cubic feet (ccf)	
VPC	Variable Production Cost:	n	g	10	$790.00	$/acre-ft	

Total Annual Operating Cost: $5,913,836 $/yr (optional input)

WATER AUDIT DATA VALIDITY TIER:

***** The Water Audit Data Validity Score is in Tier III (51-70). See Dashboard tab for additional outputs. *****

go to dashboard

A weighted scale for the components of supply, consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION TO IMPROVE DATA VALIDITY:

Based on the information provided, audit reliability can be most improved by addressing the following components:

1: Water Imported (WI)

2: Volume from Own Sources (VOS)

3: Billed Metered (BMAC)

KEY PERFORMANCE INDICATOR TARGETS:

OPTIONAL: If targets exist for the operational performance indicators, they can be input below:

Unit Total Losses: gal/conn/day

Unit Apparent Losses: gal/conn/day

Unit Real Losses[A]: gal/conn/day

Unit Real Losses[B]: gal/mile/day

If entered above by user, targets will display on KPI gauges (see Dashboard)

Appendix C

SB X7-7 Verification Form Submitted for the 2020 UWMP

ARDURRA

SB X7-7 Verification Form

The SB X7-7 Verification Form is for the calculation of baselines and targets. Most Suppliers will have completed this form with their 2015 UWMP and do not need to complete this form again in 2020. See Chapter 5 Section 5.3 of the UWMP Guidebook for more information regarding which Suppliers must, or may, complete this form for their 2020 UWMP. 2020 compliance calculations are done in the SB X7-7 2020 Compliance Form.

The SB X7-7 2020 Compliance Form is for the calculation of 2020 compliance and is a separate workbook from the SB X7-7 Verification Form. All retail suppliers must submit the SB X7-7 2020 Compliance Form. Baselines and targets are done in the SB X7-7 Verification Form.

WUE Data Portal Entry Exceptions

The data from the tables below will not be entered into WUE Data Portal tables. These tables will be submitted as separate uploads, in Excel, to WUE Data Portal.

Process Water Deduction
SB X7-7 tables 4-C, 4-C.1, 4-C.2, 4-C.3, 4-C.4 and 4-D
A supplier that will use the process water deduction will complete the appropriate tables in Excel, submit them as a separate upload to the WUE Data Portal, and include them in its UWMP.

Target Method 2
SB X7-7 Tables 7-B, 7-C, and 7-D
A supplier using Target Method 2 will complete these tables in Excel and submit them as a separate upload to the WUE Data Portal and include them in its UWMP.

Target Method 4
These tables are not in the SB X7-7 Verification Form, but are found in WUE Data Portal using the*Resources* button. A supplier using Target Method 4 will complete these tables in Excel and submit them as a separate upload to the WUE Data Portal and include them in its UWMP.

Where to Submit?

Suppliers submit the completed table data and UWMPs (including the Water Shortage Contingency Plan) electronically through the WUE Data Portal (https://wuedata.water.ca.gov/). The portal will be updated in Spring 2021 and will be announced to the urban listserv, DWR webpage and WUE Data Portal opening page when it is available for plan and table submittals.

Unlocking Templates (use with caution)

The templates provided in this workbook are formated to mirror the structure of information that is submitted through the WUE Data Portal for the electronic submission of Submittal Tables in the UWMP. The tables are offered in a protected (locked) version to maintain the structure of the templates. However, for those needing to adjust the tables for their own planning needs beyond the Submittal Tables, the password to 'unprotect' each worksheet is 'dwr' (no quotes). To unprotect the worksheet, go to the Review tab, select Unprotect Sheet, and enter the password 'dwr' in the pop-up (no quotes). Preparers will still need to submit the information using the original template structure provided. To redownload the templates in their original format, visit https://wuedata.water.ca.gov in the Resources button of the Urban Water Management Plan section (no login necessary).

SB X7-7 Table 0: Units of Measure Used in UWMP* *(select one from the drop down list)*
Acre Feet
**The unit of measure must be consistent with Submittal Table 2-3*
NOTES:

SB X7-7 Table-1: Baseline Period Ranges			
Baseline	**Parameter**	**Value**	**Units**
10- to 15-year baseline period	2008 total water deliveries	6,498	Acre Feet
	2008 total volume of delivered recycled water	-	Acre Feet
	2008 recycled water as a percent of total deliveries	0%	**See Note 1**
	Number of years in baseline period[1, 2]	10	Years
	Year beginning baseline period range	1995	
	Year ending baseline period range[3]	2004	
5-year baseline period	Number of years in baseline period	5	Years
	Year beginning baseline period range	2003	
	Year ending baseline period range[4]	2007	

[1] *If the 2008 recycled water delivery is less than 10 percent of total water deliveries, then the 10-15year baseline period is a continuous 10-year period. If the amount of recycled water delivered in 2008 is 10 percent or greater of total deliveries, the 10-15 year baseline period is a continuous 10- to 15-year period.*

[2] *The Water Code requires that the baseline period is between 10 and 15 years. However, DWR recognizes that some water suppliers may not have the minimum 10 years of baseline data.*

[3] *The ending year for the 10-15 year baseline period must be between December 31, 2004 and December 31, 2010.*

[4] *The ending year for the 5 year baseline period must be between December 31, 2007 and December 31, 2010.*

NOTES:

SB X7-7 Table 2: Method for Population Estimates	
Method Used to Determine Population (may check more than one)	
☐	**1. Department of Finance** (DOF) or **American Community Survey** (ACS)
☑	**2. Persons-per-Connection Method**
☑	**3. DWR Population Tool**
☐	**4. Other** DWR recommends pre-review
NOTES:	

SB X7-7 Table 3: Service Area Population		
Year		Population
10 to 15 Year Baseline Population		
Year 1	1995	10,250
Year 2	1996	10,250
Year 3	1997	10,500
Year 4	1998	10,600
Year 5	1999	10,600
Year 6	2000	11,000
Year 7	2001	12,000
Year 8	2002	15,000
Year 9	2003	15,000
Year 10	2004	15,500
Year 11		
Year 12		
Year 13		
Year 14		
Year 15		
5 Year Baseline Population		
Year 1	2003	15,000
Year 2	2004	15,500
Year 3	2005	15,500
Year 4	2006	15,500
Year 5	2007	16,000
NOTES: Base year population values are pulled form 2010 UWMP. Compliance year population used DWR population tool using both SF and MF meter counts.		

SB X7-7 Table 4: Annual Gross Water Use *

Baseline Year *Fm SB X7-7 Table 3*		Volume Into Distribution System *This column will remain blank until SB X7-7 Table 4-A is completed.*	Deductions					Acre Feet
			Exported Water	Change in Dist. System Storage (+/-)	Indirect Recycled Water *This column will remain blank until SB X7-7 Table 4-B is completed.*	Water Delivered for Agricultural Use	Process Water *This column will remain blank until SB X7-7 Table 4-D is completed.*	Annual Gross Water Use
10 to 15 Year Baseline - Gross Water Use								
Year 1	1995	4,481			-		-	4,481
Year 2	1996	4,499			-		-	4,499
Year 3	1997	4,885			-		-	4,885
Year 4	1998	3,949			-		-	3,949
Year 5	1999	4,707			-		-	4,707
Year 6	2000	4,767			-		-	4,767
Year 7	2001	5,051			-		-	5,051
Year 8	2002	5,363			-		-	5,363
Year 9	2003	5,261			-		-	5,261
Year 10	2004	5,447			-		-	5,447
Year 11	0	-			-		-	-
Year 12	0	-			-		-	-
Year 13	0	-			-		-	-
Year 14	0	-			-		-	-
Year 15	0	-			-		-	-
10 - 15 year baseline average gross water use								**4,841**
5 Year Baseline - Gross Water Use								
Year 1	2003	5,261			-		-	5,261
Year 2	2004	5,447			-		-	5,447
Year 3	2005	5,399			-		-	5,399
Year 4	2006	5,728			-		-	5,728
Year 5	2007	6,612			-		-	6,612
5 year baseline average gross water use								**5,689**

*** Units of measure** (AF, MG , or CCF) must remain consistent throughout the UWMP, as reported in Table 2-3.

NOTES:

SB X7-7 Table 4-A: Volume Entering the Distribution System(s)

Complete one table for each source.

Name of Source	AVEK Imported
This water source is:	
☐	The supplier's own water source
☑	A purchased or imported source

Baseline Year *Fm SB X7-7 Table 3*		Volume Entering Distribution System[1]	Meter Error Adjustment[2] *Optional (+/-)*	Corrected Volume Entering Distribution System
10 to 15 Year Baseline - Water into Distribution System				
Year 1	1995	2,231		2,231
Year 2	1996	2,193		2,193
Year 3	1997	2,859		2,859
Year 4	1998	2,718		2,718
Year 5	1999	3,211		3,211
Year 6	2000	3,354		3,354
Year 7	2001	1,909		1,909
Year 8	2002	2,562		2,562
Year 9	2003	3,706		3,706
Year 10	2004	4,099		4,099
Year 11	0			-
Year 12	0			-
Year 13	0			-
Year 14	0			-
Year 15	0			-
5 Year Baseline - Water into Distribution System				
Year 1	2003	3,706		3,706
Year 2	2004	4,099		4,099
Year 3	2005	4,154		4,154
Year 4	2006	4,322		4,322
Year 5	2007	4,539		4,539

[1] ***Units of measure*** *(AF, MG , or CCF) must remain consistent throughout the UWMP, as reported in Table 2-3.*

[2] ***Meter Error Adjustment*** *- See guidance in Methodology 1, Step 3 of Methodologies Document*

NOTES:

SB X7-7 Table 4-A: Volume Entering the Distribution System(s)

Complete one table for each source.

Name of Source	Groundwater
This water source is:	
☑	The supplier's own water source
☐	A purchased or imported source

Baseline Year *Fm SB X7-7 Table 3*		Volume Entering Distribution System [1]	Meter Error Adjustment [2] *Optional (+/-)*	Corrected Volume Entering Distribution System
10 to 15 Year Baseline - Water into Distribution System				
Year 1	1995	2250		2,250
Year 2	1996	2306		2,306
Year 3	1997	2026		2,026
Year 4	1998	1231		1,231
Year 5	1999	1496		1,496
Year 6	2000	1413		1,413
Year 7	2001	3142		3,142
Year 8	2002	2801		2,801
Year 9	2003	1555		1,555
Year 10	2004	1348		1,348
Year 11	0			0
Year 12	0			0
Year 13	0			0
Year 14	0			0
Year 15	0			0
5 Year Baseline - Water into Distribution System				
Year 1	2003	1555		1,555
Year 2	2004	1348		1,348
Year 3	2005	1245		1,245
Year 4	2006	1406		1,406
Year 5	2007	2073		2,073

[1] ***Units of measure*** *(AF, MG , or CCF) must remain consistent throughout the UWMP, as reported in Table 2-3.*

[2] ***Meter Error Adjustment*** *- See guidance in Methodology 1, Step 3 of Methodologies Document*

NOTES:

SB X7-7 Table 4-C.1: Process Water Deduction Eligibility					
Criteria 1 Industrial water use is equal to or greater than 12% of gross water use					
Baseline Year *Fm SB X7-7 Table 3*		Gross Water Use Without Process Water Deduction	Industrial Water Use *	Percent Industrial Water	**Eligible for Exclusion Y/N**
10 to 15 Year Baseline - Process Water Deduction Eligibility					
Year 1	1995	4,481		0%	NO
Year 2	1996	4,499		0%	NO
Year 3	1997	4,885		0%	NO
Year 4	1998	3,949		0%	NO
Year 5	1999	4,707		0%	NO
Year 6	2000	4,767		0%	NO
Year 7	2001	5,051		0%	NO
Year 8	2002	5,363		0%	NO
Year 9	2003	5,261		0%	NO
Year 10	2004	5,447		0%	NO
Year 11	0	-			NO
Year 12	0	-			NO
Year 13	0	-			NO
Year 14	0	-			NO
Year 15	0	-			NO
5 Year Baseline - Process Water Deduction Eligibility					
Year 1	2003	5,261		0%	NO
Year 2	2004	5,447		0%	NO
Year 3	2005	5,399		0%	NO
Year 4	2006	5,728		0%	NO
Year 5	2007	6,612		0%	NO
*** Units of Measure** *(AF, MG , or CCF) must remain consistent throughout the UWMP, as reported in Table 2-3.*					
NOTES:					

SB X7-7 Table 4-C.2: Process Water Deduction Eligibility					
Criteria 2 Industrial water use is equal to or greater than 15 GPCD					
Baseline Year *Fm SB X7-7 Table 3*		Industrial Water Use *	Population	Industrial GPCD	**Eligible for Exclusion Y/N**
10 to 15 Year Baseline - Process Water Deduction Eligibility					
Year 1	1995		10,250	-	NO
Year 2	1996		10,250	-	NO
Year 3	1997		10,500	-	NO
Year 4	1998		10,600	-	NO
Year 5	1999		10,600	-	NO
Year 6	2000		11,000	-	NO
Year 7	2001		12,000	-	NO
Year 8	2002		15,000	-	NO
Year 9	2003		15,000	-	NO
Year 10	2004		15,500	-	NO
Year 11	0		-		NO
Year 12	0		-		NO
Year 13	0		-		NO
Year 14	0		-		NO
Year 15	0		-		NO
5 Year Baseline - Process Water Deduction Eligibility					
Year 1	2003		15,000	-	NO
Year 2	2004		15,500	-	NO
Year 3	2005		15,500	-	NO
Year 4	2006		15,500	-	NO
Year 5	2007		16,000	-	NO
**** Units of Measure*** *(AF, MG , or CCF) must remain consistent throughout the UWMP, as reported in Table 2-3.*					
NOTES:					

SB X7-7 Table 4-C.3: Process Water Deduction Eligibility

Criteria 3

Non-industrial use is equal to or less than 120 GPCD

Baseline Year *Fm SB X7-7 Table 3*		Gross Water Use Without Process Water Deduction *Fm SB X7-7 Table 4*	Industrial Water Use *	Non-industrial Water Use	Population *Fm SB X7-7 Table 3*	Non-Industrial GPCD	**Eligible for Exclusion Y/N**
10 to 15 Year Baseline - Process Water Deduction Eligibility							
Year 1	1995	4,481		4,481	10,250	390	NO
Year 2	1996	4,499		4,499	10,250	392	NO
Year 3	1997	4,885		4,885	10,500	415	NO
Year 4	1998	3,949		3,949	10,600	333	NO
Year 5	1999	4,707		4,707	10,600	396	NO
Year 6	2000	4,767		4,767	11,000	387	NO
Year 7	2001	5,051		5,051	12,000	376	NO
Year 8	2002	5,363		5,363	15,000	319	NO
Year 9	2003	5,261		5,261	15,000	313	NO
Year 10	2004	5,447		5,447	15,500	314	NO
Year 11	0	-		-	-		NO
Year 12	0	-		-	-		NO
Year 13	0	-		-	-		NO
Year 14	0	-		-	-		NO
Year 15	0	-		-	-		NO
5 Year Baseline - Process Water Deduction Eligibility							
Year 1	2003	5,261		5,261	15,000	313	NO
Year 2	2004	5,447		5,447	15,500	314	NO
Year 3	2005	5,399		5,399	15,500	311	NO
Year 4	2006	5,728		5,728	15,500	330	NO
Year 5	2007	6,612		6,612	16,000	369	NO

**** Units of Measure*** *(AF, MG , or CCF) must remain consistent throughout the UWMP, as reported in Table 2-3.*

NOTES:

SB X7-7 Table 4-C.4: Process Water Deduction Eligibility

Criteria 4

Disadvantaged Community. A "Disadvantaged Community" (DAC) is a community with a median household income less than 80 percent of the statewide average.

SELECT ONE

"Disadvantaged Community" status was determined using one of the methods listed below:

☐ **1. IRWM DAC Mapping tool https://gis.water.ca.gov/app/dacs/**

If using the IRWM DAC Mapping Tool, include a screen shot from the tool showing that the service area is considered a DAC.

☐ **2. 2010 Median Income**

California Median Household Income		Service Area Median Household Income	Percentage of Statewide Average	**Eligible for Exclusion? Y/N**
2010	$60,883		0%	YES

NOTES:

SB X7-7 Table 4-D: Process Water Deduction - Volume *Complete*						
a separate table for each industrial customer with a process water exclusion						
Name of Industrial Customer		*Enter Name of Industrial Customer 1*				
Baseline Year *Fm SB X7-7 Table 3*		Industrial Customer's Total Water Use *	Total Volume Supplied by Water Agency*	% of Water Supplied by Water Agency	Customer's Total Process Water Use*	Volume of Process Water Eligible for Exclusion for this Customer
10 to 15 Year Baseline - Process Water Deduction						
Year 1	1995					-
Year 2	1996					-
Year 3	1997					-
Year 4	1998					-
Year 5	1999					-
Year 6	2000					-
Year 7	2001					-
Year 8	2002					-
Year 9	2003					-
Year 10	2004					-
Year 11	0					-
Year 12	0					-
Year 13	0					-
Year 14	0					-
Year 15	0					-
5 Year Baseline - Process Water Deduction						
Year 1	2003					-
Year 2	2004					-
Year 3	2005					-
Year 4	2006					-
Year 5	2007					-
**** Units of Measure*** *(AF, MG , or CCF) must remain consistent throughout the UWMP, as reported in Table 2-3.*						
NOTES:						

SB X7-7 Table 5: Baseline Gallons Per Capita Per Day (GPCD)				
Baseline Year *Fm SB X7-7 Table 3*		Service Area Population *Fm SB X7-7 Table 3*	Annual Gross Water Use *Fm SB X7-7 Table 4*	Daily Per Capita Water Use (GPCD)
10 to 15 Year Baseline GPCD				
Year 1	1995	10,250	4,481	390
Year 2	1996	10,250	4,499	392
Year 3	1997	10,500	4,885	415
Year 4	1998	10,600	3,949	333
Year 5	1999	10,600	4,707	396
Year 6	2000	11,000	4,767	387
Year 7	2001	12,000	5,051	376
Year 8	2002	15,000	5,363	319
Year 9	2003	15,000	5,261	313
Year 10	2004	15,500	5,447	314
Year 11	0	-	-	
Year 12	0	-	-	
Year 13	0	-	-	
Year 14	0	-	-	
Year 15	0	-	-	
10-15 Year Average Baseline GPCD				**364**
5 Year Baseline GPCD				
Baseline Year *Fm SB X7-7 Table 3*		Service Area Population *Fm SB X7-7 Table 3*	Gross Water Use *Fm SB X7-7 Table 4*	Daily Per Capita Water Use
Year 1	2003	15,000	5,261	313
Year 2	2004	15,500	5,447	314
Year 3	2005	15,500	5,399	311
Year 4	2006	15,500	5,728	330
Year 5	2007	16,000	6,612	369
5 Year Average Baseline GPCD				**327**
NOTES:				

SB X7-7 Table 6: Baseline GPCD *From Table SB X7-7 Table 5*	*Summary*
10-15 Year Baseline GPCD	364
5 Year Baseline GPCD	327
NOTES:	

SB X7-7 Table 7: 2020 Target Method *Select Only One*		
Target Method		**Supporting Tables**
☑	Method 1	SB X7-7 Table 7A
☐	Method 2	SB X7-7 Tables 7B, 7C, and 7D
☐	Method 3	SB X7-7 Table 7-E
☐	Method 4	Method 4 Calculator *Located in the WUE Data Portal at wuedata.water.ca.gov* Resources *button*
NOTES:		

SB X7-7 Table 7-A: Target Method 1 20% Reduction	
10-15 Year Baseline GPCD	**2020 Target GPCD**
364	**291**
NOTES:	

SB X7-7 Table 7-B: Target Method 2

Target Landscape Water Use

Units of Measure		Acre Feet
Reference Evapotranspiration Rate (ET0)[1] for Service Area (inches/year)		
Acres of Irrigated Landscape and Applicable ETAF	**Acres**	**Water Use[3]**
Acres of landscape installed pre-2010 (ETAF 0.8)[2]		-
Acres of landscape installed post-2010 (ETAF 0.7)[2]		-
Acres of residential landscape installed post 2015 (ETAF .55)		-
Acres of CII landscape installed post 2015 (ETAF .45)		-
Acres of Special Landscape Area (ETAF 1.0)[2]		-
Target Landscape Water Use for 2020		**-**

[1] ETo information can be found at https://cimis.water.ca.gov. If the water supplier's service area spans more than one ETo Zone, the supplier will use multiple versions of SB X7-7 Table 7B for each ETo zone that they serve.

[2] ETAF - Evapotranspiration Adjustment Factor. Refer to the Model Water Efficient Landscape Ordinance at https://water.ca.gov/Programs/Water-Use-And-Efficiency/Model-Water-Efficient-Landscape-Ordinance

[3] Water Use Unit of Measure (AF, MG, CCF) is automatically converted to the units selected by the user in Table 0.

NOTES

SB X7-7 Table 7-C: Target Method 2
Target CII Water Use

Baseline Year *Fm SB X7-7 Table 3*		CII Water Use [1,2]	Process Water Exclusion (Optional) *Fm SB X7-7 Table 4*	CII Water Use Minus Process Water	Population *Fm SB X7-7 Table 3*	CII GPCD
Unit of Measure						**Acre Feet**
Year 1	1995		0	0	10,250	0
Year 2	1996		0	0	10,250	0
Year 3	1997		0	0	10,500	0
Year 4	1998		0	0	10,600	0
Year 5	1999		0	0	10,600	0
Year 6	2000		0	0	11,000	0
Year 7	2001		0	0	12,000	0
Year 8	2002		0	0	15,000	0
Year 9	2003		0	0	15,000	0
Year 10	2004		0	0	15,500	0
Year 11	0		0	0	-	
Year 12	0		0	0	-	
Year 13	0		0	0	-	
Year 14	0		0	0	-	
Year 15	0		0	0	-	
Average Annual 10 to 15 Year Baseline CII Water Use (GPCD)						0
10% Reduction						0.0
2020 Target CII Water Use						**0**

[1] *CII water use for each year of the baseline period must be provided by the user.*

[2] *Units of measure (AF, MG , or CCF) must remain consistent throughout the UWMP, as reported in Table 2-3.*

NOTES

SB X7-7 Table 7-D: Target Method 2 Summary		
2020 Population	Enter 2020 Population	
Sector	**Volume** **Acre Feet**	**GPCD**
Target Indoor Residential Water Use		55
Target Landscape Water Use* *From SB X7-7 Table 7-B*	-	
Target CII Water Use *From SB X7-7 Table 7-C*		0
2020 Target	-	**55**
**Additional rows may be added for Target Landscape Water Use if the service area spans more than one Eto Zone.*		
NOTES:		

SB X7-7 Table 7-E: Target Method 3				
Agency May Select More Than One as Applicable	Percentage of Service Area in This Hydrological Region	Hydrologic Region	"2020 Plan" Regional Targets	Method 3 Regional Targets (95%)
☐		North Coast	137	130
☐		North Lahontan	173	164
☐		Sacramento River	176	167
☐		San Francisco Bay	131	124
☐		San Joaquin River	174	165
☐		Central Coast	123	117
☐		Tulare Lake	188	179
☐		South Lahontan	170	162
☐		South Coast	149	142
☐		Colorado River	211	200
			2020 Target *(If more than one region is selected, this value is calculated.)*	**0**
NOTES:				

SB X7-7 Table 7-F: Confirm Minimum Reduction for 2020 Target					
5 Year Baseline GPCD *From SB X7-7 Table 5*	Maximum 2020 Target[1]	**Calculated 2020 Target [2]**			**Confirmed 2020 Target[4]**
		As calculated by supplier in this SB X7-7 Verification Form	**Special Situations[3]**		
			Prorated 2020 Target	Population Weighted Average 2020 Target	
327	311	291			**291**

[1] ***Maximum 2020 Target*** *is 95% of the 5 Year Baseline GPCD except for suppliers at or below 100 GPCD.*

[2] ***Calculated 2020 Target*** *is the target calculated by the Supplier based on the selected Target Method, see SB X7-7 Table 7 and corresponding tables for agency's calculated target. Supplier may only enter one calculated target.*

[3] ***Prorated targets and population weighted target*** *are allowed for special situations only. These situations are described in Appendix P, Section P.3*

[4] ***Confirmed Target*** *is the lesser of the Calculated 2020 Target (C5, D5, or E5) or the Maximum 2020 Target (Cell B5)*

NOTES:

Appendix D

SB X7-7 2025 Compliance Form

ARDURRA

Templates of Submittal Tables for the Urban Water Management Plan 2025

Workbook Contents: This workbook contains the templates for Submittal Tables that Suppliers use to organize information as part of their Urban Water Management Plans 2025 (due July 1, 2026). Table numbers correspond to the chapter number where they are described in the UWMP Guidebook. If the table name is followed by a letter, the letter corresponds to whether the table is specific for Wholesale Suppliers or Retail Suppliers only (W and R, respectively). For those table names that are not followed by a letter, these are Submittal Tables for all Suppliers.

Where to submit? Suppliers submit the completed table data and UWMPs (including the Water Shortage Contingency Plan) electronically through the WUEdata Portal (https://wuedata.water.ca.gov/). The portal will be updated and will be announced to the Urban Suppliers listserv, DWR webpage and WUEdata Portal opening page when it is available for plan and table submittals.

Unlocked templates (use with caution): The templates provided in this workbook are formated to mirror the structure of information that is submitted through the WUEdata Portal for the electronic submission of Submittal Tables in the UWMP. The tables are offered in a unprotected (unlocked) version. If needed, Suppliers may adjust the tables for their own planning needs beyond the Submittal Tables. However, preparers will still need to submit the information using the original template structure provided for their UWMP. Make changes to the tables with caution, as there are formulas, automatically filled cells, and drop-downs present throughout. To redownload the templates in their original format, visit https://wuedata.water.ca.gov in the Resources button of the Urban Water Management Plan section (no login necessary).

NOTES FOR REGIONAL URBAN WATER MANAGEMENT PLANS (RUWMPs)
RUWMPs will report data for each agency in the RUWMP, requiring duplicates of the submittal tables. The supplier will copy the needed tables and notate each of the copies with the name of the agency, or some other designation, identifying the table with the corresponding agency.
WUEdata upload tool for RUWMPs
RUWMPs will submit data to the WUEdata upload tool on an individual agency basis.

Submittal Table 2-1 Retail: Public Water Systems			
Public Water System Number	Public Water System Name	Number of Municipal Connections 2025	Volume of Water Supplied 2025 (AF)
Add additional rows as needed			
CA4010026	Quartz Hill Water District	5,782	4,725
	Total	5,782	4,725

DWR NOTES:
Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table identifies the unit of measure selected in Submittal Table 2-3.

NOTES: Data from AWWA FWAS, July 1, 2024 to June 20, 2025.

Submittal Table 2-2: Plan Identification		
Select One	**Type of Plan**	**Name of Regional Alliance or RUWMP** (Drop Down List)
☑	**Individual UWMP**	
	If Water Supplier is also a member of a SB X7-7 Regional Alliance, select name from the drop-down.	
☐	**Regional Urban Water Management Plan (RUWMP)**	
	If Supplier selected RUWMP, select name from the drop-down.	
NOTES:		

Submittal Table 2-3: Supplier Identification	
Type of Supplier (select one or both)	
☐	Supplier is a wholesale supplier
☑	Supplier is a retail supplier
Fiscal or Calendar Year (select one)	
☐	UWMP Tables are in calendar years
☑	UWMP Tables are in fiscal years
If using fiscal years provide month and date that the fiscal year begins (mm/dd)	
Units of measure used in UWMP (Select from the drop down list).	
Unit	AF
DWR NOTES: **Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Submittal Table 2-3.	
NOTES:	

Submittal Table 2-4 Retail: Water Supplier Information Exchange **Water Code Section 10631(h)**
The retail Supplier has informed the following wholesale supplier(s) of projected water use.
Wholesale Water Supplier Name
Add additional rows as needed
Antelope Valley - East Kern Water Agency (AVEK)
NOTES:

10631(h) An urban water supplier that relies upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available.

Submittal Table 3-1 Retail: Population - Current and Projected Water Code Section 10631(a)						
Population Served	2025	2030	2035	2040	2045	2050(opt)
	19,878	20,741	21,082	21,840	22,492	23,163
NOTES: Population increase of 0.59% applied as referenced in SCAG Demographics and Growth Forecast Technical Report dated April 4, 2024.						

CWC 10631(a) describe the current and projected population of the service area including current and projected population…

Submittal Table 4-1 Retail: Total Uses for Potable and Non-Potable Water — Actual Water Code Section 10631(d)(1)			
Use Type	Additional Description (as needed)	2025 Actual Water Use	
Drop down list May select each use multiple times These are the only use types that will be recognized by the WUEdata online submittal tool		**Potable or Non-Potable** (OPTIONAL) Drop down list	Volume (AF)
Add additional rows as needed			
Single Family		Potable	3,375
Multi-Family		Potable	258
Commercial		Potable	112
Landscape		Potable	149
Agricultural		Potable	0
Industrial		Potable	0
Other (optional)		Potable	0
Distribution System Water Loss		Potable	563
		Subtotal Potable	4457
		Subtotal Non-Potable	0
		Total	4,457
DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table identifies the unit of measure selected in Submittal Table 2-3.			
NOTES: Values represent metered use as reported to DWR for FY 2025.			

CWC 10631(d)(1) For an urban retail water supplier, quantify, to the extent records are available, past and current water use…identifying the uses among water use sectors including but not limited to:
(A) Single-family residential.
(B) Multifamily.
(C) Commercial.
(D) Industrial.
(E) Institutional and governmental.
(F) Landscape.
(G) Sales to other agencies.
4 | Water Use Characterization
Draft | November 2025 4-10
(H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.
(I) Agricultural.
(J) Distribution system water loss

Submittal Table 4-2 Retail: Total Uses for Potable, and Non-Potable Water — Projected
Water Code Section 10631(d)(1)

Use Type	Additional Description (as needed)	Projected Water Use (Report To the Extent that Records are Available)					
Drop down list May select each use multiple times These are the only Use Types that will be recognized by the WUEdata online submittal tool		**Potable or Non-Potable** (OPTIONAL) Drop down list	**2030 (AF)**	**2035 (AF)**	**2040 (AF)**	**2045 (AF)**	**2050 opt (AF)**
Add additional rows as needed.							
Single Family		Potable	3,816	3,930	4,072	4,193	4,318
Multi-Family		Potable	286	294	305	314	324
Commercial		Potable	136	140	145	150	154
Landscape		Potable	217	224	232	239	246
Agricultural		Potable	6	6	6	6	7
Industrial		Potable	0	0	0	0	0
Other (optional)		Potable	0	0	0	0	0
Distribution System Water Loss		Potable	197	203	210	217	223
		Subtotal Potable	4,658	4,797	4,970	5,119	5,272
		Subtotal Non-Potable	0	0	0	0	0
		Total	4,658	4,797	4,970	5,119	5,272

DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table identifies the unit of measure selected in Submittal Table 2-3.

NOTES: District future demands based on population projections and the 5-year average (2021-2025) gross water use rate).

CWC 10631(d)(1) For an urban retail water supplier, quantify, to the extent records are available... projected water use…identifying the uses among water use sectors…

Submittal Table 4-3 Retail: Inclusion in Water Use Projections Water Code Section 10631 (a), 10631 (d)(4)(A), and 10631 (d)(4)(B)	
Are Future Water Savings Included in Projections? **Drop down list (y/n)**	No
If "Yes" to above, **state the section or page number**, in the cell to the right, where citations of the codes, ordinances, or otherwise are utilized in demand projections are found. ***Optional*** Suppliers may complete Optional Submittal Table 4-4 R to quantify the expected savings.	
Are Lower Income Residential Demands Included In Projections? **Drop down list (y/n)**	Yes
Optional If the method for accounting Lower Income Residential Demands has been included, provide page number where this accounting can be found.	
DWR NOTES: Additional guidance is provided in Appendix K.	
NOTES:	

CWC10631 (d) (4) (A) Water use projections, where available, shall display and account for water savings estimated to result from adopted codes, standards, ordinances, or transpotation and land use plans identified by the urban water supplier, as applicable to the service area.

CWC 10631 (d) (4) (B) to the extent that an urban water supplier reports the information described in subparagraph (A), an urban water supplier shall do both of the following: (i) Provide citations of the various codes, standards, ordinances or transportation and land use plans utilized in making the projections.
(ii) Indicate the extent that the water use projections consider savings from codes, standards, ordinances, or transportation and land use plans. Water use projections that do not account for these water savings shall be noted of that fact.
CWC 10631(a) Water use projections required by section 10631 shall include projected water use for single-family and multifamily residential housing needed for lower income households, as identified in the housing element of any city, county, or city and county, in the service area of the supplier .

Optional Submittal Table 4-4 Retail: Passive Water Savings Projections Water Code Section 10631(d)(4)(A)					
Description (Codes, Standards, Ordinances, or Plans)	Passive savings				
	2030 (AF)	**2035 (AF)**	**2040 (AF)**	**2045 (AF)**	**2050 opt (AF)**
Add additional rows as needed					
DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table identifies the unit of measure selected in Submittal Table 2-3.					
NOTES:					

Water Code Section 10631(d)(4)(A) Water use projections, where available, shall display and account for the water savings estimated to result from adopted codes, standards, ordinances, or transportation and land use plans identified by the urban water supplier, as applicable to the service area.

Submittal Table 4-5 Retail: Water Loss Audit Reporting Water Code Section 10631(d)(3)(A)		
Public Water System ID # Reported in Table 2-1 R	Reporting Period	Submitted to DWR Water Loss Audit Program (yes/no)
Report submittal status for all five years for each Public Water System as available. Add rows as needed		
	7/2020 – 6/2021	Yes
	7/2021 – 6/2022	Yes
	7/2022 – 6/2023	Yes
	7/2023 – 6/2024	Yes
	7/2024 – 6/2025	Yes
DWR NOTES: Suppliers will provide a link to the WUEdata submittals of their Water Loss Audit Reports.		
NOTES: Water loss based on AWWA worksheet values.		

CWC 10631(d)(3) (A) The distribution system water loss shall be quantified for each of the five years preceding the plan update, in accordance with rules adopted pursuant to Section 10608.34.

Submittal Table 4-6 Retail: Progress Towards 2028 Water Loss Standard
Water Code Section 10631(d)(3)(C)

Public Water System ID # Reported in Submittal Table 2-1 R	Did the Water Board Calculate a Water Loss Standard for this Public Water System? (y/n) If no, Supplier will not complete this row.	Real Water Loss					Apparent Water Loss				
		State Water Board Standard		Most Recent AWWA Water Loss Audit			State Water Board Standard		Most Recent AWWA Water Loss Audit		
		2028 Real Water Loss Standard per Unit per day	Units for Real Water Loss Drop down list	Number of Units (Connections or Miles corresponding with units selected)	Volume of Total Real Loss (from AWWA Water Loss Audit) (AF)	Real Water Loss Per Unit per Day	2028 Apparent Water Loss Standard per Unit per Day	Units for Apparent Water Loss	Number of Connections	Volume of Total Apparent Loss (from AWWA Water Loss Audit) (AF)	Apparent Water Loss Per Unit per Day
Add additional rows as needed.											
CA4010026	Yes	19.7	Gallons per Service Connection per Day (GPSCD)	5,901	77.8	11.8	5.8	Gallons per Service Connection per Day (GPSCD)	5901	46.0	7.0
Water Board's Calculated Water Loss Standards											

DWR NOTES: Units of measure (AF, CCF, MG) for Water Loss **MUST** remain consistent with units reported in Submittal Table 2-3. The units reported in Submittal Table 2-3 are used in this table's calculations.

NOTES: 1.Water Loss based on AWWA 2023 worksheet values. 2. Water Board's Calculated Water Loss Standards (Appendix H).
3. AFY= Acre-feet per year

CWC 10631(d)(3)(C) In the plan due July 1, 2021, and in each update thereafter, data shall be included to show whether the urban retail water supplier met the distribution loss standards enacted by the board pursuant to Section 10608.34.

Submittal Table 5-1 Retail: SB X7-7 2020 Target Progress Water Code Section 10608.40						
☐	**Check the box if the Supplier was not an Urban Water Supplier during or before the 2020 UWMP reporting cycle. Proceed to the next table.**					
Was Supplier part of a merger or consolidation since 2020?	Regional Alliance Target or Individual Target? Drop down list	2020 Target	Actual 2020 GPCD	Did Supplier Achieve Targeted Reduction for 2020?	**Only for suppliers that did not meet the Target in 2020** **See DWR NOTES below.**	
					Actual 2025 GPCD (From SB X7-7 Compliance Form)	Did Supplier meet the 2020 Target in 2025?
No	Individual Target	291	223	Yes	199	Yes
DWR NOTES: **Suppliers calculating a 2025 GPCD** will need to complete and submit SB X 7-7 Compliance Tables to verify the use of SB X7-7 Methodologies. **Suppliers that were part of a merger or consolidation since 2020** see Chapter 5 and Appendix P for guidance. NA=Not Applicable						
NOTES:						

10608.40 Urban water retail suppliers shall report to the department on their progress in meeting their urban water use targets as part of their urban water management plans submitted pursuant to Section 10631.

Submittal Table 6-1 Retail: Groundwater Volume Pumped Water Code Section 10631(4) and 10631(4)(c)							
☐	Check the box if the Supplier does not pump groundwater. Proceed to the next table.						
☐	Check the box if all or part of the groundwater described below is desalinated. (OPTIONAL)						
Groundwater Type **Drop Down List** May use each category multiple times	Potable or Non-Potable (OPTIONAL) **Drop down list**	Location or Basin Name	2021 (AF)	2022 (AF)	2023 (AF)	2024 (AF)	2025 (AF)
Add additional rows as needed							
Alluvial Basin	Potable	Central Basin	2,136	1,825	1,822	1,783	1,895
		Total	2,136	1,825	1,822	1,783	1,895
DWR NOTES: **Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table identifies the unit of measure selected in Submittal Table 2-3.							
NOTES							

10631(4) If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information:

(C) A detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

Submittal Table 6-2 Retail: Wastewater Collected Within Service Area Water Code Section 10633(a)				
☑	Check the box if there is no wastewater collection system. Proceed to the next table.			
	Percentage of 2025 service area served by wastewater collection system (OPTIONAL)			
	Percentage of 2025 service area population served by wastewater collection system (OPTIONAL)			
Wastewater Collection			**Recipient of Collected Wastewater**	
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated? OPTIONAL **Drop Down List**	Volume of Wastewater Collected from UWMP Service Area 2025 (AF)	Name of Wastewater Treatment Plant (WWTP) and Place ID Number **Drop down list**	Is WWTP Located Within UWMP Area? **Drop Down List**
Add additional rows as needed				
Total Wastewater Received from UWMP Service Area in 2025:		0		
DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table identifies the unit of measure selected in Submittal Table 2-3. **Additional Guidance**: See Appendix M, Section M.21 for detailed guidance on this table.				
NOTES:				

CWC 10633(a) A description of the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.

Submittal Table 6-3 Retail: Wastewater Treatment and Outcomes Within UWMP Service Area
Water Code Section 10633(b)

☑	**Check the box if no wastewater is treated or disposed of within the UWMP service area.** Proceed to the next table.

Wastewater Treatment Plant Name and Place ID Number **Drop down list**	Does This Plant Treat Wastewater Generated Outside the UWMP Service Area? (OPTIONAL) **Drop down list**	2025 Volume of Wastewater Received from UWMP Service Area (As Reported in Submittal Table 6-2 R) (AF)	Total 2025 Volume of Water Treated (AF)	**2025 Outcomes of Treated Wastewater**										
				Water Recycled Within UWMP Service Area (enter data as applicable)		**Water Recycled Outside of UWMP Service Area** (enter data as applicable)		**Effluent Discharge that is not a Permitted Recycled Water Use** (enter data as applicable)		**Required Discharge for Instream Flow** (enter data as applicable)		**Delivered to Another Entity for Additional Treatment** (enter data as applicable)		
				Treatment Level **Drop down list**	Volume (AF)	Treatment Level **Drop down list**	Volume (AF)	Treatment Level **Drop down list**	Volume (AF)	Treatment Level **Drop down list**	Volume (AF)	Treatment Level **Drop down list**	Volume (AF)	Name of other entity
Add additional rows as needed														
A.K. Warren Water Resource Facility, Place ID 234156														
Whittier Narrows Water Reclamation Plant, Place ID 235826														
Los Coyotes WRP, Place ID 238646														
San Jose Creek Water Reclamation Plant, Place ID 260156														
Long Beach WRP, Place ID 238562														
Pomona Water Reclamation Plant, Place ID 250700														
La Canada WWRP, Place ID 237748														
Total		0	-		0		0		0		0		0	

DWR NOTES:
Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table identifies the unit of measure selected in Submittal Table 2-3.
IPR: Indirect Potable Reuse would have the treatment level of its end use requirement in the Level of Treatment drop-down.
Additional Guidance: See Appendix M, Section M.21 for detailed guidance on this table.

NOTES:

10633. The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier...and shall include all of the following:
(b) A description of the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.

Submittal Table 6-4 Retail: Recycled Water Direct Beneficial Uses Within Service Area
Water Code Section 10633 (c),(d),(e)

☑	Check box if recycled water is not used and is not planned for use within the service area of the supplier. The supplier will only complete the column on "Potential Recycled Water Use" and submit an accompanying narrative on the feasibility of that potential recycled water use.

Name(s) of Facility/ies Producing (Treating) the Recycled Water (OPTIONAL) :	LACSD
Name of Supplier Operating the Recycled Water Distribution System (OPTIONAL) :	Central Basin MWD
Volume of Supplemental Water Added in 2025 (OPTIONAL) :	0
Source of 2025 Supplemental Water (OPTIONAL) :	

Use Type **Drop down list**	**Potable or Non-Potable** (after treatment if treated) (OPTIONAL) Drop down list	Additional Information (as needed)	2025 (AF)	2030 (AF)	2035 (AF)	2040 (AF)	2045 (AF)	2050 (AF)	**Potential Recycled Water Use**	
									Volume	Narrative page number (OPTIONAL)
Add additional rows as needed										
Landscape irrigation (exc golf courses)	Non-Potable									
Industrial use	Non-Potable									
		Subtotal Potable	0	0	0	0	0	0	0	
		Subtotal Non-Potable	0	0	0	0	0	0	0	
		Total	0	0	0	0	0	0	0	0

DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table identifies the unit of measure selected in Submittal Table 2-3.
Additional Guidance: See Appendix M, Section M.21 for detailed guidance on this table.
Potential recycled water use: a description of the feasibility of these uses must be included in the narrative.
Multiple Producers: If you have multiple recycled water producers, submit a separate table for each.

NOTES:

10633. The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier... and shall include...
(c) A description of the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use
d) A description and quantification of the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.
(e) The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.

Submittal Table 6-5 Retail: 2020 UWMP Recycled Water Use Projection Compared to 2025 Actual
Water Code Section 10633(e)

☑ Check the box if recycled water was not used in 2025 nor previously projected for use in 2020.
Proceed to the next table.

Use Type Drop Down list	2020 Projection for 2025 (AF)	2025 Actual Use (AF)
Add additional rows as needed		
Total	0	0

DWR NOTES:
Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table identifies the unit of measure reported in Submittal Table 2-3
Additional Guidance: See Appendix M, Section M.21 for detailed guidance on this table.

NOTES:

10633. The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. The preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area, and shall include all of the following: (e) ...a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision

Submittal Table 6-6 Retail: Methods to Encourage Future Recycled Water Use Water Code Section 10633(f)			
☑	Check the box if the Supplier does not plan to expand recycled water use in the future. Supplier will not complete the table below but will provide narrative explanation.		
	Provide page location of narrative in the UWMP		
Name of Action	Description	Planned Implementation Year	Expected Increase in Recycled Water Use (AF)
Add additional rows as needed			
		Total (AF)	0
		Unit Conversion to AF	0
DWR NOTES: **Units of measure** (AF, CCF, MG) MUST remain consistent with units reported in Submittal Table 2-3. This table identifies the unit of measure selected in Submittal Table 2-3. **The unit conversion to Acre Feet** addresses the Water Code's requirement that this value be provided in acre-feet.			
NOTES:			

10633. The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. The preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area, and shall include all of the following:
(f) a description of actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre feet of recycled water used per year.

Submittal Table 6-7 Retail: Expected Future Water Supply Projects or Programs
Water Code Section 10631(f)

☐	Check the box if there are no expected future water supply projects or programs that provide a quantifiable increase to the agency's water supply. Proceed to the next table.
☐	Check the box if some or all of the supplier's future water supply projects or programs are not compatible with this table and are described in a narrative format.
6-10	Provide page location of narrative in the UWMP

Name of Future Projects or Programs	Joint Project with other suppliers?		Additional Description (as needed)	**Potable or Non-Potable** (after treatment if treated) (OPTIONAL) Drop Down list	Planned Implementation Year	Planned for Use in Year Type **Drop Down List**	Expected Increase in Water Supply to Supplier (This may be a range) (AF)
	Drop Down List (yes/no)	If Yes, Supplier Name					
Add additional rows as needed							
Well 18	No		New Well Construction	Potable	2027	Average Year	400
Site 32	No		Water Treatment Facility	Potable	2027	Average Year	400

DWR NOTES:
Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table identifies the unit of measure reported in Submittal Table 2-3.

NOTES:

10631 (f) Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use, as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed description of expected future projects and programs that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in normal and single-dry water years and for a period of drought lasting five consecutive water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.

Submittal Table 6-8 Retail: Water Supplies — Actual Water Code Section 10631(b)				
Water Supply		**2025**		
Drop down list May use each category multiple times. These are the only water supply categories that will be recognized by the WUEdata online submittal tool	Additional Description (as needed)	**Potable or Non-Potable** (after treatment if treated) (OPTIONAL) Drop Down list	Actual Volume (AF)	Total Entitlement (OPTIONAL) See 'DWR Notes' below (AF)
Add additional rows as needed				
Groundwater (not desalinated)		Potable	1,895	564
Purchased or Imported Water		Potable	2,543	250
Recycled Water		Non-Potable	n/a	n/a
		Subtotal Potable	4,438	814
		Subtotal Non-Potable	0	0
		Total	4,438	814
DWR NOTES: **Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table identifies the unit of measure selected in Submittal Table 2-3. **Total Entitlement:** e.g. Water Right, Groundwater Allocation, Contracted Amount.				
NOTES:				

10631. A plan shall be adopted in accordance with this chapter that shall do all of the following... (b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a), providing supporting and related information...

Optional **Table 6-8DS: Source Water Desalination by Urban Water Supplier**											
☑	Check the box if the Supplier does not reduce salinity in either groundwater or surface water prior to distribution.										
Desalination Facility **Drop Down list**	Plant Capacity	Intake Type **Drop down list**	Source Water Type **Drop down list**	Influent TDS	Brine Discharge **Drop down list**	Volume of Water Desalinated					Name(s) of Agencies that Receive this Water
						2021 (AF)	**2022 (AF)**	**2023 (AF)**	**2024 (AF)**	**2025 (AF)**	
Add additional rows as needed											
					Total	0	0	0	0	0	
DWR NOTES: **Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Submital Table 2-3. This table identifies the units of measure reported in Submittal Table 2-3.											
NOTES:											

Submittal Table 6-9 Retail: Water Supplies — Projected
Water Code Section 10631 (b)

Water Supply			Projected Water Supply (Report to the Extent Practicable)									
			2030		2035		2040		2045		2050 (opt)	
Drop down list May use each category multiple times. These are the only water supply categories that will be recognized by the WUEdata online submittal tool	Additional Detail on Water Supply	**Potable or Non-Potable** (after treatment if treated) (OPTIONAL) Drop Down list	Reasonably Available Volume (AF)	Total Entitlement (OPTIONAL) See 'DWR Notes' below (AF)	Reasonably Available Volume (AF)	Total Entitlement (OPTIONAL) See 'DWR Notes' below (AF)	Reasonably Available Volume (AF)	Total Entitlement (OPTIONAL) See 'DWR Notes' below (AF)	Reasonably Available Volume (AF)	Total Entitlement (OPTIONAL) See 'DWR Notes' below (AF)	Reasonably Available Volume (AF)	Total Entitlement (OPTIONAL) See 'DWR Notes' below (AF)
Add additional rows as needed												
Groundwater (not desalinated)	Antelope Valley Groundwater Basin	Potable	564	250	564	250	564	250	564	250	564	250
Purchased or Imported Water	AVEK	Potable	4,095		4,234		4,407		4,555		4,708	
Subtotal Potable			4,659	250	4,798	250	4,971	250	5,119	250	5,272	250
Subtotal Non-Potable			0	0	0	0	0	0	0	0	0	0
Total			4,659	250	4,798	250	4,971	250	5,119	250	5,272	250

DWR NOTES:

Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3.

Total Entitlement: e.g. Water Right, Groundwater Allocation, Contracted Amount.

NOTES: AVEK -Antelope Valley East Kern Water Agency. 1.QHWD's allotment form the Antelope Valley Groundwater Basin will be 564 AFY as stated in the ramp down production schedule shown in Appendix E. Units in AF. 250 AF allocated t

10631. A plan shall be adopted in accordance with this chapter that shall do all of the following... (b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year

Optional Submittal Table O-1A: Recommended Energy Reporting - SINGLE DELIVERY PRODUCT - WATER SUPPLY PROCESS APPROACH										
Water Delivery Product drop down list (If delivering more than one type of product recommend using Table O-1C)		**Only for Water Delivery Products Under the Urban Water Supplier's Operational Control**								
Start Date of Reporting Period		**Water Management Process**							**Non-Consequential Hydropower (if applicable)**	
End Date of Reporting Period										
Is upstream embedded energy included in the values reported?										
		Units for Water Volume	Extract and Divert	Place into Storage	Conveyance	Treatment	Distribution	**Total Utility** See DWR NOTES	Hydropower	Net Utility
Volume of Water Entering Process										0
Energy Consumed (kWh)		N/A						0		0
Energy Intensity (kWh/vol. converted to MG)		N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00

DWR NOTES: Total Utility: The volume of water entered in the "Total Utility" column should equal the volume of water entering the distribution system (excluding recycled water); in most cases, this is the total volume calculated in UWMP Table 4-1: 2025 Actual Total Uses for Potable and Non-Potable Water. Note if recycled water is included in your Submittal Table 4-1, you must exclude it from your volume in this table.

Quantity of Self-Generated Renewable Energy

0 kWh

Data Quality (Estimate, Metered Data, Combination of Estimates and Metered Data)

Data Quality Narrative:

Narrative:

NOTES:

10631.2. (a) In addition to the requirements of Section 10631, an urban water management plan shall include any of the following information that the urban water supplier can readily obtain:

(1) An estimate of the amount of energy used to extract or divert water supplies.
(2) An estimate of the amount of energy used to convey water supplies to the water treatment plants or distribution systems.

(3) An estimate of the amount of energy used to treat water supplies.
(4) An estimate of the amount of energy used to distribute water supplies though its distribution systems.

(5) An estimate of the amount of energy used for treated water supplies in comparison to the amount used for nontreated water supplies.
(6) An estimate of the amount of energy used to place water into or withdraw from storage.

(7) Any other energy-related information the urban water supplier deems appropriate.

10631.2 (b) The Department shall include in its guidance for the preparation of urban water management plans a methodology for the voluntary calculation or estimation of the energy intensity of urban water systems.

Optional Submittal Table O-1B: Recommended Energy Reporting - SINGLE DELIVERY PRODUCT - TOTAL UTILITY APPROACH

Water Delivery Product drop down list (If delivering more than one type of product recommend using Table O-1C)		**Only for Water Delivery Products Under the Urban Water Supplier's Operational Control**		
Start Date of Reporting Period		**Sum of All Water Management Processes**	**Non-Consequential Hydropower**	
End Date of Reporting Period				
Is upstream embedded energy in the values reported?				
Units of Measure for Water		**Total Utility** See DWR NOTES	**Hydropower**	**Net Utility**
Volume of Water Entering Process				-
Energy Consumed (kWh)				-
Energy Intensity (kWh/vol. converted to MG)		-	-	-

DWR NOTES:

Total Utility: The volume of water entered in the "Total Utility" column should equal the volume of water entering the distribution system (excluding recycled water); in most cases, this is the total volume calculated in UWMP Table 4-1: 2025 Actual Total Uses for Potable and Non-Potable Water. Note if recycled water is included in your Submittal Table 4-1, you must exclude it from your volume in this table.

Quantity of Self-Generated Renewable Energy

0 kWh

Data Quality (Estimate, Metered Data, Combination of Estimates and Metered Data)

Data Quality Narrative:

Narrative:

NOTES:

10631.2. (a) In addition to the requirements of Section 10631, an urban water management plan shall include any of the following information that the urban water supplier can readily obtain:
(1) An estimate of the amount of energy used to extract or divert water supplies.
(2) An estimate of the amount of energy used to convey water supplies to the water treatment plants or distribution systems.
(3) An estimate of the amount of energy used to treat water supplies.
(4) An estimate of the amount of energy used to distribute water supplies though its distribution systems.

(5) An estimate of the amount of energy used for treated water supplies in comparison to the amount used for nontreated water supplies.
(6) An estimate of the amount of energy used to place water into or withdraw from storage.

(7) Any other energy-related information the urban water supplier deems appropriate.

10631.2 (b) The Department shall include in its guidance for the preparation of urban water management plans a methodology for the voluntary calculation or estimation of the energy intensity of urban water systems.

Optional Submittal Table O-1C: Recommended Energy Reporting - MULTIPLE WATER DELIVERY PRODUCTS - WATER PROCESS APPROACH

Start Date of Reporting Period	
End Date of Reporting Period	
Is upstream embedded energy in the values reported?	
Units of Measure for Water	

Only for Water Delivery Products Under the Urban Water Supplier's Operational Control

	Water Management Processes						Non-Consequential Hydropower (if applicable)	
	Extract and Divert	Place into Storage	Conveyance	Treatment	Distribution	**Total Utility See DWR NOTES**	**Hydropower**	**Net Utility**
Total Volume of Water Entering Each Process for All Product Types								N/A
Retail Potable Deliveries (%)						Enter in Column C of table below		
Retail Non-Potable Deliveries (%)								
Wholesale Potable Deliveries(%)								
Wholesale Non-Potable Deliveries (%)								
Agricultural Deliveries (%)								
Environmental Deliveries (%)								
Other (%)								
Total Percentage [must equal 100%]	0%	0%	0%	0%	0%	N/A	0%	N/A
Total Energy Consumed by Each Process for All Product Types (kWh)						0		0
Energy Intensity (kWh/vol. converted to MG)	0.0	0.0	0.0	0.0	0.0	N/A	0.0	N/A

DWR NOTES: The volume of water entered in the "Total Utility" column should equal the volume of water entering the distribution system (excluding recycled water); in most cases, this is the total volume calculated in UWMP Table 4-1: 2025 Actual Total Uses for Potable and Non-Potable Water. Note if recycled water is included in your Submittal Table 4-1, you must exclude it from your volume in this table.

Product Type	Delivery Volume by Product (volume units defined above)	Total Energy Intensity (kWh/volume)	Net Energy Intensity (kWh/volume)
Retail Potable		-	-
Retail Non-Potable		-	-
Wholesale Potable		-	-
Wholesale Non-Potable		-	-
Agricultural		-	-
Environmental		-	-
Other		-	-
Total of All Products	**0**	**0.0**	**-**

DWR NOTES: The volume of water entered in the "Total Utility" column should equal the volume of water entering the distribution system (excluding recycled water); in most cases, this is the total volume calculated in UWMP Table 4-1: 2025 Actual Total Uses for Potable and Non-Potable Water. Note if recycled water is included in your Submittal Table 4-1, you must exclude it from the volume reported in Table O1-C..

Quantity of Self-Generated Renewable Energy

kWh

Data Quality (drop down)

Data Quality Narrative:

Narrative:

NOTES:

Optional Submittal Table O-2: Recommended Energy Reporting - WASTEWATER AND RECYCLED WATER					
Start Date of Reporting Period		Only for Water Delivery Products Under the Urban Water Supplier's Operational Control			
End Date of Reporting Period					
Is upstream embedded energy in the values reported?		Water Management Process			
Units of Measure for Water		Collection / Conveyance	Treatment	Discharge / Distribution	Total
Volume of Wastewater Entering Process (volume units selected above)					0
Wastewater Energy Consumed (kWh)					0
Wastewater Energy Intensity (kWh/volume converted to MG)		0.0	0.0	0.0	0.0
Volume of Recycled Water Entering Process (volume units selected above)					0
Recycled Water Energy Consumed (kWh)					0
Recycled Water Energy Intensity (kWh/volume converted to MG)		0.0	0.0	0.0	0.0

Quantity of Self-Generated Renewable Energy related to recycled water and wastewater operations

kWh

Data Quality (drop down)

Data Quality Narrative:

Narrative:

NOTES:

Optional Submittal Table 7-1 Retail: Basis of Water Year Data (Reliability Assessment)

Year Type	Base Year If not using a calendar year, type in the last year of the fiscal, water year, or range of years, for example, water year 2024-2025, use 2025	Available Supplies if Year Type Repeats	
		☐	Check the box if quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. **Location:** [insert location from UWMP]
		Quantification of available supplies is provided in this table as either volume only, percent only, or both.	
		Volume Available (AF)	**% of Average Supply**
Average Year	2014	5,963	100%
Single-Dry Year	2013	5,801	104%
Consecutive Dry Years 1st Year	2015	4,698	105%
Consecutive Dry Years 2nd Year	2016	4,697	108%
Consecutive Dry Years 3rd Year	2017	4,345	107%
Consecutive Dry Years 4th Year	2018	4,555	104%
Consecutive Dry Years 5th Year	2020	4,725	106%

DWR NOTES: Supplier may use multiple versions of Submittal Table 7-1 R if different water sources have different base years and the supplier chooses to report the base years for each water source separately. If a Supplier uses multiple versions of Submittal Table 7-1 R, in the "Note" section of each submittal table, state that multiple versions of Submittal Table 7-1 R are being used and identify the particular water source that is being reported in each submittal table.

Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table reports the units of measure reported in Submittal Table 2-3.

NOTES:

Submittal Table 7-2 Retail: Normal Year Supply and Use Comparison Water Code Section 10635 (a)					
	2030 (AF)	**2035 (AF)**	**2040 (AF)**	**2045 (AF)**	**2050 (AF)**
Supply totals (autofill from Submittal Table 6-9 R)	4,659	4,798	4,971	5,119	5,272
Use totals (autofill from Submittal Table 4-2 R)	5,527	5,690	5,859	6,032	6,086
Surplus/(shortfall)	(868)	(892)	(888)	(913)	(814)
OPTIONAL Planned WSCP Actions					
WSCP - supply augmentation benefit					
WSCP - use reduction savings benefit					
Revised Surplus/(shortfall)					
DWR NOTES : Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3.					
NOTES:					

10635. (a) Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment **shall compare the total water supply sources available to the water supplier with the long-term total projected water use over the next 20 years, in five-year**

Submittal Table 7-3 Retail: Single Dry Year Supply and Use Comparison Water Code Section 10635(a)					
	2030 (AF)	**2035 (AF)**	**2040 (AF)**	**2045 (AF)**	**2050 (AF)**
Supply totals	4,659	4,798	4,971	5,119	5,272
Use totals	5,538	5,701	5,871	6,044	6,098
Surplus/(shortfall)	(879)	(903)	(900)	(925)	(826)
OPTIONAL Planned WSCP Actions					
WSCP - supply augmentation benefit					
WSCP - use reduction savings benefit					
Revised Surplus/(shortfall)					
DWR NOTES : Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3.					
NOTES					

10635. (a) Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment **shall compare the total water supply sources available to the water supplier with the long-term total projected water use over the next 20 years, in five-year increments,** for a normal water year, a **single dry water year**, and a drought lasting five consecutive water years.

Submittal Table 7-4 Retail: Multiple Dry Years Supply and Use Comparison Water Code Section 10635(a)						
		2030 (AF)	2035 (AF)	2040 (AF)	2045 (AF)	2050 (AF)
First year	Supply totals	4,659	4,798	4,971	5,119	5,272
	Use totals	4,659	4,798	4,971	5,119	5,272
	Surplus/(shortfall)	0	0	0	0	0
	OPTIONAL Planned WSCP Actions					
	WSCP - supply augmentation benefit					
	WSCP - use reduction savings benefit					
	Revised Surplus/(shortfall)					
Second year	Supply totals	4,659	4,798	4,971	5,119	5,272
	Use totals	4,659	4,798	4,971	5,119	5,272
	Surplus/(shortfall)	0	0	0	0	0
	OPTIONAL WSCP Actions					
	WSCP - supply augmentation benefit					
	WSCP - use reduction savings benefit					
	Revised Surplus/(shortfall)					
Third year	Supply totals	4,659	4,798	4,971	5,119	5,272
	Use totals	4,659	4,798	4,971	5,119	5,272
	Surplus/(shortfall)	0	0	0	0	0
	OPTIONAL Planned WSCP Actions					
	WSCP - supply augmentation benefit					
	WSCP - use reduction savings benefit					
	Revised Surplus/(shortfall)					
Fourth year	Supply totals	4,659	4,798	4,971	5,119	5,272
	Use totals	4,659	4,798	4,971	5,119	5,272
	Surplus/(shortfall)	0	0	0	0	0
	OPTIONAL Planned WSCP Actions					
	WSCP - supply augmentation benefit					
	WSCP - use reduction savings benefit					
	Revised Surplus/(shortfall)					
Fifth year	Supply totals	4,659	4,798	4,971	5,119	5,272
	Use totals	4,659	4,798	4,971	5,119	5,272
	Surplus/(shortfall)	0	0	0	0	0
	OPTIONAL Planned WSCP Actions					
	WSCP - supply augmentation benefit					
	WSCP - use reduction savings benefit					
	Revised Surplus/(shortfall)					
DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3.						
NOTES:						

10635. (a) Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment **shall compare the total water supply sources available to the water supplier with the long-term total projected water use over the next 20 years, in five-year increments,** for a normal water year, a single dry water

If you choose to fill these optional tables, please paste t

OPTIONAL Submittal Table 7-4 Retail: Multiple Dry Years Supply and Use Comparison - POTABLE

		2030 (AF)	2035 (AF)	2040 (AF)	2045 (AF)	2050 (AF)
First year	Supply totals					
	Use totals					
	Surplus/(shortfall)	0	0	0	0	0
	OPTIONAL Planned WSCP Actions					
	WSCP - supply augmentation benefit					
	WSCP - use reduction savings benefit					
	Revised Surplus/(shortfall)					
Second year	Supply totals					
	Use totals					
	Surplus/(shortfall)	0	0	0	0	0
	OPTIONAL WSCP Actions					
	WSCP - supply augmentation benefit					
	WSCP - use reduction savings benefit					
	Revised Surplus/(shortfall)					
Third year	Supply totals					
	Use totals					
	Surplus/(shortfall)	0	0	0	0	0
	OPTIONAL Planned WSCP Actions					
	WSCP - supply augmentation benefit					
	WSCP - use reduction savings benefit					
	Revised Surplus/(shortfall)					
Fourth year	Supply totals					
	Use totals					
	Surplus/(shortfall)	0	0	0	0	0
	OPTIONAL Planned WSCP Actions					
	WSCP - supply augmentation benefit					
	WSCP - use reduction savings benefit					
	Revised Surplus/(shortfall)					
Fifth year	Supply totals					
	Use totals					
	Surplus/(shortfall)	0	0	0	0	0
	OPTIONAL Planned WSCP Actions					
	WSCP - supply augmentation benefit					
	WSCP - use reduction savings benefit					
	Revised Surplus/(shortfall)					

DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3.

NOTES:

he combined information in the submittal table to the left.

OPTIONAL Submittal Table 7-4 Retail: Multiple Dry Years Supply and Use Comparison - NON-POTABLE						
		2030 (AF)	2035 (AF)	2040 (AF)	2045 (AF)	2050 (AF)
First year	Supply totals					
	Use totals					
	Surplus/(shortfall)	0	0	0	0	0
	OPTIONAL Planned WSCP Actions					
	WSCP - supply augmentation benefit					
	WSCP - use reduction savings benefit					
	Revised Surplus/(shortfall)					
Second year	Supply totals					
	Use totals					
	Surplus/(shortfall)	0	0	0	0	0
	OPTIONAL WSCP Actions					
	WSCP - supply augmentation benefit					
	WSCP - use reduction savings benefit					
	Revised Surplus/(shortfall)					
Third year	Supply totals					
	Use totals					
	Surplus/(shortfall)	0	0	0	0	0
	OPTIONAL Planned WSCP Actions					
	WSCP - supply augmentation benefit					
	WSCP - use reduction savings benefit					
	Revised Surplus/(shortfall)					
Fourth year	Supply totals					
	Use totals					
	Surplus/(shortfall)	0	0	0	0	0
	OPTIONAL Planned WSCP Actions					
	WSCP - supply augmentation benefit					
	WSCP - use reduction savings benefit					
	Revised Surplus/(shortfall)					
Fifth year	Supply totals					
	Use totals					
	Surplus/(shortfall)	0	0	0	0	0
	OPTIONAL Planned WSCP Actions					
	WSCP - supply augmentation benefit					
	WSCP - use reduction savings benefit					
	Revised Surplus/(shortfall)					
DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3.						
NOTES:						

Submittal Table 7-5 Retail: Five-Year Drought Risk Assessment Water Code Section 10635(b)(3)	
2026	**Total**
Total Water Use (AF)	4,551
Total Supplies (AF)	4,551
Surplus/Shortfall w/o WSCP Action	0
OPTIONAL Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit (AF)	0
WSCP - use reduction savings benefit (AF)	0
Revised Surplus/(shortfall)	0
2027	**Total**
Total Water Use (AF)	4,578
Total Supplies (AF)	4,578
Surplus/Shortfall w/o WSCP Action	0
OPTIONAL Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit (AF)	0
WSCP - use reduction savings benefit (AF)	0
Revised Surplus/(shortfall)	0
2028	**Total**
Total Water Use (AF)	4,605
Total Supplies (AF)	4,605
Surplus/Shortfall w/o WSCP Action	0
OPTIONAL Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit (AF)	0
WSCP - use reduction savings benefit (AF)	0
Revised Surplus/(shortfall)	0
2029	**Total**
Total Water Use (AF)	4,623
Total Supplies (AF)	4,623
Surplus/Shortfall w/o WSCP Action	0
OPTIONAL Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit (AF)	
WSCP - use reduction savings benefit (AF)	
Revised Surplus/(shortfall)	
2030	**Total**
Total Water Use (AF)	4,659
Total Supplies (AF)	4,659
Surplus/Shortfall w/o WSCP Action	0
OPTIONAL Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit (AF)	
WSCP - use reduction savings benefit (AF)	
Revised Surplus/(shortfall)	
DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3.	
NOTES:	

10635 (b) Every urban water supplier shall include, as part of its urban water management plan, a **drought risk assessment** for its water service... The drought risk assessment shall include each of the following:

(1) A description of the data, methodology, and basis for one or more supply shortage conditions that are necessary to conduct a drought risk assessment for a drought period that lasts five consecutive water years, starting from the year following when the assessment is conducted.
(2) A determination of the reliability of each source of supply under a variety of water shortage conditions. This may include a determination that a particular source of water supply is fully reliable under most, if not all, conditions.
(3) A comparison of the total water supply sources available to the water supplier with the total projected water use for the drought period.
(4) Considerations of the historical drought hydrology, ...

Submittal Table 8-1: Cross-reference for Standard vs Supplier Shortage Levels Water Code Section 10632(a)(3)(B)			
☐	Check the box if the Supplier uses the Standard six levels of water shortage. Proceed to the next table.		
Standard Shortage Levels	**Percent Shortage Range**	**Suppliers Shortage Levels**	**Percent Shortage Range**
1	Up to 10%	1	5%
2	Up to 20%	2	10%
3	Up to 30%	3	20%
4	Up to 40%	4	30%
5	Up to 50%	5	40%
6	>50%	6	50%
NOTES:			

10632 (a) Every urban water supplier shall prepare and adopt a water shortage contingency plan as part of its urban water management plan that consists of each of the following elements:

(3)(A)Six standard water shortage levels corresponding to progressive ranges of up to 10, 20, 30, 40, and 50 percent shortages and greater than 50 percent shortage. **Urban water suppliers shall define these shortage levels based on the suppliers' water supply conditions, including percentage reductions in water supply, changes in groundwater levels, changes in surface elevation or level of subsidence, or other changes in hydrological or other local conditions indicative of the water supply available for use.** Shortage levels shall also apply to catastrophic interruption of water supplies, including, but not limited to, a regional power outage, an earthquake, and other potential emergency events.

(B) An urban water supplier with an existing water shortage contingency plan that uses different water shortage levels may comply with the requirement in subparagaph (A) by developing and including a cross-reference relating its existing categores to the six standard water shortage levels.

Submittal Table 8-2 Retail: Supply Augmentation and Other Actions Water Code Section 10632(a)(4)(A),(C) and (E)				
	Is the Supplier completing this table using the standard six levels? (yes/no)			
Shortage Level	Supply Augmentation Methods and Other Actions by Water Supplier **Drop down list** These are the only categories that will be accepted by the WUEdata online submittal tool	How much is this going to reduce the shortage gap?		Additional Explanation or Reference (OPTIONAL)
		Volume or Percentage Drop down	Shortage Gap Reduction Value (May be a range) (AF)	
Add additional rows as needed				
All Stages	Expand Public Information Campaign			
3,4,5,6	Implement or Modify Drought Rate Structure or Surcharge			
6	Stored Emergency Supply			
DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3.				
NOTES:				

10632(a)(4) Shortage response actions that align with the defined shortage levels and include, at a minimum, all of the following:

(A) Locally appropriate supply augmentation actions.

(C) Locally appropriate operational changes.

(E) For each action, an estimate of the extent to which the gap between supplies and demand will be reduced by implementation of the action.

Submittal Table 8-3 Retail: Demand Reduction Actions Water Code Section 10632(a)(4)(B),(D), and (E)					
Yes	Is the Supplier completing this table using the standard six levels? (yes/no)				
Shortage Level	Demand Reduction Actions **Drop down list** These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.	How much is this going to reduce the shortage gap?		Additional Explanation or Reference (OPTIONAL)	Penalty, Charge, or Other Enforcement? **For Retail Suppliers Only** Drop Down List
		Volume or Percentage Drop down	Shortage Gap Reduction Value (May be a range) (AF)		
Add additional rows as needed					
All Stages	Expand Public Information Campaign				No
1	Expand Public Information Campaign				No
2	Landscape - Restrict or prohibit runoff from landscape irrigation				Yes
2	Other water feature or swimming pool restriction				Yes
3	Landscape - Other landscape restriction or prohibition				Yes
4	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner				Yes
5	Landscape - Limit landscape irrigation to specific days				Yes
3,4,5,6	Other			Progressively increasing fines for unsustainable, inefficient, and then non-essential water use	Yes
DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3.					
NOTES:					

10632(a)(4) Shortage response actions that align with the defined shortage levels and include, at a minimum, all of the following:
(B) Locally appropriate demand reduction actions to adequately respond to shortages.
(D) Additional, mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions and appropriate to the local conditions
(E) For each action, an estimate of the extent to which the gap between supplies and demand will be reduced by implementation of the action.

Submittal Table 10-1 Retail: Notification to Cities and Counties Water Code Section 10621(b) and 10642		
City Name	60 Day Notice **Drop Down (yes/no)**	Notice of Public Hearing **Drop Down (yes/no)**
Add additional rows as needed		
City of Palmdale	Yes	Yes
City of Lancaster	Yes	Yes
County Name **Drop Down List**	60 Day Notice **Drop Down (yes/no)**	Notice of Public Hearing **Drop Down (yes/no)**
Add additional rows as needed		
Los Angeles County	Yes	Yes
NOTES:		

CWC 10621 (b)Notify at least 60 days prior to the public hearing any city or county within which the supplier provides water that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.
CWC 10642 The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water.

Appendix E

Final Antelope Valley Watermaster 2024 Annual Report
Appendix A Rampdown Schedule

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Appendix A

Rampdown Tables

A-1. Exhibit 3 Non-Overlying Producers and Non-Stipulating Parties Rampdown Schedule

A-2. Exhibit 4 Overlying Producers Rampdown Schedule

Table A-1 Exhibit 3 Non-Overlying Producers and Non-Stipulating Parties Rampdown Schedule

Exhibit 3 Non-Overlying Producers	Pre-Rampdown Production (AFY)	Rampdown Targets (AFY)							Production Right (AFY)
		2016	2017	2018	2019	2020	2021	2022	
Boron Community Services District	153.02	153.02	153.02	135.85	118.68	101.51	84.34	67.17	50.00
California Water Services Company	589.76	589.76	589.76	548.66	507.56	466.45	425.35	384.24	343.14
Desert Lake Community Services District	73.53	73.53	73.53	73.53	73.53	73.53	73.53	73.53	73.53
Littlerock Creek Irrigation District	1,420.19	1,420.19	1,420.19	1,316.25	1,212.32	1,108.38	1,004.45	900.51	796.58
Los Angeles County Waterworks District No. 40	6,789.26	6,789.26	6,789.26	6,789.26	6,789.26	6,789.26	6,789.26	6,789.26	6,789.26
North Edwards Water District	102.92	102.92	102.92	93.94	84.95	75.97	66.99	58.00	49.02
Palm Ranch Irrigation District	1,095.47	1,095.47	1,095.47	990.51	885.55	780.58	675.62	570.65	465.69
Palmdale Water District	2,769.63	2,769.63	2,769.63	2,769.63	2,769.63	2,769.63	2,769.63	2,769.63	2,769.63
Quartz Hill Water District	2,397.09	2,397.09	2,397.09	2,091.53	1,785.97	1,480.41	1,174.85	869.29	563.73
Rosamond Community Services District	2,917.88	2,917.88	2,917.88	2,498.97	2,080.06	1,661.15	1,242.24	823.33	404.42
West Valley County Water District	185.00	185.00	185.00	160.83	136.67	112.50	88.33	64.17	40.00
Total	**18,493.75**	**18,493.75**	**18,493.75**	**17,468.96**	**16,444.17**	**15,419.38**	**14,394.58**	**13,369.79**	**12,345.00**

Non-Stipulating Parties	Pre-Rampdown Production (AFY)	Rampdown Targets (AFY)							Production Right (AFY)
		2016	2017	2018	2019	2020	2021	2022	
Desert Breeze MHP, LLC	20.35	20.35	20.35	19.98	19.60	19.23	18.85	18.48	18.10
Milana VII, LLC dba Rosamond Mobile Home Park	28.00	28.00	28.00	26.95	25.90	24.85	23.80	22.75	21.70
Reesdale Mutual Water Company	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00
Juanita Eyherabide, Eyherabide Land Co., LLC and Eyherabide Sheep Company	14.56	14.56	14.56	14.13	13.71	13.28	12.85	12.43	12.00
Clan Keith Real Estate Investments, LLC dba Leisure Lake Mobile Estates	148.10	148.10	148.10	134.08	120.07	106.05	92.03	78.02	64.00
White Fence Farms Mutual Water Company No. 3	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
LV Ritter Ranch, LLC	950.87	950.87	950.87	792.39	633.91	475.44	316.96	158.48	0.00
Robar Enterprises, Inc., HI-Grade Materials, Co., and CJR, a General Partnership	675.00	675.00	675.00	596.67	517.33	438.00	358.67	279.33	200.00
SCI California Funeral Services, Inc. dba Joshua Memorial Park[1]	101.50	93.56	85.63	77.69	69.75	61.81	53.88	45.94	38.00
Total	**1,965.38**	**1,957.44**	**1,949.51**	**1,688.89**	**1,427.27**	**1,165.65**	**904.04**	**642.42**	**380.80**

1. SCI California Funeral Services, Inc. dba Joshua Memorial Park intervened to become Non-Stipulating Party in 2019. On February 5, 2021 SCI was granted a Production Right of 38 AFY and a Pre-Rampdown amount of 101.50 AFY.

Table A-2 Exhibit 4 Overlying Producers Rampdown Schedule

6/23/2022

Original Exhibit 4 Producers	Transferees	Pre-Rampdown Production[1] (AF)	Rampdown Targets (AF)							Production Right (AF)
			2016	2017	2018	2019	2020	2021	2022	
60th Street Association Water System		2.16	2.16	2.16	2.16	2.16	2.16	2.16	2.16	**2.16**
Adams Bennett Investments, LLC		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
Antelope Park Mutual Water Company		208.75	208.75	208.75	202.27	195.80	189.32	182.84	176.37	**169.89**
Antelope Valley Joint Union High School District		71.74	71.74	71.74	66.62	61.49	56.37	51.25	46.12	**41.00**
Antelope Valley Mobile Estates		19.88	19.88	19.88	18.03	16.17	14.32	12.46	10.61	**8.75**
Antelope Valley Water Storage LLC		1,772.00	1,772.00	1,772.00	1,772.00	1,772.00	1,772.00	1,772.00	1,772.00	**1,772.00**
Antelope Valley-East Kern Water Agency (AVEK)	(Also owns 700 AFY of Healy Production Rights, 1/2022)	4,000.00	4,000.00	4,000.00	3,925.00	3,850.00	3,775.00	3,700.00	3,625.00	**3,550.00**
Aqua-J Mutual Water Company		44.90	44.90	44.90	44.81	44.72	44.63	44.53	44.44	**44.35**
AV Solar Ranch 1, LLC		96.00	96.00	96.00	96.00	96.00	96.00	96.00	96.00	**96.00**
Averydale Mutual Water Company		257.95	257.95	257.95	257.35	256.75	256.15	255.55	254.95	**254.35**
Bahlman: Gene Bahlman	Hernandez: Luis Hernandez; property sale (2017)	5.25	5.25	5.25	5.21	5.17	5.13	5.08	5.04	**5.00**
Baxter Mutual Water Company		44.75	44.75	44.75	43.13	41.51	39.89	38.26	36.64	**35.02**
Benz: Mark W. And Nancy L. Benz	Terrazas: Gloria Terrazas; property sale (2015)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	**1.00**
Big Rock Mutual Water Company		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
Bittner Trust, Glen Brittner, Trustee		4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	**4.00**
Bleich Flat Mutual Water Company		33.50	33.50	33.50	33.50	33.50	33.50	33.50	33.50	**33.50**
Blum: Sheldon R. Blum, Trustee of the 1998 Family Trust		50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	**50.00**
Bolthouse Properties LLC		16,805.89	16,805.89	16,805.89	15,662.41	14,518.93	13,375.45	12,231.96	11,088.48	**9,945.00**
Bookman: Thomas and Julie Bookman 2007 Trust		272.50	272.50	272.50	249.75	227.00	204.25	181.50	158.75	**136.00**
Borax: U.S. Borax		1,905.00	1,905.00	1,905.00	1,905.00	1,905.00	1,905.00	1,905.00	1,905.00	**1,905.00**
Bridwell: James and Elizabeth Bridwell		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	**1.00**
Burrows/300 A40 H LLC		295.00	295.00	295.00	295.00	295.00	295.00	295.00	295.00	**295.00**
Calandri Water Company, LLC (Sonrise Farms)		3,803.00	3,803.00	3,803.00	3,465.17	3,127.33	2,789.50	2,451.67	2,113.83	**1,776.00**
Cardile: Sal and Connie Cardile	Pool: Noel Pool; property sale (2015)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	**1.00**
Carle: Irma Ann Carle Trust, Irma-Anne Carle. Trustee		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	**1.00**
Chavez: Effren Chavez		44.00	44.00	44.00	44.00	44.00	44.00	44.00	44.00	**44.00**
City of Los Angeles, Department of Airports		7,851.00	7,851.00	7,851.00	7,205.00	6,559.00	5,913.00	5,267.00	4,621.00	**3,975.00**
Close: C. Louise R. Close Living Trust		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	**1.00**
Colorado Mutual Water Company		25.90	25.90	25.90	25.84	25.78	25.72	25.66	25.60	**25.54**
Copa De Oro Land Company	WDS California II, LLC (2020)	325.00	325.00	325.00	325.00	325.00	315.00	315.00	315.00	**315.00**
	Copa De Oro Land Company (2020)						10.00	10.00	10.00	**10.00**
County Sanitation Districts of Los Angeles 14 & 20	County Sanitation District No. 14 of Los Angeles County: 3,060 AFY (2019)	8,000.00	8,000.00	8,000.00	7,233.33	5,820.00	5,130.00	4,440.00	3,750.00	**3,060.00**
	County Sanitation District No. 20 of Los Angeles County: 340 AFY (2019)					646.67	570.00	493.33	416.67	**340.00**
Del Sur Ranch LLC		600.00	600.00	600.00	600.00	600.00	600.00	600.00	600.00	**600.00**
Diamond Farming/Crystal Organic LLC/Grimmway/Lapis		3,354.00	3,354.00	3,354.00	3,126.00	2,898.00	2,670.00	2,442.00	2,214.00	**1,986.00**
Dickey: Randall and Billie Dickey		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	**1.00**
El Dorado Mutual Water Company		276.05	276.05	276.05	275.40	274.75	274.11	273.46	272.81	**272.16**
eSolar Inc.; Red Dawn Suntower LLC	Rosamond Community Services District [Exhibit 3] (2016)	150.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00	**150.00**
eSolar Inc.; Sierra Sun Tower, LLC		5.76	5.76	5.76	5.30	4.84	4.38	3.92	3.46	**3.00**
eSolar Inc.; Tumbleweed Suntower LLC		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
Evans: Lawrence Dean Evans, Jr. and Susan Evans		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	**1.00**
Evergreen Mutual Water Company		69.50	69.50	69.50	69.34	69.18	69.02	68.86	68.70	**68.54**
Findley: Ruth C. Findley		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	**1.00**
First Mutual Water Company		15.62	15.62	15.62	13.89	12.16	10.44	8.71	6.98	**5.25**
Frankenberg: Leah Frankenberg		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	**1.00**
Godde: Steve, Pamela & Gary Godde c/o Rife Silva & Co LLC	[Receives IWRF Rights from Forrest Godde (an Exhibit 8 Party (2017)] Steven F. Godde and Denise Godde (2020)	1,461.50	1,461.50	1,461.50	1,331.75	1,202.00	388.15	341.18	294.21	**247.27**
	Gary M. Godde, Trustee of the Gary M. Godde 2015 Trust (2020)						342.05	300.66	259.27	**217.87**
	Pamela M. Godde (2020)						342.05	300.66	259.27	**217.87**
Gorrindo Resourceful LLC		629.00	629.00	629.00	629.00	629.00	629.00	629.00	629.00	**629.00**
Granite Construction Company (Big Rock Facility)		126.00	126.00	126.00	126.00	126.00	126.00	126.00	126.00	**126.00**
Granite Construction Company (Little Rock Sand and Gravel , Co.)	Rampdown & Production Rights split equally between Granite Construction and Little Rock Sand and Gravel (6/27/18 Stipulation and Order)	400.00	400.00	400.00	372.33	344.67	317.00	289.33	261.67	**234.00**
Griffin: Laura Griffin Trustee of the Family Bypass Trust	Marleen Griffin (Oct 2021)	1,170.00	1,170.00	1,170.00	1,086.33	1,002.67	919.00	417.67	375.83	**334.00**
	James and Diane Nye 2019 Revocable Trust (Oct 2021)							417.67	375.83	**334.00**
H & N Development Co. West Inc.	RTS Orchards property sale, 808 AFY (January 2022)	1,799.75	1,799.75	1,799.75	1,634.46	1,469.17	1,303.88	1,138.58	973.29	**808.00**
Healy: Jane Healy and Healy Enterprises Inc.	AVEK property sale, 700 AFY (January 2022)	700.00	700.00	700.00	700.00	700.00	700.00	700.00	700.00	**700.00**
Kyle: Trustees of the Kyle Revocable Living Trust		9,275.00	9,275.00	9,275.00	8,340.83	7,406.67	6,472.50	5,538.33	4,604.17	**3,670.00**
Land Projects Mutual Water Company		622.50	622.50	622.50	621.01	619.51	618.02	616.53	615.03	**613.54**
Landale Mutual Water Company		157.75	157.75	157.75	157.39	157.02	156.66	156.30	155.93	**155.57**
Landinv Inc.	FS Land Holding Company, LLC: 736.44 AF (2016) 600 AFY to Diamond Farming (217 AF), Crystal Organic (190 AF), Grimmway (193 AF) (2018)	2,000.00	1,520.00	1,520.00	600.00	600.00	600.00	600.00	600.00	**600.00**
	Remain with FS Land Holding Company, LLC: 136.44 AF (2018) US Solar (2020)				789.41	658.81	528.22	397.63	267.03	**136.44**
	Radcast: merger, 232.56 AF Rosamond CSD: 232.56 AF Production Right (June 2022)		480.00	480.00	438.76	397.52	356.28	315.04	273.80	**232.56**
Lands of Promise Mutual Water Company		64.61	64.61	64.61	57.46	50.30	43.15	36.00	28.84	**21.69**
Lane Family Trust		1,402.00	1,402.00	1,402.00	1,297.17	1,192.33	1,087.50	982.67	877.83	**773.00**
LeClair: Marie A. Unini and Robert J. LeClair		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	**1.00**
Leer: James M. Leer, III and Diane Leer		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	**1.00**
Littlerock Aggregate Co., Inc., Hollidav Rock Co.. Inc.		405.00	405.00	405.00	362.67	320.33	278.00	235.67	193.33	**151.00**
Llano Del Rio Water Company		572.65	572.65	572.65	523.71	474.77	425.83	376.88	327.94	**279.00**
Llano Mutual Water Company		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**

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Table A-2 Exhibit 4 Overlying Producers Rampdown Schedule

6/23/2022

Original Exhibit 4 Producers	Transferees			Pre-Rampdown Production[1] (AF)	Rampdown Targets (AF)							Production Right (AF)
					2016	2017	2018	2019	2020	2021	2022	
Maritorena: Trustees of the Maritorena Living Trust				3,800.55	3,800.55	3,800.55	3,462.96	3,125.37	2,787.78	2,450.18	2,112.59	**1,775.00**
McWilliams: Dennis M. and Diane K. McWilliams				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	**1.00**
Miner: Richard Miner	Rosamond Community Services District [Exhibit 3](Jan 2022)			1,089.40	1,089.40	1,089.40	1,074.33	1,059.27	1,044.20	1,029.13	1,014.07	**999.00**
Miracle Improvement Corporation dba Golden Sands Mobile Home	New Goldensands Investment; property sale (2016)			45.40	45.40	45.40	42.33	39.27	36.20	33.13	30.07	**27.00**
Munz: 2014 Revocable Trust, Terry A. & Kathleen M. Munz				5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	**5.00**
Nebeker: Eugene B. Nebeker	WDS CA II; property sale (2021)			4,016.00	4,016.00	4,016.00	3,642.50	3,269.00	2,895.50	2,522.00	2,148.50	**1,775.00**
Northrop Grumman Systems Corporation				2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	**2.00**
NRG Solar Alpine, LLC	[also called Oasis Solar/Clearway Energy (formerly NRG Solar)]			64.21	64.21	64.21	59.84	55.47	51.11	46.74	42.37	**38.00**
R and M Ranch, Inc.				1,458.00	1,458.00	1,458.00	1,329.33	1,200.67	1,072.00	943.33	814.67	**686.00**
Reca: John and Adrienne Reca				501.45	501.45	501.45	459.71	417.97	376.23	334.48	292.74	**251.00**
Richter: Suzanne J. Richter				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	**1.00**
Rosamond High School				586.40	586.40	586.40	522.37	458.34	394.32	330.29	266.26	**202.23**
Rosamond Ranch	FS Land Holding Company, LLC, property sale (2015)	US Solar (2020)		598.00	598.00	598.00	598.00	598.00	588.00	588.00	588.00	**588.00**
		Rabbitbrush Solar (2020)							10.00	10.00	10.00	**10.00**
Rose Villa Apartments				22.72	22.72	22.72	20.20	17.69	15.17	12.65	10.14	**7.62**
Sahara Nursery and Farm				22.18	22.18	22.18	22.15	22.12	22.09	22.06	22.03	**22.00**
Saint Andrew's Abbey, Inc.				175.00	175.00	175.00	162.83	150.67	138.50	126.33	114.17	**102.00**
Schilling: Lawrence J. and Mary P. Schilling Trustees of the L&M Schilling 1992 Family Trust				4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	**4.00**
Selak: Lilia Mabel Selak; Barbara Aznarez Decd Trust and Mabel Selak Trust	Selak, Steven J. Selak Consolidated Trust (Richard and Steve Selak successors in interest then split rights (July 2020))			150.00	150.00	150.00	150.00	150.00	75.00	75.00	75.00	**75.00**
	Selak, Richard J. Selak Consolidated Trust (Richard and Steve Selak successors in interest then split rights (July 2020))								75.00	75.00	75.00	**75.00**
Service Rock Products, L.P.				503.00	503.00	503.00	463.67	424.33	385.00	345.67	306.33	**267.00**
SGS Antelope Valley Development, LLC				57.00	57.00	57.00	57.00	57.00	57.00	57.00	57.00	**57.00**
Shadow Acres Mutual Water Company				52.60	52.60	52.60	52.46	52.31	52.17	52.03	51.88	**51.74**
Sheep Creek Water Company				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
Siebert: Jeffrey and Nancee Siebert	Siebert, Jeffrey and Nancee: 105 AFY (July 2018)	Siebert, Jeffrey and Nancee: 104 AFY (July 2020)		200.00	200.00	200.00	183.33	167.67	151.00	131.33	114.67	**100.00**
		Herbert, Michael (V Lions): 1 AFY (July 2020)							1.00	5.00	5.00	**5.00**
	Selak, Steven and Christine Selak Trust: 1 AFY (July 2018)						1.00	1.00	1.00	1.00	1.00	**1.00**
Sonrise Ranch, LLC				662.00	662.00	662.00	551.67	441.33	331.00	220.67	110.33	**0.00**
Southern California Edison Company				17.75	17.75	17.75	16.13	14.50	12.88	11.25	9.63	**8.00**
Sundale Mutual Water Company				472.23	472.23	472.23	472.23	472.23	472.23	472.23	472.23	**472.23**
Sunnyside Farms Mutual Water Company, Inc.				75.40	75.40	75.40	75.21	75.02	74.83	74.64	74.45	**74.26**
Tejon Ranchcorp and Tejon Ranch Co.				3,414.00	3,414.00	3,414.00	3,117.33	2,820.67	2,524.00	2,227.33	1,930.67	**1,634.00**
Tierra Bonita Mutual Water Company				40.75	40.75	40.75	40.68	40.61	40.54	40.46	40.39	**40.32**
Tierra Bonita Ranch				505.00	505.00	505.00	492.50	480.00	467.50	455.00	442.50	**430.00**
Triple M Property Co.	Golden Gate Fields Solar III LLC property sale (2019) (Approved June 2021)			15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	**15.00**
Turk Trust dated December 16, 1998				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	**1.00**
Van Dam: Craig Van Dam, Marta Van Dam, Nick Van Dam, Janet Van Dam	Van Dam, Craig and Marta: 610 AFY (2018)	Van Dam: Craig and Marta: 608 AFY (2020)		1,037.00	1,037.00	1,037.00	925.32	862.26	796.19	608.13	545.06	**482.00**
		Calandri Farms: 1 AFY (2020)	Calandri Farms: 1 AFY (2020); 126 AFY (2021); -20 AFY (2021)						1.00	106.00	106.00	**106.00**
			Antelope Valley Water Trust: 20 AFY (2021)							20.00	20.00	**20.00**
		V Lions: 1 AFY (2020)							1.00	1.00	1.00	**1.00**
		Gene Wheeler Farms: 1 AFY (Oct 2020)							1.00	1.00	1.00	**1.00**
	Van Dam, Nick and Janet: 30 AFY (2018)						45.51	42.41	39.31	36.20	33.10	**30.00**
Van Dam Family Trust - 1996; High Desert Dairy	High Desert Dairy LLC 1,817 AFY (2020)			9,931.50	9,931.50	9,931.50	8,812.08	7,692.67	3,714.97	3,082.31	2,449.66	**1,817.00**
	Gary Van Dam 466 AFY (2020)								952.76	790.51	628.25	**466.00**
	Craig & Marta Van Dam 466 AFY (2020)	Van Dam: Craig and Marta: 465 AFY (Oct 2021); 464 AFY (Dec 2021)							952.76	788.51	626.25	**464.00**
		White Fence Farms MWC No. 3: 1 AFY (Oct 2021) [also has Non-Stipulating Rights - see Table B-3]								1.00	1.00	**1.00**
		40th Street East Water Group: 1 AFY (Dec 2021)								1.00	1.00	**1.00**
	Nick & Janet Van Dam 466 AFY (2020)	Van Dam, Nick and Janet: 116 AFY (2022)							952.76	790.51	278.25	**116.00**
		Rosamond CSD: 350 AFY (2022)									350.00	**350.00**
Vulcan Materials Co., Vulcan Lands Inc., Consolidated Rock Products				519.10	519.10	519.10	475.92	432.73	389.55	346.37	303.18	**260.00**
WAGAS Land Company LLC				984.15	984.15	984.15	916.79	849.43	782.08	714.72	647.36	**580.00**
WDS California II, LLC	[Received 315 AF from Copa de starting Jan 2020]			2,397.00	2,397.00	2,397.00	2,190.67	1,984.33	1,778.00	1,571.67	1,365.33	**1,159.00**
Weatherbie: Michael and Dolores A. Weatherbie	Graves: Thomas Graves; property sale (2020)			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	**1.00**
West Side Park Mutual Water Co.				280.75	280.75	280.75	280.10	279.45	278.81	278.16	277.51	**276.86**
White Fence Farms Mutual Water Co.				783.05	783.05	783.05	781.23	779.41	777.59	775.77	773.95	**772.13**
William Fisher Memorial Water Company	Production well is outside of Adjudicated Area			4.53	4.53	4.53	4.53	4.53	4.53	4.53	4.53	**4.53**
Willow Springs Company: Richard Nelson				180.65	180.65	180.65	173.04	165.43	157.83	150.22	142.61	**135.00**
Wilson: Donna Wilson				10.00	10.00	10.00	9.50	9.00	8.50	8.00	7.50	**7.00**
			Total:	**105,892.63**	**105,892.63**	**105,892.63**	**97,964.23**	**90,035.84**	**82,107.43**	**74,179.04**	**66,249.62**	**58,322.23**

1. Exhibit 4 of the Judgment shows a Pre-Rampdown Production total of 105,878.08 AF due to the inadvertent omission of the last two entries in the sum on Exhibit 4 (Donna Wilson and William Fisher Memorial Water Company). The corrected sum of 105,892.63 will be used going forward.

TODD GROUNDWATER
Watermaster Engineer

Appendix F

Water Shortage Contingency Plan

ARDURRA

ARDURRA

QUARTZ HILL WATER DISTRICT

2025 WATER SHORTAGE CONTINGENCY PLAN

OCTOBER 15, 2026

PREPARED FOR:

QUARTZ HILL WATER DISTRICT
5034 W. AVE. L
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BIBLIOGRAPHY

The following reports, studies, and other material were reviewed during preparation of this Water Shortage Contingency Plan update.

1. 2025 Urban Water Management Plans Guidebook for Urban Water Suppliers dated January 2026 and prepared by the California Department of Water Resources.
2. Antelope Valley Watermaster 2024 Annual Report dated July 24, 2025 and prepared by Todd Groundwater.
3. 2025 County of Los Angeles All-Hazards Mitigation Plan.

List of Abbreviations

AB	Assembly Bill
AF	Acre-Foot
Ardurra	Ardurra Group, Inc.
BMP	Best Management Practices
CASGEM	California Statewide Groundwater Elevation Monitoring Program
CEHTP	California Environmental Health Tracking Program
CEQA	California Environmental Quality Act
cf	Cubic Feet
CII	Commercial, Industrial, Institutional, water use sectors
CIMIS	California Irrigation Management Information System
CUWCC	California Urban Water Conservation
CWC	California Water Code
DMMs	Demand Management Measures
DOF	Department of Finance
DU	Dwelling Unit
DWR	Department of Water Resources
eARDWP	Electronic Annual Reports to the Drinking Water Program (SWRCB)
Eto	Reference Evapotranspiration
GIS	Geographic Information System
GPCD	Gallons per Capita per Day
IRWM	Integrated Regional Water Management
ITP	Independent Technical Panel
LAFCO	Local Agency Formation Commission
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
PWS	Public Water System
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SB X7-7	Senate Bill Seven of the Senate's Seventh Extraordinary Session of 2009
SGMA	Sustainable Groundwater Management Act
SQ FT	Square Feet
SWP	State Water Project

SWRCB	State Water Resources Control Board
RUWMP	Regional Urban Water Management Plan
UWMP	Urban Water Management Plan
WARN	Water/Wastewater Agency Response Network
WDR	Waste Discharge Requirement
WRR	Water Recycling Requirement
WSCP	Water Shortage Contingency Plan

Chapter 1 INTRODUCTION

1.1 Law

This Water Shortage Contingency Plan (WSCP) for Quartz Hill Water District (QHWD or the District) outlines a program for responding to water supply limitations. The intent of the water conservation measures, progressive restrictions on water use, and method of use identified in this WSCP is to enable the District to implement water management measures in a fair and orderly manner for the benefit of the public.

This WSCP describes measures to be implemented during times of declared water shortages or declared water shortage emergencies by either the Metropolitan Water District (MWD), Central Basin Municipal Water District (CBMWD), the District, State or Federal government. It establishes six stages of drought response actions to be implemented in times of shortage, with increasing restrictions on water use in response to decreasing available supplies.

1.2 Quartz Hill Water District (QHWD)

Quartz Hill Water District was incorporated in 1954 as a County Water District and water service provider. QHWD serves over 19,000 people and is located in the City of Lancaster, unincorporated portions of the County of Los Angeles, and a small portion of the City of Palmdale. The QHWD is governed by a Board of Directors consisting of five members elected at large. The Board establishes QHWD policy through the enactment of laws (ordinances) and the adoption of resolutions.

QHWD water system is composed of groundwater pumped from the Antelope Valley Groundwater Basin and imported potable water from the Antelope Valley East Kern Water Agency (AVEK). The water supply system has 10 active wells, and water is conveyed from the wells to the consumers via 97 miles of distribution piping with pipe sizes ranging between 4 and 24-inches in diameter. The District operates eight storage reservoirs within the service area having a total capacity of 13.6 million gallons, six booster station, seventeen pressure regulating stations, and two hydro-pneumatic tanks. All facilities are monitored by a Supervisory Control and Data Acquisition (SCADA) system, which activates wells and booster pump facilities based on storage tank water levels or pressure at selected locations within the distribution system.

QHWD benefits from having multiple water sources from which to draw from during shortages. QHWD works to build capacity in their system such that they can maximize their existing resources without importing new sources. Although many portions of California experienced shortages during the most recent drought, QHWD was able to meet customer demands by voluntary reduction of customer usage and implementation of the water budget based tiered rate structure.

It should be noted that relevant sections of the water code as related to the WSCP are included in **Appendix B.**

Chapter 2 WATER SUPPLY RELIABILITY ANALYSIS

2.1 Water Supply Reliability Analysis

QHWD has never had a single year or multiple dry years in which it did not meet 100% of its demand, regardless of regional hydrology. Therefore, there is no basis in the hydrologic record for reducing supply reliability based upon single and/or multiple dry year conditions when imported water supply is available in addition to historical groundwater production. On this assumption, QHWD's supply is presented as 100% reliable for single and multiple dry year periods as summarized in the following sections.

To supplement this statement QHWD, developed **Table 2-1**, which involved a preliminary climate change vulnerability screening (including impacts from extreme heat, water quality, sea level rise, flooding, and wildfire) for its water supplies.

Table 2-1: Climate Change Vulnerability Screening

Preliminary Assessment	Imported Water Level of Risk
I. Water Supply and Demand	
Are the water supply diversions sensitive to climate change?	3
Is the water supply source affected by urban or agricultural water demand that might be climate sensitive?	3
Is groundwater a major supply source?	4
Does the water supply source rely on or could it be affected by snowmelt?	4
Does the water supply source come from or could it be affected by coastal aquifers? Has saltwater intrusion been a problem in the past?	N/A
Does the water supply source rely on or could it be affected by changes in stored water supplies?	4
II. Extreme Heat	
Could extreme heat impact operations of the water supply project or diversions?	2
Does the supply source rely on equipment or infrastructure that could be impacted by extreme or prolonged heat?	3

Table 2-1: Climate Change Vulnerability Screening	
Preliminary Assessment	**Imported Water Level of Risk**
III. Water Quality	
Could water quality issues, such as low dissolved oxygen, algal blooms, disinfectant biproducts affect the water supply source?	N/A
Could reduction in assimilative capacity of a receiving water body affect the water supply source?	N/A
Could the water supply source be affected by water quality shifts during rainfall/runoff events?	1
IV. Sea Level Rise	
Is any of the water supply source infrastructure located in area that could be exposed to rising tides?	N/A
Could coastal erosion affect the water supply source?	N/A
Is the water supply source dependent on coastal structures, such as levees or breakwaters, for protection from flooding?	N/A
V. Flooding	
Is the water supply or any of its associated infrastructure located within the 200-year floodplain? Does the water supply source rely on flood protection infrastructure such as levees or dams?	N/A
VI. Wildfire	
Is the water supply source located in an area that is expected to experience an increase in wildfire activity or severity? Would a wildfire result in damage to the water supply source infrastructure or interruption of its ability to perform as designed? Could the water supply source be affected by an increase in wildfire activity or severity in an upstream watershed or other adjacent area?	3
Note: 1. *Level of Risk: 1 – low, 3 – medium, 5 – high.*	

Chapter 3 ANNUAL WATER SUPPLY AND DEMAND ASSESSMENT PROCEDURES

3.1 Annual Water Supply and Demand Assessment Procedures

In accordance with California Water Code (CWC) 10632, the District will conduct an annual water supply and demand assessment, or annual assessment by July 1st of each year.

QHWD will determine if a shortage in supply exists and declare the appropriate water shortage level based on the findings. QHWD will draft and prepare a written report that discusses the results of the annual water supply and demand assessment, what water shortage level and shortage response actions are to be implemented and issue the appropriate communication to customers and local governments. A copy of the annual report will be submitted to the Board Directors ahead of the meeting for review. The Board of Directors will listen to the findings and recommendations outlined in the report and vote regarding whether to approve and implement the actions described in the annual report at a May board meeting.

3.1.1 Key Data Inputs

The Water Shortage Contingency Plan team will consist of the QHWD General Manager and the District Engineer. The team will draft and prepare the annual water supply reliability analysis report. The report will use the key data inputs and methodology described in **Table 3-1** to determine the unconstrained demand, infrastructure capabilities, available water supply, and reliability for the current year and one dry year.

Table 3-1: Key Data Inputs		
Key Input	**Data**	**Description**
Current year Customer Demand and Available Supply	Public Water System Statistics Sheet (DWR sheet) & Monthly Tracking Sheet	The water statistics sheet and monthly tracking sheet is prepared by District's General Manager in January for the previous year. The statistics sheet will be used to calculate water supply by source and show unconstrained water demand.
Projected Water Supply	Wells & AVEK Production History Worksheet	This worksheet is prepared by District's General Manager and is updated each year. This worksheet provides the monthly production totals for each well and imported water supply. This will be used to help determine water supply reliability.
Infrastructure Considerations	Annual Project List and Schedule	This list will be prepared by the District's General Manager and describe all the planned projects for the year. The annual project list will be used to assess infrastructure capabilities and any potential constraints to the water system.

3.2 Data and Methodologies

3.2.1 Assessment Methodology

QHWD will enact water shortage response actions if the available water supply is less than the estimated demands. A dry year will be defined as a year where there is over a 10% reduction in the available water supply and corresponds to a stage 2 water shortage level in **Table 4-1**. QHWD will take the following steps to evaluate the water supply and demand:

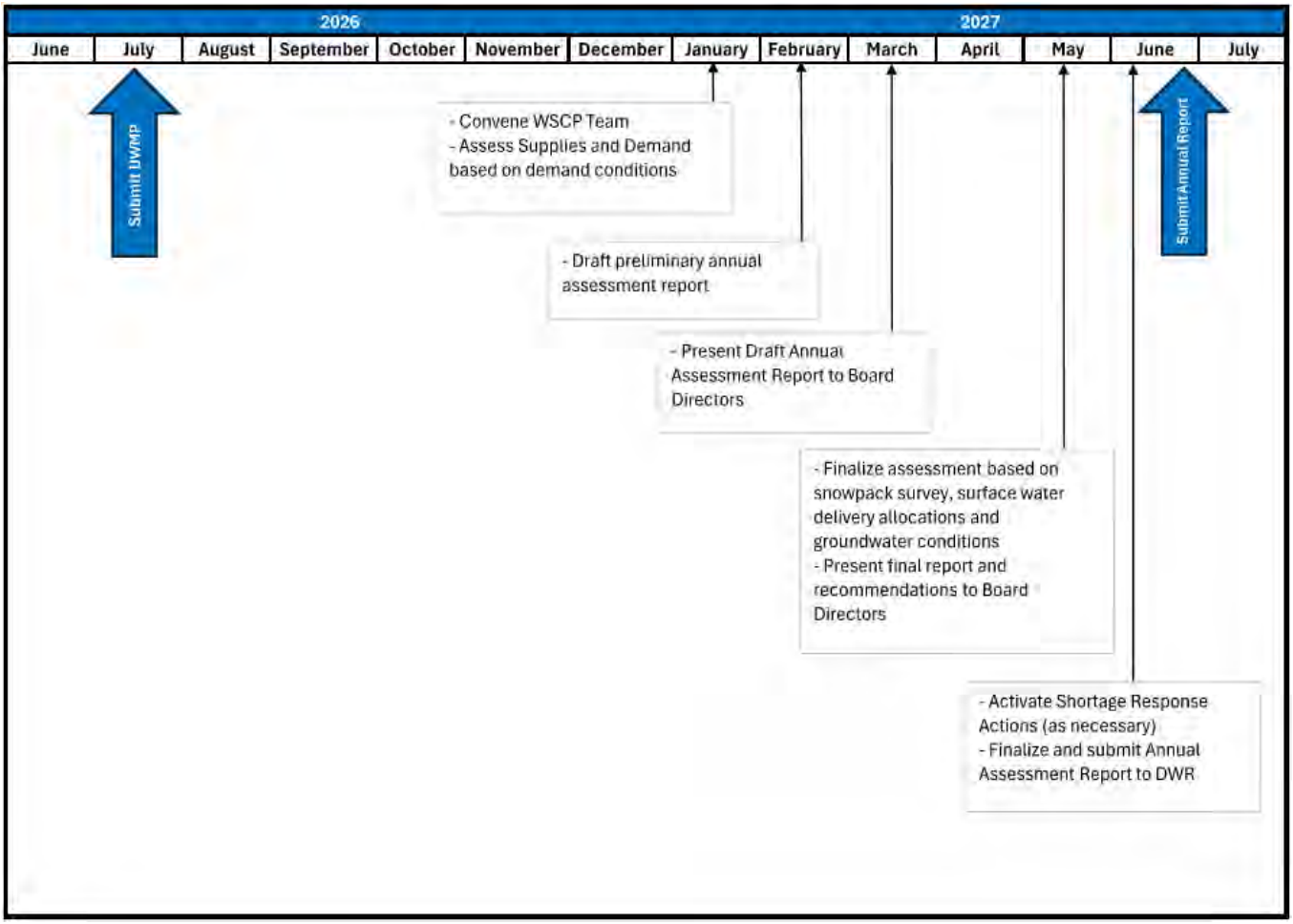
1. Evaluate Water Supply: Using the Public Water System Statistics Sheet for the past year determine the total amount of water available to QHWD. Review the water supply contract between AVEK and QHWD for any conditions that would lead to supply reductions. Calculate the total water supply available using an excel spreadsheet.
2. Calculate Unconstrained Customer Demand: Using the Public Water System Statistics Sheet calculate the total water delivered the previous year.
3. Planned Water Use for Current Year Considering Dry Year**:** Compare the available water supply and the customer demand and determine if there is an expected water shortage.
4. Infrastructure Considerations: Using the annual project list and schedule, determine if any projects will reduce or increase supply.
5. Compare supply and demand and decide of the level of water supply reliability for current year and one dry year, declare a water shortage level, and issue relevant communication, if necessary.

6. Additional considerations: The Board will consider the following in making a determination:
7. The District's wholesale water supplier has determined a drought, water shortage, or water shortage emergency exists or has implemented or taken other action requiring a reduction in water demand.
8. Regional or statewide importation or local distribution systems or facility(ies) have failed or have been shut down (e.g., a main break, reservoir, pipeline, canal, or other distribution or conveyance system failure).
9. Alternative water supplies are limited or unavailable.
10. The State has determined that a drought, water shortage or water shortage emergency exists.
11. The State has implemented restrictions on the use of water or reduced or restricted the delivery of wholesale water to the District.
12. Any other natural disaster that impacts the availability of water to the District.

3.2.2 Water Supply Reliability Analysis Timeline

QHWD will start to evaluate the water supply availability in January and will submit the report to the DWR in June of each year per the recommended timeline as shown in **Figure 3-1**.

Figure 3-1: Water Supply Reliability Analysis Timeline



Chapter 4 SIX STANDARD WATER SHORTAGE LEVELS

This WSCP identifies water conservation measures and progressive restrictions on water use to enable the District to implement water management measures in a fair and orderly manner for the benefit of the public in accordance with CWC §10632(a)(3). This WSCP establishes six (6) stages of drought response actions that could be voluntarily implemented by the District in times of shortage, with increasing restrictions on water use in response to decreasing supplies. This WSCP includes both voluntary and mandatory water use reductions depending on the causes, severity, and anticipated duration of the water supply shortage. Water use reduction stages may be triggered by contamination in one water source, combination of sources, or during times that a shortage is declared by the MWD, CBMWD, GSWC, District, State, or Federal government. QHWD's potable water sources are groundwater and imported potable water from AVEK. Because shortages overlap stages, triggers automatically implement the more restrictive Stage. Specific criteria for triggering QHWD's water use reduction stages are shown in **Table 4-1**.

Table 4-1: Water Shortage Contingency Plan Levels

Shortage Level	Stage	Percent Supply Reduction	Water Supply Condition
1	Stage I (a): Moderate	0 – 10%	A Level I Water Supply Shortage exists when the District determines, in its sole discretion, that due to drought or other water supply conditions, a water supply shortage or threatened shortage exists and a 10% consumer demand reduction is necessary to make more efficient use of water and appropriately respond to existing water conditions.
2	Stage I (b): Moderate	11 – 20%	A Level II Water Supply Shortage exists when the District determines, in its sole discretion, that due to drought or other water supply conditions, a water supply shortage or threatened shortage exists and a 20% consumer demand reduction is necessary to make more efficient use of water and appropriately respond to existing water conditions.

Table 4-1: Water Shortage Contingency Plan Levels			
Shortage Level	**Stage**	**Percent Supply Reduction**	**Water Supply Condition**
3	Stage II (a): Severe	21 – 30%	A Level III Water Supply Shortage exists when the District declares, in its sole discretion, that due to drought or other water supply conditions, a water supply shortage or threatened shortage exists and a 30% consumer demand reduction is necessary to make more efficient use of water and appropriately respond to existing water conditions.
4	Stage II (b): Severe	31 – 40%	A Level IV Water Supply Shortage exists when the District declares, in its sole discretion, that due to drought or other water supply conditions, a water supply shortage or threatened shortage exists and a 40% consumer demand reduction is necessary to make more efficient use of water and appropriately respond to existing water conditions.
5	Stage III: Critical	41 – 50%	A Level V Water Supply Shortage is referred to as a Water Shortage Emergency. A Level V condition exists when the District declares, in its sole discretion, a water shortage emergency and notifies its residents and businesses that a 50% reduction in consumer demand reduction is necessary to make more efficient use of water and appropriately respond to existing water conditions.
6	Stage IV: Emergency	+ 51%	A Level V Water Supply Shortage is referred to as a Water Shortage Emergency. A Level V condition exists when the District declares, in its sole discretion, a water shortage emergency and notifies its residents and businesses that a 50% reduction in consumer demand is necessary to maintain sufficient water supplies for public health and safety, pursuant to Water Code Section 350 et seq.

Stage I (a): A moderate water shortage exists when the District determines, in its sole discretion, that drought or other water supply conditions have resulted in, or may result in, a water supply shortage requiring up to a 10% reduction in consumer demand. This stage is intended to encourage increased efficiency in water use and early conservation actions to appropriately respond to existing or threatened water supply conditions while maintaining reliable service to all customer classes.

Stage I (b): A continued moderate water shortage exists when the District determines, in its sole discretion, that drought or other water supply conditions warrant a 20% reduction in consumer demand. This stage reflects more pronounced supply constraints and the need for enhanced conservation actions to reduce water use and protect the District's available supplies. Measures implemented during this stage are intended to further improve efficiency and slow demand growth while avoiding emergency conditions.

Stage II (a): A severe water shortage exists when the District declares, in its sole discretion, that drought or other water supply conditions require a 30% reduction in consumer demand. This stage indicates significant stress on available water supplies and necessitates stricter conservation measures and broader compliance to ensure that essential water needs can continue to be met throughout the service area.

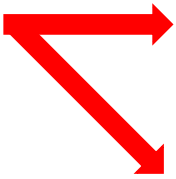
Stage II (b): A continued severe water shortage exists when the District declares, in its sole discretion, that drought or other water supply conditions require a 40% reduction in consumer demand. This stage reflects critical supply limitations and the need for aggressive conservation actions across all customer sectors to sustain available supplies and minimize the risk of progressing to emergency conditions.

Stage III: A critical water shortage exists when the District declares a Water Shortage Emergency, determining that a 50% reduction in consumer demand is necessary. At this level, water supply conditions are extremely constrained, and emergency conservation measures are implemented to protect remaining supplies and ensure continued availability of water for essential public health and safety needs.

Stage IV: An emergency water shortage represents the most severe supply condition and is also classified as a Water Shortage Emergency. This stage exists when the District declares, in its sole discretion, that drought or other conditions require reductions exceeding 51% to maintain sufficient water supplies for public health and safety, pursuant to CWC Section 350 et seq. Measures implemented under this stage are intended to preserve critical supplies and prioritize essential uses until emergency conditions subside.

Water shortage actions may also be triggered by shortages or mandatory reduction requirements imposed by regional, State, or federal agencies, including CBMWD, MWD, or the SWRCB. The District Manager or designee uses available supply, demand, and operational information to recommend implementation or modification of water shortage response actions to the District .

Table 4-2 provides a crosswalk that shows QHWD's water shortage levels to those mandated by statute.

Table 4-2: Comparison for the District's 2015 Shortage Levels and the 2025 WSCP Mandated Shortage Levels							
Stages from 2015 UWMP			**Crosswalk**	**2025 WSCP Mandated Shortage Levels**			
Stage	**% Supply Reduction**	**Water Supply Condition**		**Stage**	**% Supply Reduction**	**Water Supply Condition**	**Mandatory Compliance with Water Savings Measures**
1	5%	Insufficient supply to provide 95% for next two years		1	0% to 10%	Slightly Restricted	Mandatory Compliance
2	10%	Insufficient supply to provide 90% for next two years		2	11% to 20%	Slightly Restricted	Mandatory Compliance
3	20%	Insufficient supply to provide 80% for next two years		3	21% to 30%	Moderately Restricted	Mandatory Compliance
4	30%	Insufficient supply to provide 70% for next two years		4	31% to 40%	Moderately Restricted	Mandatory Compliance
5	50%	Insufficient supply to provide 60% for next two years		5	41% to 50%	Severely Restricted	Mandatory Compliance
				6	51% and above	Extremely Restricted	Mandatory Compliance

Chapter 5 SHORTAGE RESPONSE ACTIONS

5.1 Demand Reduction

Table 5-1 summarizes the restrictions and prohibitions on end uses during each stage of water shortage response implemented by QHWD in accordance with CWC §10632(a)(4)(B). The shortage response actions are aligned to the six water shortage levels with the goal of reducing the gap between supply and demand by the required amount per level.

Table 5-1: Demand Reduction Actions

Shortage Level	Demand Reduction Actions	Estimated Extent of Reducing the Water Shortage Gap	Penalty, Charge, or Other Enforcement?
All Stages	Expand Public Information Campaign	Low	No
1	Public outreach for voluntary reduction in water use by 15%	Medium	No
2	Landscape – Restrict or prohibit runoff from landscape irrigation	Medium	Yes
2	Other water feature or swimming pool restriction	Low	Yes
3	Landscape – Other landscape restriction or prohibition	Medium	Yes
4	Other – Customers must repair leaks, breaks, and malfunctions in a timely manner	Low	Yes
5	Landscape – Limit landscape irrigation to specific days	High	Yes
3,4,5,6	Other – Progressively increasing fines for unsustainable, inefficient and then non-essential water use	High	Yes

Note:

1. *See **Appendix F** for sources and estimates corresponding to water saving levels.*

5.2 Supply Augmentation

Table 5-2 summarizes the supply augmentations and other actions on end users during each stage of water shortage responses by QHWD in accordance with CWC §10632(a)(4)(A).

Table 5-2: Supply Augmentation Actions			
Shortage Level	**Supply Augmentation Actions**	**Estimated Percent Reduction of Shortage Gap**	**Penalty, Charge, or Other Enforcement?**
All Stages	Expand Public Information Campaign	Medium	No
3,4,5,6	Implement or Modify Drought Rate Structure or Surcharge	High	Yes
6	Stored Emergency Supply	Low	No

Note:

1. *See **Appendix F** for sources and estimates corresponding to water saving levels.*

5.3 Operational Changes

In the event of an extreme water shortage QHWD will implement some or all the following operational changes in accordance with CWC §10632(a)(4)(C) and §10632.5(a):

1. QHWD shall provide prompt notice to customer whenever QHWD obtains information that indicates a leak may exist within the end-user's exclusive control. The customer must repair all leaks within twenty-four (24) hours of notification by QHWD.
2. Evaluate maintenance procedures and alter if needed to improve system efficiency
3. Evaluate infrastructure repairs, and complete if possible, to improve system efficiency. The District will continue to evaluate operational and maintenance procedures in order to identify opportunities for improved efficiency in water delivery and reducing water system loss.

5.4 Additional Mandatory Restrictions

QHWD customers shall comply to the mandatory water shortage response actions listed in **Table 5-1** associated with a level 3 or higher water shortage event in accordance with §10632(a)(4)(D). In the event of a water shortage emergency or severe drought QHWD may enact additional mandatory restrictions:

1. Implement drought water rates.
2. Restrict or prohibit the issuance of new water services.
3. Watering or Irrigation of lawn, landscape, or other vegetated area with sprinklers to be limited to the following schedule:

- ❑ June through August – A maximum of two days a week
- ❑ September through May – A maximum of one day a week

5.5 Emergency Response Plan

In 2001, in accordance with the requirements of Assembly Bill 11X, the District's water, fire and emergency services departments developed a comprehensive water shortage contingency plan, which was incorporated into the District's Emergency Response Plan in early 2002. The District's plan is consistent with provisions in the County's Emergency Response Plan. Both plans contain procedures for the distribution of potable water in a disaster and these procedures are consistent with guidelines prepared by the California State Office of Emergency Services.

The UWMP Act requires a catastrophic supply interruption plan. This plan looks at the vulnerability of each source and distribution system to events such as wildfires, flooding, earthquakes, landslides, rockslides, other natural disasters, and unforeseen emergencies. The actions taken to address each catastrophe are consistent with the Safety Element and the County of Los Angeles All-Hazards Mitigation Plan (AHMP) (September 2025) presented in **Table 5-3** below:

Table 5-3: Catastrophic Supply Interruption Actions	
Possible Catastrophe	**Summary of Actions**
Wildfire/ Flooding	Wildfire and flooding events are identified by the LA County AHMP as hazards that can affect access, power supply, communications, and above-ground infrastructure, even in urbanized coastal areas. While these events are not expected to cause a systemwide water supply failure for the District, localized impacts to facilities, pipelines, or electrical service may occur. In the event of wildfire or flooding impacts, the District would notify affected customers, implement voluntary or mandatory water use restrictions as appropriate, and isolate damaged facilities or pipeline segments to limit service impacts. Emergency coordination with regional agencies and utility providers would be initiated, and impacts to the water system would be mitigated through operational redundancies and use of available storage.
Earthquake/ Fault Rupture/ Liquefaction	Earthquakes and associated ground shaking and liquefaction are identified in the LA County AHMP as primary regional hazards with the potential to cause widespread infrastructure damage. In the event of a major seismic event, the District's EOC would be activated in accordance with the District's EOP. Damaged portions of the water distribution system would be isolated, system integrity would be assessed, and customers would be notified to limit water use as necessary. The District would rely on available stored water, regional system redundancy, and coordination with wholesale water suppliers to maintain critical service while emergency repairs are undertaken.
Sea Level Rise/Storm Surge	The LA County AHMP identifies coastal storms, sea level rise, and storm surge as hazards that may affect low-lying coastal infrastructure over time. While water supply conveyance is largely regional, localized impacts to District facilities or supporting infrastructure could occur during severe coastal storm events. In such cases, the District would implement protective actions for affected facilities, coordinate with regional agencies regarding system status, and implement water use restrictions if necessary to preserve available supplies.
Extreme Heat/Power Disruption	Extreme heat events are identified in the LA County AHMP as an increasing hazard with potential indirect impacts on water systems through increased demand and power supply interruptions. In the event of extreme heat or extended power outages, the District would coordinate with electric utilities and regional water suppliers, implement water use restrictions as necessary, and prioritize available water supplies.

The District's WSCP plan recommended the following: (1) the purchase of water purification equipment; (2) purchase of standby generators and auxiliary pumps; and (3) development of emergency water conveyance and supply storage facilities. Steps (1) and (2) have been implemented. Step (3) is in the study and design phase.

In addition, the District recognizes the importance of the Demand Management Measures (DMMs) in reducing water demand and would continue to implement the DMM programs. Also, the District would increase media attention to the water supply situation during a shortage and would step up public water education programs, encourage property owners to apply for a landscape and interior water use survey and continue to advertise the importance of customers to install ULF (low flow) plumbing fixtures.

During declared shortages, or when a shortage declaration appears imminent, the District General Manager, who serves as the temporary chair, activates a District water shortage response team. The Chairman of the Board of Directors assumes the responsible director's role when he/she has arrived at the operational control center. The team includes: Board of Directors, General Manager, Assistant General Manager and supporting staff. **Table 5-3** summarizes the types of actions the District could take during a water supply catastrophe.

The Health and Safety Element (HSE), adopted in 2022 and amended in 2025, provides the foundational policy framework for protecting the community from natural and human-caused hazards and for guiding emergency preparedness and response activities. The Safety Element identifies public safety risks such as earthquakes, flooding, fire hazards, and hazardous incidents, and establishes goals and policies related to emergency response, infrastructure resilience, and protection of life and property. The HSE includes contemporary climate change analysis and addresses water supply reliability or climate-related stresses, reflecting current conditions, evolving hazards, and modern planning practices.

5.6 Seismic Risk Assessment and Mitigation Plan

The District's existing water system relies on groundwater production through 10 active wells and imported potable water. The water is conveyed from the wells throughout the service area by approximately 97 miles of distribution system piping ranging from 4 to 24 inches in diameter. The District also has 8 water storage reservoirs and booster pump stations with a combined storage capacity of 13.6 million gallons.

With respect to the seismic risk assessment and mitigation plan, the County of Los Angeles has evaluated the seismic risk to the existing water system facilities in LA County through the development of the 2025 County of Los Angeles All-Hazards Mitigation (LA AHMP), Section 6.3 Earthquake. The following sections provide a summary of the general finding from the Hazard Plan with respect to potential impacts from earthquakes, faults, and liquefaction within the QHWD service area.

5.6.1 Faults, Earthquakes, and Liquefaction

Per the AHMP, the following provides a description of major faults within Los Angeles County with the San Andreas Fault system is the closest to Lancaster and QHWD per the 2020 WSCP:

> *Over 163 earthquakes of M 5.0 or greater have been recorded in Southern California since 1812. The San Andreas Fault remains the greatest seismic hazard, with a 59% chance of an M 6.7+ event in the next 30 years… Los Angeles County has a long history of experiencing damaging earthquakes due to its location along multiple active fault systems, including the San Andreas, Newport-Inglewood, and Whittier faults.*

Per the AHMP, the overall vulnerability to an Earthquake is:

> *Impacts from future major seismic events are projected to be even more severe due to population density, aging infrastructure, and increasing development in seismically vulnerable areas. Over 75% of unincorporated Los Angeles County is at risk of severe to extreme ground shaking. Current estimates suggest that a large-magnitude earthquake could displace up to 2.2 million people, injure or kill thousands, and result in over $200 billion in combined economic losses, including $113 billion in property damage and $68 billion in business interruptions.*
>
> *The County's critical systems; power, water, transportation healthcare, and communications, are especially vulnerable. A major earthquake could impair up to 325 hospitals and 1,299 fire stations and disrupt critical infrastructure for millions. Populations with heightened vulnerability include the 75,000+ people experiencing homelessness, those with access and functional needs, and residents of older, unreinforced masonry and soft-story structures.*

5.6.2 Seismic Risk

QHWD service area and water system are likely to face violent ground acceleration in the event of an earthquake. The 2025 County of Los Angeles All-Hazards Mitigation Plan states the likely maximum magnitudes for the San Andreas Fault is a 6.7-8.0 magnitude earthquake, t with a 59% chance of a 6.7 or greater magnitude event in the next 30 years.

5.6.3 Mitigation

In the event of a system disruption to existing water supplies from an earthquake, fault rupture, or liquefaction. The District will follow guidance from the 2025 County of Los Angeles All-Hazards Mitigation Plan. Additionally, the District should follow procedure and communication listed in the QHWD Emergency Response Plan, activate the portable backup generators if power is lost to District wells, and implement a water shortage due to an emergency.

5.7 Shortage Response Action Effectiveness

All water shortage response actions are intended to reduce the water demand below the available water supply, during a water shortage event. To ensure that all water response actions are effective in reducing the demand to the level necessary, QHWD will routinely monitor water production levels monthly through the current in-place production metering system. If the shortage response actions are not effective in reducing water consumption to the required level QHWD will refine and update the water shortage response actions until effective.

Chapter 6 COMMUNICATION PROTOCOLS

All water shortage response actions are intended to reduce the water demand below the available water supply, during a water shortage event. To ensure that all water response actions are effective in reducing the demand to the level necessary, the District will continue to routinely monitor water consumption levels monthly through the current in place production metering system. If the shortage response actions are not effective in reducing water consumption to the required level the District will refine and update the water shortage response actions until effective.

6.1 Communication Protocols

The District will inform its shareholders, the public, and the necessary local, regional, and State government entities regarding any current or predicted water shortages based on the results of the Annual Water Supply and Demand Assessment in accordance with CWC §10632(a)(5). QHWD will also notify all necessary entities of any shortage response actions mandated in response to the Annual Assessment. In the event of a water shortage due to an emergency, QHWD will follow emergency communication protocols on **Table 6-1** as outlined in the Emergency Response Plan.

Table 6-1: Stages of Water Shortage Contingency Plan – Communication Protocols		
Shortage Level	**Communication Protocol and Procedure**	**Recipient to Be Notified**
1	General conservation measures and resources will be posted on the QHWD website, published in the newsletter.	Shareholders and the public
2	Bill stuffers will be distributed to all shareholders that inform of the Stage 2 status and mandatory water shortage response actions. The Stage 2 water shortage response actions will be included in the newsletter and posted on the District's website.	Shareholders and the public
3	Bill stuffers will be distributed to all shareholders that inform of the Stage 3 status and mandatory water shortage response actions. The Stage 3 water shortage response actions will be included in the newsletter and posted on the District's website.	Shareholders, public, all required government entities
4	Bill stuffers will be distributed to all shareholders that inform of the Stage 4 status and mandatory water shortage response actions. The Stage 4 water shortage response actions will be included in the newsletter and posted on the District's website. A Public Notice will be issued to all customers and relevant government entities.	Shareholders, public, all required government entities
5	Bill stuffers will be distributed to all shareholders that inform of the Stage 5 status and mandatory water shortage response actions. The Stage 5 water shortage response actions will be included in the newsletter and posted on the District's website. A Public Notice will be issued to all shareholders and relevant government entities.	Shareholders, public, all required government entities
6	Bill stuffers will be distributed to all shareholders that inform of the Stage 6 status and mandatory water shortage response actions. The Stage 6 water shortage response actions will be included in the newsletter and posted on the District's website. A Public Notice will be issued to all shareholders and relevant government entities.	Shareholders, public, all required government entities

Chapter 7 COMPLIANCE AND ENFORCEMENT

7.1 Compliance and Enforcement

The District will endeavor to achieve water use reduction targets when possible through voluntary compliance measures which will include existing and enhanced water conservation communication, education, outreach, and incentive programs.

7.1.1 Compliance and Enforcement Protocols

The following compliance and enforcement actions to be taken by QHWD under a declared water shortage condition were developed in accordance with CWC §10632(a)(6).

The QHWD Board of Directors may impose a special water waste surcharge against a customer's account and may temporarily or permanently discontinue or restrict, with a flow regulating device, water service to the affected property in the event that the customer or political entity is found by the Board to be in violation of any restrictions or prohibitions under a water shortage mandate declared by the Board.

Before taking such actions, the Board shall give any such customer thirty (30) days written notice and an opportunity to be heard and protest the finding of such violation and the imposition of such measure.

7.1.2 Penalties for Excessive Use

Table 7-1 summarizes the compliance measures that QHWD may implement during a declared water shortage. The Board has determined that the surcharges listed below reasonably compensate QHWD and its customers for all loss of water and other damages incurred and as will foster water conservation within the service area. QHWD will implement the following penalties and charges for excessive water use within its service areas:

Table 7-1: Excessive Water Use Penalties and Charges

Shortage Level	Violation	Notices and Surcharges
All Stages	1st	Documented warning
All Stages	2nd	Documented warning
All Stages	3rd	A fine not to exceed $500 per violation
All Stages	4th and Subsequent	Discontinuance of service

Chapter 8 LEGAL AUTHORITIES

8.1 Legal Authorities

The WSCP complies with the District's Policies and Procedures section 8.07 titled "Water Conservation." See **Appendix G**. The ordinance establishes the application of the WSCP to all water users and authorizes the appropriate District officers to administer and enforce the provisions of the plan.

QHWD is governed by the Board of Directors. The Board is comprised of five (5) elected members, serving four (4) year terms. The Board has enacted previous water conservation ordinances and resolutions to prepare for water shortages.

In the event of a water shortage emergency where the ordinary demands and requirements of the District cannot be satisfied without depleting QHWD's water supply to the extent that there would be insufficient water for human consumption, sanitation, and fire protection the Board will declare a water shortage condition in accordance with CWC Division 1, §350.

If the QHWD Board of Directors declares a water shortage emergency, QHWD shall coordinate with the City of Lancaster, City of Palmdale, and the County of Los Angeles to issue a proclamation of a local emergency in accordance with CWC §10632(a)(7)(D).

Chapter 9 FINANCIAL CONSEQUENCES OF A WATER SHORTAGE CONTINGENCY PLAN

9.1 Financial Impacts and Mitigation Action

QHWD has adopted a water budget based tiered rate structure. **Table 9-1** details the drought rates that will be implemented upon a water shortage declaration from the Board.

All surplus revenues that the District collects are currently used to fund the Rate Stabilization Fund, conservation, recycling, and other capital improvements. The District estimated projected ranges of water sales by shortage stage to best understand the impact each level of shortage will have on projected revenues and expenditures by each shortage stage.

Table 9-1: Penalties & Charges	
Shortage Level	**Changes to Residential Tiered Rate Structure**
2 and 3	• Stage 3a: QHWD's drought surcharge of a 50% increase in the per unit cost for residential Tier 3 usage and a 100% increase in residential Tier 4 usage will be put into effect. • Stage 3b: QHWD's drought surcharge of a 75% increase in the per unit cost for residential Tier 3 usage and a 125% increase in residential Tier 4 usage will be put into effect. • Stage 3c: QHWD's drought surcharge of a 100% increase in the per unit cost for residential Tier 3 usage and a 150% increase in residential Tier 4 usage will be put into effect. • A non-residential drought surcharge of 100% on Tier 3 usage will be implemented.
4 and 5	• Stage 4a: Tier 2 (Outdoor Use) water use will have a 50% drought surcharge. • Stage 4b: Tier 2 (Outdoor Use) water use will have a 75% drought surcharge. Tier 3 usage will increase to a 125% surcharge. Tier 4 usage will increase to a 175% surcharge. • Stage 4c: Tier 2 (Outdoor Use) water use will have a 100% drought surcharge. Tier 3 usage will increase to a 150% surcharge. Tier 4 usage will increase to a 200% surcharge. • The non-residential drought surcharge will be increased to 150% on Tier 3 usage.
5 and 6	• QHWD's drought surcharge of a 100% increase in the per unit cost for residential Tier 2, a 150% increase in the per unit cost for residential Tier 3 usage and a 200% increase in residential Tier 4 usage will be remain in effect. • The non-residential drought surcharge will be increased to 200% on Tier 3 usage.

9.2 Reporting Cost of Compliance with Excessive Water Use Prohibition During Drought Emergency

In compliance with California Water Code Section 366, the District shall report on the cost of compliance, including rate structures or excessive water use ordinances, in the event of any of the following:

- Governor declared statewide drought emergency
- District moves to a local water shortage condition requiring mandatory reductions
- Governor declared local drought emergency

Chapter 10 MONITORING AND REPORTING

10.1 Monitoring and Reporting

QHWD will monitor, analyze, and report on water production and use data in accordance with CWC §10632(a)(9).

All QHWD's shareholder accounts are metered. Meter classes include single-family residential, multi-family residential, commercial, industrial, and landscape. Meters are electronically read on a monthly basis and manually verified as needed.

Under normal water supply conditions, water production figures are recorded daily. Totals are reported monthly to the General Manager. Totals are reported monthly to the Board of Directors and incorporated into the water supply report.

During a Stage 1 or Stage 2 water shortage, daily production figures are reported to the Assistant General Manager. The Assistant General Manager compares the weekly production to the target weekly production to verify that the reduction goal is being met. Weekly reports are forwarded to the General Manager and the Water Shortage Response Team. Monthly reports are sent to the Board of Directors. If reduction goals are not met, the Manager will notify the Board of Directors so that corrective action can be taken.

During a Stage 3 or 4 water shortage, the procedure listed above will be followed, with the addition of a bi-monthly production report to the General Manager.

During a Stage 5, 6, or an emergency event, reports will also be provided weekly to the Board of Directors. During emergency shortages, production figures are reported to the General Manager regularly or as needed.

Chapter 11 WSCP REFINEMENT PROCEDURES

The WSCP is meant to be an adaptive management plan that is subject to evaluation and refinement as needed to ensure that the provisions and measures contained in the plan are effective and achieving the desired results of effectively managing the District's water supply during water shortage conditions. Water shortage response actions will include the appropriate level of water shortage risk tolerance and be periodically evaluated to ensure the strategies employed are appropriate for the water shortage level.

The WSCP will be periodically re-evaluated to ensure that its shortage risk tolerance is adequate, and the shortage response actions are effective and up to date based on lessons learned from implementing the WSCP. The WSCP will be revised and updated during the UWMP update cycle to incorporate updated and new information. For example, actions that are no longer applicable for reasons such as program expiration will be removed. However, if revisions to the WSCP are warranted before the UWMP is updated, the WSCP will be updated outside of the UWMP update cycle. In the course of preparing the Annual Assessment each year, District staff will routinely consider the functionality the overall WSCP and will prepare recommendations for the District if changes are found to be needed.

Chapter 12 SPECIAL WATER FEATURE DISTINCTION

12.1 Special Water Feature Distinction

The District specifically distinguishes between "Decorative Water Features" and all other water features in the WSCP. In the event of a water shortage, potable water use for decorative water features such as fountains is prohibited, and only re-circulated water can be used to operate ornamental fountains or other decorative water features. District did not identify any special water features.

Chapter 13 PLAN ADOPTION, SUBMITTAL, AVAILABILITY, AND AMENDMENT PROCEDURES

The notice of the public hearing, held October 15, 2026 at the District's office, was sent to the county of Los Angeles, City of Palmdale, and City of Lancaster on August 5, 2026 in accordance with CWC §10632(a)(c). A copy of the letters from the District to the City of Lancaster, City of Palmdale, and County of Los Angeles in **Appendix C** of this WSCP.

Table 13-1: Notification to Cities and Counties		
City Name	**60 Day Notice**	**Notice of Public Hearing**
City of Lancaster	Yes	Yes
City of Palmdale	Yes	Yes
County Name	**60 Day Notice**	**Notice of Public Hearing**
Los Angeles	Yes	Yes

A public adoption hearing was held on September 21, 2026 at the District's office. The public hearing provided opportunity for community input. The WSCP update was adopted by the District on October 15, 2026 by approval of Resolution No. 26-101528. A copy of the resolution can be viewed in **Appendix D**.

Within 30 days of adoption, the District will submit the WSCP update to the DWR for review. During the DWR review process the District will coordinate with DWR reviewers as necessary. The District will use the online submittal tool located at www.wuedata.water.ca.gov.secure/ developed by the DWR to electronically submit the WSCP update.

Within 30 days of adoption, the District will submit a CD or email a PDF copy of the adopted WSCP to the California State Library at the following address:

California State Library
Government Publications Section
P.O. Box 942867
Sacramento, CA 94237-001
Attention: Coordinator, Urban Water Management Plans

Within 30 days of adoption, the District will submit an electronic copy of the adopted WSCP update to the District of Long Beach and the County of Los Angeles electronically in accordance with CWC Section 10632(a)(c). A copy of the transmittals to said agencies will be included in **Appendix C**.

Within 30 days of adoption, the District will have an electronic copy of the adopted WSCP update available for public review at the District Office (see address below) during normal business hours and available on the District's website, https://www.qhwd.org/.

Quartz Hill Water District
5034 W Ave L,
Quartz Hill, CA 93536

Appendix A

Relevant Sections of Los Angeles County Local Hazard Mitigation Plan

ARDURRA

6.3 Earthquake

6.3.1 Nature

Earthquakes occur due to the sudden release of energy in the Earth's crust, generating seismic waves that cause ground shaking. These events, often triggered by movement along fault lines, vary in intensity depending on factors such as magnitude, depth, and proximity to populated areas. In addition to the initial shaking, secondary hazards such as surface faulting, liquefaction, landslides, tsunamis, and aftershocks can worsen the damage. Los Angeles County, located in a highly active seismic region, faces significant risks from these natural events, necessitating extensive mitigation efforts and preparedness planning.

EARTHQUAKE KEY POINTS

1. **Nature**
   Earthquakes occur when there is a sudden release of energy from the Earth's crust, creating seismic waves.
2. **Location**
   Los Angeles County is in one of the most highly active seismic regions, having multiple active faults.
3. **Extent**
   The San Andreas Fault remains the greatest threat, with a high chance of an M 6.7+ occurring.
4. **Vulnerability**
   Residents in high-risk seismic zones could be extremely impacted, along with people experiencing homelessness, low income, and the access and functional needs community.
5. **Mitigation and Preparedness**
   Efforts include strengthening building codes, upgrading critical infrastructure, expanding public education, and enhancing emergency response planning.

- The most common effects of earthquakes include violent shaking, structural damage, and disruptions to infrastructure.
- Secondary effects can include, but are not limited to, utilities outages, traffic congestion and transportation systems being impassable, and an increase of fire risks, from broken gas and water lines.

- Earthquakes occur with little to no warning, making preparedness essential for minimizing loss of life and property.

6.3.2 Location

Los Angeles County is one of the most seismically active regions in the United States, with multiple active fault systems capable of generating destructive earthquakes.

Major faults include:

- San Andreas Fault – Capable of M 8.0+
- Newport-Inglewood Fault – M 7.4
- Malibu Coast Fault System – M 6.7
- San Fernando Fault – M 6.6
- Santa Monica Fault – M 7.0
- Whittier Fault – M 7.2
- Sierra Madre Fault – M 6.0-7.0

For a better visual representation of this Earthquake Hazard within LA County planning area, please reference Appendix A for earthquake fault maps.

6.3.3 Extent

According to US Geological Survey, there are two types of earthquake measurements, magnitude (Mw) and intensity (i). Magnitude is a measure of the energy released at the source of the earthquake. Intensity scale help measure impact on people and structures.

Earthquake impact is based on magnitude scale is as follows:

- Great–Mw > 8,
- Major–Mw = 7.0 – 7.9
- Strong–Mw = 6.0 – 6.9
- Moderate–Mw = 5.0 – 5.9
- Light–Mw = 4.0 – 4.9
- Minor–Mw = 3.0 – 3.9
- Micro–Mw < 3

Modified Mercalli Intensity Scale is from I to XII, which refers I, as not felt and XII as extreme.

Figure 6.3.1 Modified Mercalli Intensity Scale

CIIM Intensity	People's Reaction	Furnishings	Built Environment	Natural Environment
I	Not felt			Changes in level and clarity of well water are occasionally associated with great earthquakes at distances beyond which the earthquakes felt by people.
II	Felt by a few.	Delicately suspended objects may swing.		
III	Felt by several; vibration like passing of truck.	Hanging objects may swing appreciably.		
IV	Felt by many; sensation like heavy body striking building.	Dishes rattle.	Walls creak; window rattle.	
V	Felt by nearly all; frightens a few.	Pictures swing out of place; small objects move; a few objects fall from shelves within the community.	A few instances of cracked plaster and cracked windows with the community.	Trees and bushes shaken noticeably.
VI	Frightens many; people move unsteadily.	Many objects fall from shelves.	A few instances of fallen plaster, broken windows, and damaged chimneys within the community.	Some fall of tree limbs and tops, isolated rockfalls and landslides, and isolated liquefaction.
VII	Frightens most; some lose balance.	Heavy furniture overturned.	Damage negligible in buildings of good design and construction, but considerable in some poorly built or badly designed structures; weak chimneys broken at roof line, fall of unbraced parapets.	Tree damage, rockfalls, landslides, and liquefaction are more severe and widespread wiht increasing intensity.
VIII	Many find it difficult to stand.	Very heavy furniture moves conspicuously.	Damage slight in buildings designed to be earthquake resistant, but severe in some poorly built structures. Widespread fall of chimneys and monuments.	
IX	Some forcibly thrown to the ground.		Damage considerable in some buildings designed to be earthquake resistant; buildings shift off foundations if not bolted to them.	
X			Most ordinary masonry structures collapse; damage moderate to severe in many buildings designed to be earthquake resistant.	

Over 75% of unincorporated Los Angeles County is at risk for severe to extreme shaking in a future earthquake.

The region's dense urban environment, combined with aging infrastructure, increases the likelihood of extensive damage and prolonged recovery times.

Faults running beneath critical infrastructure corridors, including freeways and power grids, pose a significant threat to public safety and economic stability of the planning area.

6.3.4 History

Los Angeles County has a long history of destructive earthquakes, with some of the earliest recorded events dating back to the early 19th century. The San Juan Capistrano Earthquake of 1812 (M 7.5) was among the first to be documented, causing the collapse of Mission San Juan Capistrano and resulting in 40 fatalities. Over the years, the county has experienced numerous significant quakes, including the devastating 1857 Fort Tejon Earthquake (M 7.9), the 1971 San Fernando Earthquake (M 6.6), and the infamous 1994 Northridge Earthquake (M 6.7), which caused billions in damages and led to widespread infrastructure failures. There have been no federal declarations or state proclamations for earthquakes in the last five years.

Major Earthquakes in Los Angeles County (1812 – Present)

Date	Magnitude	Name / Location	Notable Impact
December 8, 1812	7.5	San Juan Capistrano Earthquake	Destroyed Mission San Juan Capistrano, killed 40 people.
December 21, 1812	7.1	West Ventura Earthquake	Caused significant shaking in Southern California.
January 9, 1857	7.9	Fort Tejon Earthquake	Largest earthquake on the San Andreas Fault; ruptured 225 miles.
July 21, 1952	7.5	Kern County Earthquake	Strong shaking felt in Los Angeles; major damage to Bakersfield.
February 9, 1971	6.6	San Fernando Earthquake	65 deaths, $553 million in damages, collapse of Veterans Hospital.
October 1, 1987	5.9	Whittier Narrows Earthquake	8 deaths, 200 injuries, $358 million in damages.
February 28, 1990	5.7	Upland Earthquake	30 injuries, $12.7 million in damages.

June 28, 1991	5.6	Sierra Madre Earthquake	1 death, 100+ injuries, $40 million in damages.
January 17, 1994	6.7	Northridge Earthquake	57 deaths, 8,700 injuries, $40 billion in damages, freeways collapsed.
July 29, 2008	5.5	Chino Hills Earthquake	8 injuries, minor structural damage.
March 28, 2014	5.1	La Habra Earthquake	Few injuries, $10 million in damages.
July 6, 2019	7.1	Ridgecrest Earthquake	Widespread damage in Southern California, infrastructure impacts.

6.3.5 Probability

Trends in Seismic Activity

Over 163 earthquakes of M 5.0 or greater have been recorded in Southern California since 1812.

The San Andreas Fault remains the greatest seismic hazard, with a 59% chance of an M 6.7+ event in the next 30 years.

Future Earthquake Occurrence

The U.S. Geological Survey (USGS) estimates the following probabilities for a major earthquake in Los Angeles County in the next 30 years:

- 60% chance of an M 6.7+ earthquake
- 46% chance of an M 7.0+ earthquake
- 31% chance of an M 7.5+ earthquake

6.3.6 Vulnerability

The county's vulnerability to earthquakes extends beyond physical infrastructure, affecting its residents and essential services. Older buildings, particularly unreinforced masonry and soft-story structures, are at high risk of collapse, posing significant

dangers to residents and businesses. Seismic retrofitting, early warning systems, and stricter building codes have improved resilience, but vulnerabilities remain in older structures and critical infrastructure.

Critical Infrastructure at Risk

- **Highways, bridges, and transportation routes:** A major earthquake could severely disrupt mobility, shipment of goods and services while also delaying emergency response and evacuations. Major highways such as, but not limited to the I-5, I-10, US-101, CA-60, CA-14, I-405, I-710, and I-105 could be impacted.
- **Energy grids and water system:** Disruptions could leave millions without power and clean water.
- **Hospitals and emergency services:** 325 hospitals and 1,299 fire stations in the Los Angeles County could suffer functional impairments.
- **Unreinforced masonry and soft-story buildings:** Many older structures are highly susceptible to collapse during strong ground shaking.

County Specific Critical Facilities Affected:

- Fire Department: 314 facilities (93.18%)
- Public Works: 201 facilities (87.39%)
- Health Services: 56 facilities (85.71%)
- Public Health: 37 facilities (92.50%)
- Libraries: 78 branches (89.66%)
- Parks: 179 (97.79%)
- Education: 70 (85.37%)

Los Angeles County lies at the intersection of multiple major fault lines, including the San Andreas Fault. According to the hazard matrix, the risk of violent ground shaking is prevalent countywide, particularly in urban centers and regions with critical infrastructure. The potential consequences of violent seismic shaking include widespread structural damage, disruption of services, economic losses, and human casualties.

Populations at Risk

- The THIRA estimates over 2 million residents could be significantly impacted in a major seismic event, particularly those in high-risk seismic zones.

- People Experiencing Homelessness (PEH) populations: 75,000+ unhoused individuals in Los Angeles County live in areas at risk of violent shaking.
- Low-income and individuals with access and functional needs (AFN): For more details on impacted population please see Section 5.

Extent of Exposure

- **Total Area Exposed**: 3,041.91 sq mi
- **Supervisorial Districts (SD) Impacted**:
    - **SD5**: 1,950.78 sq mi (69.50%)
    - **SD3**: 379.41 sq mi (87.99%)
    - **SD1**: 349.17 sq mi (98.95%)
    - **SD2**: 362.95 sq mi (99.99%)
    - **SD4**: 210.92 sq mi (99.10%)

6.3.7 Impacts

Los Angeles County has a long history of experiencing damaging earthquakes due to its location along multiple active fault systems, including the San Andreas, Newport-Inglewood, and Whittier faults. Historic earthquakes such as the 1971 San Fernando (M6.6) and 1994 Northridge (M6.7) events caused catastrophic losses. The San Fernando earthquake resulted in 65 deaths, the collapse of hospital structures, and over $550 million in damages, while the Northridge earthquake caused 57 deaths, more than 8,700 injuries, and an estimated $40 billion in economic losses, including widespread infrastructure failures such as collapsed freeways and damaged utility systems.

Impacts from future major seismic events are projected to be even more severe due to population density, aging infrastructure, and increasing development in seismically vulnerable areas. Over 75% of unincorporated Los Angeles County is at risk of severe to extreme ground shaking. Current estimates suggest that a large-magnitude earthquake could displace up to 2.2 million people, injure or kill thousands, and result in over $200 billion in combined economic losses, including $113 billion in property damage and $68 billion in business interruptions.

The County's critical systems; power, water, transportation, healthcare, and communications, are especially vulnerable. A major earthquake could impair up to 325 hospitals and 1,299 fire stations and disrupt critical infrastructure for millions. Populations with heightened vulnerability include the 75,000+ people experiencing homelessness, those with access and functional needs, and residents of older, unreinforced masonry and soft-story structures.

Without sufficient mitigation, a future earthquake could result in cascading failures across multiple sectors and prolong the County's recovery for years. These risks highlight the urgency for continued investment in seismic retrofitting, stricter enforcement of building codes, expanding statewide early warning systems, and equitable preparedness programs targeting at-risk vulnerable populations.

- **Casualties and injuries:** Depending on the time of day and location, thousands could be injured or killed in a severe earthquake.
- **Economic disruption:** A significant earthquake could halt business operations, damage supply chains, and force thousands into unemployment.
- **Housing displacement:** An estimated 2.2 million residents could be displaced, with tens of thousands requiring emergency sheltering.

Economic Impact

A major earthquake in Los Angeles County could result in over $200 billion in economic losses, with a total of $118 trillion-dollar exposure. Losses can include:

- $68 billion in business interruptions
- $51 billion in lost economic activity
- $113 billion in property damages

Problem Statement

The pervasive exposure of Los Angeles County to violent earthquake shaking presents a systemic threat to public safety, economic stability, and essential services. Nearly all major departments and infrastructure elements are located within high-shaking hazard zones. The extensive reach across all five Supervisorial Districts (SD) amplifies the challenge, highlighting the urgent need for retrofitting, public education, preparedness programs, and resilient design policies. Failure to address this hazard could lead to catastrophic loss of life and functionality in the event of a major seismic event.

6.3.8 Mitigation and Preparedness

Efforts to reduce earthquake risks in Los Angeles County include strengthening building codes, enhancing emergency preparedness, and retrofitting vulnerable structures.

Key efforts to mitigate earthquake risks include:

- Strengthening building codes and enforcing retrofitting laws
- Upgrading critical infrastructure
- Expanding public education and early warning systems
- Enhancing emergency response planning

By proactively implementing these measures, Los Angeles County aims to reduce casualties, infrastructure damage, and economic losses in future seismic events.

Seismic Retrofitting Programs

- **Soft story retrofit program**: Mandates seismic upgrades for older apartment buildings.
- **Non-ductile concrete building retrofits**: Strengthens older commercial and residential structures.
- **Hospitals and emergency facilities retrofitting**: Ensures critical services remain operational post-earthquake.

Policy and Regulatory Measures

- Assembly Bill (AB) 1857: Strengthens building standards for multi-story structures.
- AB 2681: Requires cities and counties to inventory vulnerable buildings.
- Updated California Building Code (CBC): Enforces stricter seismic design criteria for new construction.
- Public Education: Teaching to Drop, Cover and Hold On; the household preparedness checklist, educate residents on emergency response, retrofitting, and disaster preparedness.
- Early Warning/ ShakeAlert System: Provides real-time earthquake early warnings to residents via mobile alerts and public messaging.
- Public earthquake drills: Annual Great California ShakeOut encourages preparedness.

6.3.9 Summary

Los Angeles County remains at high risk for devastating earthquakes, with scientific projections indicating a strong likelihood of a significant seismic event in the coming decades. The region has experienced numerous historic earthquakes, and the potential for future large-scale disasters remains ever-present. While advances in engineering, emergency preparedness, and mitigation efforts have improved resilience, challenges persist, particularly regarding aging infrastructure and vulnerable communities. Continued investments in retrofitting, public education, and early warning systems will be critical in minimizing casualties, economic losses, and recovery challenges in future earthquakes.

Appendix B

Relevant Water Code Section

ARDURRA

SECTION 2

CWC 10632(a)(1)
The analysis of water supply reliability conducted pursuant to Section 10635.

CWC 10632(a)(2)
The procedures used in conducting an annual water supply and demand assessment that include, at a minimum, both of the following:

(A) The written decision-making process that an urban water supplier will use each year to determine its water supply reliability.

(B) The key data inputs and assessment methodology used to evaluate the urban water supplier's water supply reliability for the current year and one dry year, including all of the following:
- (i) Current year unconstrained demand, considering weather, growth, and other influencing factors, such as policies to manage current supplies to meet demand objectives in future years, as applicable.
- (ii) Current year available supply, considering hydrological and regulatory conditions in the current year and one dry year. The annual supply and demand assessment may consider more than one dry year solely at the discretion of the urban water supplier.
- (iii) Existing infrastructure capabilities and plausible constraints.
- (iv) A defined set of locally applicable evaluation criteria that are consistently relied upon for each annual water supply and demand assessment.
- (v) A description and quantification of each source of water supply.

CWC 10632.1.
An urban water supplier shall conduct an annual water supply and demand assessment pursuant to subdivision (a) of Section 10632 and, on or before July 1 of each year, submit an annual water shortage assessment report to the department with information for anticipated shortage, triggered shortage response actions, compliance and enforcement actions, and communication actions consistent with the supplier's water shortage contingency plan. An urban water supplier that relies on imported water from the State Water Project or the Bureau of Reclamation shall submit its annual water supply and demand assessment within 14 days of receiving its final allocations, or by July 1 of each year, whichever is later.

CWC 10632(a)(3)
(A) Six standard water shortage levels corresponding to progressive ranges of up to 10, 20, 30, 40, and 50 percent shortages and greater than 50 percent shortage. Urban water suppliers shall define these shortage levels based on the suppliers' water supply conditions, including percentage reductions in water supply, changes in groundwater levels, changes in surface elevation or level of subsidence, or other changes in hydrological or other local conditions indicative of the water supply available for use. Shortage levels shall also apply to catastrophic interruption of water supplies, including, but not limited to, a regional power outage, an earthquake, and other potential emergency events.

(B) An urban water supplier with an existing water shortage contingency plan that uses different water shortage levels may comply with the requirement in subparagraph (A) by developing and including a cross-reference relating its existing categories to the six standard water shortage levels.

SECTION 3

CWC 10632
(a)(1) Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply, and an outline of specific water supply conditions which are applicable to each stage.

(a)(4) Shortage response actions that align with the defined shortage levels and include, at a minimum, all of the following:

(A) Locally appropriate supply augmentation actions.

(B) Locally appropriate demand reduction actions to adequately respond to shortages.

(C) Locally appropriate operational changes.

(D) Additional, mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions and appropriate to the local conditions.

(E) For each action, an estimate of the extent to which the gap between supplies and demand will be reduced by implementation of the action.

SECTION 4

CWC 10632.5. (a)
In addition to the requirements of paragraph (3) of subdivision (a) of Section 10632, beginning January 1, 2020, the plan shall include a seismic risk assessment and mitigation plan to assess the vulnerability of each of the various facilities of a water system and mitigate those vulnerabilities.

(B) An urban water supplier shall update the seismic risk assessment and mitigation plan when updating its urban water management plan as required by Section 10621.

(C) An urban water supplier may comply with this section by submitting, pursuant to Section 10644, a copy of the most recent adopted local hazard mitigation plan or multihazard mitigation plan under the federal Disaster Mitigation Act of 2000 (Public Law 106-390) if the local hazard mitigation plan or multihazard mitigation plan addresses seismic risk.

SECTION 5

CWC 10632 (a)(5)
Communication protocols and procedures to inform customers, the public, interested parties, and local, regional, and state governments, regarding, at a minimum, all of the following:

(A) Any current or predicted shortages as determined by the annual water supply and demand assessment described pursuant to Section 10632.1.

(B) Any shortage response actions triggered or anticipated to be triggered by the annual water supply and demand assessment described pursuant to Section 10632.1.

SECTION 6

CWC 10632 (a)(6)
For an urban retail water supplier, customer compliance, enforcement, appeal, and exemption procedures for triggered shortage response actions as determined pursuant to Section 10632.2.

CWC 10632 (a)(7)

(A) A description of the legal authorities that empower the urban water supplier to implement and enforce its shortage response actions specified in paragraph (4) that may include, but are not limited to, statutory authorities, ordinances, resolutions, and contract provisions.

(B) A statement that an urban water supplier shall declare a water shortage emergency in accordance with Chapter 3 (commencing with Section 350) of Division 1. [see below]

(C) A statement that an urban water supplier shall coordinate with any city or county within which it provides water supply services for the possible proclamation of a local emergency, as defined in Section 8558 of the Government Code.

CWC Division 1, Section 350

Declaration of water shortage emergency condition. The governing body of a distributor of a public water supply, whether publicly or privately owned and including a mutual water company, shall declare a water shortage emergency condition to prevail within the area served by such distributor whenever it finds and determines that the ordinary demands and requirements of water consumers cannot be satisfied without depleting the water supply of the distributor to the extent that there would be insufficient water for human consumption, sanitation, and fire protection.

CWC 10632 (a)(8)
A description of the financial consequences of, and responses for, drought conditions, including, but not limited to, all of the following:

(A) A description of potential revenue reductions and expense increases associated with activated shortage response actions described in paragraph (4).

(B) A description of mitigation actions needed to address revenue reductions and expense increases associated with activated shortage response actions described in paragraph (4).

(C) A description of the cost of compliance with Chapter 3.3 (commencing with Section 365) of Division 1.

CWC 10632 (a)(9)
For an urban retail water supplier, monitoring and reporting requirements and procedures that ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance and to meet state reporting requirements.

SECTION 7

CWC 10632 (a)(10)
Reevaluation and improvement procedures for systematically monitoring and evaluating the functionality of the water shortage contingency plan in order to ensure shortage risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented as needed.

CWC 10632 (b)
For purposes of developing the water shortage contingency plan pursuant to subdivision (a), an urban water supplier shall analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas, as defined in subdivision (a) of Section 115921 of the Health and Safety Code.

CWC 10632 (a)(c)
The urban water supplier shall make available the water shortage contingency plan prepared pursuant to this article to its customers and any city or county within which it provides water supplies no later than 30 days after adoption of the water shortage contingency plan.

Appendix C

Notification to Cities and Counties

ARDURRA

QUARTZ HILL
WATER DISTRICT
5034 W Avenue L • Quartz Hill, CA 93536
661-943-3170 • www.qhwd.org

August 5, 2026

Trolis Niebla, P.E.
City Manager
City of Lancaster
44933 N. Fern Avenue
Lancaster, CA 93534

Subject: Quartz Hill Water District Urban Water Management Plan 2025-Notification of UWMP Review

Dear Mr. Niebla,

The Quartz Hill Water District (QHWD) is currently in the process of reviewing and updating its Urban Water Management Plan (UWMP) and preparing a Water Shortage Contingency Plan (WSCP) for the 2025 cycle. The Department of Water Resources requires water suppliers to update their UWMP every five years. Among other things, the UWMP will evaluate current and projected water supplies and demands within QHWD's service area over a 25-year planning horizon. The WSCP will detail QHWD's actions in the event of severe water shortage conditions.

QHWD encourages local agencies, the public, and other interested parties in its service area to participate in the update process. QHWD plans to make a copy of the public drafts of the 2025 UWMP and WSCP available for public review on August 7th, 2026 at QHWD's at their office, 5034 W. Avenue L, Quartz Hill, CA 93536, Monday through Friday 8 a.m. – 4 p.m. and on their website www.qhwd.org.

QHWD is scheduled to hold a public hearing on the 2025 UWMP and WSCP at its October 15th Board meeting at 5:30 PM. Contact QHWD by phone at (661)-943-3170 or at their website to get instructions on how to attend.

QHWD encourages local agencies, the public, and other interested parties to provide written comments on the public draft prior to the public hearing.

Please send comments to: Josh Nord, PE
(661) 837-4262 X 1001
jnord@ardurra.com

Thank you for your involvement with QHWD's 2025 UWMP and WSCP update process.

Sincerely,

Josh Nord, PE
Ardurra Group, Inc.

QUARTZ HILL
WATER DISTRICT
5034 W Avenue L • Quartz Hill, CA 93536
661-943-3170 • www.qhwd.org

August 5, 2026

Sal Mendez
City Manager
City of Palmdale
38300 Sierra Highway
Palmdale, CA 93550

Subject: Quartz Hill Water District Urban Water Management Plan 2025-Notification of UWMP Review

Dear Mr. Mendez,

The Quartz Hill Water District (QHWD) is currently in the process of reviewing and updating its Urban Water Management Plan (UWMP) and preparing a Water Shortage Contingency Plan (WSCP) for the 2025 cycle. The Department of Water Resources requires water suppliers to update their UWMP every five years. Among other things, the UWMP will evaluate current and projected water supplies and demands within QHWD's service area over a 25-year planning horizon. The WSCP will detail QHWD's actions in the event of severe water shortage conditions.

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Sincerely,

Josh Nord, PE
Ardurra Group, Inc.

QUARTZ HILL
WATER DISTRICT
5034 W Avenue L • Quartz Hill, CA 93536
661-943-3170 • www.qhwd.org

August 5, 2026

Los Angeles County Planning
335A East Avenue K-6
Lancaster, CA 93535

Subject: Quartz Hill Water District Urban Water Management Plan 2025-Notification of UWMP Review

To Los Angeles County Planning,

The Quartz Hill Water District (QHWD) is currently in the process of reviewing and updating its Urban Water Management Plan (UWMP) and preparing a Water Shortage Contingency Plan (WSCP) for the 2025 cycle. The Department of Water Resources requires water suppliers to update their UWMP every five years. Among other things, the UWMP will evaluate current and projected water supplies and demands within QHWD's service area over a 25-year planning horizon. The WSCP will detail QHWD's actions in the event of severe water shortage conditions.

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jnord@ardurra.com

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Sincerely,

Josh Nord, PE
Ardurra Group, Inc.

QUARTZ HILL
WATER DISTRICT
5034 W Avenue L • Quartz Hill, CA 93536
661-943-3170 • www.qhwd.org

August 5, 2026

Dennis LaMoreaux
General Manager
Palmdale Water District
2029 E. Avenue Q
Palmdale, CA 93550

Subject: Quartz Hill Water District Urban Water Management Plan 2025-Notification of UWMP Review

Dear Mr. LaMoreaux,

The Quartz Hill Water District (QHWD) is currently in the process of reviewing and updating its Urban Water Management Plan (UWMP) and preparing a Water Shortage Contingency Plan (WSCP) for the 2025 cycle. The Department of Water Resources requires water suppliers to update their UWMP every five years. Among other things, the UWMP will evaluate current and projected water supplies and demands within QHWD's service area over a 25-year planning horizon. The WSCP will detail QHWD's actions in the event of severe water shortage conditions.

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5034 W Avenue L • Quartz Hill, CA 93536
661-943-3170 • www.qhwd.org

August 5, 2026

Matthew Knudson
General Manager
Antelope Valley East Kern Water Agency
6450 West Avenue N
Palmdale, CA 93551

Subject: Quartz Hill Water District Urban Water Management Plan 2025-Notification of UWMP Review

Dear Mr. Knudson,

The Quartz Hill Water District (QHWD) is currently in the process of reviewing and updating its Urban Water Management Plan (UWMP) and preparing a Water Shortage Contingency Plan (WSCP) for the 2025 cycle. The Department of Water Resources requires water suppliers to update their UWMP every five years. Among other things, the UWMP will evaluate current and projected water supplies and demands within QHWD's service area over a 25-year planning horizon. The WSCP will detail QHWD's actions in the event of severe water shortage conditions.

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QHWD is scheduled to hold a public hearing on the 2025 UWMP and WSCP at its October 15th Board meeting at 5:30 PM. Contact QHWD by phone at (661)-943-3170 or at their website to get instructions on how to attend.

QHWD encourages local agencies, the public, and other interested parties to provide written comments on the public draft prior to the public hearing.

Please send comment to: Josh Nord, PE
(661) 837-4262 X 1001
jnord@ardurra.com

Thank you for your involvement with QHWD's 2025 UWMP and WSCP update process.

Sincerely,

Josh Nord, PE
Ardurra Group, Inc.

QUARTZ HILL
WATER DISTRICT
5034 W Avenue L • Quartz Hill, CA 93536
661-943-3170 • www.qhwd.org

August 5, 2026

John Houghton
Director of Public Works
Rosamond Community Services District
43179 35th Street West
Rosamond, CA 93560

Subject: Quartz Hill Water District Urban Water Management Plan 2025-Notification of UWMP Review

Dear Mr. Houghton,

The Quartz Hill Water District (QHWD) is currently in the process of reviewing and updating its Urban Water Management Plan (UWMP) and preparing a Water Shortage Contingency Plan (WSCP) for the 2025 cycle. The Department of Water Resources requires water suppliers to update their UWMP every five years. Among other things, the UWMP will evaluate current and projected water supplies and demands within QHWD's service area over a 25-year planning horizon. The WSCP will detail QHWD's actions in the event of severe water shortage conditions.

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QUARTZ HILL
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August 5, 2026

Carolina Hernandez
Assistant Deputy Director
County of Los Angeles - Waterworks
12400 Imperial Highway
Norwalk, CA 90650

Subject: Quartz Hill Water District Urban Water Management Plan 2025-Notification of UWMP Review

Dear Ms. Hernandez,

The Quartz Hill Water District (QHWD) is currently in the process of reviewing and updating its Urban Water Management Plan (UWMP) and preparing a Water Shortage Contingency Plan (WSCP) for the 2025 cycle. The Department of Water Resources requires water suppliers to update their UWMP every five years. Among other things, the UWMP will evaluate current and projected water supplies and demands within QHWD's service area over a 25-year planning horizon. The WSCP will detail QHWD's actions in the event of severe water shortage conditions.

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Josh Nord, PE
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QUARTZ HILL
WATER DISTRICT
5034 W Avenue L • Quartz Hill, CA 93536
661-943-3170 • www.qhwd.org

August 5, 2026

Peter Tuculet
General Manager
Palm Ranch Irrigation District
4871 West Avenue M
Quartz Hill, CA 93536

Subject: Quartz Hill Water District Urban Water Management Plan 2025-Notification of UWMP Review

Dear Mr. Tuculet,

The Quartz Hill Water District (QHWD) is currently in the process of reviewing and updating its Urban Water Management Plan (UWMP) and preparing a Water Shortage Contingency Plan (WSCP) for the 2025 cycle. The Department of Water Resources requires water suppliers to update their UWMP every five years. Among other things, the UWMP will evaluate current and projected water supplies and demands within QHWD's service area over a 25-year planning horizon. The WSCP will detail QHWD's actions in the event of severe water shortage conditions.

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Sincerely,

Josh Nord, PE
Ardurra Group, Inc.

Appendix D

WSCP Adoption Resolution

ARDURRA

QUARTZ HILL WATER DISTRICT
RESOLUTION NO. 26-1015A

RESOLUTION APPROVING, AUTHORIZING, AND APPROVING AND ADOPTING THE 2025 URBAN WATER MANAGEMENT PLAN

WHEREAS, California Water Code Section 10610 et seq. known as the Urban Water Management Planning Act (Planning Act) during the 1983-1984 Regular sessions, as amended subsequently, which mandates that every water supplier providing water for municipal purposes to more than 3,000 acre feet of water annually, to prepare and adopt an Urban Water Management Plan (UWMP) every five years on or before July 1, in years ending in six and one, the primary objective of which is to plan for the conservation and efficient use of water: and

WHEREAS, California Water Code Section 10652 exempts the preparation and adoption of UWMPs and amendments to UWMPs form the California Environmental Quality Act; and

WHEREAS, the deadline for adoption and submittal of the 2025 UWMP is July 1, 2026: and

WHEREAS, the Planning Act specifies the requirements and procedures for adopting such UWMPs: and

WHEREAS, pursuant to the Planning Act, the District (Quartz Hill Water District) prepared a draft 2025 UWMP in consultation with the District's member agencies to support long-term water resources planning in areas that include water demand forecasting, identification of local and imported supplies, and water shortage contingency planning; and

WHEREAS, the District, at least 60 days before the public hearing on the draft 2025 UWMP, notified each of the cities within the District's service area and the County of Los Angeles that the District would be reviewing the documents and considering amendments or changes; and

WHEREAS, the draft UWMP were made available for public review and comment commencing August 7, 2026; and

WHEREAS, the District Board of Directors, upon recommendation of the General Manager, and the information presented to it at a Board meeting on October 15, 2026, has determined that the, final UWMP dated October 15, 2026,

THEREFORE, BE IT RESOLVED, by the board of Directors of the Quartz Hill Water District as follows:

1. The foregoing recitals are true and correct, have been duly performed in conformity with the Planning Act and other applicable law, and constitute the findings and determinations of the Board.
2. The final UWMP, dated October 15, 2026, on file is approved and adopted.
3. The 2025 UWMP, which replaces the 2020 UWMP, is hereby adopted and ordered filed with the Board Secretary.
4. The General Manager is hereby authorized and directed to file the Plan with the California Department of Water Resources within 30 days after this date.
5. The General Manager is hereby authorized and directed to implement the Urban Water Management Plan during water shortages when declared by the Board of Directors.
6. This resolution is effective upon adoption.

PASSED AND ADOPTED at the Regular Meeting of the Board of Directors of Quartz Hill Water District held on October 15, 2026, by the following vote:

AYE: Directors:
NO:
ABSTAIN:
ABSENT:

Date: October 15, 2026

Rod Holtz, Vice President

Attested:

Shaneece Lopez, Board Secretary

QUARTZ HILL WATER DISTRICT
RESOLUTION NO. 26-1015B

RESOLUTION APPROVING, AUTHORIZING, AND APPROVING AND ADOPTING THE 2025 WATER SHORTAGE CONTINGENCY PLAN

WHEREAS, California Water Code Section 10610 et seq. known as the Urban Water Management Planning Act (Planning Act) during the 1983-1984 Regular sessions, as amended subsequently, which mandates that every water supplier providing water for municipal purposes to more than 3,000 acre feet of water annually, to prepare and adopt a Water Shortage Contingency Plan (WSCP) every five years on or before July 1, in years ending in six and one, the primary objective of which is to plan for the conservation and efficient use of water: and

WHEREAS, California Water Code Section 10652 exempts the preparation and adoption of WSCPs and amendments to WSCPs from the California Environmental Quality Act; and

WHEREAS, the deadline for adoption and submittal of the 2025 WSCP is July 1, 2026: and

WHEREAS, the Planning Act specifies the requirements and procedures for adopting such WSCPs: and

WHEREAS, pursuant to the Planning Act, the District (Quartz Hill Water District) prepared a draft 2025 WSCP in consultation with the District's member agencies to support long-term water resources planning in areas that include water demand forecasting, identification of local and imported supplies, and water shortage contingency planning; and

WHEREAS, the District, at least 60 days before the public hearing on the draft 2025 WSCP, notified each of the cities within the District's service area and the County of Los Angeles that the District would be reviewing the documents and considering amendments or changes; and

WHEREAS, the draft WSCP were made available for public review and comment commencing August 7, 2026; and

WHEREAS, the District Board of Directors, upon recommendation of the General Manager, and the information presented to it at a Board meeting on October 15, 2026, has determined that the, final WSCP dated October 15, 2026,

THEREFORE, BE IT RESOLVED, by the board of Directors of the Quartz Hill Water District as follows:

1. The foregoing recitals are true and correct, have been duly performed in conformity with the Planning Act and other applicable law, and constitute the findings and determinations of the Board.
2. The final WSCP, dated October 15, 2026, on file is approved and adopted.
3. The 2025 WSCP, which replaces the 2020 WSCP, is hereby adopted and ordered filed with the Board Secretary.
4. The General Manager is hereby authorized and directed to file the Plan with the California Department of Water Resources within 30 days after this date.
5. The General Manager is hereby authorized and directed to implement the Water Shortage Contingency Plan during water shortages when declared by the Board of Directors.
6. This resolution is effective upon adoption.

PASSED AND ADOPTED at the Regular Meeting of the Board of Directors of Quartz Hill Water District held on October 15, 2026, by the following vote:

AYE: Directors:
NO:
ABSTAIN:
ABSENT:

Date: October 15, 2026

Rod Holtz, Vice President

Attested:

Shaneece Lopez, Board Secretary

Appendix E

Transmittals

ARDURRA

Appendix F

Water Savings Estimate

ARDURRA

Water Saving Levels	
Water Saving Levels	**How much is thing going to reduce the water shortage gap? (%)**
High	>20%
Medium	5-15%
Low	1-5%

Water Savings Actions		
Water Savings Action	**How much is this going to reduce the water shortage gap? (%)**	**Additional Explanation or Reference**
Expand Public Information Campaign	Medium	*California Drought Contingency Plan prepared by State of California Department of Water Resources November 2010*
Other- Voluntary Water Use Reductions	Medium	Voluntary reductions can vary depending on what level of savings is being requested.
Reduce System Water Loss	Low/ Medium	Water system losses are dependent on the agency.
Increase Frequency of Meter Reading	Medium	Meter reading and accuracy is dependent on the agency. AMWC is 100% metered.
Landscape - Restrict or prohibit runoff from landscape irrigation	High	*Urban Drought Guidebook 2008 Updated Edition prepared by State of California Department of Water Resources 2008*
Other- Interrupt Irrigation Services	High	Water savings due to service Interruption will vary depending on how long service is interrupted. This action will only be used in a server water shortage.
Landscape - Limit landscape irrigation to specific times	High	*Jumpstart Water Shortage Toolkit prepared by the California Urban Water Conservation Council 2016*
Landscape- Prohibit certain types of landscape irrigation	Medium	*Urban Drought Guidebook 2008 Updated Edition prepared by State of California Department of Water Resources 2008*
Education for water conservation methods.	Low	*California Drought Contingency Plan prepared by State of California Department of Water Resources November 2010*
CII- Other CII restriction or prohibition	Low	The District does not have a lot of lodging establishments or high tourism.
Landscape - Limit landscape irrigation to specific days	High	*Urban Drought Guidebook 2008 Updated Edition prepared by State of California Department of Water Resources 2008*
Water Features - Restrict water use for decorative water features, such as fountains	Low	*Jumpstart Water Shortage Toolkit prepared by the California Urban Water Conservation Council 2015*
Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	High	*Urban Drought Guidebook 2008 Updated Edition prepared by State of California Department of Water Resources 2008*
Landscape- Prohibit all landscape irrigation	High	*Urban Drought Guidebook 2008 Updated Edition prepared by State of California Department of Water Resources 2008*

CII - Lodging establishment must offer opt out of linen service	Low	The District does not have a lot of lodging establishments or high tourism.
Other - Prohibit use of potable water for construction and dust control	High	Water for commercial use is the third highest use type for the District.
Stored Emergency Supply	Low	The District has limited Stored Emergency Supply.

Appendix G

QHWD Policies and Procedures Section 8.07

ARDURRA

be charged for a new regular connection for the desired meter size as set forth in Article 7.06.

B. **Charges for a Larger Meter:** If the desired meter size is larger than the current size, the Consumer/Owner shall pay the full current charges for a new regular service connection for the desired meter size as set forth in Article 7.06, less any credit on the removed meter.

C. **Charges for Change in Meter Location:** If the Consumer/Owner desires a change in location of the meter, such change may be effected with the mutual agreement of the District and the property owner (in the case of a request by a Consumer who does not own the property), and the Consumer/Owner shall pay for the actual costs incurred by the District.

D. **Change in Land Use:** The Consumer/Owner shall notify the District of any change in the character or use of the property or buildings from that for which the service connection was originally obtained. If a residential property is to be reclassified or used as commercial or industrial, or a commercial property is to be reclassified or used as industrial, the owner shall pay any additional charges that may be applicable by reason of the reclassification. In all cases the Manager's determination of the property's zoning classification or use will be final, subject to an appeal to the Board.

E. **Inclusion of Additional Land Area:** The Consumer/Owner shall notify the District of any additional land area or adjacent lots not served at the time of original commencement of service that are to be served from the existing service connection.

8.07: WATER CONSERVATION

The purpose of this rule is to ensure that water resources available to the District are put to a reasonable beneficial use and that the benefits of the District's water supply and service extend to the largest number of persons.

A. **Wastage:** In order to protect itself against serious and negligent waste of water, the District may disconnect service as set forth in Article 8.05B(3).

B. **Use of Water Saving Devices and Practices:** Each Consumer of the District is urged to install devices to reduce the quantity of water to flush toilets and to reduce the flow rate of showers. Each Consumer is further urged to adopt such other water usage and reusage practices and procedures as are feasible and reasonable.

C. Use of Recycled Water: Where recycled water is available and, where consistent with applicable law, the Consumer shall use such recycled water for landscape irrigation and other non-potable applications. Separate facilities shall be utilized for the transportation and delivery of recycled water.

D. Rules and Regulations: The District may adopt such rules and regulations imposing restrictions on the use and consumption of water, as it may deem appropriate. Violation of District regulations governing water conservation may result in termination of service, as provided in Article 8.05B(2).

8.08: CROSS CONNECTIONS

The District has adopted a Cross-Connection Control Program and incorporates such program herein. The District Cross-Connection Control Program is attached hereto as Appendix D.

8.09: UNLAWFUL ACTS

In order to protect public water supplies, certain acts are, by state law, misdemeanors and in some instances, penalties are punishable by imprisonment in the county jail for not more than one year or in the state prison. Among the more significant statutes involving criminal acts with respect to water systems are:

A. Section 498 Penal Code: This section includes stealing water, as well as diverting other utilities illegally and taking water after service has been disconnected and the meter sealed (including unauthorized connections to fire hydrants - see 9.03).

B. Section 488 Penal Code: Permitting willful or neglectful seepage or overflow of water on adjacent lands, public or private roads or highways.

C. Sections 4450 to 4457 Health and Safety Code: Any act that leads to the pollution of any conduit or reservoir.

8.10: FIRE HYDRANT DAMAGE

When any person, company, or agency is determined to be the responsible party that has caused damage of a fire hydrant or blow off valve, the District may charge that party with all costs necessary to repair the damages and the cost of water loss computed on the basis of the duration of flow and the flow rate.

Appendix G

60 Day Notification to Cities and Counties

ARDURRA

QUARTZ HILL
WATER DISTRICT
5034 W Avenue L • Quartz Hill, CA 93536
661-943-3170 • www.qhwd.org

August 5, 2026

Trolis Niebla, P.E.
City Manager
City of Lancaster
44933 N. Fern Avenue
Lancaster, CA 93534

Subject: Quartz Hill Water District Urban Water Management Plan 2025-Notification of UWMP Review

Dear Mr. Niebla,

The Quartz Hill Water District (QHWD) is currently in the process of reviewing and updating its Urban Water Management Plan (UWMP) and preparing a Water Shortage Contingency Plan (WSCP) for the 2025 cycle. The Department of Water Resources requires water suppliers to update their UWMP every five years. Among other things, the UWMP will evaluate current and projected water supplies and demands within QHWD's service area over a 25-year planning horizon. The WSCP will detail QHWD's actions in the event of severe water shortage conditions.

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Sincerely,

Josh Nord, PE
Ardurra Group, Inc.

QUARTZ HILL
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661-943-3170 • www.qhwd.org

August 5, 2026

Sal Mendez
City Manager
City of Palmdale
38300 Sierra Highway
Palmdale, CA 93550

Subject: Quartz Hill Water District Urban Water Management Plan 2025-Notification of UWMP Review

Dear Mr. Mendez,

The Quartz Hill Water District (QHWD) is currently in the process of reviewing and updating its Urban Water Management Plan (UWMP) and preparing a Water Shortage Contingency Plan (WSCP) for the 2025 cycle. The Department of Water Resources requires water suppliers to update their UWMP every five years. Among other things, the UWMP will evaluate current and projected water supplies and demands within QHWD's service area over a 25-year planning horizon. The WSCP will detail QHWD's actions in the event of severe water shortage conditions.

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Ardurra Group, Inc.

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5034 W Avenue L • Quartz Hill, CA 93536
661-943-3170 • www.qhwd.org

August 5, 2026

Los Angeles County Planning
335A East Avenue K-6
Lancaster, CA 93535

Subject: Quartz Hill Water District Urban Water Management Plan 2025-Notification of UWMP Review

To Los Angeles County Planning,

The Quartz Hill Water District (QHWD) is currently in the process of reviewing and updating its Urban Water Management Plan (UWMP) and preparing a Water Shortage Contingency Plan (WSCP) for the 2025 cycle. The Department of Water Resources requires water suppliers to update their UWMP every five years. Among other things, the UWMP will evaluate current and projected water supplies and demands within QHWD's service area over a 25-year planning horizon. The WSCP will detail QHWD's actions in the event of severe water shortage conditions.

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Ardurra Group, Inc.

QUARTZ HILL
WATER DISTRICT
5034 W Avenue L • Quartz Hill, CA 93536
661-943-3170 • www.qhwd.org

August 5, 2026

Dennis LaMoreaux
General Manager
Palmdale Water District
2029 E. Avenue Q
Palmdale, CA 93550

Subject: Quartz Hill Water District Urban Water Management Plan 2025-Notification of UWMP Review

Dear Mr. LaMoreaux,

The Quartz Hill Water District (QHWD) is currently in the process of reviewing and updating its Urban Water Management Plan (UWMP) and preparing a Water Shortage Contingency Plan (WSCP) for the 2025 cycle. The Department of Water Resources requires water suppliers to update their UWMP every five years. Among other things, the UWMP will evaluate current and projected water supplies and demands within QHWD's service area over a 25-year planning horizon. The WSCP will detail QHWD's actions in the event of severe water shortage conditions.

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August 5, 2026

Matthew Knudson
General Manager
Antelope Valley East Kern Water Agency
6450 West Avenue N
Palmdale, CA 93551

Subject: Quartz Hill Water District Urban Water Management Plan 2025-Notification of UWMP Review

Dear Mr. Knudson,

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661-943-3170 • www.qhwd.org

August 5, 2026

John Houghton
Director of Public Works
Rosamond Community Services District
43179 35th Street West
Rosamond, CA 93560

Subject: Quartz Hill Water District Urban Water Management Plan 2025-Notification of UWMP Review

Dear Mr. Houghton,

The Quartz Hill Water District (QHWD) is currently in the process of reviewing and updating its Urban Water Management Plan (UWMP) and preparing a Water Shortage Contingency Plan (WSCP) for the 2025 cycle. The Department of Water Resources requires water suppliers to update their UWMP every five years. Among other things, the UWMP will evaluate current and projected water supplies and demands within QHWD's service area over a 25-year planning horizon. The WSCP will detail QHWD's actions in the event of severe water shortage conditions.

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QHWD is scheduled to hold a public hearing on the 2025 UWMP and WSCP at its October 15th Board meeting at 5:30 PM. Contact QHWD by phone at (661)-943-3170 or at their website to get instructions on how to attend.

QHWD encourages local agencies, the public, and other interested parties to provide written comments on the public draft prior to the public hearing.

Please send comment to: Josh Nord, PE
(661) 837-4262 X 1001
jnord@ardurra.com

Thank you for your involvement with QHWD's 2025 UWMP and WSCP update process.

Sincerely,

Josh Nord, PE
Ardurra Group, Inc.

QUARTZ HILL
WATER DISTRICT
5034 W Avenue L • Quartz Hill, CA 93536
661-943-3170 • www.qhwd.org

August 5, 2026

Carolina Hernandez
Assistant Deputy Director
County of Los Angeles - Waterworks
12400 Imperial Highway
Norwalk, CA 90650

Subject: Quartz Hill Water District Urban Water Management Plan 2025-Notification of UWMP Review

Dear Ms. Hernandez,

The Quartz Hill Water District (QHWD) is currently in the process of reviewing and updating its Urban Water Management Plan (UWMP) and preparing a Water Shortage Contingency Plan (WSCP) for the 2025 cycle. The Department of Water Resources requires water suppliers to update their UWMP every five years. Among other things, the UWMP will evaluate current and projected water supplies and demands within QHWD's service area over a 25-year planning horizon. The WSCP will detail QHWD's actions in the event of severe water shortage conditions.

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Please send comments to: Josh Nord, PE
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Josh Nord, PE
Ardurra Group, Inc.

QUARTZ HILL
WATER DISTRICT
5034 W Avenue L • Quartz Hill, CA 93536
661-943-3170 • www.qhwd.org

August 5, 2026

Peter Tuculet
General Manager
Palm Ranch Irrigation District
4871 West Avenue M
Quartz Hill, CA 93536

Subject: Quartz Hill Water District Urban Water Management Plan 2025-Notification of UWMP Review

Dear Mr. Tuculet,

The Quartz Hill Water District (QHWD) is currently in the process of reviewing and updating its Urban Water Management Plan (UWMP) and preparing a Water Shortage Contingency Plan (WSCP) for the 2025 cycle. The Department of Water Resources requires water suppliers to update their UWMP every five years. Among other things, the UWMP will evaluate current and projected water supplies and demands within QHWD's service area over a 25-year planning horizon. The WSCP will detail QHWD's actions in the event of severe water shortage conditions.

QHWD encourages local agencies, the public, and other interested parties in its service area to participate in the update process. QHWD plans to make a copy of the public drafts of the 2025 UWMP and WSCP available for public review on August 7th, 2026 at QHWD's at their office, 5034 W. Avenue L, Quartz Hill, CA 93536, Monday through Friday 8 a.m. – 4 p.m. and on their website www.qhwd.org.

QHWD is scheduled to hold a public hearing on the 2025 UWMP and WSCP at its October 15th Board meeting at 5:30 PM. Contact QHWD by phone at (661)-943-3170 or at their website to get instructions on how to attend.

QHWD encourages local agencies, the public, and other interested parties to provide written comments on the public draft prior to the public hearing.

Please send comments to: Josh Nord, PE
(661) 837-4262 X 1001
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Thank you for your involvement with QHWD's 2025 UWMP and WSCP update process.

Sincerely,

Josh Nord, PE
Ardurra Group, Inc.

Appendix H

Newspaper Notification

ARDURRA

AFFIDAVIT OF PUBLICATION

(2015.5 C.C.P.)

STATE OF CALIFORNIA }
County of Los Angeles } ss

The space above for file stamp only

PUBLIC NOTICE
2025 URBAN WATER MANAGEMENT PLAN

I am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen years, and not a party to or interested in the above entitled matter. I am the principal clerk of the printer of the **Antelope Valley Press**, a newspaper of general circulation, printed and published **daily** in the city of **Palmdale**, County of Los Angeles, and which newspaper has been adjudged a newspaper of general circulation by the Superior Court of the County of Los Angeles, State of California, under date of October 24, 1931, Case Number 328601; Modified Case Number 657770 April 11, 1956; also operating as the Ledger-Gazette, adjudicated a legal newspaper June 15, 1927, by Superior Court decree No. 224545; also operating as the Desert Mailer News, formerly known as the South Antelope Valley Foothill News, adjudicated a newspaper of general circulation by the Superior Court of the County of Los Angeles, State of California on May 29, 1967, Case Number NOC564 and adjudicated a newspaper of general circulation for the **City of Lancaster,** State of California on January 26, 1990, Case Number NOC10714, Modified October 22, 1990; that the notice, of which the annexed is a printed copy (set in type not smaller than nonpareil), has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to-wit:

Aug. 11, 18, 2026

I certify (or declare) under penalty of perjury that the fore-going is true and correct.

Signature

Dated: August 18, 2026
Executed at Palmdale, California

Valley Press

37404 SIERRA HWY., PALMDALE CA 93550
Telephone (661) 441-6011

QHWD NEWSPAPER PUBLICATION

2025 Urban Water Management Plan

The Quartz Hill Water District (QHWD) is currently in the process of developing its 2025 Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP). Every five years, the California Department of Water Resources (DWR) requires that water suppliers like QHWD, update their UWMP. Every urban water supplier that either provides over 3,000 acre-feet of water annually or serves more than 3,000 urban connections is required to assess the reliability of its water sources over a 25-year planning horizon. DWR staff then reviews the submitted plans to make sure they have completed the requirements and submits a report to the Legislature summarizing the status of the plans.

UWMPs and WSCPs are prepared by California's urban water suppliers to support their long-term resource planning efforts and ensure adequate water supplies are available to meet existing and future water demands. Preparation of the Plan includes analysis of projected population growth, current and future water demands, as well as water supply and pumping data.

A public draft is available for review at QHWD's Administration office located at 5034 W. Avenue L, Quartz Hill, CA 93536, Monday through Friday 8 AM to 4 PM. QHWD's Board of Directors will take action on the UWMP and WSCP at its October 15th, 2026 Regular Board Meeting at 5:30 PM. The meeting will be held virtually. Contact QHWD by phone at 661-943-3170 or at their website www.qhwd.org for information on how to attend.

Published: Aug. 11 and 18, 2026

Appendix I

Adoption Resolution

ARDURRA

QUARTZ HILL WATER DISTRICT
RESOLUTION NO. 26-1015A

RESOLUTION APPROVING, AUTHORIZING, AND APPROVING AND ADOPTING THE 2025 URBAN WATER MANAGEMENT PLAN

WHEREAS, California Water Code Section 10610 et seq. known as the Urban Water Management Planning Act (Planning Act) during the 1983-1984 Regular sessions, as amended subsequently, which mandates that every water supplier providing water for municipal purposes to more than 3,000 acre feet of water annually, to prepare and adopt an Urban Water Management Plan (UWMP) every five years on or before July 1, in years ending in six and one, the primary objective of which is to plan for the conservation and efficient use of water: and

WHEREAS, California Water Code Section 10652 exempts the preparation and adoption of UWMPs and amendments to UWMPs form the California Environmental Quality Act; and

WHEREAS, the deadline for adoption and submittal of the 2025 UWMP is July 1, 2026: and

WHEREAS, the Planning Act specifies the requirements and procedures for adopting such UWMPs: and

WHEREAS, pursuant to the Planning Act, the District (Quartz Hill Water District) prepared a draft 2025 UWMP in consultation with the District's member agencies to support long-term water resources planning in areas that include water demand forecasting, identification of local and imported supplies, and water shortage contingency planning; and

WHEREAS, the District, at least 60 days before the public hearing on the draft 2025 UWMP, notified each of the cities within the District's service area and the County of Los Angeles that the District would be reviewing the documents and considering amendments or changes; and

WHEREAS, the draft UWMP were made available for public review and comment commencing August 7, 2026; and

WHEREAS, the District Board of Directors, upon recommendation of the General Manager, and the information presented to it at a Board meeting on October 15, 2026, has determined that the, final UWMP dated October 15, 2026,

THEREFORE, BE IT RESOLVED, by the board of Directors of the Quartz Hill Water District as follows:

1. The foregoing recitals are true and correct, have been duly performed in conformity with the Planning Act and other applicable law, and constitute the findings and determinations of the Board.
2. The final UWMP, dated October 15, 2026, on file is approved and adopted.
3. The 2025 UWMP, which replaces the 2020 UWMP, is hereby adopted and ordered filed with the Board Secretary.
4. The General Manager is hereby authorized and directed to file the Plan with the California Department of Water Resources within 30 days after this date.
5. The General Manager is hereby authorized and directed to implement the Urban Water Management Plan during water shortages when declared by the Board of Directors.
6. This resolution is effective upon adoption.

PASSED AND ADOPTED at the Regular Meeting of the Board of Directors of Quartz Hill Water District held on October 15, 2026, by the following vote:

AYE: Directors:
NO:
ABSTAIN:
ABSENT:

Date: October 15, 2026

Rod Holtz, Vice President

Attested:

Shaneece Lopez, Board Secretary

QUARTZ HILL WATER DISTRICT
RESOLUTION NO. 26-1015B

RESOLUTION APPROVING, AUTHORIZING, AND APPROVING AND ADOPTING THE 2025 WATER SHORTAGE CONTINGENCY PLAN

WHEREAS, California Water Code Section 10610 et seq. known as the Urban Water Management Planning Act (Planning Act) during the 1983-1984 Regular sessions, as amended subsequently, which mandates that every water supplier providing water for municipal purposes to more than 3,000 acre feet of water annually, to prepare and adopt a Water Shortage Contingency Plan (WSCP) every five years on or before July 1, in years ending in six and one, the primary objective of which is to plan for the conservation and efficient use of water: and

WHEREAS, California Water Code Section 10652 exempts the preparation and adoption of WSCPs and amendments to WSCPs from the California Environmental Quality Act; and

WHEREAS, the deadline for adoption and submittal of the 2025 WSCP is July 1, 2026: and

WHEREAS, the Planning Act specifies the requirements and procedures for adopting such WSCPs: and

WHEREAS, pursuant to the Planning Act, the District (Quartz Hill Water District) prepared a draft 2025 WSCP in consultation with the District's member agencies to support long-term water resources planning in areas that include water demand forecasting, identification of local and imported supplies, and water shortage contingency planning; and

WHEREAS, the District, at least 60 days before the public hearing on the draft 2025 WSCP, notified each of the cities within the District's service area and the County of Los Angeles that the District would be reviewing the documents and considering amendments or changes; and

WHEREAS, the draft WSCP were made available for public review and comment commencing August 7, 2026; and

WHEREAS, the District Board of Directors, upon recommendation of the General Manager, and the information presented to it at a Board meeting on October 15, 2026, has determined that the, final WSCP dated October 15, 2026,

THEREFORE, BE IT RESOLVED, by the board of Directors of the Quartz Hill Water District as follows:

1. The foregoing recitals are true and correct, have been duly performed in conformity with the Planning Act and other applicable law, and constitute the findings and determinations of the Board.
2. The final WSCP, dated October 15, 2026, on file is approved and adopted.
3. The 2025 WSCP, which replaces the 2020 WSCP, is hereby adopted and ordered filed with the Board Secretary.
4. The General Manager is hereby authorized and directed to file the Plan with the California Department of Water Resources within 30 days after this date.
5. The General Manager is hereby authorized and directed to implement the Water Shortage Contingency Plan during water shortages when declared by the Board of Directors.
6. This resolution is effective upon adoption.

PASSED AND ADOPTED at the Regular Meeting of the Board of Directors of Quartz Hill Water District held on October 15, 2026, by the following vote:

AYE: Directors:
NO:
ABSTAIN:
ABSENT:

Date: October 15, 2026

Rod Holtz, Vice President

Attested:

Shaneece Lopez, Board Secretary

Appendix J

2025 UWMP Checklist

ARDURRA

Table F-1. Urban Water Management Plan Checklist

Retail (x = required)	Wholesale (x = required)	2025 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	Relevant Submittal Table	2025 UWMP Location
x	x	Chapter 1	10615	A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses, reclamation and demand management activities.	Introduction and overview	n/a	Chapter 1
x	x	Chapter 1	10630.5	Each plan shall include a simple description of the Supplier's plan including water availability, future requirements, a strategy for meeting needs, and other pertinent information. Additionally, a Supplier may also choose to include a simple description at the beginning of each chapter.	Plan preparation	n/a	Chapter 2
x	x	Section 2.1	10620(b)	Every person that becomes a Supplier shall adopt UWMP within one year after it has become a Supplier.	Plan preparation	n/a	Chapter 2
x	n/a	Section 2.5	10644	Supplier shall report the Public Water Systems number, volume of delivered water, and number of connections that are included in this UWMP.	Plan preparation	2-1	Chapter 2
x	x	Section 2.5	10644	Supplier shall report if this UWMP is an individual UWMP and whether the Supplier belongs to a regional UWMP or regional alliance.	Plan preparation	2-2	Chapter 2
x	x	Section 2.5	10644	Supplier shall report whether the data is in fiscal or calendar years and the units of measure used for reporting water volumes.	Plan preparation	2-3	Chapter 2
x	x	Section 2.4	10642	Provide supporting documentation that the Supplier has encouraged active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan and contingency plan.	Plan preparation	n/a	Chapter 2
x	x	Section 2.4.2	10620(d)(3)	Coordinate the preparation of its plan with other appropriate agencies in the area, including other Suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.	Plan preparation	n/a	Chapter 2
x	n/a	Section 2.4.1	10631(h)	Retail Suppliers will include documentation that they have provided their Wholesale Supplier(s)—if any—with water use projections from that source.	Plan preparation	2-4 R	Chapter 2
n/a	x	Section 2.4.1	10631(h)	Wholesale Suppliers will provide their Suppliers with identification and quantification of the existing and planned sources of water available from the Wholesale Supplier to the Supplier during various water year types.	Plan preparation	2-4 W	Chapter 2
x	x	Chapter 3.0	10631(a)	Describe the Supplier service area.	System description	n/a	Chapter 2
x	x	Section 3.3	10631(a)	Describe the climate of the Supplier's service area.	System description	n/a	Chapter 2
x	x	Section 3.4.1	10631(a)	Provide the current and projected service area populations for 2030, 2035, 2040, 2045 and optionally 2050.	System description	3-1	Chapter 3
x	x	Section 3.4.2	10631(a)	Describe other social, economic, and demographic factors affecting the Supplier's water management planning.	System description	n/a	Chapter 3
x	x	Section 3.5	10631(a)	Describe the land uses within the service area… include the current and projected land uses within the existing or anticipated service area affecting the Supplier's water management planning. Describe the land uses within the service area.	System description and baselines	n/a	Chapter 3
x	Optional	Sections 4.2.3 and 4.2.4	10631(d)(1)	Quantify past, current, and projected water use, identifying the uses among water use sectors.	System water use	4-1 and 4-2	Chapter 4
x	Optional	Section 4.3.1	10631(d)(3)(A)	Report the distribution system water loss for each of the five years preceding the plan update.	System water use	4-5	Chapter 4
x	n/a	Section 4.3.2	10631(d)(3)(C)	Retail Suppliers shall provide data to show the distribution loss standards were met.	System water use	4-6	Chapter 4
x	n/a	Section 4.2.5.4	10631.1(a)	Include projected water use needed for lower income housing projected in the service area of the Supplier.	System water use	4-3	Chapter 4
x	n/a	Section 4.2.5.3	10631(d)(4)(A)	In projected water use, include estimates of water savings from adopted codes, plans, and other policies or laws.	System water use	4-3	Chapter 4

Retail (x = required)	Wholesale (x = required)	2025 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	Relevant Submittal Table	2025 UWMP Location
x	n/a	Section 4.2.5.3	10631(d)(4)(B)	Provide citations of codes, standards, ordinances, or plans used to make water use projections.	System water use	4-3	Chapter 4
x	n/a	Section 4.2.5.3	10631(d)(4)(B)(ii)	To the extent that a Supplier reports the information described in subparagraph (A), an urban water Supplier shall… Indicate the extent that the water use projections consider savings from codes, standards, ordinances, or transportation and land use plans. Water use projections that do not account for these water savings shall be noted of that fact.	System water use	4-3	Chapter 4
x	x	Section 4.2.5.6	10635(b)	Demands under climate change considerations must be included as part of the drought risk assessment.	System water use	n/a	Chapter 4
n/a	x	Section 5.1	10608.36	Wholesale Suppliers shall include an assessment of present and proposed future measures, programs, and policies to help their Retail Suppliers achieve targeted water use reductions.	Baselines and targets	n/a	n/a
x	n/a	Section 5.2	10608.40	Retail Suppliers shall report on their compliance in meeting their water use targets. Reporting requirements will vary depending on whether the Supplier: - Was considered an urban retail water supplier in 2020, - Met its 2020 target in 2020, or - Was part of a merger or consolidation since 2020. Chapter 5 Subsections 5.2.1, 5.2.2, and 5.2.3 address each of these situations.	Baselines and targets	5-1	Chapter 5
x	x	Section 6.1	10631(b)(2)	When multiple sources of water supply are identified, describe the management of each supply in relationship to other identified supplies.	System supplies	n/a	Chapter 5
x	x	Sections 6.1 and 6.2	10631(b)(1)	Provide a discussion of anticipated supply availability under a normal, single dry year, and a drought lasting five years, as well as more frequent and severe periods of drought, including changes in supply due to climate change.	System supplies	n/a	Chapter 5
x	x	Section 6.2.2	10631(b)(4)(C)	Indicate whether groundwater is an existing or planned source of water available to the Supplier. If groundwater is identified as an existing or planned source of water… (include) a detailed description and analysis of the location, amount and sufficiency of groundwater pumped by the Supplier for the past five years.	Water supplies and recycled water	6-1	Chapter 6
x	x	Section 6.2.2	10631(b)(4)(A)	Indicate whether a groundwater sustainability plan or groundwater management plan has been adopted by the Supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.	System supplies	n/a	Chapter 6
x	x	Section 6.2.2	10631(b)(4)(B)	Describe the groundwater basin.	System supplies	n/a	Chapter 6
x	x	Section 6.2.2	10631(b)(4)(B)	Indicate if the basin has been adjudicated and include a copy of the court order or decree and a description of the amount of water the Supplier has the legal right to pump.	System supplies	n/a	Chapter 6
x	x	Section 6.2.2	10631(b)(4)(B)	For unadjudicated basins… (include) information as to whether DWR has identified the basin as a high- or medium-priority basin in the most current official departmental bulletin…	Water supplies and recycled water	n/a	Chapter 6
x	x	Section 6.2.2	10631(b)(4)(B)	For unadjudicated basins… describe efforts by the Supplier to coordinate with sustainability or groundwater agencies to achieve sustainable groundwater conditions.	Water supplies and recycled water	n/a	Chapter 6
x	x	Section 6.2.2.	10631(b)(4)(C)	If groundwater is identified as an existing or planned source of water… (include) a detailed description and analysis of the location, amount and sufficiency of groundwater pumped by the Supplier for the past five years.	System supplies	n/a	Chapter 6
x	x	Section 6.2.2	10631(b)(4)(D)	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	System supplies	6-9	Chapter 6
x	x	Section 6.1	10631(b)	Identify and quantify the existing and planned sources of water available for 2025, 2030, 2035, 2040, 2045 and optionally 2050.	System supplies	6-8 and 6-9	Chapter 6
x	x	Section 6.2.7	10631(c)	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	System supplies	n/a	Chapter 6

Retail (x = required)	Wholesale (x = required)	2025 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	Relevant Submittal Table	2025 UWMP Location
x	n/a	Section 6.2.5	10633(a)	Describe the wastewater collection and treatment systems in the Supplier's service area with quantified amount of collection and treatment and the disposal methods.	System supplies (recycled water)	6-2	Chapter 6
x	x	Section 6.2.5	10633(b)	Describe the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.	System supplies (recycled water)	6-3	Chapter 6
x	x	Section 6.2.5	10633(c)	Describe the recycled water currently being used in the Supplier's service area.	System supplies (recycled water)	6-4	Chapter 6
x	x	Section 6.2.5	10633(d)	Describe and quantify the potential uses of recycled water and provide a determination of the technical and economic feasibility of those uses.	System supplies (recycled water)	6-4	Chapter 6
x	x	Section 6.2.5	10633(e)	Describe the projected use of recycled water within the Supplier's service area at the end of 5, 10, 15, and 20 years, and describe the actual use of recycled water in comparison to uses previously projected.	System supplies (recycled water)	6-4 and 6-5	Chapter 6
x	x	Section 6.2.5	10633(f)	Describe the actions that may be taken to encourage the use of recycled water and the projected results of these actions in terms of acre-feet of recycled water used per year.	System supplies (recycled water)	6-6	Chapter 6
x	x	Section 6.2.5	10633(g)	Provide a plan for optimizing the use of recycled water in the Supplier's service area.	System supplies (recycled water)	n/a	Chapter 6
x	x	Section 6.2.6	10631(g)	Describe desalinated water project opportunities for long-term supply.	System supplies	6-7	Chapter 6
x	x	Section 6.2.10	10631(f)	Describe the expected future water supply projects and programs that may be undertaken by the water Supplier to address water supply reliability in average, single-dry, and for a period of drought lasting five consecutive water years.	System supplies	6-7	Chapter 6
x	x	Section 6.3 and Appendix O	10631.2(a)	The UWMP must include energy information, as stated in the code, that a Supplier can readily obtain.	System suppliers, energy intensity	O-1A, O-1B, O-1C, and O-2	Chapter 6
x		Section 7.1	10634	Provide information on the quality of existing sources of water available to the Supplier and the manner in which water quality affects water management strategies and supply reliability.	Water supply reliability assessment	n/a	Chapter 7
x	x	Section 7.2	10635(a)	Service Reliability Assessment: Assess the water supply reliability during normal, dry, and a drought lasting five consecutive water years by comparing the total water supply sources available to the Supplier with the total projected water use over the next 20 years.	Water supply reliability assessment	7-2, 7-3, and 7-4	Chapter 7
x	x	Section 7.2.3	10620(f)	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	Water supply reliability assessment	n/a	Chapter 7
x	x	Section 7.3	10635(b)	Provide a drought risk assessment as part of information considered in developing the demand management measures and water supply projects.	Water supply reliability assessment	n/a	Chapter 7
x	x	Section 7.3	10635(b)(1)	Include a description of the data, methodology, and basis for one or more supply shortage conditions that are necessary to conduct a drought risk assessment for a drought period that lasts five consecutive years.	Water supply reliability assessment	n/a	Chapter 7
x	x	Section 7.3	10635(b)(2)	Include a determination of the reliability of each source of supply under a variety of water shortage conditions.	Water supply reliability assessment	n/a	Chapter 7
x	x	Section 7.3	10635(b)(3)	Include a comparison of the total water supply sources available to the Supplier with the total projected water use for the drought period.	Water supply reliability assessment	7-5	Chapter 7
x	x	Section 7.3	10635(b)(4)	Include considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.	Water supply reliability assessment	n/a	Chapter 7
x	x	Chapter 8	10632(a)	Provide a water shortage contingency plan (WSCP) with specified elements below.	Water shortage contingency planning	n/a	Chapter 7

Retail (x = required)	Wholesale (x = required)	2025 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	Relevant Submittal Table	2025 UWMP Location
x	x	Chapter 8	10632(a)(1)	Provide an analysis of water supply reliability (from Guidebook Chapter 7) in the WSCP.	Water shortage contingency planning	n/a	Chapter 7
x	x	Section 8.2	10632(a)(2)(A)	Provide the written decision-making process and other methods that the Supplier will use each year to determine its water reliability.	Water shortage contingency planning	n/a	Chapter 7
x	x	Section 8.2	10632(a)(2)(B)	Provide data and methodology to evaluate the Supplier's water reliability for the current year and one dry year pursuant to factors in the code.	Water shortage contingency planning	n/a	Chapter 7
x	x	Section 8.3	10632(a)(3)(A)	Define six standard water shortage levels of 10%, 20%, 30%, 40%, 50% shortage, and greater than 50% shortage. These levels shall be based on supply conditions, including percent reductions in supply, changes in groundwater levels, changes in surface elevation, or other conditions. The shortage levels shall also apply to a catastrophic interruption of supply.	Water shortage contingency planning	n/a	Chapter 7
x	x	Section 8.3	10632(a)(3)(B)	Suppliers with an existing WSCP that uses different water shortage levels must cross reference their categories with the six standard categories.	Water shortage contingency planning	8-1	Chapter 8
x	x	Section 8.4	10632(a)(4)(A)	Suppliers with WSCPs that align with the defined shortage levels must specify locally appropriate supply augmentation actions.	Water shortage contingency planning	8-2	Chapter 8
x	x	Section 8.4	10632(a)(4)(B)	Specify locally appropriate demand reduction actions to adequately respond to shortages.	Water shortage contingency planning	8-3	Chapter 8
x	x	Section 8.4	10632(a)(4)(C)	Specify locally appropriate operational changes.	Water shortage contingency planning	8-2	Chapter 8
x	x	Section 8.4	10632(a)(4)(D)	Specify additional mandatory prohibitions against specific water use practices that are in addition to State-mandated prohibitions are appropriate to local conditions.	Water shortage contingency planning	Table 8-3	Chapter 8
x	x	Section 8.4	10632(a)(4)(E)	Estimate the extent to which the gap between supplies and demand will be reduced by implementation of the action.	Water shortage contingency planning	8-2 and 8-3	Chapter 8
x	x	Section 8.4.6	10632.5	The UWMP shall include a seismic risk assessment and mitigation plan.	Water shortage contingency plan	n/a	Chapter 8
x	x	Section 8.5	10632(a)(5)(A)	Suppliers must describe that they will inform customers, the public and others regarding any current or predicted water shortages.	Water shortage contingency planning	n/a	Chapter 8
x	x	Section 8.5	10632(a)(5)(B), 10632(a)(5)(C)	Suppliers must describe that they will inform customers, the public and others regarding any shortage response actions triggered or anticipated to be triggered and other relevant communications.	Water shortage contingency planning	n/a	Chapter 8
x	n/a	Section 8.6	10632(a)(6)	Retail Supplier must describe how it will ensure compliance with and enforce provisions of the WSCP.	Water shortage contingency planning	n/a	Chapter 8
x	x	Section 8.7	10632(a)(7)(A)	Describe the legal authority that empowers the Supplier to enforce shortage response actions.	Water shortage contingency planning	n/a	Chapter 8
x	x	Section 8.7	10632(a)(7)(B)	Provide a statement that the Supplier will declare a water shortage emergency per Water Code Chapter 3. *Water Shortage Emergencies*.	Water shortage contingency planning	n/a	Chapter 8
x	x	Section 8.7	10632(a)(7)(C)	Provide a statement that the Supplier will coordinate with any city or county within which it provides water for the possible proclamation of a local emergency.	Water shortage contingency planning	n/a	Chapter 8
x	x	Section 8.8	10632(a)(8)(A)	Describe the potential revenue reductions and expense increases associated with activated shortage response actions.	Water shortage contingency planning	n/a	Chapter 8
x	x	Section 8.8	10632(a)(8)(B)	Provide a description of mitigation actions needed to address revenue reductions and expense increases associated with activated shortage response actions.	Water shortage contingency planning	n/a	Chapter 8
x	n/a	Section 8.8	10632(a)(8)(C)	Retail Suppliers must describe the cost of compliance with Water Code Chapter 3.3, *Excessive Residential Water Use During Drought*.	Water shortage contingency planning	n/a	Chapter 8

Retail (x = required)	Wholesale (x = required)	2025 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	Relevant Submittal Table	2025 UWMP Location
x	n/a	Section 8.9	10632(a)(9)	Retail Suppliers must describe the monitoring and reporting requirements and procedures that ensure appropriate data are collected, tracked, and analyzed for purposes of monitoring customer compliance.	Water shortage contingency planning	n/a	Chapter 8
x	x	Section 8.10	10632(a)(10)	Describe reevaluation and improvement procedures for monitoring and evaluation the WSCP to ensure risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented.	Water shortage contingency planning	n/a	Chapter 8
x	n/a	Section 8.11	10632(b)	Analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas.	Water shortage contingency planning	n/a	Chapter 8
x	x	Section 8.12	10632(c)	Make available the WSCP to customers and any city or county where it provides water within 30 days after adoption of the plan.	Water shortage contingency planning	n/a	Chapter 8
x	n/a	Sections 9.1	10631(e)(1)	Retail Suppliers shall provide a description of the nature and extent of each demand management measure implemented over the past five years. The description will address specific measures listed in code.	Demand management measures	n/a	Chapter 9
n/a	x	Sections 9.2	10631(e)(2)	Wholesale Suppliers shall describe specific demand management measures listed in code, their distribution system asset management program, and Supplier assistance program.	Demand management measures	n/a	Chapter 9
x	n/a	Chapter 10	10608.26(a)	Retail Suppliers shall conduct a public hearing to discuss adoption, implementation, and economic impact of water use targets (recommended to discuss compliance).	Plan adoption, submittal, and implementation	n/a	Chapter 9
x	x	Section 10.2.1	10621(b)	Notify, at least 60 days prior to the public hearing, any city or county within which the Supplier provides water that the Supplier will be reviewing the UWMP and considering amendments or changes to the plan.	Plan adoption, submittal, and implementation	10-1	Chapter 10
x	x	Section 10.4	10621(f)	Each urban water Supplier shall update and submit its 2025 plan to DWR by July 1, 2026.	Plan adoption, submittal, and implementation	n/a	Chapter 10
x	x	Sections 10.2.2, 10.3, and 10.5	10642	Provide supporting documentation that the Supplier made the UWMP and WSCP available for public inspection, published notice of the public hearing, and held a public hearing about the UWMP and WSCP.	Plan adoption, submittal, and implementation	n/a	Chapter 10
x	x	Section 10.2.2	10642	The Supplier is to provide the time and place of the hearing to any city or county within which the Supplier provides water.	Plan adoption, submittal, and implementation	10-1	Chapter 10
x	x	Section 10.3.2	10642	Provide supporting documentation that the UWMP and WSCP has been adopted as prepared or modified.	Plan adoption, submittal, and implementation	n/a	Chapter 10
x	x	Section 10.4	10644(a)	Provide supporting documentation that the Supplier has submitted their UWMP to the California State Library.	Plan adoption, submittal, and implementation	n/a	Chapter 10
x	x	Section 10.4	10644(a)(1)	Provide supporting documentation that the Supplier has submitted their UWMP to any city or county within which the Supplier provides water no later than 30 days after adoption.	Plan adoption, submittal, and implementation	n/a	Chapter 10
x	x	Sections 10.4.1 and 10.4.2	10644(a)(2)	The UWMP, or amendments to the UWMP, submitted to DWR shall be submitted electronically.	Plan adoption, submittal, and implementation	n/a	Chapter 10
x	x	Section 10.7.2	10644(b)	If revised, submit a copy of the WSCP to DWR within 30 days of adoption.	Plan adoption, submittal, and implementation	n/a	Chapter 10

Retail (x = required)	Wholesale (x = required)	2025 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	Relevant Submittal Table	2025 UWMP Location
x	x	Section 10.5	10645(a)	Provide supporting documentation that, not later than 30 days after filing a copy of its UWMP with DWR, the Supplier has or will make the plan available for public review during normal business hours.	Plan adoption, submittal, and implementation	n/a	Chapter 10
x	x	Section 10.5	10645(b)	Provide supporting documentation that, not later than 30 days after filing a copy of its WSCP with DWR, the Supplier has or will make the plan available for public review during normal business hours.	Plan adoption, submittal, and implementation	n/a	Chapter 10
x	x	Section 10.6	10621(c)	If Supplier is regulated by the Public Utilities Commission, include its plan and contingency plan as part of its general rate case filings.	Plan adoption, submittal, and implementation	n/a	Chapter 10

Appendix K

Transmittals

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