FINAL REPORT | JUNE 2021

Coastside County Water District
2020 Urban Water Management Plan

JOINTLY PREPARED BY

COASTSIDE COUNTY WATER DISTRICT

WEST YOST
Water. Engineered.

DEPARTMENT OF WATER RESOURCES
P.O. BOX 942836
SACRAMENTO, CA 94236-0001
(916) 653-5791

January 14, 2022

Mary Rogren
General Manager
Coastside County Water District
766 Main Street
Half Moon Bay, CA 94019

RE: Urban Water Management Plan Requirements Addressed

Dear Mary Rogren:

The Department of Water Resources (DWR) has reviewed the Coastside County Water District's 2020 Urban Water Management Plan (UWMP) received on 6/15/2021. The California Water Code (CWC) directs DWR to report to the legislature once every five years on the status of submitted UWMPs. In meeting this legislative reporting requirement, DWR reviews all submitted UWMPs.

This letter acknowledges that DWR's review of the Coastside County Water District's 2020 UWMP has found that the UWMP is consistent with the statutory requirements. DWR's review of plans is limited to assessing whether suppliers have addressed the required legislative elements. In its review, DWR does not evaluate or analyze the supplier's UWMP data, projections, or water management strategies. The results of the review will be provided to DWR's Financial Assistance Branch.

If you have any questions regarding the review of the UWMP or urban water management planning, please contact Zaida Darley at (916) 606-2134.

Sincerely,

Julie Ekstrom, Ph.D.
Supervisor, Urban Unit
Water Use Efficiency Branch

Electronic cc:
Cathleen Brennan, Water Resources Analyst
Elizabeth Drayer, West Yost Associates
Zaida Darley, Department of Water Resources

Errata Sheet for Minor Corrections to
Coastside County Water District
2020 Urban Water Management Plan (UWMP)

This errata sheet logs minor content errors that were identified after final adoption of the Coastside County Water District 2020 UWMP. DWR has determined that these corrections are minor and do not require the UWMP to be amended.

☒ These data errors have been corrected in the Department of Water Resources (DWR) UWMP database at https://wuedata.water.ca.gov/secure/

☒ This errata sheet has been filed with the UWMP in all locations where it is made publicly available, including the California State Library. Errata may be submitted to State Library via email to cslgps@library.ca.gov

Name and agency of the person filing errata sheet: Elizabeth Drayer, West Yost Associates

#	Description of Correction	Location	Rationale	Date Error Corrected
1	Table 8-3: Supply Augmentation and Other Actions: Added Stages 1-6 and indicated that no specific supply augmentation or other actions are included under Stages 1-6	WUEdata Table 8-3	At DWR's request, added Stages 1-6 to Table 8-3. These stages were not included in the original submittal as no supply augmentation or other actions are associated with Stages 1-6.	January 10, 2022
2	SB X7-7 Compliance Table 9: Filled in 2020 Confirmed Target of 124 gpcd in WUEdata	WUEdata SB X7-7 Compliance Table 9	Filled in 2020 Confirmed Target of 124 gpcd, which had inadvertently been left blank in the original WUEdata submittal	January 10, 2022

2020 Urban Water Management Plan

Prepared for

Coastside County Water District

Project No. 464-60-20-08

Project Manager: Elizabeth Drayer, PE	6-10-21 Date
QA/QC Review: Jim Connell, PE	6-10-21 Date

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LIST OF ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
ABAG	Association of Bay Area Governments
ACWD	Alameda County Water District
AF	Acre-Feet
AMI	Advanced Meter Infrastructure
AWWA	American Water Works Association
BAIRWMP	Bay Area Integrated Regional Water Management Plan
BARR	Bay Area Regional Reliability Partnership
BARR SWAP	Bay Area Regional Reliability Shared Water Access Program
BAWSCA	Bay Area Water Supply and Conservation Agency
CalWEP	California Water Efficiency Partnership
CASGEM	California Statewide Groundwater Elevation Monitoring
ccf	One Hundred Cubic Feet
CDP	Coastal Development Permit
CEQA	California Environmental Quality Act
CFS	Cubic Feet Per Second
CII	Commercial, Institutional and Industrial
CIMIS	California Irrigation Management Information System
CIP	Capital Improvement Program
CUWCC	California Urban Water Conservation Council
CWC	California Water Code
DBP	Disinfection By-Product
District	Coastside County Water District
DMMs	Demand Management Measures
DRA	Drought Risk Assessment
DSOD	California Division of Safety of Dams
DSS	Decision Support System
DWR	Department of Water Resources
DWR Guidebook	2020 Urban Water Management Plan Guidebook
EBMUD	East Bay Municipal Utility District
EIR	Environmental Impact Report
EPA	Environmental Protection Agency
ET_o	Evapotranspiration
FEMA	Federal Emergency Management Agency
FY	Fiscal Year
GHG	Greenhouse Gas
GPCD	Gallons Per Capita Per Day
GPM	Gallons Per Minute
GSP	Groundwater Sustainability Plan
GSR	Groundwater Storage and Recovery

HDPE	High Density Polyethylene
HMP	Hazard Mitigation Plan
ISG	Individual Supply Guarantee
IWA	International Water Association
JPA	Joint Powers Authority
LCP	Local Coastal Program
LCSD	Lower Crystal Springs Dam
Legislature	California State Legislature
LHMP	Local Hazard Mitigation Plan
LOS	Level of Service
LVE	Los Vaqueros Reservoir Expansion
MG	Million Gallons
MGD	Million Gallons Per Day
MGY	Million Gallons Per Year
MID	Modesto Irrigation District
MOU	Memorandum of Understanding
MWSD	Montara Water and Sanitary District
NAICS	North American Industry Classification System
NPDES	National Pollutant Discharge Elimination System
OCP	Ocean Colony Partners
PREP	Crystal Springs Purified Water Project
PVC	Polyvinyl Chloride
RUWMP	Regional Urban Water Management Plan
RWS	Regional Water System
SAM	Sewer Authority Mid-Coastside
SB	Senate Bill
SB X7-7	Senate Bill Seven of the Senate's Seventh Extraordinary Session of 2009/ Water Conservation Act of 2009
SFPUC	San Francisco Public Utilities Commission
SGMA	Sustainable Groundwater Management Act of 2014
SMCWPPP	San Mateo County Water Pollution Prevention Program
SMP	Surface Mining Permit
SVCW	Silicon Valley Clean Water
SWAP	Shared Water Access Program
SWRCB	State Water Resources Control Board
TID	Turlock Irrigation District
USD	Union Sanitary District
UWMP	Urban Water Management Plan
WCIP	Water Conservation Implementation Plan
WDR	Waste Discharge Requirements
WSA	Water Supply Agreement
WSAP	Water Shortage Allocation Plan

WSCP	Water Shortage Contingency Plan
WSIP	Water System Improvement Program
WTP	Water Treatment Plant
WUE	Water Use Efficiency
WWFMP	Wet Weather Flow Management Project
WWTP	Wastewater Treatment Plant

INTRODUCTION

An Urban Water Management Plan (UWMP) helps water suppliers assess the availability and reliability of their water supplies and current and projected water use to help ensure reliable water service under different conditions. This water supply planning is especially critical for California currently, as climate change is resulting in changes in rainfall and snowfall, which in turn impact water supply availability. Development is occurring throughout the State resulting in increased needs for reliable water supplies. The Urban Water Management Planning Act (Act) requires larger water suppliers that provide water to urban users (whether directly or indirectly) to develop UWMPs every five years. UWMPs evaluate conditions for the next 20 years, so these regular updates ensure continued long-term planning.

Since the Coastside County Water District (District) provides water service directly to more than 3,000 connections, it is required to prepare a UWMP.

This Executive Summary serves as a Lay Description of the District's 2020 UWMP, as required by California Water Code §10630.5.

CALIFORNIA WATER CODE REQUIREMENTS

The California Water Code documents specific requirements for California water suppliers. The Act is included in the California Water Code and specifies the required elements of a UWMP, including discussing the District's water system and facilities, calculating how much water its customers use (i.e., water demand) and how much the District can supply, and detailing how the District would respond during a drought or other water supply shortage. Also, a UWMP must describe what specific coordination steps were taken to prepare, review, and adopt the plan.

The Act has been revised over the years. The Water Conservation Act of 2009 (California Senate Bill X7-7 [SB X7-7]) required retail water agencies to establish water use targets for 2015 and 2020 that would result in statewide water savings of 20 percent by 2020. In 2020, retail agencies are required to report on their compliance with SB X7-7.

The 2012 to 2016 drought led to further revisions to the Act under the 2018 Water Conservation Legislation to improve water supply planning for long-term reliability and resilience to drought and climate change. Changes presented by the legislation include:

- Five Consecutive Dry Year Water Reliability Assessment: Analyze water supply reliability for five consecutive dry years over the planning period of this UWMP (see Chapter 7).
- Drought Risk Assessment: Assess water supply reliability from 2021 to 2025 assuming that the next five years are dry years (see Chapter 7).
- Seismic Risk: Identify the seismic risk to the water supplier's facilities and have a plan to address the identified risks; the region's Local Hazard Mitigation Plan may address this requirement (see Chapter 8).
- Energy Use Information: Include reporting on the amount of electricity used to obtain, treat, and distribute water if data are available (see Chapter 6).

- Water Shortage Contingency Plan (WSCP): Update the water supplier's plan to include an annual process for assessing potential gaps between planned supply and demands; conform with the State's standard water shortage levels (including a shortage level greater than 50 percent) for consistent messaging and reporting; and provide water shortage responses that are locally appropriate (see Chapter 8).
- Lay Description: Provide a lay description of the findings of the UWMP; this Executive Summary serves as the Lay Description for this 2020 UWMP.

The major components of the District's 2020 UWMP, including its findings, are summarized below.

DISTRICT WATER SERVICE AREA AND WATER SYSTEM FACILITIES

The District is a special district in San Mateo County formed in 1947 to provide water to customers within its jurisdictional boundaries which include the City of Half Moon Bay, and several unincorporated coastal communities including El Granada, Miramar, and Princeton by the Sea. The District's service area encompasses approximately 14 square miles.

Water enters the District's water system from two sources. At the north end of the District's service area, it enters the Denniston Water Treatment Plant from the Denniston Project, near the Half Moon Bay Airport. At Half Moon Bay, it enters the system via the Pilarcitos Pipeline and flows into the Nunes Water Treatment Plant. From there it flows into storage tanks for subsequent use in the system. There are 100 miles of transmission and distribution pipeline in the system. There are also ten treated water storage tanks in the system which have a combined storage capacity of 8 million gallons.

DISTRICT SERVICE AREA POPULATION AND WATER USE

The District currently serves a population of approximately 18,738. It anticipates population growth and future planned development in its water service area. Future service area population is based on projections provided in the Association of Bay Area Governments (ABAG) Plan Bay Area 2040.

Thorough and accurate accounting of current and future water demands is critical for the District's planning efforts. To continue delivering safe and reliable drinking water, the District must know how much water its customers currently use and how much they expect to use in the future.

In 2005, Maddaus Water Management developed a Demand Side Management Least Cost Planning Decision Support System (DSS) Model for the District as part of the Capital Improvement Program for the San Francisco Public Utilities Commission (SFPUC) Regional Water System. The DSS Model breaks down water demand to specific end uses such as toilets, faucets, or irrigation systems. The end-use approach allows for detailed criteria to be considered when estimating future water demands, such as the effects of fixture replacement, plumbing codes, and conservation efforts. The 2005 DSS Model for the District was updated in 2020 and has been used for this plan to develop water demand projections for the District. Additional discussion the District's historical, current and project water use is provided in Chapter 4.

DISTRICT WATER SUPPLIES

The District currently utilizes water from the following sources:

- Imported surface water from the SFPUC
- Local groundwater basin (Half Moon Bay Terrace Basin)
- Local surface water (Pilarcitos and Denniston Creeks)

Approximately 75 percent of the District's water supply is purchased from the SFPUC. The District is the only customer of the SFPUC that receives raw (untreated) water. The District purchases raw water from two sources owned and operated by the SFPUC: Pilarcitos Reservoir and Upper Crystal Springs Reservoir. The transmission pipelines from each of these sources interconnect in upper Pilarcitos Canyon. The water supplies purchased from SFPUC are treated at the District's Nunes Water Treatment Plant.

The remaining 25 percent of the District's water supply is produced locally from wells and surface water. The District operates eight groundwater wells in the Denniston Well Field. The Denniston Well Field is mostly located to the east of the Half Moon Bay Airport, but there is one well which is to the west of the Half Moon Bay Airport. The District's local surface water supplies from the Denniston Creek are treated at the District's Denniston Water Treatment Plant. The Pilarcitos Creek infiltration wells, owned and operated by the District, are another source of surface water supplies. The Pilarcitos Creek infiltration wells are located in Pilarcitos Creek Canyon between Pilarcitos Reservoir and Highway 92 and supplies from the infiltration wells are treated at the District's Nunes Water Treatment Plant.

Additional discussion on the District's water supplies is provided in Chapter 6 of this plan.

CONSERVATION TARGET COMPLIANCE

In accordance with the Water Conservation Act of 2009 (SB X7-7), the District must meet a gross per capita water use target of 124 gallons per person per day by 2020 for its water service area. Based on the District's water service area population and water use in 2020, the District met its water conservation target with a gross per capita water use of 97 gallons per person per day.

Additional discussion regarding the District's compliance with SB X7-7 is provided in Chapter 5 of this plan.

WATER SERVICE RELIABILITY

UWMP guidelines ask water suppliers to evaluate their water service reliability by examining the impact of drought on their water supplies and comparing those reduced supplies to water demands. Specifically, agencies should calculate their water supplies during a single dry year and five consecutive dry years using historical records.

As described in this UWMP, the District has sufficient water supply in normal water years to meet existing and projected demand. However, a new constraint on the District's water supplies from the SFPUC, as of 2023, is the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta Plan Amendment). The Bay-Delta Plan Amendment may severely impact the availability of the District's water supplies from the SFPUC in dry years. During single dry year scenarios, the District may

experience up to 29 percent water shortages. During multiple dry year scenarios, the District may experience greater than 50 percent water shortages. The implementation of the Bay-Delta Plan Amendment comes with uncertainty due to pending lawsuits and efforts to have the State Water Resources Control Board adopt the Tuolumne River Voluntary Agreement, as part of a Global Voluntary Agreement package. The District continues to work with SFPUC and Bay Area Water Supply and Conservation Agency (BAWSCA) to advocate for reliable water supplies and supports SFPUC's effort to pursue the Tuolumne River Voluntary Agreement.

The District will continue to invest in local water supplies and continues to support water conservation and the most efficient uses of water in the District's service area. The District continues to explore recycled water supply options, including direct and indirect potable reuse.

Additional discussion on the District's water supply reliability is provided in Chapter 7 of this plan.

WATER SHORTAGE CONTINGENCY PLAN

A WSCP describes an agency's plan for preparing and responding to water shortages. The District updated its WSCP to include its process for assessing potential gaps between planned water supply and demands for current year and the next potentially dry year. It aligned its water service area's water shortage levels with the State's standard stages for consistent messaging and reporting and planned for locally appropriate water shortage responses. The WSCP may be used for foreseeable and unforeseeable events.

The updated WSCP, which is described in Chapter 8 and provided in Appendix J of this plan, is adopted concurrently with this 2020 UWMP by separate resolution so that it may be updated as necessary to adapt to changing conditions.

UWMP PREPARATION, REVIEW, AND ADOPTION

The District developed this 2020 UWMP in coordination with SFPUC and BAWSCA. While preparing its UWMP, the District notified other stakeholders (including San Mateo County and the general public) of its preparation, its availability for review, and the public hearing prior to adoption. The District encouraged community participation in the development of the 2020 UWMP using newspaper advertisements and web-based communication. These public notices included the time and place of the public hearing, as well as the location where the plan would be available for public inspection.

The public hearing provided an opportunity for District water users and the general public to become familiar with the 2020 UWMP and ask questions about the District's water supply, its continuing plans for providing a reliable, safe, high-quality water supply, and its plans to address potential water shortages. Following the public hearing, the District Board of Directors adopted the 2020 UWMP on June 8, 2021. A copy of the adopted Plan was provided to the Department of Water Resources and is available on the District's website.

Additional discussion on the District's 2020 UWMP preparation and adoption is provided in Chapters 2 and 10 of this plan.

CHAPTER 1
Introduction

This chapter provides an introduction and overview of the Coastside County Water District (District) 2020 Urban Water Management Plan (UWMP) including the importance and extent of the District's water management planning efforts, changes since the preparation of the District's 2015 UWMP, and the organization of the District's 2020 UWMP. This 2020 UWMP has been prepared jointly by District staff and West Yost Associates (West Yost).

1.1 INTRODUCTION

The Urban Water Management Planning Act (Act) was originally established by Assembly Bill (AB) 797 on September 21, 1983. Passage of the Act was recognition by state legislators that water is a limited resource and a declaration that efficient water use and conservation would be actively pursued throughout the state. The primary objective of the Act is to direct "urban water suppliers" to develop a UWMP which provides a framework for long-term water supply planning, and documents how urban water suppliers are carrying out their long-term resource planning responsibilities to ensure adequate water supplies are available to meet existing and future water demands. A copy of the current version of the Act, as incorporated in Sections 10610 through 10657 of the California Water Code, is provided in Appendix A of this plan.

1.2 IMPORTANCE AND EXTENT OF DISTRICT'S WATER MANAGEMENT PLANNING EFFORTS

The purpose of the UWMP is to provide a planning tool for the District for developing and delivering municipal water supplies to the District's water service area. This UWMP provides the District with a water management action plan for guidance as water conditions change and management conditions arise.

The District has had a long history of providing clean and reliable water to its customers. The District's UWMP is a comprehensive guide for planning for a safe and adequate water supply.

1.3 CHANGES FROM 2015 UWMP

The Urban Water Management Planning Act has been modified over the years in response to the State's water shortages, droughts and other factors. A significant amendment was made in 2009, after the 2007 to 2009 drought, and as a result of the Governor's call for a statewide 20 percent reduction in urban water use by the year 2020. This was the Water Conservation Act of 2009, also known as Senate Bill Seven of the Senate's Seventh Extraordinary Session of 2009 (SB X7-7). This act required agencies to establish water use targets for 2015 and 2020 that would result in statewide water savings of 20 percent by 2020. The 2012 to 2016 drought led to further amendments to the California Water Code to improve on water supply planning for long-term reliability and resilience to drought and climate change.

Summarized below are the major additions and changes to the California Water Code (CWC) since the District's 2015 UWMP was prepared.

- **Five Consecutive Dry Year Water Reliability Assessment**. The Legislature modified the dry-year water reliability planning from a "multi-year" time period to a "drought lasting five consecutive water years" designation. This statutory change requires the urban water supplier to analyze the reliability of its water supplies to meet its water use over an

extended drought period. This requirement is addressed in the water use assessment presented in Chapter 4, the water supply analysis presented in Chapter 6, and the water reliability determinations in Chapter 7 of this plan. [CWC §10635(a)]

- **Drought Risk Assessment**. The California Legislature created a new UWMP requirement for drought planning because of the significant duration of recent California droughts and the predictions about hydrological variability attributable to climate change. The Drought Risk Assessment (DRA) requires the urban water supplier to assess water supply reliability over a five-year period from 2021 to 2025 that examines water supplies, water uses, and the resulting water supply reliability under a reasonable prediction for five consecutive dry years. The DRA is discussed in Chapter 7 based on the water use information in Chapter 4, the water supply analysis is presented in Chapter 6, and the water reliability determinations are discussed in Chapter 7 of this plan. [CWC §10635(b)]
- **Seismic Risk**. The Water Code now requires urban water suppliers to specifically address seismic risk to various water system facilities and to have a mitigation plan. Water supply infrastructure planning is correlated with the regional hazard mitigation plan associated with the urban water supplier. The District's seismic risk is discussed in Chapter 8 of this plan. [CWC §10632.5]
- **Energy Use Information**. The Water Code now requires Suppliers to include readily obtainable information on estimated amounts of energy for their water supply extraction, treatment, distribution, storage, conveyance, and other water uses. The reporting of this information was voluntary in 2015. The District's energy use information is provided in Chapter 6 of this plan. [CWC §10631.2]
- **Water Loss Reporting for Five Years**. The Water Code added the requirement to include the past five years of water loss audit reports as part of this UWMP. The District's water loss reporting is provided in Chapter 4 of this plan. [CWC §10608.34]
- **Water Shortage Contingency Plan**. In 2018, the Legislature modified the UWMP laws to require a Water Shortage Contingency Plan (WSCP) with specific elements. The WSCP is a document that provides the urban water supplier with an action plan for a drought or catastrophic water supply shortage. Although the new requirements are more prescriptive than previous versions, many of these elements have long been included in WSCPs, other sections of UWMPs, or as part of the urban water supplier's standard procedures and response actions. Many of these actions were implemented by the urban water suppliers during the last drought to successfully meet changing local water supply challenges. The WSCP is used by DWR, the State Water Board, and the Legislature in addressing extreme drought conditions or statewide calamities that impact water supply availability. The District's WSCP is summarized in Chapter 8 of this plan and is included as an appendix to this 2020 UWMP. [CWC §10632]
- **Groundwater Supplies Coordination**. In 2014, the Legislature enacted the Sustainable Groundwater Management Act to address groundwater conditions throughout California. Water Code now requires 2020 UWMPs to be consistent with Groundwater Sustainability Plans in areas where those plans have been completed by Groundwater Sustainability Agencies. This requirement is addressed in Chapter 6 of this plan. [CWC §10631(b)(4)]

- **Lay Description**. The Legislature included a new statutory requirement for the urban water supplier to include a lay description of the fundamental determinations of the UWMP, especially regarding water service reliability, challenges ahead, and strategies for managing reliability risks. This section of the UWMP could be viewed as a go-to synopsis for new staff, new governing members, customers, and the media, and it can ensure a consistent representation of the Supplier's detailed analysis. This requirement is addressed in the Executive Summary of this 2020 UWMP. [CWC §10630.5]
- **Water Loss Management**. The Legislature included a requirement for urban water suppliers to report on their plan to meet the water loss performance standards in their 2020 UWMPs. This requirement is addressed in the Demand Management Measures presented in Chapter 9 of this plan. [CWC §10608.34(a) (1)]

1.4 PLAN ORGANIZATION

This 2020 UWMP contains the appropriate sections and tables required per CWC Division 6, Part 2.6 (Urban Water Management Planning Act), included in Appendix A of this 2020 UWMP, and has been prepared based on guidance provided by the California Department of Water Resources (DWR) in their "2020 Urban Water Management Plan Guidebook" (DWR Guidebook).

This 2020 UWMP is organized into the following chapters:

- Chapter 1: Introduction
- Chapter 2: Plan Preparation
- Chapter 3: System Description
- Chapter 4: Water Use Characterization
- Chapter 5: SB X7-7 Baselines, Targets and 2020 Compliance
- Chapter 6: Water Supply Characterization
- Chapter 7: Water Service Reliability and Drought Risk Assessment
- Chapter 8: Water Shortage Contingency Plan
- Chapter 9: Demand Management Measures
- Chapter 10: Plan Adoption, Submittal and Implementation

This 2020 UWMP also contains the following appendices of supplemental information and data related to the District's 2020 UWMP:

- Appendix A: Legislative Requirements
- Appendix B: DWR 2020 Urban Water Management Plan Tables
- Appendix C: DWR 2020 Urban Water Management Plan Checklist
- Appendix D: Agency and Public Notices
- Appendix E: Annual Water Loss Audits
- Appendix F: SB X7-7 2020 Compliance Form
- Appendix G: Groundwater Information

- Appendix H: SFPUC Water Supply Reliability
- Appendix I: Bay-Delta Plan Amendment Information
- Appendix J Water Shortage Contingency Plan
- Appendix K: Coastside County Water District Rate and Fee Schedule
- Appendix L: UWMP and WSCP Adoption Resolutions

Furthermore, this 2020 UWMP contains all the tables recommended in the DWR Guidebook, both embedded into the UWMP chapters where appropriate and included in Appendix B.

DWR's Urban Water Management Plan Checklist, as provided in the DWR Guidebook, has been completed by West Yost to demonstrate the plan's compliance with applicable requirements. A copy of the completed checklist is included in Appendix C.

CHAPTER 2
Plan Preparation

This chapter describes the preparation of the District's 2020 UWMP and Water Shortage Contingency Plan, including the basis for the preparation of the plan, individual or regional planning, fiscal or calendar year reporting, units of measure, and plan coordination and outreach.

2.1 BASIS FOR PREPARING A PLAN

The Act requires every "urban water supplier" to prepare and adopt a UWMP, to periodically review its UWMP at least once every five years and make any amendments or changes which are indicated by the review. An "urban water supplier" is defined as a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet (AF) of water annually.

The District is a water retailer and manages Water System CA4110011. As shown in Table 2-1, the District provided water to 7,593 customer connections and supplied 2,047 AF (667 million gallons [MG]) of water in 2020. Therefore, based on the number of connections served, the District is required to prepare a UWMP. The District's last UWMP, the 2015 UWMP, was adopted by the District Board of Directors on September 13, 2016.

Table 2-1. Public Water Systems (DWR Table 2-1 Retail)

Public Water System Number	Public Water System Name	Number of Municipal Connections 2020	Volume of Water Supplied 2020 *
Add additional rows as needed			
CA4110011	Coastside County Water District	7,593	667
	TOTAL	7,593	667
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*			
NOTES: Volumes are in million gallons (MG) and includes potable and raw water.			

2.2 REGIONAL PLANNING

As described in Section 2.3 below, the District has prepared this 2020 UWMP on an individual reporting basis, not part of a regional planning process.

2.3 INDIVIDUAL OR REGIONAL PLANNING AND COMPLIANCE

This 2020 UWMP has been prepared on an individual reporting basis covering only the District's service area, see Table 2-2. The District does not participate in a regional alliance, and it has not prepared a Regional Urban Water Management Plan (RUWMP).

As described below in Section 2.5, the District has notified and coordinated planning and compliance with appropriate regional agencies and constituents, including the Bay Area Water Supply and Conservation Agency (BAWSCA) and San Francisco Public Utilities Commission (SFPUC).

Table 2-2. Plan Identification (DWR Table 2-2)

Select Only One	Type of Plan		Name of RUWMP or Regional Alliance *if applicable* (select from drop down list)
☑	**Individual UWMP**		
	☐	Water Supplier is also a member of a RUWMP	
	☐	Water Supplier is also a member of a Regional Alliance	
☐	**Regional Urban Water Management Plan (RUWMP)**		

2.4 FISCAL OR CALENDAR YEAR AND UNITS OF MEASURE

The District is a water retailer.

The District's 2020 UWMP has been prepared on a fiscal year basis, with the fiscal year starting on July 1 and ending on June 30 of each year. Water use and planning data for the entire fiscal year of 2020 has been included.

The water volumes in this 2020 UWMP are reported in units of MG.

The District's reporting methods for this 2020 UWMP are summarized in Table 2-3.

Table 2-3. Supplier Identification (DWR Table 2-3)

Type of Supplier (select one or both)	
☐	Supplier is a wholesaler
☑	Supplier is a retailer
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)	
7/1	
Units of measure used in UWMP * (select from drop down)	
Unit	MG

2.5 COORDINATION AND OUTREACH

This section includes a discussion of the District's inter-agency coordination and coordination with the general public. The UWMP Act requires the District to coordinate the preparation of its UWMP with other appropriate agencies and all departments within the District, including other water suppliers that share a common source, water management agencies, and relevant public agencies. The District coordinated the preparation of its Plan with BAWSCA and SFPUC. These agencies, as well as the public, participated in the coordination and preparation of this 2020 UWMP as summarized below.

2.5.1 Wholesale and Retail Coordination

As indicated in Table 2-4, the District receives wholesale water supplies from the SFPUC. In accordance with Water Code Section 10631, the District has informed SFPUC of projected water use from that source for the period of 2020 to 2045, as shown in Table 2-4.

Table 2-4. Water Supplier Information Exchange (DWR Table 2-4 Retail)

The retail Supplier has informed the following wholesale supplier(s) of projected water use in accordance with Water Code Section 10631.
Wholesale Water Supplier Name
Add additional rows as needed
San Francisco Public Utilities Commission (SFPUC)

The District is a member of BAWSCA. BAWSCA provides regional water reliability planning and conservation programming for the benefit of its 26 member agencies that purchase wholesale water supplies from the SFPUC. Collectively, the BAWSCA member agencies deliver water to over 1.8 million residents and nearly 40,000 commercial, industrial and institutional accounts in Alameda, San Mateo and Santa Clara Counties. BAWSCA also represents the collective interests of these wholesale water customers on all significant technical, financial, and policy matters related to the operation and improvement of the SFPUC's Regional Water System (RWS). BAWSCA's role in the development of the 2020 UWMP updates is to work with its member agencies and the SFPUC to seek consistency among UWMP documents.

2.5.2 Coordination with Other Agencies and the Community

The District actively encourages community participation in water management activities and specific water-related projects. The District's public participation program includes both active and passive means of obtaining input from the community, such as mailings, public meetings, and web-based communication. The District's website describes on-going projects and posts announcements of planned rate increases to fund these water projects.

As part of the 2020 UWMP update, the District facilitated a public review period. Public noticing, pursuant to Section 6066 of the Government Code, was conducted prior to commencement of a public comment period. Public hearing notices are included in Appendix D of this plan. During the public comment period, the Draft UWMP was made available on the District's website.

The District also coordinated the preparation of this 2020 UWMP with several local agencies, including the City of Half Moon Bay, County of San Mateo and Sewer Authority Mid-Coastside (SAM).

The public hearing provided an opportunity for all District water users and the general public to become familiar with the UWMP and ask questions about the District's water supply, in addition to the District's continuing plans for providing a reliable, safe, high-quality water supply.

2.5.3 Notice to Cities and Counties

CWC Section 10621 (b) requires agencies to notify the cities and counties to which they serve water at least 60 days in advance of the public hearing that the plan is being updated and reviewed. In December 2020, the District sent a notice of preparation to the City of Half Moon Bay, San Mateo County and other stakeholders to inform them of the UWMP update process and schedule, and to solicit input for the 2020 UWMP. The notices of preparation, public hearing notifications, and the public hearing and adoption are discussed further in Chapter 10 and are included in Appendix D.

CHAPTER 3
System Description

This chapter provides a description of the District's water system and service area. This includes a description of the water system facilities, climate, population, and housing within the District's service area.

3.1 GENERAL DESCRIPTION

The District is a special district in San Mateo County formed in 1947 to provide water to customers within its jurisdictional boundaries which include the City of Half Moon Bay, and several unincorporated coastal communities including El Granada, Miramar, and Princeton by the Sea.

3.2 SERVICE AREA

The District is located along the coast of the Pacific Ocean approximately 30 miles south of San Francisco. Residing at approximately 69 feet above sea level, the District is bounded to the east by the northernmost portion of the Santa Cruz Mountains. District boundaries extend approximately 9.5 miles north to south along the coast and 1.5 miles east to west, encompassing approximately 14 square miles.

The District's jurisdictional boundaries are shown on Figure 3-1.

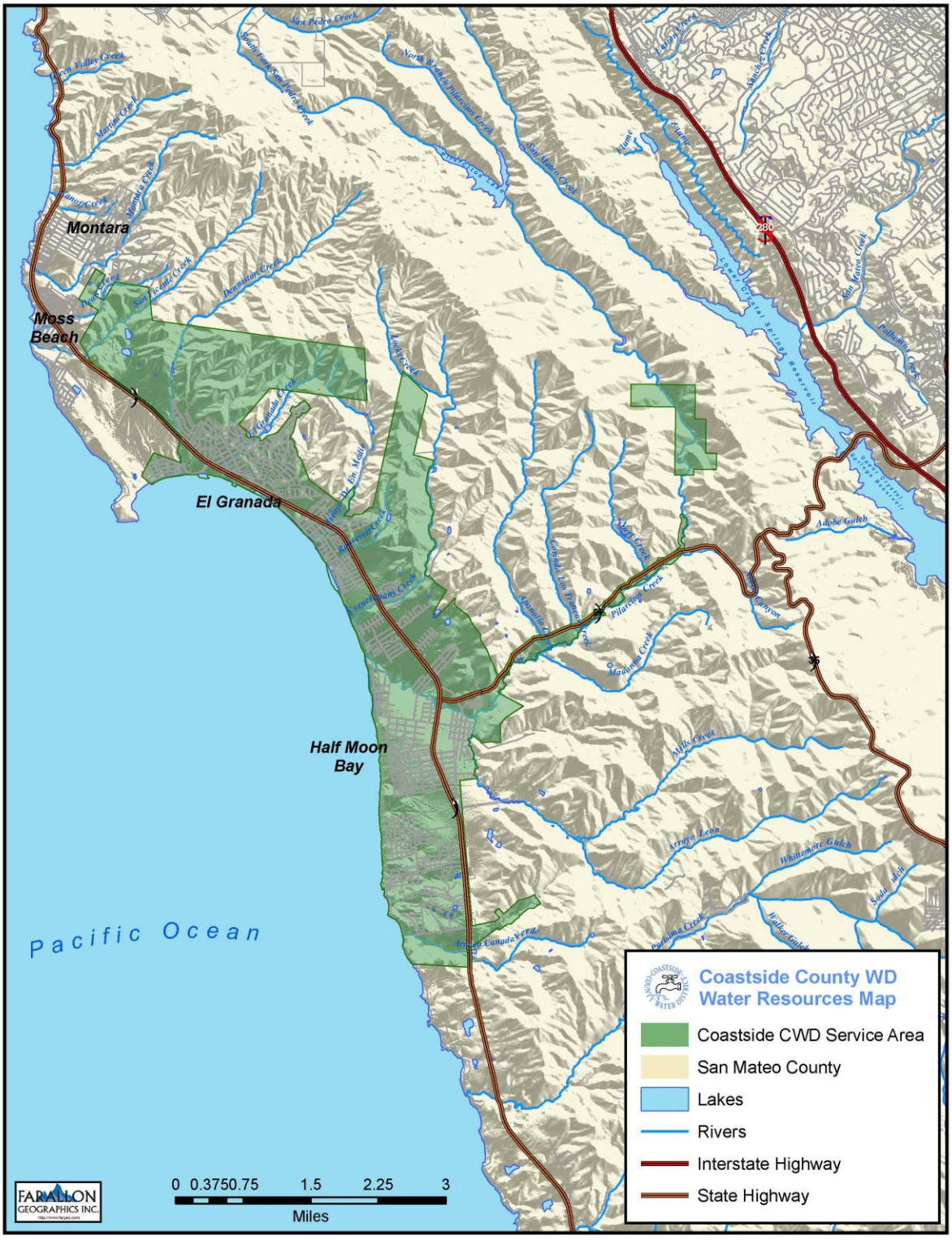


Figure 3-1. Coastside County Water District Jurisdictional Area

3.3 SERVICE AREA CLIMATE

The District experiences a mild climate that is moderated by sea breezes from the Pacific Ocean throughout the year. Fog and overcast is predominant in the morning and evening hours throughout the year, which significantly reduces landscape irrigation requirements. Temperatures are moderate with the summer highs in the mid 60's and the winter lows in the 40's. Average rainfall in Half Moon Bay is about 26 inches per year.

Water use within the District's service area is dependent on various climate factors such as temperature, precipitation, and evapotranspiration (ET_o). Climate data, including temperature and precipitation estimates, were obtained from the Western Regional Climate Center for Half Moon Bay, California. The period of record was July 1, 1939 to June 10, 2016.

ET_o describes the combined water lost through evaporation from the soil and surface-water bodies and plant transpiration. In general, a reference ET_o is given for turf grass, and then corrected for a specific crop type. Local ET_o data was obtained from the California Irrigation Management Information System (CIMIS) for Reference ET_o Zone 1 (Coastal Plains Heavy Fog Belt).

The historical climate characteristics affecting water management in the District's service area are shown in Table 3-1.

Table 3-1. Monthly Average Climate Data Summary

Month	Standard Monthly Average ETo, inches[a]	Average Total Rainfall, inches[b]	Average Temperature, Degrees Fahrenheit[b]	
			Max	Min
January	0.93	5.15	58.4	42.9
February	1.40	4.49	59.3	43.5
March	2.48	3.83	59.8	43.8
April	3.30	1.88	60.7	44.6
May	4.03	0.76	61.7	47.4
June	4.50	0.30	63.4	49.8
July	4.65	0.12	64.2	51.9
August	4.03	0.19	65.1	52.7
September	3.30	0.35	66.8	51.2
October	2.48	1.59	65.8	48.3
November	1.20	2.99	62.7	45.4
December	0.62	4.52	58.9	43.3

(a) Source: California Irrigation Management Information System (CIMIS) data for ETo Zone 1 (downloaded November 25, 2020)

(b) Source: Western Regional Climate Center (www.wrcc.dri.edu) data for Half Moon Bay, California (period of record: July 1, 1939 to June 10, 2016)

Climate change is driven by increasing concentrations of carbon dioxide and other greenhouse gases that cause an increase in temperature and stress natural systems, such as oceans and the hydrologic cycle. The 2019 Bay Area Integrated Regional Water Management Plan[1] provides an assessment of climate change impacts and findings for vulnerability areas including water demand, water supply, water quality, sea-level rise, flooding, ecosystem and habitat and hydropower. Climate changes that may affect the Bay Area region water resources include the following:

- Higher temperatures and heat waves that increase demand for water, especially for agricultural and residential irrigation uses.
- A projected overall decrease in precipitation levels coupled with more intense individual storm events may lead to increased flooding.
- Higher temperatures that may cause more precipitation to fall as rain rather than snow, hasten snowmelt and increase runoff will affect water storage planning.
- Increased evaporation will create a generally drier climate, with wildfires likely to increase and groundwater basins likely to receive less replenishment.
- Sea level rise, which is estimated to rise an average of 14 inches by 2050, will likely affect low lying infrastructure of all types, including many of the Bay Area region's wastewater treatment plants.

Additional discussion on the potential impacts of climate change on the District's water demands and water supplies is provided in Chapters 4 and 6.

3.4 SERVICE AREA POPULATION AND DEMOGRAPHICS

3.4.1 Service Area Population

In 2005, Maddaus Water Management, Inc. (Maddaus) developed a Demand Side Management Least Cost Planning Decision Support System (DSS) Model for the BAWSCA member agencies as part of the Capital Improvement Program for SFPUC's Regional Water System. The DSS Model has been updated and was used in developing the BAWSCA 2020 Regional Demand and Conservation Projections which support the BAWSCA member agencies' 2020 UWMPs, including the District's 2020 UWMP. For the projections, BAWSCA member agencies and Maddaus used Association of Bay Area Governments (ABAG) population data as it represented the most current population information for each BAWSCA member agency service area. Population estimates were provided by ABAG in their Plan Bay Area 2040 Projections 2040 report on a sub-regional jurisdictional level (not by water service area boundaries) in five-year increments from 2010 to 2040. Use of the ABAG projections was previously approved by DWR for use in the 2015 UWMPs, and in November 2020 BAWSCA and Maddaus received approval from DWR for use of the ABAG 2040 projections for the 2020 UWMPs.

[1] San Francisco Bay Area Integrated Regional Water Management Plan, October 2019.

The District's population numbers were analyzed in detail by evaluating ABAG population data for the City of Half Moon Bay (which makes up approximately 67 percent of the District's service area) and a portion of the Half Moon Bay Unincorporated Area (which makes up the remaining 33 percent of the District's service area).

For the City of Half Moon Bay, ABAG historical and projected population values were used.

For the District's service area outside the City of Half Moon Bay (within the Half Moon Bay Unincorporated area (El Granada area)), ABAG data for El Granada (a Census-designated place in the coastal area of northern San Mateo County, California) was further analyzed in detail. Water service maps down to the street level were compared to ABAG boundaries and 2010 Census data for further verification of accuracy. Aerial maps of the District's service area, Census data for northern San Mateo County, along with ABAG boundary maps, were all aligned to determine how many dwelling units served by the District were in this region. An estimate of the number of people for 2010 was determined by assuming an average household size per residential parcel of 2.6 people. The 2.6 people per household size is based on 2010 Census estimates for household size in El Granada. This analysis determined the population that was served by the District outside the City of Half Moon Bay.

The two values (population for the City of Half Moon Bay and the population for the District's service area in the Half Moon Bay Unincorporated area) were added together to arrive at the District's total water service area population.

The District's current (2020) service area population of 18,738 has been estimated using the method described above.

Growth and development within the District's service area are subject to City and County growth management policies (described further in Section 3.5 below). Projections of future population within the District's service area have been estimated based on the methodology described above using ABAG data and are summarized in Table 3-2.

Table 3-2. Population – Current and Projected (DWR Table 3-1 Retail)

Population Served	2020	2025	2030	2035	2040	2045*(opt)*
	18,738	18,991	19,238	19,371	19,472	19,573
NOTES: Current and projected population based on ABAG data.						

3.4.2 Other Social, Economic, and Demographic Factors

The California Water Code now requires the inclusion of service area socioeconomic information as part of the system description in UWMPs. However, differences in household water use across sociodemographic groups in the District has not been studied. Therefore, the following social, economic, and demographic information is being provided to comply with the new regulation. The following information was derived from the U.S. Census Bureau's profile of Half Moon Bay, California for 2014-2018[2], and is assumed to sufficiently apply to the District's service area:

- The average number of people per household in the five-year period analyzed was 3.01
- The median household income in Half Moon Bay was $122,697, while 3.5 percent of all individuals and 5 percent of youth under the age of 18 lived in poverty
- The average unemployment rate was 3.2 percent
- The owner-occupied housing unit rate was 66.3 percent, with a median home value of $917,500
- The median gross rent was $2,140 per month
- The median age was 45.3 years
- Of persons 25 years or older in Half Moon Bay, 87.1 percent had earned at least a high school diploma or equivalent and 47.5 percent had earned a bachelor's degree or higher
- Of persons under 65 years of age, 3.4 percent had a disability
- Of the noninstitutionalized civilian population, 4.7 percent did not have health insurance
- Almost 97 percent of households had a computer, and 92.7 percent had a broadband internet subscription
- By race/ethnicity, 78.2 percent of people were White, 0.3 percent were Black, 0.3 percent were American Indian or Alaska Native, 8.4 percent were Asian, 1.2 percent were Hawaiian Native or Pacific Islander, 1.7 percent were two or more races, and 29.2 percent were Hispanic or Latino
- Of Half Moon Bay residents, 25.2 percent were foreign born, and 36.4 percent of people age five years and older spoke a language other than English at home

3.5 LAND USES WITHIN SERVICE AREA

The District serves a highly desirable coastal area in close proximity to major employment centers in San Francisco and San Mateo Counties. Land use planning within the District service area is undertaken by the City of Half Moon Bay and by the County of San Mateo for the unincorporated areas (including El Granada, Granada Highlands, Clipper Ridge, Princeton and part of Miramar).

[2] United States Census Bureau, American Community Survey, 2014-2018 ACS 5-Year Data Profile for Half Moon Bay, CA.

The District's service area consists of predominantly residential land uses (approximately 81 percent) surrounded by agriculture and light ranching activities. Commercial development is constrained within the populated areas along State Route 1 and Highway 92 and at Pillar Point Harbor. Floriculture is the largest agricultural industry in the area.

The California Coastal Act of 1976 (Coastal Act) requires every coastal city and county to have a Local Coastal Program (LCP) to plan for and regulate land use in the coastal zone. LCPs implement Coastal Act policies within local jurisdictions. LCPs contain land use policies, programs, maps and implementing ordinances. The California Coastal Commission reviews LCPs for compliance with the Coastal Act. Once an LCP is certified by the Commission, the local government is delegated the authority to issue coastal development permits consistent with its LCP. The City of Half Moon Bay Local Coastal Land Use Plan was comprehensively updated in 2020, and was adopted by the Half Moon Bay City Council in October 2020 and certified by the California Coastal Commission in April 2021. The San Mateo County Local Coastal Program was last updated in June 2013.

Growth management provisions in the San Mateo County LCP limit growth to 125 units/year in the County's planning area, only a portion of which is in the District service area. In addition, the proposed development must also be consistent with all applicable policies of the certified LCP. The San Mateo County LCP states that development that relies upon municipal water from the District shall not be approved unless the allocation of the District's water to the project is consistent with the Coastal Development Permits for the El Granada Pipeline Project (Coastal Commission CDP A-2-SMC-99-063; A-1-HMP-99-020) and the Crystal Springs Project.

The City of Half Moon Bay's Local Coastal Land Use Plan[3] describes the existing land use and the anticipated future development. Needed infrastructure improvements and capacity expansions are identified and steered toward resilient and sustainable approaches to support all land uses, including existing development. Infrastructure capacity is prioritized according to three land use categories:

- Coastal Act Priority Uses (include coastal-dependent uses, visitor-serving commercial uses, coastal access and recreational facilities, and agricultural uses)
- Local Priority Uses (unique to each planning jurisdiction)
- Non-Priority Uses (residential and commercial)

The Coastal Act further identifies that agricultural and coastal dependent uses have priority over other development types on private lands, including visitor-serving commercial recreation facilities. The Land Use Plan establishes water supply and sewer treatment capacity reserves for the top tier, Coastal Act Priority Uses. The Coastal Development Permit for the Crystal Springs Pipeline Project imposed a limit on the number of connections that can be sold by the District. Additional connections cannot be established without an amendment to the Coastal Development Permit. As of 2020, about 1,230 remaining uninstalled water connections (includes priority and non-priority connections) were held by the District or private landowners throughout the service area, including within the City limits and the unincorporated midcoast.[4]

[3] The City of Half Moon Bay Local Coastal Land Use Plan dated October 2020 was approved by the Half Moon Bay City Council in October 2020 and certified by the California Coastal Commission in April 2021.

[4] City of Half Moon Bay Local Coastal Land Use Plan, October 2020.

In addition, growth in the City of Half Moon Bay is constrained by Measure D Residential Growth Limitation Ordinance (approved by City voters in 1999) which limits residential growth within the City of Half Moon Bay to 1 percent per year. The City may increase the annual residential growth to 1.5 percent per year for units in downtown only, but this increase is not required.

With the changes in State law regarding accessory dwelling units, they have become a popular addition to single family parcels within the City's jurisdiction. Accessory dwelling units are subject to Measure D growth limitations.

3.6 WATER SYSTEM FACILITIES

Water enters the District's system from two sources. At the north end of the District's service area, it enters the Denniston Water Treatment Plant from the Denniston Project, near the Half Moon Bay Airport. At Half Moon Bay, it enters the system via the Pilarcitos Pipeline and flows into the Nunes Water Treatment Plant**.** From there it flows into storage tanks for subsequent use in the system. There are 100 miles of transmission and distribution pipeline in the system. There are also 10 treated water storage tanks in the system which have a combined storage capacity of 8 million gallons. The District maintains a distribution system that includes nine treated water pressure zones, five treated water pump stations and 663 hydrants.

An overview of the District's water system facilities is shown on Figure 3-2. Major water system facilities are described below.

3.6.1 Water Treatment Plants

The District operates two water treatment plants (WTP): the Nunes WTP and the Denniston WTP.

The Nunes WTP, located on Carter Hill northeast of downtown Half Moon Bay, began operating in 1982 with an initial treatment capacity of 2.5 million gallons per day (MGD). The Nunes WTP was expanded as part of the Crystal Springs Project and now has a treatment capacity of 4.5 MGD. The Nunes WTP treats water purchased from SFPUC (from Pilarcitos Reservoir and Upper Crystal Springs Reservoir) and the District's Pilarcitos Creek Infiltration Well Field.

The Denniston WTP, in operation since 1974, is located above Denniston Creek and has a treatment capacity of 1.7 MGD. It treats both surface water and groundwater from the District's Denniston Project. In 2013, the District completed the Denniston Water Treatment Plant Improvement Project. The improvements did not expand the existing treatment capacity of the facilities, but allow the District's facilities to treat water of higher turbidity and provide a more reliable and efficient treatment of local water supplies.

3.6.2 Pilarcitos Creek Infiltration Wells

The District owns and operates five infiltration wells in the Pilarcitos Canyon, upstream of Highway 92. The five wells (known as Wells P1 through P5) are shown on Figure 3-2. Water extracted from these wells is treated at the Nunes WTP. Additional discussion of these wells is provided in Chapter 6.

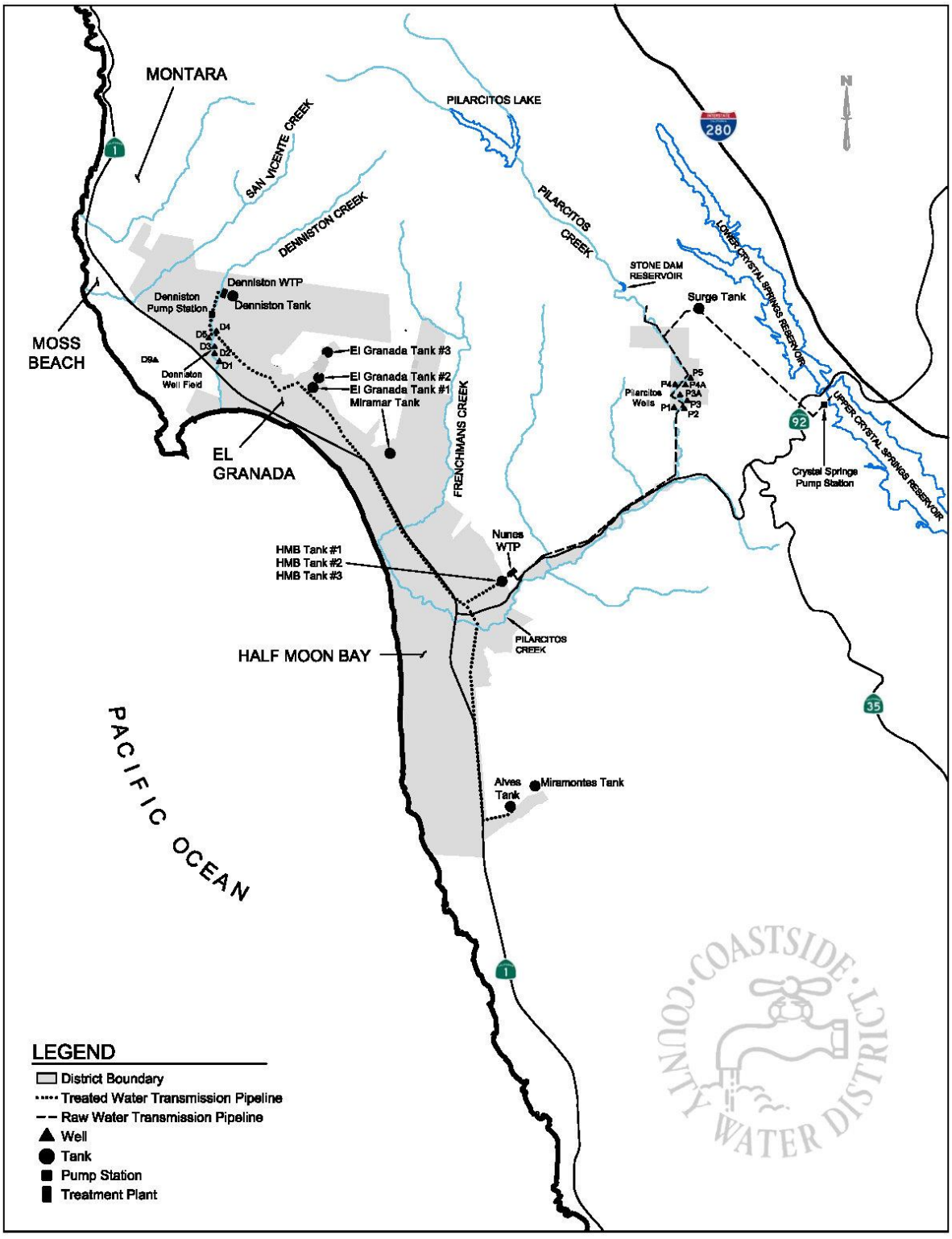


Figure 3-2. Coastside County Water District Water System Facilities

3.6.3 Denniston Well Field

The District owns and operates eight groundwater wells (Wells D1 through D6, Well D8, Well D9) in the Denniston Well Field. The Denniston Well Field is mostly located east of the Half Moon Bay Airport, but there is one well (D9) which is west of the Half Moon Bay Airport. The location of these wells is shown on Figure 3-2. Well D6 is not used for production and has been converted into a monitoring well for the CASGEM program. Additional discussion of these wells is provided in Chapter 6.

3.6.4 Storage and Distribution

The District has ten treated water storage tanks with a total storage capacity of 8 MG (see Figure 3-2). The District's other major facilities include a network of transmission and distribution pipelines. The major transmission pipelines are shown on Figure 3-2. The 18-inch diameter pipeline from the Crystal Springs Pump Station on Upper Crystal Springs Reservoir is the District's primary source of supply during peak demand periods in the summer and fall.

As pipelines age and become more susceptible to leaks, the District implements an extensive pipeline replacement program. Each year, the District implements a number of Capital Improvement Program (CIP) projects to replace aging pipelines. All old pipelines are replaced with new ductile iron pipe to reduce leaks and minimize losses within the distribution system. In areas with corrosive soils or a high groundwater table, polyvinyl chloride (PVC) or high density polyethylene (HDPE) pipe is allowed.

CHAPTER 4
Water Use Characterization

This chapter describes and quantifies the District's past, current, and projected water use. Accurately tracking and reporting current water demands allows the District to properly manage the use of their resources and conduct good water resource planning.

4.1 RECYCLED VERSUS POTABLE AND RAW WATER DEMAND

Potable water is water that is safe to drink and which typically has had various levels of treatment and disinfection. The District purchases water supplies from the SFPUC and also has local supplies. The District currently provides potable water to customers within its service area.

Recycled water is municipal wastewater that has been treated to a specified quality to enable it to be used again. As discussed in Chapter 6, the District does not currently provide recycled water and does not include recycled water projections in this UWMP.

Raw water is untreated water that is used in its natural state or with minimal treatment. The District has one customer, by contract, that receives metered raw water for irrigation purposes only. The raw water customer only receives raw water as long as the District is not implementing its Water Shortage Contingency Plan and the District determines that there is extra water available from Upper Crystal Springs Reservoir. The raw water customer is treated as a retail customer and pays treated water rates since they are using an imported source of water that needs to be purchased and pumped up to Cahill Ridge.

4.2 WATER USES BY SECTOR

This section describes the District's past, current and projected water use by sector through the year 2045 in five-year increments. This section identifies the usage among water use sectors including single family residential, multi-family residential, commercial, industrial, institutional/governmental, landscape irrigation, agricultural, and others. These classifications were used to analyze current consumption patterns among various types of customers. The District uses similar, but not identical, definitions for each sector as outlined in the DWR Guidebook. The following definitions are from the DWR Guidebook:

- **Single Family Residential:** A single family dwelling unit. A lot with a free-standing building containing one dwelling unit that may include a detached secondary dwelling.
- **Multi-family Residential:** Multiple dwelling units contained within one building or several buildings within one complex.
- **Commercial:** A water user that provides or distributes a product or service (CWC 10608.12(d)).
- **Industrial:** A water user that is primarily a manufacturer or processor of materials as defined by the North American Industry Classification System (NAICS) code sectors 31 to 33, inclusive, or an entity that is a water user primarily engaged in research and development (CWC 10608.12(h)).
- **Institutional (and Governmental):** A water user dedicated to public service. This type of user includes, among other users, higher education institutions, schools, courts, churches, hospitals, government facilities, and nonprofit research institutions (CWC 10608.12(i)).

- **Landscape:** Water connections supplying water solely for landscape irrigation. Such landscapes may be associated with multi-family, commercial, industrial, or institutional/governmental sites, but are considered a separate water use sector if the connection is solely for landscape irrigation.
- **Agricultural:** Water used for commercial agricultural irrigation.
- **Other:** Any other water demand that is not adequately described by the water sectors defined above. Unlike previous UWMPs, system water losses are not to be reported in the "Other" category.

4.2.1 Historical and Current Water Use

The District's historical water use among water use sectors is presented in Table 4-1. Values shown for FY 2009/10 and FY 2014/15 are the same as those reported in the District's 2015 UWMP.

Table 4-1. Historical Water Use by Customer Type

Water Use Type	FY 2009/10 Actual Volume, MG	FY 2014/15 Actual Volume, MG[a]	FY 2019/20 Actual Volume, MG
Single-Family	414	326	331
Multi-Family	30	30	35
Commercial[b]	116	126	92
Landscape[c]	66	72	91
Agriculture	95	64	72
Other[d]	2	2	4
Potable System Losses	14	46	42
Total	737	666	667

(a) FY 2014/15 water use was reduced due to mandatory water rationing and restrictions on irrigation and outdoor water use.
(b) Includes marine, recreation, hotel, restaurant, parks, beaches and school accounts and water uses.
(c) Includes raw water used for landscape irrigation.
(d) Includes portable meters, fire meters and construction.
FY = Fiscal Year

The District's actual water demands for the year 2020 are presented in Table 4-2. There are no existing or projected uses of saline barriers, groundwater recharge, or conjunctive use within the District's service area.

Table 4-2. Demands for Potable and Non-Potable Water – Actual (DWR Table 4-1 Retail)

Use Type	2020 Actual		
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	Additional Description (as needed)	Level of Treatment When Delivered Drop down list	Volume*
Add additional rows as needed			
Single Family		Drinking Water	331
Multi-Family		Drinking Water	35
Commercial		Drinking Water	34
Landscape	Irrigation	Drinking Water	37
Agricultural irrigation	Irrigation	Drinking Water	72
Other Potable	Schools	Drinking Water	6
Other Potable	Restaurants	Drinking Water	15
Other Potable	Recreation	Drinking Water	3
Other Potable	Parks/Beaches	Drinking Water	5
Other Potable	Marine	Drinking Water	6
Other Potable	Fire	Drinking Water	0
Other Potable	Hotels	Drinking Water	23
Other Potable	Portable	Drinking Water	2
Other Potable	Construction	Drinking Water	2
Other Non-Potable		Raw Water	54
Losses	Potable system losses	Drinking Water	42
		TOTAL	667
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*			
NOTES: Volumes are in MG.			

4.2.2 Projected Water Use

In June 2020, BAWSCA completed the Regional Water Demand and Conservation Projections Report (Demand Study).[5] The goal of the Demand Study was to develop transparent, defensible, and uniform demand and conservation savings projections for each wholesale customer using a common methodology to support both regional and individual agency planning efforts and compliance with the new statewide water efficiency targets required by AB 1668 and Senate Bill (SB) 606.

Through the Demand Study process, BAWSCA and the wholesale customers accomplished the following:

- Quantified the total average-year water demand for each BAWSCA member agency through 2045
- Considered anticipated climate change impacts on water demand by incorporating a predicted annual mean temperature increase in the early 21st Century of 1.7 degrees Fahrenheit for the time period through 2045
- Quantified passive and active conservation water savings potential for each individual wholesale customer through 2045
- Identified 24 conservation programs with high water savings potential and/or member agency interest

Implementation of these conservation measures, along with passive conservation, is anticipated to yield an additional 37.3 MGD of water savings by 2045. Based on the revised water demand projections, the identified water conservation savings, increased development and use of other local supplies by the wholesale customers, and other actions, the collective purchases of the BAWSCA member agencies from the SFPUC are projected to stay below 184 MGD through 2045.

As part of the Demand Study, each wholesale customer was provided with a Demand Side Management Least Cost Planning DSS Model that can be used to support ongoing demand and conservation planning efforts, including UWMP preparation. The DSS model is an end-use model which breaks down water demand to specific end uses such as toilets, faucets, or irrigation systems. The end-use approach allows for detailed criteria to be considered when estimating future water demands, such as the effects of fixture replacement, plumbing codes, and conservation efforts. Savings from plumbing codes (also known as passive conservation) is based on federal and state legislated efficiency standards pertaining to plumbing fixtures and appliances. Codes considered in the Demand Study included the Energy Policy Act of 1992, CALGreen Building Code, AB 715, and SB 407 (governs the types of fixtures available on the market for toilets, showers, washers, etc.).

Water demand projections for the District are based on the DSS model projections for the District assuming savings resulting from future plumbing code changes and active measure savings including those resulting from public and school education programs, the District's implementation of the WaterSmart program, advanced metering infrastructure (AMI), monthly billing, and measures to reduce water loss. This is a conservative demand projection, as additional savings may be achieved through the implementation

[5] Phase III Final Report: http://bawsca.org/uploads/pdf/BAWSCA_Regional_Water_Demand_and_Conservation%20Projections%20Report_Final.pdf

of additional water conservation measures, but are not relied upon for the supply and demand evaluation included in this plan. The projected water demands through the year 2040 are presented in Table 4-3.

Table 4-3. Use for Potable and Non-Potable Water – Projected (DWR Table 4-2 Retail)

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		2025	2030	2035	2040	2045 (opt)
Add additional rows as needed						
Single Family		350	346	343	332	330
Multi-Family		37	36	36	35	35
Commercial		36	35	35	34	34
Landscape		39	38	38	37	36
Agricultural irrigation		76	76	75	72	72
Other Potable	Schools	6	6	6	6	6
Other Potable	Restaurants	16	16	16	15	15
Other Potable	Recreation	3	3	3	3	3
Other Potable	Parks/Beaches	5	5	5	5	5
Other Potable	Marine	7	6	6	6	6
Other Potable	Fire	0	0	0	0	0
Other Potable	Hotel	25	24	24	23	23
Other Potable	Portable	2	2	2	2	2
Other Potable	Construction	2	2	2	2	2
Other Non-Potable	Raw Water	57	57	56	54	54
Losses		44	43	43	42	41
	TOTAL	704	697	690	668	664
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*						
NOTES: Volumes are in MG.						

The actual and projected water demands reported in Tables 4-2 and 4-3, and the recycled water demands reported in Table 6-6, are summarized in Table 4-4.

Table 4-4. Total Water Use (Potable and Non-Potable) (DWR Table 4-3 Retail)

	2020	2025	2030	2035	2040	2045 (opt)
Potable Water, Raw, Other Non-potable *From Tables 4-1R and 4-2 R*	667	704	697	690	668	664
Recycled Water Demand[1] *From Table 6-4*	0	0	0	0	0	0
Optional Deduction of Recycled Water Put Into Long-Term Storage[2]						
TOTAL WATER USE	667	704	697	690	668	664

[1] Recycled water demand fields will be blank until Table 6-4 is complete
*[2] Long term storage means water placed into groundwater or surface storage that is not removed from storage in the same year. Supplier **may** deduct recycled water placed in long-term storage from their reported demand. This value is manually entered into Table 4-3.*

NOTES: Volumes are in MG.

The estimated water use for the next five years from 2021 through 2025 is summarized in Table 4-5. Projected water demands for 2021 through 2025 were estimated using the DSS Model. The characteristic five-year water use is based on normal year demand conditions and will be incorporated into the Drought Risk Assessment, further discussed in Chapter 7.

Table 4-5. Projected Water Use for the Next Five Years (2021-2025)

Water Use	2021	2022	2023	2024	2025
Total Water Use, MG	692	697	701	706	705

4.3 DISTRIBUTION SYSTEM WATER LOSSES

System losses are the difference between the actual volume of water treated and delivered into the distribution system and the actual metered consumption. Such apparent losses are always present in a water system due to pipe leaks, unauthorized connections or use, faulty meters, unmetered services such as fire protection and training, and system and street flushing.

The District uses the American Water Works Association (AWWA) method to annually evaluate its distribution system losses. For FY 2019/20, the District's water losses were estimated to be approximately 25 MG. Copies of the District's FY 2015/16 to FY 2019/20 Water Audit worksheets are provided in Appendix E.

The monthly system losses as the difference between the annual production (including both treated and untreated water supplies) and annual sales for the most recent 12-month period available are shown in Table 4-6. The most recent 12-month period began on July 1, 2019. It should be noted that the production quantity used to calculate losses for the annual water audits listed in Table 4-6 was measured at the influent meter at the District's treatment facilities. This does not include raw water sent to the District's sole metered raw water customer.

Table 4-6. Last Five Years of Water Loss Audit Reporting (DWR Table 4-4 Retail)

Reporting Period Start Date (mm/yyyy)	Volume of Water Loss [1,2]
07/2015	70
07/2016	57
07/2017	89
07/2018	35
07/2019	25
[1] *Taken from the field "Water Losses" (a combination of apparent losses and real losses) from the AWWA worksheet.* [2] ***Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*	
NOTES: Volumes are in MG; copies of the District's water audits are provided in Appendix E.	

At the time of preparation of this UWMP, DWR and the State Water Board are in the process of adopting water loss standards. This is discussed further in Chapter 9.

4.4 ESTIMATING FUTURE WATER SAVINGS

The District's water demand projections considered potential future savings with anticipated plumbing code changes (also known as passive savings) related to the following household and commercial plumbing fixtures:

- Single-family toilets, showers, lavatory and non-lavatory/kitchen faucets, and clothes washers
- Multi-family toilets, showers, lavatory and non-lavatory/kitchen faucets, and clothes washers
- Commercial toilets, urinals, and lavatory and non-lavatory/kitchen faucets

Active measure savings resulting from public and school education programs, the District's implementation of WaterSmart Software, AMI, monthly billing and measures to reduce water loss were also considered.

A summary of the potential future savings as a result of anticipated plumbing code changes and active measure savings is provided in Table 4-7.

Table 4-7. Summary of District Water Demand Projections Using the DSS Model

	2025	2030	2035	2040	2045
Water Demand Projection without Plumbing Code Savings, MG	759	767	767	752	756
Water Demand Projection with Plumbing Code Savings, MG	708	704	694	672	672
Water Demand Projection with Active Measure Savings, MG	704	697	690	668	664

Table 4-8 indicates that future water savings estimates are included in water demand projections.

Table 4-8. Inclusion in Water Use Projections (DWR Table 4-5 Retail Only)

Are Future Water Savings Included in Projections? (Refer to Appendix K of UWMP Guidebook) *Drop down list (y/n)*	Yes
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.	Section 4.4
Are Lower Income Residential Demands Included In Projections? *Drop down list (y/n)*	Yes

4.5 WATER USE FOR LOWER INCOME HOUSEHOLDS

SB 1087 (2006) requires that water providers develop written policies that give priority to development that includes affordable housing to low-income households. The projections shown in Tables 4-3 and 4-4 include water use for single family and multi-family residential housing needed for low-income households, as identified in the City of Half Moon Bay Housing Element and the San Mateo County Housing Element.

A lower income household has an income below 80 percent of an Area Median Income, adjusted for family size. According to the City of Half Moon Bay Housing Element 2015-2023, adopted in March 2015, approximately 40 percent of City of Half Moon Bay households are classified as Low, Very Low or Extremely Low income[6].

Therefore, based on the City of Half Moon Bay's Housing Element, it is estimated that approximately 40 percent of the District's water demands are attributed to low income households. Table 4-9 presents these projected water demands for single family and multi-family households.

Table 4-9. Projected Water Demands for Lower Income Households[(a)]

Water Use Sector	2025	2030	2035	2040	2045
Single Family, MG	128.2	126.0	123.9	122.1	120.6
Multi-Family, MG	15.0	15.2	15.3	15.4	15.5

(a) The City of Half Moon Bay Housing Element indicates that 40 percent of households in the District's service area are classified as low income.

As indicated in Table 4-7, the water demands for the lower income households are included in the District's water demand projections.

4.6 CLIMATE CHANGE

The District's water demand and use patterns may be impacted by climate change. Changes to hydrology as a result of climate change could lead to changes in total water demand and use patterns. Increased irrigation (outdoor landscape or agricultural) is anticipated to occur with temperature rise, increased evaporative losses due to warmer temperature, and a longer growing season. Water treatment and distribution systems are most vulnerable to increases in maximum day demand.

As discussed in Section 4.2.2 above, the District's water demand projections consider the impacts of climate change. The potential impacts of climate change on the District's water supplies are described in *Chapter 6 System Supplies*.

[6]Half Moon Bay Housing Element 2015-2023 (Table 1-28: Households by Income Level and Overpayment), adopted March 3, 2015.

CHAPTER 5
SB X7-7 Baselines, Targets and 2020 Compliance

In November 2009, Senate Bill X7-7 (SB X7-7), the Water Conservation Act of 2009, was signed into law as part of a comprehensive water legislation package. The Water Conservation Act addressed both urban and agricultural water conservation. The legislation set a goal of achieving a 20 percent statewide reduction in urban per capita water use by December 31, 2020 (i.e., "20 by 2020").

This chapter demonstrates by reviewing the District's recent water use and service area population that the District has achieved its 2020 target per capita water use.

5.1 OVERVIEW AND BACKGROUND

To meet the urban water use target required by SB X7-7, each retail supplier was required to determine its baseline water use, as well as its target water use for the year 2020. Water use is measured in gallons per capita per day (GPCD). This chapter provides a review of the methodology the District used to calculate its baseline and its 2020 Urban Water Use Target. The District calculated baselines and targets on an individual reporting basis in accordance with SB X7-7 legislation requirements and DWR's *Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use* (2016) (DWR's Methodologies).

The District's compliance with SB X7-7 was first addressed in its 2010 UWMP, in which the District determined its baseline per capita water use and established and adopted its urban per capita water use targets for 2015 and 2020. SB X7-7 included a provision that an urban water supplier may update its 2020 urban water use target in its 2015 UWMP and may use a different target method than was used in 2010. Also, the SB X7-7 methodologies developed by DWR in 2011 noted that water suppliers may revise population estimates for baseline years when the 2010 Census information became available. The 2010 Census data was not finalized until 2012. In its 2015 UWMP, the District updated its population, baselines, and targets to reflect 2010 Census data and demonstrated that it successfully achieved its 2015 interim target and confirmed its 2020 target.

Actual 2020 water use data and population data from ABAG were used to calculate the District's 2020 per capita water use. The District verifies that it achieved its 2020 target per capita water use. The 2020 Census results were not available for inclusion in this UWMP update; however, the potential difference between population estimates herein and the eventual final 2020 Census results is not believed to impact the fundamental conclusions of meeting SB X7-7 requirements.

Compliance with the urban per capita water use target requirement is verified in the SB X7-7 Compliance Form, which is included as Appendix F in this plan.

5.2 GENERAL REQUIREMENTS FOR BASELINE AND TARGETS

SB X7-7 required each urban water retailer to determine its baseline daily per capita water use over a 10-year or 15-year baseline period. The 10-year baseline period is defined as a continuous 10-year period ending no earlier than December 31, 2004 and no later than December 31, 2010. SB X7-7 also defined that for those urban water retailers that met at least 10 percent of their 2008 water demand using recycled water, the urban water retailers can extend the baseline GPCD calculation for a maximum of a continuous 15-year baseline period, ending no earlier than December 31, 2004 and no later than December 31, 2010. In 2008, the District delivered no recycled water; therefore, the District's baseline GPCD was calculated over a 10-year period. In its 2015 UWMP, the 10-year baseline period that the District selected was 1999 through 2008. This is the same 10-year baseline period reported in the District's 2010 UWMP.

SB X7-7 and DWR provided four different methods for calculation of an urban water retailer's 2020 target. Three of these methods are defined in Water Code Section 10608.20(a)(1), and the fourth method was developed by DWR. The 2020 water use target may be calculated using one of the following four methods:

- **Method 1**: 80 percent of the District's base daily per capita water use;
- **Method 2**: Per capita daily water use estimated using the sum of performance standards applied to indoor residential use; landscaped area water use; and commercial, industrial, and institutional uses;
- **Method 3**: 95 percent of the applicable State hydrologic region target as stated in the State's April 30, 2009, draft 20x2020 Water Conservation Plan; or
- **Method 4**: An approach that considers the water conservation potential from: 1) indoor residential savings, 2) metering savings, 3) commercial, industrial and institutional savings, and, 4) landscape and water loss savings.

The District selected Method 3 to calculate its 2020 target.

Daily average water use is divided by the service area population to obtain baseline and target GPCD. In 2015, the District adjusted its baseline and target per capita water use to reflect its updated population estimates based on 2010 Census data results. To calculate the District's 2020 compliance year per capita water use and compare it to the 2020 target, the District's actual 2020 daily average water use was divided by the District's 2020 service area population. Details of determining the District's 2020 service area population are provided in Section 5.3.

The District's baselines and targets are summarized in Section 5.5. The District's 2020 compliance water use is provided in Section 5.6.

5.3 SERVICE AREA POPULATION

To correctly calculate its compliance year GPCD, the District must determine the population that it served in 2020. At the time of preparation of this UWMP, the 2020 Census results were unavailable.

The District's service area includes the City of Half Moon Bay and several unincorporated coastal communities including El Granada, Miramar, and Princeton by the Sea. As described in Chapter 3, ABAG population data was used to determine the District's service area population and was used to determine the District's historical and current (2020) service area population for purposes of calculating baselines and targets and confirming the District's compliance with its 2020 SB X7-7 target. Based on ABAG data, the District's 2020 service area population was estimated to be 18,738. Additional information on the ABAG population data used to determine the District's service area population is provided in Chapter 3.

The method used to estimate the service area population is shown in Table 5-1 and the District's 2020 service area population is shown in Table 5-2.

Table 5-1. Method for 2020 Population Estimates (SB X7-7 Table 2)

Method Used to Determine 2020 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: Population estimates prepared by Maddaus Water Management based on ABAG data. Methodology was reviewed and approved by DWR for the BAWSCA agencies.	

Table 5-2. 2020 Service Area Population (SB X7-7 Table 3)

2020 Compliance Year Population	
2020	18,738
NOTES: Based on ABAG data.	

5.4 GROSS WATER USE

Annual gross water use, as defined in CWC §10608.12 (h), is the water that enters the District's distribution system over a 12-month period (calendar year) with certain exclusions. Annual gross water use for 2020 is 667 MG and is shown in Table 5-3.

Table 5-3. 2020 Gross Water Use (SB X7-7 Table 4)

Compliance Year 2020	2020 Volume Into Distribution System *This column will remain blank until SB X7-7 Table 4-A is completed.*	2020 Deductions					2020 Gross Water Use
		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.*	
	667			-		-	**667**
* **Units of measure (AF, MG , or CCF)** must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.							
NOTES: Volumes are in MG.							

5.5 BASELINES AND TARGETS SUMMARY

Daily per capita water use is reported in GPCD. Annual gross water use is divided by annual service area population to calculate the average per capita water use for each year in the baseline periods. As discussed in Section 5.1, the District updated its population data, adjusted its baseline, and confirmed its 2020 target in its 2015 UWMP. The District's 10-year base daily per capita water use is 148 GPCD. Using Method 3 for 2020 water use target calculation as described in Section 5.2, the District's confirmed 2020 compliance target is 124 GPCD as shown in Table 5-4.

Table 5-4. Baseline and Targets Summary (DWR Table 5-1)

Baseline Period	Start Year *	End Year *	Average Baseline GPCD*	Confirmed 2020 Target*
10-15 year	*1999*	*2008*	*148*	*124*
5 Year	*2004*	*2008*	*150*	
**All cells in this table should be populated manually from the supplier's SBX7-7 Verification Form and reported in Gallons per Capita per Day (GPCD)*				

5.6 2020 COMPLIANCE DAILY PER CAPITA WATER USE

In Sections 5.3 and 5.4, the District's 2020 population and gross water use are presented, respectively. The District calculated its actual 2020 water use for the 2020 calendar year in accordance with DWR's Methodologies document. As shown in Table 5-5, urban per capita water use in 2020 was 97 GPCD, which is well below the confirmed 2020 water use target of 124 GPCD. Therefore, the District has met its 2020 final water use target. The complete set of SB X7-7 compliance forms used to document this compliance is included in Appendix F.

Table 5-5. 2020 Compliance (DWR Table 5-2)

2020 GPCD			2020 Confirmed Target GPCD*	Did Supplier Achieve Targeted Reduction for 2020? Y/N
Actual 2020 GPCD*	2020 TOTAL Adjustments*	Adjusted 2020 GPCD* *(Adjusted if applicable)*		
97	*0*	*0*	*124*	*Yes*
**All cells in this table should be populated manually from the supplier's SBX7-7 2020 Compliance Form and reported in Gallons per Capita per Day (GPCD)*				

As detailed in DWR's Methodologies document, adjustments are allowed to be made to an agency's gross water use in 2020 for unusual weather, land use changes, or extraordinary institutional water use. The District has elected not to make the adjustments allowed by Water Code Section 10608.24 because these exceptions are not needed to demonstrate compliance with SB X7-7 for 2020. Water use in 2020 in the District's service area was significantly reduced as compared to baseline years as a result of on-going water conservation efforts by the District and its customers.

5.7 REGIONAL ALLIANCE

The District has chosen to comply with the requirements of SB X7-7 on an individual basis. The District has elected not to participate in a regional alliance.

CHAPTER 6
Water Supply Characterization

This chapter describes the water supplies currently available to the District, as well as future anticipated supplies. The District currently utilizes water from the following sources:

- Imported surface water from the SFPUC
- Local groundwater basin (Half Moon Bay Terrace Basin)
- Local surface water (Pilarcitos and Denniston Creeks)

These sources, along with the other projected future supplies, including recycled water and the potential for desalinated water and exchanges or transfers are described in this chapter.

6.1 PURCHASED OR IMPORTED WATER

Approximately 75 percent of the District's water supply was purchased from the SFPUC from FY 2010/11 through FY 2019/20. Water from SFPUC is supplied to the District by gravity flow from SFPUC's Pilarcitos Reservoir or is pumped over the mountain from SPFUC's Upper Crystal Springs Reservoir. The District purchases water from the SFPUC under the terms of the 2018 Amended and Restated Water Supply Agreement (WSA) between the SFPUC and its wholesale customers. According to the WSA, the District is entitled to purchase a maximum of 2.175 MGD (approximately 794 million gallons per year [MGY]), except in drought years when mandatory water rationing is in effect.

6.1.1 SFPUC Water Supply Agreement

6.1.1.1 Individual Supply Guarantee

San Francisco has a perpetual commitment (Supply Assurance) to deliver 184 MGD to the 24 permanent Wholesale Customers collectively. San Jose and Santa Clara are not included in the Supply Assurance commitment and each has temporary and interruptible water supply contracts with San Francisco. The Supply Assurance is allocated among the 24 permanent Wholesale Customers through Individual Supply Guarantees (ISG), which represent each Wholesale Customer's allocation of the 184 MGD Supply Assurance. The District's ISG is 2.175 MGD.

6.1.1.2 2018 Amended and Restated Water Supply Agreement

The business relationship between the SFPUC and its wholesale customers is largely defined by the WSA between the SFPUC and wholesale customers in Alameda County, San Mateo County and Santa Clara County. In July 2009, the WSA replaced the Settlement Agreement and Master Water Sales Contract that expired in June 2009, and in 2018 an Amended and Restated WSA was adopted. The WSA addresses the rate-making methodology used by the SFPUC in setting wholesale water rates for its wholesale customers and includes a Water Shortage Allocation Plan (WSAP) that describes the method for allocating water from the RWS between Retail and Wholesale Customers during system-wide shortages of 20 percent or less. The WSAP, also known as the Tier One Plan, was amended in the 2018 Amended and Restated WSA. The Wholesale Customers' share is apportioned among the individual Wholesale Customers based on a separate methodology adopted by the Wholesale Customers, known as the Tier Two Plan. The Tier Two Plan, which initially expired in 2018, has been extended by the BAWSCA Board of Directors every year since for one additional calendar year. In November 2020, the BAWSCA Board voted to extend the Tier Two Plan through the end of 2021.

Additional discussion of the Tier One and Tier Two drought allocations is provided in Chapter 7.

6.1.1.3 2028 SFPUC Decisions

In the 2009 WSA, the SFPUC committed to make three decisions before 2018 that affect water supply development:

- Whether or not to make the cities of San Jose and Santa Clara permanent customers
- Whether or not to supply the additional unmet supply needs of the Wholesale Customers beyond 2018
- Whether or not to increase the wholesale customer Supply Assurance above 184 MGD

Events since 2009 made it difficult for the SFPUC to conduct the necessary water supply planning and CEQA analysis required to make these three decisions before 2018. Therefore, in the 2018 Amended and Restated WSA, the decisions were deferred for 10 years to 2028.

Additionally, there have been recent changes to instream flow requirements and customer demand projections that have affected water supply planning beyond 2018. As a result, the SFPUC has established an Alternative Water Supply Planning program to evaluate several regional and local water supply options. Through this program, the SFPUC will conduct feasibility studies and develop an Alternative Water Supply Plan by July 2023 to support the continued development of water supplies to meet future needs.

Additional discussion of SFPUC's future planned programs and studies is provided in Chapter 7.

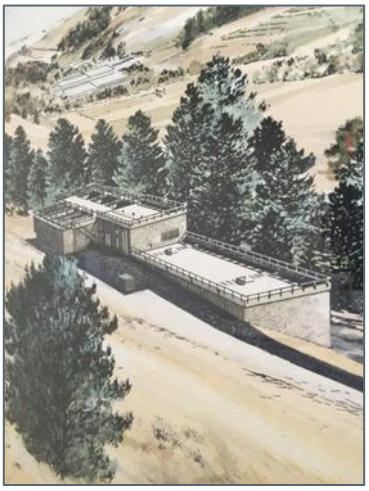
6.1.2 SFPUC Water Supply Sources

The water supply for the SFPUC is predominantly supplied from runoff and snowmelt from the Sierra Nevada, delivered through the Hetch Hetchy aqueducts, but also includes treated water from its local watersheds and facilities in Alameda and San Mateo Counties. The SFPUC serves its retail and wholesale water demands through integrated operation of local Bay Area water production and imported water from Hetch Hetchy. Local watershed facilities are primarily used to capture local runoff.

The District is the only customer of the SFPUC that receives raw water. The District purchases raw water from two sources owned and operated by the SFPUC: Pilarcitos Reservoir and Upper Crystal Springs Reservoir. The transmission pipelines from each of these sources interconnect in upper Pilarcitos Canyon. These two supply sources from the SFPUC are discussed below.

6.1.2.1 Pilarcitos Reservoir

Water supplies from Pilarcitos Reservoir are available to the District throughout the year. The source of the water in Pilarcitos Reservoir is local runoff from the surrounding watershed; no imported water from Hetch Hetchy is stored in Pilarcitos Reservoir. Water from this source is transported to the District's Nunes WTP via gravity pipelines. The District prefers to draw the SFPUC water from the local Pilarcitos Reservoir source because the water flows by gravity from SFPUC's service connection at Stone Dam to the District's Nunes WTP, avoiding the power costs associated with pumping water from SFPUC's Upper Crystal Springs Reservoir. When there is insufficient water stored in Pilarcitos Reservoir, or when the District's demand exceeds the hydraulic capacity of the District-owned pipeline from Stone Dam, the District pumps the SFPUC water from Upper Crystal Springs Reservoir.



Nunes Water Treatment Plant

6.1.2.2 Upper Crystal Springs Reservoir

The water in Upper Crystal Springs Reservoir is supplied by local runoff from the surrounding watershed and imported water supplies from Hetch Hetchy. Upper Crystal Springs Reservoir also serves as an emergency water supply for the regional water system and its customers in the event of an interruption to SFPUC's Hetch Hetchy supplies. The District pumps water from Upper Crystal Springs Reservoir through an 18-inch diameter transmission pipeline to the District's Nunes WTP. Water from the Upper Crystal Springs Reservoir source is available throughout the year. The Crystal Springs project was designed for an ultimate capacity of 12.0 MGD. The present capacity to provide water to the District is 4.5 MGD and is limited by the operational constraints of the Nunes WTP. Expansion of the project capacity would require the approval from the SFPUC and the California Coastal Commission. The Upper Crystal Springs Reservoir supply source is important to the District because Upper Crystal Springs Reservoir is intertied with SFPUC's main supply source (Hetch Hetchy). The Upper Crystal Springs Reservoir supply is more expensive than the other supply sources because of the pumping (electrical power) costs combined with the cost of purchasing the water.

6.2 GROUNDWATER

The District operates eight groundwater wells (Wells D1 through D6, Well D8, and Well D9) in the Denniston Well Field. Well D6 has been taken out of production and is now used as a dedicated groundwater elevation monitoring well for the California Statewide Groundwater Elevation Monitoring (CASGEM) program. The Denniston Well Field is mostly located to the east of the Half Moon Bay Airport, but there is one well (D9) which is to the west of the Half Moon Bay Airport. The District's groundwater resource is described below.

6.2.1 Groundwater Basin Description

The District utilizes one of the San Francisco Bay Hydrologic Region groundwater basins known as the Half Moon Bay Terrace Basin (DWR Basin Number 2-22), as described in the Department of Water Resources Bulletin 118 (see basin description in Appendix G). The Half Moon Bay Terrace Basin is located along the northern San Mateo coast and encompasses 9,150 acres. The Midcoast Groundwater Study (2010), commissioned by the County of San Mateo, indicates that precipitation is the largest contributor of groundwater recharge for higher elevation areas of the Half Moon Bay Terrace Basin and streams are the largest contributor at lower elevation areas.

This groundwater basin is not adjudicated, and DWR has not identified the Half Moon Bay Terrace Basin as either in overdraft or expected to be in overdraft.

The Half Moon Bay Terrace Basin is bounded by Martini Creek on the north, the Montara Mountains on the east, the Tunitas Creek on the south, and the Pacific Ocean on the west. Basin elevations range from sea level at the ocean to approximately 300 feet above sea level at the eastern boundary. There are many creeks that flow through the basin toward the Pacific Ocean, such as the Montara, San Vicente, Denniston, Pilarcitos, Purisima, and Lobitos Creeks. The basin is composed of sedimentary materials and rests atop of Montara Mountain granite and the Purisima Formation. The sediments are believed to have been transported from adjacent hills and consist of unconsolidated deposits of sand, silt, and clay. The unconsolidated deposits consist of Holocene Alluvium and Pleistocene Marine Terrace deposits.

San Francisco Bay Groundwater Basins

The District's Denniston Well Field located within the Airport Terrace Subbasin. Both the District and the Montara Water and Sanitary District (MWSD) have production wells contained in the Airport Terrace Subbasin. The most significant recharge of the Airport Subbasin is caused by is infiltration recharge and groundwater inflow from Denniston Creek. Other Subbasins contained within the District's service area include the El Granada Subbasin, the Arroyo de en Medio/Frenchmans Subbasin, and the Lower Pilarcitos Subbasin. As described in Section 6.2.2.2, the District has conducted a study of the potential for developing wells in the Lower Pilarcitos Subbasin.

6.2.2 Groundwater Studies

6.2.2.1 Midcoast Groundwater Study

The Midcoast Groundwater Study, commissioned by the County of San Mateo, extended from northern Half Moon Bay to Devils Slide along Highway 1. The purpose of this three-phased groundwater study was to identify the groundwater yield that may be safely taken from San Mateo's Midcoast aquifers and encourage the development of a Groundwater Management Plan.

Phase I of the Midcoast Groundwater Study was performed by Balance Hydrologics, Inc. and included a comprehensive literature and data review of the groundwater basin (Woyshner and others, April 2002). Kleinfelder subsequently prepared Phase II of the Midcoast Groundwater Study (April 2009), which included depth-to-water measurements and pump tests in selected wells and a water balance assessment by subarea. Specific Phase II findings related to the Airport Subbasin are as follows:

- The Airport Subbasin is made up of the Airport Terrace, Denniston Upland and Denniston Stream Valley subareas. The San Vicente Upland and San Vicente Stream Valley subareas also contribute to the Airport Subbasin.
- Approximately 167 MGY of groundwater is pumped from the Airport Subbasin. The water table drops during dry years, but can quickly rebound during wet years.
- Based on prior studies, the 55-year precipitation record, monitoring data from two wells within the Airport subarea, and other factors, Kleinfelder estimates that the average annual inflow of 906 MGY to the basin equals the average annual output. As a result, the Phase II Report states that the Airport Subbasin appears to be in long-term hydrologic balance.
- The volume of Denniston Creek water that enters the Airport Terrace subarea is a significant recharge factor that is not well understood because long-term gaging data are not available. Estimating the water balance in the Airport Terrace subarea is difficult without a better understanding of this recharge.
- A 1991 study by Earth Sciences Associates concluded that at least 15 to 28 MGY of additional groundwater could be annually pumped from the Airport Subbasin without detrimental impacts.
- The Kleinfelder study does not indicate whether or not additional groundwater is available for pumping due to significant hydrological uncertainties in the area.

In the subsequent Phase III Study prepared by Balance Hydrologics, Inc. (June 2010), the following findings were made with regard to the Airport Subbasin:

- Monitoring data indicate that groundwater storage was not as depleted as during previous droughts and storm recharge appeared normal during the 2009 dry season relative to pre-drought conditions.
- Groundwater levels were high in the Airport Aquifer when compared to the previous drought, 1987 to 1992. Static (not pumped) groundwater levels in MWSD wells were higher than pre-drought levels. Leaking underground storage tank site groundwater levels (in Princeton) were within a normal range.
- Previous investigations identified that baseflows in Denniston Creek provide significant recharge to the Airport Terrace through the dry season. During the dry season of 2009, baseflows were gaged in Denniston Creek at two stations. The upper station was located at the canyon mouth below the reservoir, and the lower station was located below Capistrano Road at Princeton. Similar to findings during the previous drought, a net loss of flow was observed in the creek, which can be attributed to groundwater recharge and evapotranspiration. In addition, flows were compared to measurements taken in 1990, during the previous drought. Denniston Creek flowed continuously through the dry season of 2009, with higher flows than were recorded during the scattered measurements made throughout the previous drought. The measurement with lowest flow was taken in June 1990; lower flows and drier conditions in general would have persisted through the dry

season of 1990. This comparison of the 2009 flow data with 1990 measurements suggests that the current drought is less severe than the previous drought. Baseflows in 2009, however, were significantly lower than during 2008.

- In summary, groundwater storage was not as depleted as during previous droughts and storm recharge appeared normal during dry-season 2009 relative to pre-drought conditions.
- Groundwater recharge from Denniston Creek through the Airport Terrace is significant during the dry season. The agricultural irrigation ponds at the northeast portion of the Airport Subarea, filled from diversion of flow in San Vicente Creek, also should provide recharge to that portion of the Airport Subarea. Groundwater levels at Pillar Point Marsh support normal marsh conditions and conditions potentially allowing sea-water intrusion to occur were not observed.
- A 1987 study by Earth Science Associates and Luhdorff and Scalmanini Consulting Engineers estimates the usable groundwater storage for the Airport Terrace groundwater subbasin to be approximately 1,300 AF.
- Additional analysis should include developing dry season groundwater contour maps to compare with those reported during the 1987 to 1992 drought.
- Wells are available for continued monitoring and reported subsurface information are available for the sub-basin. A water balance model, drought analysis, and a groundwater flow model would assist groundwater management. Gaging Denniston Creek would greatly assist calibration of the models. In addition, the Airport Terrace is an ideal location for regional reference ET_o monitoring. CIMIS only estimates ET_o for the Midcoast and measured ET_o would assist with calibration of all water balance models on the Midcoast.

6.2.2.2 Lower Pilarcitos Creek Groundwater Basin Study

In June of 2003, the District, along with Todd Engineers and Kennedy Jenks Consultants, finalized a study for developing the Lower Pilarcitos Creek Groundwater Basin. The scope of the study was to assess the feasibility of developing drinking water wells in the Lower Pilarcitos Creek Groundwater Subbasin. The study found that if a well field were fully developed in Lower Pilarcitos Creek Groundwater Basin, the District could potentially increase its local water supply by a range of 129 to 259 MGY (depending on dry or wet season). The quality of water produced from five test wells in Lower Pilarcitos Creek Groundwater Basin found water to be suitable for potable uses when blended (ratio of 3:1) at the Nunes WTP with water from existing sources of supply. However, no action has been taken by the District since the study was completed.

6.2.3 Groundwater Management and Sustainability

6.2.3.1 California Statewide Groundwater Elevation Monitoring

Groundwater is a significant portion of the total water supply for the State of California. It is estimated that California's reliance on groundwater will increase during drought periods and with an increase in population. The CASGEM program was created with SB X7-6, as part of the 2009 Comprehensive Water Package. The California legislature created the CASGEM program to collect groundwater elevations, facilitate collaboration and to report this information to the public. CASGEM is part of the State's plan to sustainably manage groundwater in the State's alluvial groundwater basins and subbasins.

Under CASGEM, the District became a monitoring agency in the Half Moon Bay Terrace Basin, along with MWSD. The District established a monitoring well in the Airport subbasin of the Half Moon Bay Terrace Basin and reports elevations of this well seasonally to the State. In 2011, the District prepared a Groundwater Elevation Monitoring Plan for submittal to DWR for the CASGEM Program. A copy of the plan is provided in Appendix G.

6.2.3.2 Sustainable Groundwater Management Act of 2014

The Sustainable Groundwater Management Act of 2014 (SGMA), a three-bill legislative package composed of AB 1739 (Dickinson), SB 1168 (Pavley), and SB 1319 (Pavley), was passed in September 2014. The legislation provides a framework for sustainable management of groundwater supplies by local authorities, with a limited role for State intervention when necessary to protect the resource. The legislation lays out a process and a timeline for local authorities to achieve sustainable management of groundwater basins. It also provides tools, authorities and deadlines to take the necessary steps to achieve the goal. SGMA applies to basins or subbasins designated by the DWR as high or medium priority basins, based on a statewide ranking that uses criteria including population and extent of irrigated agriculture dependent on groundwater. For local agencies involved in implementation, the requirements are significant and can be expected to take years to accomplish. The SWRCB may intervene if local agencies do not form a GSA and/or fail to adopt and implement a Groundwater Sustainability Plan (GSP).

As documented in the District's 2015 UMWP, the Half Moon Bay Terrace Basin was originally classified as a very low priority basin in the 2014 CASGEM Groundwater Basin Prioritization Results. However, in June 2018, DWR re-prioritized the Half Moon Bay Terrace Basin from very low to high priority in its draft 2018 SGMA Basin Prioritization Process and Results issued in May 2018. With a high priority ranking, the Half Moon Bay Terrace Basin would be subject to the SGMA requirements, including the formation of a GSA and the development of a GSP. In response to the high priority designation, the District coordinated with other agencies involved in the Half Moon Bay Terrace Basin, including the Montara Water and Sanitary District, the City of Half Moon Bay, San Mateo County, the San Mateo County Resource Conservation District, as well as with DWR staff. The consensus of the agencies was that DWR's identification of the basin as having a groundwater sustainability problem which needs to be managed is a "false positive". It was agreed that although DWR's efforts to protect the State's groundwater resources were supported by the District and others, the District and others disagreed with DWR's calculations that would change the prioritization of the Half Moon Bay Terrace Basin from very low to high priority. Studying the details of DWR's prioritization analysis revealed numerous respects in which the statewide datasets used did not accurately reflect local conditions. Based on comments provided to DWR by the District, the Half Moon Bay Terrace Basin was prioritized as very low priority in DWR's 2018 Final Basin Prioritization.

6.2.4 Historical Groundwater Production

A Coastal Development Permit (CDP) limits the annual total production from the District's Denniston Well Field to 130 MGY. It is assumed that production from the Denniston Well Field may decrease substantially during drought periods, due to lowering of the water table in the groundwater basin.

Historical groundwater pumpage from FY 2015/16 through FY 2019/20 is shown in Table 6-1. Groundwater pumpage has remained below 10 MGY for the last 10 years, apart from 21.9 MGY in FY 2017/18. During the last five years, average pumping has been 9.64 MGY.

Table 6-1. Groundwater Volume Pumped (DWR Table 6-1 Retail)

☐	Supplier does not pump groundwater. The supplier will not complete the table below.					
☐	All or part of the groundwater described below is desalinated.					
Groundwater Type ***Drop Down List*** *May use each category multiple times*	Location or Basin Name	2016*	2017*	2018*	2019*	2020*
Add additional rows as needed						
Alluvial Basin	Half Moon Bay Terrace Basin	1.5	7.75	21.9	7.86	9.18
	TOTAL	2	8	22	8	9
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*						
NOTES: Volumes are in MG.						

6.3 SURFACE WATER

To expand its local water supply, the District filed Water Right Application 22680 with the State Water Rights Board in 1966. In 1969, the SWRCB, the successor to the State Water Rights Board, issued Water Right Permit 15882. The permit authorizes the District to divert up to 2 cubic feet per second (CFS) each from Denniston and San Vicente Creeks (4 CFS total) on a year-round basis.

Denniston Water Treatment Plant

The water supply from the Denniston Creek diversion is negatively impacted by the build-up of silt and plant growth. From 2009 to 2013, the District has dredged Denniston Creek to remove sediment. In 2009, the District was granted a permit to dredge 800 cubic yards of sediment the first year, and 400 cubic yards of sediment annually for the following four years. In 2013, the District's permit was amended to allow for the one-time work of clearing vegetation and dredging 1,000 linear feet of Denniston Creek upstream from the reservoir. The maintenance dredging projects have successfully dredged around the point of diversion and improved the rate of flow and quality of water diverted into the Denniston WTP. Normal year supplies from the District's Denniston surface water supplies are anticipated to be about 200 MGY.

The Pilarcitos Creek infiltration wells, owned and operated by the District, is another source of surface water supplies. The Pilarcitos Creek infiltration wells are located in Pilarcitos Creek Canyon between Pilarcitos Reservoir and Highway 92. Operation of this well field is limited by a State-issued water rights license for the period from November 1 through March 31 of each year. The license limits the maximum pumping rate to 673 GPM and annual production to 117 MG. Because the production of these wells is

dependent upon infiltration from the Pilarcitos Creek stream flow, their yield is extremely low during drought years. Normal year supplies from the Pilarcitos Wells are anticipated to be about 46 MGY.

On February 11, 2015, the District completed a proposed Final Environmental Impact Report (EIR) for the Denniston/San Vicente Water Supply Project located southeast of the community of Moss Beach, in unincorporated San Mateo County, in the northern portion of the District's service area. The water supply improvements along Denniston and San Vicente Creeks would enable the expanded beneficial use of local water supply and thereby reduce dependence on current imported water sources during normal water years. The Project would entail the installation of a permanent diversion structure and pump station, as well as the replacement of approximately 2,000 feet of existing pipeline and installation of approximately 4,100 feet of new pipeline to convey San Vicente Creek water to the existing Denniston Reservoir pump station. The capacity of the Denniston WTP would be expanded to 1,500 gallons per minute (GPM). The District installed a new booster pump station and 3,460 feet of new pipeline along Bridgeport Drive in 2017 to augment water delivery into the existing distribution system. The Project would also allow for the expansion of ongoing sediment removal and maintenance activities within the existing Denniston Reservoir to ensure the long-term ability to utilize the existing diversion at that location. This project is anticipated to be complete by 2025. Additional discussion of this project is provided in Section 6.8.1.

6.4 STORMWATER

In 1989, Congress passed amendments to the Clean Water Act requiring states to address the increasing problem of stormwater pollution entering storm drains. The State of California requires a National Pollutant Discharge Elimination System (NPDES) permit to regulate stormwater discharges. The San Mateo County Water Pollution Prevention Program (SMCWPPP) was adopted by San Mateo County to share stormwater pollution prevention tasks among its cities. The SMCWPPP includes a stormwater management plan that consists of five major pollution prevention and control sections. The major pollution prevention and control sections are summarized below:

- Municipal maintenance activities: Reduce pollutant load into waterways through street sweeping, cleaning catch basins and storm lines, and removing material from drainage channels
- Industrial & illicit discharge: Control the releases of pollutants or non-stormwater to the storm drain system through response to calls from the public or discovered incidents in the field
- Public information/ participation: Inform the general public on what causes stormwater pollution and what simple things can be done to prevent pollutants from entering storm drains
- New development and construction: Inform contractors of the Best Management Practices (BMPs) required on all construction projects in order to address pollution during construction projects, including sediment and erosion control
- Watershed and monitoring: Conduct special scientific studies in order to determine effective prevention techniques

In 2012, the SAM installed a 200,000-gallon passive underground stormwater retention basin beneath the Burnam Strip between Highway 1 and Obispo Road in El Granada. The underground stormwater retention basin was a vital component of the SAM's Wet Weather Flow Management Project (WWFMP). The stormwater retention basin has significantly advanced the SAM's ability to efficiently collect, temporarily

store, and manage increased peak wet-weather flows carried by the 8-mile underground pipeline system that spans from Montara to Half Moon Bay. The Wet Weather Flow Retention Basin is in compliance with all regulatory guidelines including California Environmental Quality Act (CEQA), Local Coastal Plan and Local Coastal Program.

Stormwater can be beneficially reused as a water supply source to meet local water supply demands. Beneficial reuses include blending with other water supplies for groundwater recharge, redirecting it into constructed wetlands or landscaping, and diverting it to a treatment facility for subsequent reuse. Currently, the District does not implement any stormwater recovery systems.

6.5 WASTEWATER AND RECYCLED WATER

SAM is the wastewater authority in the District's service area. SAM is responsible for providing secondary wastewater treatment to the City of Half Moon Bay, as well as two other coastal sanitary districts (Granada Community Services District and MWSD).

6.5.1 Recycled Water Coordination

As described in Chapter 2, the District has coordinated the development of this plan with SAM. SAM is an agency formed by a Joint Powers Authority agreement between the City of Half Moon Bay, the MWSD and the Granada Community Services District.

Currently, the District does not produce or sell recycled water to its customers. However, the District strongly supports the use of recycled water in its service area and continues to explore plans to provide recycled water to customers in its service area who are able to use it in the future.

As direct potable reuse becomes more feasible in California as the SWRCB carries out mandates to develop criteria to protect public health, the District is following the progress being made by the experts. Direct potable reuse is defined as the planned introduction of recycled water either directly into a public drinking water system, or into a raw water supply immediately upstream of a drinking water treatment plant. Direct potable reuse has the potential to make recycled water more cost-effective to the District and its service area because it would not require additional distribution system infrastructure. It would also provide a relatively drought-proof local supply of water.

6.5.2 Wastewater Collection, Treatment, and Disposal

The SAM regional system includes over 100 miles of sewers (gravity, force mains, and transmission pipelines), over 20 pump and lift stations, a treatment plant and an ocean outfall. Wastewater generated within the District's service area is collected and conveyed by pump stations and transmission lines.

SAM's original wastewater treatment plant (WWTP), which started operation in 1984, provided secondary treatment capacity for up to 2 MGD. In 1999, a major plant upgrade was completed and expanded the permitted plant capacity to 4.0 MGD, which increased the plant's ability to handle peak wet weather flows.

SAM's WWTP is currently designed to accommodate average dry weather flows of 4.0 MGD and peak hour wet-weather flows of 15 MGD. The WWTP's current average dry weather discharge is 1.5 MGD. Treated wastewater is discharged to the Pacific Ocean through a 20-inch-diameter pipeline, which extends 1,900 feet offshore to a depth of 40 feet. The SAM WWTP operates under a Waste Discharge Requirements (WDR) and a NPDES Permit issued by the Regional Water Quality Control Board.

SAM WWTP processes consist of primary treatment and secondary treatment. Primary treatment includes screening, grit removal and primary sedimentation. Secondary treatment consists of conventional activated sludge treatment and secondary clarification prior to ocean discharge. The following is a short description of each of the treatment processes at the SAM WWTP:

- Headworks: The headworks provide preliminary treatment of the incoming raw sewage to the SAM plant. Sewage passes through two mechanically cleaned bar screens to remove debris. Debris removed from the screens is compacted, dried and taken to the landfill. Following the bar screens, the flow is pumped to the grit removal tanks. Wastewater is pumped with eight self-priming pumps that are equipped with variable speed drives to allow pumping over the range of 0.3 MGD in the early morning to 15.0 MGD during peak hour wet weather flow.
- Grit Removal: The grit removal tanks use air bubbles to separate out non-organic materials such as sand and pebbles while allowing the organic material to pass on for treatment.
- Primary Sedimentation Basins: After grit removal, the flow is moved to the three primary sedimentation basins where the organic materials (sludge) from the wastewater can settle to the bottom. Once the sludge has settled to the bottom, it is pumped to the anaerobic digesters for further treatment. After the sludge (bio-solids) has been processed, it is dewatered and disposed of off-site.
- Aeration Basins: The clarified flow from the primary sedimentation basin is continually aerated with small bubbles to grow a culture of bacteria and microorganisms, which assimilate the dissolved and suspended wastes. The culture, known as “mixed liquor” forms large particles that can be settled out from the flow.
- Secondary Clarifiers: The flow is then moved to the secondary clarifiers where the particles from the mixed liquor settle to the bottom and is returned to the aeration basins to seed the incoming flow with the active culture. The clear water above flows to the chlorine contact tanks for further treatment.
- Chlorine Contact Tanks: Here, the flow is disinfected with liquid sodium hypochlorite.
- Effluent Pump Station: The pump station uses three vertical turbine pumps to convey the final effluent to the ocean via a deepwater outfall. Sodium bisulfite solution is added at the pump station to remove chlorine and prevent toxicity to fish and other marine life.
- Ocean Outfall: Final effluent is dispersed to the ocean waters through the deepwater ocean outfall.

Table 6-2 summarizes the information on the collection of wastewater generated within the District’s service area in 2020.

Table 6-2. Wastewater Collected Within Service Area in 2020 (DWR Table 6-2 Retail)

☐	There is no wastewater collection system. The supplier will not complete the table below.
	Percentage of 2015 service area covered by wastewater collection system *(optional)*
	Percentage of 2015 service area population covered by wastewater collection system *(optional)*

Wastewater Collection			Recipient of Collected Wastewater			
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated? *Drop Down List*	Volume of Wastewater Collected from UWMP Service Area 2020 *	Name of Wastewater Treatment Agency Receiving Collected Wastewater	Treatment Plant Name	Is WWTP Located Within UWMP Area? *Drop Down List*	Is WWTP Operation Contracted to a Third Party? *(optional)* *Drop Down List*
City of Half Moon Bay	Metered	295	Sewer Authority Mid-Coastside	Sewer Authority Mid-Coastside	Yes	No
Granada Community Services District	Metered	99	Sewer Authority Mid-Coastside	Sewer Authority Mid-Coastside	Yes	No
Total Wastewater Collected from Service Area in 2020:		393				

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

NOTES: Volumes are in MG.

Not all of the District's service area is connected to the wastewater collection system. There are a number of properties that continue to use septic systems.

SAM's wastewater service area is larger than the District's water service area. It is estimated that 80 percent of SAM's total wastewater service area is located within the District's water service area (City of Half Moon Bay and Granada Community Services District). Table 6-3 identifies the treated wastewater disposed of within the service area in 2020, which includes wastewater that originated outside of the District.

Table 6-3. Wastewater Treatment and Discharge Within Service Area in 2020 (DWR Table 6-3 Retail)

☐	**No wastewater is treated or disposed of within the UWMP service area.** The supplier will not complete the table below.										
Wastewater Treatment Plant Name	Discharge Location Name or Identifier	Discharge Location Description	Wastewater Discharge ID Number *(optional)* 2	Method of Disposal *Drop down list*	Does This Plant Treat Wastewater Generated Outside the Service Area? *Drop down list*	Treatment Level *Drop down list*	2020 volumes [1]				
							Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area [3]	Recycled Outside of Service Area	Instream Flow Permit Requirement
Sewer Authority Mid-Coastside	2,100 foot ocean outfall, Pacific Ocean at a depth of 45 feet	2,100 foot ocean outfall, Pacific Ocean at a depth of 45 feet	2417068001	Ocean outfall	Yes	Secondary, Disinfected - 2.2	494	494			
						Total	494	494	0	0	0

[1] **Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.
[2] If the **Wastewater Discharge ID Number** is not available to the UWMP preparer, access the SWRCB CIWQS regulated facility website at https://ciwqs.waterboards.ca.gov/ciwqs/readOnly/CiwqsReportServlet?inCommand=reset&reportName=RegulatedFacility

NOTES: Volumes are in MG.

6.5.3 Recycled Water System

In 2009, the District and SAM cooperated in a recycled water pilot under Regional Water Board Order No. 91-042. SAM used a temporary auxiliary treatment process that included an ultra-filtration membrane module and ultraviolet disinfection. The recycled water met the requirements of Disinfected Secondary 2.2 Recycled Water in California Code of Regulations Title 22 Division 4 Chapter 3. The District distributed the recycled water by a water tanker to the Ocean Colony Golf Courses and the District also provided a temporary recycled water storage tank on-site at the golf course.

In January 2015, the District approved the Guiding Principles for Recycled Water Agreement between the District, SAM, and MWSD, and established Phase 1 of the Recycled Water Project to consist of two components:

1. A recycled water treatment facility at the SAM plant, the capacity of which shall be designed, at a minimum, to serve recycled water to the Ocean Colony Partners (OCP) golf courses.
2. A recycled water transmission and distribution system for the District's service area including delivery to the OCP golf courses.

Since the Guiding Principles for Recycled Water Agreement between the District, SAM, and MWSD were approved in 2015, the District and SAM have been working on their respective roles in the Phase 1 project as defined by the Principles. In Phase 1, the District is responsible for distributing recycled water produced by SAM to OCP for use on the OCP golf courses, while SAM is responsible for designing and constructing recycled water treatment facilities to satisfy the water quality specified by the District. Currently, the OCP irrigation system serves 210 irrigated acres on the two OCP golf courses, and additional irrigation for Ritz Carlton Resort landscaping, a condominium complex adjacent to the Ocean Colony subdivision, greenbelt areas within the Ocean Colony subdivision, Miramontes Point Road landscaping and Spyglass subdivision park.

In December 2015, Kennedy/Jenks Consultants prepared the Phase 1 Recycled Water Project Water Quality and Quantity Evaluation Technical Memorandum, which provided water quality specifications and evaluated the facilities needed for recycled water distribution in Phase 1. These findings indicate that the treatment

process that SAM will need to employ to meet OCP's requirements will be microfiltration/reverse osmosis of secondary effluent followed by either ultraviolet or chlorination disinfection. This treatment process will meet the California Code of Regulations Title 22 for Tertiary Recycled Water for unrestricted use and will meet OCP's water quality requirements. Because operational storage is provided on the golf course site, this TM suggests that recycled water facilities at SAM be sized to meet peak day irrigation demands at OCP, or 0.8 MGD (292 MGY). In addition, treatment facilities on SAM site should provide flow equalization upstream of the tertiary treatment and disinfection facilities, so these facilities can be reliably operated 24 hours per day, at OCP's peak day demand.

OCP has requested that the treatment and disinfection facilities be sized to a peak day demand of 0.8 MGD (292 MGY). This is 40 percent higher than the 0.57 MGD demand for the average day of the peak irrigating month and significantly impacts project costs. Project stakeholders are still exploring an alternative operating scenario in which OCP uses recycled water to meet its peak month, average day demand conditions, and then uses groundwater wells as a backup supply to meet peak day demands.

The District and SAM Recycled Water Committee's next step in determining the feasibility of the proposed Phase 1 project is to prepare a detailed cost estimate for the facilities based on a 25 percent preliminary design. The District does not include recycled water in its supply projections in this plan.

6.5.4 Recycled Water Beneficial Uses

There has been strong community support and there have been multiple studies over the years by both SAM and the District on the feasibility of recycled water use. Discussions of recycled water, within the District's service area, have focused on:

- Turf irrigation (golf courses, cemeteries, parks)
- Agricultural irrigation (crops, nurseries, cut flowers, tree farms)
- Stream flow augmentation (Pilarcitos Creek)

OCP, one of the potential users of recycled water within the District's jurisdiction, has expressed interest in entering a long-term agreement with the District or SAM to purchase recycled water supplies for golf course and landscape irrigation purposes. Currently, groundwater, supplemented with water from the District, is being used to meet OCP's existing non-potable demands.

Another potential customer that could use recycled water for turf irrigation is a cemetery located approximately 5 miles east and 1,100 feet in elevation above the SAM WWTP. The cemetery currently irrigates approximately 80 acres of land and plans on eventually expanding throughout its 505-acre property. Water usage has averaged about 0.2 MGD over an 8-month irrigation period. The use of recycled water at the cemetery would eliminate high quality water that is currently provided by the District and used solely for turf irrigation. By using recycled water at the cemetery, the District would also be able to increase water availability and reliability during dry periods. The obstacles for providing water to this user are the cost of the infrastructure (5 miles of new pipeline) and the cost of pumping water from sea level to an elevation of 1,100 feet.

As shown in Table 6-4, the District does not include recycled water in its supply projections in this UWMP.

Table 6-4. Recycled Water Direct Beneficial Uses within Service Area (DWR Table 6-4 Retail)

☑	Recycled water is not used and is not planned for use within the service area of the supplier. The supplier will not complete the table below.
Name of Supplier Producing (Treating) the Recycled Water:	
Name of Supplier Operating the Recycled Water Distribution System:	
Supplemental Water Added in 2020 (volume) *Include units*	
Source of 2020 Supplemental Water	

Beneficial Use Type *Insert additional rows if needed.*	**Potential** Beneficial Uses of Recycled Water (Describe)	Amount of **Potential** Uses of Recycled Water (Quantity) *Include volume units* [1]	General Description of 2020 Uses	Level of Treatment *Drop down list*	2020 [1]	2025 [1]	2030 [1]	2035 [1]	2040 [1]	2045 [1] (opt)
Agricultural irrigation										
Landscape irrigation (exc golf courses)										
Golf course irrigation										
Commercial use										
Industrial use										
Geothermal and other energy production										
Seawater intrusion barrier										
Recreational impoundment										
Wetlands or wildlife habitat										
Groundwater recharge (IPR)										
Reservoir water augmentation (IPR)										
Direct potable reuse										
Other (Description Required)										
				Total:	0	0	0	0	0	0
				2020 Internal Reuse						

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

As shown in Table 6-5, recycled water was not projected for use in 2020 in the District's 2015 UWMP, and there was no use of recycled water in 2020.

Table 6-5. 2015 UWMP Recycled Water Use Projection Compared to 2020 Actual (DWR Table 6-5 Retail)

☑	Recycled water was not used in 2015 nor projected for use in 2020. The supplier will not complete the table below. If recycled water was not used in 2020, and was not predicted to be in 2015, then check the box and do not complete the table.

Beneficial Use Type	2015 Projection for 2020 [1]	2020 Actual Use [1]
Insert additional rows as needed.		
Agricultural irrigation		
Landscape irrigation (exc golf courses)		
Golf course irrigation		
Commercial use		
Industrial use		
Geothermal and other energy production		
Seawater intrusion barrier		
Recreational impoundment		
Wetlands or wildlife habitat		
Groundwater recharge (IPR)		
Reservoir water augmentation (IPR)		
Direct potable reuse		
Other (Description Required)		
Total	0	0

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

NOTE:

6.5.5 Actions to Encourage and Optimize Future Recycled Water Use

In June 2015, Governor Jerry Brown passed Senate Bill 88 which exempts recycled water projects from the development and approval of building standards established in CEQA. In order to be exempt, the projects cannot affect wetlands or sensitive habitats and need to mitigate drought conditions. Because water recycling at the SAM WWTP will require a new pipeline across Pilarcitos Creek, a sensitive habitat, the SAM Recycled Water Project does not qualify for exemption from CEQA. However, Proposition 1, passed in November 2014, has encouraged the development of recycled water facilities by granting the state of California $7.5 billion to appropriate to water quality, supply, and infrastructure improvement programs.

The primary entities of the Recycled Water Project are SAM as the recycled water provider, the District as the recycled water delivery agent, and OCP as the first, and currently only, customer for recycled water. However, there may be additional recycled water customers in the future. Because users pay for public utilities, the primary cost of the first phase of recycling is the main responsibility of its first user, OCP. This means that those costs must be affordable and within OCP's budget limitations.

Currently, the District does not offer recycled water to its customers. The primary obstacle the District faces in providing recycled water in its jurisdiction is the fact that the local wastewater authority is currently not producing recycled water and, therefore, not making recycled water available to the District to sell and distribute, and the high cost of required infrastructure to distribute recycled water.

As shown in Table 6-6, the District does not include recycled water in its supply projections in this UWMP.

Table 6-6. Methods to Expand Future Recycled Water Use (DWR Table 6-6 Retail)

☑	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 UWMP		
Name of Action	Description	Planned Implementation Year	Expected Increase in Recycled Water Use *
Add additional rows as needed			
		Total	0
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*			
NOTES:			

6.6 DESALINATED WATER OPPORTUNITIES

Desalination is a process that removes dissolved minerals from seawater, brackish water or treated wastewater. Desalination would improve water quality and water supply reliability and may be considered a long-term option for the District, particularly if the opportunity arises to develop this resource on a regional basis. Technological advancements that reduce the energy intensity of this water supply option may make desalination more cost-effective in the future.

The Bay Area Brackish Water Desalination (Regional Desalination) Project is a partnership between the Contra Costa Water District, the SFPUC, Valley Water, and Zone 7 Water Agency. East Bay Municipal Utility District (EBMUD) and Alameda County Water District (ACWD) may also participate in the project. The project could provide a new drinking water supply to the region by treating brackish water from Contra Costa Water District's existing Mallard Slough intake in Contra Costa County. While this project has independent utility as a water supply project, for the current planning effort the SFPUC is considering it as a source of supply for storage in the Los Vaqueros Reservoir Expansion. While the allocations remain to be determined among partners, the SFPUC is considering a water supply benefit of between 5 and 15 MGD during drought conditions when combined with storage at the Los Vaqueros Reservoir Expansion.

6.7 EXCHANGES OR TRANSFERS

The District has had a direct supply from SFPUC's Hetch Hetchy system since the completion of the Crystal Springs Project in 1994. This ended the District's exclusive dependence on only local supplies. No additional water exchanges with other agencies are anticipated.

6.8 FUTURE WATER PROJECTS

The District has evaluated several projects for providing additional water supplies and will continue to evaluate alternative sources with the goal of having a resilient water supply. The two future planned local water supply projects include:

- San Vicente Creek Water Supply Project
- Pilarcitos Creek Well Field Improvements

These potential future water supply projects are summarized in Table 6-7 and described below.

Table 6-7. Expected Future Water Supply Projects or Programs - Potable (DWR Table 6-7 Retail)

☐	No expected future water supply projects or programs that provide a quantifiable increase to the agency's water supply. Supplier will not complete the table below.
☐	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.
	Provide page location of narrative in the UWMP

Name of Future Projects or Programs	Joint Project with other suppliers?		Description (if needed)	Planned Implementation Year	Planned for Use in Year Type *Drop Down List*	Expected Increase in Water Supply to Supplier* *This may be a range*
	Drop Down List (y/n)	*If Yes, Supplier Name*				
Add additional rows as needed						
San Vicente Creek Water Supply Project	No			2026	Average Year	50 to 100 MGY
Pilarcitos Creek Well Field Improvements	No			2023	Average Year	30 to 40 MGY
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*						
NOTES: Volumes are in MG.						

6.8.1 San Vicente Creek Water Supply Project

In January 2020, the District received approval from the SWRCB for an extension of time for Water Right Permit 15882 (Application 22860). Approval allows the District to complete installation of a permanent diversion structure, the construction of a pipeline from San Vicente Creek to the existing Denniston Reservoir pump station, and infrastructure improvements to facilitate full beneficial use of authorized diversions from San Vicente Creek and lessen dependence on imported water from the SFPUC. The current water right allows up to 2 CFS each from San Vicente Creek and Denniston Creek when water is available. It is estimated that 50 to 100 MGY (150 to 300 AFY) may be available for diversion from San Vicente Creek if the required facilities are constructed. The project is scheduled to be fully completed by 2026.

6.8.2 Pilarcitos Creek Well Field Improvements

As described in Section 6.3, the District's license for use of the Pilarcitos Creek infiltration well field allows a maximum annual withdrawal of 117 MGY. During the 1970's and early 1980's, annual production from the wells during non-drought years was always above 60 MG, often above 80 MG, and sometimes over 100 MG. Since 2001, production has often dropped below 40 MGY. It is estimated that annual production from this source could be increased by 30 to 40 MGY (92 to 122 AFY) by implementing a program to construct new wells to replace poorly producing wells and replace old inefficient pumps. The District

performed well rehabilitations in 2016 and 2018 and saw some increases in production in non-drought years. The District has future well rehabilitation budgeted in its Capital Improvement Program for 2023.

6.9 SUMMARY OF EXISTING AND PLANNED SOURCES OF WATER

In years of normal precipitation, the District estimates that all four of its potable supply sources will have an average yield of about 1,000 MGY. This assumes the following yields for each supply source:

- Up to 511 MGY from the SFPUC (Pilarcitos Reservoir and Upper Crystal Springs Reservoir) based on projected purchases by the District
- 200 MGY from the District's Denniston surface water
- 10 MGY from the District's Denniston groundwater
- 46 MGY from the District's Pilarcitos Creek

Table 6-8 summarizes the District's actual 2020 water supplies. Table 6-9 summarizes the District's future projected water supplies.

Table 6-8. Water Supplies - Actual (DWR Table 6-8 Retail)

Water Supply		2020		
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	Actual Volume*	Water Quality Drop Down List	Total Right or Safe Yield* (optional)
Add additional rows as needed				
Purchased or Imported Water	SFPUC	371.5	Drinking Water	
Groundwater (not desalinated)	Denniston Wells	9.2	Drinking Water	
Surface water (not desalinated)	Denniston Creek	223.6	Drinking Water	
Surface water (not desalinated)	Pilarcitos Creek	62.3	Drinking Water	
	Total	667		0
Units of measure (AF, CCF, MG) *must remain consistent throughout the UWMP as reported in Table 2-3.*				
NOTES: Volumes are in MG.				

Table 6-9. Water Supplies - Projected (DWR Table 6-9 Retail)

Water Supply	Additional Detail on Water Supply	Projected Water Supply * Report To the Extent Practicable									
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		2025		2030		2035		2040		2045 (opt)	
		Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)
Add additional rows as needed											
Purchased or Imported Water	SFPUC	511		504		496		485		485	
Groundwater (not desalinated)	Denniston Wells	10		10		10		10		10	
Surface water (not desalinated)	Denniston Creek	200		200		200		200		200	
Surface water (not desalinated)	Pilarcitos Creek	46		46		46		46		46	
Total		767	0	760	0	752	0	741	0	741	0
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*											

NOTES: Volumes are in MG.
SFPUC supply is based on projected purchases by Coastside County Water District.

6.10 CLIMATE CHANGE IMPACTS TO SUPPLY

The issue of climate change has become an important factor in water resources planning in the State, and is frequently considered in urban water management planning purposes, though the extent and precise effects of climate change remain uncertain. As described by SFPUC in its 2009 Final Water Supply Availability Study for the City and County of San Francisco, there is convincing evidence that increasing concentrations of greenhouse gasses have caused and will continue to cause a rise in temperatures around the world, which will result in a wide range of changes in climate patterns. Moreover, there is evidence that a warming trend that occurred during the latter part of the 20th century will likely continue through the 21st Century. These changes will have a direct effect on water resources in California, and numerous studies have been conducted to determine the potential impacts to water resources.

Based on these studies, climate change could result in the following types of water resource impacts, including impacts on the watersheds in the Bay Area (and those providing the District's local water supplies):

- Reductions in the average annual snowpack due to a rise in the snowline and a shallower snowpack in the low and medium elevation zones, such as in the Tuolumne River basin, and a shift in snowmelt runoff to earlier in the year
- Changes in the timing, intensity and variability of precipitation, and an increased amount of precipitation falling as rain instead of as snow
- Long-term changes in watershed vegetation and increased incidence of wildfires that could affect water quality and quantity
- Sea level rise and an increase in saltwater intrusion
- Increased water temperatures with accompanying potential adverse effects on some fisheries and water quality
- Increases in evaporation and concomitant increased irrigation need
- Changes in urban and agricultural water demand

Both SFPUC and BAWSCA participated in the 2013 update of the Bay Area Integrated Regional Water Management Plan (BAIRWMP), which includes an assessment of the potential climate change vulnerabilities

of the region's water resources and identifies climate change adaptation strategies. In addition, SFPUC continues to study the effect of climate change on the RWS. These works are summarized below.

6.10.1 Bay Area Integrated Regional Water Management Plan

Climate change adaptation was established as an overarching theme for the 2013 BAIRWMP update. As stated in the BAIRWMP, identification of watershed characteristics that could potentially be vulnerable to future climate change is the first step in assessing vulnerabilities of water resources in the Bay Area Region. Vulnerability is defined as the degree to which a system is exposed to, susceptible to, and able to cope with or adjust to, the adverse effects of climate change. A vulnerability assessment was conducted in accordance with the DWR's *Climate Change Handbook for Regional Water Planning* and using the most current science available for the Region. The vulnerability assessment, summarized in Table 6-10, provides the main water planning categories applicable to the Region and a general overview of the qualitative assessment of each category with respect to anticipated climate change impacts.

Table 6-10. Summary of BAIRWMP Climate Change Vulnerability Assessment

Vulnerability Areas	General Overview of Vulnerabilities
Water Demand	**Urban and Agricultural Water Demand** – Changes to hydrology in the Region as a result of climate change could lead to changes in total water demand and use patterns. Increased irrigation (outdoor landscape or agricultural) is anticipated to occur with temperature rise, increased evaporative losses due to warmer temperature, and a longer growing season. Water treatment and distribution systems are most vulnerable to increases in maximum day demand.
Water Supply	**Imported Water** – Imported water derived from the Sierra Nevada sources and Delta diversions provide 66 percent of the water resources available to the Region. Potential impacts on the availability of these sources resulting from climate change directly affect the amount of imported water supply delivered to the Region. **Regional Surface Water** – Although future projections suggest that small changes in total annual precipitation over the Region will not change much, there may be changes to when precipitation occurs with reductions in the spring and more intense rainfall in the winter. **Regional Groundwater** – Changes in local hydrology could affect natural recharge to the local groundwater aquifers and the quantity of groundwater that could be pumped sustainably over the long-term in some areas. Decreased inflow from more flashy or more intense runoff, increased evaporative losses and warmer and shorter winter seasons can alter natural recharge of groundwater. Salinity intrusion into coastal groundwater aquifers due to sea-level rise could interfere with local groundwater uses. Furthermore, additional reductions in imported water supplies would lead to less imported water available for managed recharge of local groundwater basins and potentially more groundwater pumping in lieu of imported water availability.

Table 6-10. Summary of BAIRWMP Climate Change Vulnerability Assessment

Vulnerability Areas	General Overview of Vulnerabilities
Water Quality	**Imported Water** – For sources derived from the Delta, sea-level rise could result in increases in chloride and bromide (a disinfection by-product (DBP) precursor that is also a component of sea water), potentially requiring changes in treatment for drinking water. Increased temperature could result in an increase in algal blooms, taste and odor events, and a general increase in DBP formation **Regional Surface Water** – Increased temperature could result in lower dissolved oxygen in streams and prolong thermocline stratification in lakes and reservoirs forming anoxic bottom conditions and algal blooms. Decrease in annual precipitation could result in higher concentrations of contaminants in streams during droughts or in association with flushing rain events. Increased wildfire risk and flashier or more intense storms could increase turbidity loads for water treatment. **Regional Groundwater** – Sea-level rise could result in increases in chlorides and bromide for some coastal groundwater basins in the Region. Water quality changes in imported water used for recharge could also impact groundwater quality.
Sea-Level Rise	Sea-level rise is additive to tidal range, storm surges, stream flows, and wind waves, which together will increase the potential for higher total water levels, overtopping, and erosion. Much of the bay shoreline is comprised of low-lying diked baylands which are already vulnerable to flooding. In addition to rising mean sea level, continued subsidence due to tectonic activity will increase the rate of relative sea-level rise. As sea-level rise increases, both the frequency and consequences of coastal storm events, and the cost of damage to the built and natural environment, will increase. Existing coastal armoring (including levees, breakwaters, and other structures) is likely to be insufficient to protect against projected sea-level rise. Crest elevations of structures will have to be raised or structures relocated to reduce hazards from higher total water levels and larger waves.
Flooding	Climate change projections are not sensitive enough to assess localized flooding, but the general expectation is that more intense storms would occur thereby leading to more frequent, longer and deeper flooding. Changes to precipitation regimes may increase flooding. Elevated Bay elevations due to sea-level rise will increase backwater effects exacerbating the effect of fluvial floods and storm drain backwater flooding.
Ecosystem and Habitat	Changes in the seasonal patterns of temperature, precipitation, and fire due to climate change can dramatically alter ecosystems that provide habitats for California's native species. These impacts can result in species loss, increased invasive species ranges, loss of ecosystem functions, and changes in vegetation growing ranges. Reduced rain and changes in the seasonal distribution of rainfall may alter timing of low flows in streams and rivers, which in turn would have consequences for aquatic ecosystems. Changes in rainfall patterns and air temperature may affect water temperatures, potentially affecting coldwater aquatic species. Bay Area ecosystems and habitat provide important ecosystem services, such as: carbon storage, enhanced water supply and quality, flood protection, food and fiber production. Climate change is expected to substantially change several of these services. The region provides substantial aquatic and habitat-related recreational opportunities, including: fishing, wildlife viewing, and wine industry tourism (a significant asset to the region) that may be at risk due to climate change effects.

Table 6-10. Summary of BAIRWMP Climate Change Vulnerability Assessment	
Vulnerability Areas	General Overview of Vulnerabilities
Hydropower	Currently, several agencies in the Region produce or rely on hydropower produced outside of the Region for a portion of their power needs. As the hydropower is produced in the Sierra, there may be changes in the future in the timing and amount of energy produced due to changes in the timing and amount of runoff as a result of climate change. Some hydropower is also produced within the region and could also be affected by changes in the timing and amount of runoff.
Source: 2019 Bay Area Integrated Regional Water Management Plan (BAIRWMP), Table 16-3.	

6.10.2 SFPUC Climate Change Studies

SFPUC's assessment of the effects of climate change is an ongoing project requiring regular updating to reflect improvements in climate science, atmospheric/ocean modeling, and human response to the threat of greenhouse gas emissions. Climate change research by the SFPUC began in 2009 and continues to be refined. In its 2012 report "Sensitivity of Upper Tuolumne River Flow to Climate Change Scenarios," the SFPUC assessed the sensitivity of runoff into Hetch Hetchy Reservoir to a range of changes in temperature and precipitation due to climate change. Key conclusions from the report include the following:

- With differing increases in temperature alone, the median annual runoff at Hetch Hetchy would decrease by 0.7 to 2.1 percent from present-day conditions by 2040 and by 2.6 to 10.2 percent from present-day by 2100. Adding differing decreases in precipitation on top of temperature increases, the median annual runoff at Hetch Hetchy would decrease by 7.6 to 8.6 percent from present-day conditions by 2040 and by 24.7 to 29.4 percent from present-day conditions by 2100.
- In critically dry years, these reductions in annual runoff at Hetch Hetchy would be significantly greater, with runoff decreasing up to 46.5 percent from present day conditions by 2100 utilizing the same climate change scenarios.
- In addition to the total change in runoff, there will be a shift in the annual distribution of runoff. Winter and early spring runoff would increase and late spring and summer runoff would decrease.
- Under all scenarios, snow accumulation would be reduced and snow would melt earlier in the spring, with significant reductions in maximum peak snow water equivalent under most scenarios.

Currently, the SFPUC is conducting a comprehensive assessment of the potential effects of climate change on water supply using a wide range of plausible increases in temperature and changes in precipitation to address the wide uncertainty in climate projections over the planning horizon 2020 to 2070. There are many uncertain factors such as climate change, changing regulations, water quality, growth and economic cycles that may create vulnerabilities for the RWS' s ability to meet levels of service. The uncertainties associated with the degree to which these factors will occur and how much risk they present to the water system is difficult to predict, but nonetheless they need to be considered in SFPUC planning. To address this planning challenge, the project uses a vulnerability-based planning approach to explore a range of

future conditions to identify vulnerabilities, assess the risks associated with these vulnerabilities, and develop an adaptation plan that is flexible and robust to a wide range of future outcomes.

6.11 ENERGY INTENSITY

In accordance with CWC §10631.2(a), the energy intensity to provide water service to the District's customers over a one year period is presented in this section to the extent that the information is available. The amount of energy to receive, treat, pump, and deliver the District's water supply within the system it owns and operates is included. Since the District is responsible for pumping purchased SFPUC water from the Crystal Springs Reservoir, the energy required for that process is included as well.

Water energy intensity is the total amount of energy, calculated on a whole-system basis, used to deliver water to the District's customers for use. Energy intensity is the total amount of energy in kilowatt hours (kWh) expended on a per million gallon basis to take water from the District's source to its point of delivery. Understanding the whole-system energy intensity would allow the District to make informed strategies in managing its water supplies and operating its system as follows:

- Identifying energy saving opportunities as energy consumption is often a large portion of the cost of delivering water
- Calculating energy savings and GHG emissions reductions associated with water conservation programs
- Potential opportunities for receiving energy efficiency funding for water conservation programs
- Informing climate change mitigation strategies
- Benchmarking of energy use at each water acquisition and delivery step and the ability to compare energy use among similar agencies

In Table 6-11 below, the energy intensity of the District's water service is calculated for FY 2019/20. The total energy intensity for the District's water service is 4,121 kWh/MG.

Table 6-11. Recommended Energy Reporting – Total Utility Approach (DWR Table O-1B)

Table O-1B: Recommended Energy Reporting - Total Utility Approach				
Enter Start Date for Reporting Period	7/1/2019	Urban Water Supplier Operational Control		
End Date	6/30/2020			
☐ Is upstream embedded in the values reported?		Sum of All Water Management Processes	Non-Consequential Hydropower	
Water Volume Units Used	*MG*	Total Utility	Hydropower	Net Utility
Volume of Water Entering Process (volume unit)		*666.59*	*0*	*666.59*
Energy Consumed (kWh)		*2747128*	*0*	*2747128*
Energy Intensity (kWh/volume)		*4121.2*	*0.0*	*4121.2*

Quantity of Self-Generated Renewable Energy

0 kWh

Data Quality *(Estimate, Metered Data, Combination of Estimates and Metered Data)*

Metered Data

Data Quality Narrative:

Energy consumption is based on the District's PG&E bills for its water system facilities for the FY 2019/20.

Narrative:

The District's water system includes two water treatment plants, five infiltration wells, eight groundwater wells, ten treated water storage tanks, and treated water pump stations. The system is operated to treat, store, pump and deliver water supplies to its customers to meet system demands.

CHAPTER 7
Water Service Reliability and Drought Risk Assessment

This chapter describes the District's water service reliability under various hydrologic conditions, including a severe drought for the next five years. Responses to actual water shortage conditions are addressed in Chapter 8. The anticipated reliability of the District's water supplies from the SFPUC is based on information provided by the BAWSCA and the SFPUC (provided in Appendix H of this plan).

7.1 CONSTRAINTS ON WATER SOURCES

As described in Chapter 6, the amount of water supplies available to the District is constrained by numerous factors. The amount of imported water available to SFPUC's retail and wholesale customers, including the District, is constrained by hydrology, climate conditions, physical facilities, and the institutional parameters that allocate the water supply of the Tuolumne River. The amount of the District's local supplies is constrained by hydrology, climate conditions, water rights permits and the capacity of the District's physical facilities. This chapter describes the reliability of the District's supplies in normal years, single dry years and multiple dry years.

A new constraint on the RWS supplies, as of 2023, is the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta Plan Amendment). The implementation of the Bay-Delta Plan Amendment comes with uncertainty due to pending lawsuits and efforts to have the SWRCB adopt the Tuolumne River Voluntary Agreement, as part of a Global Voluntary Agreement package. As presented by SFPUC and BAWSCA, the impacts of the Bay-Delta Plan Amendment will be significant (more than 50 percent cut back possible) in multiple drought years for wholesale customers of the RWS.

As the District finds a need to expand its water supply and capability in the future, finding new water sources that have satisfactory water quality and reliability will be important criteria for selection. All of the District's water sources receive full treatment in accordance with applicable Federal and State standards. Each year the District reports water quality test results to its customers through the Consumer Confidence Report, also known as the Annual Water Quality Report. The report includes results of treated water tests from the Nunes WTP, the Denniston WTP and the District's distribution system. At this time, the District does not anticipate any changes in supply availability as a result of water quality.

Climate change could constrain the District's long-term sustainability of water supplies by increasing variability in floods and droughts. Over the past several decades, the California water community as a whole has focused their attention on determining the effects of climate change, but there is no clear scientific consensus on exactly how climate change will quantitatively affect the State's water supplies. Therefore, being prepared for a wet water year, a critical water year, or somewhere in between, will give the District a better sense of the degree to which they may need to conserve or expand existing water supplies.

7.2 WATER SERVICE RELIABILITY ASSESSMENT

This section presents the constraints on the District's existing and planned water sources and describes the historical basis for projecting available supplies in various hydrologic conditions (i.e., normal year, single dry year, and five consecutive dry years). The District's water service reliability is then presented in five-year increments through 2045 based on earlier analysis of water use (discussed in Chapter 4) and supply (Chapter 6). Finally, this section discusses the District's water management tools and options to promote regional supply reliability and minimize the need to import water from other regions.

7.2.1 Reliability of SFPUC Supplies

As stated in Chapter 6, approximately 61 percent of the District's water supply was purchased from the SFPUC from FY 2015/16 through FY 2019/20. The reliability of SFPUC's water supplies and the management strategies for addressing these reliabilities are discussed below based on information provided by SFPUC and BAWSCA (provided in Appendix H of this plan).

7.2.1.1 SFPUC Regional Water System Level of Service Goals and Objectives

In 2008, the SFPUC adopted Level of Service (LOS) Goals and Objectives in conjunction with the adoption of a Water System Improvement Program (WSIP). The SFPUC updated the LOS Goals and Objectives in February 2020.

The SFPUC LOS Goal for water supply is "to meet customer water needs in non-drought and drought periods."

The SFPUC LOS objectives related to water supply are as follows:

- Meet all state and federal regulations to support the proper operation of the water system and related power facilities.
- Meet average annual water demand of 265 MGD from the SFPUC watersheds for retail and Wholesale Customers during non–drought years for system demands consistent with the 2009 Water Supply Agreement.
- Meet dry-year delivery needs while limiting rationing to a maximum 20 percent system-wide reduction in water service during extended droughts.
- Diversify water supply options during non-drought and drought periods.
- Improve use of new water sources and drought management, including groundwater, recycled water, conservation, and transfers.

7.2.1.2 Adoption of the 2018 Bay-Delta Plan Amendment

7.2.1.2.1 Background

In December 2018, the State Water Resources Control Board (SWRCB) adopted amendments to the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta Plan Amendment) to establish water quality objectives to maintain the health of the Bay-Delta ecosystem. The SWRCB is required by law to regularly review this plan. The adopted Bay-Delta Plan Amendment was developed with the stated goal of increasing salmonid populations in three San Joaquin River tributaries (the Stanislaus, Merced, and Tuolumne Rivers) and the Bay-Delta. The Bay-Delta Plan Amendment requires the release of 30 to 50 percent of the "unimpaired flow"[7] on the three tributaries from February through June in every year type. In SFPUC modeling of the new flow standard, it is assumed that the required release is 40 percent of unimpaired flow. The SWRCB has stated that it intends to implement the

[7] "Unimpaired flow represents the natural water production of a river basin, unaltered by upstream diversions, storage, or by export or import of water to or from other watersheds." (Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Dec. 12, 2018) p.17, fn. 14, available at https://www.waterboards.ca.gov/plans_policies/docs/2018wqcp.pdf.)

Bay-Delta Plan Amendment on the Tuolumne River by the year 2022, assuming all required approvals are obtained by that time.

There is much uncertainty surrounding implementation of the Bay-Delta Plan Amendment. Since adoption of the Bay-Delta Plan Amendment, over a dozen lawsuits have been filed in both state and federal courts, challenging the SWRCB's adoption of the Bay-Delta Plan Amendment, including a legal challenge filed by the federal government, at the request of the U.S. Department of Interior, Bureau of Reclamation. This litigation is in the early stages and there have been no dispositive court rulings as of this date.

The Bay-Delta Plan Amendment is not self-implementing and does not automatically allocate responsibility for meeting its new flow requirements to the SFPUC or any other water rights holders. Rather, the Bay-Delta Plan Amendment merely provides a regulatory framework for flow allocation, which must be accomplished by other regulatory and/or adjudicatory proceedings, such as a comprehensive water rights adjudication or, in the case of the Tuolumne River, may be implemented through the water quality certification process set forth in Section 401 of the Clean Water Act as part of the Federal Energy Regulatory Commission's licensing proceedings for the Don Pedro and La Grange hydroelectric projects. It is currently unclear when the license amendment process is expected to be completed. This process and the other regulatory and/or adjudicatory proceedings would likely face legal challenges and have lengthy timelines, and quite possibly could result in a different assignment of flow responsibility (and therefore a different water supply impact on the SFPUC).

In recognition of the obstacles to implementation of the Bay-Delta Plan Amendment, the SWRCB Resolution No. 2018-0059 adopting the Bay-Delta Plan Amendment directed staff to help complete a "Delta watershed-wide agreement, including potential flow measures for the Tuolumne River" by March 1, 2019, and to incorporate such agreements as an "alternative" for a future amendment to the Bay-Delta Plan to be presented to the SWRCB "as early as possible after December 1, 2019." In accordance with the SWRCB's instruction, on March 1, 2019, SFPUC, in partnership with other key stakeholders, submitted a proposed project description for the Tuolumne River that could be the basis for a voluntary substitute agreement with the SWRCB ("March 1st Proposed Voluntary Agreement"). On March 26, 2019, the SFPUC adopted Resolution No. 19-0057 to support the SFPUC's participation in the Voluntary Agreement negotiation process. To date, those negotiations are ongoing under the California Natural Resources Agency and the leadership of the Newsom administration.[8]

7.2.1.2.2 Impacts of the Bay-Delta Plan Amendment on SFPUC Regional Water System Supplies

The adoption of the Bay-Delta Plan Amendment may significantly impact the supply available from the RWS. The SFPUC recognizes that the Bay-Delta Plan Amendment has been adopted and that, given that it is now State law, it must be assumed that it will be fully implemented. The SFPUC also acknowledges that the plan is not self-implementing and therefore does not automatically go into effect. As noted above, the SFPUC is currently pursuing an alternative voluntary agreement as well as a lawsuit which would limit implementation of the Plan. With both of these processes occurring on an unknown timeline, the SFPUC does not know at this time when the Bay-Delta Plan Amendment is likely to go into effect. As a result, it makes sense to conduct future supply modeling for a scenario that does not include implementation of the Bay-Delta Plan Amendment, as that represents a potential supply reliability scenario.

[8] California Natural Resources Agency, "Voluntary Agreements to Improve Habitat and Flow in the Delta and its Watersheds," available at https://files.resources.ca.gov/voluntary-agreements/.

Because of the uncertainty surrounding implementation of the Bay-Delta Plan Amendment, the SFPUC conducted a water service reliability assessment that included: (1) a scenario in which the Bay-Delta Plan Amendment is fully implemented in 2023, and (2) a scenario that considers the SFPUC system's current situation without the Bay-Delta Plan Amendment. The two scenarios provide a bookend for the possible future scenarios regarding RWS supplies. However, SFPUC has indicated that it intends to present the scenario with the Bay-Delta Plan Amendment as the primary scenario in its 2020 UWMP.

Although the SWRCB has stated it intends to implement the Bay-Delta Plan Amendment on the Tuolumne River by the year 2022, given the current level of uncertainty, it is assumed for the purposes of the SFPUC's 2020 UWMP that the Bay-Delta Plan Amendment will be fully implemented starting in 2023.

7.2.1.2.3 District Response to the Bay-Delta Plan Amendment

The District, in coordination with SFPUC, BAWSCA and other BAWSCA member agencies, has communicated their concerns regarding the potential impacts of the Bay-Delta Plan Amendment on available water supplies for the District.

In February 2017, the District submitted comments to the SWRCB on the Recirculated Draft Substitute Environmental Document for the proposed amendments to the Bay-Delta Water Quality Control Plan and requested that adequate time be provided for the development of a voluntary agreement prior to adoption of the Bay-Delta Plan Amendment.

In June 2017, the District Board of Directors approved a resolution in support of the Association of California Water Agencies' Policy Statement of Bay-Delta Flow Requirements that emphasizes a collaborative, negotiated approach to solving the Bay-Delta's problems as an alternative to the SWRCB's imposition of unimpaired flow requirements.

In October 2018, the District urged the San Francisco Board of Supervisors to delay action on the proposed resolution that advocated support of the SWRCB's proposed Bay-Delta Plan Amendments to allow for the potential success of voluntary settlement negotiations.

The District recognizes that the Bay-Delta Plan Amendment is State law and that full implementation of the Bay-Delta Plan Amendment will impact the District's imported water supplies from the Tuolumne River watershed in single year and multi-year droughts. The District supports improved environmental stewardship of the Bay-Delta and the SFPUC's efforts to implement an alternative voluntary agreement for the Tuolumne River to achieve the goals of improving aquatic habitat and rescuing aquatic species from further decline.

Information on the District's and BAWSCA's involvement and communications on the Bay-Delta Plan Amendment are provided in Appendix I.

7.2.1.3 SFPUC Dry Year Supply Projects

The SFPUC historically has met demand in its service area in all year types from its watersheds, which consist of:

- Tuolumne River watershed
- Alameda Creek watershed
- San Mateo County watersheds

In general, 85 percent of the supply comes from the Tuolumne River through Hetch Hetchy Reservoir and the remaining 15 percent comes from the local watersheds through the San Antonio, Calaveras, Crystal Springs, Pilarcitos and San Andreas Reservoirs. The adopted WSIP retains this mix of water supply for all year types.

The WSIP authorized the SFPUC to undertake a number of water supply projects to meet dry-year demands with no greater than 20 percent system-wide rationing in any one year. Those projects include the following:

- **Calaveras Dam Replacement Project**: Calaveras Dam is located near a seismically active fault zone and was determined to be seismically vulnerable. To address this vulnerability, the SFPUC constructed a new dam of equal height downstream of the existing dam. Construction on the project occurred between 2011 and July 2019. The SFPUC began impounding water behind the new dam in accordance with California Division of Safety of Dams (DSOD) guidance in the winter of 2018/2019. As of spring 2020, the Calaveras Reservoir was partially refilled to a level of 63,900 AF. For 2025 supply projections and beyond, the Calaveras Reservoir will be fully refilled.
- **Alameda Creek Recapture Project:** As a part of the regulatory requirements for future operations of Calaveras Reservoir, the SFPUC must implement bypass and instream flow schedules for Alameda Creek. The Alameda Creek Recapture Project will recapture a portion of the water system yield lost due to the instream flow releases at Calaveras Reservoir or bypassed around the Alameda Creek Diversion Dam and return this yield to the RWS through facilities in the Sunol Valley. Water that naturally infiltrates from Alameda Creek will be recaptured into an existing quarry pond known as Surface Mining Permit-24 Pond F2. The project will be designed to allow the recaptured water to be pumped to the Sunol Valley Water Treatment Plant or to San Antonio Reservoir. Construction of this project will occur from spring 2021 to fall 2022, and is assumed to be completed for 2025 supply projections and beyond.
- **Lower Crystal Springs Dam Improvements:** The Lower Crystal Springs Dam Improvements were substantially completed in November 2011. The joint San Mateo County/SFPUC Bridge Replacement Project to replace the bridge across the dam was completed in January 2019. A WSIP follow up project to modify the Lower Crystal Springs Dam Stilling Basin for fish habitat and upgrade the fish water release and other valves started in April 2019. While the main improvements to the dam have been completed, environmental permitting issues for reservoir operation remain significant. While the reservoir elevation was lowered due to DSOD restrictions, the habitat for the Fountain Thistle, an endangered plant, followed the lowered reservoir elevation. Raising the reservoir elevation now requires that new plant populations be restored incrementally before the reservoir elevation is raised. The result is that it may be several years before pre-project water storage volumes can be restored.
- **Regional Groundwater Storage and Recovery Project:** The Groundwater Storage and Recovery (GSR) Project is a strategic partnership between SFPUC and three San Mateo County agencies – the California Water Service Company (serving South San Francisco and Colma), the City of Daly City, and the City of San Bruno – to conjunctively operate the south Westside Groundwater Basin. The project sustainably manages groundwater and surface water resources in a way that provides supplies during times of drought. During years of normal or heavy rainfall, the project would provide additional surface water to the partner agencies in San Mateo County in lieu of groundwater pumping. Over time, reduced pumping

creates water storage through natural recharge of up to 20 billion gallons of new water supply available during dry years.

The project's Final Environmental Impact Report was certified in August 2014, and the project also received Commission approval that month. Phase 1 of this project consists of construction of thirteen well sites and is over 99 percent complete. Phase 2 of this project consists of completing construction of the well station at the South San Francisco Main site and some carryover work that has not been completed from Phase 1. Phase 2 design work began in December 2019.

- **2 mgd Dry-year Water Transfer:** In 2012, the dry-year transfer was proposed between the Modesto Irrigation District (MID) and the SFPUC. Negotiations were terminated because an agreement could not be reached. Subsequently, the SFPUC had discussions with the Oakdale Irrigation District for a one-year transfer agreement with the SFPUC for 2 MGD (2,240 AF). No progress towards agreement on a transfer was made in 2019, but the irrigation districts recognize SFPUC's continued interest and SFPUC will continue to pursue transfers.

In order to achieve its target of meeting at least 80 percent of its customer demand during droughts with a system demand of 265 MGD, the SFPUC must successfully implement the dry-year water supply projects included in the WSIP.

Furthermore, the permitting obligations for the Calaveras Dam Replacement Project and the Lower Crystal Springs Dam Improvements include a combined commitment of 12.8 MGD for instream flows on average. When this is reduced for an assumed Alameda Creek Recapture Project recovery of 9.3 MGD, the net loss of water supply is 3.5 MGD.

7.2.1.4 SFPUC Alternative Water Supply Planning Program

The SFPUC has initiated, and is increasing and accelerating its efforts, to implement an Alternative Water Supply Planning Program to ensure that San Francisco can meet its Retail and Wholesale Customer water needs, address projected dry years shortages, and limit rationing to a maximum 20 percent system-wide in accordance with adopted SFPUC policies. This program is in its early planning stages and is intended to meet future water supply challenges and vulnerabilities such as environmental flow needs and other regulatory changes; earthquakes, disasters, and emergencies; increases in population and employment; and climate change. As the region faces future challenges – both known and unknown – the SFPUC is considering this suite of diverse non-traditional supplies and leveraging regional partnerships to meet Retail and Wholesale Customer needs through 2045.

The drivers for the program include:

- The adoption of the Bay-Delta Plan Amendment and the resulting potential limitations to RWS supply during dry years,
- The net supply shortfall following the implementation of WSIP
- San Francisco's perpetual obligation to supply 184 MGD to the Wholesale Customers
- Adopted Level of Service Goals to limit rationing to no more than 20 percent system-wide during droughts
- The potential need to identify water supplies that would be required to offer permanent status to interruptible customers.

Developing additional supplies through this program would reduce water supply shortfalls and reduce rationing associated with such shortfalls. The planning priorities guiding the framework of the Alternative Water Supply Planning Program are as follows:

- Offset instream flow needs and meet regulatory requirements
- Meet existing obligations to existing permanent customers
- Make interruptible customers permanent
- Meet increased demands of existing and interruptible customers

In conjunction with these planning priorities, the SFPUC considers how the program fits within the LOS Goals and Objectives related to water supply and sustainability when considering new water supply opportunities. The key LOS Goals and Objectives relevant to this effort can be summarized as:

- Meet dry-year delivery needs while limiting rationing to a maximum of 20 percent system-wide reduction in water service during extended droughts
- Diversify water supply options during non-drought and drought periods
- Improve use of new water sources and drought management, including groundwater, recycled water, conservation, and transfers
- Meet, at a minimum, all current and anticipated legal requirements for protection of fish and wildlife habitat
- Maintain operational flexibility (although this LOS Goal was not intended explicitly for the addition of new supplies, it is applicate here)

Together, the planning priorities and LOS Goals and Objectives provide a lens through which the SFPUC considers water supply options and opportunities to meet all foreseeable water supply needs.

In addition to the Daly City Recycled Water Expansion project[9], which was a potential project identified in the 2015 UWMP and had committed funding at that time, the SFPUC has taken action to fund the study of potential additional water supply projects. Capital projects under consideration to develop additional water supplies include surface water storage expansion, recycled water expansion, water transfers, desalination, and potable reuse. A more detailed list and descriptions of these efforts are provided below.

The capital projects that are under consideration would be costly and are still in the early feasibility or conceptual planning stages. Because these water supply projects would take 10 to 30 years to implement, and because required environmental permitting negotiations may reduce the amount of water that can be developed, the yield from these projects are not currently incorporated into SFPUC's supply projections. State and federal grants and other financing opportunities would be pursued for eligible projects, to the extent feasible, to offset costs borne by ratepayers.

- **Daly City Recycled Water Expansion (Regional, Normal- and Dry-Year Supply):** This project can produce up to 3 MGD of tertiary recycled water during the irrigation season (~7 months). On an average annual basis, this production is equivalent to 1.25 MGD or 1,400 acre-feet per year. The project is envisioned to provide recycled water to 13 cemeteries and

[9] This potential project was identified in the 2015 UWMP and has since been approved by Daly City following environmental review and therefore has a higher likelihood of being implemented.

other smaller irrigation customers, offsetting existing groundwater pumping from the South Westside Groundwater Basin, thereby reducing groundwater use and enhancing the reliability of the Basin. The project is a regional partnership between the SFPUC and Daly City. The irrigation customers are located largely within California Water Service's (Cal Water's) service area. RWS customers will benefit from the increased reliability of the South Westside Basin for additional drinking water supply during droughts. In this way, this project supports the GSR Project, which is under construction.

- **ACWD-USD Purified Water Partnership (Regional, Normal- and Dry-Year Supply):** This project could provide a new purified water supply utilizing Union Sanitary District's (USD) treated wastewater. Purified water produced by advanced water treatment at USD could be transmitted to the Quarry Lakes Groundwater Recharge Area to supplement recharge into the Niles Cone Groundwater Basin or put to other uses in the Alameda County Water District (ACWD) service area. With the additional water supply to ACWD, an in-lieu exchange with the SFPUC would result in more water left in the RWS. Additional water supply could also be directly transmitted to the SFPUC through a new intertie between ACWD and the SFPUC.
- **Crystal Springs Purified Water (Regional, Normal- and Dry-Year Supply):** The Crystal Springs Purified Water Project is a purified water project that could provide 6 to 12 MGD of water supply through reservoir water augmentation at Crystal Springs Reservoir, which is a facility of the RWS. Treated wastewater from Silicon Valley Clean Water (SVCW) and/or the City of San Mateo would go through an advanced water treatment plant to produce purified water that meets state and federal drinking water quality standards. The purified water would then be transmitted 10 to 20 miles (depending on the alignment) to Crystal Springs Reservoir, blended with regional surface water supplies and treated again at Harry Tracy Water Treatment Plant. Project partners include the SFPUC, BAWSCA, SVCW, Cal Water, Redwood City, Foster City, and the City of San Mateo. Partner agencies are contributing financial and staff resources towards the work effort.
- **Los Vaqueros Reservoir Expansion (Regional, Dry Year Supply):** The Los Vaqueros Reservoir Expansion (LVE) Project is a storage project that will enlarge the existing reservoir located in northeastern Contra Costa County from 160,000 acre-feet to 275,000 acre-feet. While the existing reservoir is owned and operated by the Contra Costa Water District, the expansion will have regional benefits and will be managed by a Joint Powers Authority (JPA) that will be set up prior to construction. Meanwhile, Contra Costa Water District is leading the planning, design and environmental review efforts. Contra Costa Water District's Board certified the Environmental Impact Statement (EIS)/EIR and approved the LVE Project on May 13, 2020. The additional storage capacity from the LVE Project would provide a dry year water supply benefit to the SFPUC. BAWSCA is working in concert with the SFPUC to support their work effort on the LVE project.
    - Conveyance Alternatives: The SFPUC is considering two main pathways to move water from storage in a prospective LVE Project to the SFPUC's service area, either directly to RWS facilities or indirectly via an exchange with partner agencies. The SFPUC is evaluating potential alignments for conveyance.

- Bay Area Regional Reliability Shared Water Access Program: As part of the Bay Area Regional Reliability Partnership[10] (BARR) Partnership, a consortium of eight Bay Area water utilities (including ACWD, BAWSCA, Contra Costa Water District, EBMUD, Marin Municipal Water District, SFPUC, Valley Water, and Zone 7 Water Agency) are exploring opportunities to move water across the region as efficiently as possible, particularly during times of drought and emergencies. The BARR agencies are proposing two separate pilot projects in 2020-2021 through the Shared Water Access Program to test conveyance pathways and identify potential hurdles to better prepare for sharing water during a future drought or emergency. A strategy report identifying opportunities and considerations will accompany these pilot transfers and will be completed in 2021.

- **Bay Area Brackish Water Desalination (Regional, Normal- and Dry-Year Supply):** The Bay Area Brackish Water Desalination (Regional Desalination) Project is a partnership between Contra Costa Water District, the SFPUC, Valley Water, and Zone 7 Water Agency. EBMUD and ACWD may also participate in the project. The project could provide a new drinking water supply to the region by treating brackish water from Contra Costa Water District's existing Mallard Slough intake in Contra Costa County. While this project has independent utility as a water supply project, for the current planning effort the SFPUC is considering it as a source of supply for storage in LVE. While the allocations remain to be determined among partners, the SFPUC is considering a water supply benefit of between 5 and 15 MGD during drought conditions when combined with storage at LVE.
- **Calaveras Reservoir Expansion (Regional, Dry Year Supply):** Calaveras Reservoir would be expanded to create 289,000 AF additional capacity to store excess Regional Water System supplies or other source water in wet and normal years. In addition to reservoir enlargement, the project would involve infrastructure to pump water to the reservoir, such as pump stations and transmission facilities.
- **Groundwater Banking:** Groundwater banking in the MID and Turlock Irrigation District service areas could be used to provide some additional water supply to meet instream releases in dry years reducing water supply impacts to the SFPUC service area. For example, additional surface water could be provided to irrigators in wet years, which would offset the use of groundwater, thereby allowing the groundwater to remain in the basin rather than be consumptively used. The groundwater that remains in the basin can then be used in a subsequent dry year for irrigation, freeing up surface water that would have otherwise been delivered to irrigators to meet instream flow requirements.

  A feasibility study of this option is included in the proposed Tuolumne River Voluntary Agreement. Progress on this potential water supply option will depend on the negotiations of the Voluntary Agreement.

[10] https://www.bayareareliability.com/

- **Inter-Basin Collaborations:** Inter-Basin Collaborations could provide net water supply benefits in dry years by sharing responsibility for in-stream flows in the San Joaquin River and Delta more broadly among several tributary reservoir systems. One mechanism by which this could be accomplished would be to establish a partnership between interests on the Tuolumne River and those on the Stanislaus River, which would allow responsibility for streamflow to be assigned variably based on the annual hydrology.

  As is the case with Groundwater Banking, feasibility of this option is included in the proposed Tuolumne River Voluntary Agreement.

If all the projects identified through the current planning process can be implemented, there would still be a supply shortfall to meet projected needs. Furthermore, each of the supply options being considered has its own inherent challenges and uncertainties that may affect the SFPUC's ability to implement it.

Given the limited availability of water supply alternatives - unless the supply risks are significantly reduced or our needs change significantly - the SFPUC will continue to plan, develop and implement all project opportunities that can help bridge the anticipated water supply gaps during droughts. In 2019, the SFPUC completed a survey among water and wastewater agencies within the service area to identify additional opportunities for purified water. Such opportunities remain limited, but the SFPUC continues to pursue all possibilities.

7.2.1.5 Bay Area Water Conservation and Supply Agency

The District is a member of the BAWSCA. BAWSCA provides regional water reliability planning and conservation programming for the benefit of its 26 member agencies that purchase wholesale water supplies from the SFPUC. Collectively, the BAWSCA member agencies deliver water to over 1.8 million residents and nearly 40,000 commercial, industrial, and institutional accounts in Alameda, San Mateo and Santa Clara Counties.

BAWSCA also represents the collective interests of these wholesale water customers on all significant technical, financial and policy matters related to the operation and improvement of SFPUC's RWS.

7.2.1.5.1 Long-Term Reliable Water Supply Strategy

BAWSCA's Long-Term Reliable Water Supply Strategy (Strategy), completed in February 2015, quantified the water supply reliability needs of the BAWSCA member agencies through 2040, identified the water supply management projects and/or programs (projects) that could be developed to meet those needs, and prepared an implementation plan for the Strategy's recommendations.

When the 2015 Demand Study concluded it was determined that while there is no longer a regional normal year supply shortfall, there was a regional drought year supply shortfall of up to 43 MGD. In addition, key findings from the Strategy's project evaluation analysis included the following:

- Water transfers represent a high priority element of the Strategy.
- Desalination potentially provides substantial yield, but its high effective costs and intensive permitting requirements make it a less attractive drought year supply alternative.
- Other potential regional projects provide tangible, though limited, benefit in reducing dry-year shortfalls given the small average yields in drought years.

Since 2015, BAWSCA has completed a comprehensive update of demand projections and engaged in significant efforts to improve regional reliability and reduce the dry-year water supply shortfall.

- **Water Transfers.** BAWSCA successfully facilitated two transfers of portions of ISG between BAWSCA agencies in 2017 and 2018. Such transfers benefit all BAWSCA agencies by maximizing use of existing supplies. BAWSCA is currently working on an amendment to the Water Supply Agreement between the SFPUC and BAWSCA agencies to establish a mechanism by which member agencies that have an ISG may participate in expedited transfers of a portion of ISG and a portion of a Minimum Annual Purchase Requirement. In 2019, BAWSCA participated in a pilot water transfer that, while ultimately unsuccessful, surfaced important lessons learned and produced interagency agreements that will serve as a foundation for future transfers. BAWSCA is currently engaged in the BARR, a partnership among eight Bay Area water utilities (including the SFPUC, ACWD, BAWSCA, Contra Costa Water District, and Valley Water) to identify opportunities to move water across the region as efficiently as possible, particularly during times of drought and emergencies.
- **Regional Projects.** Since 2015, BAWSCA has coordinated with local and State agencies on regional projects with potential dry-year water supply benefits for BAWSCA's agencies. These efforts include storage projects, indirect/direct water reuse projects, and studies to evaluate the capacity and potential for various conveyance systems to bring new supplies to the region.

BAWSCA continues to implement the Strategy recommendations in coordination with BAWSCA member agencies. Strategy implementation will be adaptively managed to account for changing conditions and to ensure that the goals of the Strategy are met in an efficient and cost-effective manner. On an annual basis, BAWSCA will reevaluate Strategy recommendations and results in conjunction with development of the BAWSCA's FY 2021-22 Work Plan. In this way, actions can be modified to accommodate changing conditions and new developments.

7.2.1.5.2 Making Conservation a Way of Life Strategic Plan

Following the 2014-2016 drought, the State of California (State) developed the "Making Water Conservation a California Way of Life" framework to address the long-term water use efficiency requirements called for in executive orders issued by Governor Brown. In May of 2018, AB 1668 and SB 606 (collectively referred to as the efficiency legislation) went into effect; building upon the executive orders implementing new urban water use objectives for urban retail water suppliers.

BAWSCA led its member agencies in a multi-year effort to develop and implement a strategy to meet these new legislative requirements. BAWSCA's Making Conservation a Way of Life Strategic Plan (Strategic Plan) provided a detailed roadmap for member agencies to improve water efficiency. BAWSCA implementing the following elements of the Strategic Plan:

- Conducted an assessment of the agencies' current practices and water industry best practices for three components of the efficiency legislation that, based on a preliminary review, present the greatest level of uncertainty and potential risk to the BAWSCA agencies. The three components were:
  1. Development of outdoor water use budgets in a manner that incorporates landscape area, local climate, and new satellite imagery data.
  2. Commercial, Industrial, and Institutional water use performance measures.
  3. Water loss minimization requirements.

- Organized an Advanced Metering Infrastructure symposium to enable information exchange, including case studies, implementation strategies, and data analysis techniques.
- Initiated a regional Commercial, Institutional and Industrial (CII) audit pilot program, which BAWSCA aims to complete in 2021[11].
- Implemented a regional program for water loss control to help BAWSCA agencies comply with regulatory requirements and implement cost-effective water loss interventions.
- Engaged with the SFPUC to audit meter testing and calibration practices for SFPUC's meters at BAWSCA agency turnouts.

Finally, BAWSCA's Demand Study developed water demand and conservation projections through 2045 for each BAWSCA agency. These projects are designed to provide valuable insights on long-term water demand patterns and conservation savings potential to support regional efforts, such as implementation of BAWSCA's Long-Term Reliable Water Supply Strategy.

7.2.1.5.3 BAWSCA Conservation Programs

BAWSCA manages a Regional Water Conservation Program comprised of several programs and initiatives that support and augment member agencies' and customers' efforts to use water more efficiently. These efforts extend limited water supplies that are available to meet both current and future water needs; increase drought reliability of the existing water system; and save money for both the member agencies and their customers.

The implementation of the Regional Water Conservation Program builds upon both the Water Conservation Implementation Plan (WCIP, completed in September 2009) and the Regional Demand and Conservation Projections Project (Demand Study, completed in June of 2020). These efforts include both Core Programs (implemented regionally throughout the BAWSCA service area) and Subscription Programs (funded by individual member agencies that elect to participate and implement them within their respective service areas).

BAWSCA's Core Conservation Programs include organizing classes open to the public on topics such as water efficient landscape education and water-wise gardening, assistance related to advanced metering infrastructure, and other associated programs that work to promote smart water use and practices. BAWSCA's Subscription Programs include numerous rebate programs, educational programs that can be offered to area schools, technical assistance to member agencies in evaluating water loss, and programs to train and certify contractors employed to install water efficient landscape. In total, BAWSCA offers 22 programs to its member agencies and that number continues to grow over time.

Each fiscal year, BAWSCA prepares an Annual Water Conservation Report that documents how all of BAWSCA's 26 member agencies have benefitted from the Core Conservation Programs. Additionally, the report highlights how all 26 member agencies participate in one or more of the Subscription Programs offered by BAWSCA, such as rebates, water loss management and large landscape audits. The Demand Study indicates that through a combination of active and passive conservation, 37.3 MGD will be conserved by BAWSCA's member agencies by 2045.

[11] Efforts on the CII audit pilot program stalled in March 2020 due to the COVID 19 pandemic and related shelter-in-place orders.

7.2.1.6 SFPUC Supply Allocations

As described in Chapter 6, the WSA between the SFPUC and wholesale customers includes a WSAP that describes the method for allocating water from the RWS between Retail and Wholesale Customers during system-wide shortages of 20 percent or less. The WSAP, also known as the Tier One Plan, was amended in the 2018 Amended and Restated WSA. The Wholesale Customers' share is apportioned among the individual Wholesale Customers based on a separate methodology adopted by the Wholesale Customers, known as the Tier Two Plan.

7.2.1.6.1 Tier One Drought Allocations

In July 2009, San Francisco and its Wholesale Customers in Alameda County, Santa Clara County, and San Mateo County (Wholesale Customers) adopted the WSA, which includes a WSAP that describes the method for allocating water from the RWS between Retail and Wholesale Customers during system-wide shortages of 20 percent or less. The WSAP, also known as the Tier One Plan, was amended in the 2018 Amended and Restated WSA.

The SFPUC allocates water under the Tier One Plan when it determines that the projected available water supply is up to 20 percent less than projected system-wide water purchases. Table 7-1 shows the SFPUC (i.e., Retail Customers) share and the Wholesale Customers' share of the annual water supply available during shortages depending on the level of system-wide reduction in water use that is required. The Wholesale Customers' share will be apportioned among the individual Wholesale Customers based on a separate methodology adopted by the Wholesale Customers, known as the Tier Two Plan, discussed further below.

Table 7-1. Share of Available SFPUC Supplies Under Various Shortages

Level of System-Wide Reduction in Water Use Required	Share of Available Water	
	SFPUC Share	Wholesale Customers Share
5% or less	35.5%	64.5%
6% through 10%	36.0%	64.0%
11% through 15%	37.0%	63.0%
16% through 20%	37.5%	62.5%

Source: SFPUC Common Language for BAWSCA Member Agencies' 2020 UWMPs, February 3, 2021.

The Tier One Plan allows for voluntary transfers of shortage allocations between the SFPUC and any Wholesale Customer as well as between Wholesale Customers themselves. In addition, water "banked" by a Wholesale Customer, through reductions in usage greater than required, may also be transferred.

As amended in 2018, the Tier One Plan requires Retail Customers to conserve a minimum of 5 percent during droughts. If Retail Customer demands are lower than the Retail Customer allocation (resulting in a "positive allocation" to Retail[12]) then the excess percentage would be re-allocated to the Wholesale

[12] See Water Supply Agreement, Water Shortage Allocation Plan (Attachment H), Section 2.1.

Customers' share. The additional water conserved by Retail Customers up to the minimum 5 percent level is deemed to remain in storage for allocation in future successive dry years.

The Tier One Plan applies only when the SFPUC determines that a system-wide water shortage exists and issues a declaration of a water shortage emergency under California Water Code Section 350. Separate from a declaration of a water shortage emergency, the SFPUC may opt to request voluntary cutbacks from its Retail and Wholesale Customers to achieve necessary water use reductions during drought periods.

The Tier One Plan will expire at the end of the term of the WSA in 2034, unless mutually extended by San Francisco and the Wholesale Customers.

7.2.1.6.2 Tier Two Drought Allocations

The Wholesale Customers have negotiated and adopted the Tier Two Plan, referenced above, which allocates the collective Wholesale Customer share from the Tier One Plan among each of the 26 Wholesale Customers. These Tier Two allocations are based on a formula that takes into account multiple factors for each Wholesale Customer including:

- Individual Supply Guarantee
- Seasonal use of all available water supplies
- Residential per capita use

The water made available to the Wholesale Customers collectively will be allocated among them in proportion to each Wholesale Customer's Allocation Basis, expressed in millions of gallons per day (mgd), which in turn is the weighted average of two components. The first component is the Wholesale Customer's Individual Supply Guarantee, as stated in the WSA, and is fixed. The second component, the Base/Seasonal Component, is variable and is calculated using the monthly water use for three consecutive years prior to the onset of the drought for each of the Wholesale Customers for all available water supplies. The second component is accorded twice the weight of the first, fixed component in calculating the Allocation Basis. Minor adjustments to the Allocation Basis are then made to ensure a minimum cutback level, a maximum cutback level, and a sufficient supply for certain Wholesale Customers.

The Allocation Basis is used in a fraction, as numerator, over the sum of all Wholesale Customers' Allocation Bases to determine each wholesale customer's Allocation Factor. The final shortage allocation for each Wholesale Customer is determined by multiplying the amount of water available to the Wholesale Customers' collectively under the Tier One Plan, by the Wholesale Customer's Allocation Factor.

The Tier Two Plan requires that the Allocation Factors be calculated by BAWSCA each year in preparation for a potential water shortage emergency. As the Wholesale Customers change their water use characteristics (e.g., increases or decreases in SFPUC purchases and use of other water sources, changes in monthly water use patterns, or changes in residential per capita water use), the Allocation Factor for each Wholesale Customer will also change. However, for long-term planning purposes, each Wholesale Customer shall use as its Allocation Factor, the value identified in the Tier Two Plan when adopted.

The Tier Two Plan, which initially expired in 2018, has been extended by the BAWSCA Board of Directors every year since for one additional calendar year. In November 2020, the BAWSCA Board voted to extend the Tier Two Plan through the end of 2021.

It should be noted that with the implementation of the Bay-Delta Plan Amendment, the estimated water shortages for the RWS in a multiple year drought period would be greater than 20 percent and the Tier Two Plan would not be applicable.

7.2.1.6.3 Allocations for Supply Shortages Greater than 20 Percent

Per WSA Section 3.11, the Tier One and Tier Two Plans will be used to allocate water from the Regional Water System between Retail and Wholesale Customers during system-wide shortages of 20 percent or less.

For Regional Water System shortages in excess of 20 percent, San Francisco shall: (a) follow the Tier 1 Shortage Plan allocations up to the 20 percent reduction, (b) meet and discuss with the Wholesale Customers how to implement incremental reductions above 20 percent, and (c) make a final determination of allocations above the 20 percent reduction. After the SFPUC has made the final allocation decision, the Wholesale Customers shall be free to challenge the allocation on any applicable legal or equitable basis.

For purposes of the 2020 UWMPs, for RWS shortages in excess of 20 percent, the allocations among the Wholesale Customers is assumed to be equivalent among them and to equal the drought cutback to Wholesale Customer by the SFPUC.

7.2.1.7 Projected Supplies from SFPUC Regional Water System

The SFPUC has a Level of Service objective of meeting average annual water demand of 265 mgd from the SFPUC watersheds for retail and wholesale customers during non-drought years, as well as a contractual obligation to supply 184 MGD to the wholesale customers. These projected supplies are summarized in Table 7-2.

Table 7-2. SFPUC Regional Water System Supply Capacity[(a)]

Year	2020	2025	2030	2035	2040	2045
SFPUC Retail Supply, MGD	81	81	81	81	81	81
SFPUC Wholesale Supply, MGD	184	184	184	184	184	184
Total Regional Water System Supply, MGD	265	265	265	265	265	265

(a) From SFPUC Table 2: Projected Wholesale Supply from Regional Water System, provided by SFPUC on January 22, 2021.

For SFPUC's water supply reliability evaluation for its 2020 UWMP, it is assuming that demand is equivalent to the sum of the projected retail demands on the Regional Water System and wholesale customer purchase request projections provided to SFPUC by BAWSCA in January 2021. These projected water demands are summarized in Table 7-3.

Table 7-3. Projected Retail and Wholesale Demand Assumptions for the SFPUC Regional Water System[a]

	2020	2025	2030	2035	2040	2045
SFPUC Retail Customers, MGD	66.5	67.2	67.5	68.6	70.5	73.7
SFPUC Wholesale Customers, MGD[b,c]	132.1	146.0	147.9	151.9	156.3	162.8
Total, MGD	198.6	213.2	215.4	220.5	226.8	236.5

(a) From SFPUC Table 1: Retail and Wholesale RWS Demand Assumptions Used for Additional Supply Reliability Modeling, provided by SFPUC on March 30, 2021.
(b) Wholesale purchase request projections provided to the SFPUC by BAWSCA on January 21, 2021.
(c) Includes demands for cities of San Jose and Santa Clara at 4.5 MGD each.

The District's water supply from the SFPUC Regional Water System under normal, single dry and multiple dry year conditions is described further in the sections below. Because the water demands vary over the period evaluated, in addition to supply conditions (with and without the Bay-Delta Plan Amendment), the estimated availability of SFPUC Regional Water System supplies varies by year and by assumed dry year condition. This variation in Regional Water System supply availability is shown in Table 7-4 with the Bay-Delta Plan Amendment and Table 7-5 without the Bay-Delta Plan Amendment. As shown in Table 7-4, with the Bay-Delta Plan Amendment, supply availability is reduced to as low as 51 percent of projected purchases in some years. As shown in Table 7-5, without the Bay-Delta Plan Amendment, supply availability is projected to be at least 90 percent of projected purchases.

Table 7-4. Projected Regional Water System Supply Availability in Years 2020 to 2045 with Bay-Delta Plan Amendment[a,b]

	2020	2025	2030	2035	2040	2045
Average Year	100%	100%	100%	100%	100%	100%
Single Dry Year	100%	70%	70%	70%	70%	60%
Consecutive 1st Dry Year	100%	70%	70%	70%	70%	60%
Consecutive 2nd Dry Year	100%	60%	60%	60%	60%	60%
Consecutive 3rd Dry Year	60%	60%	60%	60%	60%	60%
Consecutive 4th Dry Year	60%	60%	60%	60%	53%	51%
Consecutive 5th Dry Year	60%	60%	60%	55%	53%	51%

(a) From SFPUC Table 3g: Projected RWS Supply Availability, Years 2020-2045, with Bay-Delta Plan Amendment, provided by SFPUC on March 30, 2021.
(b) RWS includes both SFPUC Retail and SFPUC Wholesale customers.

Table 7-5. Projected Regional Water System Supply Availability in Years 2020 to 2045 without Bay-Delta Plan Amendment[a]

	2020	2025	2030	2035	2040	2045
Average Year	100%	100%	100%	100%	100%	100%
Single Dry Year	100%	100%	100%	100%	100%	100%
Consecutive 1st Dry Year	100%	100%	100%	100%	100%	100%
Consecutive 2nd Dry Year	100%	100%	100%	100%	100%	100%
Consecutive 3rd Dry Year	100%	100%	100%	100%	100%	100%
Consecutive 4th Dry Year	100%	100%	100%	100%	100%	90%
Consecutive 5th Dry Year	100%	100%	100%	100%	100%	90%

(a) From SFPUC Table 4g: Projected RWS Supply Availability, Years 2020-2045, without Bay-Delta Plan Amendment, provided by SFPUC on March 30, 2021.
(b) RWS includes both SFPUC Retail and SFPUC Wholesale customers.

7.2.2 Reliability of District's Local Supplies

The District's local supplies are also subject to reductions in dry years. Normal year availability is based on an average precipitation of 25 inches. Years with less rainfall may result in reduced availability of the District's surface water and groundwater supplies. The estimated availability of the District's local supplies is summarized in Table 7-6.

Table 7-6. Estimated Availability of the District's Local Supplies

	Pilarcitos Creek Surface Water	Denniston Creek Surface Water	Groundwater	Total Local Supplies
Average Year, MGY	46	200	10	256
Single Dry Year, MGY	40	160	8	208
Consecutive 1st Dry Year, MGY	40	160	8	208
Consecutive 2nd Dry Year, MGY	30	100	5	135
Consecutive 3rd Dry Year, MGY	15	75	5	95
Consecutive 4th Dry Year, MGY	12	50	5	67
Consecutive 5th Dry Year, MGY	10	38	2	50

As described in Chapter 6, the District is implementing two new local water supply projects to enhance the District's local water supplies, the San Vicente Creek Water Supply Project and the Pilarcitos Creek Well Field Improvements. The development of these potential projects would further enhance the District's local supplies and minimize the need for imported supplies. However, because these projects have not yet been completed, and to be conservative, they have not been included in the District's projected supplies.

7.3 BASIS OF WATER SUPPLY DATA

As described above, the quantity of supply available from different water supply sources can vary from one year to the next depending on hydrologic conditions. Historical data, where available, were therefore used to develop a projected yield for each water supply source under three conditions: (1) normal water year, (2) single dry year, and (3) multiple dry years. In accordance with the DWR Guidebook, each condition was defined as follows:

- **Normal Water Year***:* This condition represents the water supplies a Supplier considers available during normal conditions. This could be a single year or averaged range of years that most closely represents the average water supply available to the Supplier. In the DWR Guidebook, DWR uses the terms 'average' and 'normal' interchangeably when addressing the water year type.
- **Single Dry Year**: The single dry year is recommended to be the year that represents the lowest water supply available to the Supplier.
- **Five-Consecutive Year Drought**: The five-consecutive year drought for the DRA would be the driest five-year historical sequence for the Supplier (Water Code Section 10612). Suppliers are encouraged to use the same historical five-year sequence for their DRA and Water Service Reliability Assessment. However, they may choose to use a different five-consecutive year dry period such as the lowest average water supply available to the Supplier for five years in a row. Suppliers are encouraged to characterize the five-consecutive year drought in a manner that is best suited for understanding and managing their water service reliability.

7.3.1 Basis of Water Supply Data for SFPUC Supplies

Based on SFPUC's estimated availability of wholesale Regional Water System supplies, Table 7-7 shows the basis of water supply data for the District's purchased supplies from the SFPUC with the Bay-Delta Plan Amendment. As shown, with the Bay-Delta Plan Amendment, reductions in available SFPUC supplies are significant and are as high as a 54 percent reduction from projected purchases. These values are used for the remainder of the analysis in this 2020 UWMP as the Bay-Delta Plan Amendment has been adopted by the SWRCB as described above. However, this data is not compatible with DWR Table 7-1; as such, DWR Table 7-1 has not been completed for the District's purchased supplies from the SFPUC.

Table 7-7. Basis of Water Supply Data for the District's Purchased Supplies from SFPUC with the Bay-Delta Plan Amendment[a]

	2025	2030	2035	2040	2045
Projected Purchases, MGY[a]	511	504	496	485	485
Single Dry Year, MGY[b]	325	321	314	310	263
Consecutive 1st Dry Year, MGY[b]	325	321	314	310	263
Consecutive 2nd Dry Year, MGY[b]	281	274	270	266	263
Consecutive 3rd Dry Year, MGY[b]	281	274	270	266	263
Consecutive 4th Dry Year, MGY[b]	281	274	270	234	223
Consecutive 5th Dry Year, MGY[b]	281	274	248	234	223

(a) From BAWSCA Table A: Wholesale RWS Actual Purchases in 2020 and Projected Purchases for 2025, 2030, 2035, 2040, and 2045; provided by BAWSCA on April 1, 2021.

(b) From BAWSCA Tables G2, H2, I2, J2 and K2: Individual Agency Drought Allocations, Base Years 2025, 2030, 2035, 2040 and 2045; Single Dry Year is based on the 1st Year of five consecutive dry years; provided by BAWSCA on April 1, 2021.

For comparison purposes, Table 7-8 shows the basis of water supply data for the District's purchased supplies from the SFPUC without the Bay-Delta Plan Amendment. As shown, without the Bay-Delta Plan Amendment the only reduction in available SFPUC supplies, a 10 percent reduction from projected purchases, occurs in the fourth and fifth years in the 2045 base year.

Table 7-8. Basis of Water Supply Data for the District's Purchased Supplies from SFPUC without the Bay-Delta Plan Amendment[a]

	2025	2030	2035	2040	2045
Projected Purchases, MGY[a]	511	504	496	485	485
Single Dry Year, MGY[b]	511	504	496	485	485
Consecutive 1st Dry Year, MGY[b]	511	504	496	485	485
Consecutive 2nd Dry Year, MGY[b]	511	504	496	485	485
Consecutive 3rd Dry Year, MGY[b]	511	504	496	485	485
Consecutive 4th Dry Year, MGY[b]	511	504	496	485	434
Consecutive 5th Dry Year, MGY[b]	511	504	496	485	434

(a) From BAWSCA Table A: Wholesale RWS Actual Purchases in 2020 and Projected Purchases for 2025, 2030, 2035, 2040, and 2045; provided by BAWSCA on April 1, 2021.

(b) From BAWSCA Tables N, O1 and O2 showing Percent Cutback to the Wholesale Customers without the Bay-Delta Plan Amendment and Individual Agency Drought Allocations, Base Year 2045, without the Bay-Delta Plan Amendment; Single Dry Year is based on the 1st Year of five consecutive dry years; provided by BAWSCA on April 1, 2021.

7.3.2 Basis of Water Supply Data for District's Local Supplies

Based on the estimated availability of the District's local supplies presented in Table 7-6 above, Table 7-9 presents the District's basis of water supply data for its local supplies.

Table 7-9. Basis of Water Year Data for District's Local Supplies (DWR Table 7-1 Retail)

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 2019-2020, use 2020	Available Supplies if ☐ Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location _____ ☐ Quantification of available supplies is provided in this table as either volume only, percent only, or both.	
		Volume Available *	% of Average Supply
Average Year		256	100%
Single-Dry Year		208	81%
Consecutive Dry Years 1st Year		208	81%
Consecutive Dry Years 2nd Year		135	53%
Consecutive Dry Years 3rd Year		95	37%
Consecutive Dry Years 4th Year		67	26%
Consecutive Dry Years 5th Year		50	20%
Supplier may use multiple versions of Table 7-1 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 Table 7-1, in the "Note" section of each table, state that multiple versions of Table 7-1 are being used and identify the particular water source that is being reported in each table.			
***Units of measure (AF, CCF, MG**) must remain consistent throughout the UWMP as reported in Table 2-3.*			
NOTES: Volumes are in MG.			

7.4 SUPPLY AND DEMAND ASSESSMENT

The District's projected supply and demand for Normal Years, Single Dry Years and Multiple Dry Years (Five-Year Droughts) are quantified and discussed below.

7.4.1 Normal Year

The District's normal year supplies are anticipated to be as follows:

- Up to 511 MGY of purchased supplies from SFPUC (varies by year based on projected purchases)
- About 46 MGY of surface water from Pilarcitos Creek
- About 200 MGY of surface water from Denniston Creek
- About 10 MGY of groundwater from the District's wells

The District plans to use its available local supplies first, and then purchase supplies from the SFPUC as needed to meet the Normal Year demands. SFPUC supplies are based on projected purchases by the District.

The District's normal year supplies are summarized in Table 7-10.

Table 7-10. Projected Normal Year Supplies from SFPUC and Local Supply Sources

	2025	2030	2035	2040	2045
Purchased Supplies from SFPUC, MGY[a]	511	504	496	485	485
Pilarcitos Creek Surface Water, MGY[b]	46	46	46	46	46
Denniston Creek Surface Water, MGY[b]	200	200	200	200	200
Groundwater, MGY[b]	10	10	10	10	10
Total Normal Year Supplies, MGY	767	760	752	741	741

(a) From BAWSCA Table A: Wholesale RWS Actual Purchases in 2020 and Projected Purchases for 2025, 2030, 2035, 2040, and 2045; provided by BAWSCA on April 1, 2021.
(b) See Table 7-6.

The District's normal year demands are summarized in Table 7-11, based on demand projections presented in Chapter 4.

Table 7-11. Projected Normal Year Demands

	2025	2030	2035	2040	2045
Projected Normal Year Demand, MGY[a]	704	697	690	668	664

(a) From Table 4-4 (DWR Table 4-3 Retail).

As shown in Table 7-12 and on Figure 7-1, the District's normal year supplies are adequate to meet projected normal year demands.

Table 7-12. Normal Year Supply and Demand Comparison (DWR Table 7-2 Retail)

	2025	2030	2035	2040	2045 *(Opt)*
Supply totals *(autofill from Table 6-9)*	767	760	752	741	741
Demand totals *(autofill from Table 4-3)*	704	697	690	668	664
Difference	63	63	63	74	77

NOTES: Volumes are in MG.
Supply in Normal Years includes local supplies and SFPUC supplies and is based on local supply availability in Normal Years and District projected purchases from SFPUC based on BAWSCA Table A received on April 1, 2021.

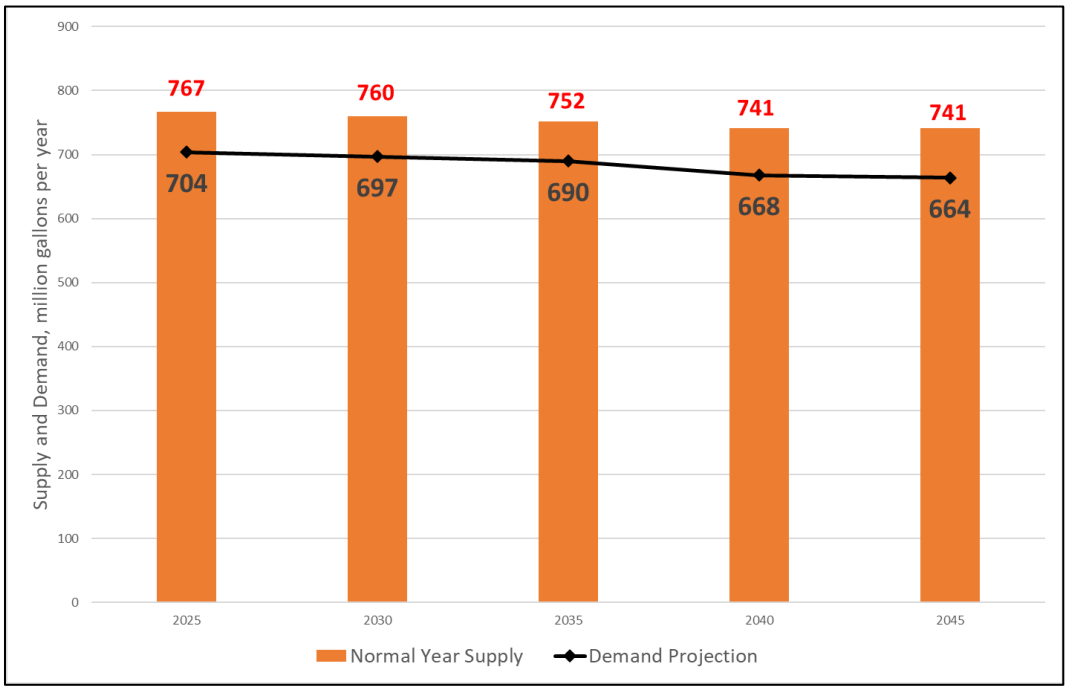


Figure 7-1. Projected Demand vs. Normal Year Supplies (includes SFPUC and Local Supplies)

7.4.2 Single Dry Year

The District's Single Dry Year supplies are anticipated to be as follows:

- Up to 325 MGY of purchased supplies from SFPUC (varies by year based on projected cutback in wholesale supply available from the Regional Water System with the Bay-Delta Plan Amendment; District's SFPUC projected cutback ranges from 36 to 46 percent from normal year projected purchases)
- About 40 MGY of surface water from Pilarcitos Creek (a 13 percent reduction from Normal Year supplies)
- About 160 MGY of surface water from Denniston Creek (a 20 percent reduction from Normal Year supplies).
- About 8 MGY of groundwater from the District's wells (a 20 percent reduction from Normal Year supplies)

In single dry years, the District plans to use its available local supplies first, and then purchase the maximum available supplies from the SFPUC to minimize required demand reductions by its customers.

The District's single dry year supplies are summarized in Table 7-13.

Table 7-13. Projected Single Dry Year Supplies from SFPUC and Local Supply Sources

	2025	2030	2035	2040	2045
Purchased Supplies from SFPUC, MGY[(a)]	325	321	314	310	263
Pilarcitos Creek Surface Water, MGY[(b)]	40	40	40	40	40
Denniston Creek Surface Water, MGY[(b)]	160	160	160	160	160
Groundwater, MGY[(b)]	8	8	8	8	8
Total Single Dry Year Supplies, MGY	533	529	522	518	471

(a) From BAWSCA Tables G2, H2, I2, J2 and K2: Individual Agency Drought Allocations, Base Years 2025, 2030, 2035, 2040 and 2045, with Bay-Delta Plan Amendment, 1st Year of five consecutive dry years, provided by BAWSCA on April 1, 2021.
(b) See Table 7-6.

The District's single dry year demands are assumed to be the same as the District's normal year demands and are summarized in Table 7-14, based on demand projections presented in Chapter 4.

Table 7-14. Projected Single Dry Year Demands

	2025	2030	2035	2040	2045
Projected Single Dry Year Demand, MGY[(a)]	704	697	690	668	664

(a) From Table 4-4 (DWR Table 4-3 Retail), assumed to be the same as the District's normal year demands.

As shown in Table 7-15 and on Figure 7-2, the District's single dry year supplies are not adequate to meet projected single dry year demands. Significant supply shortfalls, ranging from 22 to 29 percent, are projected. This shortfall is primarily due to significant cutbacks in the District's supply from the SFPUC which is significantly reduced in dry years due to the Bay-Delta Plan Amendment.

It should be noted that without the Bay-Delta Plan Amendment, no supply shortfall would be anticipated as no cutbacks would be anticipated in the District's supply from the SFPUC, although local supplies would still likely be reduced as described above.

Table 7-15. Single Dry Year Supply and Demand Comparison (DWR Table 7-3 Retail)

	2025	2030	2035	2040	2045 (Opt)
Supply totals*	533	529	522	518	471
Demand totals*	704	697	690	668	664
Difference	(172)	(168)	(168)	(150)	(193)

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

NOTES: Volumes are in MG.
Supply in Single Dry Years includes local supplies and SFPUC supplies and is based on local supply availability in Single Dry Years and District drought allocations from SFPUC based on BAWSCA Tables G2, H2, I2, J2 and K2 received on April 1, 2021.

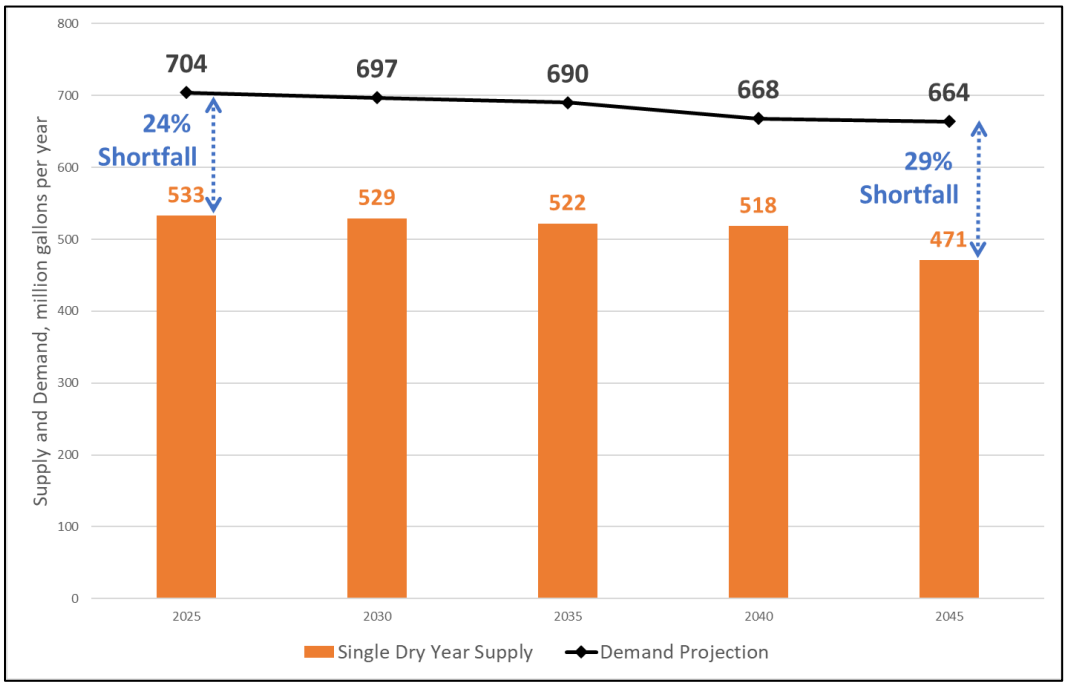


Figure 7-2. Projected Demand vs. Single Dry Year Supplies (includes SFPUC and Local Supplies)

7.4.3 Multiple Dry Years (Five-Year Droughts)

The District's multiple dry year potable supplies are anticipated to be as follows:

- Up to 325 MGY of purchased supplies from SFPUC (varies by year based on projected cutback in wholesale supply available from the Regional Water System with the Bay-Delta Plan Amendment; District's SFPUC projected cutback ranges from 36 to 54 percent from normal year projected purchases)
- District supplies in multiple dry years are as shown in Table 7-6 (varies by year based on impacts of mulitple dry year conditions)

As in Single Dry Years, in Multiple Dry Years, the District plans to use its available local supplies first, and then purchase the maximum available supplies from the SFPUC to minimize required demand reductions by its customers.

The District's multiple dry year supplies are summarized in Table 7-16.

Table 7-16. Projected Multiple Dry Year Supplies from SFPUC and Local Supply Sources

	1st Year	2nd Year	3rd Year	4th Year	5th Year
Multiple Dry Years Starting in 2025					
Purchased Supplies from SFPUC, MGY[(a)]	325	281	281	281	281
Pilarcitos Creek Surface Water, MGY[(b)]	40	30	15	12	10
Denniston Creek Surface Water, MGY[(b)]	160	100	75	50	38
Groundwater, MGY[(b)]	8	5	5	5	2
Total Multiple Dry Year Supplies, MGY	533	416	376	348	331
Multiple Dry Years Starting in 2030					
Purchased Supplies from SFPUC, MGY[(a)]	321	274	274	274	274
Pilarcitos Creek Surface Water, MGY[(b)]	40	30	15	12	10
Denniston Creek Surface Water, MGY[(b)]	160	100	75	50	38
Groundwater, MGY[(b)]	8	5	5	5	2
Total Multiple Dry Year Supplies, MGY	529	409	369	341	324
Multiple Dry Years Starting in 2035					
Purchased Supplies from SFPUC, MGY[(a)]	314	270	270	270	248
Pilarcitos Creek Surface Water, MGY[(b)]	40	30	15	12	10
Denniston Creek Surface Water, MGY[(b)]	160	100	75	50	38
Groundwater, MGY[(b)]	8	5	5	5	2
Total Multiple Dry Year Supplies, MGY	522	405	365	337	298
Multiple Dry Years Starting in 2040					
Purchased Supplies from SFPUC, MGY[(a)]	310	266	266	234	234
Pilarcitos Creek Surface Water, MGY[(b)]	40	30	15	12	10
Denniston Creek Surface Water, MGY[(b)]	160	100	75	50	38
Groundwater, MGY[(b)]	8	5	5	5	2
Total Multiple Dry Year Supplies, MGY	518	401	361	301	284
Multiple Dry Years Starting in 2045					
Purchased Supplies from SFPUC, MGY[(a)]	263	263	263	223	223
Pilarcitos Creek Surface Water, MGY[(b)]	40	30	15	12	10
Denniston Creek Surface Water, MGY[(b)]	160	100	75	50	38
Groundwater, MGY[(b)]	8	5	5	5	2
Total Multiple Dry Year Supplies, MGY	471	398	358	290	273

(a) From BAWSCA Tables G2, H2, I2, J2 and K2: Individual Agency Drought Allocations, Base Years 2025, 2030, 2035, 2040 and 2045, with Bay-Delta Plan Amendment, provided by BAWSCA on April 1, 2021.
(b) See Table 7-6.

The District's multiple dry year demands are assumed to be the same as the District's normal year demands and are summarized in Table 7-17, based on demand projections presented in Chapter 4.

Table 7-17. Projected Multiple Dry Year Demands

	2025	2030	2035	2040	2045
Projected Multiple Dry Year Demand, MGY[(a)]	704	697	690	668	664

(a) From Table 4-4 (DWR Table 4-3 Retail), assumed to be the same as the District's normal year demands. Demands for each year of the five year multiple dry year periods are assumed to be the same as the first year of the multiple dry year period.

The District's projected Multiple Dry Year potable demands are assumed to be consistent with the Single Dry Year demands in which the District's Single Dry Year demands are assumed to be the same as Normal Year demands.

It should be noted that if the District implements Stage 2 of its Water Shortage Contingency Plan, the District would no longer provide raw water to its one raw water customer. Therefore, the District will likely take advantage of the approximately 50 MGY interruptible supplies that it normally provides to its raw water customer for irrigation purposes. These supplies would become available to the District to meet other more critical water demand needs.

As shown in Table 7-18 and Figure 7-3, the District's multiple dry year supplies are not adequate to meet projected multiple dry year demands. Significant supply shortfalls, ranging from 22 to 29 percent in the first year of the five-year dry period to 53 to 59 percent in the fifth year of the five-year dry period, are projected. This shortfall is primarily due to significant cutbacks in the District's supply from the SFPUC which is significantly reduced in dry years due to the Bay-Delta Plan Amendment.

It should be noted that without the Bay-Delta Plan Amendment, supply shortfalls would be still be anticipated; however, they would be far less significant than with the Bay-Delta Plan Amendment. A cutback of 10 percent in the District's supply from the SFPUC would only occur in the fourth and fifth year in base year 2045, in addition to reductions in local supplies as described above. Overall, supply shortages would range from 20 to 27 percent in the fifth dry year of the five-year dry period.

Table 7-18. Multiple Dry Years Supply and Demand Comparison (DWR Table 7-4 Retail)

		2025*	2030*	2035*	2040*	2045* (Opt)
First year	Supply totals	533	529	522	518	471
	Demand totals	704	697	690	668	664
	Difference	(171)	(168)	(168)	(150)	(193)
Second year	Supply totals	416	409	405	401	398
	Demand totals	704	697	690	668	664
	Difference	(288)	(288)	(285)	(267)	(266)
Third year	Supply totals	376	369	365	361	358
	Demand totals	704	697	690	668	664
	Difference	(328)	(328)	(325)	(307)	(306)
Fourth year	Supply totals	348	341	337	301	290
	Demand totals	704	697	690	668	664
	Difference	(356)	(356)	(353)	(367)	(374)
Fifth year	Supply totals	331	324	298	284	273
	Demand totals	704	697	690	668	664
	Difference	(373)	(373)	(392)	(384)	(391)
Sixth year *(optional)*	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0

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

NOTES: Volumes are in MG.
Supply in Multiple Dry Years includes local supplies and SFPUC supplies and is based on local supply availability in Multiple Dry Years and District drought allocations from SFPUC based on BAWSCA Tables G2, H2, I2, J2 and K2 received on April 1, 2021.

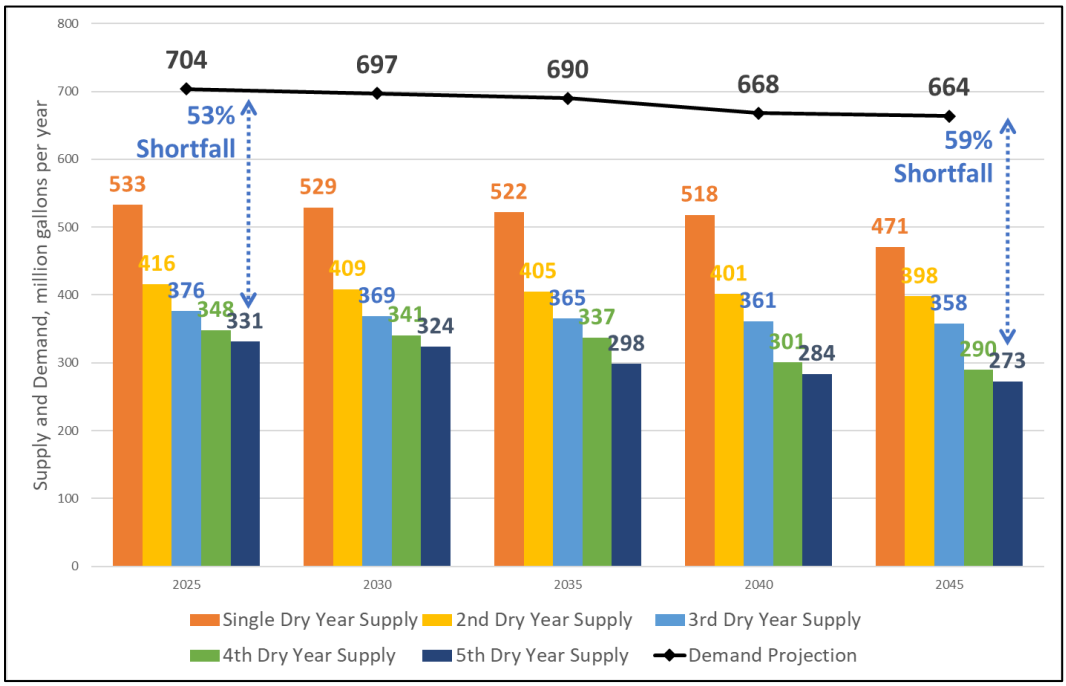


Figure 7-3. Projected Demand vs. Multiple Dry Year Supplies (includes SFPUC and Local Supplies)

7.5 DROUGHT RISK ASSESSMENT

In accordance with CWC Section 10612, urban water suppliers must conduct a DRA, which evaluates the risk of a severe drought occurring for the next five consecutive years (2021-2025). Supply conditions for the DRA are based on the five driest consecutive years on record, with adjustments to consider plausible changes in climate, regulations, and other locally applicable criteria.

This section reviews the data and methods used to define the DRA water shortage condition and evaluates each water source's reliability under the proposed drought condition. Finally, total water supplies during the five-year drought are compared to projected demands, accounting for any applicable supply augmentation or demand reduction measures available to the District.

7.5.1 Data, Methods, and Basis for Water Shortage Condition

The water shortage condition for the DRA is the same as the five-year drought described in Section 7.5.3. Since the DRA can be updated outside of the UWMP five-year plan cycle, the narrative description of the data and basis for the water shortage condition is repeated in this section.

The DRA assumes the projected reductions in SFPUC supplies assuming that the Bay-Delta Plan Amendment takes effect in 2023, resulting in significantly reduced imported supplies, particularly in 2023, 2024 and 2025. Availability of local supplies is also projected to decrease in each year of a 5-year drought and are based on existing facilities and the expected availability of supplies from various sources given the constraints previously described.

7.5.2 Drought Risk Assessment Water Source Reliability

Table 7-19 summarizes the District's available supplies for each year of the DRA.

Table 7-19. Projected Water Supplies for Drought Risk Assessment

Supply Source	2021	2022	2023	2024	2025
Purchased Supplies from SFPUC, MGY[(a)]	562	449	237	237	237
Pilarcitos Creek Surface Water, MGY[(b)]	40	30	15	12	10
Denniston Creek Surface Water, MGY[(b)]	160	100	75	50	38
Groundwater, MGY[(b)]	8	5	5	5	2
Total	**770**	**584**	**332**	**304**	**287**

(a) Based on April 1, 2021 BAWSCA tables showing SFPUC drought cutbacks. Values shown are based on Table F2: Individual Agency Drought Allocations, Base Year 2020 with Bay-Delta Plan Amendment assumed to take effect in 2023.
(b) See Table 7-6.

Table 7-20 summarizes the District's projected water demand for each year of the DRA.

Table 7-20. Projected Water Demand for 2021 to 2025

	2021	2022	2023	2024	2025
Projected Water Demand, MGY[(a)]	692	697	701	706	704

(a) From Table 4-4 (DWR Table 4-3 Retail), assumed to be the same as the District's normal year demands.

7.5.3 Total Water Supply and Use Comparison

As shown in Table 7-21 and on Figure 7-4, during a five-year drought beginning in 2021, the District's supplies are projected to be inadequate to meet projected demands, starting with shortages of 16 percent in 2022, 53 percent in 2023, 57 percent in 2024 and 59 percent in 2025, primarily due to the severe cutbacks in SFPUC resulting from the impacts of the Bay-Delta Plan Amendment which is assumed to take effect in 2023.

Table 7-21. Five-Year Drought Risk Assessment Tables to Address Water Code Section 10635(b) (DWR Table 7-5)

2021	Total
Total Water Use	692
Total Supplies	770
Surplus/Shortfall w/o WSCP Action	78
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	0
Revised Surplus/(shortfall)	78
Resulting % Use Reduction from WSCP action	0%

2022	Total
Total Water Use	697
Total Supplies	584
Surplus/Shortfall w/o WSCP Action	(113)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	113
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	16%

2023	Total
Total Water Use	701
Total Supplies	332
Surplus/Shortfall w/o WSCP Action	(369)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	369
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	53%

2024	Total
Total Water Use	706
Total Supplies	304
Surplus/Shortfall w/o WSCP Action	(402)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	402
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	57%

2025	Total
Total Water Use	704
Total Supplies	287
Surplus/Shortfall w/o WSCP Action	(417)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	417
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	59%

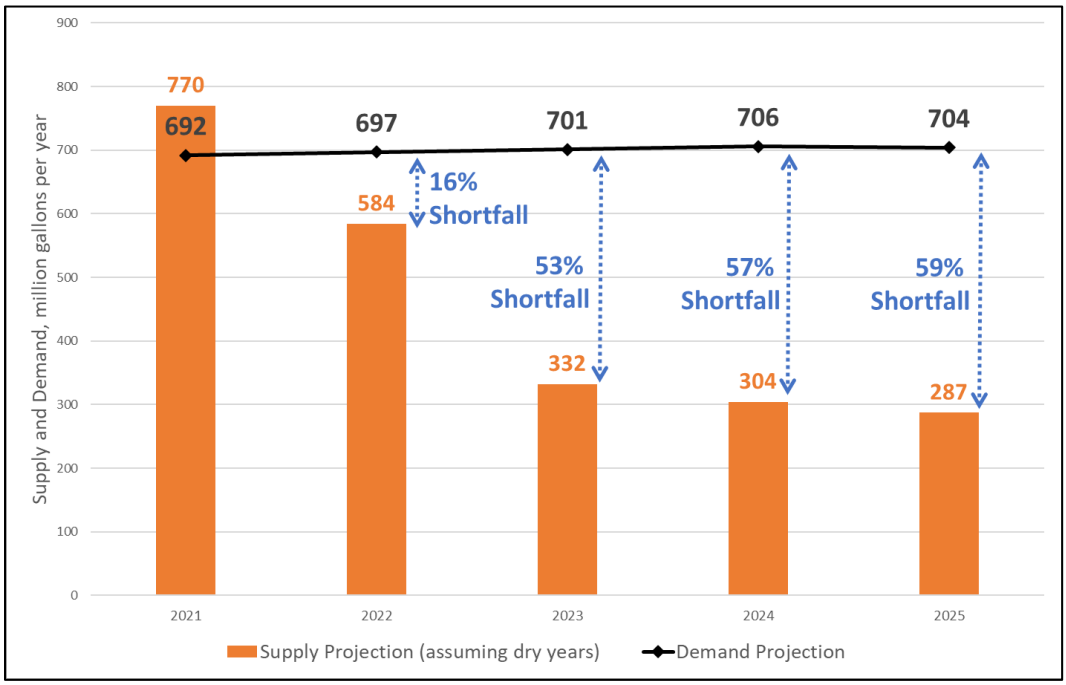


Figure 7-4. Projected Demand vs. Five Year Drought Supplies from 2021 to 2025 (includes SFPUC and Local Supplies)

CHAPTER 8
Water Shortage Contingency Plan

A water shortage may occur due to a number of reasons, such as climate change, drought, and catastrophic events. Drought, regulatory action constraints, and natural and manmade disasters may occur at any time. A water shortage means that the water supply available is insufficient to meet the normally expected customer water demand at a given point in time. A Water Shortage Contingency Plan (WSCP) presents how an urban water supplier plans to act in response to an actual water shortage condition.

In 2018, the California State Legislature (Legislature) enacted two policy bills, SB 606 (Hertzberg) and AB 1668 (Friedman), (2018 Water Conservation Legislation), to establish a new foundation for long-term improvements in water conservation and drought planning to adapt to climate change and the resulting longer and more intense droughts in California. The 2018 Water Conservation Legislation set new requirements for water shortage contingency planning.

8.1 DISTRICT WATER SHORTAGE CONTINGENCY PLAN

The District's WSCP is included in this UWMP as Appendix J. The WSCP describes the District's strategic plan to prepare for and respond to water shortages. The WSCP includes water shortage levels and associated actions that will be implemented in the event of a water supply shortage. As part of the WSCP, the District's legal authorities, communication protocols, compliance and enforcement, and monitoring and reporting are included. California Water Code (CWC § 350-359) supports and authorizes the District's WSCP actions.

The District's WSCP has been updated so that it is consistent with the 2018 Water Conservation Legislation requirements.

The District intends for its WSCP to be an adaptive management plan so that it may assess response action effectiveness and adapt to foreseeable and unforeseeable events. It may also be updated to conform to State legislative and regulatory requirements. The District's WSCP is included as Appendix J so that it may be updated outside of the UWMP preparation process.

When an update to the WSCP is proposed, the revised WSCP will undergo the process described in Section 8.3 for adoption by the District Board of Directors and distribution to San Mateo County, its customers, and the general public.

8.1.1 Water Shortage Levels

The District's WSCP contains six stages of response to water shortage conditions. These escalating stages and the respective water shortage levels that trigger each stage are shown in Table 8-1. The District's WSCP assumes that under any given stage of water shortage, the actions described in Section 8.1.2 will reduce the supply deficit up to and greater than a 50 percent shortage.

Table 8-1. Water Shortage Contingency Plan Levels (DWR Table 8-1)

Shortage Level	Percent Shortage Range	Shortage Response Actions (*Narrative description*)
1	Up to 10%	Water Shortage Advisory
2	Up to 20%	Water Shortage Emergency Warning
3	Up to 30%	Water Shortage Emergency
4	Up to 40%	Water Shortage Severe Emergency
5	Up to 50%	Water Shortage Extreme Emergency
6	>50%	Water Shortage Catastrophic (Extraordinary) Emergency
NOTES:		

8.1.2 Demand Reduction Actions

Each stage of the District's WSCP contains specific actions to reduce water consumption and losses. Table 8-2 outlines the demand reduction actions and the expected impacts to the water shortage deficit. The District also performs detailed tracking of water use in its service area, and can develop a targeted water allocation plan for a given demand reduction scenario.

Table 8-2. Demand Reduction Actions (DWR Table 8-2)

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? *Include units used (volume type or percentage)*	Additional Explanation or Reference *(optional)*	Penalty, Charge, or Other Enforcement? ***For Retail Suppliers Only*** *Drop Down List*
Add additional rows as needed				
1	Expand Public Information Campaign	Up to 10 percent	Voluntary	No
2	Landscape - Restrict or prohibit runoff from landscape irrigation	Up to 20 percent	Mandatory	Yes
3	Moratorium or Net Zero Demand Increase on New Connections	Up to 30 percent	Mandatory	Yes
4	Implement or Modify Drought Rate Structure or Surcharge	Up to 40 percent	Mandatory	Yes
5	Increase Water Waste Patrols	Up to 50 percent	Mandatory	Yes
6	Reduce System Water Loss	Greater than 50 percent	Mandatory	Yes
NOTES: Please refer to the Water Shortage Contingency Plan for a complete description of the demand reduction actions at each level of shortage.				

8.1.3 Supply Augmentation and Other Actions

The District currently does not have any supply augmentation methods available.

Table 8-3. Supply Augmentation and Other Actions (DWR Table 8-3)

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? *Include units used (volume type or percentage)*	Additional Explanation or Reference *(optional)*
Add additional rows as needed			
NOTES: The District does not have any supply augumentation methods.			

8.2 SEISMIC RISK ASSESSMENT AND MITIGATION PLAN

CWC §10632.5(a) requires that the UWMP include a seismic risk assessment and mitigation plan to assess the vulnerability of the District's water system vulnerabilities and mitigate those vulnerabilities. A Local Hazard Mitigation Plan (LHMP) may be incorporated in this UWMP to address this requirement if it addresses seismic risk. The *San Mateo County 2016 Hazard Mitigation Plan* (2016 HMP), was adopted by the County in September 2016. The 2016 HMP was submitted to the Federal Emergency Management Agency (FEMA), which found it in conformance with Title 44 Code of Federal Regulations Part 201.6 Local Mitigation Plans. In March 2021, San Mateo County launched an update of the Multijurisdictional Local Hazard Mitigation Plan.

Earthquakes are common, relatively well-tracked and studied in California. The 2016 HMP primarily considered the risk of the San Mateo County region to earthquakes along the San Andreas, Hayward, and San Gregorio faults. While the San Andreas and Hayward faults are much more volatile, the San Gregorio fault runs directly underneath Pillar Point in the City of Half Moon Bay and would likely cause more damage to the District's service area and its facilities.[13]

The 100-year and 500-year probabilistic peak ground accelerations (PGAs) were examined for San Mateo County, which could occur from an earthquake of varying magnitude depending on which fault produced an earthquake. These events are expected to cause moderate to heavy damage to structures (VII to IX on the modified Mercalli intensity scale) in the District's service area for 100-year and 500-year PGAs,

[13] San Mateo County 2016 Hazard Mitigation Plan, July 2016.

respectively. The 2016 HMP and 2020 Half Moon Bay Local Coastal Land Use Plan also show a moderate to low risk of liquefaction for much of the District's service area.[14]

It should be noted that the 2016 HMP specified that the damage to water infrastructure is difficult to analyze due to the methodology used, but that considerable damage, breakage, and failure should be assumed for individual system components.

8.3 WATER SHORTAGE CONTINGENCY PLAN ADOPTION, SUBMITTAL, AND AVAILABILITY

The District's WSCP (Appendix J) is adopted concurrently with the District's 2020 UWMP, by separate resolution. Prior to adoption, a duly noticed public hearing was conducted. A hard copy of the WSCP will be submitted to DWR within 30 days of adoption, along with an electronic copy.

No later than 30 days after adoption, copies of the WSCP will be available at the District's offices. A copy will also be provided to San Mateo County. An electronic copy of the WSCP will also be available for public review and download on the District's website.

The District's WSCP is an adaptive management plan. It is subject to refinements as needed to ensure that the District's shortage response actions and mitigation strategies are effective and produce the desired results. When a revised WSCP is proposed, the revised WSCP will undergo the process described in this section for adoption by District Board of Directors and distribution to San Mateo County, its customers, and the general public.

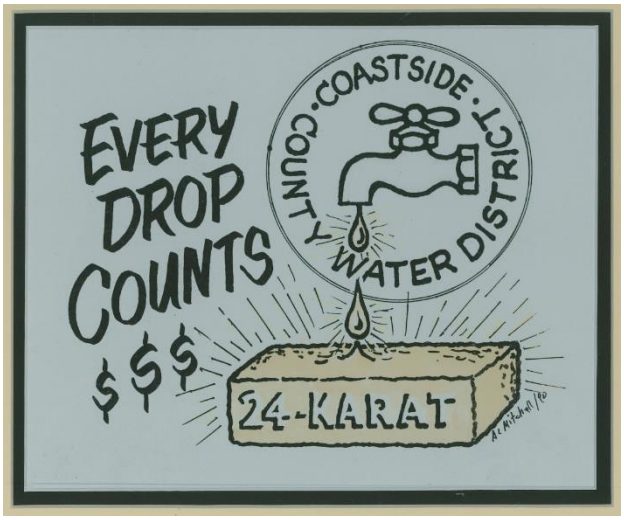
[14] City of Half Moon Bay 2020 Local Coastal Land Use Plan, October 2020.

CHAPTER 9
Demand Management Measures

This chapter describes the District's historical and existing water conservation program, status of implementation of Demand Management Measures (DMMs), and projected future conservation implementation. The CWC requires that UWMPs include a comprehensive description of historical, current, and projected water conservation programs.

9.1 WATER CONSERVATION PROGRAM HISTORY

The District has been implementing water use efficiency programs and practicing conservation techniques since the 1970's when water rationing was implemented due to drought. In 1991, the District became a voluntary signatory to the California Urban Water Conservation Council's (CUWCC) Memorandum of Understanding (MOU). By becoming a signatory, the District agreed to implement Best Management Practices, as described in the CUWCC's MOU regarding urban water conservation in California. Since becoming a signatory to the MOU, the District has implemented and promoted its water use efficiency programs to help customers reduce water demand.



The District is a member agency of the BAWSCA and has participated in regional water supply and conservation programs. BAWSCA is a special district formed under special legislation (AB2058) in 2002 and provides regional water supply planning and conservation programs for urban retail water suppliers, both public and private, in San Mateo County, Santa Clara County and Alameda County. All twenty-six (26) BAWSCA's member agencies are wholesale customers of the San Francisco Public Utilities Commission, also known as San Francisco Water.

The focus of the District's approach to water efficiency shifted significantly in the last five years due to drought, the new green building code, and new mandates under Making Water Conservation a California Way of Life. The District transitioned away from traditional incentive programs and moved forward with the implementation of new technology and infrastructure to assist customers with understanding and managing their water use. Major programs implemented over the last five years included a major meter change-out program, implementation of advanced meter infrastructure (AMI), monthly billing and WaterSmart software. In addition, the District has had an aggressive pipeline replacement program over the last five years to help reduce real losses in the distribution and transmission systems.

9.2 DEMAND MANAGEMENT MEASURES

The six DMMs required to be discussed in this plan include the following:

- Water waste prevention ordinances
- Metering
- Conservation pricing
- Public education and outreach

- Programs to assess and manage distribution system real loss
- Water conservation program coordination and staffing support

For each DMM, the current program is described, followed by a description of how the DMM was implemented over the previous five years and the planned implementation to achieve the water use targets required by SB X7-7 (see Chapter 5 Conservation Target Compliance).

9.2.1 Water Waste Prevention Ordinances

The District has an ordinance that prohibits the wasteful use of water during normal water years. For dry year conditions, or during other water supply shortages, the District has a Water Shortage Contingency Plan which includes specific water use restrictions. The District's Water Shortage Contingency Plan is described in Chapter 8 and is included in Appendix J of this plan.

In addition, the District enacted an Indoor Water Use Efficiency Ordinance in 2010 that targets new and expanded water services. The ordinance, which went into effect on January 1, 2011, specifies water use efficiency standards for both commercial and residential customers. The ordinance was updated in 2014 to include changes to the 2013 California Plumbing Code. This ordinance was most recently modified in 2018 (Ordinance No. 2018-01) to accommodate accessory dwelling units being served from existing water services. When first enacted, this ordinance helped to accelerate the installation of water fixtures that conformed to Environmental Protection Agency (EPA) WaterSense efficiency standards. As California Plumbing Code and California Green Code have evolved to improve on water efficiency, the water savings from 2015 and beyond is accounted for in the passive savings of the District's water demand modeling.

Implementation of this DMM is expected to help the District achieve its water use targets by minimizing the nonessential uses of water so that water is available to be used for human consumption, sanitation, and fire protection.

9.2.2 Metering

All customers are metered in the District's service area and all customers are charged a commodity or volumetric rate along with base charges.

AMI has been successfully installed for all customers, except for temporary hydrant meters. Customers are billed monthly and provided with more timely and complete water consumption data. AMI installation and meter replacements started in November of 2017 and were completed in December of 2018.

Implementation of this DMM is expected to help the District achieve its water use targets, its revenue needs and verifiable water audits by providing accurate water use information to the customer and the District.

Advanced Water Meter Infrastructure

Coastside County Water District is investing in new water meter infrastructure. The improvements include replacing all the District's small meters and installing a secure radio read network that is known as advanced metering infrastructure or AMI.

The installations are planned to begin in November of 2017 and should be completed by March of 2018. The AMI system will provide the District with automated meter reads for our customers throughout the service area. It will also provide the District with hourly meter readings which will assist the District in contacting customers with high water usage due to possible leaks.

Water Meters

The District's small meters have an average age of 20 years and have reached the end of their useful life. The new meters will use ultrasonic, solid-state technology that is suitable for residential and commercial water services.

Most of the large meters and a very small portion of residential meters have already been replaced by the District and are compatible with the Advanced Meter Reading technology. These meters will just have a meter transmission unit attached and the meter lids replaced.

Advanced Meter Reading

The District is installing the Aclara Fixed Network AMI STAR® System. The component attached to water meters is called the meter transmission unit (MTU) and this radio unit transmits meter readings every six hours to a data collection unit (DCU). From the DCU, the meter readings are sent to a database from which the District can access the meter readings and import them into our utility billing database.

Coastside County Water District
766 Main Street, Half Moon Bay CA 94019
www.coastsidewater.org
customerservice@coastsidewater.org | (650) 726-4405

Figure 9-1. Fact Sheet for Advanced Meter Infrastructure (AMI)

9.2.3 Conservation Pricing

The District's water rates consist of a base charge and a quantity charge paid per one hundred cubic feet (ccf). The District has tiered rates for its single family residential customers and uniform rates for other customers. As described previously, all customer sectors in the District's service area are billed for water service based on actual metered consumption monthly.

The District uses a cost of service analysis to allocate/recover the District's costs to users in proportion to their use of the system, recognizing the impact of each customer class on system facilities and operations. This is all done under the legal framework of the California constitution.

In October 2020 the District adopted Resolution 2020-04, which established an increase in water rates and charges. The District's water rates adopted in Resolution 2020-04 are summarized in Table 9-1. A copy of the District's current water rate schedule is provided in Appendix K.

Table 9-1. Coastside County Water District Water Rates

Volumetric (Commodity) Consumption Charges for Residential Customers[a]			
Tier	Rate Tiers	Monthly Water Consumption Charge Per Unit (effective January 1, 2021)	Monthly Water Consumption Charge Per Unit (effective January 1, 2022)
1	1 - 4 Units	$9.65	$10.14
2	5 - 8 Units	$14.12	$14.83
3	9+ Units	$17.08	$17.94
Uniform Consumption Charges for All Other Customers[a]			
Customer Type		Monthly Water Quantity Charge Per Unit (effective January 1, 2021)	Monthly Water Quantity Charge Per Unit (effective January 1, 2022)
Multi-Family Customers		$12.87	$13.52
All Other Customers		$13.72	$14.41

(a) Quantity charges are in addition to base charges which are charged monthly based on meter size. See water rate schedule included in Appendix K for complete list of charges.

1 unit = 1 ccf = 1 hcf = 748 gallons

Implementation of this DMM is expected to help the District achieve its water use targets by ensuring water customers pay the true cost of water and to adequately fund water system operations and maintenance, including repair and replacement programs, and water conservation programs.

9.2.4 Public Education and Outreach

The District has an active public information and outreach program. In addition, the District participates with BAWSCA and SFPUC on regional outreach efforts regarding regional water system improvements and water use efficiency topics. To encourage the use of water efficient fixtures, the District became a promotional partner to EPA's WaterSense Program. The District utilizes as many outreach methods as possible, including the following:

- Newspaper Advertisements in the Half Moon Bay Review
- Messages on Billing Statements

- Website
- Public Speaking Venues
- High Bill Notification
- Annual Half Moon Bay Pumpkin Festival
- Electronic Newsletters
- Bulletin Board
- Social Media

The District participates in regional school education programs through BAWSCA that are designed for fourth and fifth grades to provide curriculum that meets California State Board of Education content standards for public schools. The District offers other educational materials that are age or grade appropriate to educators in our service area, including the following:

- The Story of Drinking Water
- California Water Story
- Water Cycle Poster
- California Water Map
- Water Cycle Brochures
- California Water Facts
- EarthCapades School Assembly Shows
- Tours of the Nunes Water Treatment Plant

Implementation of this DMM is expected to help the District achieve its water use targets by educating water users about the importance of improving water use efficiency and avoiding water waste.

9.2.5 Programs to Assess and Manage Distribution System Real Loss

A water loss audit is a process of accounting for water use throughout a water system to quantify non-revenue water and place a value on the non-revenue water. For the purposes of this program, non-revenue water is the difference between water produced that enters the distribution system and the metered consumption. On a system-wide basis it consists of real water losses from leaks and apparent losses from billing error, meter error or theft.

The District has taken actions to improve their apparent losses from billing errors and meter errors, in addition to reducing real water loss from leaks. The District has added pressure regulation management and upgraded existing pressure regulation management in the distribution system to reduce real losses. The District has aggressively replaced a significant amount of older pipeline in our distribution system and raw water transmission system to reduce the volume of real losses.

To provide better data validity and reduce apparent losses, the District replaced all retail meters with the exception of some fire meters.

As discussed in Chapter 4 (Section 4.3), the District performs an annual water audit that conforms to AWWA Method M36 (M36). The District submits their annual water loss audit to DWR in compliance with

SB 555. A copy of the District's FY 2019/2020 water audit that was validated by a certified third party is provided in Appendix E. In 2009, the District started to use the International Water Association (IWA)/AWWA water audit method, as published in the third edition of AWWA's M36 Manual Water Audits and Loss Control Programs.

Implementation of this DMM is expected to help the District achieve its water use targets by identifying sources of water loss in the distribution system, improving the quality of data used in the audit and engineering a more efficient water distribution system.

9.2.6 Water Conservation Program Coordination and Staffing Support

A conservation coordinator is an on-going component of a District's water conservation program. The conservation coordinator is responsible for implementing and monitoring the District's water conservation activities.

The District has a Water Resources Analyst that performs the duties of the Water Conservation Coordinator. The District supplements this position with the use of consultants and by participating in regional water use efficiency programs with BAWSCA.

This DMM is performed on an ongoing basis. The effectiveness of this DMM will be evaluated in conjunction with the success of the District's water conservation efforts as a whole.

Implementation of this DMM is expected to help the District achieve its water use targets by making water conservation and implementation of the District's water conservation program a priority.

9.3 OTHER DEMAND MANAGEMENT MEASURES

In addition to the six DMMs described above, the District also implements the following programs:

- Monthly Billing
- WaterSmart Software and Customer Portal with High Bill Notification

These programs are described below.

9.3.1 Monthly Billing

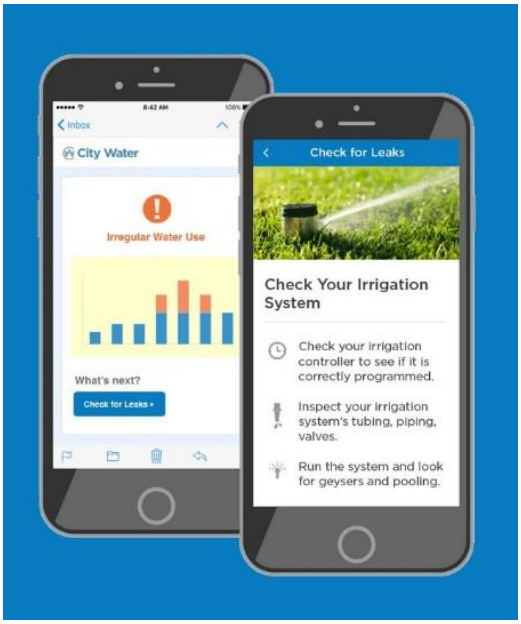
The District transitioned all customers to monthly billing in calendar year 2019. The billing statements now reflect 30 days of consumption instead of 60 days of consumption. The decision to go to monthly billing was based on a conclusion that the benefits were significant for both the customer and the District. Key benefits of monthly billing are listed in Table 9-2.

Table 9-2. List of Benefits for Monthly Billing	
	Customers are familiar with monthly statements from other utilities (phone, power, and cable), so customers are less likely to forget when their water bill is due.
	The total amount paid over a year will be the same as bi-monthly, but the monthly amount will be smaller and easier to budget and pay.
	More frequent information on your water usage will allow you to manage your irrigation and help you find leaks sooner. Finding leaks sooner helps to reduce water waste and unexpected high water bills.
	It allows the Coastside County Water District to report and track compliance with new water use efficiency regulations.

Implementation of this DMM is expected to help the District achieve its water use targets by providing timely feedback to all customers on recent water usage to help customers identify leaks and malfunctioning irrigation controllers promptly.

9.3.2 WaterSmart Software and Customer Portal with High Bill Notification

The District implemented the WaterSmart Software platform to engage customers and allow access to their current hourly consumption data in 2018. The WaterSmart platform is a tool for the District and a resource for customers to manage water consumption. WaterSmart receives uploads from the utility billing system and from the AMI system to populate customer information and consumption. There is delay of about one day for the data that customers can view on their account from the WaterSmart portal. Customers may view their water consumption history on their computer, tablet, or phone and set up alerts for high water use.



WaterSmart engages the customer and helps educate them on their water consumption and how they compare to similar customers. Besides helping with high bill notification, this also helps educate customers. A customer who understands how much water they use can make more informed decisions on how to save water.

The District uses this platform as a tool to notify customers of water use 10 gallons per hour or more as constant consumption, or an extremely high spike (pipe burst) of water. The District will call, email or deliver a door hanger in an attempt to reach the customer or property owner. Most of the leaks in which the customer has communicated the cause are related to their irrigation system. Toilet leaks are a close second to irrigation leaks.

Figure 9-2 helps illustrate the source of the leaks that were confirmed by the customer.

Figure 9-2. Source of Leaks Identified by the WaterSmart Program

The District has received mostly positive feedback from customers regarding the implementation of the WaterSmart portal and notifications from District staff. The table below provides snapshots of some of the positive written comments from customers.

Table 9-3. Written Comments from District Customers on WaterSmart

Implementation of this DMM is expected to help the District achieve its water use targets by reducing the length of time for customer-side active leaks and assisting customers with managing their irrigation.

9.4 PLANNED IMPLEMENTATION TO ACHIEVE WATER USE TARGETS

Water conservation measures are a vital part of the District's overall plan to achieve a reliable, high quality, and cost-effective water supply for its customers. The District has implemented a number of water conservation measures that include, but are not limited to, the following: public outreach, monthly billing, AMI, WaterSmart software and water conservation partnerships.

The District is a member of the California Water Efficiency Partnership (CalWEP) and coordinates with BAWSCA's Regional Water Conservation Program. These organizations and the District's membership assist with planning and implementing demand management measures, along with providing the District with current best practices for water use efficiency.

9.4.1 CUWCC/CalWEP Membership

In 1991, an MOU regarding urban water conservation in California was made that formalized an agreement between DWR, water utilities, environmental organizations, and other interested groups to implement BMPs and make a cooperative effort to reduce the consumption of California's water resources. In 1991, the District became a voluntary signatory of the CUWCC's MOU. Since becoming a signatory to the MOU, the District implemented and promoted its water use efficiency programs to help customers reduce water demand. In 2018, the CUWCC's membership voted to sunset the organization in response to state mandated water conservation programs and replace it with a new one, the CalWEP.

Today, CalWEP continues to provide expertise on California water issues, challenges, and opportunities. The District is a member of CalWEP. The Alliance for Water Efficiency is a partnership organization that is a platform for water use efficiency. It advocates for an efficient and sustainable water future in North America. The District is a member of the Alliance for Water Efficiency and CalWEP is a chapter of the Alliance for Water Efficiency.

9.4.2 Regional Water Conservation Program

BAWSCA manages a Regional Water Conservation Program comprised of several programs and initiatives that support and augment member agencies' and customers' efforts to use water more efficiently. These efforts extend limited water supplies that are available to meet both current and future water needs; increase drought reliability of the existing water system; and save money for both the member agencies and their customers.

The implementation of the Regional Water Conservation Program builds upon both the Water Conservation Implementation Plan (WCIP, completed in September 2009) and the Regional Demand and Conservation Projections Project (Demand Study, completed in June of 2020). These efforts include both Core Programs (implemented regionally throughout the BAWSCA service area) and Subscription Programs (funded by individual member agencies that elect to participate and implement them within their respective service areas).

BAWSCA's Core Conservation Programs include organizing classes open to the public on topics such as water efficient landscape education and water-wise gardening, assistance related to advanced metering infrastructure, and other associated programs that work to promote smart water use and practices. BAWSCA's Subscription Programs include numerous rebate programs, educational programs that can be offered to area schools, technical assistance to member agencies in evaluating water loss, and programs

to train and certify contractors employed to install water efficient landscape. In total, BAWSCA offers 22 programs to its member agencies and that number continues to grow over time.

Each fiscal year, BAWSCA prepares an Annual Water Conservation Report that documents how all of BAWSCA's 26 member agencies have benefitted from the Core Conservation Programs. Additionally, the report highlights how all 26 member agencies participate in one or more of the Subscription Programs offered by BAWSCA, such as rebates, water loss management and large landscape audits. The Demand Study indicates that through a combination of active and passive conservation, 37.3 MGD will be conserved by BAWSCA's member agencies by 2045.

9.5 WATER USE OBJECTIVES (FUTURE REQUIREMENTS)

In 2018, the State Legislature enacted two policy bills, (SB 606 (Hertzberg) and AB 1668 (Friedman)), to establish long-term water conservation and drought planning to adapt to climate change and the associated longer and more intense droughts in California. These two policy bills build on SB X7-7 and set authorities and requirements for urban water use efficiency. The legislation sets standards for indoor residential use and requires the State Water Board, in coordination with DWR, to adopt efficiency standards for outdoor residential use, water losses, and CII outdoor landscape areas with dedicated irrigation meters. At the time of preparation of this UWMP, DWR and the State Water Board are in the process of developing new water loss standards and new standards for indoor and outdoor residential water use. These standards will require urban water retailers to develop agencywide water use objectives, provide annual reports and update their UWMP.

The State Legislature established indoor residential water use standards as 55 gpcd until January 2025, 52.5 gpcd from 2025 to 2029, and 50 gpcd in January 2030, or a greater standard recommended by DWR and the State Water Board. By June 30, 2022, the State Water Board is anticipated to adopt an outdoor residential use standard, a standard for CII outdoor landscape area with dedicated irrigation meters, and performance measures for CII water uses. At that time, the State Water Board will adopt guidelines and methodologies for calculating the water use objectives. In accordance with CWC §10609.20(c), the water use objective for urban water retailers will be based on the estimated efficient indoor and outdoor residential water use, efficient outdoor irrigation of CII landscaped areas, estimated water losses, and estimated water use for variances approved by the State Water Board aggregated across the population in its water service area.

By November 1, 2023, and November 1 of every year thereafter, the District will calculate its urban water use objective and actual water use and provide an annual report to the State. By January 1, 2024, the District will prepare an UWMP supplement incorporating DMMs and other water efficiency standards that it plans to implement to achieve its water use objective by January 1, 2027.

The District, along with other wholesale customers of SFPUC, is working with BAWSCA in a multi-year effort to develop and implement a strategy to meet these new mandates known as Making Conservation a California Way of Life. These efforts include the following elements:

- Completed an assessment of agencies' current practices for the new mandates and found that BAWSCA agencies had uncertainty and potential risk in three areas:
  - Development of outdoor water use budgets in a manner that incorporates landscape area, local climate, and new satellite imagery data
  - Commercial, Industrial and Institutional water use performance measures
  - Water Loss Mandates

- Organized an AMI symposium
- Initiated a CII audit pilot program
- Implemented a regional water loss control program to assist BAWSCA agencies with regulatory requirements
- Engaged the SFPUC on meter testing and calibration practices at BAWSCA agency turnouts

In addition, BAWSCA's Demand Study through 2045 provided valuable insights into long-term water demand patterns, conservation savings, and implementation of BAWSCA's Long-Term Reliable Water Supply Strategy.

CHAPTER 10
Plan Adoption, Submittal, and Implementation

This chapter provides information regarding the notification, public hearing, adoption, and submittal of the District's 2020 UWMP. It also includes discussion on plan implementation and the process of amending the UWMP and the WSCP.

10.1 INCLUSION OF ALL 2020 DATA

Because 2020 is the final compliance year for SB X7-7, the 2020 UWMPs must contain data through the end of 2020. If a water supplier bases its accounting on a fiscal year (July through June) the data must be through the end of the 2020 fiscal year (June 2020). If the water supplier bases its accounting on a calendar year, the data must be through the end of the 2020 calendar year (December 2020).

As indicated in Section 2.4 of this plan, the District uses a fiscal year for water supply and demand accounting, and therefore this plan includes data through June 2020.

10.2 NOTICE OF PUBLIC HEARING

In accordance with the UWMP Act, the District must provide an opportunity for the public to provide input on this plan. The District must consider all public input prior to its adoption. There are two audiences to be notified for the public hearing: cities and counties, and the public.

10.2.1 Notices to Cities and Counties

The District provided greater than a 60-day notice regarding the preparation of its 2020 UWMP to cities (City of Half Moon Bay) and counties (San Mateo County) in its service area as discussed in Section 2.5 of this plan. In addition, the District provided notices to the following agencies:

- San Francisco Public Utilities Commission (SFPUC)
- Bay Area Water Supply and Conservation Agency (BAWSCA)
- Sewer Authority Mid-Coastside (SAM)

The District coordinated the preparation of its UWMP internally, and with the above listed agencies. The notices of preparation are included in Appendix D. Upon substantial completion of this plan, the District provided the agencies listed above, including the City of Half Moon Bay and San Mateo County, with the notice of the public hearing (Appendix D).

Notifications to cities and counties, in accordance with the UWMP Act, are summarized in Table 10-1.

Table 10-1. Notification to Cities and Counties (DWR Table 10-1 Retail)

City Name	60 Day Notice	Notice of Public Hearing
Add additional rows as needed		
City of Half Moon Bay	Yes	Yes
County Name *Drop Down List*	60 Day Notice	Notice of Public Hearing
Add additional rows as needed		
San Mateo County	Yes	Yes

10.2.2 Notice to the Public

The District issued a notice of public hearing to the public and provided a public review period following the notice, and prior to adoption, to allow ample time for public comments to be prepared and received.

A notice of public hearing was issued in accordance with Government Code Section 6066 and was published twice in the Half Moon Bay Review newspaper and in the District's newsletter to notify all customers and local governments of the public hearing. In addition, the notice was posted on the District's website, www.coastsidewater.org. A copy of the published notice of public hearing is included in Appendix D.

10.3 PUBLIC HEARING AND ADOPTION

The District encouraged community participation in the development of this plan, including its WSCP, using public notices and web-based communication. The notice included the time and place of the public hearing, as well as the location where the plan is available for public inspection.

The public hearing provided an opportunity for District water users and the general public to become familiar with the 2020 UWMP, and ask questions about its water supply, the District's continuing plans for providing a reliable, safe, high-quality water supply, and the plans to mitigate various potential water shortage conditions. A copy of the Draft UWMP was made available for public inspection on the District's website.

10.3.1 Public Hearing

A public hearing was held on June 8, 2021. As part of the public hearing, the District provided a report on the District's compliance with the Water Conservation Act of 2009. The report included information on the District's baseline per capita water use, water use targets, compliance, and implementation, as discussed previously in Chapter 5 of this plan.

10.3.2 Adoption

Subsequent to the public hearing, this 2020 UWMP was adopted by the District Board of Directors on June 8, 2021. The District adopted the updated WSCP separately so that it may be updated as necessary. Copies of the adoption resolutions are included in Appendix L.

10.4 PLAN SUBMITTAL

This plan will be submitted to DWR within 30 days of adoption and by July 1, 2021. The adopted 2020 UWMP will be submitted electronically to DWR using the Water Use Efficiency (WUE) data portal. A CD or hardcopy of the adopted 2020 UWMP will also be submitted to the California State Library.

No later than 30 days after adoption, a copy of the adopted 2020 UWMP, including the Water Shortage Contingency Plan, will be provided to the cities and counties to which the District provides water.

10.5 PUBLIC AVAILABILITY

No later than 30 days after submittal to DWR, copies of this Plan, including the adopted Water Shortage Contingency Plan, will be available the District's offices for public review during normal business hours. An electronic copy of this plan will also be available for review and download on the District's website.

10.6 AMENDING AN ADOPTED UWMP OR WATER SHORTAGE CONTINGENCY PLAN

The District may amend its 2020 UWMP and Water Shortage Contingency Plan jointly or separately. If the District amends one or both documents, the District will follow the notification, public hearing, adoption, and submittal process described in Sections 10.2 through 10.4 above. In addition to submitting amendments to DWR through the WUEdata portal, copies of amendments or changes to the plans will be submitted to the California State Library, and any city or county within which the supplier provides water supplies within 30 days after adoption.

Appendix A

Legislative Requirements

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WATER CODE - WAT

DIVISION 6. CONSERVATION, DEVELOPMENT, AND UTILIZATION OF STATE WATER RESOURCES [10000 - 12999]
(Heading of Division 6 amended by Stats. 1957, Ch. 1932.)

PART 2.55. SUSTAINABLE WATER USE AND DEMAND REDUCTION [10608 - 10609.42] *(Part 2.55 added by Stats.2009, 7th Ex. Sess., Ch. 4, Sec. 1.)*

CHAPTER 1. General Declarations and Policy [10608 - 10608.8] *(Chapter 1 added by Stats. 2009, 7th Ex. Sess., Ch. 4, Sec. 1.)*

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 stream flows, 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.

(*Added* by Stats. 2009, 7th Ex. Sess., Ch. 4, Sec. 1. (SB 7 7x) Effective February 3, 2010.)

10608.4

It is the intent of the Legislature, by the enactment of this part, to do all of the following:

(a) Require all water suppliers to increase the efficiency of use of this essential resource.

(b) Establish a framework to meet the state targets for urban water conservation identified in this part and called for by the Governor.

(c) Measure increased efficiency of urban water use on a per capita basis.

(d) Establish a method or methods for urban retail water suppliers to determine targets for achieving increased water use efficiency by the year 2020, in accordance with the Governor's goal of a 20-percent reduction.

(e) Establish consistent water use efficiency planning and implementation standards for urban water suppliers and agricultural water suppliers.

(f) Promote urban water conservation standards that are consistent with the California Urban Water Conservation Council's adopted best management practices and the requirements for demand management in Section 10631.

(g) Establish standards that recognize and provide credit to water suppliers that made substantial capital investments in urban water conservation since the drought of the early 1990s.

(h) Recognize and account for the investment of urban retail water suppliers in providing recycled water for beneficial uses.

(i) Require implementation of specified efficient water management practices for agricultural water suppliers.

(j) Support the economic productivity of California's agricultural, commercial, and industrial sectors.

(k) Advance regional water resources management.

(Added by Stats. 2009, 7th Ex. Sess., Ch. 4, Sec. 1. (SB 7 7x) Effective February 3, 2010.)

10608.8

(a) (1) Water use efficiency measures adopted and implemented pursuant to this part or Part 2.8 (commencing with Section 10800) are water conservation measures subject to the protections provided under Section 1011.

(2) Because an urban agency is not required to meet its urban water use target until 2020 pursuant to subdivision (a) of Section 10608.24, an urban retail water supplier's failure to meet those targets shall not establish a violation of law for purposes of any state administrative or judicial proceeding prior to January 1, 2021. Nothing in this paragraph limits the use of data reported to the department or the board in litigation or an administrative proceeding. This paragraph shall become inoperative on January 1, 2021.

(3) To the extent feasible, the department and the board shall provide for the use of water conservation reports required under this part to meet the requirements of Section 1011 for water conservation reporting.

(b) This part does not limit or otherwise affect the application of Chapter 3.5 (commencing with Section 11340), Chapter 4 (commencing with Section 11370), Chapter 4.5 (commencing with Section 11400), and Chapter 5 (commencing with Section 11500) of Part 1 of Division 3 of Title 2 of the Government Code.

(c) This part does not require a reduction in the total water used in the agricultural or urban sectors, because other factors, including, but not limited to, changes in agricultural economics or population growth may have greater effects on water use. This part does not limit the economic productivity of California's agricultural, commercial, or industrial sectors.

(d) The requirements of this part do not apply to an agricultural water supplier that is a party to the Quantification Settlement Agreement, as defined in subdivision (a) of Section 1 of Chapter 617 of the Statutes of 2002, during the period within which the Quantification Settlement Agreement remains in effect. After the expiration of the Quantification Settlement Agreement, to the extent conservation water projects implemented as part of the Quantification Settlement Agreement remain in effect, the conserved water created as part of those projects shall be credited against the obligations of the agricultural water supplier pursuant to this part.

(Added by Stats. 2009, 7th Ex. Sess., Ch. 4, Sec. 1. (SB 7 7x) Effective February 3, 2010.)

WATER CODE - WAT

DIVISION 6. CONSERVATION, DEVELOPMENT, AND UTILIZATION OF STATE WATER RESOURCES [10000 - 12999] *(Heading of Division 6 amended by Stats. 1957, Ch. 1932.)*

PART 2.55. SUSTAINABLE WATER USE AND DEMAND REDUCTION [10608 - 10609.42] *(Part 2.55 added by Stats. 2009, 7th Ex. Sess., Ch. 4, Sec. 1.)*

CHAPTER 9. Urban Water Use Objectives and Water Use Reporting [10609 - 10609.38] *(Chapter 9 added by Stats. 2018, Ch. 15, Sec. 7.)*

10609. (a) The Legislature finds and declares that this chapter establishes a method to estimate the aggregate amount of water that would have been delivered the previous year by an urban retail water supplier if all that water had been used efficiently. This estimated aggregate water use is the urban retail water supplier's urban water use objective. The method is based on water use efficiency standards and local service area characteristics for that year. By comparing the amount of water actually used in the previous year with the urban water use objective, local urban water suppliers will be in a better position to help eliminate unnecessary use of water; that is, water used in excess of that needed to accomplish the intended beneficial use.

(b) The Legislature further finds and declares all of the following:

(1) This chapter establishes standards and practices for the following water uses:

(A) Indoor residential use.

(B) Outdoor residential use.

(C) CII water use.

(D) Water losses.

(E) Other unique local uses and situations that can have a material effect on an urban water supplier's total water use.

(2) This chapter further does all of the following:

(A) Establishes a method to calculate each urban water use objective.

(B) Considers recycled water quality in establishing efficient irrigation standards.

(C) Requires the department to provide or otherwise identify data regarding the unique local conditions to support the calculation of an urban water use objective.

(D) Provides for the use of alternative sources of data if alternative sources are shown to be as accurate as, or more accurate than, the data provided by the department.

(E) Requires annual reporting of the previous year's water use with the urban water use objective.

(F) Provides a bonus incentive for the amount of potable recycled water used the previous year when comparing the previous year's water use with the urban water use objective, of up to 10 percent of the urban water use objective.

(3) This chapter requires the department and the board to solicit broad public participation from stakeholders and other interested persons in the development of the standards and the adoption of regulations pursuant to this chapter.

(4) This chapter preserves the Legislature's authority over long-term water use efficiency target setting and ensures appropriate legislative oversight of the implementation of this chapter by doing all of the following:

(A) Requiring the Legislative Analyst to conduct a review of the implementation of this chapter, including compliance with the adopted standards and regulations, accuracy of the data, use of alternate data, and other

issues the Legislative Analyst deems appropriate.

(B) Stating legislative intent that the director of the department and the chairperson of the board appear before the appropriate Senate and Assembly policy committees to report on progress in implementing this chapter.

(C) Providing one-time-only authority to the department and board to adopt water use efficiency standards, except as explicitly provided in this chapter. Authorization to update the standards shall require separate legislation.

(c) It is the intent of the Legislature that the following principles apply to the development and implementation of long-term standards and urban water use objectives:

(1) Local urban retail water suppliers should have primary responsibility for meeting standards-based water use targets, and they shall retain the flexibility to develop their water supply portfolios, design and implement water conservation strategies, educate their customers, and enforce their rules.

(2) Long-term standards and urban water use objectives should advance the state's goals to mitigate and adapt to climate change.

(3) Long-term standards and urban water use objectives should acknowledge the shade, air quality, and heat-island reduction benefits provided to communities by trees through the support of water-efficient irrigation practices that keep trees healthy.

(4) The state should identify opportunities for streamlined reporting, eliminate redundant data submissions, and incentivize open access to data collected by urban and agricultural water suppliers.

(Amended by Stats. 2019, Ch. 497, Sec. 287. (AB 991) Effective January 1, 2020.)

10609.2. (a) The board, in coordination with the department, shall adopt long-term standards for the efficient use of water pursuant to this chapter on or before June 30, 2022.

(b) Standards shall be adopted for all of the following:

(1) Outdoor residential water use.

(2) Outdoor irrigation of landscape areas with dedicated irrigation meters in connection with CII water use.

(3) A volume for water loss.

(c) When adopting the standards under this section, the board shall consider the policies of this chapter and the proposed efficiency standards' effects on local wastewater management, developed and natural parklands, and urban tree health. The standards and potential effects shall be identified by May 30, 2022. The board shall allow for public comment on potential effects identified by the board under this subdivision.

(d) The long-term standards shall be set at a level designed so that the water use objectives, together with other demands excluded from the long-term standards such as CII indoor water use and CII outdoor water use not connected to a dedicated landscape meter, would exceed the statewide conservation targets required pursuant to Chapter 3 (commencing with Section 10608.16).

(e) The board, in coordination with the department, shall adopt by regulation variances recommended by the department pursuant to Section 10609.14 and guidelines and methodologies pertaining to the calculation of an urban retail water supplier's urban water use objective recommended by the department pursuant to Section 10609.16.

(Added by Stats. 2018, Ch. 15, Sec. 7. (AB 1668) Effective January 1, 2019.)

10609.4. (a) (1) Until January 1, 2025, the standard for indoor residential water use shall be 55 gallons per capita daily.

(2) Beginning January 1, 2025, and until January 1, 2030, the standard for indoor residential water use shall be the greater of 52.5 gallons per capita daily or a standard recommended pursuant to subdivision (b).

(3) Beginning January 1, 2030, the standard for indoor residential water use shall be the greater of 50 gallons per capita daily or a standard recommended pursuant to subdivision (b).

(b) (1) The department, in coordination with the board, shall conduct necessary studies and investigations and may jointly recommend to the Legislature a standard for indoor residential water use that more appropriately reflects best practices for indoor residential water use than the standard described in subdivision (a). A report on the results of the studies and investigations shall be made to the chairpersons of the relevant policy committees of each house of the Legislature by January 1, 2021, and shall include information necessary to support the recommended standard, if there is one. The studies and investigations shall also include an analysis of the benefits and impacts of how the changing standard for indoor residential water use will impact water and wastewater

management, including potable water usage, wastewater, recycling and reuse systems, infrastructure, operations, and supplies.

(2) The studies, investigations, and report described in paragraph (1) shall include collaboration with, and input from, a broad group of stakeholders, including, but not limited to, environmental groups, experts in indoor plumbing, and water, wastewater, and recycled water agencies.

(Added by Stats. 2018, Ch. 15, Sec. 7. (AB 1668) Effective January 1, 2019.)

10609.6. (a) (1) The department, in coordination with the board, shall conduct necessary studies and investigations and recommend, no later than October 1, 2021, standards for outdoor residential use for adoption by the board in accordance with this chapter.

(2) (A) The standards shall incorporate the principles of the model water efficient landscape ordinance adopted by the department pursuant to the Water Conservation in Landscaping Act (Article 10.8 (commencing with Section 65591) of Chapter 3 of Division 1 of Title 7 of the Government Code).

(B) The standards shall apply to irrigable lands.

(C) The standards shall include provisions for swimming pools, spas, and other water features. Ornamental water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, shall be analyzed separately from swimming pools and spas.

(b) The department shall, by January 1, 2021, provide each urban retail water supplier with data regarding the area of residential irrigable lands in a manner that can reasonably be applied to the standards adopted pursuant to this section.

(c) The department shall not recommend standards pursuant to this section until it has conducted pilot projects or studies, or some combination of the two, to ensure that the data provided to local agencies are reasonably accurate for the data's intended uses, taking into consideration California's diverse landscapes and community characteristics.

(Added by Stats. 2018, Ch. 15, Sec. 7. (AB 1668) Effective January 1, 2019.)

10609.8. (a) The department, in coordination with the board, shall conduct necessary studies and investigations and recommend, no later than October 1, 2021, standards for outdoor irrigation of landscape areas with dedicated irrigation meters or other means of calculating outdoor irrigation use in connection with CII water use for adoption by the board in accordance with this chapter.

(b) The standards shall incorporate the principles of the model water efficient landscape ordinance adopted by the department pursuant to the Water Conservation in Landscaping Act (Article 10.8 (commencing with Section 65591) of Chapter 3 of Division 1 of Title 7 of the Government Code).

(c) The standards shall include an exclusion for water for commercial agricultural use meeting the definition of subdivision (b) of Section 51201 of the Government Code.

(Added by Stats. 2018, Ch. 15, Sec. 7. (AB 1668) Effective January 1, 2019.)

10609.9. For purposes of Sections 10609.6 and 10609.8, "principles of the model water efficient landscape ordinance" means those provisions of the model water efficient landscape ordinance applicable to the establishment or determination of the amount of water necessary to efficiently irrigate both new and existing landscapes. These provisions include, but are not limited to, all of the following:

(a) Evapotranspiration adjustment factors, as applicable.

(b) Landscape area.

(c) Maximum applied water allowance.

(d) Reference evapotranspiration.

(e) Special landscape areas, including provisions governing evapotranspiration adjustment factors for different types of water used for irrigating the landscape.

(Added by Stats. 2018, Ch. 15, Sec. 7. (AB 1668) Effective January 1, 2019.)

10609.10. (a) The department, in coordination with the board, shall conduct necessary studies and investigations and recommend, no later than October 1, 2021, performance measures for CII water use for adoption by the board in accordance with this chapter.

(b) Prior to recommending performance measures for CII water use, the department shall solicit broad public participation from stakeholders and other interested persons relating to all of the following:

(1) Recommendations for a CII water use classification system for California that address significant uses of water.

(2) Recommendations for setting minimum size thresholds for converting mixed CII meters to dedicated irrigation meters, and evaluation of, and recommendations for, technologies that could be used in lieu of requiring dedicated irrigation meters.

(3) Recommendations for CII water use best management practices, which may include, but are not limited to, water audits and water management plans for those CII customers that exceed a recommended size, volume of water use, or other threshold.

(c) Recommendations of appropriate performance measures for CII water use shall be consistent with the October 21, 2013, report to the Legislature by the Commercial, Industrial, and Institutional Task Force entitled "Water Use Best Management Practices," including the technical and financial feasibility recommendations provided in that report, and shall support the economic productivity of California's commercial, industrial, and institutional sectors.

(d) (1) The board, in coordination with the department, shall adopt performance measures for CII water use on or before June 30, 2022.

(2) Each urban retail water supplier shall implement the performance measures adopted by the board pursuant to paragraph (1).

(Added by Stats. 2018, Ch. 15, Sec. 7. (AB 1668) Effective January 1, 2019.)

10609.12. The standards for water loss for urban retail water suppliers shall be the standards adopted by the board pursuant to subdivision (i) of Section 10608.34.

(Added by Stats. 2018, Ch. 15, Sec. 7. (AB 1668) Effective January 1, 2019.)

10609.14. (a) The department, in coordination with the board, shall conduct necessary studies and investigations and, no later than October 1, 2021, recommend for adoption by the board in accordance with this chapter appropriate variances for unique uses that can have a material effect on an urban retail water supplier's urban water use objective.

(b) Appropriate variances may include, but are not limited to, allowances for the following:

(1) Significant use of evaporative coolers.

(2) Significant populations of horses and other livestock.

(3) Significant fluctuations in seasonal populations.

(4) Significant landscaped areas irrigated with recycled water having high levels of total dissolved solids.

(5) Significant use of water for soil compaction and dust control.

(6) Significant use of water to supplement ponds and lakes to sustain wildlife.

(7) Significant use of water to irrigate vegetation for fire protection.

(8) Significant use of water for commercial or noncommercial agricultural use.

(c) The department, in recommending variances for adoption by the board, shall also recommend a threshold of significance for each recommended variance.

(d) Before including any specific variance in calculating an urban retail water supplier's water use objective, the urban retail water supplier shall request and receive approval by the board for the inclusion of that variance.

(e) The board shall post on its Internet Web site all of the following:

(1) A list of all urban retail water suppliers with approved variances.

(2) The specific variance or variances approved for each urban retail water supplier.

(3) The data supporting approval of each variance.

(Added by Stats. 2018, Ch. 15, Sec. 7. (AB 1668) Effective January 1, 2019.)

10609.15. To help streamline water data reporting, the department and the board shall do all of the following:

(a) Identify urban water reporting requirements shared by both agencies, and post on each agency's Internet Web site how the data is used for planning, regulatory, or other purposes.

(b) Analyze opportunities for more efficient publication of urban water reporting requirements within each agency, and analyze how each agency can integrate various data sets in a publicly accessible location, identify priority actions, and implement priority actions identified in the analysis.

(c) Make appropriate data pertaining to the urban water reporting requirements that are collected by either agency available to the public according to the principles and requirements of the Open and Transparent Water Data Act (Part 4.9 (commencing with Section 12400)).

(Added by Stats. 2018, Ch. 15, Sec. 7. (AB 1668) Effective January 1, 2019.)

10609.16. The department, in coordination with the board, shall conduct necessary studies and investigations and recommend, no later than October 1, 2021, guidelines and methodologies for the board to adopt that identify how an urban retail water supplier calculates its urban water use objective. The guidelines and methodologies shall address, as necessary, all of the following:

(a) Determining the irrigable lands within the urban retail water supplier's service area.

(b) Updating and revising methodologies described pursuant to subparagraph (A) of paragraph (1) of subdivision (h) of Section 10608.20, as appropriate, including methodologies for calculating the population in an urban retail water supplier's service area.

(c) Using landscape area data provided by the department or alternative data.

(d) Incorporating precipitation data and climate data into estimates of a urban retail water supplier's outdoor irrigation budget for its urban water use objective.

(e) Estimating changes in outdoor landscape area and population, and calculating the urban water use objective, for years when updated landscape imagery is not available from the department.

(f) Determining acceptable levels of accuracy for the supporting data, the urban water use objective, and compliance with the urban water use objective.

(Added by Stats. 2018, Ch. 15, Sec. 7. (AB 1668) Effective January 1, 2019.)

10609.18. The department and the board shall solicit broad public participation from stakeholders and other interested persons in the development of the standards and the adoption of regulations pursuant to this chapter. The board shall hold at least one public meeting before taking any action on any standard or variance recommended by the department.

(Added by Stats. 2018, Ch. 15, Sec. 7. (AB 1668) Effective January 1, 2019.)

10609.20. (a) Each urban retail water supplier shall calculate its urban water use objective no later than January 1, 2024, and by January 1 every year thereafter.

(b) The calculation shall be based on the urban retail water supplier's water use conditions for the previous calendar or fiscal year.

(c) Each urban water supplier's urban water use objective shall be composed of the sum of the following:

(1) Aggregate estimated efficient indoor residential water use.

(2) Aggregate estimated efficient outdoor residential water use.

(3) Aggregate estimated efficient outdoor irrigation of landscape areas with dedicated irrigation meters or equivalent technology in connection with CII water use.

(4) Aggregate estimated efficient water losses.

(5) Aggregate estimated water use in accordance with variances, as appropriate.

(d) (1) An urban retail water supplier that delivers water from a groundwater basin, reservoir, or other source that is augmented by potable reuse water may adjust its urban water use objective by a bonus incentive calculated pursuant to this subdivision.

(2) The water use objective bonus incentive shall be the volume of its potable reuse delivered to residential water users and to landscape areas with dedicated irrigation meters in connection with CII water use, on an acre-foot basis.

(3) The bonus incentive pursuant to paragraph (1) shall be limited in accordance with one of the following:

(A) The bonus incentive shall not exceed 15 percent of the urban water supplier's water use objective for any potable reuse water produced at an existing facility.

(B) The bonus incentive shall not exceed 10 percent of the urban water supplier's water use objective for any potable reuse water produced at any facility that is not an existing facility.

(4) For purposes of this subdivision, "existing facility" means a facility that meets all of the following:

(A) The facility has a certified environmental impact report, mitigated negative declaration, or negative declaration on or before January 1, 2019.

(B) The facility begins producing and delivering potable reuse water on or before January 1, 2022.

(C) The facility uses microfiltration and reverse osmosis technologies to produce the potable reuse water.

(e) (1) The calculation of the urban water use objective shall be made using landscape area and other data provided by the department and pursuant to the standards, guidelines, and methodologies adopted by the board. The department shall provide data to the urban water supplier at a level of detail sufficient to allow the urban water supplier to verify its accuracy at the parcel level.

(2) Notwithstanding paragraph (1), an urban retail water supplier may use alternative data in calculating the urban water use objective if the supplier demonstrates to the department that the alternative data are equivalent, or superior, in quality and accuracy to the data provided by the department. The department may provide technical assistance to an urban retail water supplier in evaluating whether the alternative data are appropriate for use in calculating the supplier's urban water use objective.

(Amended by Stats. 2019, Ch. 239, Sec. 2. (AB 1414) Effective January 1, 2020.)

10609.21. (a) For purposes of Section 10609.20, and notwithstanding paragraph (4) of subdivision (d) of Section 10609.20, "existing facility" also includes the North City Project, phase one of the Pure Water San Diego Program, for which an environmental impact report was certified on April 10, 2018.

(b) This section shall become operative on January 1, 2019.

(Added by Stats. 2018, Ch. 453, Sec. 4. (SB 875) Effective September 17, 2018. Section operative January 1, 2019, by its own provisions.)

10609.22. (a) An urban retail water supplier shall calculate its actual urban water use no later than January 1, 2024, and by January 1 every year thereafter.

(b) The calculation shall be based on the urban retail water supplier's water use for the previous calendar or fiscal year.

(c) Each urban water supplier's urban water use shall be composed of the sum of the following:

(1) Aggregate residential water use.

(2) Aggregate outdoor irrigation of landscape areas with dedicated irrigation meters in connection with CII water use.

(3) Aggregate water losses.

(Amended by Stats. 2019, Ch. 239, Sec. 3. (AB 1414) Effective January 1, 2020.)

10609.24. (a) An urban retail water supplier shall submit a report to the department no later than January 1, 2024, and by January 1 every year thereafter. The report shall include all of the following:

(1) The urban water use objective calculated pursuant to Section 10609.20 along with relevant supporting data.

(2) The actual urban water use calculated pursuant to Section 10609.22 along with relevant supporting data.

(3) Documentation of the implementation of the performance measures for CII water use.

(4) A description of the progress made towards meeting the urban water use objective.

(5) The validated water loss audit report conducted pursuant to Section 10608.34.

(b) The department shall post the reports and information on its internet website.

(c) The board may issue an information order or conservation order to, or impose civil liability on, an entity or individual for failure to submit a report required by this section.

(Amended by Stats. 2019, Ch. 239, Sec. 4. (AB 1414) Effective January 1, 2020.)

10609.25. As part of the first report submitted to the department by an urban retail water supplier no later than January 1, 2024, pursuant to subdivision (a) of Section 10609.24, each urban retail water supplier shall provide a

narrative that describes the water demand management measures that the supplier plans to implement to achieve its urban water use objective by January 1, 2027.

(Added by Stats. 2019, Ch. 239, Sec. 5. (AB 1414) Effective January 1, 2020.)

10609.26. (a) (1) On and after January 1, 2024, the board may issue informational orders pertaining to water production, water use, and water conservation to an urban retail water supplier that does not meet its urban water use objective required by this chapter. Informational orders are intended to obtain information on supplier activities, water production, and conservation efforts in order to identify technical assistance needs and assist urban water suppliers in meeting their urban water use objectives.

(2) In determining whether to issue an informational order, the board shall consider the degree to which the urban retail water supplier is not meeting its urban water use objective, information provided in the report required by Section 10609.24, and actions the urban retail water supplier has implemented or will implement in order to help meet the urban water use objective.

(3) The board shall share information received pursuant to this subdivision with the department.

(4) An urban water supplier may request technical assistance from the department. The technical assistance may, to the extent available, include guidance documents, tools, and data.

(b) On and after January 1, 2025, the board may issue a written notice to an urban retail water supplier that does not meet its urban water use objective required by this chapter. The written notice may warn the urban retail water supplier that it is not meeting its urban water use objective described in Section 10609.20 and is not making adequate progress in meeting the urban water use objective, and may request that the urban retail water supplier address areas of concern in its next annual report required by Section 10609.24. In deciding whether to issue a written notice, the board may consider whether the urban retail water supplier has received an informational order, the degree to which the urban retail water supplier is not meeting its urban water use objective, information provided in the report required by Section 10609.24, and actions the urban retail water supplier has implemented or will implement in order to help meet its urban water use objective.

(c) (1) On and after January 1, 2026, the board may issue a conservation order to an urban retail water supplier that does not meet its urban water use objective. A conservation order may consist of, but is not limited to, referral to the department for technical assistance, requirements for education and outreach, requirements for local enforcement, and other efforts to assist urban retail water suppliers in meeting their urban water use objective.

(2) In issuing a conservation order, the board shall identify specific deficiencies in an urban retail water supplier's progress towards meeting its urban water use objective, and identify specific actions to address the deficiencies.

(3) The board may request that the department provide an urban retail water supplier with technical assistance to support the urban retail water supplier's actions to remedy the deficiencies.

(d) A conservation order issued in accordance with this chapter may include requiring actions intended to increase water-use efficiency, but shall not curtail or otherwise limit the exercise of a water right, nor shall it require the imposition of civil liability pursuant to Section 377.

(Amended by Stats. 2019, Ch. 239, Sec. 6. (AB 1414) Effective January 1, 2020.)

10609.27. Notwithstanding Section 10609.26, the board shall not issue an information order, written notice, or conservation order pursuant to Section 10609.26 if both of the following conditions are met:

(a) The board determines that the urban retail water supplier is not meeting its urban water use objective solely because the volume of water loss exceeds the urban retail water supplier's standard for water loss.

(b) Pursuant to Section 10608.34, the board is taking enforcement action against the urban retail water supplier for not meeting the performance standards for the volume of water losses.

(Added by Stats. 2019, Ch. 203, Sec. 1. (SB 134) Effective January 1, 2020.)

10609.28. The board may issue a regulation or informational order requiring a wholesale water supplier, an urban retail water supplier, or a distributor of a public water supply, as that term is used in Section 350, to provide a monthly report relating to water production, water use, or water conservation.

(Added by Stats. 2018, Ch. 14, Sec. 12. (SB 606) Effective January 1, 2019.)

10609.30. On or before January 10, 2024, the Legislative Analyst shall provide to the appropriate policy committees of both houses of the Legislature and the public a report evaluating the implementation of the water use efficiency

standards and water use reporting pursuant to this chapter. The board and the department shall provide the Legislative Analyst with the available data to complete this report.

(a) The report shall describe all of the following:

(1) The rate at which urban retail water users are complying with the standards, and factors that might facilitate or impede their compliance.

(2) The accuracy of the data and estimates being used to calculate urban water use objectives.

(3) Indications of the economic impacts, if any, of the implementation of this chapter on urban water suppliers and urban water users, including CII water users.

(4) The frequency of use of the bonus incentive, the volume of water associated with the bonus incentive, value to urban water suppliers of the bonus incentive, and any implications of the use of the bonus incentive on water use efficiency.

(5) The early indications of how implementing this chapter might impact the efficiency of statewide urban water use.

(6) Recommendations, if any, for improving statewide urban water use efficiency and the standards and practices described in this chapter.

(7) Any other issues the Legislative Analyst deems appropriate.

(Added by Stats. 2018, Ch. 14, Sec. 13. (SB 606) Effective January 1, 2019.)

10609.32. It is the intent of the Legislature that the chairperson of the board and the director of the department appear before the appropriate policy committees of both houses of the Legislature on or around January 1, 2026, and report on the implementation of the water use efficiency standards and water use reporting pursuant to this chapter. It is the intent of the Legislature that the topics to be covered include all of the following:

(a) The rate at which urban retail water suppliers are complying with the standards, and factors that might facilitate or impede their compliance.

(b) What enforcement actions have been taken, if any.

(c) The accuracy of the data and estimates being used to calculate urban water use objectives.

(d) Indications of the economic impacts, if any, of the implementation of this chapter on urban water suppliers and urban water users, including CII water users.

(e) The frequency of use of the bonus incentive, the volume of water associated with the bonus incentive, value to urban water suppliers of the bonus incentive, and any implications of the use of the bonus incentive on water use efficiency.

(f) An assessment of how implementing this chapter is affecting the efficiency of statewide urban water use.

(Added by Stats. 2018, Ch. 14, Sec. 14. (SB 606) Effective January 1, 2019.)

10609.34. Notwithstanding Section 15300.2 of Title 14 of the California Code of Regulations, an action of the board taken under this chapter shall be deemed to be a Class 8 action, within the meaning of Section 15308 of Title 14 of the California Code of Regulations, provided that the action does not involve relaxation of existing water conservation or water use standards.

(Added by Stats. 2018, Ch. 14, Sec. 15. (SB 606) Effective January 1, 2019.)

10609.36. (a) Nothing in this chapter shall be construed to determine or alter water rights. Sections 1010 and 1011 apply to water conserved through implementation of this chapter.

(b) Nothing in this chapter shall be construed to authorize the board to update or revise water use efficiency standards authorized by this chapter except as explicitly provided in this chapter. Authorization to update the standards beyond that explicitly provided in this chapter shall require separate legislation.

(c) Nothing in this chapter shall be construed to limit or otherwise affect the use of recycled water as seawater barriers for groundwater salinity management.

(Added by Stats. 2018, Ch. 14, Sec. 16. (SB 606) Effective January 1, 2019.)

10609.38. The board may waive the requirements of this chapter for a period of up to five years for any urban retail water supplier whose water deliveries are significantly affected by changes in water use as a result of damage from a disaster such as an earthquake or fire. In establishing the period of a waiver, the board shall take into

consideration the breadth of the damage and the time necessary for the damaged areas to recover from the disaster.

(Added by Stats. 2018, Ch. 14, Sec. 17. (SB 606) Effective January 1, 2019.)

DIVISION 6. CONSERVATION, DEVELOPMENT, AND UTILIZATION OF STATE WATER RESOURCES [10000 - 12999]
(Heading of Division 6 amended by Stats. 1957, Ch. 1932.)

PART 2.6. URBAN WATER MANAGEMENT PLANNING [10610 - 10657] *(Part 2.6 added by Stats. 1983, Ch. 1009, Sec..)*

CHAPTER 1. General Declaration and Policy [10610 - 10610.4] *(Chapter 1 added by Stats. 1983, Ch. 1009, Alec. 1.)*

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

(Added by Stats. 1983, Ch. 1009, Sec. 1.)

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.

(Amended by Stats. 201B, Ch. 14, Sec. 18. (SB 606) Effective January 1, 201 9.)

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.

CHAPTER 2. Definitions [10611 - 1 0618] ***(Chapter 2 added by Stats. 1983, Ch. 1009, iec. 1.)***

10611. Unless the context otherwise requires, the definitions of this chapter govern the construction of this part.

(Added by Stats. 1983, Ch. 1009, Sec. 1.)

10611.3 "Customer" means a purchaser of water from a water supplier who uses the water for municipal purposes, including residential, commercial, governmental, and industrial uses.

Added by renumbering Section 10612 by Stats. 2018, Ch. 14, Sec. 20. (SB 606) Effective January 1, 2019.)

10611.5 "Demand management" means those water conservation measures, programs, and incentives that prevent the waste of water and promote the reasonable and efficient use and reuse of available supplies.

(Amended by Stats. 1995, Ch. 854, Sec. 3. Effective January 1, 1996.)

10612 "Drought risk assessment" means a method that examines water shortage risks based on the driest five- year historic sequence for the agency's water supply, as described in subdivision (b) of Section 10635.

(Added by Stats. 2018, Ch. 14, Sec. 21. (SB 606) Effective January 1, 201 9.)

10613. "Efficient use" means those management measures that result in the most effective use of water so as to prevent its waste or unreasonable use or unreasonable method of use.

(Added by :3tats. 1983, Ch. 1009, Exec. 1.)

10614. "Person" means any individual, firm, association, organization, partnership, business, trust, corporation, company, public agency, or any agency of such an entity.

(Added by Stats. 1983, Ch. 1009, Sec. 1.)

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.

(Amended by Stats. 1995, *Ch. 854, Sec. 4. Effective January 1, 1996.)*

10616. "Public agency" means any board, commission, county, city and county, city, regional agency, district, or other public entity.

(Added by Stats. 1983, Ch. 1009, Sec. 1.)

10616.5 "Recycled water" means the reclamation and reuse of wastewater for beneficial use.

(Added by Stats. 1995, Ch. 854, Sec. 5. Effective January 1, 1996)

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.

(Amended by Stats. 1996, *Ch. 1023, Sec. 428. Effective January 29, 1996.)*

10617.5. "Water shortage contingency plan" means a document that incorporates the provisions detailed in subdivision (a) of Section 10632 and is subsequently adopted by an urban water supplier pursuant to this article.

(Added by Stats. 2018, Ch. 14, Sec. 22. (SB 606) Effective January 1, 2019)

10618 "Water supply and demand assessment" means a method that looks at current year and one or more dry year supplies and demands for determining water shortage risks, as described in Section 10632.1.

(Added by Stats. 2018, Ch. 14, Sec. 23 (SB 606). Effective January 1, 2019)

CHAPTER 3. Urban Water Management Plans [10620 - 10645] *(Chapter 3 added by* Stabs. *1983, Ch. 1009, Sec. 1.)*

ARTICLE 1. General Provisions [10620 - 1 0621] *(Article 1 added by Stats. 1 983, Ch. 1009, Sec. 1.)*

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) (I) 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.

(Amended by Stats. 2018, Ch. 14, Sec. 24. (SB 606) Effective January 1, 2019.)

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.

(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. The urban water supplier may consult with, and obtain comments from, any city or county that receives notice pursuant to this subdivision.

(c) An urban water supplier regulated by the Public Utilities Commission shall include its most recent plan and water shortage contingency plan as part of the supplier's general rate case filings.

(d) The amendments to, or changes in, the plan shall be adopted and filed in the manner set forth in Article 3 (commencing with Section 10640)

(e) Each urban water supplier shall update and submit its 2015 plan to the department by July1, 2016

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

(Amended by Stats. 2019, Ch. 239, Sec. 7. (AB 1414) Effective January 1, 2020.)

CHAPTER 3. Urban Water Management Plans [10620 - 10645] ***(Chapter 3 added by Stats. 1983, Ch. 1009, Sec. 1.)***

ARTICLE 2. Contents of Plans [10630 - 1 0634] ***(Article 2 added by Stats. 1 983, Ch. 1009, Sec. 1.)***

10630 It is the intention of the Legislature, in enacting this part, to permit levels of water management planning commensurate with the numbers of customers served and the volume of water supplied, while accounting for impacts from climate change.

(Amended by Stats. 2018, Ch. 14, Sec. 26. (SB 606) Effective January 1, 201 9.)

10630.5 Each plan shall include a simple lay description of how much water the agency has on a reliable basis, how much it needs for the foreseeable future, what the agency's strategy is for meeting its water needs, the challenges facing the agency, and any other information necessary to provide a general understanding of the agency's plan.

(Added by Stats. 2018, Ch. 14, Sec. 27. (SB 606) Effective January 1, 2019.)

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:

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.

(A) 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).

(B) 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.

(C) 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) (I) 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) For the supplement required of urban retail water suppliers by paragraph (2) of subdivision (f) of Section 10621, a narrative that describes the water demand management measures that the supplier plans to implement to achieve its urban water use objective by January 1, 2027, pursuant to Chapter 9 (commencing with Section 10609) of Part 2.55.

(C) 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 (C) 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).

(Amended by Stats. 2018, Ch. 14, Sec. 28. (SB 606) Effective January 1, 2019.)

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.

(b) It is the intent of the Legislature that the identification of projected water use for single-family and multifamily residential housing for lower income households will assist a supplier in complying with the requirement under Section 65589.7 of the Government Code to grant a priority for the provision of service to housing units affordable to lower income households.

(Added by Stats. 2005, Ch. 727, Sec. 2. Effective January 1, 2006.)

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.

(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. The department may consider studies and calculations conducted by the Public Utilities Commission in developing the methodology.

(c) The Legislature finds and declares that energy use is only one factor in water supply planning and shall not be considered independently of other factors.

(Amended by Stats. 2018, Ch. 14, Sec. 29. *(SB* 606a *Effective January 1, 2019.)*

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:

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

(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.

(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.

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

(B) Locally appropriate operational changes.

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

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

(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.

(C) Any other relevant communications.

(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.

(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.

(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.

(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.

(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.

(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.

(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.

(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.

(Repealed and added by Stats. 2018, Ch. 14, Sec. 32. (SB 606) Effective January 1, 2019.)

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 June 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 June 1 of each year, whichever is later.

(Added by Stats. 2018, Ch. 14, Sec. 33. (SB 606) Effective January 1, 2019.)

10632.2. An urban water supplier shall follow, where feasible and appropriate, the prescribed procedures and implement determined shortage response actions in its water shortage contingency plan, as identified in subdivision

(a) of Section 10632, or reasonable alternative actions, provided that descriptions of the alternative actions are submitted with the annual water shortage assessment report pursuant to Section

10632.1. Nothing in this section prohibits an urban water supplier from taking actions not specified in its water shortage contingency plan, if needed, without having to formally amend its urban water management plan or water shortage contingency plan.

(Added by Stats. 2018, Ch. 14, Sec. 34. (SB 606) Effective January 1, 2019.)

10632.3 It is the intent of the Legislature that, upon proclamation by the Governor of a state of emergency under the California Emergency Services Act (Chapter 7 (commencing with Section 8550) of Division 1 of Title 2 of the Government Code) based on drought conditions, the board defer to implementation of locally adopted water shortage contingency plans to the extent practicable.

(Added by Stats. 2018, Ch. 14, Sec. 35. (SB 606) Effective January 1, 2019.)

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.

(Added by Stats. 2015, Ch. 681, Sec. 1. (SB 664a *Effective January 1, 2OJ* 6.g

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:

(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.

(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.

(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.

(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.

(g) A plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.

(Amended by Stats. 2009, Ch. 534, Sec. 2. (AB 1465) Effective January 1, 2010.)

10634 The plan shall include information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments as described in subdivision (a) of Section 10631, and the manner in which water quality affects water management strategies and supply reliability.

(Added by Stats. 2001, Ch. 644, Sec. 3. Effective January 1, 2002.)

CHAPTER 3. Urban Water Management Plans [10620 - 10645] ***(Chapter 3 added by*** **Stabs.** ***1983, Ch. 1009, Sec. 1.)***

ARTICLE 2.5. Water Service Reliability [10635- 10635.] ***(Article 2.5 added by Stats. 1995, Ch. 854, Sec. 11.)***

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.

(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.

(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.

(d) Nothing in this article is intended to create a right or entitlement to water service or any specific level of water service.

(e) Nothing in this article is intended to change existing law concerning an urban water supplier's obligation to provide water service to its existing customers or to any potential future customers

(Amended by Stats. 2018, Ch. 14, Sec. 36. (SB 606) Effective January 1, 2019.)

CHAPTER 3. Urban Water Management Plans [10620 - 10645] ***(Chapter 3 added by*** **Stabs.** ***1983, Ch. 1009, Sec. 1.)***

ARTICLE 3. Adoption and Implementation of Plans [1 0640 - 10645] ***Article 3 added by Stats. 1983, Ch. 1009, Sec. 1.)***

10640. (a) Every urban water supplier required to prepare a plan pursuant to this part shall prepare its plan pursuant to Article 2 (commencing with Section 10630). The supplier shall likewise periodically review the plan as required by Section 10621, and any amendments or changes required as a result of that review shall be adopted pursuant to this article.

(b) Every urban water supplier required to prepare a water shortage contingency plan shall prepare a water shortage contingency plan pursuant to Section 10632. The supplier shall likewise periodically review the water shortage contingency plan as required by paragraph (10) of subdivision (a) of Section 10632 and any amendments or changes required as a result of that review shall be adopted pursuant to this article.

(Amended by Stats. 2018, Ch. 14, Sec. 37. (SB 606a *Effective January 1, 2OJ* 9.g

10641 An urban water supplier required to prepare a plan or a water shortage contingency plan may consult with, and obtain comments from, any public agency or state agency or any person who has special expertise with respect to water demand management methods and techniques.

(Amended by Stats. 2018, Ch. 14, Sec. 38. (SB 606a *Effective January 1, 20J* 9.g

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 both the plan and the water shortage contingency plan. Prior to adopting either, 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. Prior to any of these hearings, notice of the time and place of the hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code. The urban water supplier shall provide notice of the time and place of a hearing to any city or county within which the supplier provides water supplies. Notices by a local public agency pursuant to this section shall be provided pursuant to Chapter 17.5 (commencing with Section 7290) of Division 7 of Title 1 of the Government Code. A privately owned water supplier shall provide an equivalent notice within its service area. After the hearing or hearings, the plan or water shortage contingency plan shall be adopted as prepared or as modified after the hearing or hearings.

(Amended by Stats. 2018, Ch. 14, Sec. 39. (SB 606$ *Effective January 1, 70J* 9.g

10643 An urban water supplier shall implement its plan adopted pursuant to this chapter in accordance with the schedule set forth in its plan.

(Added by Stats. 1983, Ch. 1009, Sec. 1.)

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.Copies of amendments or changes to the plans shall be submitted to the department, the California State Library, and any city or county within which the supplier provides water supplies within 30 days after adoption.

(2) The plan, or amendments to the plan, submitted to the department pursuant to paragraph (1)

shall be submitted electronically and shall include any standardized forms, tables, or displays specified by the department.

(b) If an urban water supplier revises its water shortage contingency plan, the supplier shall submit to the department a copy of its water shortage contingency plan prepared pursuant to subdivision (a) of Section 10632 no later than 30 days after adoption, in accordance with protocols for submission and using electronic reporting tools developed by the department.

(c) (1) (A) Notwithstanding Section 10231.5 of the Government Code, the department shall prepare and submit to the Legislature, on or before July 1, in the years ending in seven and two, a report summarizing the status of the plans and water shortage contingency plans adopted pursuant to this part. The report prepared by the department shall identify the exemplary elements of the individual plans and water shortage contingency plans. The department shall provide a copy of the report to each urban water supplier that has submitted its plan and water shortage contingency plan to the department. The department shall also prepare reports and provide data for any legislative hearings designed to consider the effectiveness of plans and water shortage contingency plans submitted pursuant to this part.

(B) The department shall prepare and submit to the board, on or before September 30 of each year, a report summarizing the submitted water supply and demand assessment results along with appropriate reported water shortage conditions and the regional and statewide analysis of water supply conditions developed by the department. As part of the report, the department shall provide a summary and, as appropriate, urban water supplier specific information regarding various shortage response actions implemented as a result of annual supplier-specific water supply and demand assessments performed pursuant to Section 10632.1.

(C) The department shall submit the report to the Legislature for the 2015 plans by July 1, 2017, and the report to the Legislature for the 2020 plans and water shortage contingency plans by July 1, 2022.

(2) A report to be submitted pursuant to subparagraph (A) of paragraph (1) shall be submitted in compliance with Section 9795 of the Government Code.

(d) The department shall make available to the public the standard the department will use to identify exemplary water demand management measures.

(Amended by Stats. 2018, Ch. 14, Sec. 40. (SB 606) Effective January 1, 2019.)

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.

(Amended by Stats. 2018, Ch. 14, Sec. 41. (SB 606) Effective January 1, 201 9.)

CHAPTER 4. Miscellaneous Provisions [1 0650 - 10657] ***(Chapter 4 added by :itats. 1 983, Ch. 1009, iec. 1.)***

10650 Any actions or proceedings, other than actions by the board, to attack, review, set aside, void, or annul the acts or decisions of an urban water supplier on the grounds of noncompliance with this part shall be commenced as follows:

(a) An action or proceeding alleging failure to adopt a plan or a water shortage contingency plan shall be commenced within 18 months after that adoption is required by this part.

(b) Any action or proceeding alleging that a plan or water shortage contingency plan, or action taken pursuant to either, does not comply with this part shall be commenced within 90 days after filing of the plan or water shortage contingency plan or an amendment to either pursuant to Section 10644 or the taking of that action.

(Amended by Stats. 2018, Ch. 14, Sec. 42. (SB 606) Effective January 1, 2019.)

10651 In any action or proceeding to attack, review, set aside, void, or annul a plan or a water shortage contingency plan, or an action taken pursuant to either by an urban water supplier on the grounds of noncompliance with this part, the inquiry shall extend only to whether there was a prejudicial abuse of discretion. Abuse of discretion is established if the supplier has not proceeded in a manner required by law or if the action by the water supplier is not supported by substantial evidence.

(Amended by Stats. 2018, Ch. 14, Sec. 43. (SB 606) *Effective January 1, 2019*

10652 The California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) does not apply to the preparation and adoption of plans pursuant to this part or to the implementation of actions taken pursuant to Section 10632. Nothing in this part shall be interpreted as exempting from the California Environmental Quality Act any project that would significantly affect water supplies for fish and wildlife, or any project for implementation of the plan, other than projects implementing Section 10632, or any project for expanded or additional water supplies.

(Amended by Stats. 1995, Ch. 854, Sec. 6. *Effective January 1, 1996.)*

10653 The adoption of a plan shall satisfy any requirements of state law, regulation, or order, including those of the board and the Public Utilities Commission, for the preparation of water management plans, water shortage contingency plans, or conservation plans; provided, that if the board or the Public Utilities Commission requires additional information concerning water conservation, drought response measures, or financial conditions to implement its existing authority, nothing in this part shall be deemed to limit the board or the commission in obtaining that information. The requirements of this part shall be satisfied by any urban water demand management plan that complies with analogous federal laws or regulations after the effective date of this part, and which substantially meets the requirements of this part, or by any existing urban water management plan which includes the contents of a plan required under this part.

(Amended by Stats. 2018, Ch. 14, Sec. 45. (SB 606) *Effective January 1, 2019)*

10654 An urban water supplier may recover in its rates the costs incurred in preparing its urban water management plan, its drought risk assessment, its water supply and demand assessment, and its water shortage contingency plan and implementing the reasonable water conservation measures included in either of the plans.

(Amended by Stats. 2018, Ch. 14, Sec. 44. (SB 606) *Effective January 1, 2019)*

10655 If any provision of this part or the application thereof to any person or circumstances is held invalid, that invalidity shall not affect other provisions or applications of this part which can be given effect without the invalid provision or application thereof, and to this end the provisions of this part are severable.

(Amended by Stats. 1983, Ch. 1009, Sec. 1)

10656 An urban water supplier is not eligible for a water grant or loan awarded or administered by the state unless the urban water supplier complies with this part.

(Amended by Stats. 2018, Ch. 14, Sec. 46. (SB 606) *Effective January 1, 2019)*

10657 The department may adopt regulations regarding the definitions of water, water use, and reporting periods, and may adopt any other regulations deemed necessary or desirable to implement this part. In developing regulations pursuant to this section, the department shall solicit broad public participation from stakeholders and other interested persons.

(Amended by Stats. 2018, Ch. 14, Sec. 47. (SB 606) *Effective January 1, 2019)*

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Appendix B

DWR 2020 UWMP Tables

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Submittal Table 2-1 Retail Only: Public Water Systems			
Public Water System Number	Public Water System Name	Number of Municipal Connections 2020	Volume of Water Supplied 2020 *
Add additional rows as needed			
CA4110011	Coastside County Water District	7,593	667
	TOTAL	7,593	667
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*			
NOTES: Volumes are in million gallons (MG) and includes potable and raw water.			

Submittal Table 2-2: Plan Identification			
Select Only One	**Type of Plan**		**Name of RUWMP or Regional Alliance** *if applicable* (select from drop down list)
☑	**Individual UWMP**		
	☐	Water Supplier is also a member of a RUWMP	
	☐	Water Supplier is also a member of a Regional Alliance	
☐	**Regional Urban Water Management Plan (RUWMP)**		

Submittal Table 2-3: Supplier Identification	
Type of Supplier (select one or both)	
☐	Supplier is a wholesaler
☑	Supplier is a retailer
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)	
7/1	
Units of measure used in UWMP * (select from drop down)	
Unit	MG
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*	

Submittal Table 2-4 Retail: Water Supplier Information Exchange
The retail Supplier has informed the following wholesale supplier(s) of projected water use in accordance with Water Code Section 10631.
Wholesale Water Supplier Name
Add additional rows as needed
San Francisco Public Utilities Commission (SFPUC)

Submittal Table 3-1 Retail: Population - Current and Projected						
Population Served	2020	2025	2030	2035	2040	2045*(opt)*
	18,738	18,991	19,238	19,371	19,472	19,573
NOTES: Current and projected population based on ABAG data.						

Submittal Table 4-1 Retail: Demands for Potable and Non-Potable Water - Actual			
Use Type	2020 Actual		
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	Additional Description (as needed)	Level of Treatment When Delivered Drop down list	Volume*
Add additional rows as needed			
Single Family		Drinking Water	331
Multi-Family		Drinking Water	35
Commercial		Drinking Water	34
Landscape	Irrigation	Drinking Water	37
Agricultural irrigation	Irrigation	Drinking Water	72
Other Potable	Schools	Drinking Water	6
Other Potable	Restaurants	Drinking Water	15
Other Potable	Recreation	Drinking Water	3
Other Potable	Parks/Beaches	Drinking Water	5
Other Potable	Marine	Drinking Water	6
Other Potable	Fire	Drinking Water	0
Other Potable	Hotels	Drinking Water	23
Other Potable	Portable	Drinking Water	2
Other Potable	Construction	Drinking Water	2
Other Non-Potable		Raw Water	54
Losses	Potable system losses	Drinking Water	42
		TOTAL	667
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*			
NOTES: Volumes are in MG.			

Submittal Table 4-2 Retail: Use for Potable and Non-Potable Water - Projected						
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		2025	2030	2035	2040	2045 (opt)
Add additional rows as needed						
Single Family		350	346	343	332	330
Multi-Family		37	36	36	35	35
Commercial		36	35	35	34	34
Landscape		39	38	38	37	36
Agricultural irrigation		76	76	75	72	72
Other Potable	Schools	6	6	6	6	6
Other Potable	Restaurants	16	16	16	15	15
Other Potable	Recreation	3	3	3	3	3
Other Potable	Parks/Beaches	5	5	5	5	5
Other Potable	Marine	7	6	6	6	6
Other Potable	Fire	0	0	0	0	0
Other Potable	Hotel	25	24	24	23	23
Other Potable	Portable	2	2	2	2	2
Other Potable	Construction	2	2	2	2	2
Other Non-Potable	Raw Water	57	57	56	54	54
Losses		44	43	43	42	41
	TOTAL	704	697	690	668	664
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*						
NOTES: Volumes are in MG.						

Submittal Table 4-3 Retail: Total Water Use (Potable and Non-Potable)						
	2020	2025	2030	2035	2040	2045 (opt)
Potable Water, Raw, Other Non-potable *From Tables 4-1R and 4-2 R*	667	704	697	690	668	664
Recycled Water Demand[1] *From Table 6-4*	0	0	0	0	0	0
Optional Deduction of Recycled Water Put Into Long-Term Storage[2]						
TOTAL WATER USE	667	704	697	690	668	664

[1] Recycled water demand fields will be blank until Table 6-4 is complete

*[2] Long term storage means water placed into groundwater or surface storage that is not removed from storage in the same year. Supplier **may** deduct recycled water placed in long-term storage from their reported demand. This value is manually entered into Table 4-3.*

NOTES: Volumes are in MG.

Submittal Table 4-4 Retail: Last Five Years of Water Loss Audit Reporting	
Reporting Period Start Date (mm/yyyy)	Volume of Water Loss [1,2]
07/2015	70
07/2016	57
07/2017	89
07/2018	35
07/2019	25

[1] Taken from the field "Water Losses" (a combination of apparent losses and real losses) from the AWWA worksheet.

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

NOTES: Volumes are in MG; copies of the District's water audits are provided in Appendix E.

Submittal Table 4-5 Retail Only: Inclusion in Water Use Projections	
Are Future Water Savings Included in Projections? (Refer to Appendix K of UWMP Guidebook) *Drop down list (y/n)*	Yes
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.	Section 4.4
Are Lower Income Residential Demands Included In Projections? *Drop down list (y/n)*	Yes

Submittal Table 5-1 Baselines and Targets Summary
From SB X7-7 Verification Form
Retail Supplier or Regional Alliance Only

Baseline Period	Start Year *	End Year *	Average Baseline GPCD*	Confirmed 2020 Target*
10-15 year	*1999*	*2008*	*148*	*124*
5 Year	*2004*	*2008*	*150*	

**All cells in this table should be populated manually from the supplier's SBX7-7 Verification Form and reported in Gallons per Capita per Day (GPCD)*

Submittal Table 5-2: 2020 Compliance
From SB X7-7 2020 Compliance Form
Retail Supplier or Regional Alliance Only

2020 GPCD			2020 Confirmed Target GPCD*	Did Supplier Achieve Targeted Reduction for 2020? Y/N
Actual 2020 GPCD*	2020 TOTAL Adjustments*	Adjusted 2020 GPCD* *(Adjusted if applicable)*		
97	*0*	*0*	*124*	*Yes*

**All cells in this table should be populated manually from the supplier's SBX7-7 2020 Compliance Form and reported in Gallons per Capita per Day (GPCD)*

Submittal Table 6-1 Retail: Groundwater Volume Pumped

☐	Supplier does not pump groundwater. The supplier will not complete the table below.
☐	All or part of the groundwater described below is desalinated.

Groundwater Type *Drop Down List* *May use each category multiple times*	Location or Basin Name	2016*	2017*	2018*	2019*	2020*
Add additional rows as needed						
Alluvial Basin	Half Moon Bay Terrace Basin	1.5	7.75	21.9	7.86	9.18
	TOTAL	2	8	22	8	9

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

NOTES: Volumes are in MG.

Submittal Table 6-2 Retail: Wastewater Collected Within Service Area in 2020

☐	There is no wastewater collection system. The supplier will not complete the table below.
	Percentage of 2015 service area covered by wastewater collection system *(optional)*
	Percentage of 2015 service area population covered by wastewater collection system *(optional)*

Wastewater Collection			Recipient of Collected Wastewater			
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated? *Drop Down List*	Volume of Wastewater Collected from UWMP Service Area 2020 *	Name of Wastewater Treatment Agency Receiving Collected Wastewater	Treatment Plant Name	Is WWTP Located Within UWMP Area? *Drop Down List*	Is WWTP Operation Contracted to a Third Party? *(optional)* *Drop Down List*
City of Half Moon Bay	Metered	295	Sewer Authority Mid-Coastside	Sewer Authority Mid-Coastside	Yes	No
Granada Community Services District	Metered	99	Sewer Authority Mid-Coastside	Sewer Authority Mid-Coastside	Yes	No
Total Wastewater Collected from Service Area in 2020:		393				

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

NOTES: Volumes are in MG.

Submittal Table 6-3 Retail: Wastewater Treatment and Discharge Within Service Area in 2020

☐ **No wastewater is treated or disposed of within the UWMP service area.** The supplier will not complete the table below.

Wastewater Treatment Plant Name	Discharge Location Name or Identifier	Discharge Location Description	Wastewater Discharge ID Number *(optional)* [2]	Method of Disposal *Drop down list*	Does This Plant Treat Wastewater Generated Outside the Service Area? *Drop down list*	Treatment Level *Drop down list*	2020 volumes [1] Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area [3]	Recycled Outside of Service Area	Instream Flow Permit Requirement
Sewer Authority Mid-Coastside	2,100 foot ocean outfall, Pacific Ocean at a depth of 45 feet	2,100 foot ocean outfall, Pacific Ocean at a depth of 45 feet	2417068001	Ocean outfall	Yes	Secondary, Disinfected - 2.2	494	494			
						Total	494	494	0	0	0

[1] **Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.
[2] If the **Wastewater Discharge ID Number** is not available to the UWMP preparer, access the SWRCB CIWQS regulated facility website at https://ciwqs.waterboards.ca.gov/ciwqs/readOnly/CiwqsReportServlet?inCommand=reset&reportName=RegulatedFacility

NOTES: Volumes are in MG.

Submittal Table 6-4 Retail: Recycled Water Direct Beneficial Uses Within Service Area

☑ Recycled water is not used and is not planned for use within the service area of the supplier.
The supplier will not complete the table below.

Name of Supplier Producing (Treating) the Recycled Water:	
Name of Supplier Operating the Recycled Water Distribution System:	
Supplemental Water Added in 2020 (volume) *Include units*	
Source of 2020 Supplemental Water	

Beneficial Use Type *Insert additional rows if needed.*	**Potential** Beneficial Uses of Recycled Water (Describe)	Amount of **Potential** Uses of Recycled Water (Quantity) *Include volume units* [1]	General Description of 2020 Uses	Level of Treatment *Drop down list*	2020 [1]	2025 [1]	2030 [1]	2035 [1]	2040 [1]	2045 [1] (opt)
Agricultural irrigation										
Landscape irrigation (exc golf courses)										
Golf course irrigation										
Commercial use										
Industrial use										
Geothermal and other energy production										
Seawater intrusion barrier										
Recreational impoundment										
Wetlands or wildlife habitat										
Groundwater recharge (IPR)										
Reservoir water augmentation (IPR)										
Direct potable reuse										
Other (Description Required)										
				Total:	0	0	0	0	0	0
				2020 Internal Reuse						

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

Submittal Table 6-5 Retail: 2015 UWMP Recycled Water Use Projection Compared to 2020 Actual		
☑	Recycled water was not used in 2015 nor projected for use in 2020. The supplier will not complete the table below. If recycled water was not used in 2020, and was not predicted to be in 2015, then check the box and do not complete the table.	
Beneficial Use Type	**2015 Projection for 2020 [1]**	**2020 Actual Use[1]**
Insert additional rows as needed.		
Agricultural irrigation		
Landscape irrigation (exc golf courses)		
Golf course irrigation		
Commercial use		
Industrial use		
Geothermal and other energy production		
Seawater intrusion barrier		
Recreational impoundment		
Wetlands or wildlife habitat		
Groundwater recharge (IPR)		
Reservoir water augmentation (IPR)		
Direct potable reuse		
Other (Description Required)		
Total	0	0
[1] **Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.		

Submittal Table 6-6 Retail: Methods to Expand 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.		
	Provide page location of narrative in UWMP		
Name of Action	Description	Planned Implementation Year	Expected Increase in Recycled Water Use *
Add additional rows as needed			
		Total	0
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*			

Submittal Table 6-7 Retail: Expected Future Water Supply Projects or Programs						
☐	No expected future water supply projects or programs that provide a quantifiable increase to the agency's water supply. Supplier will not complete the table below.					
☐	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.					
	Provide page location of narrative in the UWMP					
Name of Future Projects or Programs	Joint Project with other suppliers?		Description (if needed)	Planned Implementation Year	Planned for Use in Year Type *Drop Down List*	Expected Increase in Water Supply to Supplier* *This may be a range*
	Drop Down List (y/n)	*If Yes, Supplier Name*				
Add additional rows as needed						
San Vicente Creek Water Supply Project	No			2026	Average Year	50 to 100 MGY
Pilarcitos Creek Well Field Improvements	No			2023	Average Year	30 to 40 MGY
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*						
NOTES: Volumes are in MG.						

Submittal Table 6-8 Retail: Water Supplies — Actual				
Water Supply	Additional Detail on Water Supply	2020		
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		Actual Volume*	Water Quality Drop Down List	Total Right or Safe Yield* (optional)
Add additional rows as needed				
Purchased or Imported Water	SFPUC	371.5	Drinking Water	
Groundwater (not desalinated)	Denniston Wells	9.2	Drinking Water	
Surface water (not desalinated)	Denniston Creek	223.6	Drinking Water	
Surface water (not desalinated)	Pilarcitos Creek	62.3	Drinking Water	
	Total	667		0
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*				
NOTES: Volumes are in MG.				

Submittal Table 6-9 Retail: Water Supplies — Projected

Water Supply		Projected Water Supply * Report To the Extent Practicable									
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	2025		2030		2035		2040		2045 (opt)	
		Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)
Add additional rows as needed											
Purchased or Imported Water	SFPUC	511		504		496		485		485	
Groundwater (not desalinated)	Denniston Wells	10		10		10		10		10	
Surface water (not desalinated)	Denniston Creek	200		200		200		200		200	
Surface water (not desalinated)	Pilarcitos Creek	46		46		46		46		46	
	Total	767	0	760	0	752	0	741	0	741	0

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

NOTES: Volumes are in MG.
SFPUC supply is based on projected purchases by Coastside County Water District.

Urban Water Supplier: *Coastside* County Water District

Water Delivery Product (If delivering more than one type of product use Table O-1C)

Retail Potable Deliveries

Table O-1B: Recommended Energy Reporting - Total Utility Approach

		Urban Water Supplier Operational Control		
Enter Start Date for Reporting Period	7/1/2019	Sum of All Water Management Processes	Non-Consequential Hydropower	
End Date	6/30/2020			
☐ Is upstream embedded in the values reported?				
Water Volume Units Used	*MG*	Total Utility	Hydropower	Net Utility
Volume of Water Entering Process (volume unit)		*666.59*	*0*	*666.59*
Energy Consumed (kWh)		*2747128*	*0*	*2747128*
Energy Intensity (kWh/volume)		*4121.2*	*0.0*	*4121.2*

Quantity of Self-Generated Renewable Energy

0 kWh

Data Quality *(Estimate, Metered Data, Combination of Estimates and Metered Data)*

Metered Data

Data Quality Narrative:

Energy consumption is based on the District's PG&E bills for its water system facilities for the FY 2019/20.

Narrative:

The District's water system includes two water treatment plants, five infiltration wells, eight groundwater wells, ten treated water storage tanks, and treated water pump stations. The system is operated to treat, store, pump and deliver water supplies to its customers to meet system demands.

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 2019-2020, use 2020	**Available Supplies if Year Type Repeats**	
		☑	Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location: Table 7-7
		☐	Quantification of available supplies is provided in this table as either volume only, percent only, or both.
		Volume Available *	**% of Average Supply**
Average Year			
Single-Dry Year			
Consecutive Dry Years 1st Year			
Consecutive Dry Years 2nd Year			
Consecutive Dry Years 3rd Year			
Consecutive Dry Years 4th Year			
Consecutive Dry Years 5th Year			

Supplier may use multiple versions of Table 7-1 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 Table 7-1, in the "Note" section of each table, state that multiple versions of Table 7-1 are being used and identify the particular water source that is being reported in each table.

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

NOTES: Volumes are in MG. Not completed for SFPUC supplies; see Table 7-7 in Chapter 7.

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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 2019-2020, use 2020	Available Supplies if	
		☐	Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location _____
		☐	Quantification of available supplies is provided in this table as either volume only, percent only, or both.
		Volume Available *	% of Average Supply
Average Year		256	100%
Single-Dry Year		208	81%
Consecutive Dry Years 1st Year		208	81%
Consecutive Dry Years 2nd Year		135	53%
Consecutive Dry Years 3rd Year		95	37%
Consecutive Dry Years 4th Year		67	26%
Consecutive Dry Years 5th Year		50	20%

Supplier may use multiple versions of Table 7-1 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 Table 7-1, in the "Note" section of each table, state that multiple versions of Table 7-1 are being used and identify the particular water source that is being reported in each table.

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

NOTES: Volumes are in MG. For District's Local Supplies.

Submittal Table 7-2 Retail: Normal Year Supply and Demand Comparison					
	2025	2030	2035	2040	2045 *(Opt)*
Supply totals *(autofill from Table 6-9)*	767	760	752	741	741
Demand totals *(autofill from Table 4-3)*	704	697	690	668	664
Difference	63	63	63	73	77
NOTES: Volumes are in MG. Supply in Normal Years includes local supplies and SFPUC supplies and is based on local supply availability in Normal Years and District projected purchases from SFPUC based on BAWSCA Table A received on April 1, 2021.					

Submittal Table 7-3 Retail: Single Dry Year Supply and Demand Comparison					
	2025	2030	2035	2040	2045 (Opt)
Supply totals*	533	529	522	518	471
Demand totals*	704	697	690	668	664
Difference	(172)	(168)	(168)	(150)	(193)
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*					
NOTES: Volumes are in MG. Supply in Single Dry Years includes local supplies and SFPUC supplies and is based on local supply availability in Single Dry Years and District drought allocations from SFPUC based on BAWSCA Tables G2, H2, I2, J2 and K2 received on April 1, 2021.					

Submittal Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison						
		2025*	2030*	2035*	2040*	2045* (Opt)
First year	Supply totals	533	529	522	518	471
	Demand totals	704	697	690	668	664
	Difference	(171)	(168)	(168)	(150)	(193)
Second year	Supply totals	416	409	405	401	398
	Demand totals	704	697	690	668	664
	Difference	(288)	(288)	(285)	(267)	(266)
Third year	Supply totals	376	369	365	361	358
	Demand totals	704	697	690	668	664
	Difference	(328)	(328)	(325)	(307)	(306)
Fourth year	Supply totals	348	341	337	301	290
	Demand totals	704	697	690	668	664
	Difference	(356)	(356)	(353)	(367)	(374)
Fifth year	Supply totals	331	324	298	284	273
	Demand totals	704	697	690	668	664
	Difference	(373)	(373)	(392)	(384)	(391)
Sixth year *(optional)*	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0

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

NOTES: Volumes are in MG.
Supply in Multiple Dry Years includes local supplies and SFPUC supplies and is based on local supply availability in Multiple Dry Years and District drought allocations from SFPUC based on BAWSCA Tables G2, H2, I2, J2 and K2 received on April 1, 2021.

Submittal Table 7-5: Five-Year Drought Risk Assessment Tables to address Water Code Section 10635(b)	
2021	**Total**
Total Water Use	692
Total Supplies	770
Surplus/Shortfall w/o WSCP Action	78
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	0
Revised Surplus/(shortfall)	78
Resulting % Use Reduction from WSCP action	0%
2022	**Total**
Total Water Use	697
Total Supplies	584
Surplus/Shortfall w/o WSCP Action	(113)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	113
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	16%
2023	**Total**
Total Water Use	701
Total Supplies	332
Surplus/Shortfall w/o WSCP Action	(369)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	369
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	53%
2024	**Total**
Total Water Use	706
Total Supplies	304
Surplus/Shortfall w/o WSCP Action	(402)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	402
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	57%
2025	**Total**
Total Water Use	704
Total Supplies	287
Surplus/Shortfall w/o WSCP Action	(417)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	417
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	59%

Submittal Table 8-1
Water Shortage Contingency Plan Levels

Shortage Level	Percent Shortage Range	Shortage Response Actions (*Narrative description*)
1	Up to 10%	Water Shortage Advisory
2	Up to 20%	Water Shortage Emergency Warning
3	Up to 30%	Water Shortage Emergency
4	Up to 40%	Water Shortage Severe Emergency
5	Up to 50%	Water Shortage Extreme Emergency
6	>50%	Water Shortage Catastrophic (Extraordinary) Emergency

Submittal Table 8-2: Demand Reduction Actions

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? *Include units used (volume type or percentage)*	Additional Explanation or Reference *(optional)*	Penalty, Charge, or Other Enforcement? ***For Retail Suppliers Only*** *Drop Down List*
Add additional rows as needed				
1	Expand Public Information Campaign	Up to 10 percent	Voluntary	No
2	Landscape - Restrict or prohibit runoff from landscape irrigation	Up to 20 percent	Mandatory	Yes
3	Moratorium or Net Zero Demand Increase on New Connections	Up to 30 percent	Mandatory	Yes
4	Implement or Modify Drought Rate Structure or Surcharge	Up to 40 percent	Mandatory	Yes
5	Increase Water Waste Patrols	Up to 50 percent	Mandatory	Yes
6	Reduce System Water Loss	Greater than 50 percent	Mandatory	Yes

NOTES: Please refer to the Water Shortage Contingency Plan for a complete description of the demand reduction actions at each level of shortage.

Submittal Table 8-3: Supply Augmentation and Other Actions			
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? *Include units used (volume type or percentage)*	Additional Explanation or Reference *(optional)*
Add additional rows as needed			
NOTES: The District does not have any supply augmentation methods.			

Submittal Table 10-1 Retail: Notification to Cities and Counties		
City Name	60 Day Notice	Notice of Public Hearing
Add additional rows as needed		
City of Half Moon Bay	Yes	Yes
County Name *Drop Down List*	60 Day Notice	Notice of Public Hearing
Add additional rows as needed		
San Mateo County	Yes	Yes

Appendix C

DWR 2020 UWMP Checklist

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Retail	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (For Agency Review Use)
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	Executive Summary
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.	Summary	Executive Summary
X	Section 2.2	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.	Plan Preparation	Section 2.1
X	Section 2.6	10620(d)(2)	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.	Plan Preparation	Sections 2.5 and 2.5.2
X	Section 2.6.2	10642	Provide supporting documentation that the water 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	Section 2.5.2
X	Section 2.6, Section 6.1	10631(h)	Retail suppliers will include documentation that they have provided their wholesale supplier(s) - if any - with water use projections from that source.	System Supplies	Section 2.5.1
	Section 2.6	10631(h)	Wholesale suppliers will include documentation that they have provided their urban water suppliers with identification and quantification of the existing and planned sources of water available from the wholesale to the urban supplier during various water year types.	System Supplies	Not applicable
X	Section 3.1	10631(a)	Describe the water supplier service area.	System Description	Section 3.2
X	Section 3.3	10631(a)	Describe the climate of the service area of the supplier.	System Description	Section 3.3
X	Section 3.4	10631(a)	Provide population projections for 2025, 2030, 2035, 2040 and optionally 2045.	System Description	Section 3.4.1
X	Section 3.4.2	10631(a)	Describe other social, economic, and demographic factors affecting the supplier's water management planning.	System Description	Section 3.4.2
X	Sections 3.4 and 5.4	10631(a)	Indicate the current population of the service area.	System Description and Baselines and Targets	Sections 3.4.1 and 5.3
X	Section 3.5	10631(a)	Describe the land uses within the service area.	System Description	Section 3.5
X	Section 4.2	10631(d)(1)	Quantify past, current, and projected water use, identifying the uses among water use sectors.	System Water Use	Section 4.2
X	Section 4.2.4	10631(d)(3)(C)	Retail suppliers shall provide data to show the distribution loss standards were met.	System Water Use	Section 4.3 Section 9.2.5
X	Section 4.2.6	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	Section 4.4
X	Section 4.2.6	10631(d)(4)(B)	Provide citations of codes, standards, ordinances, or plans used to make water use projections.	System Water Use	Sections 4.2.2 and 4.4
X	Section 4.3.2.4	10631(d)(3)(A)	Report the distribution system water loss for each of the 5 years preceding the plan update.	System Water Use	Section 4.3

Retail	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (For Agency Review Use)
X	Section 4.4	10631.1(a)	Include projected water use needed for lower income housing projected in the service area of the supplier.	System Water Use	Section 4.5
X	Section 4.5	10635(b)	Demands under climate change considerations must be included as part of the drought risk assessment.	System Water Use	Sections 4.2.2, 4.6 and 7.5
X	Chapter 5	10608.20(e)	Retail suppliers shall provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.	Baselines and Targets	Section 5.5
X	Chapter 5	10608.24(a)	Retail suppliers shall meet their water use target by December 31, 2020.	Baselines and Targets	Section 5.6
	Section 5.1	10608.36	Wholesale suppliers shall include an assessment of present and proposed future measures, programs, and policies to help their retail water suppliers achieve targeted water use reductions.	Baselines and Targets	Not applicable The District is not a wholesale supplier
X	Section 5.2	10608.24(d)(2)	If the retail supplier adjusts its compliance GPCD using weather normalization, economic adjustment, or extraordinary events, it shall provide the basis for, and data supporting the adjustment.	Baselines and Targets	Section 5.6 The District did not adjust compliance GPCD
X	Section 5.5	10608.22	Retail suppliers' per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use of the 5-year baseline. This does not apply if the suppliers base GPCD is at or below 100.	Baselines and Targets	Section 5.5
X	Section 5.5 and Appendix E	10608.4	Retail suppliers shall report on their compliance in meeting their water use targets. The data shall be reported using a standardized form in the SBX7-7 2020 Compliance Form.	Baselines and Targets	Section 5.6 Appendix F
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.	System Supplies	Chapter 6 and 7
X	Sections 6.1	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	Sections 6.9 and 6.10 Sections 7.4 and 7.5
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	Section 6.1.2 Section 6.2 and Section 6.3
X	Section 6.1.1	10631(b)(3)	Describe measures taken to acquire and develop planned sources of water.	System Supplies	Section 6.8
X	Section 6.2.8	10631(b)	Identify and quantify the existing and planned sources of water available for 2020, 2025, 2030,2035, 2040 and optionally 2045.	System Supplies	Section 6.9
X	Section 6.2	10631(b)	Indicate whether groundwater is an existing or planned source of water available to the supplier.	System Supplies	Section 6.2
X	Section 6.2.2	10631(b)(4)(A)	Indicate whether a groundwater sustainability plan or groundwater management plan has been adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.	System Supplies	Section 6.2.3
X	Section 6.2.2	10631(b)(4)(B)	Describe the groundwater basin.	System Supplies	Section 6.2.1

Retail	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (For Agency Review Use)
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	Section 6.2.1
X	Section 6.2.2.1	10631(b)(4)(B)	For unadjudicated basins, indicate whether or not the department has identified the basin as a high or medium priority. Describe efforts by the supplier to coordinate with sustainability or groundwater agencies to achieve sustainable groundwater conditions.	System Supplies	Section 6.2.3.2
X	Section 6.2.2.4	10631(b)(4)(C)	Provide a detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years	System Supplies	Section 6.2.4
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	Section 6.9
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	Section 6.7
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)	Section 6.5.2
X	Section 6.2.5	10633(c)	Describe the recycled water currently being used in the supplier's service area.	System Supplies (Recycled Water)	Section 6.5.4
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)	Sections 6.5.3 and 6.5.4
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 a description of the actual use of recycled water in comparison to uses previously projected.	System Supplies (Recycled Water)	Section 6.5.4
X	Section 6.2.5	10633(f)	Describe the actions 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.	System Supplies (Recycled Water)	Section 6.5.5
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)	Section 6.5.5
X	Section 6.2.6	10631(g)	Describe desalinated water project opportunities for long-term supply.	System Supplies	Section 6.6
X	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)	Section 6.5.2
X	Section 6.2.8, Section 6.3.7	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 5 consecutive water years.	System Supplies	Section 6.8
X	Section 6.4 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	Section 6.11
X	Section 7.2	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	Section 7.1
X	Section 7.2.4	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	Section 7.2.2

Retail	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (For Agency Review Use)
X	Section 7.3	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 water supplier with the total projected water use over the next 20 years.	Water Supply Reliability Assessment	Sections 7.2 and 7.4
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	Section 7.5
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 5 consecutive years.	Water Supply Reliability Assessment	Section 7.5.1
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	Sections 7.2 and 7.4
X	Section 7.3	10635(b)(3)	Include a comparison of the total water supply sources available to the water supplier with the total projected water use for the drought period.	Water Supply Reliability Assessment	Section 7.4
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	Section 4.2.2 Section 7.2
X	Chapter 8	10632(a)	Provide a water shortage contingency plan (WSCP) with specified elements below.	Water Shortage Contingency Planning	Appendix J
X	Chapter 8	10632(a)(1)	Provide the analysis of water supply reliability (from Chapter 7 of Guidebook) in the WSCP	Water Shortage Contingency Planning	Section 8.1 Appendix J (Section 3)
X	Section 8.10	10632(a)(10)	Describe reevaluation and improvement procedures for monitoring and evaluation the water shortage contingency plan to ensure risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented.	Water Shortage Contingency Planning	Section 8.3 Appendix J (Section 10)
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	Appendix J (Section 4)
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	Appendix J (Section 4)
X	Section 8.3	10632(a)(3)(A)	Define six standard water shortage levels of 10, 20, 30, 40, 50 percent shortage and greater than 50 percent 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	Section 8.1 and Appendix J (Section 7)
X	Section 8.3	10632(a)(3)(B)	Suppliers with an existing water shortage contingency plan that uses different water shortage levels must cross reference their categories with the six standard categories.	Water Shortage Contingency Planning	Not applicable District has revised its WSCP to be consistent with six standard categories

Retail	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (For Agency Review Use)
X	Section 8.4	10632(a)(4)(A)	Suppliers with water shortage contingency plans that align with the defined shortage levels must specify locally appropriate supply augmentation actions.	Water Shortage Contingency Planning	Appendix J (Section 7)
X	Section 8.4	10632(a)(4)(B)	Specify locally appropriate demand reduction actions to adequately respond to shortages.	Water Shortage Contingency Planning	Appendix J (Section 7)
X	Section 8.4	10632(a)(4)(C)	Specify locally appropriate operational changes.	Water Shortage Contingency Planning	Appendix J (Section 7)
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	Section 8.1.2 and Appendix J (Section 7)
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	Section 8.1.2 and Appendix J (Section 7)
X	Section 8.4.6	10632.5	The plan shall include a seismic risk assessment and mitigation plan.	Water Shortage Contingency Plan	Section 8.2 Appendix J (Section 9)
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	Appendix J (Section 7)
X	Section 8.5 and 8.6	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	Appendix J (Section 7)
X	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	Appendix J (Section 8)
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	Appendix J (Appendix A)
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 Contingency Planning	Appendix J (Section 7)
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	Appendix J (Section 7)
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	Appendix J (Section 5)
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	Appendix J (Section 5)
X	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	Appendix J (Section 5)

Retail	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (For Agency Review Use)
X	Section 8.9	10632(a)(9)	Retail suppliers must describe the monitoring and reporting requirements and procedures that ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance.	Water Shortage Contingency Planning	Appendix J (Section 10)
X	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	Appendix J (Section 2)
X	Sections 8.12 and10.4	10635(c)	Provide supporting documentation that Water Shortage Contingency Plan has been, or will be, provided to any city or county within which it provides water, no later than 30 days after the submission of the plan to DWR.	Plan Adoption, Submittal, and Implementation	Section 8.3 and Appendix J (Section 12)
X	Section 8.14	10632(c)	Make available the Water Shortage Contingency Plan to customers and any city or county where it provides water within 30 days after adopted the plan.	Water Shortage Contingency Planning	Section 8.3 and Appendix J (Section 12)
	Sections 9.1 and 9.3	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	Not applicable The District is not a wholesale supplier
X	Sections 9.2 and 9.3	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	Section 9.2
X	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	Section 10.3.1
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 urban water supplier will be reviewing the plan and considering amendments or changes to the plan. Reported in Table 10-1.	Plan Adoption, Submittal, and Implementation	Section 2.5 Section 10.2.1
X	Section 10.4	10621(f)	Each urban water supplier shall update and submit its 2020 plan the department by July 1, 2021.	Plan Adoption, Submittal, and Implementation	Section 10.4
X	Sections 10.2.2, 10.3, and 10.5	10642	Provide supporting documentation that the urban water supplier made the plan and contingency plan available for public inspection, published notice of the public hearing, and held a public hearing about the plan and contingency plan.	Plan Adoption, Submittal, and Implementation	Section 10.3 Appendix D
X	Section 10.2.2	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.	Plan Adoption, Submittal, and Implementation	Section 10.2.1
X	Section 10.3.2	10642	Provide supporting documentation that the plan and contingency plan has been adopted as prepared or modified.	Plan Adoption, Submittal, and Implementation	Section 10.3 Appendix L
X	Section 10.4	10644(a)	Provide supporting documentation that the urban water supplier has submitted this UWMP to the California State Library.	Plan Adoption, Submittal, and Implementation	Section 10.4
X	Section 10.4	10644(a)(1)	Provide supporting documentation that the urban water supplier has submitted this UWMP to any city or county within which the supplier provides water no later than 30 days after adoption.	Plan Adoption, Submittal, and Implementation	Section 10.4

Retail	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (For Agency Review Use)
X	Sections 10.4.1 and 10.4.2	10644(a)(2)	The plan, or amendments to the plan, submitted to the department shall be submitted electronically.	Plan Adoption, Submittal, and Implementation	Section 10.4
X	Section 10.5	10645(a)	Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	Section 10.5
X	Section 10.5	10645(b)	Provide supporting documentation that, not later than 30 days after filing a copy of its water shortage contingency plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	Section 10.5
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	Not applicable The District is not regulated by the PUC
X	Section 10.7.2	10644(b)	If revised, submit a copy of the water shortage contingency plan to DWR within 30 days of adoption.	Plan Adoption, Submittal, and Implementation	Section 10.6

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Appendix D

Agency and Public Notices

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From:	Cathleen Brennan
To:	mcphetridges@cabrillo.k12.ca.us; ian.larkin@fire.ca.gov; smonowitz@smcgov.org; Delia Comito; mpoyatos@smcgov.org; clemens@mwsd.net; goga_superintendent@nps.gov; smcfbhmb@aol.com; jpruett@smharbor.com; kellyx@sanmateorcd.org; kishen@samcleanswater.org; bnisbet@hmbcity.com
Cc:	Jill Ekas; jonathan.cox@fire.ca.gov
Subject:	Urban Water Management Plan and Water Shortage Contingency Plan-Coastside CWD
Date:	Wednesday, December 23, 2020 2:16:00 PM

Dear Public Agencies,

The Coastside County Water District (District) is in the process of updating its Urban Water Management Plan (UWMP). The Urban Water Management Planning Act, Water Code (CWC) Section 10610 et seq., requires that every urban water supplier 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 to prepare and adopt an UWMP and update that plan at least every five years. The UWMP integrates land use, water supply, infrastructure, demand management, and climate change.

In addition, the District will be updating its Water Shortage Contingency Plan (WSCP) to include new and expanded authorities. The new requirements include an analysis of six levels of water supply shortage conditions [CWC §10620(d)(2) and §10632] and a drought risk assessment [CWC§10635(b)].

As an urban water supplier, the District coordinates with water management agencies, relevant public agencies, and other water suppliers on the preparation of the UWMP and WSCP updates. Pursuant to CWC Section 10621(b), the District is sending notice to inform the City of Half Moon Bay, the County of San Mateo, and other interested parties about the UWMP update. The District will hold a public hearing regarding its UWMP updates in the spring of 2021.

If you have questions or concerns regarding the process, please contact Cathleen Brennan.

Sincerely,
Cathleen Brennan
Water Resources Analyst
Coastside County Water District
cbrennan@coastsidewater.org | (650) 276-0861

From:	Cathleen Brennan
To:	laura.hidas@acwd.com; nsandkulla@bawsca.org; kjenkins@calwater.com; rbreault@ci.brisbane.ca.us; amorimoto@burlingame.org; gkrauss@dalycity.org; pheisinger@cityofepa.org; alex.ameri@hayward-ca.gov; phlowe@menlopark.org; klim@ci.millbrae.ca.us; tndah@ci.milpitas.ca.gov; lisa.au@mountainview.gov; karla.dailey@cityofpaloalto.org; watermanager@redwoodcity.org; jtan@sanbruno.ca.gov; jeffrey.provenzano@sanjoseca.gov; gwelling@santaclaraca.gov; mnasser@sunnyvale.ca.gov; ndorais@fostercity.org; tammyr@midpeninsulawater.org; acarr@nccwd.com; philw@purissimawater.org; sritchie@sfwater.org; juliann@stanford.edu; pwillis@hillsborough.net; dbarrow@westboroughwater.com
Cc:	rmoilan@calwater.com; leonard.ash@acwd.com; dsmithson@calwater.com; jflanagan@ci.brisbane.ca.us; tmcauliffe@burlingame.org; wdonnelly@dalycity.org; cheryl.munoz@hayward-ca.gov; ctlamm@menlopark.org; sreider@ci.millbrae.ca.us; milpitasworks@ci.milpitas.ca.gov; lisa.bilir@cityofpaloalto.org; jchapel@redwoodcity.org; mreinhardt@sanbruno.ca.gov; henry.louie@sanjoseca.gov; smehta@santaclaraca.gov; asmith@fostercity.org; samv@purissimawater.org; bmanning@stanford.edu; ecooney@hillsborough.net; kfallaha@cityofepa.org; elizabeth.flegel@mountainview.gov
Subject:	Urban Water Management Plan and Water Shortage Contingency Plan-Coastside CWD
Date:	Wednesday, December 23, 2020 2:58:00 PM

Dear Water Suppliers,

The Coastside County Water District (District) is in the process of updating its Urban Water Management Plan (UWMP). The Urban Water Management Planning Act, Water Code (CWC) Section 10610 et seq., requires that every urban water supplier 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 to prepare and adopt an UWMP and update that plan at least every five years. The UWMP integrates land use, water supply, infrastructure, demand management, and climate change.

In addition, the District will be updating its Water Shortage Contingency Plan (WSCP) to include new and expanded authorities. The new requirements include an analysis of six levels of water supply shortage conditions [CWC §10620(d)(2) and §10632] and a drought risk assessment [CWC§10635(b)].

As an urban water supplier, the District coordinates with water management agencies, relevant public agencies, and other water suppliers on the preparation of the UWMP and WSCP updates. Pursuant to CWC Section 10621(b), the District is sending notice to inform the City of Half Moon Bay, the County of San Mateo, and other interested parties about the UWMP update. The District will hold a public hearing regarding its UWMP updates in the spring of 2021.
If you have questions or concerns regarding the process, please contact Cathleen Brennan.

Sincerely,
Cathleen Brennan
Water Resources Analyst
Coastside County Water District
cbrennan@coastsidewater.org | (650) 276-0861

From:	Cathleen Brennan
To:	dolstein@openspacetrust.org; jo@coastsidelandtrust.org; ceo@hmbcoastsidechamber.com; hmb.rotary.president@gmail.com; patrick@tuolumne.org
Subject:	Urban Water Management Plan and Water Shortage Contingency Plan - Coastside CWD
Date:	Wednesday, December 23, 2020 2:03:00 PM

Dear Interested Parties,

The Coastside County Water District (District) is in the process of updating its Urban Water Management Plan (UWMP). The Urban Water Management Planning Act, Water Code (CWC) Section 10610 et seq., requires that every urban water supplier 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 to prepare and adopt an UWMP and update that plan at least every five years. The UWMP integrates land use, water supply, infrastructure, demand management, and climate change.

In addition, the District will be updating its Water Shortage Contingency Plan (WSCP) to include new and expanded authorities. The new requirements include an analysis of six levels of water supply shortage conditions [CWC §10620(d)(2) and §10632] and a drought risk assessment [CWC§10635(b)].

As an urban water supplier, the District coordinates with water management agencies, relevant public agencies, and other water suppliers on the preparation of the UWMP and WSCP updates. Pursuant to CWC Section 10621(b), the District is sending this notice to inform the City of Half Moon Bay, the County of San Mateo, and other interested parties about the UWMP update. The District will hold a public hearing regarding its UWMP updates in the spring of 2021.
If you have questions or concerns regarding the process, please contact Cathleen Brennan.

Sincerely,
Cathleen Brennan
Water Resources Analyst
Coastside County Water District
cbrennan@coastsidewater.org | (650) 276-0861

COMMUNITY

PHOTO COURTESY CLEAVE FAMILY

San Carlos Avenue neighbors of Michelle Cleave *signaled their support for her with yard signs after she was diagnosed with cancer.*

kids camp to give families a break from distance learning. It provides children with a chance to learn about the ocean, marine life and conservation in a COVID-19 safe environment.

Kristen Hagen, who serves on the board of Sea Hugger, describes her time with the organization as educational and inspiring, with Cleave's dedication at the center of it all.

"She's been the lifeblood, the visionary, the excitement about the cause," Hagen said. "... I think we can all be a big part of her experience, right now, by continuing to enrich her life in the way that she has enriched ours."

When Cleave's neighbor Margo Zarker learned of her diagnosis, she knew she wanted to do something special.

"I felt like we needed to do something as a neighborhood. Something that was a little more lasting than flowers," Zarker said.

But showing support requires some creative chops during the pandemic, when gathering in person is often not an option. Then it dawned on Zarker: signs.

Enlisting two other neighbors on San Carlos Avenue, Zarker ordered a bunch of blank poster board signs and set up a workstation in her garage. Soon after, neighbors were calling Zarker to ask for their own sign to decorate. By the time Cleave returned to San Carlos Avenue later that day, 20 signs of encouragement dotted the block.

"It brought her to tears," Zarker said.

Neighbors are still making signs for their friend, and, in response, Cleave has asked an artist friend to design a "Thank You" sign to go in her own front yard.

"My neighbors totally surprised me and put these signs all over the street just to let me know that they stand with me and that they're fighting with me," Cleave said. "... That is community. You know, that's what you do for other people. And that's just Half Moon Bay in a nutshell.

"I loved this community so much before my diagnosis, and now I have an even deeper love and appreciation for it," Cleave said. ■

Urban Water Management Plan
Water Shortage Contingency Plan

Coastside County Water District

Update to Plans

Every five years the District updates its Urban Water Management Plan and Water Shortage Contingency Plan. The Plans were last updated in 2016. A copy of the current Urban Water Management Plan, which includes a copy of the Water Shortage Contingency Plan, can be found on the District's website under the Resources tab.

Link to 2015 Urban Water Management Plan

The draft Plans should be released in the spring of 2021. Once the date of the public hearing has been set, the District will announce it in the Half Moon Bay Review and send an email to subscribers of the District's electronic newsletter.

These Plans help the public understand Coastside County Water District's water system, service area, water supply, water reliability, and contingency planning.

Notice of Public Hearing

Public Notice as posted on Coastside County Water District website on May 19, 2021

Coastside County Water District
766 Main Street
Half Moon Bay, CA 94019
(650) 726-4405 | www.coastsidewater.org

When: Tuesday, June 8, 2021 at 7:00 p.m.
Where: Virtual Meeting – Please find a direct link on the agenda posted on the District's website.
The meeting ID and passcode are provided below.
Join Zoom Meeting
Meeting ID: 937 7826 0596
Passcode: 184355
One tap mobile
+1 669 900 6833 | 93778260596# | *184355# US (San Jose)

2020 Update to the District's Urban Water Management Plan

California Water Code (CWC) Section 10621 requires that Coastside County Water District review and update its Urban Water Management Plan every five years. The Coastside County Water District's Board of Directors will hold a public hearing (CWC Section 10642) to consider and receive comments and input on proposed revisions and updates to the Plan for 2015 through 2020. Upon conclusion of the public hearing, the Board of Directors of Coastside County Water District may revise, change, modify, and/or adopt the 2020 Urban Water Management Plan.

2020 Update to the District's Water Shortage Contingency Plan

The Water Shortage Contingency Plan is required by California Water Code Section 10632. While the Water Shortage Contingency Plan is incorporated in the 2020 Urban Water Management Plan, it is a document that stands alone. The Coastside County Water District's Board of Directors will hold a public hearing to consider and receive comments and input on the Water Shortage Contingency Plan. Upon conclusion of the public hearing, the Board of Directors of Coastside County Water District may revise, change, modify, and/or adopt the Water Shortage Contingency Plan.

The proposed update to the 2020 Urban Water Management Plan and the Water Shortage Contingency Plan will be available for public review on or before May 25, 2021 on the District's website.
www.coastsidewater.org/report-and-studies.html

Comments

1)Written comments should be sent to Coastside County Water District, Attn: Cathleen Brennan, 766 Main Street, Half Moon Bay, by close of business on Monday, June 7, 2021.

2)Comments can be emailed to cbrennan@coastsidewater.org and will be accepted through the close of business on Tuesday, June 8, 2021.

3)Verbal comments will be accepted through the close of the public hearing.

Please contact Cathleen Brennan at (650) 276-0861 or cbrennan@coastsidewater.org with questions and comments.

Coastside County Water District
email list for Public Hearing Notice sent on May 18, 2021

laura.hidas@acwd.com
nsandkulla@bawsca.org
mcphetridges@cabrillok12.ca.us
kjenkins@calwater.com
rbreault@ci.brisbane.ca.us
amorimoto@burlingame.org
gkrauss@dalycity.org
pheisinger@cityofepa.org
bnisbet@hmbcity.com
alex.ameri@hayward-ca.gov
phlowe@menlopark.org
klim@ci.millbrae.ca.us
tndah@ci.milpitas.ca.gov
lisa.au@mountainview.gov
karla.dailey@cityofpaloalto.org
watermanager@redwoodcity.org
jtan@sanbruno.ca.gov
jeffrey.provenzano@sanjoseca.gov
gwelling@santaclaraca.gov
mnasser@sunnyvale.ca.gov
ian.larkin@fire.ca.gov
jo@coastsidelandtrust.org
smonowitz@smcgov.org
ndorais@fostercity.org
dcomito@granada.ca.gov
ceo@hmbcoastsidechamber.com
mpoyatos@smcgov.org
tammyr@midpeninsulawater.org
clemens@mwsd.net
goga_superintendent@nps.gov
acarr@nccwd.com
dolstein@openspacetrust.org
philw@purissimawater.org
sritchie@sfwater.org
smcfbhmb@aol.com
jpruett@smharbor.com
kellyx@sanmateorcd.org
kishen@samcleanswater.org
juliann@stanford.edu
hmb.rotary.president@gmail.com
pwillis@hillsborough.net
patrick@tuolumne.org
dbarrow@westboroughwater.com
mrogren@coastsidewater.org
edrayer@westyost.com
pmiyaki@hansonbridgett.com
greynolds@coastsidewater.org
bfeldman@coastsidewater.org
kcoverdell@coastsidewater.org
cmickelsen@coastsidewater.org
jmuller@coastsidewater.org
leonard.ash@acwd.com
tfrancis@bawsca.org
dsmithson@calwater.com
jflanagan@ci.brisbane.ca.us
tmcauliffe@burlingame.org
wdonnelly@dalycity.org
kfallaha@cityofepa.org
jekas@hmbcity.com
cheryl.munoz@hayward-ca.gov
ctlamm@menlopark.org
milpitasworks@ci.milpitas.ca.gov
elizabeth.flegel@mountainview.gov
lisa.bilir@cityofpaloalto.org
jchapel@redwoodcity.org
mreinhardt@sanbruno.ca.gov
henry.louie@sanjoseca.gov
smehta@santaclaraca.gov
rchinnakotla@sunnyvale.ca.gov
jonathan.cox@fire.ca.gov
asmith@fostercity.org
samv@purissimawater.org
joe@sanmateorcd.org
bmanning@stanford.edu
ecooney@hillsborough.net
dmcpherson@bawsca.org
rmoilan@calwater.com
jarrad@sanmateorcd.org

Notice of Public Hearing emailed to City, County and other agencies on May 18, 2021

Notice of Public Hearing

Urban Water Management Plan and Water Shortage Contingency Plan

A public hearing will be held on **Tuesday, June 8, 2021 at 7:00pm** to allow the public to participate in the review of the District's updated Urban Water Management Plan and the District's updated Water Shortage Contingency Plan.

The proposed 2020 Urban Water Management Plan and Water Shortage Contingency Plan are available on the District's website.

Draft Plans

The public hearing will take place during the District's regular Board Meeting and will be a virtual meeting. The agenda will be available on the District's website on Friday, June 4, 2021 by 5:00pm. A direct link to the virtual meeting will be included in the agenda and is provided below.

Join Zoom Meeting
https://zoom.us/j/93778260596?pwd=aEpRcFlnaHdQM21PSEJQWjNiN09TQT09

Meeting ID: 937 7826 0596
Passcode: 184355
One tap mobile
+1 669 900 6833,,93778260596#,,,,*184355# US (San Jose)
Dial by your location
+1 669 900 6833 US (San Jose)

Find your local number: https://zoom.us/u/aeu3BtKcfr

How to Provide Comments

Written comments should be sent to Coastside County Water District, Attn: Cathleen Brennan, 766 Main Street, Half Moon Bay, by close of business on Monday, June 7, 2021.

Written comments can also be emailed to cbrennan@coastsidewater.org and will be accepted through the close of business on Tuesday, June 8, 2021.
Verbal comments will be accepted through the close of the public hearing.

If you have questions regarding the public hearing or draft Plans please contact Cathleen Brennan at (650) 276-0861 or cbrennan@coastsidewater.org

ion with this court for a decree
ng names as follows: YULIA
STAD to JULIA NORDSTAD.
COURT ORDERS that all per-
nterested in this matter appear
this court at the hearing indicat-
ow to show cause, if any, why the
n for change of name should not
nted. Any person objecting to the
changes described above must
ritten objection that includes the
s for the objection at least two
lays before the matter is sched-
be heard and must appear at the
g to show cause why the petition
not be granted. If no written ob-
is timely filed, the court may
he petition without a hearing.
CE OF HEARING: On 6/1721,
m., in Department: MC, of this
located at 400 County Center,
od City, California 94063. IT IS
HER ORDERED that a copy of
der to show cause be published
Coastside News Group, a news-
of general circulation printed in
ateo County, California, once a
r four successive weeks prior to
e set for hearing on the petition.
MAY 05, 2021 s/Leland Davis
ge of the Superior Court. En-
MAY 06, 2021

ed in the Half Moon Bay Re-
lay 19, 26, June 2 & 9, 2021. No.

PUBLIC NOTICE

FICTITIOUS BUSINESS
NAME STATEMENT
File No. 287661
The following persons are doing business as: Coastal Glow Skincare, 504 Avenue Alhambra, El Granada, CA 94018, PO Box 2051,El Granada, CA 94018. amanda borgonovo, 255 Avenue Balboa, El Granada, CA 94018. The registrant(s) commenced to transact business under the fictitious business name(s) listed above on May 1st, 2021. This business is conducted by an Individual. This statement was filed with Mark Church, County Clerk Recorder of San Mateo County on a date indicated by file stamp. ENDORSED FILED May 12, 2021 MARK CHURCH, County Clerk, Maria Gallardo Deputy Clerk. Published in the Half Moon Bay Review May 19, 26, June 2 & 9, 2021 No. 2846

PUBLIC NOTICE

NOTICE OF PUBLIC HEARING
CITY OF HALF MOON BAY CITY COUNCIL
TUESDAY, JUNE 1, 2021, 7:00 PM
NOTICE IS HEREBY GIVEN that the City Council of the City of Half Moon Bay will hold a public hearing at 7:00 PM on Tuesday, June 1, 2021, via teleconference without a physical location, for:

CONSIDERATION OF ADOPTION OF A RESOLUTION AUTHORIZING ADJUSTMENTS TO THE COST OF SERVICES SCHEDULE (USER FEES) FOR FISCAL YEAR 2021-2022
Proposed fee adjustments include modifications to fees for various services related to general government, planning, building, engineering, public works, parks and recreation, public safety, and credit card convenience fees. Pursuant to Government Code § 66016, a copy of the proposed fee schedule will be available for public review starting May 21, 2021 in the Office of the City Clerk, 501 Main Street, Half Moon Bay, CA 94019. For a copy, please contact Jessica Blair, City Clerk at jblair@hmcity.com. The staff report for this public hearing item will be available for viewing on the City's website www.hmbcity.com beginning May 28, 2021. Information concerning this matter may be obtained by contacting the City of Half Moon Bay Administrative Service Department at (650) 726-8283.
If you challenge these fees in court, you may be limited to raising only those issues you or someone else raised at the public hearing described in this notice or in written correspondence delivered to the City at or prior to the public hearing.
As of the date of publication of this notice, City Council meetings are being held via teleconference without a physical location, in accordance with Governor Newsom's Executive Order N-29-20 to help stop the spread of COVID-19. A link to participate will be made available on the City Council agenda for the June 1, 2021 meeting, as posted on the City's website (https://www.half-moon-bay.ca.us/315/City-Council-Agendas) at least 72 hours in advance of the meeting.

Half Moon Bay Review Publication Dates: May 19 & 26, 2021.
No. 2847

PUBLIC NOTICE

Notice of Public Hearing
Coastside County Water District
766 Main Street
Half Moon Bay, CA 94019
(650) 726-4405
www.coastsidewater.org
When: Tuesday, June 8, 2021 at 7:00 p.m.
Where: Virtual Meeting – Please find the direct link on the agenda posted on the District's website. The meeting ID and passcode are provided below.
Join Zoom Meeting
Meeting ID: 937 7826 0596
Passcode: 184355
One tap mobile
+1 669 900 6833 | 93778260596# | *184355# US (San Jose)
2020 Urban Water Management Plan
California Water Code (CWC) Section 10621 requires that Coastside County Water District review and update its Urban Water Management Plan every five years. The Coastside County Water District's Board of Directors will hold a public hearing (CWC Section 10642) to consider and receive comments and input on proposed revisions and updates to the Plan for 2015 through 2020. Upon conclusion of the public hearing, the Board of Directors of Coastside County Water District may revise, change, modify, and/or adopt the 2020 Urban Water Management Plan.
Water Shortage Contingency Plan
The Water Shortage Contingency Plan is required by California Water Code Section 10632. While the Water Shortage Contingency Plan is incorporated in the 2020 Urban Water Management Plan, it is a document that stands alone. The Coastside County Water District's Board of Directors will hold a public hearing to consider and receive comments and input on the Water shortage Contingency Plan. Upon conclusion of the public hearing, the Board of Directors of Coastside County Water District may revise, change, modify, and/or adopt the Water Shortage Contingency Plan.
The proposed 2020 Urban Water Management Plan and Water Shortage Contingency Plan will be available for public review on or before May 25, 2021 on the District's website. (www.coastsidewater.org/report-and-studies.html)
Comments
1)Written comments should be sent to Coastside County Water District, Attn: Cathleen Brennan, 766 Main Street, Half Moon Bay, by close of business on Monday, June 7, 2021. 2)Comments can be emailed to cbrennan@coastsidewater.org and will be accepted through the close of business on Tuesday, June 8, 2021.
3)Verbal comments will be accepted up and through the close of the public hearing.
Please contact Cathleen Brennan at (650) 276-0861 or cbrennan@coastsidewater.org with questions and comments.

Published in the Half Moon Bay Review May 19, 26 & June 2, 2021 No.2848

PUBLIC NOTICE

FICTITIOUS BUSINESS
NAME STATEMENT
File No. 287480
The following persons are doing business as: Ronald E Muhammad - Johnson Transportation Services; Muhammad Transportation Services, 88 Hillside Blvd Apt.224, Daly City, CA 94014. Ronald E Muhammad, 88 Hillside Blvd Apt.224, Daly City, CA 94014. The registrant(s) commenced to transact business under the fictitious business name(s) listed above on N/A. This business is conducted by an Individual. This statement was filed with Mark Church, County Clerk Recorder of San Mateo County on a date indicated by file stamp. ENDORSED FILED APR 26, 2021 MARK CHURCH, County Clerk, Maria P. Perez Deputy Clerk.

Published in the Half Moon Bay Review May 19, 26, June 2 & 9, 2021 No. 2850

PUBLIC NOTICE

FICTITIOUS BUSINESS
NAME STATEMENT
File No. 287360
The following persons are doing business as: Stephanie Sills Realty, 225 Wienke Way, Moss Beach, CA 94038. Stephanie Sills Real Estate Inc, 225 Wienke Way, Moss Beach, CA 94038. The registrant(s) commenced to transact business under the fictitious business name(s) listed above on N/A. This business is conducted by a Corporation. This statement was filed with Mark Church, County Clerk Recorder of San Mateo County on a date indicated by file stamp. ENDORSED FILED APR 14, 2021 MARK CHURCH, County Clerk, Maria P. Perez Deputy Clerk. Published in the Half Moon Bay Review May 12, 19, 26 & June 2, 2021 No. 2818

PUBLIC NOTICE

UNTY WATER DISTRICT
BLIC NOTICE

are unclaimed by the listed payees and held
er District. If you have a claim against these
stside County Water District, 766 Main
019, phone (650) 726-4405. Proper proof
ion must be provided before funds will be
y June 30, 2021 become the property of
District. This notice and its contents are in
vernment Code Section 50050.

Date	Account in which Money is Held	Amount
016	CCWD General Checking	$15.81
017	CCWD General Checking	$142.15
017	CCWD General Checking	$227.18
018	CCWD General Checking	$43.34

er

ay Review May 12 & 19, 2021. No. 2796

SUDOKU

SUDOKU

	8	1			7			
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Level: Intermediate

Fun By The Numbers

Like puzzles? Then you'll love sudoku. This mind-bending puzzle will have you hooked from the moment you square off, so sharpen your pencil and put your sudoku savvy to the test!

Here's How It Works:
Sudoku puzzles are formatted as a 9x9 grid, broken down into nine 3x3 boxes. To solve a sudoku, the numbers 1 through 9 must fill each row, column and box. Each number can appear only once in each row, column and box. You can figure out the order in which the numbers will appear by using the numeric clues already provided in the boxes. The more numbers you name, the easier it gets to solve the puzzle!

& June 2, 2021. No. 2800

BLIC NOTICE

BUSINESS
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phanie Sills Realty, 225
Moss Beach, CA 94038.
ls Real Estate Inc, 225
Moss Beach, CA 94038.
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under the fictitious busi-
listed above on N/A. This
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nty Clerk Recorder of San
ty on a date indicated by
DORSED FILED APR 14,
CHURCH, County Clerk,
z Deputy Clerk. Published
loon Bay Review May 12,
2, 2021 No. 2818

BLIC NOTICE

BUSINESS
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15
g persons are doing busi-
lzura, 705-709 Bermuda
eo, CA 94403, 101 Hickey
226, South San Francisco,
EA LLC, 101 Hickey Blvd,
South San Francisco, CA
registrant(s) commenced
usiness under the fictitious
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s is conducted by a Limit-
Company. This statement
th Mark Church, County
der of San Mateo County
dicated by file stamp. EN-
LED MAY 07, 2021 MARK
County Clerk, Maria Gal-
y Clerk. Published in the
ay Review May 19, 26, June
No. 2819

BLIC NOTICE

T OF ABANDONMENT
OUS BUSINESS NAME
229
Owner(s) abandoning the
Fictitious Business Name:
n M. Riggs, 900 Uccelli Dr.
Redwood City, CA 94063.
iginal Filing: 11/27/2019.
s was conducted by an In-
is statement was filed with
h, County Clerk Recorder
o County on a date indicat-
amp. ENDORSED FILED
2021 MARK CHURCH,
rk, Maria Gallardo Deputy
shed in the Half Moon Bay
19, 26, June 2 & 9, 2021 No.

BLIC NOTICE

S BUSINESS
TEMENT
511

not be granted. If no written objection is timely filed, the court may grant the petition without a hearing. NOTICE OF HEARING: On 6/1721, 9:00 a.m., in Department: MC, of this court, located at 400 County Center, Redwood City, California 94063. IT IS FURTHER ORDERED that a copy of this order to show cause be published in the Coastside News Group, a newspaper of general circulation printed in San Mateo County, California, once a week for four successive weeks prior to the date set for hearing on the petition.
Dated: MAY 05, 2021 s/Leland Davis III Judge of the Superior Court. Endorsed: MAY 06, 2021
Published in the Half Moon Bay Review May 19, 26, June 2 & 9, 2021. No. 2825

PUBLIC NOTICE

Notice of Public Hearings
Due to COVID-19 protocols, the La Honda-Pescadero Unified School District will hold two separate public hearings on the proposed Local Control Accountability Plan (LCAP), with the Budget Overview for Parents cover page, and the proposed budget for fiscal year 2021-22 on June 15, 2021, virtually at 6:00 pm. The link to the virtual meeting can be found at https://simbli.eboardsolutions.com/Index.aspx?S=36030993. A copy of the LCAP, with the Budget Overview for Parents cover page, and the proposed budget will be available for public examination at La Honda-Pescadero Unified School District, 360 Butano Cutoff, Pescadero, CA 94060 from June 10, 2021 to June 15, 2021 between the hours of 9:00 am–4:00 pm and on the District website at www.lhpusd.com. Please contact Erica Hays, 650 879-0286 ext. 201 or ehays@lhpusd.com to request a printed or electronic copy. Public members or stakeholders may complete a comment card and comment to the proposed budget or any item therein.
5/26/21
CNS-3470175#
HALF MOON BAY REVIEW MAY 26, 2021 NO. 2830

PUBLIC NOTICE

FICTITIOUS BUSINESS
NAME STATEMENT
File No. 287661
The following persons are doing business as: Coastal Glow Skincare, 504 Avenue Alhambra, El Granada, CA 94018, PO Box 2051,El Granada, CA 94018. amanda borgonovo, 255 Avenue Balboa, El Granada, CA 94018. The registrant(s) commenced to transact business under the fictitious business name(s) listed above on May 1st, 2021. This business is conducted by an

PUBLIC NOTICE

Notice of Public Hearing
Coastside County Water District
766 Main Street
Half Moon Bay, CA 94019
(650) 726-4405
www.coastsidewater.org
When: Tuesday, June 8, 2021 at 7:00 p.m.
Where: Virtual Meeting – Please find the direct link on the agenda posted on the District's website. The meeting ID and passcode are provided below.
Join Zoom Meeting
Meeting ID: 937 7826 0596
Passcode: 184355
One tap mobile
+1 669 900 6833 | 93778260596# | *184355# US (San Jose)
2020 Urban Water Management Plan
California Water Code (CWC) Section 10621 requires that Coastside County Water District review and update its Urban Water Management Plan every five years. The Coastside County Water District's Board of Directors will hold a public hearing (CWC Section 10642) to consider and receive comments and input on proposed revisions and updates to the Plan for 2015 through 2020. Upon conclusion of the public hearing, the Board of Directors of Coastside County Water District may revise, change, modify, and/or adopt the 2020 Urban Water Management Plan.
Water Shortage Contingency Plan
The Water Shortage Contingency Plan is required by California Water Code Section 10632. While the Water Shortage Contingency Plan is incorporated in the 2020 Urban Water Management Plan, it is a document that stands alone. The Coastside County Water District's Board of Directors will hold a public hearing to consider and receive comments and input on the Water shortage Contingency Plan. Upon conclusion of the public hearing, the Board of Directors of Coastside County Water District may revise, change, modify, and/or adopt the Water Shortage Contingency Plan.
The proposed 2020 Urban Water Management Plan and Water Shortage Contingency Plan will be available for public review on or before May 25, 2021 on the District's website. (www.coastsidewater.org/report-and-studies.html)
Comments
1)Written comments should be sent to Coastside County Water District, Attn: Cathleen Brennan, 766 Main Street, Half Moon Bay, by close of business on Monday, June 7, 2021. 2)Comments can be emailed to cbrennan@coastsidewater.org and will be accepted through the close of business on Tuesday, June

deadline for bid submissions is June 21, 2021 at 12:00 p.m. More information and the complete bid package is available at www.sanmateorcd.org/rfbs-rfqs/.
Published in the Half Moon Bay Review May 26, 2021. No.2876

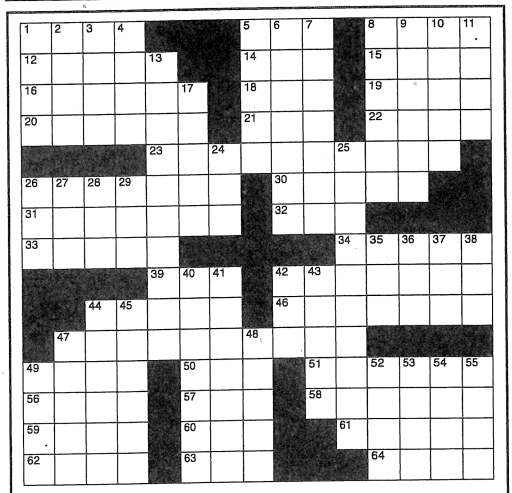
PUBLIC NOTICE

FICTITIOUS BUSINESS
NAME STATEMENT
File No. 287715
The following persons are doing business as: Kismet Wai, 969 Marquette Lane, Foster City, CA 94404.
CHRISTINA DISTEFANO, 969 Marquette Lane, Foster City, CA 94404. The registrant(s) commenced to transact business under the fictitious business name(s) listed above on N/A. This business is conducted by an Individu-

cordance with the San Mateo County Health Officer's Shelter-In-Place Order, all interested parties must participate remotely. The meeting will be streamed live on Channel 27 and on www.pacificcoast.tv. Members of the public are welcome to submit comments (in accordance with the three-minute per speaker limit) via email to bjett@hmbcity.com prior to or during the meeting (before the close of public comments on the item). The Recording Secretary will read all comments into the record. This meeting will be conducted entirely by teleconference participation, in compliance with the Governor's Executive Order N-29-20 allowing for deviation of teleconference rules required by the Ralph M. Brown Act.
Published in the Half Moon Bay Review May 26, 2021. No. 2881

SUDOKU

CROSSWORD



CLUES ACROSS

1. A group of sheep
5. Of she
8. This (Spanish)
12. A type of sorcery
14. A team's best pitcher
15. Port in southern Japan
16. Makes very happy
18. Trigonometric unit of measurement
19. From a distance
20. Winged nut
21. Consumed
22. "Heat" director
23. In all places
26 Made improvements to
30. St. __ Girl: brand of beer
31. A type of "seat"
32. Wood
33. A brief treatise on a subject of interest
34. Approval
39. Basics
42. Where judges sit
44. W. African religion
46. Commentators
47. Having many different functions
49. Member of a Semitic people
50. Flightless, fast-running bird
51. After the seventh
56. Small N. Zealand tree
57. Health care pro (abbr.)
58. Playground mainstay
59. Expressing relief
60. Records brain activity (abbr.)
61. Fishing net
62. Beer
63. Tooth caregiver
64. Japanese beverage

HELP WANTED

PUBLIC NOTICE

FICTITIOUS BUSINESS
NAME STATEMENT
File No. 287615
The following persons are doing business as: Dulzura, 705-709 Bermuda Dr., San Mateo, CA 94403, 101 Hickey Blvd, Ste A #226, South San Francisco, CA 94080. KEA LLC, 101 Hickey Blvd, Ste A #226, South San Francisco, CA 94080. The registrant(s) commenced to transact business under the fictitious business name(s) listed above on N/A. This business is conducted by a Limited Liability Company. This statement was filed with Mark Church, County Clerk Recorder of San Mateo County on a date indicated by file stamp. ENDORSED FILED MAY 07, 2021 MARK CHURCH, County Clerk, Maria Gallardo Deputy Clerk.
Published in the Half Moon Bay Review May 19, 26, June 2 & 9, 2021 No. 2819

PUBLIC NOTICE

STATEMENT OF ABANDONMENT OF FICTITIOUS BUSINESS NAME
File No. 283229
Registered Owner(s) abandoning the use of the Fictitious Business Name: Tropiq; Stefan M. Riggs, 900 Uccelli Dr. Apt. 9102, Redwood City, CA 94063. Date of Original Filing: 11/27/2019. This business was conducted by an Individual. This statement was filed with Mark Church, County Clerk Recorder of San Mateo County on a date indicated by file stamp. ENDORSED FILED APR 26, 2021 MARK CHURCH, County Clerk, Maria Gallardo Deputy Clerk.
Published in the Half Moon Bay Review May 19, 26, June 2 & 9, 2021 No. 2822

PUBLIC NOTICE

FICTITIOUS BUSINESS
NAME STATEMENT
File No. 287511
The following persons are doing business as: Mavericks House, 107 Broadway, Half Moon Bay, CA 94019, PO Box 879, El Granada, CA 94018. The Brewery on Half Moon Bay Inc, 390 Capistrano Road, Half Moon Bay, CA 94019. The registrant(s) commenced to transact business under the fictitious business name(s) listed above on 03/17/2021. This business is conducted by a Corporation. This statement was filed with Mark Church, County Clerk Recorder of San Mateo County on a date indicated by file stamp. ENDORSED FILED APR 28, 2021 MARK CHURCH, County Clerk, Maria Gallardo Deputy Clerk.
Published in the Half Moon Bay Review May 19, 26, June 2 & 9, 2021 No. 2824

PUBLIC NOTICE

ORDER TO SHOW CAUSE FOR CHANGE OF NAME IN THE SUPERIOR COURT FOR THE STATE OF CALIFORNIA IN AND FOR THE COUNTY OF SAN MATEO
NO. 21CIV02547
TO ALL INTERESTED PERSONS: Petitioner: YULIA NORDSTAD filed a petition with this court for a decree changing names as follows: YULIA NORDSTAD to JULIA NORDSTAD. THE COURT ORDERS that all persons interested in this matter appear before this court at the hearing indicated below to show cause, if any, why the petition for change of name should not be granted. Any person objecting to the name changes described above must file a written objection that includes the reasons for the objection at least two court days before the matter is scheduled to be heard and must appear at the hearing to show cause why the petition should not be granted. If no written objection is timely filed, the court may grant the petition without a hearing. NOTICE OF HEARING: On 6/1721, 9:00 a.m., in Department: MC, of this court, located at 400 County Center, Redwood City, California 94063. IT IS FURTHER ORDERED that a copy of this order to show cause be published in the Coastside News Group, a newspaper of general circulation printed in San Mateo County, California, once a week for four successive weeks prior to the date set for hearing on the petition.
Dated: MAY 05, 2021 s/Leland Davis III Judge of the Superior Court. Endorsed: MAY 06, 2021
Published in the Half Moon Bay Review May 19, 26, June 2 & 9, 2021. No. 2825

PUBLIC NOTICE

FICTITIOUS BUSINESS
NAME STATEMENT
File No. 287661
The following persons are doing business as: Coastal Glow Skincare, 504 Avenue Alhambra, El Granada, CA 94018, PO Box 2051,El Granada, CA 94018. amanda borgonovo, 255 Avenue Balboa, El Granada, CA 94018. The registrant(s) commenced to transact business under the fictitious business name(s) listed above on May 1st, 2021. This business is conducted by an Individual. This statement was filed with Mark Church, County Clerk Recorder of San Mateo County on a date indicated by file stamp. ENDORSED FILED May 12, 2021 MARK CHURCH, County Clerk, Maria Gallardo Deputy Clerk.

Published in the Half Moon Bay Review May 19, 26, June 2 & 9, 2021 No. 2846

PUBLIC NOTICE

Notice of Public Hearing
Coastside County Water District
766 Main Street
Half Moon Bay, CA 94019
(650) 726-4405
www.coastsidewater.org
When: Tuesday, June 8, 2021 at 7:00 p.m.
Where: Virtual Meeting – Please find the direct link on the agenda posted on the District's website. The meeting ID and passcode are provided below.
Join Zoom Meeting
Meeting ID: 937 7826 0596
Passcode: 184355
One tap mobile
+1 669 900 6833 | 93778260596# | *184355# US (San Jose)
2020 Urban Water Management Plan
California Water Code (CWC) Section 10621 requires that Coastside County Water District review and update its Urban Water Management Plan every five years. The Coastside County Water District's Board of Directors will hold a public hearing (CWC Section 10642) to consider and receive comments and input on proposed revisions and updates to the Plan for 2015 through 2020. Upon conclusion of the public hearing, the Board of Directors of Coastside County Water District may revise, change, modify, and/or adopt the 2020 Urban Water Management Plan.
Water Shortage Contingency Plan
The Water Shortage Contingency Plan is required by California Water Code Section 10632. While the Water Shortage Contingency Plan is incorporated in the 2020 Urban Water Management Plan, it is a document that stands alone. The Coastside County Water District's Board of Directors will hold a public hearing to consider and receive comments and input on the Water shortage Contingency Plan. Upon conclusion of the public hearing, the Board of Directors of Coastside County Water District may revise, change, modify, and/or adopt the Water Shortage Contingency Plan.
The proposed 2020 Urban Water Management Plan and Water Shortage Contingency Plan will be available for public review on or before May 25, 2021 on the District's website. (www.coastsidewater.org/report-and-studies.html)
Comments
1)Written comments should be sent to Coastside County Water District, Attn: Cathleen Brennan, 766 Main Street, Half Moon Bay, by close of business on Monday, June 7, 2021. 2)Comments can be emailed to cbrennan@coastsidewater.org and will be accepted through the close of business on Tuesday, June 8, 2021.
3)Verbal comments will be accepted up and through the close of the public hearing.
Please contact Cathleen Brennan at (650) 276-0861 or cbrennan@coastsidewater.org with questions and comments.
Published in the Half Moon Bay Review May 19, 26 & June 2, 2021 No.2848

PUBLIC NOTICE

FICTITIOUS BUSINESS
NAME STATEMENT
File No. 287480
The following persons are doing business as: Ronald E Muhammad - Johnson Transportation Services; Muhammad Transportation Services, 88 Hillside Blvd Apt.224, Daly City, CA 94014. Ronald E Muhammad, 88 Hillside Blvd Apt.224, Daly City, CA 94014. The registrant(s) commenced to transact business under the fictitious business name(s) listed above on N/A. This business is conducted by an Individual. This statement was filed with Mark Church, County Clerk Recorder of San Mateo County on a date indicated by file stamp. ENDORSED FILED APR 26, 2021 MARK CHURCH, County Clerk, Maria P. Perez Deputy Clerk.
Published in the Half Moon Bay Review May 19, 26, June 2 & 9, 2021 No. 2850

PUBLIC NOTICE

FICTITIOUS BUSINESS
NAME STATEMENT
File No. 287629
The following persons are doing business as: Scattered & Spread, 280 Old County Rd #513, Brisbane, CA 94005. Oogie LLC, 280 Old County Rd #513, Brisbane, CA 94005. The registrant(s) commenced to transact business under the fictitious business name(s) listed above on 5/11/21. This business is conducted by a Limited Liability Company. This statement was filed with Mark Church, County Clerk Recorder of San Mateo County on a date indicated by file stamp. ENDORSED FILED MAY 11, 2021 MARK CHURCH, County Clerk, DIANA SIRON Deputy Clerk.
Published in the Half Moon Bay Review May 26, June 2, 9 & 16, 2021 No. 2860

PUBLIC NOTICE

NOTICE OF PUBLIC HEARING
CITY OF HALF MOON BAY CITY COUNCIL
TUESDAY, JUNE 15, 2021, 7:00 PM
NOTICE IS HEREBY GIVEN that the City Council of the City of Half Moon Bay will hold a public hearing at 7:00 PM on Tuesday, June 15, 2021, via Zoom, for:
BUSINESS IMPROVEMENT DISTRICT – FISCAL YEAR 2021-22 ANNUAL ASSESSMENT
Per Half Moon Bay Municipal Code Chapter 3.100, and Streets and Highways Code Section 36535, this public hearing is being held to allow for comments and to receive written and oral protests on the Business Improvement District and the proposed assessment for Fiscal Year 2021-22. For more information, you are encouraged to contact Jessica Blair, City Clerk, at (650) 726-8271 or by email at jblair@hmbcity.com. The BID Resolution of Intent is provided herein pursuant to CSHC Section 36534(b) which states, "The City Clerk shall give notice of the public hearing by causing the resolution of intention to be published once in a newspaper of general circulation in the City not less than seven (7) days before the public hearing."
The staff report for this public hearing item will be available for viewing on the City's website –www.hmbcity.com; at the City Clerk's Department in City Hall – 501 Main Street; beginning June 11, 2021.
Anyone interested may appear and be heard at the public hearing or may submit written comments to the City Clerk, 501 Main Street, Half Moon Bay, CA 94019.
Half Moon Bay Review Publication Dates: June 2 and June 9, 2021 No. 2873

PUBLIC NOTICE

PUBLIC NOTICE
INTRODUCTION OF AMENDMENT TO DISTRICT ORDINANCE CODE
This notice is published pursuant to Harbors and Navigation Code Section 6070.2, which requires a minimum twenty (20) day period for public review and comment on proposed ordinance code adoptions and revisions. The San Mateo County Harbor District introduced Ordinance Code 3.35 at its May 19, 2021 meeting of its Board of Harbor Commissioners, an Ordinance Code revision pertaining to the operations of motor vehicles at Oyster Point Marina and Pillar Point Harbor. The District is now considering adoption of this Ordinance Code revision.
Ordinance 3.35 revision is available for inspection by the public at the following address, to which written comments may also be sent: San Mateo County Harbor District, PO BOX 1449, El Granada, CA 94018, or can be hand delivered or by courier to 504 Avenue Alhambra, El Granada or hand delivered to the Harbormaster offices at Oyster Point Marina and Pillar Point Harbor during regular business hours. The San Mateo County Harbor District Board of Harbor Commissioners will meet on Wednesday, May 19, 2021 at a publicly noticed meeting to consider adopuon of said Ordinance Code.

Dated: Thursday, May 20, 2021
Contact: Melanie Hadden, Deputy Secretary to the Board
mhadden@smharbor.com
(650) 583-4400
Published in the Half Moon Bay Review June 2, 2021. No. 2890

PUBLIC NOTICE

FICTITIOUS BUSINESS
NAME STATEMENT
File No. 287715
The following persons are doing business as: Kismet Wai, 969 Marquette Lane, Foster City, CA 94404.
CHRISTINA DISTEFANO, 969 Marquette Lane, Foster City, CA 94404.
The registrant(s) commenced to transact business under the fictitious business name(s) listed above on N/A. This business is conducted by an Individual. This statement was filed with Mark Church, County Clerk Recorder of San Mateo County on a date indicated by file stamp. ENDORSED FILED MAY 18, 2021 MARK CHURCH, County Clerk, Henry Salgado Deputy Clerk.

Published in the Half Moon Bay Review May 26, June 2, 9 & 16, 2021 No. 2880

PUBLIC NOTICE

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Appendix E

Annual Water Loss Audits

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AWWA Free Water Audit Software:
Reporting Worksheet

WAS v5.0

? Click to access definition
+ Click to add a comment

Water Audit Report for: Coastside County Water district (4110011)
Reporting Year: 2016 | 7/2015 - 6/2016

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: MILLION GALLONS (US) 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:	4	181.100	MG/Yr	-1.25%		MG/Yr
Water imported:	4	430.270	MG/Yr	-10.00%		MG/Yr
Water exported:	4	40.650	MG/Yr	-1.25%		MG/Yr

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

WATER SUPPLIED: 620.306 MG/Yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

				Pcnt:	Value:	
Billed metered:	6	516.330	MG/Yr			
Billed unmetered:	10	0.000	MG/Yr			
Unbilled metered:	6	0.020	MG/Yr			
Unbilled unmetered:	1	34.000	MG/Yr		34.000	MG/Yr

Unbilled Unmetered volume entered is greater than the recommended default value

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

AUTHORIZED CONSUMPTION: 550.350 MG/Yr

WATER LOSSES (Water Supplied - Authorized Consumption)

69.956 MG/Yr

Apparent Losses

				Pcnt:	Value:	
Unauthorized consumption:		1.551	MG/Yr	0.25%		MG/Yr

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

Customer metering inaccuracies:	4	5.216	MG/Yr	1.00%		MG/Yr
Systematic data handling errors:		1.291	MG/Yr	0.25%		MG/Yr

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

Apparent Losses: 8.057 MG/Yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 61.898 MG/Yr

WATER LOSSES: 69.956 MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 103.976 MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	7	100.0	miles
Number of active AND inactive service connections:	9	7,447	
Service connection density:		74	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: 3 74.9 psi

COST DATA

Total annual cost of operating water system:	10	$10,886,952	$/Year	
Customer retail unit cost (applied to Apparent Losses):	9	$12.74	$/100 cubic feet (ccf)	
Variable production cost (applied to Real Losses):	9	$5,331.46	$/Million gallons	☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 58 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: Customer metering inaccuracies

AWWA Free Water Audit Software:
Reporting Worksheet

WAS v5.0

? Click to access definition
+ Click to add a comment

Water Audit Report for: Coastside County Water District (4110011)
Reporting Year: 2017 | 7/2016 - 6/2017

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: MILLION GALLONS (US) 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:	3	222.520	MG/Yr	1				MG/Yr
Water imported:	3	385.710	MG/Yr	1				MG/Yr
Water exported:	3	44.690	MG/Yr	1	-2.00%			MG/Yr

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

WATER SUPPLIED: 562.628 MG/Yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

				Pcnt:	Value:	
Billed metered:	8	503.910	MG/Yr			
Billed unmetered:	10	0.000	MG/Yr			
Unbilled metered:	8	0.010	MG/Yr			
Unbilled unmetered:	5	1.407	MG/Yr		1.407	MG/Yr

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

AUTHORIZED CONSUMPTION: ? 505.327 MG/Yr

WATER LOSSES (Water Supplied - Authorized Consumption)

57.301 MG/Yr

Apparent Losses

				Pcnt:	Value:	
Unauthorized consumption:		1.407	MG/Yr	0.25%		MG/Yr

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

Customer metering inaccuracies:	4	9.060	MG/Yr		9.060	MG/Yr
Systematic data handling errors:		1.260	MG/Yr	0.25%		MG/Yr

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

Apparent Losses: ? 11.726 MG/Yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: ? 45.575 MG/Yr

WATER LOSSES: 57.301 MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: ? 58.718 MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	8	101.2	miles
Number of active AND inactive service connections:	7	7,570	
Service connection density:		75	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: 3 74.0 psi

COST DATA

Total annual cost of operating water system:	10	$10,567,506	$/Year
Customer retail unit cost (applied to Apparent Losses):	9	$10.02	$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses):	5	$4,695.59	$/Million gallons

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 55 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: Customer metering inaccuracies

AWWA Free Water Audit Software:
Reporting Worksheet

WAS v5.0

? Click to access definition
+ Click to add a comment

Water Audit Report for: Coastside County Water District (4110011)
Reporting Year: 2018 | 7/2017 - 6/2018

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: MILLION GALLONS (US) 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	337.760	MG/Yr	5		-8.700	MG/Yr
Water imported:	3	347.100	MG/Yr	1			MG/Yr
Water exported:	3	53.000	MG/Yr	1			MG/Yr

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

WATER SUPPLIED: 640.560 MG/Yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

			Pcnt:	Value:	
Billed metered:	9	543.990 MG/Yr			
Billed unmetered:	n/a	0.000 MG/Yr			
Unbilled metered:	10	0.040 MG/Yr			
Unbilled unmetered:		8.007 MG/Yr	1.25%		MG/Yr

Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed

AUTHORIZED CONSUMPTION: 552.037 MG/Yr

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

WATER LOSSES (Water Supplied - Authorized Consumption)

88.523 MG/Yr

Apparent Losses

			Pcnt:	Value:	
Unauthorized consumption:		1.601 MG/Yr	0.25%		MG/Yr

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

Customer metering inaccuracies:	3	5.495 MG/Yr	1.00%		MG/Yr
Systematic data handling errors:		1.360 MG/Yr	0.25%		MG/Yr

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

Apparent Losses: 8.457 MG/Yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 80.066 MG/Yr

WATER LOSSES: 88.523 MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 96.570 MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	8	82.0	miles
Number of active AND inactive service connections:	9	7,630	
Service connection density:		93	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: 3 | 74.9 psi

COST DATA

Total annual cost of operating water system:	10	$13,124,426	$/Year
Customer retail unit cost (applied to Apparent Losses):	10	$11.46	$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses):	5	$4,277.83	$/Million gallons

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 65 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: Customer metering inaccuracies
3: Volume from own sources

AWWA Free Water Audit Software:
Reporting Worksheet

WAS v5.0

? Click to access definition
+ Click to add a comment

Water Audit Report for: Coastside County Water District (4110011)
Reporting Year: 2019 | 7/2018 - 6/2019

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: MILLION GALLONS (US) 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:	5	599.890	MG/Yr	5		-8.230	MG/Yr
Water imported:	n/a		MG/Yr				MG/Yr
Water exported:	n/a		MG/Yr				MG/Yr

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

WATER SUPPLIED: 608.120 MG/Yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

				Pcnt:	Value:	
Billed metered:	9	541.922	MG/Yr			
Billed unmetered:	n/a		MG/Yr			
Unbilled metered:	10	0.030	MG/Yr			
Unbilled unmetered:	8	31.570	MG/Yr		31.570	MG/Yr

Unbilled Unmetered volume entered is greater than the recommended default value

Use buttons to select percentage of water supplied OR value

AUTHORIZED CONSUMPTION: 573.522 MG/Yr

WATER LOSSES (Water Supplied - Authorized Consumption)

34.598 MG/Yr

Apparent Losses

				Pcnt:	Value:	
Unauthorized consumption:		1.520	MG/Yr	0.25%		MG/Yr

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

Customer metering inaccuracies:	3	2.723	MG/Yr	0.50%		MG/Yr
Systematic data handling errors:	5	1.355	MG/Yr	0.25%		MG/Yr

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

Apparent Losses: 5.598 MG/Yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 29.000 MG/Yr

WATER LOSSES: 34.598 MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 66.198 MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	8	83.4	miles
Number of active AND inactive service connections:	5	7,674	
Service connection density:		92	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: 3 | 85.3 psi

COST DATA

Total annual cost of operating water system:	10	$13,504,028	$/Year	
Customer retail unit cost (applied to Apparent Losses):	10	$11.59	$/100 cubic feet (ccf)	
Variable production cost (applied to Real Losses):	5	$4,712.84	$/Million gallons	☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 65 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: Volume from own sources
2: Customer metering inaccuracies
3: Variable production cost (applied to Real Losses)

AWWA Free Water Audit Software:
Reporting Worksheet

WAS v5.0

American Water Works Association

? Click to access definition
+ Click to add a comment

Water Audit Report for: Coastside County Water District (4110011)
Reporting Year: FY 2020 7/2019 - 6/2020

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: MILLION GALLONS (US) 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:	5	619.000	MG/Yr	7		-1.077	MG/Yr
Water imported:	n/a	0.000	MG/Yr				MG/Yr
Water exported:	n/a	0.000	MG/Yr				MG/Yr

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

WATER SUPPLIED: 620.077 MG/Yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

				Pcnt:	Value:	
Billed metered:	5	554.730	MG/Yr			
Billed unmetered:	n/a	0.000	MG/Yr			
Unbilled metered:	10	5.760	MG/Yr			
Unbilled unmetered:	9	34.490	MG/Yr		34.490	MG/Yr

Unbilled Unmetered volume entered is greater than the recommended default value

Use buttons to select percentage of water supplied OR value

AUTHORIZED CONSUMPTION: 594.980 MG/Yr

WATER LOSSES (Water Supplied - Authorized Consumption) 25.097 MG/Yr

Apparent Losses

				Pcnt:	Value:	
Unauthorized consumption:		1.550	MG/Yr	0.25%		MG/Yr

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

Customer metering inaccuracies:	5	5.662	MG/Yr	1.00%		MG/Yr
Systematic data handling errors:	5	1.387	MG/Yr	0.25%		MG/Yr

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

Apparent Losses: 8.599 MG/Yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 16.498 MG/Yr

WATER LOSSES: 25.097 MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 65.347 MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	8	83.2	miles
Number of active AND inactive service connections:	9	7,716	
Service connection density:		93	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:	3	86.3	psi

COST DATA

Total annual cost of operating water system:	10	$14,653,066	$/Year	
Customer retail unit cost (applied to Apparent Losses):	10	$11.20	$/100 cubic feet (ccf)	
Variable production cost (applied to Real Losses):	5	$4,377.24	$/Million gallons	☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 63 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: Volume from own sources
2: Billed metered
3: Customer metering inaccuracies

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Appendix F

SB X7-7 2020 Compliance Form

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SB X7-7 Table 0: Units of Measure Used in 2020 UWMP* *(select one from the drop down list)*
Million Gallons
**The unit of measure must be consistent throughout the UWMP, as reported in Submittal Table 2-3.*
NOTES:

SB X7-7 Table 2: Method for 2020 Population Estimate	
Method Used to Determine 2020 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: Population estimates prepared by Maddaus Water Management based on ABAG data. Methodology was reviewed and approved by DWR for the BAWSCA agencies.	

SB X7-7 Table 3: 2020 Service Area Population	
2020 Compliance Year Population	
2020	18,738
NOTES: Based on ABAG data.	

SB X7-7 Table 4: 2020 Gross Water Use							
Compliance Year 2020	2020 Volume Into Distribution System *This column will remain blank until SB X7-7 Table 4-A is completed.*	2020 Deductions					2020 Gross Water Use
		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.*	
	667			-		-	**667**
* **Units of measure (AF, MG , or CCF)** must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.							
NOTES: Volumes are in MG.							

SB X7-7 Table 4-A: 2020 Volume Entering the Distribution System(s), Meter Error Adjustment

Complete one table for each source.

Name of Source	Local Sources
This water source is *(check one)* **:**	
☑	The supplier's own water source
☐	A purchased or imported source

Compliance Year 2020	Volume Entering Distribution System [1]	Meter Error Adjustment [2] *Optional (+/-)*	Corrected Volume Entering Distribution System
	295	-	295

[1] ***Units of measure (AF, MG , or CCF)*** *must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.*

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

NOTES: Volumes are in MG.

SB X7-7 Table 4-A: 2020 Volume Entering the Distribution System(s) Meter Error Adjustment

Complete one table for each source.

Name of Source	SFPUC
This water source is *(check one)* **:**	
☐	The supplier's own water source
☑	A purchased or imported source

Compliance Year 2020	Volume Entering Distribution System [1]	Meter Error Adjustment [2] *Optional (+/-)*	Corrected Volume Entering Distribution System
	371		371

[1] ***Units of measure (AF, MG , or CCF)*** *must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.*

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

NOTES: Volumes are in MG.

SB X7-7 Table 5: 2020 Gallons Per Capita Per Day (GPCD)		
2020 Gross Water *Fm SB X7-7 Table 4*	**2020 Population** *Fm SB X7-7 Table 3*	**2020 GPCD**
667	18,738	**97**
NOTES: Gross water volume is in MG.		

SB X7-7 Table 9: 2020 Compliance							
Actual 2020 GPCD[1]	Optional Adjustments to 2020 GPCD Enter "0" if Adjustment Not Used			TOTAL Adjustments[1]	Adjusted 2020 GPCD [1] *(Adjusted if applicable)*	2020 Confirmed Target GPCD [1, 2]	**Did Supplier Achieve Targeted Reduction for 2020?**
	Extraordinary Events[1]	Weather Normalization[1]	Economic Adjustment[1]				
97	-	-	-	-	97	124	**YES**

[1] *All values are reported in GPCD*

[2] ***2020 Confirmed Target GPCD*** *is taken from the Supplier's SB X7-7 Verification Form Table SB X7-7, 7-F.*

Appendix G

Groundwater Information

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Half Moon Bay Terrace Groundwater Basin

- Groundwater Basin Number: 2-22
- County: San Mateo
- Surface Area: 9,189 acres (14 square miles)

Basin Boundaries and Hydrology

The Half Moon Bay Terrace Groundwater Basin is located along the northern San Mateo coast about 20 miles south of San Francisco and 90 miles southwest of the Sacramento Valley. The Terrace is bounded by Martini Creek on the north, by the Pacific Ocean on the west, by Tunitas Creek on the south, and by the Montara Mountains on the east. Elevations within the basin range from sea level at the ocean to nearly 300 feet along the eastern boundary. Many creeks flow through the basin toward the Pacific Ocean, including Montara, San Vicente, Denniston, Pilarcitos, Purisima, and Lobitos Creeks. The region has a Mediterranean climate with most of the precipitation in the region occurring as rain during the winter and spring. Although the summer is generally dry, regional fog helps moderate the average temperature, reduces evapotranspiration, and meets some moisture demands from plants (MWSD 2012).

Hydrogeologic Information

Water-Bearing Formations

The basin is filled by sedimentary materials and underlain by Montara Mountain granite. Montara Mountain granite is part of a much larger Cretaceous-age magmatic arc complex known as the Salinian Block. The basin occupies a structural trough which has been filled with sediments transported from the adjacent hills (DWR 1999).

Holocene Alluvium. The alluvium consists of unconsolidated, moderately sorted sand and gravel. In the basin, coarse-grained alluvium is present in stream floodplains and as a fan deposit east of Half Moon Bay Airport (DWR 1999).

Pleistocene Marine Terrace Deposits. Marine terrace deposits are found along the coastline of the basin. The deposits consist of poorly to moderately consolidated marine, eolian, and alluvial sand, silt, gravel, and clay. The formation lies unconformably on top of the Purisima Formation (Brabb 1980).

Pliocene Purisima Formation. The Purisima Formation is a highly fractured, well-indurated, soft- to medium-hard, fossiliferous mudstone, siltstone, and sandstone. The formation rests nonconformably on top of Montara Mountain granitics and is believed to be hundreds of feet thick. The Purisima Formation crops out in the study area just west of Half Moon Bay Airport, and underlies most of the Upper Pleistocene marine terrace deposits (DWR 1999).

Cretaceous Montara Mountain Granitic Rock. The granite of Montara Mountain is a highly fractured medium to coarsely–crystalline rock. Exposures of the granite are commonly fractured and weathered to a depth of

100 feet. The granitic rock forms the mountains directly east of the coastline and underlies all of the younger geologic formations (DWR 1999).

Recharge Areas

A study of the watersheds of several creeks in and around the Half Moon Bay Terrace Groundwater Basin found that for areas of higher elevation, direct precipitation is largely responsible for groundwater recharge, whereas for the lower elevation areas most recharge occurs locally from streams (Balance Hydrologics 2010).

Groundwater Level Trends

Hydrographs from DWR monitoring wells in the north part of the basin indicate that the overall groundwater level trend during the period of record has been stable. The depths to groundwater fluctuate annually with the depth to groundwater generally greatest in summer months and shallowest in winter months.

Groundwater Storage

Groundwater in Storage. A 1987 study by Earth Sciences Associates and Luhdorff and Scalmanini Consulting Engineers estimated the usable groundwater in storage for the Half Moon Bay Airport and Pillar Point Marsh area to be about 1,300 acre-feet. This area is bounded by San Vicente Creek on the north, the community of El Granada on the south, the Seal Cove Fault on the west, and Montara Mountain on the east.

Groundwater Budget (Type C)

Due to lack of groundwater budget data for Half Moon Bay Terrace Groundwater Basin, a groundwater budget estimate has not been prepared. However, the Midcoast Groundwater Study Phase II identifies a sub-area of the Half Moon Bay Terrace Groundwater Basin, referred to as the Airport Subbasin, in which budget information was estimated. Groundwater pumping in the Airport Subbasin was estimated at 513 AFY. Average inflow was estimated at approximately 2,780 AFY which was found to equal average outflow (Kleinfelder 2009). Therefore, the Phase II Study finds that the Airport Subbasin is in long-term hydrologic balance.

Groundwater Quality

Characterization. Water quality information for the Half Moon Bay Terrace Groundwater Basin is limited. However, much of the groundwater in the northern part of the Basin is high in iron and manganese (Montgomery Watson 1996). Total dissolved solids data from 12 wells indicate a range of 160 to 460 milligrams per liter (mg/l) and an average of 283 mg/l. Additionally, according to the Midcoast Groundwater Study Phase III, conditions for sea water intrusion have not developed (Balance Hydrologics 2010).

Well Characteristics

	Well yields (gal/min)	
Municipal/Irrigation	Range: 3 – 220	Average: 39 (based on 117 well completion reports [WCRs])
	Total depths (ft)	
Domestic	Range: 30 – 910	Average: 160 (based on 915 WCRs)
Municipal/Irrigation	Range: 40 – 305	Average: 124 (based on 74 WCRs)

Active Monitoring Data

Agency	Parameter	Number of wells /measurement frequency
DWR	Groundwater levels	3 wells/semi-annually
Department of Health Services and cooperators	Groundwater levels	9 wells/biennially
DWR	Miscellaneous water quality	None
Department of Health Services and cooperators	Title 22 water quality	14 wells/annually

Basin Management

Groundwater management:	Montara Water and Sanitary District: Informally adopted findings from Montara-Moss Beach Water Well Environmental Impact Report
Water agencies	
Public	Coastside County Water District, Montara Water and Sanitary District
Private	Unknown

References Cited

Balance Hydrologics Inc. 2010. Midcoast Groundwater Study Phase III, San Mateo County, California.

Brabb EE. 1980. Preliminary geologic map of the La Honda and San Grgorio quadrangles, San Mateo County, California, Open-File Report OF-80-245, scale 1:24,000.

California Department of Water Resources (DWR). 1999. Montara Water Supply Study for Montara Sanitary District San Mateo County, California.

Kleinfelder. 2009. Midcoast Groundwater Study Phase II, San Mateo County, California, 2007. Summary and Errata dated April 2009.

Montara Water and Sanitary District (MWSD). 2010. CASGEM Monitoring Plan.

Errata

Changes made to the basin description will be noted here.

Groundwater Elevation Monitoring Plan

Coastside County Water District

Water level monitoring plan for the Half Moon Bay Terrace Groundwater Basin for submittal to the California Department of Water Resources under the CASGEM Program
August 2011 (revised September 2011)

Table of Contents

Table of Figures

1.0 Introduction

Coastside County Water District (District) is located on the coastline 30 miles south of San Francisco. The District's service area is on the coastal terrace between the Pacific Ocean and the Santa Cruz Mountain range. The District's service area boundaries include 14 square miles of land which extend 9.5 miles south to north and 1.5 miles west to east (see figure 1).

The District is a special district providing treated water to customers with its jurisdictional boundaries, which include the City of Half Moon Bay and unincorporated areas of Princeton, Miramar and El Granada.

2.0 Purpose

The purpose of this monitoring plan is to provide a description of the District's strategies to satisfy the requirements of the California Statewide Groundwater Elevation Monitoring (CASGEM) program. CASGEM was developed in accordance with Senate Bill 6 of November 2009 to establish a permanent, locally managed system to monitor groundwater elevation in California's alluvial groundwater basins and subbasins, as identified in California Department of Water Resources (DWR) Bulletin 118.

3.0 Groundwater Basin Description

The District's jurisdictional boundaries overlay the Half Moon Bay Terrace Basin (DWR Basin Number 2-22) of the San Francisco Bay Hydrologic Region. DWR Bulletin 118 does not contain a description for the Half Moon Bay Terrace Basin (see figure 2); the basin is not adjudicated and it has not been identified as being in an overdraft condition.

3.1 Airport Terrace Subbasin

The District utilizes groundwater from this basin from a sub-area referred to as the Airport Terrace Subbasin (see figure 3). The District refers to this source of water as the Denniston Well Field. This subbasin is also a source of groundwater for the Montara Water and Sanitary District and is 871 acres.

The County of San Mateo commissioned a three phased groundwater study for the unincorporated mid-coast area extending from the communities of Montara to Miramar. This study, Kleinfelder Midcoast Groundwater Study, describes the groundwater resources and could eventually lead to the development of a Groundwater Management Plan for the unincorporated mid-coast area of San Mateo County. This study describes the geologic formations in the mid-coast area as (1) coastal marine terrace or stream valley alluvial deposits where groundwater is stored in loose, unconsolidated, course grained sand and (2) upland granitic bedrock where groundwater is stored in weathered rock openings and in rock fractures. The Airport Terrace subbasin's geologic formation is the coastal marine terrace or stream valley alluvial deposits where groundwater is stored in loose, unconsolidated, coarse grained sand.

3.2 Lower Pilarcitos Creek Groundwater Basin (subbasin)

The District evaluated the possibility of expanding the use of groundwater to augment local water supplies. In 2003, the District contracted with Todd Engineers and Kennedy Jenks Consultants to study the Lower Pilarcitos Creek Groundwater Basin. The Lower Pilarcitos Creek Groundwater Basin is a subbasin of the Half Moon Bay Terrace Basin (see figure 4). The Lower Pilarcitos Creek Groundwater Basin aquifer is formed of marine terrace deposits, which is underlain by a thick tertiary age purisima formation. The marine terrace deposits are described as weakly consolidated, moderately weathered, well-sorted to poorly sorted sand and gravel.

The study concluded that the District could develop this source of groundwater and realize an increase in local water supply by a range of 396 to 795 AFY. The groundwater would need to be pumped to the local water treatment plant and blended with existing water supplies in order to meet drinking water standards. The District has not taken any action to develop this groundwater source, since the study was completed.

The District has destroyed all its monitoring wells in the Lower Pilarcitos Creek Subbasin, so the District does not plan on monitoring this subbasin as part of the CASGEM program.

4.0 Groundwater Level Monitoring

The District and the Montara Water and Sanitary District both utilize groundwater from the Half Moon Bay Terrace Basin and both Districts have applied to become monitoring entities. The District's monitoring (see figure 5) area does not reflect its full jurisdictional boundaries to avoid overlap between the District's and Montara Water and Sanitary District's monitoring areas. The District's monitoring area, under CASGEM, includes approximately 13 square miles of land. Within the District's monitoring area, only about 5 square miles of land is appropriate for groundwater elevation monitoring. Based on this small area, the District determined that one monitoring well would be representative of groundwater elevations within the monitoring area.

The District will monitor the groundwater elevations in the Airport Terrace Subbasin of the Half Moon Bay Terrace Basin. The monitoring frequency will be quarterly.

Monitoring Schedule		
Season	Location	Frequency
Winter	Well Number 6	Once
Spring	Well Number 6	Once
Summer	Well Number 6	Once
Fall	Well Number 6	Once

The Kleinfelder Midcoast Groundwater Study – April 2009 prepared for the Planning and Building Department for the County of San Mateo, concluded that the Airport Subbasin appears to be in a long-term hydrologic balance. Based on this study and on data gathered from production wells in this

subbasin, the District determined that seasonal (quarterly) monitoring would be adequate for the purposes of meeting the requirements of the CASGEM program.

4.1 Airport Terrace Subbasin

The District plans on converting an abandoned production well into a monitoring well for the purposes of satisfying the monitoring requirements of CASGEM. This existing well, known as Well Number 6, is in the Airport Terrace Subbasin (see figure 6) where the District currently utilizes groundwater from the Denniston Well Field. Since the District owns this well, there are no problems with gaining access to this site for monitoring.

The following are the coordinates for the monitoring well:

Latitude	37 30 52.21156
Longitude	122 29 21.47361
Land Surface Datum (LSD) in feet	66.53
Reference Point (RP) in feet	67.67

4.2 Monitoring Procedures

The District currently uses the Electric Sounding Tape Method for measuring elevations in production wells and will use this same method in the monitoring well for CASGEM.

This method consists of a probe, a cable with laser-marked graduations, and a cable reel. The hub of the cable reel contains batteries, electronics, a bright LED lamp, and a beeper. The operator lowers the probe into the well. When the probe contacts the surface of the water, the LED illuminates and the beeper sounds. The operator reads the depth-to-water measurement from graduations on the cable.

Before taking a measurement:

- Inspect the cable and the probe before using it in the field. Check the cable for wear, kinks, frayed electrical connections and possible stretch.
- Check the distance from the probe to the nearest foot marker on the cable, to ensure that this distance puts the sensor at the zero foot point for the cable. If it does not, a correction must be applied to all depth-to-water measurements. Record this in an equipment log book and on the field form.
- Prepare the field forms (see figure 7) and place any previous measured water-level data for the well into the field folder.
- After reaching the field site, check that the reference point (RP) is clearly marked on the well and is accurately described in the well file or field folder.
- Check the circuitry of the electric sounding cable before lowering the probe into the well. To determine the proper functioning of the tape mechanism, dip the electrode probe into tap water and observe whether the indicator indicates a closed circuit. For equipment with multiple indicators, confirm that the indicators operate simultaneously.

- Wipe off the electrode probe and the lower 5 to 10 feet of the tape with a disinfectant wipe, rinse with deionized or tape water, and dry.

Making a measurement:

- If the water level was measured previously at the well, use the previous measurement(s) to estimate the length of cable that should be lowered into the well.
- Lower the probe slowly into the well until the indicator shows that the circuit is closed and contact with the water surface is made. Avoid letting the tape rub across the top of the well casing. Place the tip of the index finger on the insulated cable at the RP and read the depth to water to the nearest 0.01 foot. Record this value in the column labeled "Tape at RP", with the appropriate measurement method code and the date and time of the measurement.
- Lift the probe slowly up a few feet and make a second measurement by repeating step 2 and record the second measurement with the time. Make all readings using the same deflection point on the indicator so that water levels will be consistent between measurements. If the second measurement does not agree with the first measurement within 0.02 of a foot, make a third measurement, recording this measurement with the time. If more than two readings are taken, record the average of all reasonable readings.

After making a measurement:

- Wipe down the probe and the cable that was submerged in the well water, using a disinfectant wipe and rinse thoroughly with deionized or tap water.
- Dry the cable and probe and rewind the cable onto the reel. Do not rewind or otherwise store a dirty or wet cable.

5.0 References

California Department of Water Resources, *California Statewide Groundwater Elevation Monitoring Program, Procedures for Monitoring Entity Reporting*, December 2010

California Department of Water Resources, *Department of Water Resources Groundwater Elevation Monitoring Guidelines*, December 2010

California Department of Water Resources, *Form 429 – Well Data*, April 1970

California Department of Water Resources, *Form 1213 - Groundwater Level Data Form Manual Measurements*, June 28 2010

Kleinfelder, *Midcoast Groundwater Study Phase II*, San Mateo County, California, prepared for County of San Mateo Planning and Building Department, January 8 2007 (revised October 2008) (Summary and Errata dated April 2009.)

Todd Engineers and Kennedy/Jenks Consultants, *Lower Pilarcitos Creek Groundwater Basin Study*, prepared for Coastside County Water District, June 2003

West Yost Associates and Coastside County Water District, Coastside County Water District *2010 Urban Water Management Plan*, June 2011

Figure 1 – Coastside County Water District – Jurisdictional Boundaries

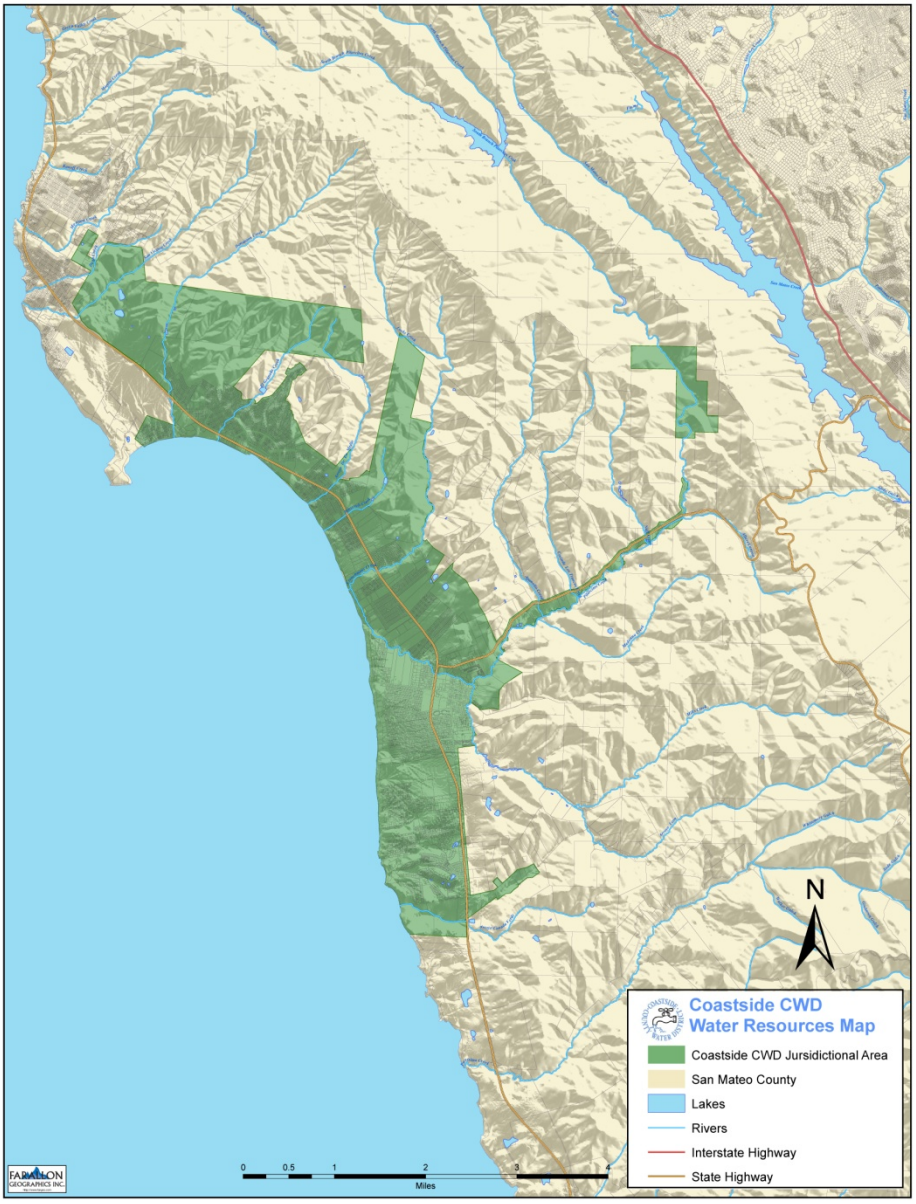
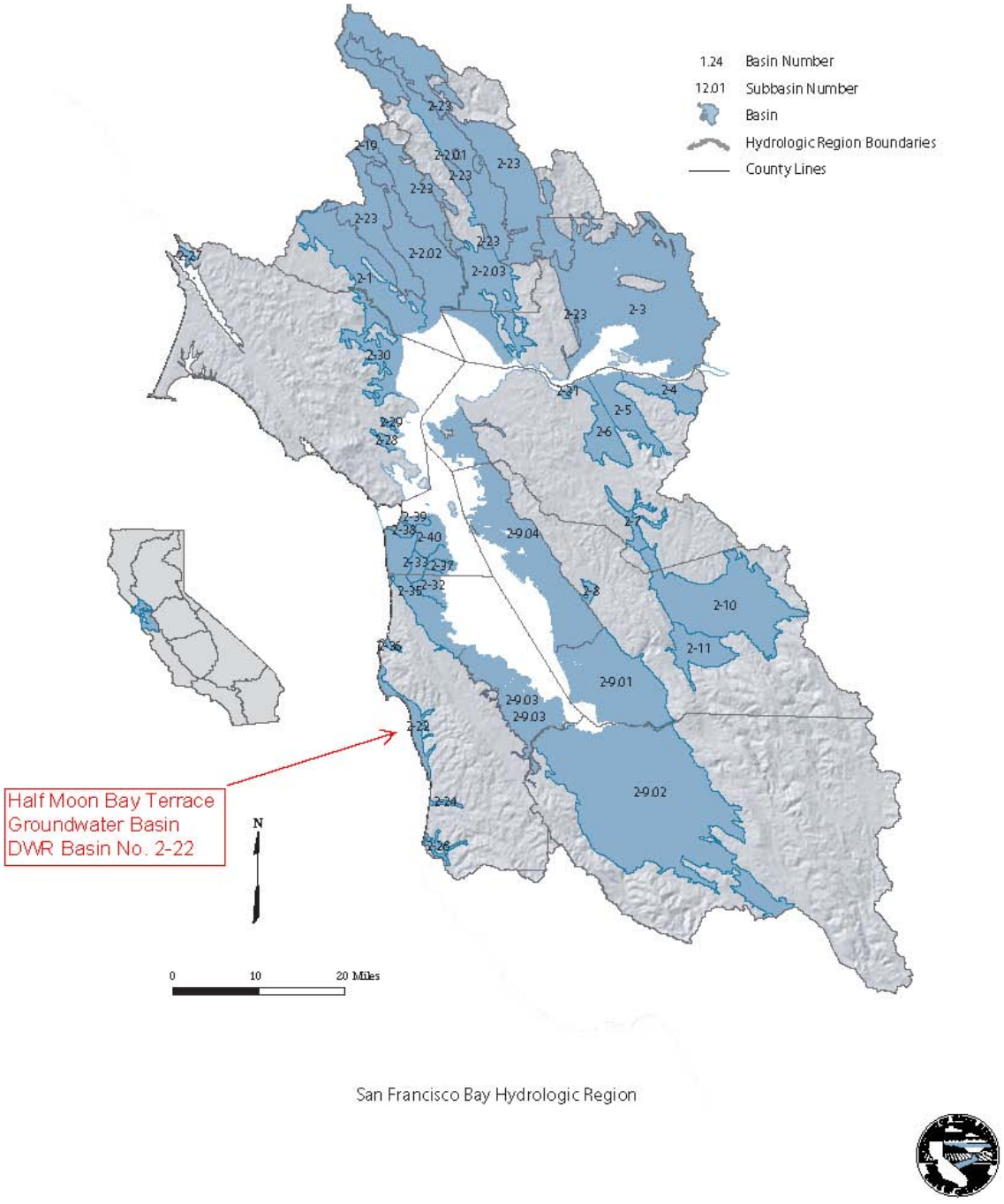
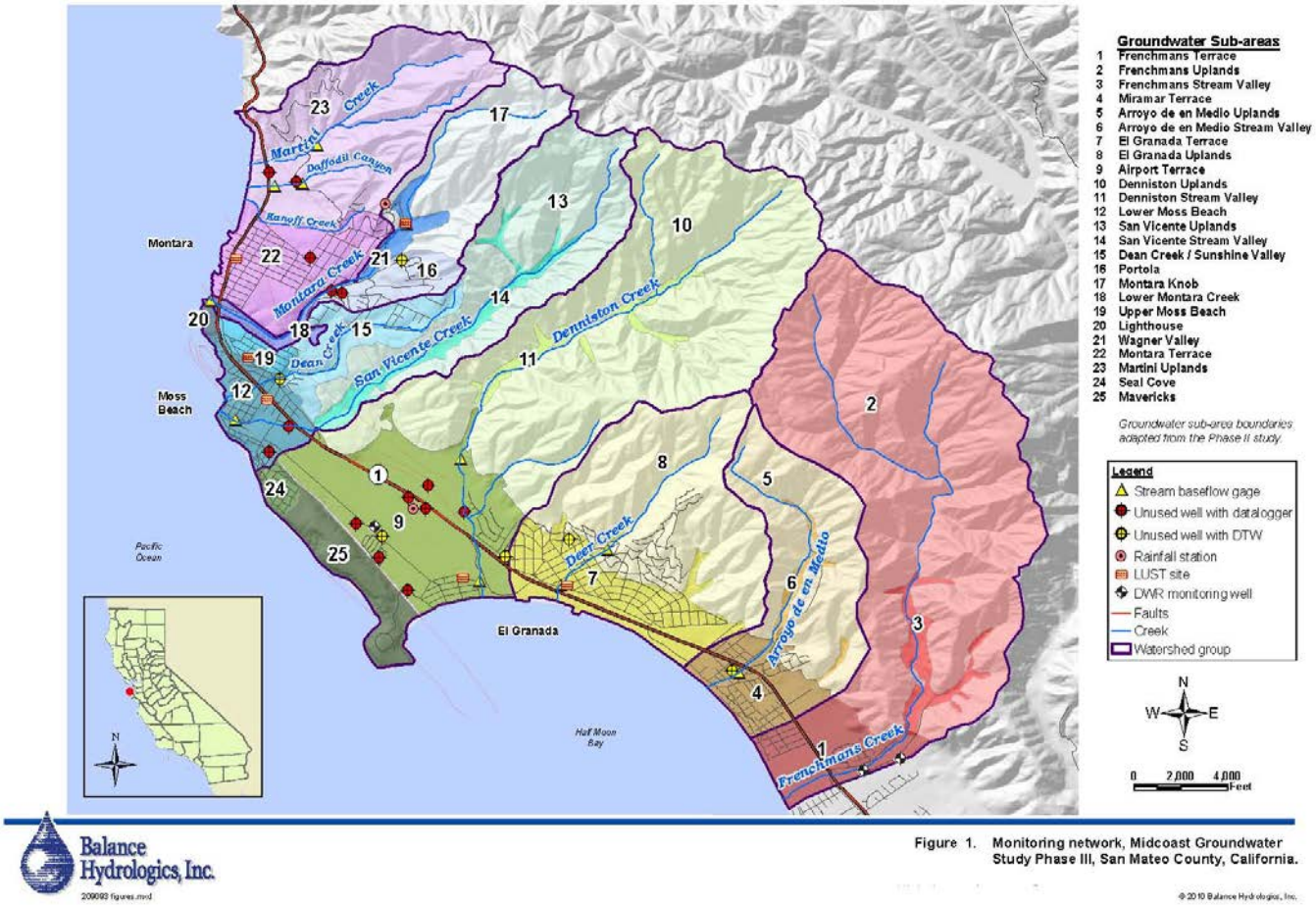


Figure 2 – Half Moon Bay Terrace Basin No. 2-22



San Francisco Bay Hydrologic Region

Figure 3 – Midcoast Subbasins – Airport Terrace Subbasin



Balance Hydrologics, Inc.

Figure 1. Monitoring network, Midcoast Groundwater Study Phase III, San Mateo County, California.

Figure 4 – Lower Pilarcitos Creek Groundwater Subbasin

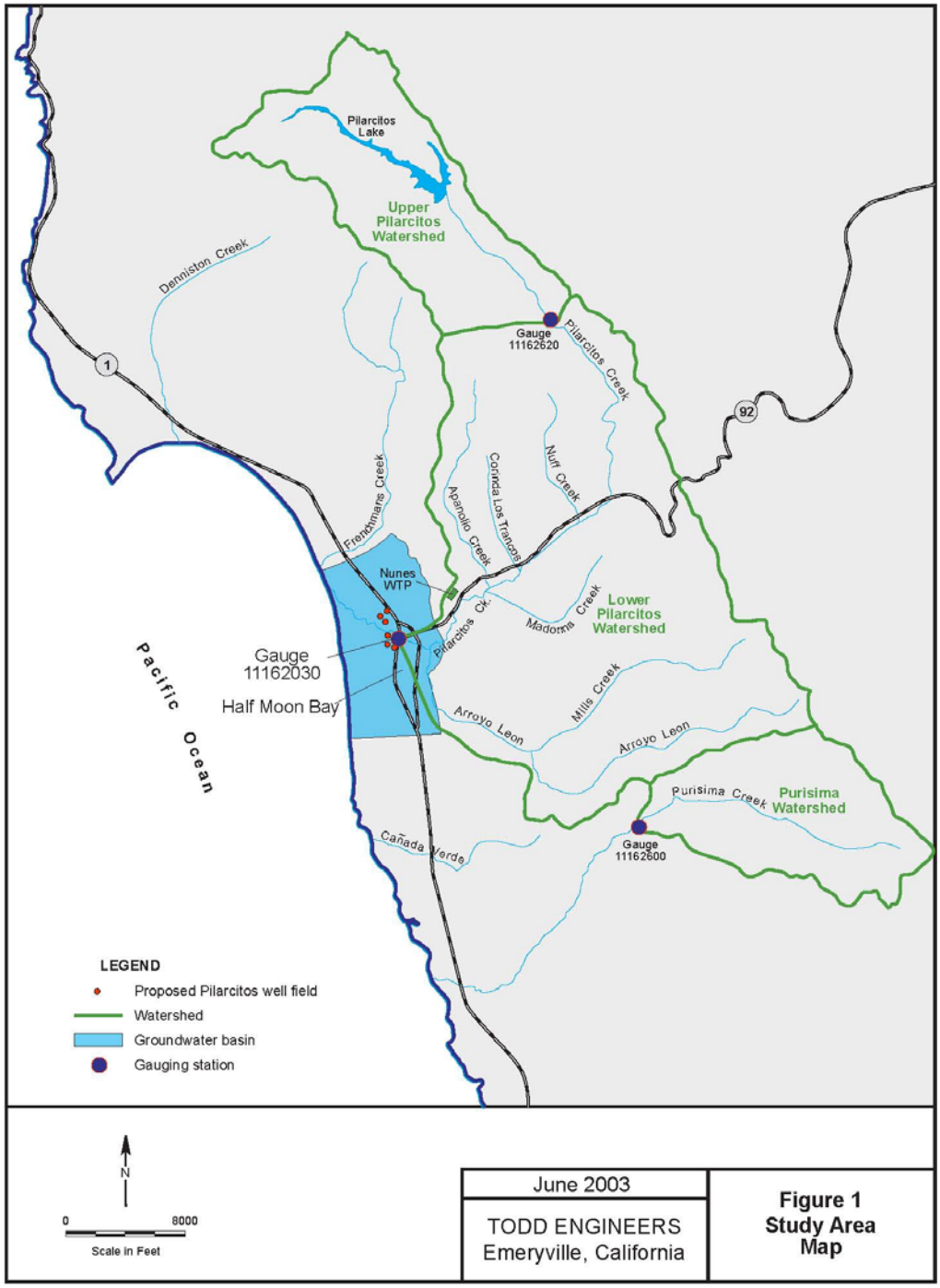


Figure 5 – Coastside County Water District Monitoring Area

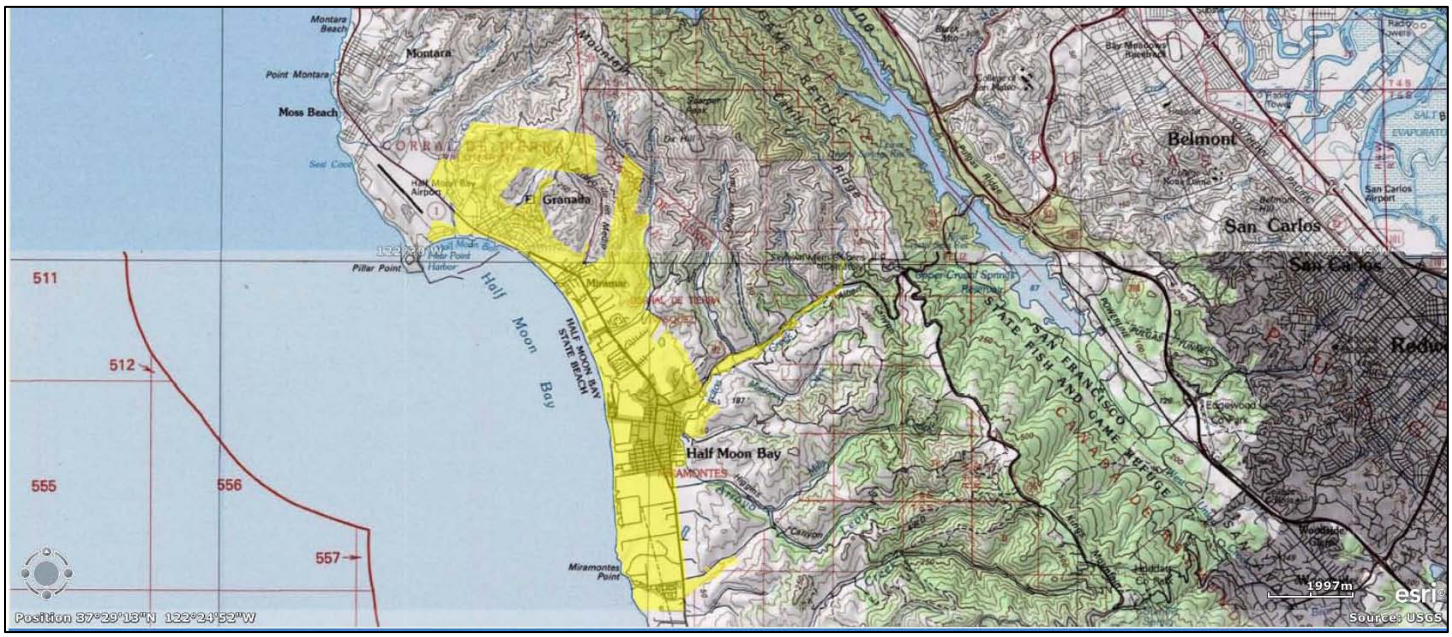


Figure 6 – CASGEM Monitoring Well (Well No. 6)

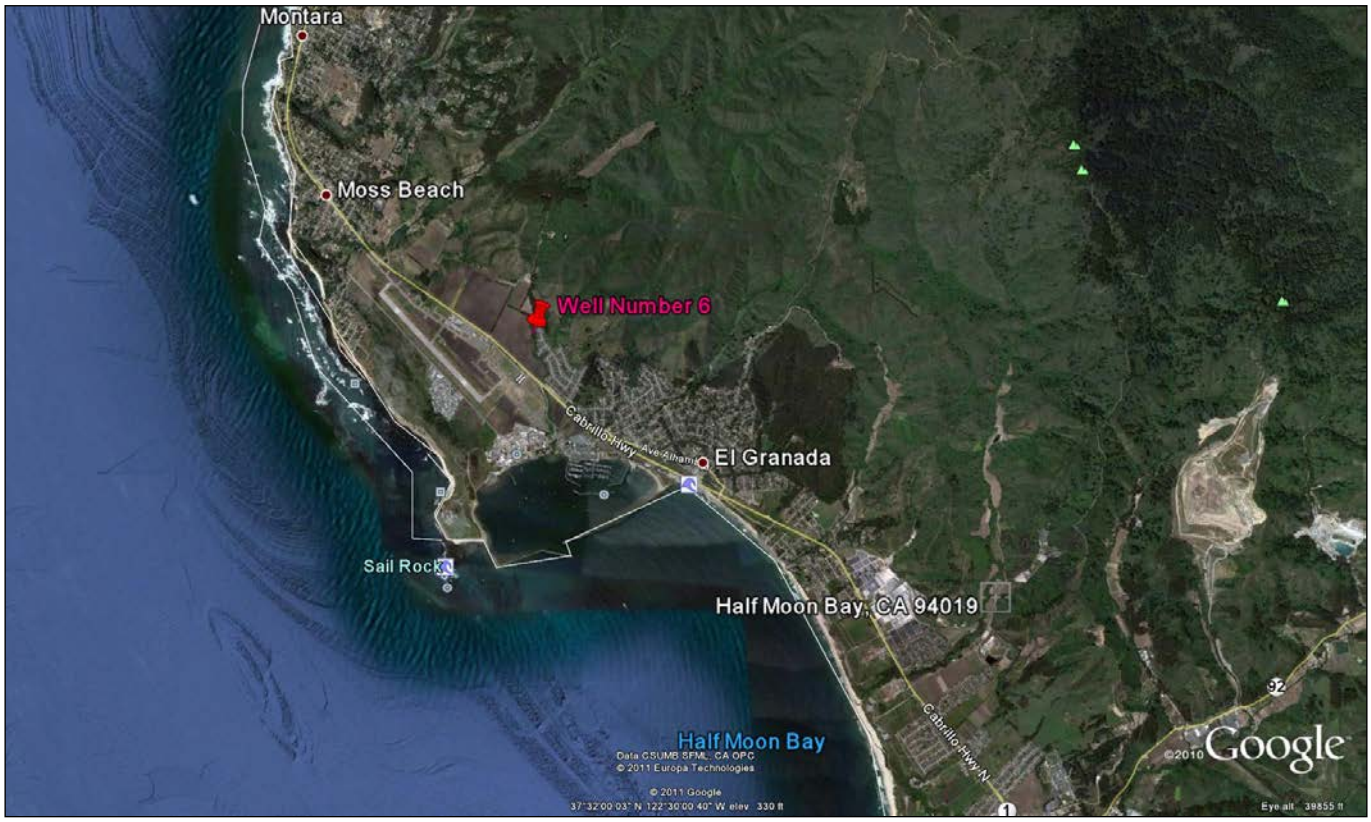


Figure 7 – Field Measurement Data Form

Groundwater Level Data Form - Manual Measurements									
Well ID Number		Well Name	State Well Number	County	Basin	Measuring Agency	Land Surface Datum (LSD) Elevation	RP to Land Surface Datum (LSD) in Feet	Reference Point (RP) Elevation
		Well No. 6		San Mateo County	2.22 Half Moon Bay Terrace	Coastside County Water District	66.53	1.14	67.67
No Measurement (NM)				Questionable Measurement (QM)				Measurement Method (MM)	
0. Discontinued 1. Pumping 2. Pump house locked 3. Tape hung up 4. Casing blocked		5. Unable to locate well 6. Well destroyed 7. Special 8. Casing leaky or wet 9. Inaccessible temporarily		0. Caved ir deepened 1. Pumping 2. Nearby pump operating 3. Casing leaky or wet 4. Pumped recently		5. Air or pressure gauge measurement 6. Other 7. Recharge operation 8. Oil in casing		0. Steel Tape 1. Electric Sounding Tape 3. Other	
DATE	TIME	NM	QM	MM	Tape at RP	Tape at WS	RP to WS	LSD to WS	OBS
				1					
				1					
				1					
				1					
				1					
				1					
Room for comments on back of this sheet.									

Appendix H

SFPUC Water Supply Reliability

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San Francisco
Water Power Sewer
Services of the San Francisco Public Utilities Commission

525 Golden Gate Avenue, 13th Floor
San Francisco, CA 94102
T 415.554.3155
F 415.554.3161
TTY 415.554.3488

January 22, 2021

Danielle McPherson
Senior Water Resources Specialist
Bay Area Water Supply and Conservation Agency
155 Bovet Road, Suite 650
San Mateo, CA 94402

Dear Ms. McPherson,

Attached please find the information you requested on the Regional Water System's supply reliability for use in the Wholesale Customer's 2020 Urban Water Management Plan (UWMP) updates. The SFPUC has assessed the water supply reliability under the following planning scenarios:

- Projected supply reliability for year 2020 through 2045
- Projected single dry year and multiple dry year reliability for base year 2020, both with and without implementation of the Bay-Delta Plan Amendment
- Projected single dry year and multiple dry year reliability for base year 2025, both with and without implementation of the Bay-Delta Plan Amendment

The tables presented below assume full implementation of the Bay-Delta Plan Amendment will begin in 2023. All tables assume that the wholesale customers will purchase 184 mgd from the RWS through 2045. Assumptions about the status of the dry-year water supply projects included in the Water Supply Improvement Program (WSIP) are provided below in the table 'WSIP Project Assumptions'. The tables reflect instream flow requirements at San Mateo and Alameda Creeks, as described in the common language provided to BAWSCA separately.

Concerning allocation of supply during dry years, the Water Shortage Allocation Plan (WSAP) was utilized to allocate shortages between the SFPUC and the Wholesale Customers collectively. The WSAP implements a method for allocating water between the SFPUC retail customers and wholesale customers collectively which has been adopted by the Wholesale Customers per the July 2009 Water Supply Agreement between the City and County of

San Francisco and Wholesale Customers in Alameda County, San Mateo County, and Santa Clara County. The WSAP, also known as the Tier One Plan, was amended in the 2018 Amended and Restated Water Supply Agreement. The wholesale customers have adopted the Tier Two Plan, the second component of the WSAP, which allocates the collective wholesale customer share among each of the 26 wholesale customers.

Compared to the reliability projections that were provided previously for the 2015 UWMP update, the biggest difference in projected future deliveries is caused by the implementation of the Bay-Delta Plan Amendment. Given the uncertainty about the implementation of the Amendment (described further in the common language provided to BAWSCA), tables are included to show future projected supplies both with and without the Bay-Delta Plan Amendment.

It is our understanding that you will pass this information on to the Wholesale Customers. If you have any questions or need additional information, please do not hesitate to contact Sarah Triolo, at striolo@sfwater.org or (628) 230 0802.

Sincerely,

Paula Kehoe
Director of Water Resources

Table 1: WSIP Project Assumptions

	2020	2025 and Beyond
Calaveras Dam Replacement Project	Calaveras Reservoir partially refilled at spring 2020 level of 63,900 AF	Calaveras Reservoir fully refilled
Lower Crystal Springs Dam Improvements	Crystal Springs storage not restored	
Regional Groundwater Storage and Recovery (GSR) Project	GSR account partially filled at spring 2020 level of 23,500 AF; GSR recovery rate of 6.2 mgd	GSR account fully filled; GSR recovery rate of 6.2 mgd
Alameda Creek Recapture Project	Project not built	Project built
Dry-year Transfers	Not in effect	

Table 2: Projected Wholesale Supply from Regional Water System [For Table 6-9]:

Year	2020	2025	2030	2035	2040	2045
RWS Supply (mgd)	265	265	265	265	265	265
Wholesale Supply (mgd)	184	184	184	184	184	184

Table 3: Basis of Water Supply Data [For Table 7-1], 2020 Infrastructure Conditions With Bay Delta Plan

Year Type	Base Year	RWS Volume Available (mgd)	% of Average Supply	Wholesale Volume Available (mgd)	Notes on Calculation of Wholesale Supply
Average year	2020	265	100%	184	
Single dry year		238.5	90%	157.5	• At 10% shortage, wholesale allocation is 64%, or 152.6 mgd • Retail allocation is 36%, or 85.9 mgd • Retail allocations above 81 mgd are re-allocated to Wholesale Customers, per the 2018 WSA • 4.9 mgd added to wholesale allocation, bringing it to 157.5 mgd
Consecutive 1st Dry year		238.5	90%	157.5	• Same as above
Consecutive 2nd Dry year		212	80%	132.5	• At a 20% shortage, wholesale allocation is 62.5%, or 132.5 mgd • Retail allocation is 37.5%, or 79.5 mgd
Consecutive 3rd Dry year[1]		119.25	45%	74.5	• WSA does not define percentage split above a 20% shortage level • Assume same split as for a 20% shortage level, i.e. Wholesale Customers receive 62.5%
Consecutive 4th Dry year		119.25	45%	74.5	• Same as above
Consecutive 5th Dry year		119.25	45%	74.5	• Same as above

[1] Assuming this year represents 2023, when Bay Delta Plan Amendment would come into effect.

Table 4: Basis of Water Supply Data [For Table 7-1], 2020 Infrastructure Conditions Without Bay Delta Plan

Year Type	Base Year	RWS Volume Available (mgd)	% of Average Supply	Wholesale Volume Available (mgd)	Notes on Calculation of Wholesale Supply
Average year	2020	265	100%	184	
Single dry year		238.5	90%	157.5	• At 10% shortage, wholesale allocation is 64%, or 152.6 mgd • Retail allocation is 36%, or 85.9 mgd • Retail allocations above 81 mgd are re-allocated to Wholesale Customers, per the 2018 WSA • 4.9 mgd added to wholesale allocation, bringing it to 157.5 mgd
Consecutive 1st Dry year		238.5	90%	157.5	• Same as above
Consecutive 2nd Dry year		212	80%	132.5	• At a 20% shortage, wholesale allocation is 62.5%, or 132.5 mgd • Retail allocation is 37.5%, or 79.5 mgd
Consecutive 3rd Dry year		212	80%	132.5	• Same as above
Consecutive 4th Dry year		212	80%	132.5	• Same as above
Consecutive 5th Dry year		212	80%	132.5	• Same as above

Table 5: Basis of Water Supply Data [For Table 7-1], 2025 Infrastructure With Bay Delta Plan

Year Type	Base Year	RWS Volume Available (mgd)	% of Average Supply	Wholesale Volume Available (mgd)	Notes on Calculation of Wholesale Supply
Average year	2025	265	100%	184	
Single dry year		132.5	50%	82.8	• WSA does not define percentage split above a 20% shortage level • Assume same split as for a 20% shortage level, i.e. Wholesale Customers receive 62.5%
Consecutive 1st Dry year		132.5	50%	82.8	• Same as above
Consecutive 2nd Dry year		119.25	45%	74.5	• Same as above
Consecutive 3rd Dry year		119.25	45%	74.5	• Same as above
Consecutive 4th Dry year		119.25	45%	74.5	• Same as above
Consecutive 5th Dry year		119.25	45%	74.5	• Same as above

Table 6: Basis of Water Supply Data [For Table 7-1], 2025 Infrastructure Without Bay Delta Plan

Year Type	Base Year	RWS Volume Available (mgd)	% of Average Supply	Wholesale Volume Available (mgd)	Notes on Calculation of Wholesale Supply
Average year	2025	265	100%	184	
Single dry year		238.5	90%	157.5	• At 10% shortage, wholesale allocation is 64% • Retail allocation is 36%, or 85.9 mgd; retail allocations above 81 mgd are re-allocated to Wholesaler Customers, per the 2018 WSA • 4.9 mgd added to wholesale allocation, bringing it to 157.5 mgd
Consecutive 1st Dry year		238.5	90%	157.5	• Same as above
Consecutive 2nd Dry year		238.5	90%	157.5	• Same as above
Consecutive 3rd Dry year		238.5	90%	157.5	• Same as above
Consecutive 4th Dry year		212	80%	132.5	• At a 20% shortage, wholesale allocation is 62.5%, or 132.5 mgd • Retail allocation is 37.5%, or 79.5 mgd
Consecutive 5th Dry year		212	80%	132.5	• Same as above

Table 7: Projected Multiple Dry Years Wholesale Supply from RWS [For Table 7-4], With Bay Delta Plan

	2025	2030	2035	2040	2045
First year	82.8	82.8	82.8	82.8	82.8
Second year	74.5	74.5	74.5	74.5	74.5
Third year	74.5	74.5	74.5	74.5	74.5
Fourth year	74.5	74.5	74.5	74.5	74.5
Fifth year	74.5	74.5	74.5	74.5	74.5

Table 8: Projected Multiple Dry Years Wholesale Supply from RWS [For Table 7-4], Without Bay Delta Plan

	2025	2030	2035	2040	2045
First year	157.5	157.5	157.5	157.5	157.5
Second year	157.5	157.5	157.5	157.5	157.5
Third year	157.5	157.5	157.5	157.5	157.5
Fourth year	132.5	132.5	132.5	132.5	132.5
Fifth year	132.5	132.5	132.5	132.5	132.5

Table 9: Projected Regional Water System Supply for 5-Year Drought Risk Assessment [For Table 7-5], With Bay Delta Plan. This table assumes Bay Delta Plan comes into effect in 2023.

Year	2021	2022	2023	2024	2025
RWS Supply (mgd)	238.5	212	119.25	119.25	119.25
Wholesale Supply (mgd)	157.5	132.5	74.5	74.5	74.5

Table 10: Projected Regional Water System Supply for 5-Year Drought Risk Assessment [For Table 7-5], Without Bay Delta Plan

Year	2021	2022	2023	2024	2025
RWS Supply (mgd)	238.5	212	212	212	212
Wholesale Supply (mgd)	157.5	132.5	132.5	132.5	132.5

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San Francisco
Water Power Sewer
Operator of the Hetch Hetchy Regional Water System

525 Golden Gate Avenue, 13th Floor
San Francisco, CA 94102
T 415.554.3155
F 415.554.3161
TTY 415.554.3488

March 18, 2021

TO: SFPUC Wholesale Customers

FROM: Steven R. Ritchie, Assistant General Manager, Water

RE: Shift of Presentation Approach for SFPUC 2020 Urban Water Management Plan

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With the publication of the SFPUC's draft 2020 Urban Water Management Plan (UWMP) approaching, I have directed staff to shift our presentation approach from a focus on the Water Supply Agreement Supply Assurance to the purchase projections. The main body of the Plan (primarily Section 8) will now contain the purchase projections as demands in the analysis. The existing analysis of the Supply Assurance included in the Level of Service of 265 MGD will remain in our document but will be included in an appendix. Text throughout the document is being modified to reflect this reorganization.

Though we are shifting this presentation approach, our findings related to the impacts of the Bay-Delta Plan and the severe cutbacks required by its implementation are not significantly different.

In January, we shared our modeling results, data tables and draft language with BAWSCA in recognition that many of you utilize this shared language in preparation of your individual UWMP documents. We are sharing more with BAWSCA as we progress on our schedule to release the draft SFPUC UWMP on April 5 with our public hearing scheduled for April 13. We recognize that our presentation shift may impact your plans and that some plans may already be ready for public review.

For the SFPUC, this shift allows public review of our UWMP document to focus on overall results versus lengthy discussion of demand and purchase projections versus our Supply Assurance and Level of Service. We apologize for any inconvenience this shift may cause.

cc: BAWSCA staff

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San Francisco
Water Power Sewer
Services of the San Francisco Public Utilities Commission

525 Golden Gate Avenue, 13th Floor
San Francisco, CA 94102
T 415.554.3155
F 415.554.3161
TTY 415.554.3488

March 30, 2021

Danielle McPherson
Senior Water Resources Specialist
Bay Area Water Supply and Conservation Agency
155 Bovet Road, Suite 650
San Mateo, CA 94402

Dear Ms. McPherson,

Attached please find additional supply reliability modeling results conducted by the SFPUC. The SFPUC has conducted additional supply reliability modeling under the following planning scenarios:

- Projected supply reliability for years 2020 through 2045, assuming that demand is equivalent to the sum of the projected retail demands on the Regional Water System (RWS) and Wholesale Customer purchase request projections provided to SFPUC by BAWSCA on January 21st (see Table 1 below).
- Under the above demand conditions, projected supply reliability for scenarios both with and without implementation of the Bay-Delta Plan Amendment starting in 2023.

The SFPUC will be using this supply modeling in the text of its draft UWMP and moving the original modeling results into an appendix.

Table 1: Retail and Wholesale RWS Demand Assumptions Used for Additional Supply Reliability Modeling (mgd)

	2020	2025	2030	2035	2040	2045
Retail	66.5	67.2	67.5	68.6	70.5	73.7
Wholesale[1, 2]	132.1	146.0	147.9	151.9	156.3	162.8
Total	**198.6**	**213.2**	**215.4**	**220.5**	**226.8**	**236.5**

[1] Wholesale purchase request projections provided to the SFPUC by BAWSCA on January 21st, 2021
[2] Includes demands for Cities of San Jose and Santa Clara

Please note the following about the information presented in the attached tables:

- Assumptions about infrastructure conditions remain the same as what was provided in our January 22nd letter.
- The Tier 1 allocations were applied to the RWS supplies to determine the wholesale supply, as was also described in the January 22nd letter; for any system-wide shortage above 20%, the Tier 1 split for a 20% shortage was applied.
- The SFPUC water supply planning methodology, including simulation of an 8.5-year design drought, is used to develop these estimates of water supply available from the RWS for five dry years. In each demand scenario for 2020 through 2045, the RWS deliveries are estimated using the standard SFPUC procedure, which includes adding increased levels of rationing as needed to balance the demands on the RWS system with available water supply. Some simulations may have increased levels of rationing in the final years of the design drought sequence, which can influence the comparison of results in the first five years of the sequence.
- Tables 7 and 8 in the attached document provide RWS and wholesale supply availability for the five-year drought risk assessment from 2021 to 2025. SFPUC's modeling approach does not allow for varying demands over the course of a dry year sequence. Therefore, the supply projections for 2021 to 2025 are based on meeting 2020 levels of demand. However, in years when the Bay-Delta Plan Amendment is not in effect, sufficient RWS supplies will be available to meet the Wholesale Customers' purchase requests assuming that they are between the 2020 and 2025 projected levels. This is not reflected in Tables 7 and 8 because SFPUC did not want to make assumptions about the growth of purchase requests between 2020 and 2025.

In our draft UWMP, we acknowledge that we have a Level of Service objective of meeting average annual water demand of 265 mgd from the SFPUC watersheds for retail and Wholesale Customers during non-drought years, as well as a contractual obligation to supply 184 mgd to the Wholesale Customers. Therefore, we will still include the results of our modeling based on a demand of 265 mgd in order to facilitate planning that supports meeting this Level of Service objective and our contractual obligations. The results of this modeling will be in an appendix to the draft UWMP. As will be shown in this appendix, in a normal year the SFPUC can provide up to 265 mgd of supply from the RWS. The RWS supply projections shown in the attached tables are more accurately characterized as supplies that will be used to meet projected retail and Wholesale Customer demands.

It is our understanding that you will pass this information on to the Wholesale Customers. If you have any questions or need additional information, please do not hesitate to contact Sarah Triolo, at striolo@sfwater.org or (628) 230 0802.

Sincerely,

Paula Kehoe
Director of Water Resources

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Table 2: Projected Total RWS Supply Utilized and Portion of RWS Supply Utilized by Wholesale Customers in Normal Years [For Table 6-9]:

Year	2020	2025	2030	2035	2040	2045
RWS Supply Utilized (mgd)	198.6	213.2	215.4	220.5	226.8	236.5
RWS Supply Utilized by Wholesale Customers[a] (mgd)	132.1	146.0	147.9	151.9	156.3	162.8

[a] RWS supply utilized by Wholesale Customers is equivalent to purchase request projections provided to SFPUC by BAWSCA on January 21, 2021, and includes Cities of San Jose and Santa Clara.

Basis of Water Supply Data: With Bay-Delta Plan Amendment

Table 3a: Basis of Water Supply Data [For Table 7-1], Base Year 2020, With Bay-Delta Plan Amendment

Year Type	Base Year	RWS Volume Available (mgd)	% of Average Supply	Wholesale Volume Available (mgd)	Notes on Calculation of Wholesale Supply
Average year	2020	198.6	100%	132.1	
Single dry year		198.6	100%	132.1	
Consecutive 1st Dry year		198.6	100%	132.1	
Consecutive 2nd Dry year		198.6	100%	132.1	
Consecutive 3rd Dry year[1]		119.2	60%	74.5	• At shortages 20% or greater, wholesale allocation is assumed to be 62.5%
Consecutive 4th Dry year		119.2	60%	74.5	• Same as above
Consecutive 5th Dry year		119.2	60%	74.5	• Same as above

[1] Assuming this year represents 2023, when Bay Delta Plan Amendment would come into effect.

Table 3b: Basis of Water Supply Data [For Table 7-1], Base Year 2025, With Bay-Delta Plan Amendment

Year Type	Base Year	RWS Volume Available (mgd)	% of Average Supply	Wholesale Volume Available (mgd)	Notes on Calculation of Wholesale Supply
Average year	2025	213.2	100%	146.0	
Single dry year		149.2	70%	93.3	• At shortages 20% or greater, wholesale allocation is assumed to be 62.5%
Consecutive 1st Dry year		149.2	70%	93.3	• Same as above
Consecutive 2nd Dry year		127.9	60%	80.0	• Same as above
Consecutive 3rd Dry year		127.9	60%	80.0	• Same as above
Consecutive 4th Dry year		127.9	60%	80.0	• Same as above
Consecutive 5th Dry year		127.9	60%	80.0	• Same as above

Table 3c: Basis of Water Supply Data [For Table 7-1], Base Year 2030, With Bay-Delta Plan Amendment

Year Type	Base Year	RWS Volume Available (mgd)	% of Average Supply	Wholesale Volume Available (mgd)	Notes on Calculation of Wholesale Supply
Average year	2030	215.4	100%	147.9	
Single dry year		150.8	70%	94.2	• At shortages 20% or greater, wholesale allocation is assumed to be 62.5%
Consecutive 1st Dry year		150.8	70%	94.2	• Same as above
Consecutive 2nd Dry year		129.2	60%	80.8	• Same as above
Consecutive 3rd Dry year		129.2	60%	80.8	• Same as above
Consecutive 4th Dry year		129.2	60%	80.8	• Same as above
Consecutive 5th Dry year		129.2	60%	80.8	• Same as above

Table 3d: Basis of Water Supply Data [For Table 7-1], Base Year 2035, With Bay-Delta Plan Amendment

Year Type	Base Year	RWS Volume Available (mgd)	% of Average Supply	Wholesale Volume Available (mgd)	Notes on Calculation of Wholesale Supply
Average year	2035	220.5	100%	151.9	
Single dry year		154.4	70%	96.5	• At shortages 20% or greater, wholesale allocation is assumed to be 62.5%
Consecutive 1st Dry year		154.4	70%	96.5	• Same as above
Consecutive 2nd Dry year		132.3	60%	82.7	• Same as above
Consecutive 3rd Dry year		132.3	60%	82.7	• Same as above
Consecutive 4th Dry year		132.3	60%	82.7	• Same as above
Consecutive 5th Dry year		121.3	55%	75.8	• Same as above

Table 3e: Basis of Water Supply Data [For Table 7-1], Base Year 2040, With Bay-Delta Plan Amendment

Year Type	Base Year	RWS Volume Available (mgd)	% of Average Supply	Wholesale Volume Available (mgd)	Notes on Calculation of Wholesale Supply
Average year	2040	226.8	100%	156.3	
Single dry year		158.8	70%	99.2	• At shortages 20% or greater, wholesale allocation is assumed to be 62.5%
Consecutive 1st Dry year		158.8	70%	99.2	• Same as above
Consecutive 2nd Dry year		136.1	60%	85.1	• Same as above
Consecutive 3rd Dry year		136.1	60%	85.1	• Same as above
Consecutive 4th Dry year		120.2	53%	75.1	• Same as above
Consecutive 5th Dry year		120.2	53%	75.1	• Same as above

Table 3f: Basis of Water Supply Data [For Table 7-1], Base Year 2045, With Bay-Delta Plan Amendment

Year Type	Base Year	RWS Volume Available (mgd)	% of Average Supply	Wholesale Volume Available (mgd)	Notes on Calculation of Wholesale Supply
Average year	2045	236.5	100%	162.8	
Single dry year		141.9	60%	88.7	• At shortages 20% or greater, wholesale allocation is assumed to be 62.5%
Consecutive 1st Dry year		141.9	60%	88.7	• Same as above
Consecutive 2nd Dry year		141.9	60%	88.7	• Same as above
Consecutive 3rd Dry year		141.9	60%	88.7	• Same as above
Consecutive 4th Dry year		120.6	51%	75.4	• Same as above
Consecutive 5th Dry year		120.6	51%	75.4	• Same as above

Table 3g: Projected RWS Supply Availability [Alternative to Table 7-1], Years 2020-2045, With Bay-Delta Plan Amendment

Year	2020	2025	2030	2035	2040	2045
Average year	100%	100%	100%	100%	100%	100%
Single dry year	100%	70%	70%	70%	70%	60%
Consecutive 1st Dry year	100%	70%	70%	70%	70%	60%
Consecutive 2nd Dry year	100%	60%	60%	60%	60%	60%
Consecutive 3rd Dry year[1]	60%	60%	60%	60%	60%	60%
Consecutive 4th Dry year	60%	60%	60%	60%	53%	51%
Consecutive 5th Dry year	60%	60%	60%	55%	53%	51%

[1] Assuming that at base year 2020, this year represents 2023, when Bay Delta Plan Amendment would come into effect.

Basis of Water Supply Data: Without Bay-Delta Plan Amendment

Table 4a: Basis of Water Supply Data [For Table 7-1], Base Year 2020, Without Bay-Delta Plan Amendment

Year Type	Base Year	RWS Volume Available (mgd)	% of Average Supply	Wholesale Volume Available (mgd)	Notes on Calculation of Wholesale Supply
Average year	2020	198.6	100%	132.1	
Single dry year		198.6	100%	132.1	
Consecutive 1st Dry year		198.6	100%	132.1	
Consecutive 2nd Dry year		198.6	100%	132.1	
Consecutive 3rd Dry year		198.6	100%	132.1	
Consecutive 4th Dry year		198.6	100%	132.1	
Consecutive 5th Dry year		198.6	100%	132.1	

Table 4b: Basis of Water Supply Data [For Table 7-1], Base Year 2025, Without Bay-Delta Plan Amendment

Year Type	Base Year	RWS Volume Available (mgd)	% of Average Supply	Wholesale Volume Available (mgd)	Notes on Calculation of Wholesale Supply
Average year	2025	213.2	100%	146.0	
Single dry year		213.2	100%	146.0	
Consecutive 1st Dry year		213.2	100%	146.0	
Consecutive 2nd Dry year		213.2	100%	146.0	
Consecutive 3rd Dry year		213.2	100%	146.0	
Consecutive 4th Dry year		213.2	100%	146.0	
Consecutive 5th Dry year		213.2	100%	146.0	

Table 4c: Basis of Water Supply Data [For Table 7-1], Base Year 2030, Without Bay-Delta Plan Amendment

Year Type	Base Year	RWS Volume Available (mgd)	% of Average Supply	Wholesale Volume Available (mgd)	Notes on Calculation of Wholesale Supply
Average year	2030	215.4	100%	147.9	
Single dry year		215.4	100%	147.9	
Consecutive 1st Dry year		215.4	100%	147.9	
Consecutive 2nd Dry year		215.4	100%	147.9	
Consecutive 3rd Dry year		215.4	100%	147.9	
Consecutive 4th Dry year		215.4	100%	147.9	
Consecutive 5th Dry year		215.4	100%	147.9	

Table 4d: Basis of Water Supply Data [For Table 7-1], Base Year 2035, Without Bay-Delta Plan Amendment

Year Type	Base Year	RWS Volume Available (mgd)	% of Average Supply	Wholesale Volume Available (mgd)	Notes on Calculation of Wholesale Supply
Average year	2035	220.5	100%	151.9	
Single dry year		220.5	100%	151.9	
Consecutive 1st Dry year		220.5	100%	151.9	
Consecutive 2nd Dry year		220.5	100%	151.9	
Consecutive 3rd Dry year		220.5	100%	151.9	
Consecutive 4th Dry year		220.5	100%	151.9	
Consecutive 5th Dry year		220.5	100%	151.9	

Table 4e: Basis of Water Supply Data [For Table 7-1], Base Year 2040, Without Bay-Delta Plan Amendment

Year Type	Base Year	RWS Volume Available (mgd)	% of Average Supply	Wholesale Volume Available (mgd)	Notes on Calculation of Wholesale Supply
Average year	2040	226.8	100%	156.3	
Single dry year		226.8	100%	156.3	
Consecutive 1st Dry year		226.8	100%	156.3	
Consecutive 2nd Dry year		226.8	100%	156.3	
Consecutive 3rd Dry year		226.8	100%	156.3	
Consecutive 4th Dry year		226.8	100%	156.3	
Consecutive 5th Dry year		226.8	100%	156.3	

Table 4f: Basis of Water Supply Data [For Table 7-1], Base Year 2045, Without Bay-Delta Plan Amendment

Year Type	Base Year	RWS Volume Available (mgd)	% of Average Supply	Wholesale Volume Available (mgd)	Notes on Calculation of Wholesale Supply
Average year	2045	236.5	100%	162.8	
Single dry year		236.5	100%	162.8	
Consecutive 1st Dry year		236.5	100%	162.8	
Consecutive 2nd Dry year		236.5	100%	162.8	
Consecutive 3rd Dry year		236.5	100%	162.8	
Consecutive 4th Dry year		212.8	90%	139.1	• At a 10% shortage level, the wholesale allocation is 64% of available supply • The retail allocation is 36% of supply, which resulted in a positive allocation to retail of 2.9 mgd, which was re-allocated to the Wholesale Customers
Consecutive 5th Dry year		212.8	90%	139.1	• Same as above

Table 4g: Projected RWS Supply [Alternative to Table 7-1], Years 2020-2045, Without Bay-Delta Plan Amendment

Year	2020	2025	2030	2035	2040	2045
Average year	100%	100%	100%	100%	100%	100%
Single dry year	100%	100%	100%	100%	100%	100%
Consecutive 1st Dry year	100%	100%	100%	100%	100%	100%
Consecutive 2nd Dry year	100%	100%	100%	100%	100%	100%
Consecutive 3rd Dry year	100%	100%	100%	100%	100%	100%
Consecutive 4th Dry year	100%	100%	100%	100%	100%	90%
Consecutive 5th Dry year	100%	100%	100%	100%	100%	90%

Supply Projections for Consecutive Five Dry Year Sequences

Table 5: Projected Multiple Dry Years Wholesale Supply from RWS [For Table 7-4], With Bay-Delta Plan Amendment

	2025	2030	2035	2040	2045
First year	93.3	94.2	96.5	99.2	88.7
Second year	80.0	80.8	82.7	85.1	88.7
Third year	80.0	80.8	82.7	85.1	88.7
Fourth year	80.0	80.8	82.7	75.1	75.4
Fifth year	80.0	80.8	75.8	75.1	75.4

Table 6: Projected Multiple Dry Years Wholesale Supply from RWS [For Table 7-4], Without Bay-Delta Plan Amendment

	2025	2030	2035	2040	2045
First year	146.0	147.9	151.9	156.3	162.8
Second year	146.0	147.9	151.9	156.3	162.8
Third year	146.0	147.9	151.9	156.3	162.8
Fourth year	146.0	147.9	151.9	156.3	139.1
Fifth year	146.0	147.9	151.9	156.3	139.1

Table 7: Projected Regional Water System Supply for 5-Year Drought Risk Assessment [For Table 7-5], With Bay-Delta Plan Amendment. This table assumes Bay Delta Plan comes into effect in 2023.

Year	2021	2022	2023	2024	2025
RWS Supply (mgd)	198.6	198.6	119.2	119.2	119.2
Wholesale Supply (mgd)	132.1	132.1	74.5	74.5	74.5

Table 8: Projected Regional Water System Supply for 5-Year Drought Risk Assessment [For Table 7-5], Without Bay Delta Plan

Year	2021	2022	2023	2024	2025
RWS Supply (mgd)	198.6	198.6	198.6	198.6	198.6
Wholesale Supply (mgd)	132.1	132.1	132.1	132.1	132.1

Section 1: Basis for Calculations. Projected Wholesale RWS Purchases Through 2045

Table A: Wholesale RWS Actual Purchases in 2020 and Projected Purchases for 2025, 2030, 2035, 2040, and 2045 (mgd)[a]

Agency	2020 Actual	Projected Wholesale RWS Purchases 2025	2030	2035	2040	2045
ACWD	7.87	7.68	7.68	7.68	7.68	9.11
Brisbane/GVMID	0.64	0.89	0.89	0.88	0.89	0.89
Burlingame	3.48	4.33	4.40	4.47	4.58	4.69
Coastside	1.02	1.40	1.38	1.36	1.33	1.33
CalWater Total	29.00	29.99	29.74	29.81	30.27	30.70
Daly City	3.97	3.57	3.52	3.49	3.46	3.43
East Palo Alto	1.57	1.88	1.95	2.10	2.49	2.89
Estero	4.34	4.07	4.11	4.18	4.23	4.38
Hayward	13.92	17.86	18.68	19.75	20.82	22.14
Hillsborough	2.62	3.26	3.25	3.26	3.26	3.26
Menlo Park	2.96	3.55	3.68	3.87	4.06	4.29
Mid-Peninsula	2.66	2.86	2.84	2.88	2.89	2.93
Millbrae	1.90	2.29	2.50	2.45	2.82	3.20
Milpitas	5.92	6.59	6.75	7.03	7.27	7.53
Mountain View	7.67	8.60	8.90	9.20	9.51	9.93
North Coast	2.37	2.34	2.33	2.34	2.34	2.34
Palo Alto	9.75	10.06	10.15	10.28	10.51	10.79
Purissima Hills	1.75	2.09	2.09	2.12	2.13	2.15
Redwood City	8.76	8.46	8.49	8.64	8.74	8.90
San Bruno	0.95	3.24	3.22	3.20	3.20	3.21
San Jose	4.26	4.50	4.50	4.50	4.50	4.50
Santa Clara	3.27	4.50	4.50	4.50	4.50	4.50
Stanford	1.43	2.01	2.18	2.35	2.53	2.70
Sunnyvale	9.33	9.16	9.30	10.70	11.44	12.10
Westborough	0.82	0.86	0.85	0.85	0.84	0.84
Total	**132.22**	**146.01**	**147.87**	**151.90**	**156.31**	**162.76**

[a] Wholesale RWS purchase projections for 2025, 2030, 2035, 2040, and 2045 were provided to BAWSCA between July 2020 and January 2021 by the Member Agencies following the completion of the June 2020 Demand Study.

Table B: Basis for the 5-Year Drought Risk Assessment Wholesale RWS Actual Purchases in 2020 and 2021-2025 Projected Purchases (mgd)

Agency	2020 Actual	Projected and Estimated Wholesale RWS Purchases 2021[b]	2022[b]	2023[c]	2024[c]	2025[c]
ACWD	7.87	9.44	9.46	9.46	9.46	9.46
Brisbane/GVMID	0.64	0.62	0.65	0.65	0.65	0.65
Burlingame	3.48	3.34	3.35	3.35	3.35	3.35
Coastside	1.02	1.54	1.23	1.23	1.23	1.23
CalWater Total	29.00	29.66	29.81	29.81	29.81	29.81
Daly City	3.97	4.00	4.01	4.01	4.01	4.01
East Palo Alto	1.57	1.63	1.69	1.69	1.69	1.69
Estero	4.34	4.48	4.51	4.51	4.51	4.51
Hayward	13.92	14.47	15.12	15.12	15.12	15.12
Hillsborough	2.62	2.95	3.05	3.05	3.05	3.05
Menlo Park	2.96	2.92	2.93	2.93	2.93	2.93
Mid-Peninsula	2.66	2.65	2.80	2.80	2.80	2.80
Millbrae	1.90	1.95	2.15	2.15	2.15	2.15
Milpitas	5.92	5.88	5.34	5.34	5.34	5.34
Mountain View	7.67	7.80	8.05	8.05	8.05	8.05
North Coast	2.37	2.58	2.66	2.66	2.66	2.66
Palo Alto	9.75	9.44	9.66	9.66	9.66	9.66
Purissima Hills	1.75	1.97	2.02	2.02	2.02	2.02
Redwood City	8.76	8.72	9.07	9.07	9.07	9.07
San Bruno	0.95	3.39	3.40	3.40	3.40	3.40
San Jose	4.26	4.31	4.51	4.51	4.51	4.51
Santa Clara	3.27	3.29	3.50	3.50	3.50	3.50
Stanford	1.43	1.40	1.54	1.54	1.54	1.54
Sunnyvale	9.33	9.35	9.45	9.45	9.45	9.45
Westborough	0.82	0.84	0.81	0.81	0.81	0.81
Total	**132.22**	**138.61**	**140.77**	**140.77**	**140.77**	**140.77**

[b] Wholesale RWS purchase projections for 2021 and 2022 were provided to Christina Tang, BAWSCA's Finance Manager, by the Member Agencies in January 2021.

[c] The SFPUC's supply reliability tables assume the Bay-Delta Plan takes effect in 2023. In the event of a shortage, the Tier 2 Plan specifies that each agencies' Allocation Factor would be calculated once at the onset of a shortage based on the previous year's use and remains the same until the shortage condition is over. Therefore, for the purpose of drought allocations for the 5-year Drought Risk Assessment, wholesale RWS demand is assumed to remain static from 2022 through the drought sequence.

Section 2: Drought Allocations *With* Bay-Delta Plan

Table C: RWS Supply Available to the Wholesale Customers (Combined Tables 3a-3f from the SFPUC's March 30th letter) *With* Bay-Delta Plan (mgd)

	2020[e]	2025	2030	2035	2040	2045
Projected Purchases[d]	132.2	146.0	147.9	151.9	156.3	162.8
Consecutive 1st Dry Year	138.6	93.3	94.2	96.5	99.2	88.7
Consecutive 2nd Dry Year	140.8	80.0	80.8	82.7	85.1	88.7
Consecutive 3rd Dry Year	74.5	80.0	80.8	82.7	85.1	88.7
Consecutive 4th Dry Year	74.5	80.0	80.8	82.7	75.1	75.4
Consecutive 5th Dry Year	74.5	80.0	80.8	75.8	75.1	75.4

[d] Values for 2020 are actual purchases. This row aligns with what is labeled as an "Average Year" in Tables 3a-3f in the SFPUC's March 30th letter. However, these values do not represent an average year and instead are actual purchases for 2020 or projected purchases for 2025 through 2045.

[e] In years when the Bay-Delta Plan is not in effect, sufficient RWS supplies will be available to meet the Wholesale Customers' purchase requests assuming that they are between the 2020 and 2025 projected levels. As such, RWS supply available to the Wholesale Customers in the 1st and 2nd consecutive dry years under base year 2020 is equal to the cumulative projected wholesale RWS purchases for 2021 and 2022, respectively.

Table D: Wholesale RWS Demand (Combined Totals from Tables A and B) (mgd)[f]

	2020	2025	2030	2035	2040	2045
Projected Purchases[d]	132.2	146.0	147.9	151.9	156.3	162.8
Consecutive 1st Dry Year	138.6	146.0	147.9	151.9	156.3	162.8
Consecutive 2nd Dry Year	140.8	146.0	147.9	151.9	156.3	162.8
Consecutive 3rd Dry Year	140.8	146.0	147.9	151.9	156.3	162.8
Consecutive 4th Dry Year	140.8	146.0	147.9	151.9	156.3	162.8
Consecutive 5th Dry Year	140.8	146.0	147.9	151.9	156.3	162.8

[f] The SFPUC's modeling approach does not allow for varying demands over the course of a dry year sequence. Additionally, the Tier 2 Plan calculates each agencies' Allocation Factor once at the onset of a drought and it remains the same until the shortage condition is over. When system-wide shortages are projected, wholesale RWS demand is assumed to be static for the remainder of the drought sequence.

Table E: Percent Cutback to the Wholesale Customers *With* Bay-Delta Plan[g]

	2020	2025	2030	2035	2040	2045
Projected Purchases[d]	0%	0%	0%	0%	0%	0%
Consecutive 1st Dry Year	0%	36%	36%	36%	37%	46%
Consecutive 2nd Dry Year	0%	45%	45%	46%	46%	46%
Consecutive 3rd Dry Year	47%	45%	45%	46%	46%	46%
Consecutive 4th Dry Year	47%	45%	45%	46%	52%	54%
Consecutive 5th Dry Year	47%	45%	45%	50%	52%	54%

[g] Agencies that wish to use new or different projected RWS purchases may use the percent cutbacks listed in this table to determine their drought allocation.

Table F1: Basis of Water Supply Data [For Tables 7-1 and 7-5], Base Year 2020, *With* Bay-Delta Plan (mgd)

Year Consecutive Dry Year	2020 Actual	2021 1st	2022 2nd	2023 3rd	2024 4th	2025 5th
Wholesale RWS Demand	132.2	138.6	140.8	140.8	140.8	140.8
Wholesale RWS Supply Available	132.2	138.6	140.8	74.5	74.5	74.5
Percent Cutback	0%	0%	0%	47%	47%	47%

Table F2: Individual Agency Drought Allocations [For Tables 7-1 and 7-5], Base Year 2020, *With* Bay-Delta Plan (mgd)

	2020	Wholesale RWS Drought Allocations				
Agency	Actual	2021	2022	2023	2024	2025
ACWD	7.87	9.44	9.46	5.01	5.01	5.01
Brisbane/GVMID	0.64	0.62	0.65	0.34	0.34	0.34
Burlingame	3.48	3.34	3.35	1.77	1.77	1.77
Coastside	1.02	1.54	1.23	0.65	0.65	0.65
CalWater Total	29.00	29.66	29.81	15.78	15.78	15.78
Daly City	3.97	4.00	4.01	2.12	2.12	2.12
East Palo Alto	1.57	1.63	1.69	0.89	0.89	0.89
Estero	4.34	4.48	4.51	2.39	2.39	2.39
Hayward	13.92	14.47	15.12	8.00	8.00	8.00
Hillsborough	2.62	2.95	3.05	1.61	1.61	1.61
Menlo Park	2.96	2.92	2.93	1.55	1.55	1.55
Mid-Peninsula	2.66	2.65	2.80	1.48	1.48	1.48
Millbrae	1.90	1.95	2.15	1.14	1.14	1.14
Milpitas	5.92	5.88	5.34	2.83	2.83	2.83
Mountain View	7.67	7.80	8.05	4.26	4.26	4.26
North Coast	2.37	2.58	2.66	1.41	1.41	1.41
Palo Alto	9.75	9.44	9.66	5.11	5.11	5.11
Purissima Hills	1.75	1.97	2.02	1.07	1.07	1.07
Redwood City	8.76	8.72	9.07	4.80	4.80	4.80
San Bruno	0.95	3.39	3.40	1.80	1.80	1.80
San Jose	4.26	4.31	4.51	2.39	2.39	2.39
Santa Clara	3.27	3.29	3.50	1.85	1.85	1.85
Stanford	1.43	1.40	1.54	0.82	0.82	0.82
Sunnyvale	9.33	9.35	9.45	5.00	5.00	5.00
Westborough	0.82	0.84	0.81	0.43	0.43	0.43
Total	**132.2**	**138.6**	**140.8**	**74.5**	**74.5**	**74.5**

Table G1: Basis of Water Supply Data [For Tables 7-1 and 7-4], Base Year 2025, *With* Bay-Delta Plan (mgd)

Consecutive Dry Year	1st	2nd	3rd	4th	5th
Wholesale RWS Demand	146.0	146.0	146.0	146.0	146.0
Wholesale RWS Supply Available	93.3	80.0	80.0	80.0	80.0
Percent Cutback	36%	45%	45%	45%	45%

Table G2: Individual Agency Drought Allocations [For Tables 7-1 and 7-4], Base Year 2025, *With* Bay-Delta Plan (mgd)

	Wholesale RWS Drought Allocations				
Consecutive Dry Year	1st	2nd	3rd	4th	5th
ACWD	4.91	4.21	4.21	4.21	4.21
Brisbane/GVMID	0.57	0.49	0.49	0.49	0.49
Burlingame	2.76	2.37	2.37	2.37	2.37
Coastside	0.89	0.77	0.77	0.77	0.77
CalWater Total	19.16	16.43	16.43	16.43	16.43
Daly City	2.28	1.96	1.96	1.96	1.96
East Palo Alto	1.20	1.03	1.03	1.03	1.03
Estero	2.60	2.23	2.23	2.23	2.23
Hayward	11.41	9.78	9.78	9.78	9.78
Hillsborough	2.08	1.79	1.79	1.79	1.79
Menlo Park	2.27	1.95	1.95	1.95	1.95
Mid-Peninsula	1.83	1.57	1.57	1.57	1.57
Millbrae	1.46	1.25	1.25	1.25	1.25
Milpitas	4.21	3.61	3.61	3.61	3.61
Mountain View	5.49	4.71	4.71	4.71	4.71
North Coast	1.49	1.28	1.28	1.28	1.28
Palo Alto	6.43	5.51	5.51	5.51	5.51
Purissima Hills	1.33	1.14	1.14	1.14	1.14
Redwood City	5.40	4.63	4.63	4.63	4.63
San Bruno	2.07	1.77	1.77	1.77	1.77
San Jose	2.88	2.47	2.47	2.47	2.47
Santa Clara	2.88	2.47	2.47	2.47	2.47
Stanford	1.28	1.10	1.10	1.10	1.10
Sunnyvale	5.85	5.02	5.02	5.02	5.02
Westborough	0.55	0.47	0.47	0.47	0.47
Total	**93.3**	**80.0**	**80.0**	**80.0**	**80.0**

Table H1: Basis of Water Supply Data [For Tables 7-1 and 7-4], Base Year 2030, *With* Bay-Delta Plan (mgd)

Consecutive Dry Year	1st	2nd	3rd	4th	5th
Wholesale RWS Demand	147.9	147.9	147.9	147.9	147.9
Wholesale RWS Supply Available	94.2	80.8	80.8	80.8	80.8
Percent Cutback	36%	45%	45%	45%	45%

Table H2: Individual Agency Drought Allocations [For Tables 7-1 and 7-4], Base Year 2030, *With* Bay-Delta Plan (mgd)

	Wholesale RWS Drought Allocations				
Consecutive Dry Year	1st	2nd	3rd	4th	5th
ACWD	4.89	4.20	4.20	4.20	4.20
Brisbane/GVMID	0.56	0.48	0.48	0.48	0.48
Burlingame	2.80	2.40	2.40	2.40	2.40
Coastside	0.88	0.75	0.75	0.75	0.75
CalWater Total	18.94	16.25	16.25	16.25	16.25
Daly City	2.24	1.92	1.92	1.92	1.92
East Palo Alto	1.24	1.07	1.07	1.07	1.07
Estero	2.62	2.24	2.24	2.24	2.24
Hayward	11.90	10.21	10.21	10.21	10.21
Hillsborough	2.07	1.78	1.78	1.78	1.78
Menlo Park	2.35	2.01	2.01	2.01	2.01
Mid-Peninsula	1.81	1.55	1.55	1.55	1.55
Millbrae	1.59	1.37	1.37	1.37	1.37
Milpitas	4.30	3.69	3.69	3.69	3.69
Mountain View	5.67	4.86	4.86	4.86	4.86
North Coast	1.48	1.27	1.27	1.27	1.27
Palo Alto	6.47	5.55	5.55	5.55	5.55
Purissima Hills	1.33	1.14	1.14	1.14	1.14
Redwood City	5.41	4.64	4.64	4.64	4.64
San Bruno	2.05	1.76	1.76	1.76	1.76
San Jose	2.87	2.46	2.46	2.46	2.46
Santa Clara	2.87	2.46	2.46	2.46	2.46
Stanford	1.39	1.19	1.19	1.19	1.19
Sunnyvale	5.92	5.08	5.08	5.08	5.08
Westborough	0.54	0.47	0.47	0.47	0.47
Total	**94.2**	**80.8**	**80.8**	**80.8**	**80.8**

Table I1: Basis of Water Supply Data [For Tables 7-1 and 7-4], Base Year 2035, *With* Bay-Delta Plan (mgd)

Consecutive Dry Year	1st	2nd	3rd	4th	5th
Wholesale RWS Demand	151.9	151.9	151.9	151.9	151.9
Wholesale RWS Supply Available	96.5	82.7	82.7	82.7	75.8
Percent Cutback	36%	46%	46%	46%	50%

Table I2: Individual Agency Drought Allocations [For Tables 7-1 and 7-4], Base Year 2035, *With* Bay-Delta Plan (mgd)

	Wholesale RWS Drought Allocations				
Consecutive Dry Year	1st	2nd	3rd	4th	5th
ACWD	4.88	4.18	4.18	4.18	3.83
Brisbane/GVMID	0.56	0.48	0.48	0.48	0.44
Burlingame	2.84	2.44	2.44	2.44	2.23
Coastside	0.86	0.74	0.74	0.74	0.68
CalWater Total	18.94	16.23	16.23	16.23	14.88
Daly City	2.22	1.90	1.90	1.90	1.74
East Palo Alto	1.33	1.14	1.14	1.14	1.05
Estero	2.66	2.28	2.28	2.28	2.09
Hayward	12.55	10.75	10.75	10.75	9.86
Hillsborough	2.07	1.78	1.78	1.78	1.63
Menlo Park	2.46	2.10	2.10	2.10	1.93
Mid-Peninsula	1.83	1.57	1.57	1.57	1.44
Millbrae	1.56	1.34	1.34	1.34	1.22
Milpitas	4.47	3.83	3.83	3.83	3.51
Mountain View	5.84	5.01	5.01	5.01	4.59
North Coast	1.49	1.27	1.27	1.27	1.17
Palo Alto	6.53	5.60	5.60	5.60	5.13
Purissima Hills	1.34	1.15	1.15	1.15	1.06
Redwood City	5.49	4.70	4.70	4.70	4.31
San Bruno	2.03	1.74	1.74	1.74	1.60
San Jose	2.86	2.45	2.45	2.45	2.25
Santa Clara	2.86	2.45	2.45	2.45	2.25
Stanford	1.49	1.28	1.28	1.28	1.17
Sunnyvale	6.80	5.83	5.83	5.83	5.34
Westborough	0.54	0.46	0.46	0.46	0.42
Total	**96.5**	**82.7**	**82.7**	**82.7**	**75.8**

Table J1: Basis of Water Supply Data [For Table 7-1 and 7-4], Base Year 2040, *With* Bay-Delta Plan (mgd)

Consecutive Dry Year	1st	2nd	3rd	4th	5th
Wholesale RWS Demand	156.3	156.3	156.3	156.3	156.3
Wholesale RWS Supply Available	99.2	85.1	85.1	75.1	75.1
Percent Cutback	37%	46%	46%	52%	52%

Table J2: Individual Agency Drought Allocations [For Tables 7-1 and 7-4], Base Year 2040, *With* Bay-Delta Plan (mgd)

	Wholesale RWS Drought Allocations				
Consecutive Dry Year	1st	2nd	3rd	4th	5th
ACWD	4.87	4.18	4.18	3.69	3.69
Brisbane/GVMID	0.56	0.48	0.48	0.43	0.43
Burlingame	2.91	2.49	2.49	2.20	2.20
Coastside	0.85	0.73	0.73	0.64	0.64
CalWater Total	19.21	16.48	16.48	14.54	14.54
Daly City	2.20	1.88	1.88	1.66	1.66
East Palo Alto	1.58	1.36	1.36	1.20	1.20
Estero	2.69	2.30	2.30	2.03	2.03
Hayward	13.21	11.34	11.34	10.00	10.00
Hillsborough	2.07	1.78	1.78	1.57	1.57
Menlo Park	2.58	2.21	2.21	1.95	1.95
Mid-Peninsula	1.84	1.58	1.58	1.39	1.39
Millbrae	1.79	1.53	1.53	1.35	1.35
Milpitas	4.62	3.96	3.96	3.49	3.49
Mountain View	6.03	5.18	5.18	4.57	4.57
North Coast	1.49	1.27	1.27	1.12	1.12
Palo Alto	6.67	5.72	5.72	5.05	5.05
Purissima Hills	1.35	1.16	1.16	1.03	1.03
Redwood City	5.55	4.76	4.76	4.20	4.20
San Bruno	2.03	1.74	1.74	1.54	1.54
San Jose	2.86	2.45	2.45	2.16	2.16
Santa Clara	2.86	2.45	2.45	2.16	2.16
Stanford	1.61	1.38	1.38	1.22	1.22
Sunnyvale	7.26	6.23	6.23	5.49	5.49
Westborough	0.54	0.46	0.46	0.41	0.41
Total	**99.2**	**85.1**	**85.1**	**75.1**	**75.1**

Table K1: Basis of Water Supply Data [For Tables 7-1 and 7-4], Base Year 2045, *With* Bay-Delta Plan (mgd)

Consecutive Dry Year	1st	2nd	3rd	4th	5th
Wholesale RWS Demand	162.8	162.8	162.8	162.8	162.8
Wholesale RWS Supply Available	88.7	88.7	88.7	75.4	75.4
Percent Cutback	46%	46%	46%	54%	54%

Table K2: Individual Agency Drought Allocations [For Tables 7-1 and 7-4], Base Year 2045, *With* Bay-Delta Plan (mgd)

	Wholesale RWS Drought Allocations				
Consecutive Dry Year	1st	2nd	3rd	4th	5th
ACWD	4.97	4.97	4.97	4.22	4.22
Brisbane/GVMID	0.49	0.49	0.49	0.41	0.41
Burlingame	2.56	2.56	2.56	2.17	2.17
Coastside	0.72	0.72	0.72	0.61	0.61
CalWater Total	16.73	16.73	16.73	14.22	14.22
Daly City	1.87	1.87	1.87	1.59	1.59
East Palo Alto	1.58	1.58	1.58	1.34	1.34
Estero	2.39	2.39	2.39	2.03	2.03
Hayward	12.07	12.07	12.07	10.26	10.26
Hillsborough	1.78	1.78	1.78	1.51	1.51
Menlo Park	2.34	2.34	2.34	1.99	1.99
Mid-Peninsula	1.59	1.59	1.59	1.36	1.36
Millbrae	1.74	1.74	1.74	1.48	1.48
Milpitas	4.11	4.11	4.11	3.49	3.49
Mountain View	5.41	5.41	5.41	4.60	4.60
North Coast	1.28	1.28	1.28	1.09	1.09
Palo Alto	5.88	5.88	5.88	5.00	5.00
Purissima Hills	1.17	1.17	1.17	1.00	1.00
Redwood City	4.85	4.85	4.85	4.12	4.12
San Bruno	1.75	1.75	1.75	1.49	1.49
San Jose	2.45	2.45	2.45	2.08	2.08
Santa Clara	2.45	2.45	2.45	2.08	2.08
Stanford	1.47	1.47	1.47	1.25	1.25
Sunnyvale	6.59	6.59	6.59	5.61	5.61
Westborough	0.46	0.46	0.46	0.39	0.39
Total	**88.7**	**88.7**	**88.7**	**75.4**	**75.4**

Section 3: Drought Allocations *Without* Bay-Delta Plan

Table L: RWS Supply Available to the Wholesale Customers (Combined Tables 4a-4f from the SFPUC's March 30th letter) *Without* Bay-Delta Plan (mgd)[h]

	2020	2025	2030	2035	2040	2045
Projected Purchases[i]	132.2	146.0	147.9	151.9	156.3	162.8
Consecutive 1st Dry Year	132.2	146.0	147.9	151.9	156.3	162.8
Consecutive 2nd Dry Year	132.2	146.0	147.9	151.9	156.3	162.8
Consecutive 3rd Dry Year	132.2	146.0	147.9	151.9	156.3	162.8
Consecutive 4th Dry Year	132.2	146.0	147.9	151.9	156.3	139.1
Consecutive 5th Dry Year	132.2	146.0	147.9	151.9	156.3	139.1

[h] The SFPUC's modeling approach does not allow for varying demands over the course of a dry year sequence. However, the SFPUC has indicated that sufficient supplies are available to meet wholesale RWS demand so long as they reasonably stay within 2020 and 2040 levels. The SFPUC's modeling does not indicate cutbacks will be required till the 4th and 5th consecutive dry year at 2045 levels.

[i] Values for 2020 are actual purchases. This row aligns with what is labeled as an "Average Year" in Tables 4a-4f in the SFPUC's March 30th letter. However, these values do not represent an average year and instead are actual purchases for 2020 or projected purchases for 2025 through 2045.

Table M: Wholesale RWS Demand (Combined Totals from Tables A and B) (mgd)

	2020	2025	2030	2035	2040	2045
Projected Purchases[i]	132.2	146.0	147.9	151.9	156.3	162.8
Consecutive 1st Dry Year	132.2	146.0	147.9	151.9	156.3	162.8
Consecutive 2nd Dry Year	132.2	146.0	147.9	151.9	156.3	162.8
Consecutive 3rd Dry Year	132.2	146.0	147.9	151.9	156.3	162.8
Consecutive 4th Dry Year	132.2	146.0	147.9	151.9	156.3	162.8
Consecutive 5th Dry Year	132.2	146.0	147.9	151.9	156.3	162.8

Table N: Percent Cutback to the Wholesale Customers *Without* Bay-Delta Plan

	2020	2025	2030	2035	2040	2045
Projected Purchases[i]	0%	0%	0%	0%	0%	0%
Consecutive 1st Dry Year	0%	0%	0%	0%	0%	0%
Consecutive 2nd Dry Year	0%	0%	0%	0%	0%	0%
Consecutive 3rd Dry Year	0%	0%	0%	0%	0%	0%
Consecutive 4th Dry Year	0%	0%	0%	0%	0%	15%
Consecutive 5th Dry Year	0%	0%	0%	0%	0%	15%

Table O1: Basis of Water Supply Data [For Tables 7-1 and 7-4], Base Year 2045, *Without* Bay-Delta Plan (mgd)

Consecutive Dry Year	1st	2nd	3rd	4th	5th
Wholesale RWS Demand	162.8	162.8	162.8	162.8	162.8
Wholesale RWS Supply Available	162.8	162.8	162.8	139.1	139.1
Percent Cutback	0%	0%	0%	Tier 2 Plan	Tier 2 Plan

Table O2: Individual Agency Drought Allocations [For Tables 7-1 and 7-4], Base Year 2045, *Without* Bay-Delta Plan (mgd)

	Wholesale RWS Drought Allocations					Tier 2 Drought Cutback
Consecutive Dry Year	1st	2nd	3rd	4th	5th	
ACWD	9.11	9.11	9.11	8.20	8.20	10.0%
Brisbane/GVMID	0.89	0.89	0.89	0.74	0.74	16.8%
Burlingame	4.69	4.69	4.69	4.02	4.02	14.3%
Coastside	1.33	1.33	1.33	1.19	1.19	10.0%
CalWater Total	30.70	30.70	30.70	26.73	26.73	12.9%
Daly City	3.43	3.43	3.43	3.01	3.01	12.4%
East Palo Alto	2.89	2.89	2.89	2.68	2.68	7.3%
Estero	4.38	4.38	4.38	3.94	3.94	10.0%
Hayward	22.14	22.14	22.14	18.67	18.67	15.7%
Hillsborough	3.26	3.26	3.26	2.93	2.93	10.2%
Menlo Park	4.29	4.29	4.29	3.58	3.58	16.5%
Mid-Peninsula	2.93	2.93	2.93	2.63	2.63	10.0%
Millbrae	3.20	3.20	3.20	2.54	2.54	20.7%
Milpitas	7.53	7.53	7.53	6.55	6.55	13.1%
Mountain View	9.93	9.93	9.93	8.91	8.91	10.3%
North Coast	2.34	2.34	2.34	2.11	2.11	10.0%
Palo Alto	10.79	10.79	10.79	9.71	9.71	10.0%
Purissima Hills	2.15	2.15	2.15	1.41	1.41	34.5%
Redwood City	8.90	8.90	8.90	7.92	7.92	11.1%
San Bruno	3.21	3.21	3.21	2.60	2.60	19.1%
San Jose	4.50	4.50	4.50	2.95	2.95	34.5%
Santa Clara	4.50	4.50	4.50	2.95	2.95	34.5%
Stanford	2.70	2.70	2.70	2.27	2.27	16.0%
Sunnyvale	12.10	12.10	12.10	10.11	10.11	16.5%
Westborough	0.84	0.84	0.84	0.76	0.76	10.0%
Total	**162.8**	**162.8**	**162.8**	**139.1**	**139.1**	

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Systemwide							
SFPUC Fiscal Year (July-June)	SJI Water Year Type	2025 Infrastructure Conditions with 220.5 MGD Systemwide Demand			2025 Infrastructure Conditions and Bay-Delta Plan (40% UF) with 220.5 MGD Systemwide Demand		
		TAF/yr	MGD	Rationing (% of Total)	TAF/yr	MGD	Rationing (% of Total)
FY20-21	BN	247	221	0%	247	221	0%
FY21-22	AN	247	221	0%	247	221	0%
FY22-23	W	247	221	0%	247	221	0%
FY23-24	AN	247	221	0%	247	221	0%
FY24-25	C	247	221	0%	173	154	30%
FY25-26	BN	247	221	0%	247	221	0%
FY26-27	D	247	221	0%	247	221	0%
FY27-28	AN	247	221	0%	247	221	0%
FY28-29	BN	247	221	0%	247	221	0%
FY29-30	C	247	221	0%	173	154	30%
FY30-31	C	247	221	0%	173	154	30%
FY31-32	C	247	221	0%	148	132	40%
FY32-33	AN	247	221	0%	247	221	0%
FY33-34	D	247	221	0%	247	221	0%
FY34-35	C	247	221	0%	173	154	30%
FY35-36	AN	247	221	0%	247	221	0%
FY36-37	AN	247	221	0%	247	221	0%
FY37-38	W	247	221	0%	247	221	0%
FY38-39	W	247	221	0%	247	221	0%
FY39-40	D	247	221	0%	247	221	0%
FY40-41	AN	247	221	0%	247	221	0%
FY41-42	W	247	221	0%	247	221	0%
FY42-43	W	247	221	0%	247	221	0%
FY43-44	W	247	221	0%	247	221	0%
FY44-45	BN	247	221	0%	247	221	0%
FY45-46	AN	247	221	0%	247	221	0%
FY46-47	AN	247	221	0%	247	221	0%
FY47-48	D	247	221	0%	247	221	0%
FY48-49	BN	247	221	0%	247	221	0%
FY49-50	BN	247	221	0%	247	221	0%
FY50-51	BN	247	221	0%	247	221	0%
FY51-52	AN	247	221	0%	247	221	0%
FY52-53	W	247	221	0%	247	221	0%
FY53-54	BN	247	221	0%	247	221	0%
FY54-55	BN	247	221	0%	247	221	0%
FY55-56	D	247	221	0%	247	221	0%
FY56-57	W	247	221	0%	247	221	0%
FY57-58	BN	247	221	0%	247	221	0%
FY58-59	W	247	221	0%	247	221	0%
FY59-60	D	247	221	0%	247	221	0%
FY60-61	C	247	221	0%	173	154	30%
FY61-62	C	247	221	0%	148	132	40%
FY62-63	BN	247	221	0%	247	221	0%
FY63-64	AN	247	221	0%	247	221	0%
FY64-65	D	247	221	0%	247	221	0%
FY65-66	W	247	221	0%	247	221	0%
FY66-67	BN	247	221	0%	247	221	0%
FY67-68	W	247	221	0%	247	221	0%
FY68-69	D	247	221	0%	247	221	0%
FY69-70	W	247	221	0%	247	221	0%
FY70-71	AN	247	221	0%	247	221	0%
FY71-72	BN	247	221	0%	247	221	0%
FY72-73	D	247	221	0%	173	154	30%
FY73-74	AN	247	221	0%	247	221	0%
FY74-75	W	247	221	0%	247	221	0%
FY75-76	W	247	221	0%	247	221	0%
FY76-77	C	247	221	0%	173	154	30%
FY77-78	C	247	221	0%	148	132	40%
FY78-79	W	247	221	0%	247	221	0%
FY79-80	AN	247	221	0%	247	221	0%
FY80-81	W	247	221	0%	247	221	0%
FY81-82	D	247	221	0%	247	221	0%
FY82-83	W	247	221	0%	247	221	0%
FY83-84	W	247	221	0%	247	221	0%
FY84-85	AN	247	221	0%	247	221	0%
FY85-86	D	247	221	0%	247	221	0%
FY86-87	W	247	221	0%	247	221	0%
FY87-88	C	247	221	0%	173	154	30%
FY88-89	C	247	221	0%	148	132	40%
FY89-90	C	247	221	0%	148	132	40%
FY90-91	C	247	221	0%	148	132	40%
FY91-92	C	247	221	0%	136	121	45%
FY92-93	C	247	221	0%	136	121	45%
FY93-94	W	247	221	0%	247	221	0%
FY94-95	C	247	221	0%	173	154	30%
FY95-96	W	247	221	0%	247	221	0%
FY96-97	W	247	221	0%	247	221	0%
FY97-98	W	247	221	0%	247	221	0%
FY98-99	W	247	221	0%	247	221	0%
FY99-00	AN	247	221	0%	247	221	0%
FY00-01	AN	247	221	0%	247	221	0%
FY01-02	D	247	221	0%	247	221	0%
FY02-03	D	247	221	0%	247	221	0%
FY03-04	BN	247	221	0%	247	221	0%
FY04-05	D	247	221	0%	247	221	0%
FY05-06	W	247	221	0%	247	221	0%
FY06-07	W	247	221	0%	247	221	0%
FY07-08	C	247	221	0%	247	221	0%
FY08-09	C	247	221	0%	247	221	0%
FY09-10	BN	247	221	0%	247	221	0%
FY10-11	AN	247	221	0%	247	221	0%
FY11-12	W	247	221	0%	247	221	0%
FY12-13	D	247	221	0%	247	221	0%
FY13-14	C	247	221	0%	247	221	0%
FY14-15	C	247	221	0%	148	132	40%
FY15-16	C	247	221	0%	148	132	40%
FY16-17	D	247	221	0%	247	221	0%

Wholesale							
SFPUC Fiscal Year (July-June)	SJI Water Year Type	2025 Infrastructure Conditions with 220.5 MGD Systemwide Demand			2025 Infrastructure Conditions and Bay-Delta Plan (40% UF) with 220.5 MGD Systemwide Demand		
		TAF/yr	MGD	Rationing (% of Total)	TAF/yr	MGD	Rationing (% of Total)
FY20-21	BN	170	152	0%	170	152	0%
FY21-22	AN	170	152	0%	170	152	0%
FY22-23	W	170	152	0%	170	152	0%
FY23-24	AN	170	152	0%	170	152	0%
FY24-25	C	170	152	0%	108	96	36%
FY25-26	BN	170	152	0%	170	152	0%
FY26-27	D	170	152	0%	170	152	0%
FY27-28	AN	170	152	0%	170	152	0%
FY28-29	BN	170	152	0%	170	152	0%
FY29-30	C	170	152	0%	108	96	36%
FY30-31	C	170	152	0%	108	96	36%
FY31-32	C	170	152	0%	93	83	46%
FY32-33	AN	170	152	0%	170	152	0%
FY33-34	D	170	152	0%	170	152	0%
FY34-35	C	170	152	0%	108	96	36%
FY35-36	AN	170	152	0%	170	152	0%
FY36-37	AN	170	152	0%	170	152	0%
FY37-38	W	170	152	0%	170	152	0%
FY38-39	W	170	152	0%	170	152	0%
FY39-40	D	170	152	0%	170	152	0%
FY40-41	AN	170	152	0%	170	152	0%
FY41-42	W	170	152	0%	170	152	0%
FY42-43	W	170	152	0%	170	152	0%
FY43-44	W	170	152	0%	170	152	0%
FY44-45	BN	170	152	0%	170	152	0%
FY45-46	AN	170	152	0%	170	152	0%
FY46-47	AN	170	152	0%	170	152	0%
FY47-48	D	170	152	0%	170	152	0%
FY48-49	BN	170	152	0%	170	152	0%
FY49-50	BN	170	152	0%	170	152	0%
FY50-51	BN	170	152	0%	170	152	0%
FY51-52	AN	170	152	0%	170	152	0%
FY52-53	W	170	152	0%	170	152	0%
FY53-54	BN	170	152	0%	170	152	0%
FY54-55	BN	170	152	0%	170	152	0%
FY55-56	D	170	152	0%	170	152	0%
FY56-57	W	170	152	0%	170	152	0%
FY57-58	BN	170	152	0%	170	152	0%
FY58-59	W	170	152	0%	170	152	0%
FY59-60	D	170	152	0%	170	152	0%
FY60-61	C	170	152	0%	108	96	36%
FY61-62	C	170	152	0%	93	83	46%
FY62-63	BN	170	152	0%	170	152	0%
FY63-64	AN	170	152	0%	170	152	0%
FY64-65	D	170	152	0%	170	152	0%
FY65-66	W	170	152	0%	170	152	0%
FY66-67	BN	170	152	0%	170	152	0%
FY67-68	W	170	152	0%	170	152	0%
FY68-69	D	170	152	0%	170	152	0%
FY69-70	W	170	152	0%	170	152	0%
FY70-71	AN	170	152	0%	170	152	0%
FY71-72	BN	170	152	0%	170	152	0%
FY72-73	D	170	152	0%	108	96	36%
FY73-74	AN	170	152	0%	170	152	0%
FY74-75	W	170	152	0%	170	152	0%
FY75-76	W	170	152	0%	170	152	0%
FY76-77	C	170	152	0%	108	96	36%
FY77-78	C	170	152	0%	93	83	46%
FY78-79	W	170	152	0%	170	152	0%
FY79-80	AN	170	152	0%	170	152	0%
FY80-81	W	170	152	0%	170	152	0%
FY81-82	D	170	152	0%	170	152	0%
FY82-83	W	170	152	0%	170	152	0%
FY83-84	W	170	152	0%	170	152	0%
FY84-85	AN	170	152	0%	170	152	0%
FY85-86	D	170	152	0%	170	152	0%
FY86-87	W	170	152	0%	170	152	0%
FY87-88	C	170	152	0%	108	96	36%
FY88-89	C	170	152	0%	93	83	46%
FY89-90	C	170	152	0%	93	83	46%
FY90-91	C	170	152	0%	93	83	46%
FY91-92	C	170	152	0%	85	76	50%
FY92-93	C	170	152	0%	85	76	50%
FY93-94	W	170	152	0%	170	152	0%
FY94-95	C	170	152	0%	108	96	36%
FY95-96	W	170	152	0%	170	152	0%
FY96-97	W	170	152	0%	170	152	0%
FY97-98	W	170	152	0%	170	152	0%
FY98-99	W	170	152	0%	170	152	0%
FY99-00	AN	170	152	0%	170	152	0%
FY00-01	AN	170	152	0%	170	152	0%
FY01-02	D	170	152	0%	170	152	0%
FY02-03	D	170	152	0%	170	152	0%
FY03-04	BN	170	152	0%	170	152	0%
FY04-05	D	170	152	0%	170	152	0%
FY05-06	W	170	152	0%	170	152	0%
FY06-07	W	170	152	0%	170	152	0%
FY07-08	C	170	152	0%	170	152	0%
FY08-09	C	170	152	0%	170	152	0%
FY09-10	BN	170	152	0%	170	152	0%
FY10-11	AN	170	152	0%	170	152	0%
FY11-12	W	170	152	0%	170	152	0%
FY12-13	D	170	152	0%	170	152	0%
FY13-14	C	170	152	0%	170	152	0%
FY14-15	C	170	152	0%	93	83	46%
FY15-16	C	170	152	0%	93	83	46%
FY16-17	D	170	152	0%	170	152	0%

These tables reflect simulations performed with Hetch Hetchy/Local Simulation Model (HHLSM) for the SFPUC 2020 Urban Water Management Plan.

Yellow highlights indicate that deliveries are made from the Regional Groundwater Storage and Recovery project to the Regional Water System service area.
Red highlights indicate water supply rationing.

Notes about Tier 1 Allocation calculations:
* Retail allocation cannot be above 81 million gallons per day (MGD); anything above 81 MGD gets re-allocated to wholesale customers
* Retail is required per WSA to conserve 5% in any dry year; however this doesn't impact retail allocation, it would be a demand-side reduction
* 5% conservation requirement applies only to retail, not wholesale

Systemwide							
SFPUC Fiscal Year (July-June)	SJI Water Year Type	2020 Infrastructure Conditions with 198.6 MGD Systemwide Demand			2020 Infrastructure Conditions and Bay-Delta Plan (40% UF) with 198.6 MGD Systemwide Demand		
		TAF/yr	MGD	Rationing (% of Total)	TAF/yr	MGD	Rationing (% of Total)
FY20-21	BN	222	199	0%	222	199	0%
FY21-22	AN	222	199	0%	222	199	0%
FY22-23	W	222	199	0%	222	199	0%
FY23-24	AN	222	199	0%	222	199	0%
FY24-25	C	222	199	0%	156	139	30%
FY25-26	BN	222	199	0%	222	199	0%
FY26-27	D	222	199	0%	222	199	0%
FY27-28	AN	222	199	0%	222	199	0%
FY28-29	BN	222	199	0%	222	199	0%
FY29-30	C	222	199	0%	156	139	30%
FY30-31	C	222	199	0%	156	139	30%
FY31-32	C	222	199	0%	133	119	40%
FY32-33	AN	222	199	0%	222	199	0%
FY33-34	D	222	199	0%	222	199	0%
FY34-35	C	222	199	0%	156	139	30%
FY35-36	AN	222	199	0%	222	199	0%
FY36-37	AN	222	199	0%	222	199	0%
FY37-38	W	222	199	0%	222	199	0%
FY38-39	W	222	199	0%	222	199	0%
FY39-40	D	222	199	0%	222	199	0%
FY40-41	AN	222	199	0%	222	199	0%
FY41-42	W	222	199	0%	222	199	0%
FY42-43	W	222	199	0%	222	199	0%
FY43-44	W	222	199	0%	222	199	0%
FY44-45	BN	222	199	0%	222	199	0%
FY45-46	AN	222	199	0%	222	199	0%
FY46-47	AN	222	199	0%	222	199	0%
FY47-48	D	222	199	0%	222	199	0%
FY48-49	BN	222	199	0%	222	199	0%
FY49-50	BN	222	199	0%	222	199	0%
FY50-51	BN	222	199	0%	222	199	0%
FY51-52	AN	222	199	0%	222	199	0%
FY52-53	W	222	199	0%	222	199	0%
FY53-54	BN	222	199	0%	222	199	0%
FY54-55	BN	222	199	0%	222	199	0%
FY55-56	D	222	199	0%	222	199	0%
FY56-57	W	222	199	0%	222	199	0%
FY57-58	BN	222	199	0%	222	199	0%
FY58-59	W	222	199	0%	222	199	0%
FY59-60	D	222	199	0%	222	199	0%
FY60-61	C	222	199	0%	156	139	30%
FY61-62	C	222	199	0%	133	119	40%
FY62-63	BN	222	199	0%	222	199	0%
FY63-64	AN	222	199	0%	222	199	0%
FY64-65	D	222	199	0%	222	199	0%
FY65-66	W	222	199	0%	222	199	0%
FY66-67	BN	222	199	0%	222	199	0%
FY67-68	W	222	199	0%	222	199	0%
FY68-69	D	222	199	0%	222	199	0%
FY69-70	W	222	199	0%	222	199	0%
FY70-71	AN	222	199	0%	222	199	0%
FY71-72	BN	222	199	0%	222	199	0%
FY72-73	D	222	199	0%	156	139	30%
FY73-74	AN	222	199	0%	222	199	0%
FY74-75	W	222	199	0%	222	199	0%
FY75-76	W	222	199	0%	222	199	0%
FY76-77	C	222	199	0%	156	139	30%
FY77-78	C	222	199	0%	133	119	40%
FY78-79	W	222	199	0%	222	199	0%
FY79-80	AN	222	199	0%	222	199	0%
FY80-81	W	222	199	0%	222	199	0%
FY81-82	D	222	199	0%	222	199	0%
FY82-83	W	222	199	0%	222	199	0%
FY83-84	W	222	199	0%	222	199	0%
FY84-85	AN	222	199	0%	222	199	0%
FY85-86	D	222	199	0%	222	199	0%
FY86-87	W	222	199	0%	222	199	0%
FY87-88	C	222	199	0%	156	139	30%
FY88-89	C	222	199	0%	133	119	40%
FY89-90	C	222	199	0%	133	119	40%
FY90-91	C	222	199	0%	133	119	40%
FY91-92	C	222	199	0%	133	119	40%
FY92-93	C	222	199	0%	133	119	40%
FY93-94	W	222	199	0%	222	199	0%
FY94-95	C	222	199	0%	156	139	30%
FY95-96	W	222	199	0%	222	199	0%
FY96-97	W	222	199	0%	222	199	0%
FY97-98	W	222	199	0%	222	199	0%
FY98-99	W	222	199	0%	222	199	0%
FY99-00	AN	222	199	0%	222	199	0%
FY00-01	AN	222	199	0%	222	199	0%
FY01-02	D	222	199	0%	222	199	0%
FY02-03	D	222	199	0%	222	199	0%
FY03-04	BN	222	199	0%	222	199	0%
FY04-05	D	222	199	0%	222	199	0%
FY05-06	W	222	199	0%	222	199	0%
FY06-07	W	222	199	0%	222	199	0%
FY07-08	C	222	199	0%	222	199	0%
FY08-09	C	222	199	0%	222	199	0%
FY09-10	BN	222	199	0%	222	199	0%
FY10-11	AN	222	199	0%	222	199	0%
FY11-12	W	222	199	0%	222	199	0%
FY12-13	D	222	199	0%	222	199	0%
FY13-14	C	222	199	0%	222	199	0%
FY14-15	C	222	199	0%	133	119	40%
FY15-16	C	222	199	0%	133	119	40%
FY16-17	D	222	199	0%	222	199	0%

Wholesale							
SFPUC Fiscal Year (July-June)	SJI Water Year Type	2020 Infrastructure Conditions with 198.6 MGD Systemwide Demand			2020 Infrastructure Conditions and Bay-Delta Plan (40% UF) with 198.6 MGD Systemwide Demand		
		TAF/yr	MGD	Rationing (% of Total)	TAF/yr	MGD	Rationing (% of Total)
FY20-21	BN	148	132	0%	148	132	0%
FY21-22	AN	148	132	0%	148	132	0%
FY22-23	W	148	132	0%	148	132	0%
FY23-24	AN	148	132	0%	148	132	0%
FY24-25	C	148	132	0%	97	87	34%
FY25-26	BN	148	132	0%	148	132	0%
FY26-27	D	148	132	0%	148	132	0%
FY27-28	AN	148	132	0%	148	132	0%
FY28-29	BN	148	132	0%	148	132	0%
FY29-30	C	148	132	0%	97	87	34%
FY30-31	C	148	132	0%	97	87	34%
FY31-32	C	148	132	0%	83	74	44%
FY32-33	AN	148	132	0%	148	132	0%
FY33-34	D	148	132	0%	148	132	0%
FY34-35	C	148	132	0%	97	87	34%
FY35-36	AN	148	132	0%	148	132	0%
FY36-37	AN	148	132	0%	148	132	0%
FY37-38	W	148	132	0%	148	132	0%
FY38-39	W	148	132	0%	148	132	0%
FY39-40	D	148	132	0%	148	132	0%
FY40-41	AN	148	132	0%	148	132	0%
FY41-42	W	148	132	0%	148	132	0%
FY42-43	W	148	132	0%	148	132	0%
FY43-44	W	148	132	0%	148	132	0%
FY44-45	BN	148	132	0%	148	132	0%
FY45-46	AN	148	132	0%	148	132	0%
FY46-47	AN	148	132	0%	148	132	0%
FY47-48	D	148	132	0%	148	132	0%
FY48-49	BN	148	132	0%	148	132	0%
FY49-50	BN	148	132	0%	148	132	0%
FY50-51	BN	148	132	0%	148	132	0%
FY51-52	AN	148	132	0%	148	132	0%
FY52-53	W	148	132	0%	148	132	0%
FY53-54	BN	148	132	0%	148	132	0%
FY54-55	BN	148	132	0%	148	132	0%
FY55-56	D	148	132	0%	148	132	0%
FY56-57	W	148	132	0%	148	132	0%
FY57-58	BN	148	132	0%	148	132	0%
FY58-59	W	148	132	0%	148	132	0%
FY59-60	D	148	132	0%	148	132	0%
FY60-61	C	148	132	0%	97	87	34%
FY61-62	C	148	132	0%	83	74	44%
FY62-63	BN	148	132	0%	148	132	0%
FY63-64	AN	148	132	0%	148	132	0%
FY64-65	D	148	132	0%	148	132	0%
FY65-66	W	148	132	0%	148	132	0%
FY66-67	BN	148	132	0%	148	132	0%
FY67-68	W	148	132	0%	148	132	0%
FY68-69	D	148	132	0%	148	132	0%
FY69-70	W	148	132	0%	148	132	0%
FY70-71	AN	148	132	0%	148	132	0%
FY71-72	BN	148	132	0%	148	132	0%
FY72-73	D	148	132	0%	97	87	34%
FY73-74	AN	148	132	0%	148	132	0%
FY74-75	W	148	132	0%	148	132	0%
FY75-76	W	148	132	0%	148	132	0%
FY76-77	C	148	132	0%	97	87	34%
FY77-78	C	148	132	0%	83	74	44%
FY78-79	W	148	132	0%	148	132	0%
FY79-80	AN	148	132	0%	148	132	0%
FY80-81	W	148	132	0%	148	132	0%
FY81-82	D	148	132	0%	148	132	0%
FY82-83	W	148	132	0%	148	132	0%
FY83-84	W	148	132	0%	148	132	0%
FY84-85	AN	148	132	0%	148	132	0%
FY85-86	D	148	132	0%	148	132	0%
FY86-87	W	148	132	0%	148	132	0%
FY87-88	C	148	132	0%	97	87	34%
FY88-89	C	148	132	0%	83	74	44%
FY89-90	C	148	132	0%	83	74	44%
FY90-91	C	148	132	0%	83	74	44%
FY91-92	C	148	132	0%	83	74	44%
FY92-93	C	148	132	0%	83	74	44%
FY93-94	W	148	132	0%	148	132	0%
FY94-95	C	148	132	0%	97	87	34%
FY95-96	W	148	132	0%	148	132	0%
FY96-97	W	148	132	0%	148	132	0%
FY97-98	W	148	132	0%	148	132	0%
FY98-99	W	148	132	0%	148	132	0%
FY99-00	AN	148	132	0%	148	132	0%
FY00-01	AN	148	132	0%	148	132	0%
FY01-02	D	148	132	0%	148	132	0%
FY02-03	D	148	132	0%	148	132	0%
FY03-04	BN	148	132	0%	148	132	0%
FY04-05	D	148	132	0%	148	132	0%
FY05-06	W	148	132	0%	148	132	0%
FY06-07	W	148	132	0%	148	132	0%
FY07-08	C	148	132	0%	148	132	0%
FY08-09	C	148	132	0%	148	132	0%
FY09-10	BN	148	132	0%	148	132	0%
FY10-11	AN	148	132	0%	148	132	0%
FY11-12	W	148	132	0%	148	132	0%
FY12-13	D	148	132	0%	148	132	0%
FY13-14	C	148	132	0%	148	132	0%
FY14-15	C	148	132	0%	83	74	44%
FY15-16	C	148	132	0%	83	74	44%
FY16-17	D	148	132	0%	148	132	0%

These tables reflect simulations performed with Hetch Hetchy/Local Simulation Model (HHLSM) for the SFPUC 2020 Urban Water Management Plan.

Yellow highlights indicate that deliveries are made from the Regional Groundwater Storage and Recovery project to the Regional Water System service area.
Red highlights indicate water supply rationing.

Notes about Tier 1 Allocation calculations:
* Retail allocation cannot be above 81 million gallons per day (MGD); anything above 81 MGD gets re-allocated to wholesale customers
* Retail is required per WSA to conserve 5% in any dry year; however this doesn't impact retail allocation, it would be a demand-side reduction
* 5% conservation requirement applies only to retail, not wholesale

Systemwide							
SFPUC Fiscal Year (July-June)	SJI Water Year Type	2025 Infrastructure Conditions with 213.2 MGD Systemwide Demand			2025 Infrastructure Conditions and Bay-Delta Plan (40% UF) with 213.2 MGD Systemwide Demand		
		TAF/yr	MGD	Rationing (% of Total)	TAF/yr	MGD	Rationing (% of Total)
FY20-21	BN	239	213	0%	239	213	0%
FY21-22	AN	239	213	0%	239	213	0%
FY22-23	W	239	213	0%	239	213	0%
FY23-24	AN	239	213	0%	239	213	0%
FY24-25	C	239	213	0%	167	149	30%
FY25-26	BN	239	213	0%	239	213	0%
FY26-27	D	239	213	0%	239	213	0%
FY27-28	AN	239	213	0%	239	213	0%
FY28-29	BN	239	213	0%	239	213	0%
FY29-30	C	239	213	0%	167	149	30%
FY30-31	C	239	213	0%	167	149	30%
FY31-32	C	239	213	0%	143	128	40%
FY32-33	AN	239	213	0%	239	213	0%
FY33-34	D	239	213	0%	239	213	0%
FY34-35	C	239	213	0%	167	149	30%
FY35-36	AN	239	213	0%	239	213	0%
FY36-37	AN	239	213	0%	239	213	0%
FY37-38	W	239	213	0%	239	213	0%
FY38-39	W	239	213	0%	239	213	0%
FY39-40	D	239	213	0%	239	213	0%
FY40-41	AN	239	213	0%	239	213	0%
FY41-42	W	239	213	0%	239	213	0%
FY42-43	W	239	213	0%	239	213	0%
FY43-44	W	239	213	0%	239	213	0%
FY44-45	BN	239	213	0%	239	213	0%
FY45-46	AN	239	213	0%	239	213	0%
FY46-47	AN	239	213	0%	239	213	0%
FY47-48	D	239	213	0%	239	213	0%
FY48-49	BN	239	213	0%	239	213	0%
FY49-50	BN	239	213	0%	239	213	0%
FY50-51	BN	239	213	0%	239	213	0%
FY51-52	AN	239	213	0%	239	213	0%
FY52-53	W	239	213	0%	239	213	0%
FY53-54	BN	239	213	0%	239	213	0%
FY54-55	BN	239	213	0%	239	213	0%
FY55-56	D	239	213	0%	239	213	0%
FY56-57	W	239	213	0%	239	213	0%
FY57-58	BN	239	213	0%	239	213	0%
FY58-59	W	239	213	0%	239	213	0%
FY59-60	D	239	213	0%	239	213	0%
FY60-61	C	239	213	0%	167	149	30%
FY61-62	C	239	213	0%	143	128	40%
FY62-63	BN	239	213	0%	239	213	0%
FY63-64	AN	239	213	0%	239	213	0%
FY64-65	D	239	213	0%	239	213	0%
FY65-66	W	239	213	0%	239	213	0%
FY66-67	BN	239	213	0%	239	213	0%
FY67-68	W	239	213	0%	239	213	0%
FY68-69	D	239	213	0%	239	213	0%
FY69-70	W	239	213	0%	239	213	0%
FY70-71	AN	239	213	0%	239	213	0%
FY71-72	BN	239	213	0%	239	213	0%
FY72-73	D	239	213	0%	167	149	30%
FY73-74	AN	239	213	0%	239	213	0%
FY74-75	W	239	213	0%	239	213	0%
FY75-76	W	239	213	0%	239	213	0%
FY76-77	C	239	213	0%	167	149	30%
FY77-78	C	239	213	0%	143	128	40%
FY78-79	W	239	213	0%	239	213	0%
FY79-80	AN	239	213	0%	239	213	0%
FY80-81	W	239	213	0%	239	213	0%
FY81-82	D	239	213	0%	239	213	0%
FY82-83	W	239	213	0%	239	213	0%
FY83-84	W	239	213	0%	239	213	0%
FY84-85	AN	239	213	0%	239	213	0%
FY85-86	D	239	213	0%	239	213	0%
FY86-87	W	239	213	0%	239	213	0%
FY87-88	C	239	213	0%	167	149	30%
FY88-89	C	239	213	0%	143	128	40%
FY89-90	C	239	213	0%	143	128	40%
FY90-91	C	239	213	0%	143	128	40%
FY91-92	C	239	213	0%	143	128	40%
FY92-93	C	239	213	0%	143	128	40%
FY93-94	W	239	213	0%	239	213	0%
FY94-95	C	239	213	0%	167	149	30%
FY95-96	W	239	213	0%	239	213	0%
FY96-97	W	239	213	0%	239	213	0%
FY97-98	W	239	213	0%	239	213	0%
FY98-99	W	239	213	0%	239	213	0%
FY99-00	AN	239	213	0%	239	213	0%
FY00-01	AN	239	213	0%	239	213	0%
FY01-02	D	239	213	0%	239	213	0%
FY02-03	D	239	213	0%	239	213	0%
FY03-04	BN	239	213	0%	239	213	0%
FY04-05	D	239	213	0%	239	213	0%
FY05-06	W	239	213	0%	239	213	0%
FY06-07	W	239	213	0%	239	213	0%
FY07-08	C	239	213	0%	239	213	0%
FY08-09	C	239	213	0%	239	213	0%
FY09-10	BN	239	213	0%	239	213	0%
FY10-11	AN	239	213	0%	239	213	0%
FY11-12	W	239	213	0%	239	213	0%
FY12-13	D	239	213	0%	239	213	0%
FY13-14	C	239	213	0%	239	213	0%
FY14-15	C	239	213	0%	143	128	40%
FY15-16	C	239	213	0%	143	128	40%
FY16-17	D	239	213	0%	239	213	0%

Wholesale							
SFPUC Fiscal Year (July-June)	SJI Water Year Type	2025 Infrastructure Conditions with 213.2 MGD Systemwide Demand			2025 Infrastructure Conditions and Bay-Delta Plan (40% UF) with 213.2 MGD Systemwide Demand		
		TAF/yr	MGD	Rationing (% of Total)	TAF/yr	MGD	Rationing (% of Total)
FY20-21	BN	164	146	0%	164	146	0%
FY21-22	AN	164	146	0%	164	146	0%
FY22-23	W	164	146	0%	164	146	0%
FY23-24	AN	164	146	0%	164	146	0%
FY24-25	C	164	146	0%	104	93	36%
FY25-26	BN	164	146	0%	164	146	0%
FY26-27	D	164	146	0%	164	146	0%
FY27-28	AN	164	146	0%	164	146	0%
FY28-29	BN	164	146	0%	164	146	0%
FY29-30	C	164	146	0%	104	93	36%
FY30-31	C	164	146	0%	104	93	36%
FY31-32	C	164	146	0%	90	80	45%
FY32-33	AN	164	146	0%	164	146	0%
FY33-34	D	164	146	0%	164	146	0%
FY34-35	C	164	146	0%	104	93	36%
FY35-36	AN	164	146	0%	164	146	0%
FY36-37	AN	164	146	0%	164	146	0%
FY37-38	W	164	146	0%	164	146	0%
FY38-39	W	164	146	0%	164	146	0%
FY39-40	D	164	146	0%	164	146	0%
FY40-41	AN	164	146	0%	164	146	0%
FY41-42	W	164	146	0%	164	146	0%
FY42-43	W	164	146	0%	164	146	0%
FY43-44	W	164	146	0%	164	146	0%
FY44-45	BN	164	146	0%	164	146	0%
FY45-46	AN	164	146	0%	164	146	0%
FY46-47	AN	164	146	0%	164	146	0%
FY47-48	D	164	146	0%	164	146	0%
FY48-49	BN	164	146	0%	164	146	0%
FY49-50	BN	164	146	0%	164	146	0%
FY50-51	BN	164	146	0%	164	146	0%
FY51-52	AN	164	146	0%	164	146	0%
FY52-53	W	164	146	0%	164	146	0%
FY53-54	BN	164	146	0%	164	146	0%
FY54-55	BN	164	146	0%	164	146	0%
FY55-56	D	164	146	0%	164	146	0%
FY56-57	W	164	146	0%	164	146	0%
FY57-58	BN	164	146	0%	164	146	0%
FY58-59	W	164	146	0%	164	146	0%
FY59-60	D	164	146	0%	164	146	0%
FY60-61	C	164	146	0%	104	93	36%
FY61-62	C	164	146	0%	90	80	45%
FY62-63	BN	164	146	0%	164	146	0%
FY63-64	AN	164	146	0%	164	146	0%
FY64-65	D	164	146	0%	164	146	0%
FY65-66	W	164	146	0%	164	146	0%
FY66-67	BN	164	146	0%	164	146	0%
FY67-68	W	164	146	0%	164	146	0%
FY68-69	D	164	146	0%	164	146	0%
FY69-70	W	164	146	0%	164	146	0%
FY70-71	AN	164	146	0%	164	146	0%
FY71-72	BN	164	146	0%	164	146	0%
FY72-73	D	164	146	0%	104	93	36%
FY73-74	AN	164	146	0%	164	146	0%
FY74-75	W	164	146	0%	164	146	0%
FY75-76	W	164	146	0%	164	146	0%
FY76-77	C	164	146	0%	104	93	36%
FY77-78	C	164	146	0%	90	80	45%
FY78-79	W	164	146	0%	164	146	0%
FY79-80	AN	164	146	0%	164	146	0%
FY80-81	W	164	146	0%	164	146	0%
FY81-82	D	164	146	0%	164	146	0%
FY82-83	W	164	146	0%	164	146	0%
FY83-84	W	164	146	0%	164	146	0%
FY84-85	AN	164	146	0%	164	146	0%
FY85-86	D	164	146	0%	164	146	0%
FY86-87	W	164	146	0%	164	146	0%
FY87-88	C	164	146	0%	104	93	36%
FY88-89	C	164	146	0%	90	80	45%
FY89-90	C	164	146	0%	90	80	45%
FY90-91	C	164	146	0%	90	80	45%
FY91-92	C	164	146	0%	90	80	45%
FY92-93	C	164	146	0%	90	80	45%
FY93-94	W	164	146	0%	164	146	0%
FY94-95	C	164	146	0%	104	93	36%
FY95-96	W	164	146	0%	164	146	0%
FY96-97	W	164	146	0%	164	146	0%
FY97-98	W	164	146	0%	164	146	0%
FY98-99	W	164	146	0%	164	146	0%
FY99-00	AN	164	146	0%	164	146	0%
FY00-01	AN	164	146	0%	164	146	0%
FY01-02	D	164	146	0%	164	146	0%
FY02-03	D	164	146	0%	164	146	0%
FY03-04	BN	164	146	0%	164	146	0%
FY04-05	D	164	146	0%	164	146	0%
FY05-06	W	164	146	0%	164	146	0%
FY06-07	W	164	146	0%	164	146	0%
FY07-08	C	164	146	0%	164	146	0%
FY08-09	C	164	146	0%	164	146	0%
FY09-10	BN	164	146	0%	164	146	0%
FY10-11	AN	164	146	0%	164	146	0%
FY11-12	W	164	146	0%	164	146	0%
FY12-13	D	164	146	0%	164	146	0%
FY13-14	C	164	146	0%	164	146	0%
FY14-15	C	164	146	0%	90	80	45%
FY15-16	C	164	146	0%	90	80	45%
FY16-17	D	164	146	0%	164	146	0%

These tables reflect simulations performed with Hetch Hetchy/Local Simulation Model (HHLSM) for the SFPUC 2020 Urban Water Management Plan.

Yellow highlights indicate that deliveries are made from the Regional Groundwater Storage and Recovery project to the Regional Water System service area.
Red highlights indicate water supply rationing.

Notes about Tier 1 Allocation calculations:
* Retail allocation cannot be above 81 million gallons per day (MGD); anything above 81 MGD gets re-allocated to wholesale customers
* Retail is required per WSA to conserve 5% in any dry year; however this doesn't impact retail allocation, it would be a demand-side reduction
* 5% conservation requirement applies only to retail, not wholesale

Systemwide							
SFPUC Fiscal Year (July-June)	SJI Water Year Type	2025 Infrastructure Conditions with 215.4 MGD Systemwide Demand			2025 Infrastructure Conditions and Bay-Delta Plan (40% UF) with 215.4 MGD Systemwide Demand		
		TAF/yr	MGD	Rationing (% of Total)	TAF/yr	MGD	Rationing (% of Total)
FY20-21	BN	241	215	0%	241	215	0%
FY21-22	AN	241	215	0%	241	215	0%
FY22-23	W	241	215	0%	241	215	0%
FY23-24	AN	241	215	0%	241	215	0%
FY24-25	C	241	215	0%	169	151	30%
FY25-26	BN	241	215	0%	241	215	0%
FY26-27	D	241	215	0%	241	215	0%
FY27-28	AN	241	215	0%	241	215	0%
FY28-29	BN	241	215	0%	241	215	0%
FY29-30	C	241	215	0%	169	151	30%
FY30-31	C	241	215	0%	169	151	30%
FY31-32	C	241	215	0%	145	129	40%
FY32-33	AN	241	215	0%	241	215	0%
FY33-34	D	241	215	0%	241	215	0%
FY34-35	C	241	215	0%	169	151	30%
FY35-36	AN	241	215	0%	241	215	0%
FY36-37	AN	241	215	0%	241	215	0%
FY37-38	W	241	215	0%	241	215	0%
FY38-39	W	241	215	0%	241	215	0%
FY39-40	D	241	215	0%	241	215	0%
FY40-41	AN	241	215	0%	241	215	0%
FY41-42	W	241	215	0%	241	215	0%
FY42-43	W	241	215	0%	241	215	0%
FY43-44	W	241	215	0%	241	215	0%
FY44-45	BN	241	215	0%	241	215	0%
FY45-46	AN	241	215	0%	241	215	0%
FY46-47	AN	241	215	0%	241	215	0%
FY47-48	D	241	215	0%	241	215	0%
FY48-49	BN	241	215	0%	241	215	0%
FY49-50	BN	241	215	0%	241	215	0%
FY50-51	BN	241	215	0%	241	215	0%
FY51-52	AN	241	215	0%	241	215	0%
FY52-53	W	241	215	0%	241	215	0%
FY53-54	BN	241	215	0%	241	215	0%
FY54-55	BN	241	215	0%	241	215	0%
FY55-56	D	241	215	0%	241	215	0%
FY56-57	W	241	215	0%	241	215	0%
FY57-58	BN	241	215	0%	241	215	0%
FY58-59	W	241	215	0%	241	215	0%
FY59-60	D	241	215	0%	241	215	0%
FY60-61	C	241	215	0%	169	151	30%
FY61-62	C	241	215	0%	145	129	40%
FY62-63	BN	241	215	0%	241	215	0%
FY63-64	AN	241	215	0%	241	215	0%
FY64-65	D	241	215	0%	241	215	0%
FY65-66	W	241	215	0%	241	215	0%
FY66-67	BN	241	215	0%	241	215	0%
FY67-68	W	241	215	0%	241	215	0%
FY68-69	D	241	215	0%	241	215	0%
FY69-70	W	241	215	0%	241	215	0%
FY70-71	AN	241	215	0%	241	215	0%
FY71-72	BN	241	215	0%	241	215	0%
FY72-73	D	241	215	0%	169	151	30%
FY73-74	AN	241	215	0%	241	215	0%
FY74-75	W	241	215	0%	241	215	0%
FY75-76	W	241	215	0%	241	215	0%
FY76-77	C	241	215	0%	169	151	30%
FY77-78	C	241	215	0%	145	129	40%
FY78-79	W	241	215	0%	241	215	0%
FY79-80	AN	241	215	0%	241	215	0%
FY80-81	W	241	215	0%	241	215	0%
FY81-82	D	241	215	0%	241	215	0%
FY82-83	W	241	215	0%	241	215	0%
FY83-84	W	241	215	0%	241	215	0%
FY84-85	AN	241	215	0%	241	215	0%
FY85-86	D	241	215	0%	241	215	0%
FY86-87	W	241	215	0%	241	215	0%
FY87-88	C	241	215	0%	169	151	30%
FY88-89	C	241	215	0%	145	129	40%
FY89-90	C	241	215	0%	145	129	40%
FY90-91	C	241	215	0%	145	129	40%
FY91-92	C	241	215	0%	145	129	40%
FY92-93	C	241	215	0%	145	129	40%
FY93-94	W	241	215	0%	241	215	0%
FY94-95	C	241	215	0%	169	151	30%
FY95-96	W	241	215	0%	241	215	0%
FY96-97	W	241	215	0%	241	215	0%
FY97-98	W	241	215	0%	241	215	0%
FY98-99	W	241	215	0%	241	215	0%
FY99-00	AN	241	215	0%	241	215	0%
FY00-01	AN	241	215	0%	241	215	0%
FY01-02	D	241	215	0%	241	215	0%
FY02-03	D	241	215	0%	241	215	0%
FY03-04	BN	241	215	0%	241	215	0%
FY04-05	D	241	215	0%	241	215	0%
FY05-06	W	241	215	0%	241	215	0%
FY06-07	W	241	215	0%	241	215	0%
FY07-08	C	241	215	0%	241	215	0%
FY08-09	C	241	215	0%	241	215	0%
FY09-10	BN	241	215	0%	241	215	0%
FY10-11	AN	241	215	0%	241	215	0%
FY11-12	W	241	215	0%	241	215	0%
FY12-13	D	241	215	0%	241	215	0%
FY13-14	C	241	215	0%	241	215	0%
FY14-15	C	241	215	0%	145	129	40%
FY15-16	C	241	215	0%	145	129	40%
FY16-17	D	241	215	0%	241	215	0%

Wholesale							
SFPUC Fiscal Year (July-June)	SJI Water Year Type	2025 Infrastructure Conditions with 215.4 MGD Systemwide Demand			2025 Infrastructure Conditions and Bay-Delta Plan (40% UF) with 215.4 MGD Systemwide Demand		
		TAF/yr	MGD	Rationing (% of Total)	TAF/yr	MGD	Rationing (% of Total)
FY20-21	BN	166	148	0%	166	148	0%
FY21-22	AN	166	148	0%	166	148	0%
FY22-23	W	166	148	0%	166	148	0%
FY23-24	AN	166	148	0%	166	148	0%
FY24-25	C	166	148	0%	106	94	36%
FY25-26	BN	166	148	0%	166	148	0%
FY26-27	D	166	148	0%	166	148	0%
FY27-28	AN	166	148	0%	166	148	0%
FY28-29	BN	166	148	0%	166	148	0%
FY29-30	C	166	148	0%	106	94	36%
FY30-31	C	166	148	0%	106	94	36%
FY31-32	C	166	148	0%	90	81	45%
FY32-33	AN	166	148	0%	166	148	0%
FY33-34	D	166	148	0%	166	148	0%
FY34-35	C	166	148	0%	106	94	36%
FY35-36	AN	166	148	0%	166	148	0%
FY36-37	AN	166	148	0%	166	148	0%
FY37-38	W	166	148	0%	166	148	0%
FY38-39	W	166	148	0%	166	148	0%
FY39-40	D	166	148	0%	166	148	0%
FY40-41	AN	166	148	0%	166	148	0%
FY41-42	W	166	148	0%	166	148	0%
FY42-43	W	166	148	0%	166	148	0%
FY43-44	W	166	148	0%	166	148	0%
FY44-45	BN	166	148	0%	166	148	0%
FY45-46	AN	166	148	0%	166	148	0%
FY46-47	AN	166	148	0%	166	148	0%
FY47-48	D	166	148	0%	166	148	0%
FY48-49	BN	166	148	0%	166	148	0%
FY49-50	BN	166	148	0%	166	148	0%
FY50-51	BN	166	148	0%	166	148	0%
FY51-52	AN	166	148	0%	166	148	0%
FY52-53	W	166	148	0%	166	148	0%
FY53-54	BN	166	148	0%	166	148	0%
FY54-55	BN	166	148	0%	166	148	0%
FY55-56	D	166	148	0%	166	148	0%
FY56-57	W	166	148	0%	166	148	0%
FY57-58	BN	166	148	0%	166	148	0%
FY58-59	W	166	148	0%	166	148	0%
FY59-60	D	166	148	0%	166	148	0%
FY60-61	C	166	148	0%	106	94	36%
FY61-62	C	166	148	0%	90	81	45%
FY62-63	BN	166	148	0%	166	148	0%
FY63-64	AN	166	148	0%	166	148	0%
FY64-65	D	166	148	0%	166	148	0%
FY65-66	W	166	148	0%	166	148	0%
FY66-67	BN	166	148	0%	166	148	0%
FY67-68	W	166	148	0%	166	148	0%
FY68-69	D	166	148	0%	166	148	0%
FY69-70	W	166	148	0%	166	148	0%
FY70-71	AN	166	148	0%	166	148	0%
FY71-72	BN	166	148	0%	166	148	0%
FY72-73	D	166	148	0%	106	94	36%
FY73-74	AN	166	148	0%	166	148	0%
FY74-75	W	166	148	0%	166	148	0%
FY75-76	W	166	148	0%	166	148	0%
FY76-77	C	166	148	0%	106	94	36%
FY77-78	C	166	148	0%	90	81	45%
FY78-79	W	166	148	0%	166	148	0%
FY79-80	AN	166	148	0%	166	148	0%
FY80-81	W	166	148	0%	166	148	0%
FY81-82	D	166	148	0%	166	148	0%
FY82-83	W	166	148	0%	166	148	0%
FY83-84	W	166	148	0%	166	148	0%
FY84-85	AN	166	148	0%	166	148	0%
FY85-86	D	166	148	0%	166	148	0%
FY86-87	W	166	148	0%	166	148	0%
FY87-88	C	166	148	0%	106	94	36%
FY88-89	C	166	148	0%	90	81	45%
FY89-90	C	166	148	0%	90	81	45%
FY90-91	C	166	148	0%	90	81	45%
FY91-92	C	166	148	0%	90	81	45%
FY92-93	C	166	148	0%	90	81	45%
FY93-94	W	166	148	0%	166	148	0%
FY94-95	C	166	148	0%	106	94	36%
FY95-96	W	166	148	0%	166	148	0%
FY96-97	W	166	148	0%	166	148	0%
FY97-98	W	166	148	0%	166	148	0%
FY98-99	W	166	148	0%	166	148	0%
FY99-00	AN	166	148	0%	166	148	0%
FY00-01	AN	166	148	0%	166	148	0%
FY01-02	D	166	148	0%	166	148	0%
FY02-03	D	166	148	0%	166	148	0%
FY03-04	BN	166	148	0%	166	148	0%
FY04-05	D	166	148	0%	166	148	0%
FY05-06	W	166	148	0%	166	148	0%
FY06-07	W	166	148	0%	166	148	0%
FY07-08	C	166	148	0%	166	148	0%
FY08-09	C	166	148	0%	166	148	0%
FY09-10	BN	166	148	0%	166	148	0%
FY10-11	AN	166	148	0%	166	148	0%
FY11-12	W	166	148	0%	166	148	0%
FY12-13	D	166	148	0%	166	148	0%
FY13-14	C	166	148	0%	166	148	0%
FY14-15	C	166	148	0%	90	81	45%
FY15-16	C	166	148	0%	90	81	45%
FY16-17	D	166	148	0%	166	148	0%

These tables reflect simulations performed with Hetch Hetchy/Local Simulation Model (HHLSM) for the SFPUC 2020 Urban Water Management Plan.

Yellow highlights indicate that deliveries are made from the Regional Groundwater Storage and Recovery project to the Regional Water System service area.
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Notes about Tier 1 Allocation calculations:
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* Retail is required per WSA to conserve 5% in any dry year; however this doesn't impact retail allocation, it would be a demand-side reduction
* 5% conservation requirement applies only to retail, not wholesale

Systemwide							
SFPUC Fiscal Year (July-June)	SJI Water Year Type	2025 Infrastructure Conditions with 226.8 MGD Systemwide Demand			2025 Infrastructure Conditions and Bay-Delta Plan (40% UF) with 226.8 MGD Systemwide Demand		
		TAF/yr	MGD	Rationing (% of Total)	TAF/yr	MGD	Rationing (% of Total)
FY20-21	BN	254	227	0%	254	227	0%
FY21-22	AN	254	227	0%	254	227	0%
FY22-23	W	254	227	0%	254	227	0%
FY23-24	AN	254	227	0%	254	227	0%
FY24-25	C	254	227	0%	178	159	30%
FY25-26	BN	254	227	0%	254	227	0%
FY26-27	D	254	227	0%	254	227	0%
FY27-28	AN	254	227	0%	254	227	0%
FY28-29	BN	254	227	0%	254	227	0%
FY29-30	C	254	227	0%	178	159	30%
FY30-31	C	254	227	0%	178	159	30%
FY31-32	C	254	227	0%	152	136	40%
FY32-33	AN	254	227	0%	254	227	0%
FY33-34	D	254	227	0%	254	227	0%
FY34-35	C	254	227	0%	178	159	30%
FY35-36	AN	254	227	0%	254	227	0%
FY36-37	AN	254	227	0%	254	227	0%
FY37-38	W	254	227	0%	254	227	0%
FY38-39	W	254	227	0%	254	227	0%
FY39-40	D	254	227	0%	254	227	0%
FY40-41	AN	254	227	0%	254	227	0%
FY41-42	W	254	227	0%	254	227	0%
FY42-43	W	254	227	0%	254	227	0%
FY43-44	W	254	227	0%	254	227	0%
FY44-45	BN	254	227	0%	254	227	0%
FY45-46	AN	254	227	0%	254	227	0%
FY46-47	AN	254	227	0%	254	227	0%
FY47-48	D	254	227	0%	254	227	0%
FY48-49	BN	254	227	0%	178	159	30%
FY49-50	BN	254	227	0%	254	227	0%
FY50-51	BN	254	227	0%	254	227	0%
FY51-52	AN	254	227	0%	254	227	0%
FY52-53	W	254	227	0%	254	227	0%
FY53-54	BN	254	227	0%	254	227	0%
FY54-55	BN	254	227	0%	254	227	0%
FY55-56	D	254	227	0%	178	159	30%
FY56-57	W	254	227	0%	254	227	0%
FY57-58	BN	254	227	0%	254	227	0%
FY58-59	W	254	227	0%	254	227	0%
FY59-60	D	254	227	0%	254	227	0%
FY60-61	C	254	227	0%	178	159	30%
FY61-62	C	254	227	0%	152	136	40%
FY62-63	BN	254	227	0%	254	227	0%
FY63-64	AN	254	227	0%	254	227	0%
FY64-65	D	254	227	0%	254	227	0%
FY65-66	W	254	227	0%	254	227	0%
FY66-67	BN	254	227	0%	254	227	0%
FY67-68	W	254	227	0%	254	227	0%
FY68-69	D	254	227	0%	254	227	0%
FY69-70	W	254	227	0%	254	227	0%
FY70-71	AN	254	227	0%	254	227	0%
FY71-72	BN	254	227	0%	254	227	0%
FY72-73	D	254	227	0%	178	159	30%
FY73-74	AN	254	227	0%	254	227	0%
FY74-75	W	254	227	0%	254	227	0%
FY75-76	W	254	227	0%	254	227	0%
FY76-77	C	254	227	0%	178	159	30%
FY77-78	C	254	227	0%	152	136	40%
FY78-79	W	254	227	0%	254	227	0%
FY79-80	AN	254	227	0%	254	227	0%
FY80-81	W	254	227	0%	254	227	0%
FY81-82	D	254	227	0%	254	227	0%
FY82-83	W	254	227	0%	254	227	0%
FY83-84	W	254	227	0%	254	227	0%
FY84-85	AN	254	227	0%	254	227	0%
FY85-86	D	254	227	0%	254	227	0%
FY86-87	W	254	227	0%	254	227	0%
FY87-88	C	254	227	0%	178	159	30%
FY88-89	C	254	227	0%	152	136	40%
FY89-90	C	254	227	0%	152	136	40%
FY90-91	C	254	227	0%	135	120	47%
FY91-92	C	254	227	0%	135	120	47%
FY92-93	C	254	227	0%	135	120	47%
FY93-94	W	254	227	0%	254	227	0%
FY94-95	C	254	227	0%	178	159	30%
FY95-96	W	254	227	0%	254	227	0%
FY96-97	W	254	227	0%	254	227	0%
FY97-98	W	254	227	0%	254	227	0%
FY98-99	W	254	227	0%	254	227	0%
FY99-00	AN	254	227	0%	254	227	0%
FY00-01	AN	254	227	0%	254	227	0%
FY01-02	D	254	227	0%	254	227	0%
FY02-03	D	254	227	0%	254	227	0%
FY03-04	BN	254	227	0%	254	227	0%
FY04-05	D	254	227	0%	254	227	0%
FY05-06	W	254	227	0%	254	227	0%
FY06-07	W	254	227	0%	254	227	0%
FY07-08	C	254	227	0%	254	227	0%
FY08-09	C	254	227	0%	254	227	0%
FY09-10	BN	254	227	0%	254	227	0%
FY10-11	AN	254	227	0%	254	227	0%
FY11-12	W	254	227	0%	254	227	0%
FY12-13	D	254	227	0%	254	227	0%
FY13-14	C	254	227	0%	152	136	40%
FY14-15	C	254	227	0%	152	136	40%
FY15-16	C	254	227	0%	178	159	30%
FY16-17	D	254	227	0%	254	227	0%

Wholesale							
SFPUC Fiscal Year (July-June)	SJI Water Year Type	2025 Infrastructure Conditions with 226.8 MGD Systemwide Demand			2025 Infrastructure Conditions and Bay-Delta Plan (40% UF) with 226.8 MGD Systemwide Demand		
		TAF/yr	MGD	Rationing (% of Total)	TAF/yr	MGD	Rationing (% of Total)
FY20-21	BN	175	156	0%	175	156	0%
FY21-22	AN	175	156	0%	175	156	0%
FY22-23	W	175	156	0%	175	156	0%
FY23-24	AN	175	156	0%	175	156	0%
FY24-25	C	175	156	0%	111	99	37%
FY25-26	BN	175	156	0%	175	156	0%
FY26-27	D	175	156	0%	175	156	0%
FY27-28	AN	175	156	0%	175	156	0%
FY28-29	BN	175	156	0%	175	156	0%
FY29-30	C	175	156	0%	111	99	37%
FY30-31	C	175	156	0%	111	99	37%
FY31-32	C	175	156	0%	95	85	46%
FY32-33	AN	175	156	0%	175	156	0%
FY33-34	D	175	156	0%	175	156	0%
FY34-35	C	175	156	0%	111	99	37%
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FY37-38	W	175	156	0%	175	156	0%
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FY43-44	W	175	156	0%	175	156	0%
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FY55-56	D	175	156	0%	111	99	37%
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FY89-90	C	175	156	0%	95	85	46%
FY90-91	C	175	156	0%	84	75	52%
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FY02-03	D	175	156	0%	175	156	0%
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FY04-05	D	175	156	0%	175	156	0%
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FY06-07	W	175	156	0%	175	156	0%
FY07-08	C	175	156	0%	175	156	0%
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FY16-17	D	175	156	0%	175	156	0%

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Red highlights indicate water supply rationing.

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FY22-23	W	265	237	0%	265	237	0%
FY23-24	AN	265	237	0%	265	237	0%
FY24-25	C	265	237	0%	159	142	40%
FY25-26	BN	265	237	0%	265	237	0%
FY26-27	D	265	237	0%	265	237	0%
FY27-28	AN	265	237	0%	265	237	0%
FY28-29	BN	265	237	0%	265	237	0%
FY29-30	C	265	237	0%	159	142	40%
FY30-31	C	265	237	0%	159	142	40%
FY31-32	C	265	237	0%	159	142	40%
FY32-33	AN	265	237	0%	265	237	0%
FY33-34	D	265	237	0%	265	237	0%
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FY36-37	AN	265	237	0%	265	237	0%
FY37-38	W	265	237	0%	265	237	0%
FY38-39	W	265	237	0%	265	237	0%
FY39-40	D	265	237	0%	159	142	40%
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FY44-45	BN	265	237	0%	265	237	0%
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FY46-47	AN	265	237	0%	265	237	0%
FY47-48	D	265	237	0%	265	237	0%
FY48-49	BN	265	237	0%	159	142	40%
FY49-50	BN	265	237	0%	265	237	0%
FY50-51	BN	265	237	0%	265	237	0%
FY51-52	AN	265	237	0%	265	237	0%
FY52-53	W	265	237	0%	265	237	0%
FY53-54	BN	265	237	0%	265	237	0%
FY54-55	BN	265	237	0%	265	237	0%
FY55-56	D	265	237	0%	159	142	40%
FY56-57	W	265	237	0%	265	237	0%
FY57-58	BN	265	237	0%	265	237	0%
FY58-59	W	265	237	0%	265	237	0%
FY59-60	D	265	237	0%	265	237	0%
FY60-61	C	265	237	0%	159	142	40%
FY61-62	C	265	237	0%	159	142	40%
FY62-63	BN	265	237	0%	265	237	0%
FY63-64	AN	265	237	0%	265	237	0%
FY64-65	D	265	237	0%	265	237	0%
FY65-66	W	265	237	0%	265	237	0%
FY66-67	BN	265	237	0%	265	237	0%
FY67-68	W	265	237	0%	265	237	0%
FY68-69	D	265	237	0%	265	237	0%
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FY71-72	BN	265	237	0%	265	237	0%
FY72-73	D	265	237	0%	159	142	40%
FY73-74	AN	265	237	0%	265	237	0%
FY74-75	W	265	237	0%	265	237	0%
FY75-76	W	265	237	0%	265	237	0%
FY76-77	C	265	237	0%	159	142	40%
FY77-78	C	265	237	0%	159	142	40%
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FY79-80	AN	265	237	0%	265	237	0%
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FY81-82	D	265	237	0%	265	237	0%
FY82-83	W	265	237	0%	265	237	0%
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FY84-85	AN	265	237	0%	265	237	0%
FY85-86	D	265	237	0%	265	237	0%
FY86-87	W	265	237	0%	265	237	0%
FY87-88	C	265	237	0%	159	142	40%
FY88-89	C	265	237	0%	159	142	40%
FY89-90	C	265	237	0%	159	142	40%
FY90-91	C	238	213	10%	135	121	49%
FY91-92	C	238	213	10%	135	121	49%
FY92-93	C	238	213	10%	135	121	49%
FY93-94	W	265	237	0%	265	237	0%
FY94-95	C	265	237	0%	159	142	40%
FY95-96	W	265	237	0%	265	237	0%
FY96-97	W	265	237	0%	265	237	0%
FY97-98	W	265	237	0%	265	237	0%
FY98-99	W	265	237	0%	265	237	0%
FY99-00	AN	265	237	0%	265	237	0%
FY00-01	AN	265	237	0%	265	237	0%
FY01-02	D	265	237	0%	265	237	0%
FY02-03	D	265	237	0%	265	237	0%
FY03-04	BN	265	237	0%	265	237	0%
FY04-05	D	265	237	0%	265	237	0%
FY05-06	W	265	237	0%	265	237	0%
FY06-07	W	265	237	0%	265	237	0%
FY07-08	C	265	237	0%	159	142	40%
FY08-09	C	265	237	0%	265	237	0%
FY09-10	BN	265	237	0%	265	237	0%
FY10-11	AN	265	237	0%	265	237	0%
FY11-12	W	265	237	0%	265	237	0%
FY12-13	D	265	237	0%	265	237	0%
FY13-14	C	265	237	0%	159	142	40%
FY14-15	C	265	237	0%	135	121	49%
FY15-16	C	238	213	10%	159	142	40%
FY16-17	D	265	237	0%	265	237	0%

Wholesale							
SFPUC Fiscal Year (July-June)	SJI Water Year Type	2025 Infrastructure Conditions with 236.5 MGD Systemwide Demand			2025 Infrastructure Conditions and Bay-Delta Plan (40% UF) with 236.5 MGD Systemwide Demand		
		TAF/yr	MGD	Rationing (% of Total)	TAF/yr	MGD	Rationing (% of Total)
FY20-21	BN	182	163	0%	182	163	0%
FY21-22	AN	182	163	0%	182	163	0%
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FY23-24	AN	182	163	0%	182	163	0%
FY24-25	C	182	163	0%	99	89	46%
FY25-26	BN	182	163	0%	182	163	0%
FY26-27	D	182	163	0%	182	163	0%
FY27-28	AN	182	163	0%	182	163	0%
FY28-29	BN	182	163	0%	182	163	0%
FY29-30	C	182	163	0%	99	89	46%
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FY33-34	D	182	163	0%	182	163	0%
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FY35-36	AN	182	163	0%	182	163	0%
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San Francisco
Water Power Sewer
Services of the San Francisco Public Utilities Commission

525 Golden Gate Avenue, 13th Floor
San Francisco, CA 94102
T 415.554.3155
F 415.554.3161
TTY 415.554.3488

TO: SFPUC Wholesale Customers

FROM: Steven R. Ritchie, Assistant General Manager, Water

DATE: June 2, 2021

RE: Regional Water System Supply Reliability and UWMP 2020

This memo is in response to various comments from Wholesale Customers we have received regarding the reliability of the Regional Water System supply and San Francisco's 2020 Urban Water Management Plan (UWMP).

As you are all aware, the UWMP makes clear the potential effect of the amendments to the Bay-Delta Water Quality Control Plan adopted by the State Water Resources Control Board on December 12, 2018 should it be implemented. Regional Water System-wide water supply shortages of 40-50% could occur until alternative water supplies are developed to replace those shortfalls. Those shortages could increase dramatically if the State Water Board's proposed Water Quality Certification of the Don Pedro Federal Energy Regulatory Commission (FERC) relicensing were implemented.

We are pursuing several courses of action to remedy this situation as detailed below.

Pursuing a Tuolumne River Voluntary Agreement

The State Water Board included in its action of December 12, 2018 a provision allowing for the development of Voluntary Agreements as an alternative to the adopted Plan. Together with the Modesto and Turlock Irrigation Districts, we have been actively pursuing a Tuolumne River Voluntary Agreement (TRVA) since January 2017. We believe the TRVA is a superior approach to producing benefits for fish with a much more modest effect on our water supply. Unfortunately, it has been a challenge to work with the State on this, but we continue to persist, and of course we are still interested in early implementation of the TRVA.

Evaluating our Drought Planning Scenario in light of climate change

Ever since the drought of 1987-92, we have been using a Drought Planning Scenario with a duration of 8.5 years as a stress test of our Regional Water System supplies. Some stakeholders have criticized this methodology as being too conservative. This fall we anticipate our Commission convening a workshop

regarding our use of the 8.5-year Drought Planning Scenario, particularly in light of climate change resilience assessment work that we have funded through the Water Research Foundation. We look forward to a valuable discussion with our various stakeholders and the Commission.

Pursuing Alternative Water Supplies

The SFPUC continues to aggressively pursue Alternative Water Supplies to address whatever shortfall may ultimately occur pending the outcome of negotiation and/or litigation. The most extreme degree of Regional Water System supply shortfall is modeled to be 93 million gallons per day under implementation of the Bay-Delta Plan amendments. We are actively pursuing more than a dozen projects, including recycled water for irrigation, purified water for potable use, increased reservoir storage and conveyance, brackish water desalination, and partnerships with other agencies, particularly the Turlock and Modesto Irrigation Districts. Our goal is to have a suite of alternative water supply projects ready for CEQA review by July 1, 2023.

In litigation with the State over the Bay-Delta Plan Amendments

On January 10, 2019, we joined in litigation against the State over the adoption of the Bay-Delta Water Quality Control Plan Amendments on substantive and procedural grounds. The lawsuit was necessary because there is a statute of limitations on CEQA cases of 30 days, and we needed to preserve our legal options in the event that we are unsuccessful in reaching a voluntary agreement for the Tuolumne River. Even then, potential settlement of this litigation is a possibility in the future.

In litigation with the State over the proposed Don Pedro FERC Water Quality Certification

The State Water Board staff raised the stakes on these matters by issuing a Water Quality Certification for the Don Pedro FERC relicensing on January 15, 2021 that goes well beyond the Bay-Delta Plan amendments. The potential impact of the conditions included in the Certification appear to virtually double the water supply impact on our Regional Water System of the Bay-Delta Plan amendments. We requested that the State Water Board reconsider the Certification, including conducting hearings on it, but the State Water Board took no action. As a result, we were left with no choice but to once again file suit against the State. Again, the Certification includes a clause that it could be replaced by a Voluntary Agreement, but that is far from a certainty.

I hope this makes it clear that we are actively pursuing all options to resolve this difficult situation. We remain committed to creating benefits for the Tuolumne River while meeting our Water Supply Level of Service Goals and Objectives for our retail and wholesale customers.

cc.: SFPUC Commissioners
Nicole Sandkulla, CEO/General Manager, BAWSCA

Appendix I

Bay-Delta Plan Amendment Information

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February 28, 2017

Jeanine Townsend, Clerk to the Board
State Water Resources Control Board
Cal/EPA Headquarters
1001 "I" Street, 24th Floor
Sacramento, CA 95814-0100
commentletters@waterboards.ca.gov

Re: Comment Letter – 2016 Bay-Delta Plan Amendment & SED

Dear Ms. Townsend:

Coastside County Water District ("CCWD") submits the following comments regarding the Recirculated Draft Substitute Environmental Document in Support of Potential Changes to the Water Quality Control Plan for the San Francisco Bay-Sacramento/San Joaquin Delta Estuary: San Joaquin River Flows and Southern Delta Water Quality (SED). In addition, CCWD would like to incorporate by reference separate comments submitted by the Bay Area Water Supply and Conservation Agency (BAWSCA) and the San Francisco Public Utilities Commission (SFPUC) that provide more detail on the impacts of the SED proposal on the CCWD's service area and the region.

Under the SED, the State Water Resources Control Board (SWRCB) proposes substantial changes to flow objectives for the Tuolumne River. These changes are anticipated to result in significantly reduced surface water available for diversions, thereby causing significant, potentially unavoidable impacts to water supply and the environment. Below we provide relevant information that the SWRCB must consider in conducting its analysis of the SED's impacts:

- Under drought conditions, CCWD would be forced to rely more on local surface water supplies, having unknown and potentially significant impacts; in addition, local surface water supplies would likely be greatly depleted or completely unavailable during drought conditions, which were not adequately analyzed in the SED.

- CCWD has made significant strides in water conservation in the past 10 years. Per capita water use decreased 26% from 2008 to 2015, and residential use in 2016 was 55 gallons per capita per day. This increase in water use efficiency makes further reductions more difficult and increases the impacts of water shortage.

- Based on the District's 2015 Urban Water Management Plan, this significant cut to SFPUC water supply could force CCWD to implement Stage 5 – Critical Water Shortage Emergency – of its Water Shortage Contingency Plan. In addition to a moratorium on new connections, Stage 5 imposes extreme cuts and hardship on both residential and non-residential customers in order to prioritize public health,

sanitation, and safety. CCWD's largest customers are water-dependent businesses (floriculture, public recreation, hotels, restaurants), many of which would be unlikely to survive with 50% of the water they currently use.

- Given the interconnected nature of the economy within the Bay Area and BAWSCA service area, CCWD will be impacted by water shortages on the San Francisco Regional Water System resulting in economic and environmental impacts to neighboring communities and the Bay Area as a whole.

- CCWD serves water to a residential population of 17,000 people and to over 600 businesses and other non-residential customers. Potential consequences of the SED proposal include health and safety concerns due to lack of potable supplies, major job losses, slower economic growth and delayed community development in the CCWD's service area.

- Since outdoor use represents a relatively small proportion of CCWD's commercial, industrial, and institutional account water demand, commercial, industrial, and institutional customers generally have fewer opportunities to reduce water use without changing their operations or incurring significant economic impacts.

In the light of these aforementioned impacts as well as those articulated in the BAWSCA and SFPUC comment letters incorporated by reference, Coastside County Water District requests that environmental and economic impacts of any shortage on the San Francisco Regional Water System, and the associated lost jobs and delayed development be fully and adequately analyzed as part of the SWRCB's proposed flow alternatives. Such full and adequate analysis should be given at least equal weight with all other elements of the SWRCB's subsequent deliberations and decision making.

Last, the Governor has indicated his strong support for negotiated voluntary agreements to resolve these issues. Coastside County Water District requests that the SWRCB provide adequate time for a voluntary agreement to be reached amongst the stakeholders prior to any action on the SED. Please give this settlement process a chance for success instead of expediting the implementation of the current proposal. CCWD shares BAWSCA's commitment to continue working closely with the diverse interests and stakeholders to develop that shared solution.

Sincerely,

General Manager
Coastside County Water District

STAFF REPORT

To: **Coastside County Water District Board of Directors**

From: **David Dickson, General Manager**

Agenda: **June 13, 2017**

Report Date: June 8, 2017

Subject: **Resolution in Support of the Association of California Water Agencies' Policy Statement on Bay-Delta Flow Requirements**

Recommendation:

Approve a Resolution in Support of the Association of California Water Agencies' Policy Statement on Bay-Delta Flow Requirements.

Background:

The Association of California Water Agencies (ACWA) has requested that all ACWA member agencies pass a resolution supporting ACWA's policy statement on the State Water Resources Control Board's (SWRCB) proposal to improve water quality in the San Francisco Bay Delta by requiring minimum flows in the San Joaquin River. This SWRCB initiative is just one element of the immensely complex, politically charged, decades-long controversy over water quality, water supply, and environmental concerns in the Delta.

The SWRCB "unimpaired flow" approach to the San Joaquin River, if implemented, could result in dramatic reductions in water available to the City and County of San Francisco (CCSF), directly affecting the District and the 2.4 million people who depend on the CCSF system. The Bay Area Water Supply and Conservation Agency (BAWSCA) has commented extensively on the environmental document supporting the unimpaired flow proposal, as has the San Francisco Public Utilities Commission, emphasizing the negative impacts of water supply curtailment.

The ACWA Policy Statement, presented in Attachment A, emphasizes a collaborative, negotiated approach to solving the Bay-Delta's problems as an alternative to the massive litigation that will inevitably follow the SWRCB's imposition of unimpaired flow requirements.

Attachment B presents the proposed resolution supporting ACWA's position.

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Attachment A

ACWA POLICY STATEMENT ON BAY-DELTA FLOW REQUIREMENTS

COLLABORATIVE APPROACH IS KEY TO CALIFORNIA'S FUTURE

California is facing a defining moment in water policy. A staff proposal under consideration by the State Water Resources Control Board presents a decision point about the future we want for California and its communities, farms, businesses and ecosystems. The State Water Board's staff proposal to base new water quality objectives on a "percentage of unimpaired flow" would have impacts that ripple far beyond water for fish.

The proposal could lead to widespread fallowing of agricultural land, undercut the state's groundwater sustainability goals, cripple implementation of the Brown Administration's California Water Action Plan, negatively affect water reliability for much of the state's population and impact access to surface water for some disadvantaged communities that do not have safe drinking water. These effects are not in the public's interest.

Local water managers overwhelmingly believe the proposal's singular focus on "unimpaired flow" is the wrong choice for the state's future. California's urban and agricultural water managers are united in their vision for a future that includes a healthy economy as well as healthy ecosystems and fish populations. That vision is best achieved through comprehensive, collaborative approaches that include "functional" flows as well as non-flow solutions that contribute real benefits to ecosystem recovery.

On behalf of its more than 430 member public agencies serving urban and agricultural customers throughout the state, the Association of California Water Agencies (ACWA) adopts the following policy statement regarding the State Water Board's proposed approach to updating the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta.

LOCAL SUCCESS STORIES

Collaborative efforts have been successful on many rivers in the Bay-Delta watershed.

Lower Yuba River: A voluntary, collaborative settlement among Yuba County Water Agency, California Department of Fish and Wildlife, National Marine Fisheries Service, PG&E and conservation groups resolved 20 years of controversy and resulted in a continuing program to improve 24 miles of salmon and steelhead habitat while protecting water rights and the needs of local communities. State Water Board members have specifically recognized the value of the agreement, which was formally implemented in 2008.

Lower American River: A broad representation of water suppliers, environmental groups, local governments and others negotiated an historic agreement that led to a flow management standard that was successfully incorporated into a 2009 biological opinion issued by the National Marine Fisheries Service.

Feather River: Six years of negotiations among water users, fisheries agencies and environmental groups yielded a comprehensive agreement that includes a habitat improvement program with specific flow and temperature requirements to accommodate spawning salmon and steelhead. The State Water Board adopted the agreement, with some modification, in 2010 as a water quality certification under the federal Clean Water Act.

CHOOSING OUR VISION FOR CALIFORNIA'S WATER FUTURE

Since 2009, state law has required water resources to be managed in a way that achieves the coequal goals of improving water supply reliability for California and protecting, restoring and enhancing the Delta ecosystem. ACWA and its public water agency members believe that policy requires a commitment from state agencies and stakeholders to advance both water supply and environmental goals together. ACWA and its members further believe that effective implementation of the coequal goals requires transparent, collaborative processes and comprehensive solutions.

In 2014, the Brown Administration released its California Water Action Plan outlining priority actions addressing water-use efficiency, groundwater sustainability, ecological restoration, Delta conveyance solutions, water storage, safe drinking water and more. Embedded in the plan is the Brown Administration's commitment that planned actions "will move California toward more sustainable water management *by providing a more reliable water supply for our farms and communities*, restoring important wildlife habitat and species, and helping the state's water systems and environment become more resilient."

ACWA believes the policy of coequal goals and the commitment embedded in the California Water Action Plan have the potential to put California on a path that includes a vibrant agricultural and urban economy and a healthy ecosystem.

ACWA and its members believe the unimpaired flow approach proposed by State Water Board staff undercuts and threatens that potential and cannot lead us to the future we want for California. Simply put, any strategy that would result in vast amounts of agricultural land going out of production and ultimately reduce water supply reliability for the majority of Californians is irreconcilable with a policy of coequal goals and blatantly inconsistent with the water policy objectives of the Brown Administration.

ACWA strongly supports the collaborative approach called for by Governor Jerry Brown to move these important decisions out of adversarial processes and into negotiated, comprehensive agreements. The following principles can assure success in that endeavor.

A BETTER PATH TO THE FUTURE

The State Water Board is responsible for updating the Bay-Delta Plan in a manner that establishes water quality objectives that ensure the reasonable protection of all beneficial uses of water (including domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources) while considering past, present and probable future beneficial uses, environmental characteristics, water quality conditions and economic considerations, among other things. (See California Water Code Section 13241.) It also has a responsibility to update the plan in a way that is consistent with the coequal goals and respects and implements the commitments made in the California Water Action Plan.

ACWA and its members urge the State Water Board to set aside the unimpaired flow approach and heed Governor Brown's call for negotiated agreements. ACWA believes that a successful flows policy must be consistent with the following principles:

- **Collaboration:** The governor has called for work on a comprehensive agreement on environmental flows in both the San Joaquin and Sacramento River basins. He has asked that State Water Board members and staff prioritize analysis and implementation of voluntary agreements. Further, the Brown Administration committed in the California Water Action Plan that the State Water Board and the California Natural Resources Agency will work with stakeholders to encourage negotiated implementation of protective Delta standards. ACWA strongly supports the collaborative approach called for by the governor because it is the least contentious, most effective way to achieve the coequal goals. Negotiated agreements have been demonstrably successful at achieving outcomes and widespread support for appropriate environmental flows; forced regulations have not yielded the same track record. The State Water Board should wholly embrace this approach and allow enough time for it to work.

- **Comprehensive Solutions:** A successful collaborative approach will require comprehensive solutions for both water supply and ecosystem management. Water users will need to continue and build on their commitment to integrated resources management in order to maintain reliability without undue impacts on the ecosystem. Similarly, ecosystem managers will need to focus on the entire life cycle of affected species and multiple variables, such as predation, food, and habitat availability to develop integrated management portfolios that accomplish ecosystem goals without undue impacts on water supply. Utilizing the single variable proposed in the "percentage of unimpaired flow" approach will not achieve the desired ecological outcomes and is, by far, the most destructive policy approach from the perspective of protecting and improving water supply. ACWA firmly believes the ecological outcomes can be achieved with even better results through a comprehensive approach that considers multiple solutions and benefits.

- **Science:** The State Water Board needs to incorporate the best available science to inform its work and assist with the development of voluntary settlement agreements. The unimpaired flow approach, in which flow objectives are not tied to any specific ecological outcome, fails to incorporate the best available science. As noted above, the updated plan needs to focus on the entire life cycle of affected species and multiple variables, such as predation, food, and habitat availability, and incorporate relevant current scientific information. Science alone cannot identify the best policy choice, but it can inform us about the policy tradeoffs we confront and help structure integrated solutions that provide ecosystem benefits with far less impact on water supply, the California economy and the public interest.

FUNCTIONAL FLOWS: A BETTER APPROACH

Sacramento Valley: Sacramento Valley water users and conservation partners are working together to advance a new generation of innovative projects to promote salmon recovery.

Over the past two and a half years, 12 projects have been completed through the Sacramento Valley Salmon Recovery Program to address fish passage, improve the timing of flows and increase habitat for salmon and other species. Priority projects have included removal of structural barriers to fish passage, modifying riffles, eliminating predator habitat, restoring floodplains and creating side channel spawning and rearing areas.

In addition, program partners are exploring creative ways to reconnect water with the land in floodplains and agricultural areas to enhance habitat and food production and create rearing habitat in rice fields.

While each of these collaborative projects provides independent value, implementation of the entire comprehensive suite is generating unique benefits that can significantly improve ecological outcomes for salmon in the Sacramento Valley.

Merced River: Merced Irrigation District has spent millions of dollars and decades undertaking intense and in-depth scientific research on the Merced River. This research has included analysis of flows, temperatures, biological resources and habitat. MID is poised to put this research into action through its Merced S.A.F.E. Plan (Salmon, Agriculture, Flows, and Environment) to provide certainty for both the environment and local water supply in Eastern Merced County.

The plan would provide increased flows using science to dictate the amounts and timing, restore critical sections of habitat for spawning and rearing juvenile salmon, protect local drinking water quality, upgrade an existing salmon hatchery with state-of-the-art facilities and reduce predation.

Based on in-depth science and technologically advanced computer modeling, MID seeks to take immediate action and dramatically benefit salmon on the Merced River.

- **Functional Flows:** Science shows that functional flows have very promising benefits for fish as well agricultural and urban water users. Timed and tailored for specific purposes, functional flows can benefit species in ways that unimpaired flow requirements cannot. Examples abound of collaborative, innovative projects currently underway by local water agencies and stakeholders that include functional flows and non-flow solutions that reconnect land and water to restore habitat and address the full life cycle of species needs. These efforts contribute real benefits to ecosystem recovery while maintaining water supply reliability.

- **Economic Considerations:** The State Water Board has a statutory obligation to consider economic impacts when establishing water quality objectives that reasonably protect all beneficial uses of water. Having a robust economic analysis is critical. The board also has a policy obligation under the coequal goals to ensure its actions related to a revised Bay-Delta Plan increase water supply reliability and thereby allow for a healthy, growing agricultural and urban economy in California.

- **Consistency with State Policy:** ACWA urges the State Water Board to heed the governor's direction and recognize that achieving the coequal goals will lead to a more reliable water supply and healthy ecosystem. Pursuing the coequal goals should be a guiding principle for the board's decisions related to adopting a revised Bay-Delta Plan. The State Water Board also should ensure that its decisions on the Bay-Delta Plan enable, rather than obstruct, the implementation of the California Water Action Plan.

- **Leadership:** The best policy choice will come through the give and take of the negotiating process and the enlightened leadership of the State Water Board members. Ultimately, the board must establish water quality objectives that ensure the reasonable protection of all beneficial uses of water as it implements negotiated solutions. The State Water Board should actively engage in this work and lead in a manner that is grounded in an awareness of how its actions can affect the implementation of the California Water Action Plan and the achievement of the coequal goals.

ACWA and its members have taken a strong policy position in support of comprehensive solutions such as those outlined in the California Water Action Plan. We stand ready to work with the Brown Administration to pursue the collaborative and comprehensive approaches needed to ensure a future for California that includes a vibrant agricultural and urban economy and a healthy ecosystem.

RESOLUTION 2017-02
A RESOLUTION OF THE BOARD OF DIRECTORS
OF THE COASTSIDE COUNTY WATER DISTRICT
IN SUPPORT OF THE ASSOCIATION OF CALIFORNIA WATER AGENCIES' POLICY STATEMENT ON BAY-DELTA FLOW REQUIREMENTS

WHEREAS, California is facing a defining moment in water policy that will be substantially impacted by the State Water Resources Control Board's approach to water quality objectives under the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta; and

WHEREAS, the State Water Board has the responsibility for updating the Bay-Delta Plan in a manner that establishes water quality objectives that ensure the reasonable protection of all beneficial uses of water in a way that is consistent with the coequals goals of improving water supply reliability and protecting, restoring and enhancing the Delta ecosystem and with respect to the commitments made in the California Water Action Plan; and

WHEREAS, the State Water Board staff's current proposal, which focuses singularly on an "unimpaired flow" approach, is irreconcilable with a policy of coequal goals of improving both water supply reliability and ecosystem health; it is also inconsistent with the broader water policy objectives of the Brown Administration; and

WHEREAS, the ACWA Board of Directors has unanimously adopted a strong policy statement calls for a better approach that can more effectively achieve ecological objectives while maintaining water supply reliability. The statement calls on the State Water Board to set aside its "unimpaired flow" approach and heed Gov. Jerry Brown's call for negotiated agreements, which have been successful on many rivers and tributaries in California.

WHEREAS, the ACWA statement notes that to be successful, the state's flow policy must be consistent with the principles of collaboration, comprehensive solutions, science, functional flows, economic considerations, consistency with state policy, and leadership; and

WHEREAS, California's local urban and agricultural water managers are united in their vision for a future that includes a vibrant California economy as well as healthy ecosystems and fish populations, and believe that vision is best achieved through a comprehensive, collaborative approaches;

NOW, THEREFORE, BE IT RESOLVED, that the Board of Directors of the Coastside County Water District herby supports ACWA's Policy Statement on Bay-Delta Flows and encourages the State Water Resources Control Board to embrace the approach articulated in ACWA's policy statement.

AYES: Directors Coverdell, Glassberg, and Mickelsen, Vice-President Feldman, and President Reynolds

NOES:

ABSENT:

ABSTAIN:

Glenn Reynolds, President
Board of Directors

David R. Dickson, General Manager
Secretary of the District

October 23, 2018

The Hon. Malia Cohen, President
and Members of the San Francisco Board of Supervisors
1 Dr. Carlton B. Goodlett Place
City Hall, Room 244
San Francisco, Ca. 94102-4689

Subject: Request to Delay Action on Resolution Urging Support of State Water Board Proposed Updates to the 2006 Bay-Delta Plan.

Dear President Cohen and members of the San Francisco Board of Supervisors,

Coastside County Water District (CCWD) urges the San Francisco Board of Supervisors to delay action on the proposed resolution that advocates support of the State Water Board's proposed updates to the 2006 Bay-Delta Plan to allow for the potential success of voluntary settlement negotiations.

CCWD is a wholesale customer that purchases over 60% of its potable water supply from the San Francisco Regional Water System and has done so for decades. Our district serves 17,000 residents and 1,400 non-residential accounts in the City of Half Moon Bay, and the unincorporated communities of Princeton by the Sea, Miramar, and El Granada.

With our residential water use already at a very low 53 gallons per capita per day, the water cutbacks that could result from the State Water Board's proposed plan would impose severe personal and economic hardship on CCWD customers. The San Francisco Public Utilities Commission has developed an alternative to the State Board's plan that addresses both the environment's need for water and our region's need for water supply reliability.

CCWD believes that negotiations are the only path to a durable solution that meets environmental needs while ensuring a reliable water supply for our communities. Governor Brown and State Board Chair Felicia Marcus have both expressed their support for continuing negotiations. CCWD requests that the San Francisco Board of Supervisors, in the interest of good public policy and the welfare of everyone the Regional Water System serves, give the negotiating process a chance to succeed by delaying passage of a resolution supporting the State Water Board's proposed plan.

Respectfully,

David R. Dickson
General Manager
Coastside County Water District

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BAWSCA
Bay Area Water Supply & Conservation Agency

June 2, 2020

The Hon. Gavin Newsom, Governor
State of California
1303 10th Street, Suite 1173
Sacramento, CA 95814

Dear Governor Newsom:

As Chief Executive Officer of BAWSCA, I am writing to support your leadership for voluntary agreements, which you described in CalMatters last February as the path forward for a comprehensive solution for the Sacramento-San Joaquin Bay Delta. One plan for the Tuolumne River presents this comprehensive solution, and has been proposed by the San Francisco Public Utilities Commission (SFPUC) and the Modesto and Turlock Irrigation Districts (Districts), the water-rights holders on the Tuolumne River.

This Tuolumne River Voluntary Agreement (TRVA) proposes that the SFPUC and the Districts will provide more water for fish and avoid a severe reduction in water for the 1.8 million residents, 40,000 businesses and hundreds of vibrant communities in Alameda, San Mateo and Santa Clara Counties—including most of Silicon Valley—that rely on the San Francisco Regional (Hetch Hetchy) Water System. BAWSCA represents these water users under California state law (AB 2058). These water users—not the State of California—will pay to implement this plan.

The plan adopted by the State Water Resources Control Board (SWRCB) for the Tuolumne River would require residential water users to reduce average-per-person water use to 41 gallons a day during a drought—from the present pre-drought level of 79 gallons per day—or, for some people, to 25 gallons per day or less. Such required reductions would result in unacceptable impacts to our communities.

The Silicon Valley Leadership Group, a diverse public policy organization of more than 350 companies that are "shaping the innovation economy of Silicon Valley and the world," is concerned about the magnitude of this potential water loss. Its members depend on a reliable water supply from the Tuolumne River. Without that supply for business operations and for affordable local housing, innovation economy companies might be forced to reduce operations and employment.

The TRVA would make it possible to provide employers and communities in Alameda, San Mateo and Santa Clara Counties with a reliable source of high-quality water at a fair price. BAWSCA also believes that the TRVA will be the best way to resolve the principal water-supply issues for Tuolumne River fish and the water users who depend on that water.

At this time, the SFPUC and Districts are committing the water resources and funding necessary to implement the TRVA as soon as possible to provide benefits to the fish and achieve the State Board objectives sooner. This would avoid the impacts to our residents and businesses from the mandated plan adopted by the State Board. The TRVA is ready for the next critical step to implementation, which is to be included in the SWRCB's environmental review.

This analysis will allow everyone to more fully understand how the TRVA meets the Bay Delta Plan objectives. This may be an opportunity to successfully advance these critical efforts on the Tuolumne River, and your leadership will be crucial to its success. We believe this is the time to get it done.

Respectfully

Nicole Sandkulla
CEO/General Manager

155 Bovet Road, Suite 650, • San Mateo, CA 94402 • *ph* 650 349 3000 • *fx* 650349 8395 • www.bawsca.org

cc: Mr. Jared Blumenfeld, California Secretary for Environmental Protection
Mr. Wade Crowfoot, California Secretary for Natural Resources
Mr. Mike Mielke, Sr. Vice President, Environment and Energy, Silicon Valley Leadership Group
BAWSCA Board of Directors
SFPUC Commissioners

BAWSCA
Bay Area Water Supply & Conservation Agency

July 13, 2020

Ms. Nai Hsueh, Chair
Board of Directors
Santa Clara Valley Water District
2020 Almaden Expressway
San Jose, CA 95118

Subject: Bay Delta Plan and Tuolumne River Voluntary Agreement

Dear Chair Hsueh:

As Chief Executive Officer of the Bay Area Water Supply and Conservation Agency, I am writing to you about the litigation item on your Board's Agenda for the July 14, 2020 meeting and referenced as *Santa Clara Valley Water District v. State Water Resources Control Board* (State Board), Sacramento Superior Court Case No. JCCP 5013. As you are aware, that lawsuit was one of more than a dozen other lawsuits that were coordinated under the *State Water Board Cases*, Sacramento Superior Court JCCP Case No. 5013. I want to make clear that BAWSCA is a party to that coordinated lawsuit and represents each of its member agencies, including eight of which are located in Santa Clara county.

At this moment, I also want to emphasize for you and your Board of Directors BAWSCA's unwavering support for a voluntary agreement (VA). A VA will modify the State Board's "Phase 1 Proposal", which it approved on December 12, 2018. More specifically, the Tuolumne River Voluntary Agreement (TRVA) will modify the part of that Proposal which relates to Tuolumne River water supplies. BAWSCA, of course, appreciates your agency's continuing support for the VA concept. Phase 1 referenced the future incorporation of VAs to serve as an alternative and settlement to an unimpaired flow requirement for the Tuolumne River water source for BAWSCA's agencies.

The TRVA would reduce the very serious impacts on BAWSCA's water users caused by the State Board's proposal that would otherwise threaten the present water supply for 1.8 million residents and over 40,000 businesses, including most of Silicon Valley, in Alameda, San Mateo, and Santa Clara counties, whose water interests BAWSCA represents under California law (AB 2058). A very large portion of the water supply for these water customers comes from the Tuolumne River and the TRVA is a science-based alternative that will meet the environmental objectives of the State Board's Phase 1 Bay-Delta Plan.

The TRVA has been developed by the water rights holders on the Tuolumne River, including the San Francisco Public Utilities Commission, and we believe that the TRVA is a strong and persuasive science-based alternative to the State Board's Plan. It will meet the environmental objectives of the State Board's Plan without seriously reducing water supply for current users. The TRVA, when approved, will serve as a basis for a settlement that can meet the State Board's

objectives to protect the fish in the river and the surrounding environment. It will also protect the residents, businesses, and communities that depend on this water source.

Governor Newsom, in a recent article in the publication CALMATTERS, expressed strong support for VAs as a valuable way to solve water supply issues in California and directed his staff to move the VA discussions forward, including those conversations for the Tuolumne River. Also, the State Board's immediate past Chair, Felicia Marcus, encouraged the parties involved to come together with a voluntary approach to successfully resolve this vitally important water-supply issue. Discussions about a voluntary approach began in the Spring of 2019 and are continuing. The TRVA is the logical, helpful, and responsible way to solve this issue.

BAWSCA appreciates Valley Water's support for a VA for the Tuolumne River water-supply issue. This will benefit Valley Water's customers as well as BAWSCA's constituents in the three counties and its 26 member agencies, including of course, its eight member agencies which are located in Valley Water's service area. We hope that Valley Water will stay the course to support this vitally important legal and strategic effort.

Respectfully,

Nicole Sandkulla, CEO

Bay-Delta Plan Update

- BAWSCA continues its direct efforts in support of having the Tuolumne River Voluntary Agreement analyzed by the State Board as an alternative to adopted Bay-Delta Plan
  - Engaging local elected officials and other allies
  - Outreach to the Governor to urge his continued leadership role
- SFPUC continues to host public workshops to discuss the Bay Delta Plan and related topics
  - Workshop #1 held on Nov. 30th focused on Bay Delta Plan
  - Workshop #2 held on Feb. 5th focused on TRVA and scientific basis
  - Workshop #3 scheduled for March 26th with agenda still under development

FERC Update

- BAWSCA filed a petition to the SWRCB for reconsideration of its Water Quality Certification for the Don Pedro FERC relicensing
  - SFPUC also submitted a petition
- BAWSCA petition's key comments:
  - Certification fails to consider and balance all demands being made on the water and the economic and other impacts to the BAWSCA service area
  - Inclusion of the Bay-Delta's flow requirements results in severe water supply impacts to the Bay Area
  - BAWSCA reiterates its support for the State Board's full review and analysis of the TRVA
- Districts have requested a rehearing of FERC's denial of Water Quality Certification waiver
- BAWSCA remains engaged with SFPUC and the Districts as FERC matters continue to progress in 2021

Bay Delta Water Quality Control Plan Phase 1 (Plan) and Voluntary Agreement (VA) Timeline

2009	Current Bay Delta Water Quality Control Plan Phase 1 (Plan) Update Begins
2013	Release & Review of Draft Phase 1 Plan and CEQA Document • BAWSCA comment letter identifies water supply impacts to BAWSCA agencies • SFPUC comment letter identifies significant impact & inadequate CEQA compliance
2016	Revised Draft Phase 1 Plan & CEQA Released (Sept.) • Governor Brown urges State Board to be open to VA to resolve Bay Delta issues • Governor Brown appoints Secretary Babbitt to lead VA negotiations
2017	Review & Comment on Revised Draft Phase 1 Plan • State convenes monthly VA "Babbitt" negotiations; BAWSCA not allowed to participate • BAWSCA engaged directly with Secretary Babbitt and others on behalf of agencies • BAWSCA comment letter identifies significant impacts to BAWSCA agencies • All BAWSCA agencies submit comment letters detailing specific water supply impacts • SFPUC comment letter identifies significant impacts & inadequate CEQA compliance
2018	Final Phase 1 Plan Adopted (Dec.)
2019	Lawsuits Filed on Adopted Phase 1 Plan • Governor Newsom reinitiates VA discussions • SF joins lawsuit against State Board on adoption of Phase 1 Plan (Jan.) • BAWSCA intervenes in lawsuit against State Board (March) • State Agencies (CNRA/CEPA) provide a VA progress report to State Board (July)
2020	State Agencies (CNRA/CEPA) announce a Framework for VAs (Feb.)

BAWSCA Actively Engaged in Securing Water Supply Reliability Given Identified Bay Delta Plan Impacts

BAWSCA Actions

- Regular reports to BAWSCA Board and member agencies
- Public comment to State Board and others
- Formal comments during environmental review processes
- Intervened in Bay Delta ligation
- Intervened in Don Pedro FERC proceeding

BAWSCA Advocacy Efforts with SFPUC

- Regularly reminding SFPUC of its contractual & legal water supply obligations to member agencies
- BAWSCA successfully urged SFPUC to initiate a new Alternative Water Supply Planning Program to develop new sources of water to meet its obligations
- BAWSCA supported $288 M allocation in SFPUC's 10-year CIP for Alternative Water Supply Planning Program and regular reporting

BAWSCA Advocacy Efforts with Others

- Engagement with State and local elected officials
- Engagement with State officials and staff
- Engagement with water customers (residents, businesses, others)

BAWSCA
Bay Area Water Supply & Conservation Agency

BAWSCA Continues its Efforts to Support Member Agencies 2020 UWMP Efforts

- "Urban Water Suppliers" must submit an Urban Water Management Plan (UMWP) to State every 5 years
  - Documents projected water demand and reliability through 2045
- Must include an evaluation of agency's ability to meet customers water supply needs over a 5-year drought cycle
- Adopted Bay Delta Plan significantly impacts SF Regional Water System supply reliability during multiple year droughts
  - 50% rationing during multiple year droughts
- Agencies must now reflect these impacts in their UWMPs
- Agencies have expressed they are challenged to develop a plan that effectively responds to these significant shortages

SFPUC Has "Shifted" Its Approach to Drought Shortage Estimation for Use in UWMPs

- To date, SFPUC long-term planning has assumed delivery of 265 mgd on Regional Water System
  - 81 mgd for SF Retail and 184 mgd for BAWSCA member agencies
  - Consistent with long-term planning horizon through 2045 and S184 mgd Supply Assurance
- Today, the SFPUC notified the member agencies that it will be "shifting" its approach
  - Instead of 265 mgd, projected Regional Water System purchases for both SF Retail and member agencies will be used over the planning horizon
  - Projected purchases grow over time but remain less than 265 mgd total
- This "shifted approach" presents a logistics challenge for agencies given July 1, 2021 deadline
- BAWSCA working closely with member agencies to address as many issues as possible

SFPUC Workshops

Bay-Delta Plan

NOVEMBER 30, 2020
Meeting transcript

Overview of the SFPUC's Tuolumne River Water Rights and its Legal Obligations Under the Raker Act
Video

Legal Framework and Scientific Basis for the Water Quality Control Plan for the SF Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta Plan) as amended December 2018
Video

- Presenters
  - Doug Obegi – Director – Natural Resources Defense Council
  - Jon Rosenfield – Senior Scientist – San Francisco Baykeeper
  - Jeanette Howard – Director of Science – The Nature Conservancy
  - Barry Nelson – Policy Advisor – Golden State Salmon Association
- SFPUC Staff Comments: Michael Carlin, Steve Ritchie, Ellen Levin, Matt Moses, William Sears

Tuolumne River Voluntary Agreement

FEBRUARY 5, 2021
Meeting transcript

SFPUC Presentation on the Scientific Basis for the Proposed Tuolumne River Voluntary Agreement
Video

1. Introduction (Steve Ritchie, SFPUC Assistant General Manager, Water)
2. Regulatory Context for In-stream Flows and Habitat Restoration on the Lower Tuolumne River (Ellen Levin, SFPUC Deputy Manager, Water Enterprise)
3. Lower Tuolumne River Environmental Setting (Tim Ramirez, SFPUC Natural Resources and Lands Management Division Manager)
4. Hydrology of the Lower Tuolumne River (Matt Moses, SFPUC Water Resources Engineer)
5. Scientific Basis for Development of the Tuolumne River Voluntary Agreement (Bill Sears, SFPUC Science and Policy Analyst)
6. Commissioner Questions for SFPUC Staff and the Following Panelists:
   a. Ronald M. Yoshiyama, Consulting Fisheries and Marine Biologist, Independent Consultant
   b. Noah Hume, Aquatic Ecologist and Senior Scientist, Stillwater Sciences
   c. John Devine, Independent Consultant to Modesto and Turlock Irrigations Districts/HDR's Project Lead for the FERC relicensing process (2010 to 2019)
   d. Andrea Fuller, Senior Biologist, FishBio

Response by Non-Governmental Organizations to the SFPUC's Scientific Basis for the Proposed Tuolumne River Voluntary Agreement

Video

- Doug Obegi, Natural Resources Defense Council
- Jon Rosenfield, San Francisco Baykeeper
- Jeanette Howard, The Nature Conservancy
- Barry Nelson, Golden State Salmon Association

SFPUC Water Supply and Demand

MARCH 26, 2021
Meeting Transcript

Presentation on SFPUC Water Supply and Demand Under Different Regulatory Scenarios
Video

1. SFPUC Staff Presentation:
    a. Michael Carlin, Steve Ritchie, Ellen Levin, Matt Moses, Paula Kehoe, Manisha Kothari, Sarah Triolo

2. Non-Governmental Organizations Presentation
    a. Heather Cooley – Director of Research – Pacific Institute
    b. Chris Shutes – FERC Projects Director and Water Rights Advocate – California Sportfishing Protection Alliance
    c. Peter Drekmeier – Policy Director – Tuolumne River Trust

Statement from Nicole Sandkulla, Chief Executive Officer, about the Need for State Analysis of a Tuolumne River Voluntary Agreement (TRVA) as an Alternative to the Bay-Delta Plan to Protect the Water Needs of 1.8 Million Residents, 40,000 Businesses, and Hundreds of Communities in Alameda, San Mateo and Santa Clara Counties and for the Fish, Which also Depend on the River

March 9, 2021

In December 2018, the State Water Resources Control Board (State Board) adopted the Bay-Delta Plan (Plan) that includes more water to be retained in the Tuolumne River to protect fish and the environment.

The current Plan, however, would result in a very serious loss of up to 90 million gallons of water every day from the San Francisco Regional (Hetch Hetchy) Water System (System) that the water users BAWSCA represents under California law (AB 2058) rely on. They will suffer water reductions up to 50% during a drought like the recent 2014-2017 drought. Such water losses would result in unacceptable impacts on job growth, a slowdown in the economy, and health, safety and economic risks for people, businesses and our communities.

BAWSCA agrees that this problem must be addressed, but the present Plan seriously threatens the traditional water supply from the Tuolumne River for people, businesses and cities in the three counties, and they must be protected as well. That is why the Plan is unacceptable and requires a realistic alternative.

Fortunately, there is one--a thoughtful, science-based alternative--the Tuolumne River Voluntary Agreement (TRVA), developed by the Modesto and Turlock Irrigation Districts and the San Francisco Public Utilities Commission (the Agencies) that will avoid such a catastrophe.

The State Board has encouraged all parties, including the Agencies and other water providers, to work with the water-related California governmental departments to do necessary design and planning and introduce this reasonable alternative as part of a Bay-Delta watershed-wide, so-called “global voluntary-agreement package” for approval and implementation.

Recognizing that independent, voluntary-agreement discussions were happening, the State Board directed its staff to work with the involved entities to bring a voluntary agreement to the State Board for analysis and consideration.

This also is the time for the parties who depend on the Tuolumne River to support the Governor’s voluntary-agreement alternative, as BAWSCA and many other parties do. Settlement discussions for the issues related to the Plan have continued since 2018. Costly and contentious lawsuits have been filed to reverse the State Board’s order adopting the Plan. And the SFPUC has been discussing solutions with various interested parties for about a year and half but without any meaningful progress.

Taxpayer money is not required to finance the alternative. Water users will pay the costs in their water bills.

BAWSCA is increasing its efforts to protect the water users it represents in line with its legislative mandate.

Therefore, we ask the Governor to extend his leadership now to support a technical and environmental evaluation of the TRVA by the State Board as a desirable alternative to the adopted Bay Delta Plan. If improvements to the TRVA are needed, they should be proposed and analyzed by the State Board. It is a sensible way forward for fish, people and the California economy.

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BAWSCA
Bay Area Water Supply & Conservation Agency

May 5, 2021

Mr. Steve Ritchie
Assistant General Manager, Water
San Francisco Public Utilities Commission
525 Golden Gate Avenue
San Francisco, CA 94102

Subject: **San Francisco's 2020 Urban Water Management Plan – BAWSCA Comments**

Dear Mr. Ritchie,

The Bay Area Water Supply and Conservation Agency (BAWSCA) appreciates the opportunity to provide public comment on the San Francisco Public Utility Commission (SFPUC) Draft 2020 Urban Water Management Plan (UWMP). BAWSCA represents the interests of the 26 cities and water agencies in San Mateo, Santa Clara, and Alameda Counties that purchase approximately two thirds of their water from the San Francisco Regional Water System (RWS).

This letter presents BAWSCA's findings and recommendations based on our review. UWMPs provide a detailed look at current and future water use and an analysis of water supply reliability under certain drought conditions. BAWSCA's recommendations are intended to help the SFPUC present a more complete picture of system demand and supplies. We hope the Commission will consider them as part of its action.

Findings:

1. The SFPUC has already incorporated the majority of BAWSCA's requested edits as part of its UWMP development.
2. The projected Wholesale Customer purchases in the UWMP does not reflect the additional 6.5 mgd water supply requests of the City of San Jose and the City of Santa Clara.
3. The UWMP presents an estimate of the projected water supply yield for some, but not all, of the projects proposed as part of the SFPUC's Alternative Water Supply Planning Program.
4. The UWMP does not present a water supply reliability scenario that reflects implementation of the Tuolumne River Voluntary Agreement (TRVA) as an alternative to the Adopted Bay-Delta Plan.
5. Cutbacks to the Wholesale Customers in drought years under the Bay-Delta Plan scenario are significant and unsustainable. These system-wide shortages indicate that the SFPUC will not meet its established Level of Service Goals to limit rationing to no more than 20% system-wide during droughts should the Bay-Delta Plan be implemented as adopted.

Recommendations:

1. **The SFPUC should reflect the additional purchase requests of the City of San Jose and the City of Santa Clara in its regional water planning efforts and in this**

UWMP. The Cities of San Jose and Santa Clara wish to purchase 6.5 mgd, collectively, 4.5 mgd and 2 mgd, respectively, above their existing contract limit. The SFPUC is aware of these additional purchase requests and has incorporated them into its 2020 Water Supply and Demand Worksheet, which has been developed at the Commission's request. It is therefore appropriate for these additional requests to be included in this comprehensive planning document.

2. **The estimated yield for each individual alternative water supply project should be included in the project description presented in *Section 7.2 (WSIP Dry-Year Water Supply Projects), Section 8.4 (Alternative Water Supply Program),* and *Table 8-1 (WSIP Project Assumptions for RWS Supply Modeling)***. These yield estimates were presented by SFPUC staff to the Commission at its March 26, 2021 workshop on water supply planning. Considering the significant system-wide shortfalls under drought conditions outlined in Section 8, BAWSCA believes it is prudent to characterize each project's contribution to narrowing that gap.
3. **A discussion of the TRVA and the associated modeling results should be included in the UWMP.** This information was presented by SFPUC staff to the Commission at its March 26, 2021 workshop on water supply planning, but is not included in the draft UWMP. This information is important for the water customers' full understanding of the potential water supply reliability of the RWS following implementation of the TRVA and should be included in this comprehensive planning document.

The UWMP presents the important impacts to long-term water supply reliability for the RWS following the implementation of the adopted Phase 1 Bay-Delta Plan. Specifically, the UWMP identifies system-wide shortages as high as 49% in multiple dry years assuming the Bay-Delta Plan is implemented as adopted. This translates to shortages to the Wholesale Customers between 45% and 54% in the 3rd, 4th, and 5th consecutive years of a drought. Cutbacks at these levels would have devastating impacts on the regional economy and would challenge many of the Wholesale Customers' ability to provide water for basic health and safety needs for their existing and planned communities.

The SFPUC has adopted Level of Service Goals to limit rationing to no more than 20% system-wide during droughts. Additionally, the SFPUC has a perpetual obligation to supply the Wholesale Customers with the 184 mgd Supply Assurance. For these reasons, BAWSCA respectfully requests the SFPUC to fully commit to the voluntary agreement process and fund the Alternative Water Supply Planning Program at levels necessary to meet its Level of Service Goals and perpetual obligation to the Wholesale Customers.

Sincerely,

Nicole Sandkulla
CEO/General Manager

cc: Sarah Triolo, SFPUC
Alison Kastama, SFPUC
BAWSCA Board of Directors
BAWSCA Water Management Representatives
Allison Schutte, Hanson Bridgett

May 28, 2021

Nicole Sandkulla, Chief Executive Officer
Bay Area Water Supply Conservation Agency
155 Bovet Road, Suite 650
San Mateo, CA 94402
Email: nsandkulla@bawsca.org

Mr. Steve Ritchie
Assistant General Manager, Water
San Francisco Public Utilities Commission
525 Golden Gate Avenue
San Francisco, CA 94102
Email: sritchie@sfwater.org

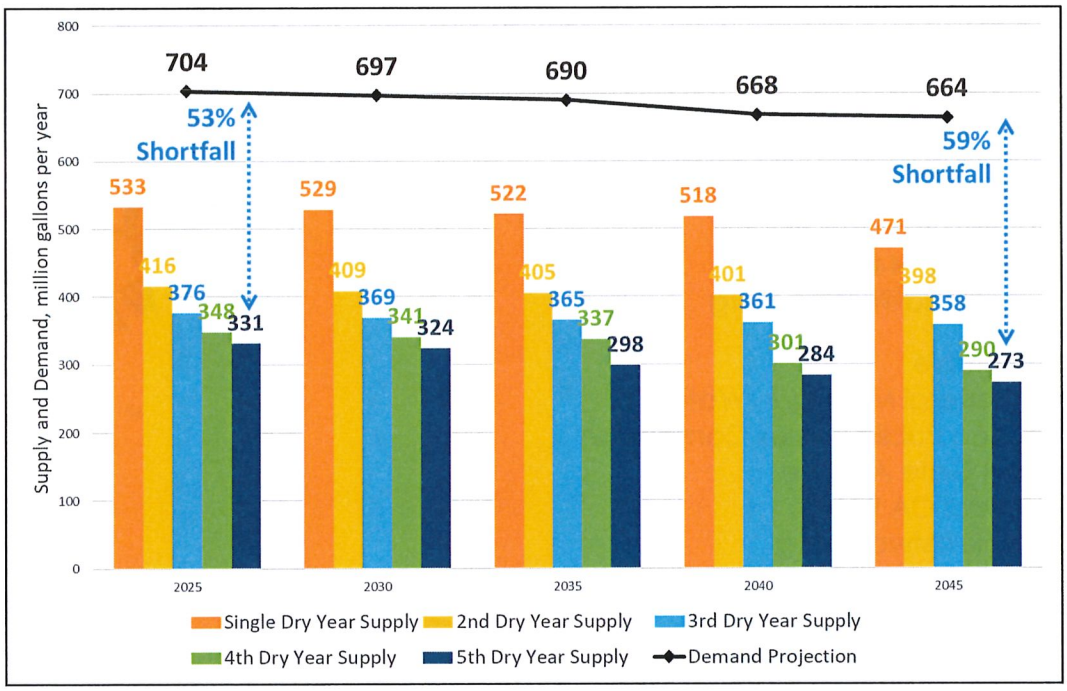
Re: Regional Water System (RWS) Supply Reliability and Drought Risk Assessment

Ms. Sandkulla and Mr. Ritchie:

Coastside County Water District (District) supports the ongoing efforts that the San Francisco Public Utilities Commission (SFPUC) and the Bay Area Water Supply and Conservation Agency (BAWSCA) have made to advocate on behalf of customers the RWS for an alternative voluntary Tuolumne River agreement.

The District anticipated that climate change and water conservation mandates would impact supplies and demand and has taken action to prepare for these impacts. These actions include investing in local surface water supplies and investing in water use efficiency. The District has met its final 2020 water use target under the Water Conservation Act of 2009 and has a low residential indoor per capita water use. District customers responded to voluntary and mandatory reductions in water use during the last drought cycle and many of those savings have become permanent savings. And with limits on growth from Local Coastal Plans and Coastal Development Permits, the District's water demand is projected to remain under our Individual Supply Guarantee (ISG) of 2.175 MGD.

The design drought supply scenarios, as modeled by SFPUC, result in rationing that would be devastating for the District's service area. The District does not have local storage for surface water and we rely on the RWS during drought years when our local surface water sources are impacted by the lack of precipitation and other constraints. The District is facing water shortages, under the design drought scenarios, of up to 59 percent. The following chart summarizes the shortfall scenarios for the District.



Confronted with these water shortage scenarios, the District has serious reservations regarding the cities of San Jose and Santa Clara becoming permanent customers of the RWS or providing them additional water supplies in normal water years.

The District urges SFPUC and BAWSCA to aggressively invest in alternative water supplies to be able to meet the level of service (LOS) objective of not more than a 20 percent system-wide shortage in any year of a drought scenario. With a small service area, the District faces challenges financing local alternative water supply projects, but when considered as part of a broader RWS supply portfolio, the benefits could offset the costs. Please consider additional water supply partnerships with smaller wholesale customers.

Since wholesale customers must now plan for RWS shortages greater than 20 percent and possibly as high as 50 percent, BAWSCA must open discussions with member agencies to negotiate an equitable approach to water allocations during RWS water shortages of up to 50 percent. An equitable approach would consider an agency's health and safety needs and an agency's ISG, among other considerations.

Thank you for your consideration and please contact me with any questions.

Best Regards,
Mary Rogren, General Manager

cc President Glenn Reynolds, Vice-President Robert Feldman, Director Ken Coverdell, Director Chris Mickelsen, Director John Muller

Bay Area Water Supply & Conservation Agency

June 4, 2021

Mary Rogren
General Manager
Coastside County Water District
766 Main Street
Half Moon Bay, CA 94019

Subject: Letter to BAWSCA Dated May 28, 2021 Regarding 2020 Urban Water Management Plan Matters

Dear Mary,

BAWSCA received Coastside County Water District's (CCWD) letter dated May 28, 2021 within which CCWD conveyed its concern about the impacts of the drought supply scenarios provided by the San Francisco Public Utilities Commission (SFPUC) for the 2020 Urban Water Management Plans (UWMP) and urged the SFPUC and BAWSCA to aggressively invest in alternative water supplies to limit rationing to no more than 20 percent system-wide in dry years.

Impacts of the Bay-Delta Plan on Supply Reliability

BAWSCA recognizes the severe and adverse effect that implementation of the Bay-Delta Plan, as adopted in 2018, would have on BAWSCA member agencies. In a letter dated March 16, 2017, BAWSCA provided comments to the State Water Resources Control Board (State Board) on their 2016 Draft Revised Substitute Environmental Document (Draft SED) In Support of Potential Changes to the Water Quality Control Plan for the San Francisco Bay-Sacramento San Joaquin Delta Estuary: San Joaquin River Flows and Southern Delta Water Quality. In that letter, BAWSCA included the following statement related to the impacts of a 40% unimpaired flow requirement on BAWSCA member agencies:

> *"… using system-wide annual deliveries of 223 mgd, which is equivalent to Fiscal Year 2012-2013 RWS demand, if a 40 percent unimpaired flow objective were implemented on the Tuolumne River, the RWS deliveries to the Wholesale Customers would be cutback by 43 percent during the first 3 years of the drought, followed by 52 percent reductions in deliveries for the next 3 years…"*

In 2016 through to the present, BAWSCA has provided statements, both in writing and through oral comments, to the State Board, at WMR meetings, at SFPUC meetings, and to a number of other entities such as the Bay Area Council and San Mateo County's Harbor Industrial Association, discussing the severe impacts that the Bay-Delta Plan and its associated 40% unimpaired flow requirement would have on member agency water supply reliability. BAWSCA continues to voice strong concerns about the impact of the Bay-Delta Plan on water supply reliability for its member agencies and their water customers, press for the Tuolumne River Voluntary Agreement (TRVA) to be analyzed as an alternative to the adopted Plan, and urge the SFPUC to implement an Alternative Water Supply Planning effort to ensure it can meet its contractual and legal obligations to the member agencies.

SFPUC's Level of Service (LOS) Goals and Alternative Water Supply Planning Program

CCWD's letter referenced the fact that the SFPUC is contractually required under the WSA to meet Level of Service (LOS) Goals and Objectives. Those LOS goals require that the SFPUC have sufficient supplies available in times of a drought such that no greater than 20% system-wide cutbacks are required. BAWSCA successfully pressed the SFPUC to implement and properly fund an Alternative Water Supply Program, which began in early 2020. The SFPUC reports out on the status of projects identified in the Alternative Water Supply Planning Program on a quarterly basis. BAWSCA continues to closely track the progress of these projects and will urge the SFPUC to implement them in a timely manner.

BAWSCA Has Included an Update of the Tier 2 Plan in its FY 2021-22 Budget

BAWSCA intends to initiate an update to the Tier 2 Plan in FY 2021-22. That update will be a significant work effort. It is important that the updated Tier 2 Plan address system-wide shortages of between 10% and 20%. BAWSCA anticipates it will take at least a year or more to arrive at a new Tier 2 Plan that is acceptable to all member agencies. As part of that process, it may be possible to arrive at an updated Tier 2 Plan that would function for cutbacks greater than 20%. That can be determined as BAWSCA initiates the update, yet it is not certain at this time.

CCWD's Water Conservation Programs

Finally, BAWSCA recognizes that CCWD has made considerable investments in its water conservation programs to improve water use efficiency. Every drop of water saved improves supply reliability and benefits all users of the RWS. BAWSCA continues to encourage all member agencies to make water conservation a way of life and appreciates CCWD's ongoing commitment to those efforts.

BAWSCA is aware that the preparation of 2020 UWMPs has presented significant challenges to BAWSCA's member agencies. It is BAWSCA's hope that BAWSCA's efforts to support the member agencies on their 2020 UWMP preparation efforts have proven to be of assistance. Please feel free to reach out to BAWSCA if CCWD would like to further discuss these matters.

Regards,

Nicole Sandkulla
Chief Executive Officer and General Manager

cc: Glenn Reynolds, CCWD Board President
Robert Feldman, CCWD Board Vice-President
Ken Coverdell, CCWD Board of Directors
Chris Mickelsen, CCWD and BAWSCA Board of Directors
John Muller, CCWD Board of Directors
Steve Ritchie, SFPUC Assistant General Manager

Appendix J

Water Shortage Contingency Plan

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WATER SHORTAGE CONTINGENCY PLAN

Coastside County Water District

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Water Shortage Contingency Plan

Coastside County Water District

766 Main Street
Half Moon Bay, CA 94019
(650) 726-4405 | www.coastsidewater.org

2020 Update

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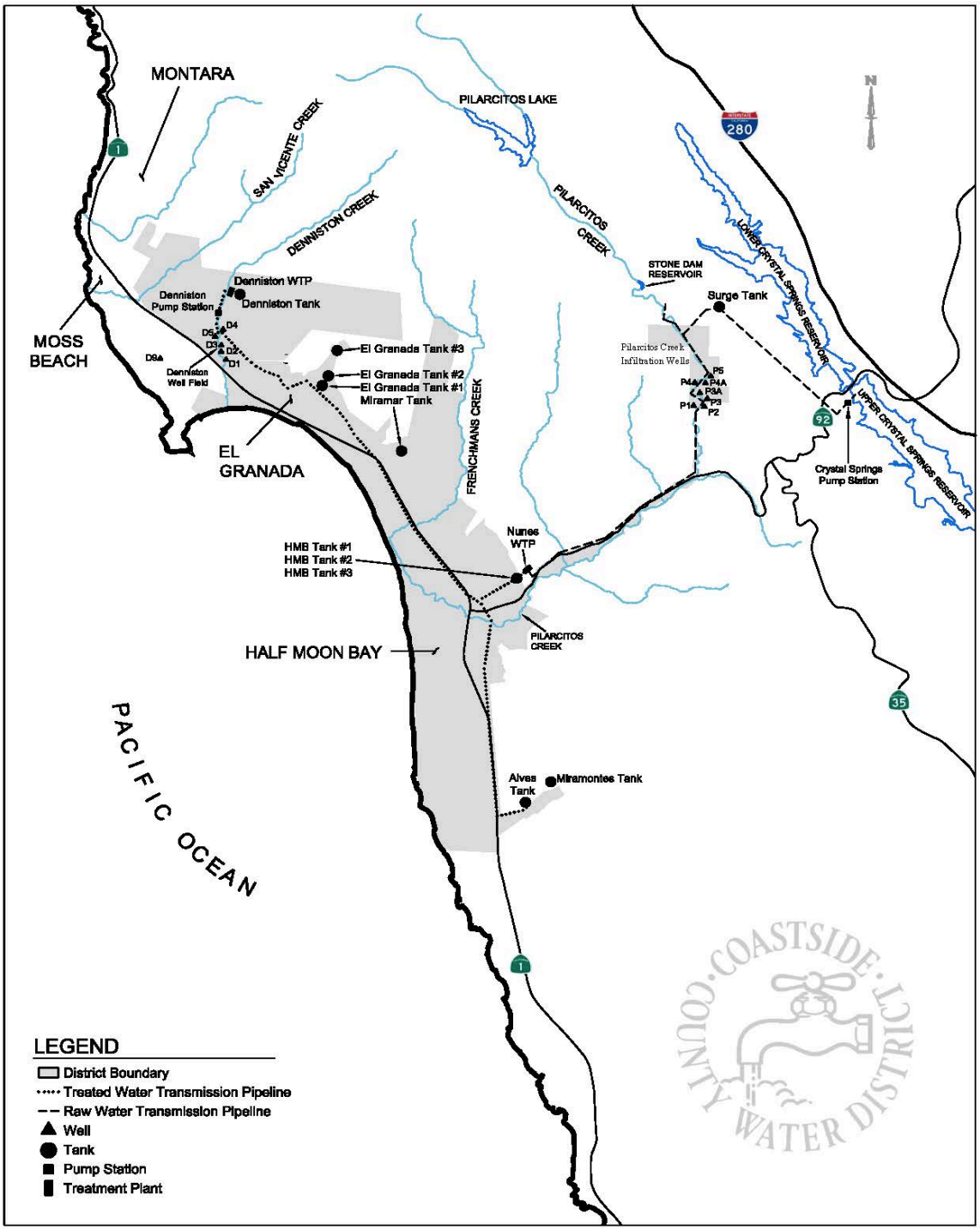
Acronyms, Abbreviations and Definitions

Ac-ft	Acre feet
Ac-ft/year	Acre feet per year
AMI	Advanced Automated Metering Infrastructure
AWSD	Annual Water Supply and Demand Assessment
BAWSCA	Bay Area Water Supply and Conservation Agency
cf	Cubic foot
cfs	Cubic foot per second
CII	Commercial Industrial and Institutional
CWC	California Water Code
Decorative Water Feature	Above ground or below grade outdoor structure that contains water and is used for decoration or noise abatement.
District	Coastside County Water District
DRA	Drought Risk Assessment
DWR	California Department of Water Resources
Eto	Reference Evapotranspiration
HMP	Hazard Mitigation Plan
g/cycle	Gallons per cycle
GPCD	Gallons per capita per day
gpf	Gallons per flush
gpm	Gallons per minute
ISG	Individual Supply Guarantee
MFR	Multi-Family Residence
MG	Million gallons
MGD	Million gallons per day
MGY	Million gallons per year
MOU	Memorandum of understanding
MWSD	Montara Water and Sanitary District
NOAA	National Oceanic and Atmospheric Administration
NCDC	National Climatic Data Center
PGA	Peak Ground Acceleration
Plan	Water Shortage Contingency Plan
Pool	Any structure intended for swimming, exercise, or recreational bathing that contains water over 18 inches deep. Includes in ground and above grade structures and includes but it not limited to hot tubs, spas, and nonportable wading pools.
Recreational Water Feature	Pool
RWS	San Francisco Regional Water System
SFPUC	San Francisco Public Utilities Commission
SFR	Single Family Residence
TAF	Thousand Acre-Feet
UWMP	Urban Water Management Plan
WF	Water factor (the number of gallons needed for each cubic foot of laundry)
WSCP	Water Shortage Contingency Plan

Figure 1 – Service Area



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Section 1 | Introduction

This plan provides guidelines for Coastside County Water District to manage water supply and demand in the event of a water supply disruption. This plan addresses both progressive conditions and immediate situations including facility emergencies and natural disasters.

Requirement
The Urban Water Management Planning Act (CWC Section 10632) requires water agencies to provide water shortage contingency planning and analysis and to include that analysis in their Urban Water Management Plan. The Water Shortage Contingency Plan is a stand-alone document but must be directly coordinated with the Urban Water Management Plan. The two plans must be compatible.

Objective
The objective of the Plan is to establish actions and procedures for managing water supply and demand during water shortages. The overall intent of this plan is to develop strategies to minimize non-essential uses of water and to conserve remaining supplies for the greatest public benefit, with regards to domestic use, sanitation, and fire protection. Implementation of the Plan will help the District maintain essential public health and minimize adverse impacts on economic activity and environmental resources during periods of water shortage.

Service Area
Coastside County Water District is a coastal community in San Mateo County. The District has over seven thousand water service connections that provide potable water to roughly nineteen thousand people in the City of Half Moon Bay and the unincorporated communities of El Granada, Miramar, and Princeton by the Sea. The local area supports approximately five thousand jobs. Figure 1 is a map of the service area and critical infrastructure.

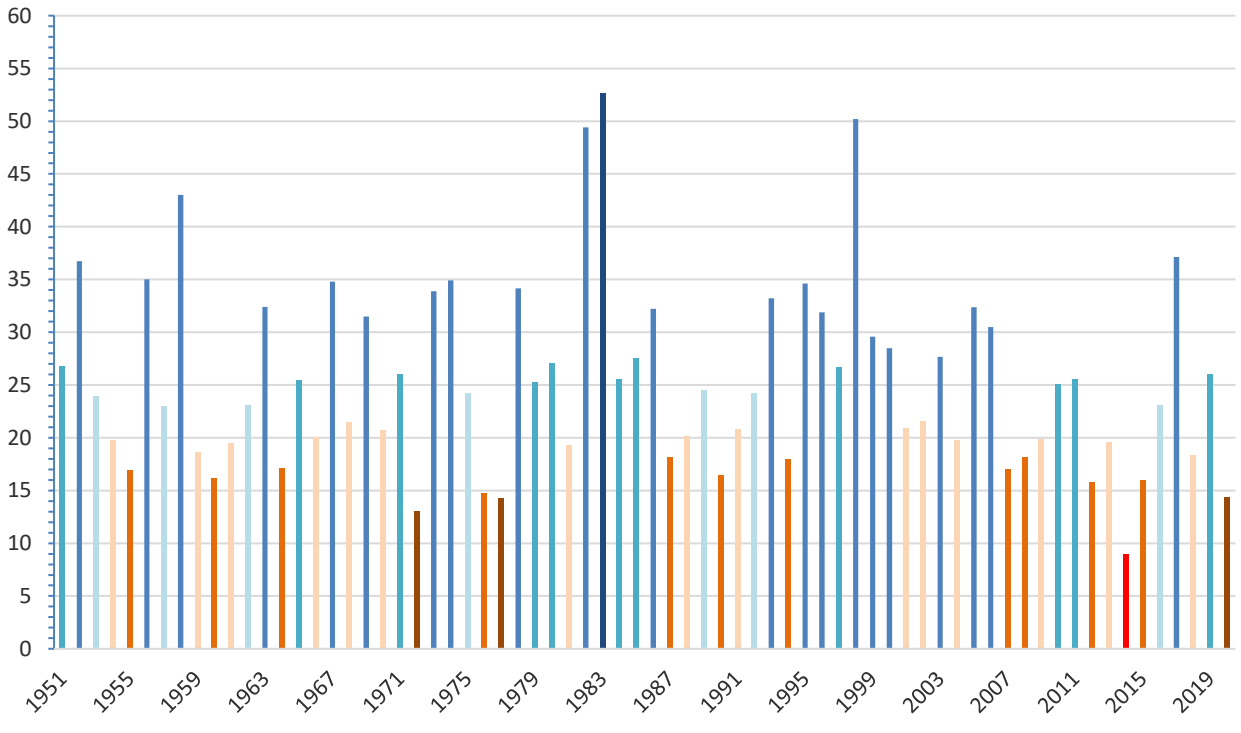
Climate
The service area of the District has a mild climate typical of coastal central and northern California. The rainy season is October through April with an annual average water year precipitation of 26 inches. The Pacific Ocean influences the climate along the coast with wind typical during the day and fog typical in the morning and evenings. The average temperature is 55 degrees Fahrenheit and the average minimum temperature is 47 degrees Fahrenheit. The annual average reference evapotranspiration (ETo) for the area is almost 33 inches.

The upper Pilarcitos Creek watershed, which supplies water for the SFPUC's Pilarcitos Reservoir and the District's Pilarcitos Creek infiltration wells, has an average water year precipitation of 39 inches. The upper Denniston Creek watershed has a similar precipitation to the upper Pilarcitos Creek watershed at its origins in the Santa Cruz Mountain Range. The District relies on imported water from the Hetch-Hetchy watershed in the Sierra Nevada Mountain Range. The Hetch-Hetchy watershed has an average water year precipitation of approximately 35 inches. Two minor watersheds that supply runoff, to what the SFPUC considers to be San Francisco Bay Area reservoirs, are the Crystal Springs Reservoir with an average water year precipitation of approximately 27 inches and the Calaveras Reservoir with an average water year precipitation of approximately 21 inches.

Climate change is predicted to result in high variability year to year. The predicted increase in temperatures will result in longer and more severe droughts, which could impact local water and imported water supplies.

The chart below displays precipitation by water year. The precipitation records are from the NOAA NCDC Station 43714 in Half Moon Bay. The chart displays the variability from one water year to the next and displays periods of multiple drought water years. With a high of 52.6 inches (Exceptionally Wet) of precipitation in 1983 to a low of 8.9 inches (Exceptionally Dry) in 2014. The mean is 26 inches and the median is 21 inches.

Figure 2- Precipitation (inches) for Half Moon Bay - Water Years 1951 to 2020



Exceptionally Wet	Moderately Dry
Extremely Wet	Severely Dry
Wet	Extremely Dry
Neutral/Average	Exceptionally Dry
Mean	26 inches
Median	21 inches

Water Shortage [CWC Section 10632(a)(7)(B) and CWC Section 10632(a (7)(C)]
The District will declare a water shortage emergency when there is not adequate water to meet the normal demand of its service area. A declaration of a drought emergency by the state, city, or county would also trigger the District to declare a water shortage emergency. The District will coordinate with the city and county during water shortage emergencies.

A water shortage occurs when a geographic area experiences water demand that cannot be met by current water supply. This can be caused by drought, natural disaster, sabotage, or water system failure.

A drought is a meteorological occurrence, which describes less precipitation than average for a specific geographic area. It is possible for a geographic area to be in a drought but not have a water shortage. If a geographic area has extensive water storage compared to their demand, they may have enough water storage to make up for the deficit in precipitation for a defined period. It is also possible for a geographic area to have normal precipitation but find itself in a water shortage because demand is greater than the normal amount of precipitation and storage can meet.

Catastrophic water system failures from a natural disaster, sabotage, or infrastructure failure may result in the inability for the water system to meet demand. Water system failures may also result in the inability of the water system to meet demand with water that meets regulatory water quality standards.

Historic Water Shortage Records

The District has experienced water shortages in the past due to drought conditions. District customers have been very responsive to water rationing programs that have been implemented during critically dry periods in the past. Mandatory water rationing was in effect for all of 1977, 1978, 1988, 1990, 1991, and 1992 as well as four months in 1989 and 1993. Mandatory water restrictions were adopted in August of 2014 and were repealed in February of 2017.

The residential sector has been particularly responsive to drought measures imposed by the District. In 1977, residential consumption dropped by 33 percent, the first year in which water rationing was instituted. Subsequent dry years, in which rationing was instituted, also saw significant reductions in residential water use: 1989, 24 percent; 1990, 40 percent; 1991, 32 percent; and 22 percent in 1993. In 2015, District customers reduced their consumption by 19 percent when compared to sales in 2013.

There were three consecutive dry water years (2007-2008-2009) with 2007 being critically dry. Voluntary 10 percent rationing was implemented and the District experienced a 17 percent reduction in total sales between 2007 and 2009. A significant difference between the water shortages in the 1970's and 1990's, compared to the most recent water shortages, is that the District did not have Upper Crystal Springs Reservoir as a source of water during the 1970's and 1990's water shortages. Upper Crystal Springs Reservoir became available to the District in 1994. During recent water shortages, the District relied upon the available water storage in Upper Crystal Springs Reservoir.

There were five consecutive drought years between 2012 and2017. The State Water Resources Control Board adopted mandatory water conservation goals in 2015 along with specific end user requirements and outdoor restrictions. Coastside County Water District's goal was an 8 percent reduction in water production from June 2015 through October of 2016 compared to the same months of 2013. The District exceeded the 8 percent conservation goal by achieving a 19 percent decrease in water sales from the base year of 2013.

After multiple consecutive dry years, it may be necessary to maintain voluntary or mandatory rationing within the District's service area for an additional year once precipitation has returned to normal or above normal. It may take a couple of consecutive normal water years to allow surface water storage and ground water storage to recover.

During past water shortage emergency periods, residential accounts were allocated an average number of billing units per cycle per person. According to the District's Ordinance No. 26 (1990), permanent residents were allocated 7 units per billing cycle (approximately 87 gallons per day per person). In Ordinance No. 28 (1991), the District allocated 8 units per billing cycle per person (100 gallons per day per person). The most recent drought that started in 2012 focused on outdoor water use restrictions and prohibitions to meet water savings goals.

The SFPUC provided the District with historic rationing tables by fiscal year going back to fiscal year ending in 1921. It compares past rationing episodes with and without the Bay-Delta Plan requirement of 40 percent unimpaired flows. San Francisco used a model (Hetch Hetchy/Local Simulation Model) to predict and compare water shortage conditions under the Bay-Delta Plan. The model predicts that under the Bay-Delta Plan the water shortages that wholesale customers will experience will be more severe earlier on in a multi-year drought. Included in appendix I are rationing conditions at 198.6 MGD with 2020 Infrastructure and included in appendix J are rationing conditions at 213.2 MGD with 2025 infrastructure.

Table 1 lists the historic water shortage episodes or periods in the District's recent past and the resulting rationing status.

Table 1- Water Shortage Episodes in Half Moon Bay

Table 1 – Water Shortage Episodes

Water Year	Calendar Year Gross Production (MGY)	Rationing Status	Inches of Local Precipitation Water Year	Percent of Mean Precipitation
1976	475	Voluntary	14.72	55
1977	356	Mandatory	14.61	55
1978	450	Mandatory	34.15	128
1987	733	No Rationing	18.16	68
1988	632	Voluntary	20.17	76
1989	637	Mandatory	24.51	92
1990	593	Voluntary	16.45	62
1991	479	Mandatory	20.76	78
1992	548	Mandatory	24.19	91
1993	644	Mandatory	33.22	125
2007	932	Voluntary	18.78	71
2008	848	Voluntary	20.41	77
2009	761	Voluntary	20.48	77
2012	698	No Rationing	15.82	61
2013	759	Voluntary	19.56	74
2014	690	Mandatory	8.99	36
2015	618	Mandatory	16.00	61
2016	622	Mandatory	23.08	88

Rainfall Data NOAA NCDC Station 43714 – Half Moon Bay

Section 2 | Water Shortage Impacts

Public Health
The District must balance the basic needs for health and safety for the residential population against the needs of the commercial, institutional, and agricultural customers. Water is required for non-residential customers to sustain employment, the economic stability of the community, and the services used by the residential community.

Risks to public health from a water shortage include impacts on water supply and raw water quality. As reservoir levels drop, water temperatures rise, and the concentration of contaminants increase. The result is an increased risk of algal blooms, along with a negative impact on odor and taste. Impacts on food production can range from a collapse in fisheries to a decline in irrigated agriculture and grazing land.

Recreation
Most of the recreation in the District's service area is focused on the coastline. Day use of beaches and parks could be impacted if there is not enough water for restrooms. Hiking in the local hillsides may be restricted if fire danger becomes a threat from human activity. If local golf courses are not able to irrigate their greens, it could result in a diminished golfing experience and fewer visitors coming to the area to play golf.

Wildfire
Wildlands in California can be strongly affected by drought. Moisture content decreases and plant materials become fuels that increase fire risk and can intensify wildfire behavior.
A significant portion of the District's raw water transmission infrastructure is surrounded by open space wildlands that are vulnerable to fire during an extended drought. The northern section of the District's service area is heavily wooded with eucalyptus trees, which are known for their fuel potential. The local climate is influenced by cool temperatures and fog most of the year, so the risk of a wildfire is low during normal water years, but during an extended drought or multiple drought cycles, the risk of wildfires is a recognized threat.

During a catastrophic wildfire, in a normal or drought period, the District's infrastructure would not be able to provide enough water to suppress a wildfire in the rural or open space areas. At best, during a catastrophic wildfire, the District's infrastructure may be able to prevent structures from being destroyed and provide protection for some of the urban boundaries. Wildfire or the threat of a wildfire may also result in the loss of power in the service area.

Infrastructure [CWC Section 10632(a)(2)(A)]
If local sources were impacted by a drought or a natural disaster, the District would rely more on Upper Crystal Springs Reservoir, as a source of water. Raw water from Upper Crystal Springs Reservoir must be pumped over the Cahill Ridge to the Nunes Water Treatment Plant, which requires electricity.

During a power outage or facility failure at the Crystal Springs Pump Station, the District would rely on the Denniston Project, Pilarcitos Reservoir and Pilarcitos Creek infiltration wells (Pilarcitos Creek infiltration wells can only be operated November through March). If the water level in Pilarcitos Reservoir is below the outlet, with permission from the SFPUC,

the District could set up a temporary pumping system to draw water out of Pilarcitos Reservoir to supply the District. The Nunes Water Treatment Plant and Denniston Water Treatment plant both have generators that can operate the plant during a power failure and the District has a portable generator on a trailer that can be deployed where it is needed.

During episodes of water shortages, annual flushing of the distribution system will need to cease. This could impact water quality in the long term, with complaints of colored water during planned and unplanned distribution system work.

The District office and corporation yard have sufficient water and emergency rations to support a full crew for three days. An emergency generator is always maintained in operable condition at the District office and corporation yard.

Livestock
The City of Half Moon Bay and surrounding unincorporated areas have an agricultural base with many property owners who maintain livestock. In addition, there are recreational and commercial based operations that have stables. The District must consider the needs of livestock when implementing any mandatory rationing.

Water Features [CWC Section 10632(b)]
Water features that use potable water either as part of or as their entire water source shall be regulated during a water shortage emergency. A decorative water feature is defined as any aboveground or below-grade outdoor structure that contains water and is used for decoration or noise abatement. A recreational water feature is defined as any above ground or below-grade structure that contains water and is used for recreation or exercise (i.e., pool or spa).

Surrounding Rural Areas
The most recent drought has shown that multiple years of drought have an impact on local surface and groundwater sources in the rural areas contingent to the District's service area. Since the District is not able to provide water to these rural areas, the District will refer these property owners to the Office of Emergency Services of San Mateo County.

Section 3 | Water Supply Reliability Analysis [CWC Section 10632(a)(1) and CWC Section 10632(a)(4)(C)]

Description of Water Sources and Availability

The District currently has three water supply sources, which consist of imported water, local surface water and local groundwater. Production from a specific water supply source can vary year to year, due to a variety of reasons. But during drought conditions, the District will rely more on imported water from the SFPUC sources.

A summary of each water supply source is provided below in Table 2.

Table 2- Water Sources and Percent of Total Supply

Water Sources				
Local Sources			Imported-Purchased Sources	
Denniston Creek Project		Pilarcitos Creek	SFPUC	
Surface Water Denniston Creek	Groundwater Wells	Surface Water Infiltration Wells	Pilarcitos Reservoir	Upper Crystal Springs Reservoir
19%	2%	6%	36%	37%
Updated 2020 (26 year average)				

San Francisco Public Utilities Commission (SFPUC)

The District purchases approximately 73 percent of its total water supply from the SFPUC. On average, 36 percent of the District's annual water supply comes from Pilarcitos Reservoir and 37 percent comes from Upper Crystal Springs Reservoir. Purchases from the SFPUC are limited to the District's ISG of 2.175 MGD, based on current agreements with the SFPUC.

Pilarcitos Reservoir is a local reservoir owned and operated by the SFPUC. It is in the coastal foothills (Santa Cruz Mountain Range) north of the City of Half Moon Bay. It is dependent upon local precipitation and runoff. Releases from the reservoir flow into Pilarcitos Creek. The District's turn-out from Pilarcitos Reservoir is downstream of the reservoir.

Upper Crystal Springs Reservoir is a local reservoir owned and operated by the SFPUC. It is in the coastal foothills (Santa Cruz Mountain Range) east of the City of Half Moon Bay. This reservoir is dependent upon imported water from the RWS and is supplemented by local runoff and precipitation.

Pilarcitos Creek Infiltration Wells

The District produces 6 percent of its water supply from an infiltration well field located in Pilarcitos Creek Canyon. The District can pump from November 1st through March 31st of each year, as described in the license for diversion from the State Water Resources Control Board. The license also limits diversions to 1.5 cfs or 360 ac-ft/year. During drought conditions, supply from this source is extremely low since the wells are dependent upon Pilarcitos Creek (sub-surface) flow. Pilarcitos Creek flows are influenced by local runoff and by the SFPUC's operation of Pilarcitos Reservoir.

Denniston Creek Project

The Denniston Project refers to two water supply sources; groundwater and Denniston Creek. Groundwater comes from the Airport Subbasin of the Half Moon Bay Terrace Basin. On average, the District obtains 19 percent of its total water supply from Denniston surface water and 2 percent of its supply from groundwater. During drought years the production from Denniston Creek is extremely low because of the small watershed area and because the water is shared with an agricultural user with senior water rights. Groundwater is only used to supplement surface water diversions.

Facilities Description

The District has two conventional surface water treatment plants with a combined treatment capacity of 5.5 MGD. The Nunes Water Treatment Plant, located within unincorporated San Mateo County just east of the City of Half Moon Bay, treats raw water from Upper Crystal Springs Reservoir, Pilarcitos Reservoir and Pilarcitos Creek. The Denniston Water Treatment Plant, located in unincorporated San Mateo County in Moss Beach, treats raw water from Denniston Creek and groundwater. The District has ten treated water storage tanks for a total of 8 MG of treated water storage.

Section 4 | Annual Water Supply and Demand Assessment [CWC Section 10632(a)(2) and CWC Section(a)(2)(B)]

The AWSD Assessment is first required by July 1, 2022 and every year thereafter. It requires an assessment of current conditions with the assumption that the next year is dry.

Decision Making Process

The SFPUC will notify the District and other wholesale customers by April 15th of the water supply conditions for the Regional Water System. If there is a water shortage, the magnitude of the water shortage will be determined by June 1st and the District's allocation from the SFPUC will become effective July 1st. Since the District is dependent on imported water, the SFPUC's determination on the water supply status will be critical to completing the annual water supply and demand assessment.

The District monitors local precipitation and groundwater elevations to assist in determining the adequacy of local surface and groundwater sources. During periods of less than normal precipitation, the District will determine how productive local sources will be for the upcoming fiscal year.

The District will take the SFPUC reduction and the District's projected reduction in local sources to determine the total reduction in production and the corresponding needed reduction in demand to be implemented on July 1st of every year.

A determination of a water shortage or drought emergency can be made by the governor and action can be taken by the State Water Resources Control Board to mandate water conservation. The District would implement the stage of action that met the conservation requirements mandated by the state.

Description of Water Demand

On average, 58 percent of the District's water sales are to the residential sector. The second major water use sector is commercial and Institutional, with an average of 16 percent of annual water sales. Agriculture is the third major water use sector with an average of 12 percent of annual water sales.

Table 3 describes current demand in 2020 in MGY and percentage of total.

Table 3- Demand by Sales Class Type

	Current Year 2020 (MGY)	
	Demand	Percentage
Single Family	331	53
Multi-Family	32	5
Agriculture	72	12
Raw Water	57	9
Irrigation	36	6
Commercial and Institutional	97	16
Total	626	100

Section 5 | Impacts on Revenues and Expenditures [CWC Section 10632(a)(8), CWC Section 10632 (a)(8)(B), and CWC Section 106329(a)(8)(C)]

Successful water rationing programs result in reduced water sales and reduced revenues. This is the cost of compliance. However, the District's expenditures do not decline in proportion to reduced sales because a large part of the District's expenditures are related to fixed capital costs, maintenance, and operations. In addition, it is likely that the District will pay more for imported water because the SFPUC will raise their wholesale rates to cover their reduced water sales and their increased administrative costs.

A reduction in water purchases from wholesale customers of the SFPUC - both voluntary and mandatory – would require the SFPUC to raise rates or use existing fund balance reserves to cover its expenses. The rate setting process for wholesale customers is governed by the terms of the Water Service Agreement, which provides that, in the event of a water shortage emergency, the Commission may adjust wholesale rates in an expedited way. Beyond drought rate setting and emergency rate setting, rates are set annually in coordination with the SFPUC annual budget process and are based on the forecasted wholesale share of regional water system expenditures and total purchases. If wholesale customer usage is expected to decrease, this would be incorporated into the wholesale rate forecast and rates may increase.

During periods of rationing, the District's administrative costs and staffing costs will increase due to enforcement of new rules and complex billing structures. Consequently, retail water rates will increase during years of water shortages when rationing programs are implemented. The District has an emergency reserve that it can use to cover increased costs until it can implement and realize the benefit of adjusted water rationing rates, surcharges, and penalties.

The District will need to follow Proposition 218 requirements for the drought rates, which will cause a slight delay in the actual implementation of the drought rates. Also causing a delay in drought rates will be waiting for decisions from the SFPUC on their rates and actions during water shortages.

Section 6 | Agreements

San Francisco Regional Water System (RWS)
The District purchases water from the SFPUC along with 26 other public and private water retailers. There are drought implementation plan agreements between the SFPUC and the SFPUC's wholesale customers, known as Tier One, and among the wholesale customers, known as Tier Two. Tier One is part of the 2009 Water Supply Agreement (WSA). These agreements allocate available water from the RWS during regional water system wide shortages of 20 percent or less.

Tier One Drought Allocations
In July 2009, San Francisco and its Wholesale Customers in Alameda County, Santa Clara County, and San Mateo County (Wholesale Customers) adopted the Water Supply Agreement (WSA), which includes a Water Shortage Allocation Plan (WSAP) that describes the method for allocating water from the Regional Water System (RWS) between Retail and Wholesale Customers during system-wide shortages of 20 percent or less. The WSAP, also known as the Tier One Plan, was amended in the 2018 Amended and Restated WSA.

The SFPUC allocates water under the Tier One Plan when it determines that the projected available water supply is up to 20 percent less than projected system-wide water purchases. The following table shows the SFPUC (i.e., Retail Customers) share and the Wholesale Customers' share of the annual water supply available during shortages depending on the level of system-wide reduction in water use that is required. The Wholesale Customers' share will be apportioned among the individual Wholesale Customers based on a separate methodology adopted by the Wholesale Customers, known as the Tier Two Plan, discussed further below.

The table below breaks down the Tier One Plan allocation between SFPUC wholesale customers and SFPUC Retail Customers

Table 4- Share of Available Water

Level of System-Wide Reduction in Water Use Required	Share of Available Water (Allocations)	
	SFPUC Share	Wholesale Customers Share
5% or less	35.5%	64.5%
6% through 10%	36.0%	64.0%
11% through 15%	37.0%	63.0%
16% through 20%	37.5%	62.5%

The Tier One Plan allows for voluntary transfers of shortage allocations between the SFPUC and any Wholesale Customer as well as between Wholesale Customers themselves. In addition, water "banked" by a Wholesale Customer, through reductions in usage greater than required, may also be transferred.

As amended in 2018, the Tier One Plan requires Retail Customers to conserve a minimum of 5 percent during droughts. If Retail Customer demands are lower than the Retail Customer allocation, then the excess percentage would be re-allocated to the Wholesale Customers' share. The additional water conserved by Retail Customers up to the minimum 5 percent level is deemed to remain in storage for allocation in future successive dry years.

The Tier One Plan will expire at the end of the term of the WSA in 2034, unless mutually extended by San Francisco and the Wholesale Customers.

The Tier One Plan applies only when the SFPUC determines that a system-wide water shortage exists and issues a declaration of a water shortage emergency under California Water Code Section 350. Separate from a declaration of a water shortage emergency, the SFPUC may opt to request voluntary cutbacks from its Retail and Wholesale Customers to achieve necessary water use reductions during drought periods.

Tier Two Drought Allocations

The Wholesale Customers have negotiated and adopted the Tier Two Plan, referenced above, which allocates the collective Wholesale Customer share from the Tier One Plan among each of the 26 Wholesale Customers. These Tier Two allocations are based on a formula that accounts for multiple factors for each Wholesale Customer including:

- Individual Supply Guarantee;
- Seasonal use of all available water supplies; and
- Residential per capita use.

The water made available to the Wholesale Customers collectively will be allocated among them in proportion to each Wholesale Customer's Allocation Basis, expressed in millions of gallons per day (MGD), which in turn is the weighted average of two components. The first component is the Wholesale Customer's Individual Supply Guarantee, as stated in the WSA, and is fixed. The second component, the Base/Seasonal Component, is variable and is calculated using the monthly water use for three consecutive years prior to the onset of the drought for each of the Wholesale Customers for all available water supplies. The second component is accorded twice the weight of the first, fixed component in calculating the Allocation Basis. Minor adjustments to the Allocation Basis are then made to ensure a minimum cutback level, a maximum cutback level, and a sufficient supply for certain Wholesale Customers.

The Allocation Basis is used in a fraction, as numerator, over the sum of all Wholesale Customers' Allocation Bases to determine each wholesale customer's Allocation Factor. The final shortage allocation for each Wholesale Customer is determined by multiplying the

amount of water available to the Wholesale Customers' collectively under the Tier One Plan, by the Wholesale Customer's Allocation Factor.

The Tier Two Plan requires that the Allocation Factors be calculated by BAWSCA each year in preparation for a potential water shortage emergency. As the Wholesale Customers change their water use characteristics (e.g., increases or decreases in SFPUC purchases and use of other water sources, changes in monthly water use patterns, or changes in residential per capita water use), the Allocation Factor for each Wholesale Customer will also change. However, for long-term planning purposes, each Wholesale Customer shall use as its Allocation Factor, the value identified in the Tier Two Plan when adopted.

The Tier Two Plan, which initially expired in 2018, has been extended by the BAWSCA Board of Directors every year since for one additional calendar year. In November 2020, the BAWSCA Board voted to extend the Tier Two Plan through the end of 2021.

Montara Water and Sanitary District

The District and MWSD entered into an agreement, as of October 18, 2010, for the mutual benefit of both districts, to provide a temporary, interruptible supply of water for use during a water shortage emergency.

For the purposes of this agreement, emergency water supply is defined as a temporary and interruptible supply of water to help alleviate a water shortage emergency. The water shortage emergency is when ordinary demands and requirements of the District's water users cannot be satisfied without depleting its water supply to the extent that there would be insufficient water for human consumption, sanitation, and fire protection. The water shortage emergency must be due to a lack of water supply caused by circumstances outside the District's reasonable control or damage to the water system facilities, as a result of a "Force Majeure". For the purposes of this agreement, Force Majeure means; fire, flood, earthquake, natural calamity or acts of God, and governmental action or inaction.

The implementation of this agreement is still under review by both agencies, but the District would likely only receive an emergency water supply from the MWSD during a critical water shortage emergency, as defined in this Plan.

Section 7 | Approach to Demand Reduction [CWC Section 10632(a)(3)(A)]

This plan provides six stages of response based on increasing severity. This type of response would be appropriate to a drought or other water shortages.

Shortage Response Actions and Communication Protocol [CWC Section 10632(a)(4)(B), CWC Section 10632 (a)(4)(D), CWC Section 10632(a)(5)(A), CWC Section (a)(5)(B), and CWC Section (a)(5)(C)]

The six stages are listed in Table 5 (DWR Submittal Table 8-1 Water Shortage Contingency Plan Levels) and include up to 10 percent shortage through over 50 percent shortage.

Table 5- Water Shortage Contingency Plan Levels (Stages)

DWR Submittal Table 8-1 Water Shortage Contingency Plan Levels		
Shortage Level	**Percent Shortage Range**	**Shortage Response Actions**
1	Up to 10%	Water Shortage Advisory
2	Up to 20%	Water Shortage Emergency Warning
3	Up to 30%	Water Shortage Emergency
4	Up to 40%	Water Shortage Severe Emergency
5	Up to 50%	Water Shortage Extreme Emergency
6	>50%	Water Shortage Catastrophic (Extraordinary) Emergency
NOTES:		

The District has monthly billing for all customers. Monthly billing gives the customer faster feedback on meeting reduction goals and gives the District time to notify and work with customers having difficulty meeting reduction goals.

These stages would be declared by the Board of Directors, as recommended by staff. Each water shortage episode is unique and will require individual water use restrictions to fit those unique circumstances. The following is a brief written description of a general escalation of actions that would be considered for possible adoption by the District at the different stages of water shortage.

Table 6 (DWR Submittal Table 8-2 Demand Reduction Actions) summarizes very briefly a description of demand reduction actions at each level (stage) of water shortage.

Table 6 - Demand Reduction Actions [CWC Section(a)(4)]

DWR Submittal Table 8-2: Demand Reduction Actions				
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? *Include units used (volume type or percentage)*	Additional Explanation or Reference *(optional)*	Penalty, Charge, or Other Enforcement? ***For Retail Suppliers Only*** *Drop Down List*
Add additional rows as needed				
1	Expand Public Information Campaign	Up to 10 percent	Voluntary	No
2	Landscape - Restrict or prohibit runoff from landscape irrigation	Up to 20 percent	Mandatory	Yes
3	Moratorium or Net Zero Demand Increase on New Connections	Up to 30 percent	Mandatory	Yes
4	Implement or Modify Drought Rate Structure or Surcharge	Up to 40 percent	Mandatory	Yes
5	Increase Water Waste Patrols	Up to 50 percent	Mandatory	Yes
6	Reduce System Water Loss	Greater than 50 percent	Mandatory	Yes
NOTES: Please refer to the Water Shortage Contingency Plan for a complete description of the demand reduction actions at each level of shortage.				

Stage 1: Water Shortage Advisory

The public is informed as early as meaningful data are available that a possible shortage may occur. The District's water waste ordinance would be enforced to the maximum extent possible. The District would request **voluntary** water conservation to encourage behavior changes and a reduction in irrigation. District staff would assess local sources and begin to prepare for implementation of mandatory rationing. This stage relies heavily on voluntary cooperation and support of customers to meet consumption reduction goals.

The District originally adopted an ordinance (No. 1997-01) in 1997 that establishes rules and regulations prohibiting wasteful water use during normal water supply conditions and providing enforcement. This ordinance was updated in 2008 (2008-01) to conform to the California Urban Water Conservation Council's memorandum of understanding (MOU) for best management practices. This ordinance can be used during stage 1 and can be found in appendix M.

During times of mandatory rationing, this ordinance will not apply. The District will need to implement, with the Board of Directors approval, additional and specific regulations to prevent water waste during periods of mandatory rationing. Examples of past drought ordinances and resolutions can be found in appendix B, C, D, E, F, and G.

At Stage 1, the District should consider the following actions:

- Implementation of a public information campaign
- Coordination with the Bay Area Water Supply and Conservation Agency
- Coordination with the San Francisco Public Utilities Commission
- Coordination and communication with all District staff and Board of Directors
- Implementation of a production and consumption monitoring and reporting plan
- Planning for the continuation and escalation of water shortage conditions
- Encouraging leak detection and repair for retail customers
- Educating the public on water waste prohibitions

Communication Protocol **Stage 1 – Water Shortage Advisory**
"Due to less than normal precipitation this water year (and previous year), we are asking customers to voluntarily conserve water with a goal of achieving a 10 percent reduction in water consumption. Conserving water now will help keep water storage in Pilarcitos Reservoir and Upper Crystal Springs Reservoir at adequate levels, if dry conditions should continue."

Stage 2: Water Shortage Emergency Warning
If water supply conditions worsen, this stage would begin to implement **mandatory** restrictions on water use. This stage would be a transitional stage to prepare customers and the District for a Water Shortage Emergency.

At Stage 2, the District should consider the following actions:

- Continuing with actions from Stage 1
- Escalating the public information campaign
- Implementing restrictions on decorative water features
- Encouraging the use of WaterSmart by customers to track water usage
- Performing outreach to major customers, regarding water supply status
- Designating days, times, and duration that irrigation is allowed when voluntary measures are not meeting goals
- Raw water customer is at zero allocation (there is no surplus water)

- Studying the impacts to revenue and developing a budget strategy for mitigating decreases in revenue
- Informing the City of Half Moon Bay and the County of San Mateo of water supply status
- Informing the Coastside Fire Protection District of water supply status and request cooperation in reducing training exercises that use water
- Prohibiting the cleaning of certain exterior surfaces with potable water
- Prohibiting the cleaning of driveways and sidewalks with potable water
- Suspend or significantly reduce routine flushing of water mains
- Emphasizing leak detection and repair for the District's transmission and distribution system
- Establishing and advertising a hotline to respond to questions and reports of water waste, if needed
- Prohibit water runoff from landscape irrigation
- Prohibiting the installation of new plants, trees, and turf
- Prohibiting the installation of new water features
- Prohibiting the installation of new swimming pools

Communication Protocol **Stage 2 – Water Shortage Emergency Warning**
"Water supply conditions have worsened and it is now necessary to impose mandatory restrictions on water use. The District encourages customers to conserve water and to help the District achieve a 20 percent reduction in water consumption. Conserving water now will help maintain an adequate water supply to meet the public health and safety needs of the community."

Stage 3: Water Shortage Emergency

This stage would escalate mandatory restrictions and prohibitions. The District would strongly consider transitioning into water allocations (water budgets) or modifying existing water allocations. Restrictions would emphasize prohibiting landscape irrigation for non-residential and residential customers. Implementation of penalties and surcharges would be considered for non-compliance with mandatory restrictions. The District would continue to study the impacts to revenue and expenditures and consider adopting a budget strategy.

At Stage 3, the District should consider the following actions:

- Continuing with actions taken in stages 1 and 2
- Implementing or modify residential and non-residential water allocations (water budgets)
- Raw water customer is at zero allocation (there is no surplus water)
- Temporary moratorium on all new connections
- Implementing drought rates, surcharges, and penalties
- Providing information on legal gray water use
- Contacting the Coastside Fire Protection District and consider eliminating fire training exercises that use water

- Evaluating water waste prohibitions and expanding them
- Consider enhancing the District's leak repair program and possibly contracting out some leak repair activities

Communication Protocol **Stage 3 – Water Shortage Emergency**
"There is a serious water shortage emergency and it is necessary to conserve the available water supply for public health and safety, while trying to minimize negative impacts to the local economy. The District needs the cooperation from all its customers to achieve a 30 percent reduction in water consumption. "

Stage 4: Severe Water Shortage Emergency
This stage would include mandatory restrictions and water allocations. At this stage all decorative landscape irrigation would be prohibited and residential allocations would be severely reduced from the previous stage.

At Stage 4, the District should consider the following actions:

- Continuing with actions taken in stages 1, 2 and 3
- Adjusting residential and commercial allocations for a more severe water shortage
- Modify or implement drought rate structure, surcharges and penalties
- Prohibiting all new decorative landscape installations
- Prohibiting irrigation except for the survival of approved trees and edible gardens
- Scheduling staff for enforcement and customer service on the weekends
- Prohibiting on-site fleet, dealership and residential vehicle washing
- Prohibiting the use of portable meters, except for public agencies and District contractors
- Deferring certain capital improvement projects that don't result in a potential water savings
- Turning off and locking dedicated irrigation accounts

Communication Protocol **Stage 4 – Severe Water Shortage Emergency**
"There is a severe water shortage emergency and it is necessary to conserve water to the maximum extent possible. The District needs the cooperation from all its customers to achieve a 40 percent reduction in water consumption."

Stage 5: Extreme Water Shortage Emergency
The need for demand reduction could include a combination of mandatory measures, penalties, and rate surcharges. Allocations would be implemented to meet the minimum health and safety standards. Only enough water for public health and safety needs.

At Stage 5, the District should consider the following actions:

- Continuing with actions from stages 1, 2, 3 and 4

- Adjusting allocations for a critical water shortage emergency
- Providing special notification to major users and visitor serving customers
- Closing public pools and public showers, including showers at private and public recreation facilities
- Increase water waste patrols and enforcement action

Communication Protocol **Stage 5 – Extreme Water Shortage Emergency**
"There is an extreme water shortage emergency and there is only enough water to meet the most basic needs of the community. The hardship to residential and commercial customers is extreme and the District appreciates the cooperation of its customers to meet a 50 percent reduction in water consumption."

Stage 6: Extraordinary or Catastrophic Water Shortage Emergency
This stage is the most extreme and can apply to the entire service area or to just a portion of the service area. The need for demand reduction could include a combination of mandatory measures, penalties, and rate surcharges. This could be used as the last stage of a progressive situation, such as a drought of increasing severity, or to address an immediate crisis, such as a facility failure, natural disaster, or power failure. It could also be the result of sabotage or contamination of one or more of our major water supply sources.

At Stage 6, the District should consider the following actions:

- Continuing actions from stages 1,2,3,4, and 5
- Purchasing bottled water to provide to customers for nominal charge or free of charge
- Requesting emergency water supplies from neighboring water agencies, including SFPUC
- Continue to evaluate and reduce distribution and transmission system water real losses

Communication Protocol **Stage 6 – Catastrophic Water Shortage Emergency**
"An extraordinary water shortage emergency exists and there is insufficient water to meet the most basic needs of the community. The hardship to residential and commercial customers is catastrophic. Only water for essential use is allowed. The District appreciates the cooperation of its customers to meet a greater than 50 percent reduction in water consumption."

The District does not have a supply augmentation method in place to activate during a water shortage when local and imported water supplies are impacted. Augmentation methods include rain seeding, transfers, other purchases, new recycled water, exchanges, and stored emergency supply. It also lists improved customer billing, modified drought rate structure and expanded public information campaign.

The District lists public information campaigns and drought rates as demand reduction tools, so it is not appropriate to list them also as supply augmentation. The District has already taken steps to improve customer billing, so it is not an available option.

Table 7 is a required DWR table that is included but has no information to report.

Table 7 - Supply Augmentation and Other Actions [CWC Section(a)(4)(A)]

DWR Submittal Table 8-3: Supply Augmentation and Other Actions			
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? *Include units used (volume type or percentage)*	Additional Explanation or Reference *(optional)*
Add additional rows as needed			
NOTES: The District does not have any supply augmentation methods.			

Reduction by Sales Category
In developing the allocations among the different sales categories and stages, the need for public health and a sustainable economy were considered. During a water shortage, the priority for public health, sanitation and safety are given priority over other water uses.

A population of 18,738 (2020 Population Estimate) for the service area was assumed in the calculations for the residential component.

Table 8 represents the residential allocation at the different stages as gallons per capita per day.

Table 8 - Residential GPCD at Each Stage of Shortage

Residential GPCD		
Stage	Percent of Average	GPCD
0	100	55
1	90	47
2	80	46
3	70	43
4	60	37
5	50	32
6	40	25

The most severe water shortage stage allocates approximately 25 gallons per day per person. This table shows the progression of reducing residential demand during the different water shortage stages and confirms that enough water has been allocated to meet the basic domestic sanitation needs of the residential population.

With high efficiency fixtures and significant hardship 25 gallons per day per person should provide enough water to meet the health and safety standards for residential customers. There will be some individuals with special medical needs that will need additional water allocated and any rationing scenarios implemented will need to account for customers with special needs.

Table 9 illustrates how a dwelling with high efficiency fixtures could meet the most severe water shortage allocation of 25 gallons per day per person.

Table 9 - Health and Safety Residential GPCD Example

Health and Safety for Residential (GPCD)

Fixture	Multiplier	Efficiency	Gallons
Toilet	4 Flushes	1.28 gpf	5
Shower	5 minutes	1.8 gpm	9
Clothes Washer	2 loads per week	4.5 WF	3
Kitchen Sink	3 minutes	1.8 gpm	5
Dishwasher	1 load per week	6.5 g/cycle	1
Bathroom Sink	1 minute	1.2 gpm	1
Total			25

For non-residential customers, a percent reduction from a chosen base year would be the method for reducing water demand. This method is commonly used as a method for non-residential customers because it is considered easy to understand and to administer. The negatives of this method are that it can be perceived as penalizing customers that are water efficient because they will be asked to reduce consumption from a base consumption that is already water efficient. The hardship for non-residential customers will be significant in stages 3, 4, 5 and 6.

To some extent, financial rationing will be in place for all customers because rates will be higher and special penalties and charges will be in place for customers that use more water than they are allocated. Financial rationing gives an added incentive to reduce water consumption.

Another rationing method that will be used for all customers are specific use restrictions which prohibit certain uses of water, such as surface washing, vehicle washing, new connections and irrigation restrictions. This method is used in instances where other rationing methods might not be effective or there is the need for an immediate reduction in water use. This method is time and staff intensive because it requires patrolling the service area to look for violations, tracking violations and following up on compliance.

California Water Code requires retail water suppliers to prioritize water use during a water shortage emergency. Current best practices shared by the Department of Water Resources and the American Water Works Association list the following examples:

1. Health – sanitation for indoor residential
2. Safety – fire suppression
3. Non-Residential – maintain economic base and protect local jobs.
4. Permanent Crops – takes five to ten years to replace – Orchards.
5. Annual Crops
6. Decorative and Recreational Landscaping – water for trees and shrubs; and
7. New Demand – two years of approved construction projects.

Table 10 is an example of a water supply allocation by sales class at the different stages of water shortage. The baseline (zero deficiency) is based on fiscal year 2020 demand by sales class. This table represents the analysis that must be done during every water shortage episode and at every water shortage stage because each water shortage episode has unique considerations based on the severity and cause of the water shortage. Each sales class or sector is listed with the percent of normal allocation and the allocation in million gallons. Based on the severity of the water deficiency and the resulting allocations, a plan can be developed to meet the necessary reductions. The actions and measures described for each stage are intended to meet the required reduction.

Table 10 - Example of Water Supply Allocations by Sales Class [CWC Section 10632(a)(4)(E)]

	Baseline		Stage 1		Stage 2		Stage 3		Stage 4		Stage 5		Stage 6	
	0% Deficiency		≤-10%		-20%		-30%		-40%		-50%		>-50%	
	Demand Allocation		Demand Allocation		Demand Allocation		Demand Allocation		Demand Allocation		Demand Allocation		Demand Allocation	
	% of Baseline	MG	% of Baseline	MG	% of Baseline	MG	% of Baseline	MG	% of Baseline	MG	% of Baseline	MG	% of Baseline	MG
Residential - SFR	100	331	87	288	86	285	82	270	70	232	60	199	48	159
Commercial	100	35	100	35	100	35	84	29	74	26	57	20	44	15
Restaurant	100	15	100	15	100	15	84	13	74	11	57	9	44	7
Hotels/Motels	100	23	100	23	100	23	84	20	74	17	57	13	44	10
Schools	100	6	100	6	100	6	84	5	74	4	57	3	44	3
Multiple Dwellings	100	32	88	28	87	28	82	26	70	22	60	19	48	15
Beaches and Parks	100	5	100	5	100	5	84	4	74	4	57	3	44	2
Agriculture	100	72	100	72	100	72	84	61	70	51	57	41	43	31
Recreation	100	3	100	3	100	3	84	2	74	2	57	1	44	1
Marine Related	100	6	100	6	100	6	84	5	74	5	57	4	44	3
Residential Irrigation	100	14	47	7	25	4	0	0	0	0	0	0	0	0
Dedicated Fire Services	100	0.1	100	0.1	100	0.1	100	0.1	100	0.1	100	0.1	100	0.1
Non-Residential Irrigation	100	22	49	11	40	9	0	0	0	0	0	0	0	0
Raw Water Customer	100	57	100	57	0	0	0	0	0	0	0	0	0	0
Hydrant Meter/Portable	100	2	100	2	50	1	50	1	25	1	0	0	0	0
Construction	100	2	100	2	50	1	0	0	0	0	0	0	0	0
Total Sales	**100**	**626**	**89%**	**560**	**79%**	**492**	**70%**	**436**	**60%**	**374**	**50%**	**312**	**39%**	**246**
Emergency Reserve (fire)		0		1		1		1		1		1		1
Non-Revenue Simplified		40		40		40		30		25		20		20
Annual Available Supply/Production (MGY)	100%	667	90%	600	80%	533	70%	467	60%	400	50%	333	40%	267
Annual Available Supply/Production (MGD)		1.83		1.64		1.46		1.28		1.10		0.91		0.73
Actual Demand Reduction	0%	0	11%	67	21%	134	30%	190	40%	252	50%	314	61%	380
R-GPCD		55		47		46		43		37		32		25

Section 8 | Customer Compliance and Enforcement [CWC Section 10632(a)(6)]

Enforcement Tools

As a water district, Coastside County Water District has limited authority to penalize customers for water waste and non-compliance with regulations. In 2019, a new authority allows for local agencies to impose civil liability for violations of certain new water conservation requirements. Since this is a relatively new enforcement tool, the District is still researching and developing a policy to implement it. Appendix A lists legal authorities related to water shortage contingency planning and implementation.

The District does not recommend the use of flow restrictors on the services of customers in violation of water conservation ordinances. Flow restrictors can interfere with the operations and accuracy of the water meter.

During prior severe water shortage periods, the District implemented excess use fees to residential customers who consumed more water than their allocation. These fees were determined based on an allocation formula that considered, among other things, the number of residents per residential housing unit.

The most used enforcement tool during normal water years and water shortage years is to turn off domestic and irrigation water services for a specified period until compliance is achieved by the customer in violation of water waste rules. This is a lengthy process and is difficult to do when the customer includes children, seniors, or individuals with special needs. During the last water shortage, when the District put in place a water conservation ordinance, the District used turn-offs as its enforcement tool in its water conservation ordinance.

If the District believes that water has been or is being used in violation of the District's water conservation restrictions, the District will send a written notice to the customer specifying the nature of the violation and the date and time of occurrence and request that the customer cease the violation and take corrective action. The District will provide the customer with a copy of the ordinance and inform the customer that failure to comply may result in termination of water service.

Appeal Process

The typical appeal process used in the District's water conservation ordinances includes providing a written appeal to the General Manger. The Ordinance shall include the steps necessary to submit an appeal. The decision of the General Manager shall be final. The General Manager will evaluate each written appeal based on the following criteria; public health, public safety, and regulatory requirements of a state or federal agency.

Section 9 | Seismic Risk Assessment [CWC Section 10632.5(a)]

The District references the San Mateo County Hazard Mitigation Plan published in July of 2016 for its seismic risk assessment. The plan can be found online at the County of San Mateo, County Manager's Office website (https://cmo.smcgov.org/multijurisdictional-local-hazard-mitigation-plan-resources).

The 2016 HMP primarily considered the risk of the San Mateo County region to earthquakes along the San Andreas, Hayward, and San Gregorio faults. While the San Andreas and Hayward faults are much more volatile, the San Gregorio fault runs directly underneath Pillar Point in the City of Half Moon Bay and would likely cause more damage to the District's service area and its facilities.

The 100-year and 500-year probabilistic peak ground accelerations (PGAs) were examined for San Mateo County, which could occur from an earthquake of varying magnitude depending on which fault produced an earthquake. These events are expected to cause moderate to heavy damage to structures (VII to IX on the modified Mercalli intensity scale) in the District's service area for 100-year and 500-year PGAs, respectively.

It should be noted that the 2016 HMP specified that the damage to water infrastructure is difficult to analyze due to the methodology used, but that considerable damage, breakage, and failure should be assumed for individual system components. In 2021, San Mateo County launched an update of their Local Hazard Mitigation Plan.

Appendix K and L have descriptions of SFPUC's emergency preparedness planning and procedures.

Section 10 | Monitoring and Reporting Protocol [CWC Section 10632(a)(9)]

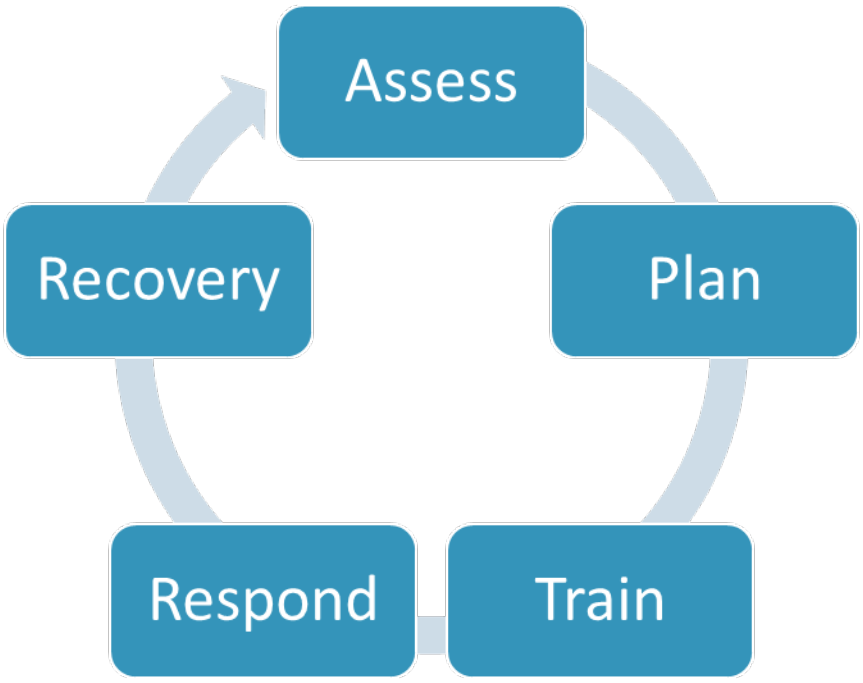
The District has a utility billing system, customer data analytics software, and hourly AMI data that is used to track and analyze customer consumption monthly. This data is available for reporting purposes.

Section 11 | WSCP Refinement Procedures [CWC Section 10632(a)(10)]

Every water shortage episode provides challenges and successes that are documented and retained for future reference. During the last water shortage, the District determined that monthly billing would help customers and the District to track water consumption. The District took that information and implemented monthly billing, AMI, and a customer portal with data analytical software. This will be a significant improvement for both customers and the District in monitoring and tracking water consumption during the next water shortage. The WSCP is written to provide District staff the flexibility to adapt to different types of water shortages, so the response can be as efficient and effective as possible.

Section 12 | Adoption of the WSCP [CWC Section 10632(c) and CWC Section 10635(c)]

The District prepared this 2020 WSCP and presented it to the Board of Directors for adoption on June 8, 2021, after conducting a public hearing. The plan was posted on the District's website within 30 days of adoption.


Assess
Plan
Train
Respond
Recovery

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Appendices

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Appendix A

Legal Authority [CWC Section 10632(a)(7)]

Section	Description
California Water Code **Division 1 General State Powers over Water (100-540)** **Chapter 3 Water Shortage emergencies (350-359)** **CHAPTER 3.3. Excessive Residential Water Use During Drought [365 - 367]**	
350	The governing body (Board of Directors) of the water supply distributor (Coastside County Water District) has authority to declare water shortage emergency condition(s). This section defines water shortage emergency condition as when there would be "insufficient water for human consumption, sanitation, and fire protection."
351	Excepting in the event of a wildfire or a breakage or failure of a dam, pump, pipeline, or conduit causing an immediate emergency, the declaration shall be made only after a public hearing at which consumers of the water supply shall have an opportunity to be heard to protest against the declaration and to present their respective needs to said governing board.
352	Notice of the time and place of hearing shall be published pursuant to Section 6061 of the Government Code at least seven days prior to the date of hearing in a newspaper printed, published, and circulated within the area in which the water supply is distributed, or if there is no such newspaper, in any newspaper printed, published, and circulated in the county in which the area is located.
353	When the governing body has so determined and declared the existence of an emergency condition of water shortage within its service area, it shall thereupon adopt such regulations and restrictions on the delivery of water and the consumption within said area of water supplied for public use as will in the sound discretion of such governing body conserve the water supply for the greatest public benefit with particular regard to domestic use, sanitation, and fire protection.
354	After allocating and setting aside the amount of water which in the opinion of the governing body will be necessary to supply water needed for domestic use, sanitation, and fire protection, the regulations may establish priorities in the use of water for other purposes and provide for the allocation, distribution, and delivery of water for such other purposes, without discrimination between consumers using water for the same purpose or purposes.
355	The regulations and restrictions shall thereafter be and remain in full force and effect during the period of the emergency and until the supply of water available for distribution within such area has been replenished or augmented.
356	The regulations and restrictions may include the right to deny applications for new or additional service connections, and provision for their enforcement by discontinuing service to consumers willfully violating the regulations and restrictions.
357	If the regulations and restrictions on delivery and consumption of water adopted pursuant to this chapter conflict with any law establishing the rights of individual consumers to receive either specific or proportionate amounts of the water supply available for distribution within such service area, the regulations and restrictions adopted pursuant to this chapter shall prevail over the provisions of such laws relating to water rights for the duration of the period of emergency; provided, however, that any distributor of water which is subject to regulation by the State Public Utilities Commission shall before making such regulations and restrictions effective secure the approval thereof by the Public Utilities Commission.
358	Nothing in this chapter shall be construed to prohibit or prevent review by any court of competent jurisdiction of any finding or determination by a governing board of the existence of an emergency or of regulations or restrictions adopted by such board, pursuant to this chapter, on the ground that any such action is fraudulent, arbitrary, or capricious.

359	(a) Notwithstanding any other provision of law that requires an election for the purpose of authorizing a contract with the United States, or for incurring the obligation to repay loans from the United States, and except as otherwise limited or prohibited by the California Constitution, a public water agency, as an alternative procedure to submitting the proposal to an election, upon affirmative vote of four-fifths of the members of the governing body thereof, may apply for, accept, provide for the repayment together with interest thereon, and use funds made available by the federal government pursuant to Public Law 95-18, pursuant to any other federal act subsequently enacted during 1977 that specifically provides emergency drought relief financing, or pursuant to existing federal relief programs receiving budget augmentations in 1977 for drought assistance, and may enter into contracts that are required to obtain those federal funds pursuant to the provisions of those federal acts if the following conditions exist: (1) The project is undertaken by a state, regional, or local governmental agency. (2) As a result of the severe drought now existing in many parts of the state, the agency has insufficient water supply needed to meet necessary agricultural, domestic, industrial, recreational, and fish and wildlife needs within the service area or area of jurisdiction of the agency. (3) The project will develop or conserve water before October 31,1978 and will assist in mitigating the impacts of the drought. (4) The agency affirms that it will comply, if applicable, with Sections 1602, 1603, and 1605 of the Fish and Game Code. (5) The project will be completed on or before the completion date, if any, required under the federal act providing the funding, but not later than March 1, 1978. (b) Any obligation to repay loans shall be expressly limited to revenues of the system improved by the proceeds of the contract. (c) No application for federal funds pursuant to this section shall be made on or after March 1, 1978. (d) Notwithstanding the provisions of this section, a public agency shall not be exempt from any provision of law that requires the submission of a proposal to an election if a petition requesting such an election signed by 10 percent of the registered voters within the public agency is presented to the governing board within 30 days following the submission of an application for federal funds. (e) Notwithstanding the provisions of this section, a public water agency that applied for federal funds for a project before January 1, 1978, may make application to the Director of the Drought Emergency Task Force for extension of the required completion date specified in paragraph (5) of subdivision (b). Following receipt of an application for extension, the Director of the Drought Emergency Task Force may extend the required completion date specified in paragraph (5) of subdivision (b) to a date not later than September 30, 1978, if the director finds that the project has been delayed by factors not controllable by the public water agency. If the Drought Emergency Task Force is dissolved, the Director of Water Resources shall exercise the authority vested in the Director of the Drought Emergency Task Force pursuant to this section. (f) For the purposes of this section, “public water agency” means a city, district, agency, authority, or any other political subdivision of the state, except the state, that distributes water to the inhabitants thereof, is otherwise authorized by law to enter into contracts or agreements with the federal government for a water supply or for financing facilities for a water supply, and is otherwise required by law to submit those agreements or contracts or any other project involving long-term debt to an election within that public water agency.
365	(a) The Legislature finds and declares that this chapter furthers important state policies of encouraging water conservation and protecting water resources in the interest of the people and for the public welfare. (b) For the purposes of this chapter, “urban retail water supplier” has the same meaning as provided in Section 10608.12.
366	(a) During periods described in subdivision (a) of Section 367, excessive water use is prohibited by a residential customer in a single-family residence or by a customer in a multiunit housing complex in which each unit is individually metered or submetered by the urban retail water supplier. (b) Each urban retail water supplier shall establish a method to identify and discourage excessive water use, through one of the following options:

	(1) Establishing a rate structure, subject to applicable constitutional and statutory limitations, that includes block tiers, water budgets, or rate surcharges over and above base rates for excessive water use by a residential water customer. (2) (A) Establishing an excessive water use ordinance, rule, or tariff condition, or amending an existing ordinance, rule, or tariff condition, that includes a definition of or a procedure to identify and address excessive water use by metered single-family residential customers and customers in multiunit housing complexes in which each unit is individually metered or submetered and may include a process to issue written warnings to a customer and perform a site audit of customer water usage prior to deeming the customer in violation. (B) For the purposes of subparagraph (A), excessive water use shall be measured in terms of either gallons or hundreds of cubic feet of water used during the urban retail water supplier's regular billing cycle. In establishing the definition of excessive use, the urban retail water supplier may consider factors that include, but are not limited to, all of the following: (i) Average daily use. (ii) Full-time occupancy of households. (iii) Amount of landscaped land on a property. (iv) Rate of evapotranspiration. (v) Seasonal weather changes. (C) (i) A violation of an excessive use ordinance, rule, or tariff condition established pursuant to subparagraph (A) shall result in an infraction or administrative civil penalty. The penalty for a violation may be based on conditions identified by the urban retail water supplier and may include, but is not limited to, a fine of up to five hundred dollars ($500) for each hundred cubic feet of water, or 748 gallons, used above the excessive water use threshold established by the urban retail water supplier in a billing cycle. (ii) Any fine imposed pursuant to this subparagraph shall be added to the customer's water bill and is due and payable with that water bill. (iii) Each urban retail water supplier shall have a process for nonpayment of the fine, which shall be consistent with due process and reasonably similar to the water supplier's existing process for nonpayment of a water bill. (D) (i) Consistent with due process, an urban retail water supplier shall establish a process and conditions for the appeal of a fine imposed pursuant to subparagraph (C) whereby the customer may contest the imposition of the fine for excessive water use. (ii) As part of the appeal process, the customer shall be provided with an opportunity to provide evidence that there was no excessive water use or of a bona fide reason for the excessive water use, including evidence of a water leak, a medical reason, or any other reasonable justification for the water use, as determined by the urban retail water supplier. (iii) As part of the appeal process, the urban retail water supplier shall provide documentation demonstrating the excessive water use. (c) (1) The provisions of subdivision (b) do not apply to an urban retail water supplier that is not fully metered in accordance with Section 527. An urban retail water supplier shall comply with the provisions of subdivision (b) when all of the water supplier's residential water service connections are being billed based on metered water usage. (2) An urban retail water supplier that is not fully metered shall prohibit water use practices by an ordinance, resolution, rule, or tariff condition that imposes penalties for prohibited uses of water supplied by the water supplier. The urban retail water supplier may include a process to issue written warnings prior to imposing penalties as well as increased penalty amounts for successive violations.
367	(a) This chapter applies only as follows: (1) During a period for which the Governor has issued a proclamation of a state of emergency under the California Emergency Services Act (Chapter 7 (commencing with Section 8550) of Division 1 of Title 2 of the Government Code) based on statewide drought conditions to an urban retail water supplier that has moved to a stage of action in response to a local water supply shortage condition under the water supplier's contingency plan pursuant to paragraph (1) of subdivision (a) of Section 10632 that requires mandatory water use reductions.

	(2) To an urban retail water supplier during a period in which the water supplier has moved to a stage of action in response to a local water supply shortage condition under the water supplier's contingency plan pursuant to paragraph (1) of subdivision (a) of Section 10632 that requires mandatory water use reductions. (3) To an urban retail water supplier affected during a period for which the Governor has issued a proclamation of a state of emergency under the California Emergency Services Act (Chapter 7 (commencing with Section 8550) of Division 1 of Title 2 of the Government Code) based on local drought conditions. (b) The provisions of this chapter are in addition to, and do not supersede or limit, any other measures or remedies implemented by an urban retail water supplier.
377	Local agencies are authorized to impose civil liability for violations of certain new water conservation requirements
California Water Code **Division 12 County Water Districts 30000-33901** **Part 5 Powers and Purposes (31000-31182)**	
31020	A district may do any act necessary to furnish sufficient water in the district for any present or future beneficial use.
31021	A district may store water for the benefit of the district, conserve water for future use, and appropriate, acquire, and conserve water and water rights for any useful purpose.
31026	A district shall have the power to restrict the use of district water during any emergency caused by drought, or other threatened or existing water shortage, and to prohibit the wastage of district water or the use of district water during such periods, for any purpose other than household uses or such other restricted uses as may be determined to be necessary by the district and may prohibit use of such water during such periods for specific uses which the district may from time to time find to be nonessential.
31027	(a) A district may prescribe and define by ordinance the restrictions, prohibitions, and exclusions. Every such ordinance shall be in full force and effect immediately upon adoption, but shall be published once in full in a newspaper of general circulation, printed, published and circulated in the district within 10 days after adoption, or if there be no such newspaper it shall be posted within 10 days after adoption in three public places within the district. (b) The publication of ordinances, as required by subdivision (a), may be satisfied by either of the following actions: (1) The district may publish a summary of a proposed ordinance or proposed amendment to an existing ordinance. The summary shall be prepared by an official designated by the board. A summary shall be published and a certified copy of the full text of the proposed ordinance or proposed amendment shall be posted in the office of the board at least five days prior to the board meeting at which the proposed ordinance or amendment or alteration thereto is to be adopted. Within 15 days after adoption of the ordinance or amendment, the board shall publish a summary of the ordinance or amendment with the names of those directors voting for and against the ordinance or amendment and the official shall post in the office of the board a certified copy of the full text of the adopted ordinance or amendment along with the names of those directors voting for and against the ordinance or amendment. (2) If the official designated by the board determines that it is not feasible to prepare a fair and adequate summary of the proposed or adopted ordinance or amendment, and if the board so orders, a display advertisement of at least one-quarter of a page in a newspaper of general circulation in the county shall be published at least five days prior to the board meeting at which the proposed ordinance or amendment or alteration thereto is to be adopted. Within 15 days after adoption of the ordinance or amendment, a display advertisement of at least one-quarter of a page shall be published. The advertisement shall indicate the general nature of, and provide information about, the proposed or adopted ordinance or amendment, including information sufficient to enable the public to obtain copies of the complete text of the ordinance or amendment, and the names of those directors voting for and against the ordinance or amendment.

31028	A district shall have power to make findings upon each and all of the matters referred to in Section 31026. A finding by the board of directors upon the existence, threat or duration of an emergency or shortage or upon the matter of necessity or any other matter or condition shall be made by resolution or ordinance and shall be prima facie evidence of the fact or matter so found, and such fact or matter shall be presumed to continue unchanged unless and until a contrary finding shall have been made by the board by resolution or ordinance. Such finding shall be received in evidence in any civil or criminal proceeding in which it may be offered,and shall be proof and evidence of the fact or matter found until rebutted or overcome by other sufficient evidence received in such proceeding. Copy of any resolution or ordinance setting forth any finding shall, when certified by the secretary of the district, be evidence that the finding was made by the district as shown by the resolution or ordinance and certification.
31029	After the publication or posting of any ordinance as provided in Section 31027, it is a misdemeanor for any person to use or apply water received from the district contrary to or in violation of the restriction or prohibition, until the ordinance has been repealed or the emergency or threatened emergency has ceased, and, upon conviction thereof, that person shall be punished by imprisonment in the county jail for not more than 30 days or by fine of not more than six hundred dollars ($600), or by both the fine and imprisonment.
31035	A district may undertake a water conservation program to reduce water use and may require as a condition of new service that reasonable water-saving devices and water reclamation devices be installed to reduce water use.
California Water Code **DIVISION 6. CONSERVATION, DEVELOPMENT, AND UTILIZATION OF STATE WATER RESOURCES [10000 - 12999]** **PART 2.6. URBAN WATER MANAGEMENT PLANNING [10610 - 10657]** **CHAPTER 3. Urban Water Management Plans [10620 - 10645]** **ARTICLE 2. Contents of Plans [10630 - 10634]**	
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: (1) The analysis of water supply reliability conducted pursuant to Section 10635. (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. (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. (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. (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. (C) Any other relevant communications. (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. (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. (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. (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. (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. (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. (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. (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.
California Water Code **Division 6. Conservation development and Utilization** **Part 2.6. Urban Water Management Planning** **Chapter 3. Urban Water Management Plans (10620 – 10645)**	

ARTICLE 2. Contents of Plans [10630 - 10634]	
10632 (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.
GOVERNMENT CODE - GOV **TITLE 2. GOVERNMENT OF THE STATE OF CALIFORNIA [8000 - 22980]** **DIVISION 1. GENERAL [8000 - 8899.72]** **CHAPTER 7. California Emergency Services Act [8550 - 8669.7]** **ARTICLE 2. General Definitions [8555 - 8562]**	
8558	Three conditions or degrees of emergency are established by this chapter: (a) "State of war emergency" means the condition that exists immediately, with or without a proclamation thereof by the Governor, whenever this state or nation is attacked by an enemy of the United States, or upon receipt by the state of a warning from the federal government indicating that such an enemy attack is probable or imminent. (b) "State of emergency" means the duly proclaimed existence of conditions of disaster or of extreme peril to the safety of persons and property within the state caused by conditions such as air pollution, fire, flood, storm, epidemic, riot, drought, cyberterrorism, sudden and severe energy shortage, plant or animal infestation or disease, the Governor's warning of an earthquake or volcanic prediction, or an earthquake, or other conditions, other than conditions resulting from a labor controversy or conditions causing a "state of war emergency," which, by reason of their magnitude, are or are likely to be beyond the control of the services, personnel, equipment, and facilities of any single county, city and county, or city and require the combined forces of a mutual aid region or regions to combat, or with respect to regulated energy utilities, a sudden and severe energy shortage requires extraordinary measures beyond the authority vested in the California Public Utilities Commission. (c) "Local emergency" means the duly proclaimed existence of conditions of disaster or of extreme peril to the safety of persons and property within the territorial limits of a county, city and county, or city, caused by conditions such as air pollution, fire, flood, storm, epidemic, riot, drought, cyberterrorism, sudden and severe energy shortage, plant or animal infestation or disease, the Governor's warning of an earthquake or volcanic prediction, or an earthquake, or other conditions, other than conditions resulting from a labor controversy, which are or are likely to be beyond the control of the services, personnel, equipment, and facilities of that political subdivision and require the combined forces of other political subdivisions to combat, or with respect to regulated energy utilities, a sudden and severe energy shortage requires extraordinary measures beyond the authority vested in the California Public Utilities Commission.

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Appendix B

Sample Staff Report: Implementation of Advisory

To:	**Board of Directors**
From:	
Agenda:	

Subject: Water Shortage Advisory

Recommendation:

That the Board of Directors authorize the implementation of Stage 1 - Water Shortage Advisory - of District's Water Shortage Contingency Plan.

The end of water year 2013 marks the second consecutive dry water year. Locally, water year 2012 was critically dry at 61 percent of normal precipitation and water year 2013 was dry at 74 percent of normal precipitation. Consecutive dry years will impact the availability of local surface water and the potential for mandatory curtailment of imported water sources. The California Department of Water Resources issued a press release in September emphasizing that water agencies must be prepared for the possibility of a third dry year.

To properly prepare for the possibility of a third consecutive dry year, staff is recommending that the Board authorize the implementation of Stage 1 of the Water Shortage Contingency Plan (Plan). Stage 1 is described as a water shortage advisory where the public is informed as early as meaningful data are available that a water shortage may occur. The District would encourage water use efficiency and increase public outreach. District staff would begin to prepare for implementation of mandatory rationing. Staff is not recommending setting a goal for a reduction in demand.

Staff recognizes that the Plan needs updating. Water Resources staff budgeted $50,000 (Acct. No. 5318), in the budget for fiscal year 2014, in anticipation of a second consecutive dry year. Staff would like to use these funds toward updating the Plan and towards developing drought rates. Drought rates must go through the Proposition 218 notification, public hearing and approval process, so they need to be developed in advance.

Included in the District's update of the Plan is a review of its water allocation scheme during different stages of curtailment among the sales classes. It will also look at yields from local sources, impacts on revenues and expenditures, utility billing, and coordination with other agencies.

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Appendix C

Sample Resolution: Implementation of Stage 2 – Water Shortage Emergency Warning

RESOLUTION NO. XXX-xx
A RESOLUTION OF THE BOARD OF DIRECTORS
OF THE COASTSIDE COUNTY WATER DISTRICT

IMPLEMENTING STAGE 2 – WATER SHORTAGE EMERGENCY WARNING

WHEREAS, California is experiencing one of the most severe droughts on record; and

WHEREAS, the Coastside County Water District (District) implemented Stage 1 – Water Shortage Advisory of their Water Shortage Contingency Plan on October 8, 2013 informing the public of a possible water shortage and requesting voluntary water conservation; and

WHEREAS, Governor Brown declared a drought state of emergency on January 17, 2014, and called on all Californians to do their part to reduce their water use; and

WHEREAS, the wholesale provider for a significant portion of the District's water supply, the San Francisco Public Utilities Commission requested 10 percent voluntary water use reduction system-wide on January 31, 2014; and

WHEREAS, the District requested 10 percent voluntary water use reduction from all customers on February 11, 2014; and

WHEREAS, Governor Brown issued a proclamation of a continued state of emergency on April 25, 2014 to mitigate the effects of drought conditions upon the people and property of California, and called on residents to refrain from wasting water; and

WHEREAS, the District adopted Resolution 2014-02 on May 13, 2014 urging heightened water use efficiency by customers in response to drought conditions, and

WHEREAS, the State Water Resources Control Board (SWRCB) adopted emergency regulations on July 15, 2014 (Resolution No. 2014-0038) that impose mandatory actions by urban water suppliers that became effective July 28, 2014; and

WHEREAS, the District is required to comply with SWRCB drought emergency regulations as an urban water supplier, and one of the mandatory actions requires the District to implement all requirements and actions of the stage of its Water Shortage Contingency Plan that imposes mandatory restrictions on outdoor irrigation of ornamental landscapes or turf with potable water; and

WHEREAS, the District is an urban water supplier that has an adopted Water Shortage Contingency Plan that is considered sufficient by the California Department of Water Resources by review of the District's 2010 Urban Water Management Plan; and

WHEREAS, Stage 2 – Water Shortage Emergency Warning of the District's Water Shortage Contingency Plan describes a menu of options, including mandatory restrictions on outdoor water use and prohibiting cleaning of exterior surfaces with potable water; and

WHEREAS, as required by the SWRCB emergency regulations, the District will implement Stage 2 - Water Shortage Emergency Warning.

NOW, THEREFORE, BE IT RESOLVED, that the Board of Directors of the Coastside County Water District declares that circumstances exist due to the adoption of the SWRCB emergency

regulations to implement Stage 2 - Water Shortage Emergency Warning of the District's Water Shortage Contingency Plan.

BE IT FURTHER RESOLVED that the Board of Directors of the Coastside County Water District directs staff to implement all requirements and actions of Stage 2 - Water Shortage Emergency Warning in the District's Water Shortage Contingency Plan.

PASSED AND ADOPTED at a regular meeting of the Board of Directors of the Coastside County Water District held on this 12th day of August 2014 by the following vote:

AYES:
NOES:
ABSENT:

_____
President
Board of Directors

ATTEST:

_____
General Manager
Secretary of the District

Appendix D

Sample Ordinance: Mandatory Restrictions on Outdoor Water Use

ORDINANCE NO. XXXX-XX
AN AMENDED AND RESTATED ORDINANCE OF
THE COASTSIDE COUNTY WATER DISTRICT

An ordinance establishing and expanding mandatory water use restrictions and prohibitions under Stage 2- Water Shortage Emergency Warning of the District's Water Shortage Contingency Plan

Be it ordained by the Board of Directors of the Coastside County Water District (District) as follows:

Section 1: Findings and Determinations

This ordinance is adopted in light of the following facts and circumstances, which are hereby found and declared by the Board of Directors.

WHEREAS, California is experiencing one of the most severe droughts on record; and

WHEREAS, the District implemented Stage 1 – Water Shortage Advisory of its Water Shortage Contingency Plan on October 8, 2013 informing the public of a possible water shortage and requesting voluntary water conservation; and

WHEREAS, Governor Brown declared a drought state of emergency on January 17, 2014, and called on all Californians to do their part to reduce their water use; and

WHEREAS, the wholesale water provider for a significant portion of the District's water supply, the San Francisco Public Utilities Commission (SFPUC), requested 10 percent voluntary water use reduction system-wide on January 31, 2014; and

WHEREAS, the District requested 10 percent voluntary water use reduction from all customers on February 11, 2014; and

WHEREAS, Governor Brown issued a proclamation of a continued state of emergency on April 25, 2014 to mitigate the effects of drought conditions upon the people and property of California, and called on residents to refrain from wasting water; and

WHEREAS, the District adopted Resolution 2014-02 on May 13, 2014 urging heightened water use efficiency by customers in response to drought conditions, and

WHEREAS, the State Water Resources Control Board (SWRCB) adopted drought emergency regulations on July 15, 2014 (Resolution No. 2014-0038) that imposed mandatory actions by urban water suppliers that became effective July 28, 2014; and

WHEREAS, the District was required to comply with the 2014 SWRCB drought emergency regulations as an urban water supplier, and one of the mandatory actions requires the District to implement all requirements and actions of the stage of its Water Shortage Contingency Plan that impose mandatory restrictions on outdoor irrigation of ornamental landscapes or turf with potable water; and

WHEREAS, the District is an urban water supplier that has an adopted Water Shortage Contingency Plan that is considered sufficient by the California Department of Water Resources by review of the District's 2010 Urban Water Management Plan; and

WHEREAS, Stage 2 – Water Shortage Emergency Warning of the District's Water Shortage Contingency Plan describes a menu of options including mandatory restrictions on outdoor water use, irrigation and prohibiting cleaning of exterior surfaces with potable water; and

WHEREAS, by Resolution No. 2014-06, adopted on August 12, 2014, the District implemented Stage 2 – Water Shortage Emergency Warning of its Water Shortage Contingency Plan; and

WHEREAS, by Ordinance No. 2014-02, adopted on August 12, 2014, the District established mandatory water use prohibitions and restrictions under Stage 2-Water Shortage Emergency Warning of its Water Shortage Contingency Plan; and

WHEREAS, the SWRCB extended and expanded the drought emergency regulations on March 17, 2015 (Resolution No. 2015-0013) that imposes mandatory actions by urban water suppliers that became effective March 27, 2015; and

WHEREAS, Governor Brown issued Executive Order B-29-15 on April 1, 2015, that, in part, directed the SWRCB to impose restrictions to achieve a statewide 25 percent reduction in potable urban water usage, to increase enforcement against water waste, and to implement additional restrictions on the outdoor use of potable water; and

WHEREAS, the SWRCB expanded and modified its drought emergency regulations on May 5, 2015 (Resolution 2015-0032) to achieve a statewide 25 percent reduction in potable urban water usage and the emergency regulations went into effect on May 18, 2015; and

WHEREAS, the SWRCB determined that the District had an average July-September 2014 R-GPCD of less than 65, and that the District shall reduce its total potable water production by 8 percent for each month as compared to the amount used in the same month in 2013; and

WHEREAS, the SFPUC's request for all customers to reduce water consumption by 10 percent system-wide, remains in place; and

WHEREAS, the actions taken hereinafter are exempt from the provisions of Section 21000 et seq. of the Public Resources Code as a project undertaken as immediate action necessary to prevent or mitigate an emergency pursuant to Title 14, California Code of Regulations Section 15269 and as a project undertaken to assure the maintenance, restoration or enhancement of a natural resource pursuant to Title 14, California Code of Regulations Section 15307.

Section 2: Definitions

Agricultural use: Use that meets the definition of Government Code section 51201,subdivision (b).

Customer: Any person, whether within or without the geographical boundaries of the District, who uses water supplied by the District.

District: Coastside County Water District.

General Manager: The General Manager of Coastside County Water District or the General Manager's designee.

Graywater: Untreated household wastewater which has not come in contact with toilet waste, as regulated by the 2013 California Plumbing Code Chapter 16 Section 1602.

Irrigation station: A group of sprinklers controlled by the same valve to correspond to a hydrozone, also referred to as a circuit.

Low volume irrigation systems: Any irrigation system that applies irrigation water at low pressure through a system of tubing or lateral lines and low volume emitters such as drip, driplines, microspray, and bubblers with a very low flow rate ($\leq$ 2 gallons per hour [gph]) measured in gallons per hour, and that is designed to apply small volumes of water very slowly at or near the root zone of plants. This includes but is not limited to properly functioning drip irrigation systems and soaker hoses.

Measurable rainfall: Climatological conditions that result in $\geq$ 0.1 (greater than or equal to one tenth) of an inch of precipitation in any continuous 4 (four) hour period.

Ornamental landscape: Any landscaping where the primary function is of maintaining aesthetic value. An ornamental landscape may serve other purposes,but the primary purpose is visual.

Person: Any customer, tenant, property owner, governmental entity, firm, association, organization, company or business using water.

Recycled water: Treated reclaimed wastewater from a publicly owned treatment plant.

Turf: Grasses grown for ornamental or recreational use which are mowed regularly. It is also referred to as lawn.

Water: Any water delivered by or originating from Coastside County Water District's transmission and distribution system.

Section 3: Prohibited and Restricted Activities in Promotion of Water Conservation

A. To promote water conservation, each of the following actions is prohibited, except where necessary to address an immediate health and safety need or to comply with a term or condition in a permit issued by a state or federal agency:

1. The application of water to outdoor landscapes and turf in a manner that causes runoff such that water flows onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots, storm-water drainage infrastructure, or structures;

2. The use of a hose that dispenses water to wash motorized vehicles, boats and trailers, except where the hose is fitted with a positive shut-off nozzle or device attached to it that causes it to cease dispensing water immediately when not in use;

3. The application of water to driveways and sidewalks;

4. The use of water in a fountain or other decorative water feature, except where the water is part of a recirculating system;

5. The application of water to outdoor landscapes during and within 48 hours after measurable rainfall; and

6. The application of water to ornamental turf on public street medians.

B. To prevent the waste and unreasonable use of water and to further promote water conservation, each of the following actions is prohibited:

1. The use of water that causes flooding or pooling due to super-saturation of the ground or soil;

2. The use of water when the customer has been given written notice by the District to repair broken or defective plumbing, equipment, appliances, sprinklers, watering or irrigation systems, and has failed to complete such repairs for 24 hours after delivery of the notice;

3. The indiscriminate running of water or washing with water that causes runoff;

4. The use of water for single pass through cooling systems. The use of potable water ice making machines and other mechanical equipment that utilizes a single-pass cooling system to remove and discharge heat to the sewer. Water used for all cooling purposes shall be recycled or re-circulated; and

5. The use of water from any fire hydrant, unless specifically authorized by the District, except by regularly constituted fire protection agencies for fire suppression purposes or for other specifically authorized uses, including water distribution flushing, fire flow testing, and filling of District approved vehicles for sewer system flushing, and street sweeping purposes.

C. Specific Non-Residential End-User Requirements and Prohibitions in Promotion of Water Conservation:

1. The serving of drinking water other than upon request in eating or drinking establishments, including but not limited to restaurants, hotels, cafes, cafeterias, bars, or other public places where food or drink are served and/or purchased; and

2. Operators of hotels, motels, inns, and bed and breakfast establishments shall provide guests with the option of choosing not to have towels and linens laundered daily. The operator shall prominently display notice of this option in each guestroom using clear and easily understood language; and

3. All commercial, industrial, institutional and irrigation customers that use a water supply any portion of which is from a source other than Coastside County Water District shall:

(a) Notify the District by Insert Date, if there is an alternate water supply associated with their property; and

(b) Limit outdoor irrigation of ornamental landscapes or turf with potable water to no more than two days per week; or

(c) Reduce potable water usage by 25 percent for the months of Insert Date through Insert Date as compared to the amount used for the same months in Insert Year.

Section 4: Mandatory Restrictions on Outdoor Irrigation of Ornamental Landscapes or Turf

A. Time of day restriction. No person shall use or cause to be used any water for ornamental landscape or turf irrigation between the hours of 8:00 a.m. and 5:00 p.m.

B. Length of time restriction. No person shall use or cause to be used any water for ornamental landscape or turf irrigation that exceeds 15 minutes per irrigation station during the designated days and times allowed for irrigation.

C. Days of the week restrictions. No person shall use or cause to be used any water for ornamental landscape or turf irrigation on Sunday and Saturday. Irrigation of ornamental landscape or turf is allowed only on the following days:

1. Odd Address: Monday and Thursday
2. Even Address: Tuesday and Friday
3. No Address: Monday and Thursday
4. The address used to determine Irrigation days is as it appears under service address in the utility billing database under account information.

D. The limitations specified in Section 4. A, B, and C shall not apply to Agricultural use, Floricultural use and Plant Nursery use.

E. Section 4. A, B, and C does not apply to the following categories of water use for the irrigation of ornamental landscapes or turf:

1. the use of a hand-held bucket or similar container;
2. the use of a hand-held hose with a positive shut-off valve or similar device;
3. the use of a properly functioning low volume irrigation system;
4. the use for very short periods of time for the express purpose of adjusting or repairing an irrigation system;
5. the use of a graywater system; and
6. the use of recycled water.

Section 5: Enforcement

A. Written Notice

If the District believes that water has been or is being used in violation of the above restrictions, the District will send a written notice to the customer specifying the nature of the violation and the date and time of occurrence and request that the customer cease the violation and take remedial action. The District will provide the customer with a copy of the ordinance and inform the customer that failure to comply may result in termination of water service.

B. On-Site Notification

In the event that a further violation(s) is observed by District, after the original written notice, the District will make reasonable efforts to notify the customer of the violation and post a notice on the front door or other point of entry onto the property requiring the customer to cease the violation and take remedial action within 48 hours of the on-site notification. Failure to comply after the on-site notification may result in the temporary termination of water service.

C. Termination of Water Service

1. In the event that a further violation(s) is observed by District personnel 48 or more hours after the on-site notification, it will be deemed a willful violation of the mandatory restrictions on water use and the District may temporarily discontinue water service.

2. The customer shall be responsible for paying the District's costs incurred in enforcing this ordinance, including providing the on-site notification and temporarily terminating and restoring water service, on a time and material basis in accordance with the District's rate and fee schedule.

3. The customer shall pay all fees and charges above, and the customer's account must be in good standing, in order for the District to proceed with the reconnection of water service after it has been temporarily terminated.

Section 6: Appeal

Any customer, who disputes a staff determination of a violation of the above restrictions, may appeal in writing to the General Manager. The decision of the General Manager shall be final.

A. Written Appeal

The written appeal must be addressed to the General Manager and include: (1) the customer's name; (2) the mailing address and site address, if different; (3) the water account number; (4) a description of the violation(s); (5) the enforcement action taken; and (6) a detailed explanation of the basis of the appeal.

Coastside County Water District
Attn: General Manager
766 Main Street
Half Moon Bay, CA 94019

B. Criteria for Appeal

The General Manager will evaluate each written appeal based on the following criteria: (1) public health; (2) public safety; and (3) regulatory requirements of a state or federal agency.

Section 7: Effective Date

All provisions of this amended and restated ordinance shall become effective after the publication of this ordinance and remain in effect until the District cancels implementation of Stage 2 – Water Shortage Emergency Warning of the District's Water Shortage Contingency Plan.

Section 8: Severability

If any provision of this ordinance is held to be invalid, or unenforceable in particular circumstances, such invalidity shall not affect the remainder of the ordinance which shall continue to be in full force and effect and the Board declares this ordinance to be severable for that purpose.

Section 9: Publication

The secretary is hereby directed to arrange for this ordinance to be published in a newspaper of general circulation in the District and to be posted on the District's website.

PASSED AND ADOPTED at a regular meeting of the Board of Directors of the Coastside County Water District held on this Insert Day day of Insert Year by the following vote:

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Appendix E

Sample Ordinance: Mandatory Water Use Restrictions for a Ten Percent Reduction in Consumption

ORDINANCE NO. xxxx-xx
AN ORDINANCE OF THE COASTSIDE COUNTY WATER DISTRICT

An ordinance establishing mandatory water use restrictions under Stage 2- Water Shortage Emergency Warning of the District's Water Shortage Contingency Plan

Be it ordained by the Board of Directors of the Coastside County Water District (District) as follows:

Section 1: Findings and Determinations

This ordinance is adopted in light of the following facts and circumstances, which are hereby found and declared by the Board of Directors.

WHEREAS, California is experiencing one of the most severe droughts on record; and

WHEREAS, the District implemented Stage 1 – Water Shortage Advisory of its Water Shortage Contingency Plan on October 8, 2013 informing the public of a possible water shortage and requesting voluntary water conservation; and

WHEREAS, Governor Brown declared a drought state of emergency on January 17, 2014, and called on all Californians to do their part to reduce their water use; and

WHEREAS, the wholesale water provider for a significant portion of the District's water supply, the San Francisco Public Utilities Commission, requested 10 percent voluntary water use reduction system-wide on January 31, 2014; and

WHEREAS, the District requested 10 percent voluntary water use reduction from all customers on February 11, 2014; and

WHEREAS, Governor Brown issued a proclamation of a continued state of emergency on April 25, 2014 to mitigate the effects of drought conditions upon the people and property of California, and called on residents to refrain from wasting water; and

WHEREAS, the District adopted Resolution 2014-02 on May 13, 2014 urging heightened water use efficiency by customers in response to drought conditions, and

WHEREAS, the State Water Resources Control Board (SWRCB) adopted drought emergency regulations on July 15, 2014 (Resolution No. 2014-0038) that imposes mandatory actions by urban water suppliers that became effective July 28, 2014; and

WHEREAS, the District is required to comply with the SWRCB drought emergency regulations as an urban water supplier, and one of the mandatory actions requires the District to implement all requirements and actions of the stage of its Water Shortage Contingency Plan that impose mandatory restrictions on outdoor irrigation of ornamental landscapes or turf with potable water; and

WHEREAS, the District is an urban water supplier that has an adopted Water Shortage Contingency Plan that is considered sufficient by the California Department of Water Resources by review of the District's 2010 Urban Water Management Plan; and

WHEREAS, Stage 2 – Water Shortage Emergency Warning of the District's Water Shortage Contingency Plan describes a menu of options including mandatory restrictions on outdoor water use and prohibiting cleaning of exterior surfaces with potable water; and

WHEREAS, by Resolution No. 2014-06, the District implemented Stage 2 – Water Shortage Emergency Warning of its Water Shortage Contingency Plan on August 12, 2014; and

WHEREAS, as of June 2014, the District is on track in achieving the request from the San Francisco Public Utilities Commission to achieve a 10 percent reduction in water purchases in calendar year 2014 from the fiscal year 2014 purchase request; and

WHEREAS, the actions taken hereinafter are exempt from the provisions of Section 21000 et seq. of the Public Resources Code as a project undertaken as immediate action necessary to prevent or mitigate an emergency pursuant to Title 14, California Code of Regulations Section 15269 and as a project undertaken to assure the maintenance, restoration or enhancement of a natural resource pursuant to Title 14, California Code of Regulations Section 15307.

Section 2: Definitions

Customer: Any person, whether within or without the geographical boundaries of the District, who uses water supplied by the District.

District: Coastside County Water District.

General Manager: The General Manager of Coastside County Water District or his representative.

Graywater: Untreated household wastewater which has not come in contact with toilet waste, as regulated by the 2013 California Plumbing Code Chapter 16 Section 1602.

Low volume irrigation systems: Any irrigation system that applies irrigation water at low pressure through a system of tubing or lateral lines and low volume emitters such as drip, driplines and bubblers with a very low flow rate measured in gallons per hour, and that is designed to apply small volumes of water very slowly at or near the root zone of plants. This includes but is not limited to properly functioning drip irrigation systems and soaker hoses.

Person: Any customer, tenant, property owner, governmental entity, firm, association, organization, company or business using water.

Recycled water: Treated reclaimed wastewater from a publicly owned treatment plant.

Turf: Grasses grown for ornamental or recreational use which are mowed regularly. It is also referred to as lawn.

Water: Any water delivered by or originating from Coastside County Water District's transmission and distribution system.

Section 3: Prohibited Activities in Promotion of Water Conservation

D. To promote water conservation, each of the following actions is prohibited except where necessary to address an immediate health and safety need or to comply with a term or condition in a permit issued by a state or federal agency:

7. The application of water to outdoor landscapes and turf in a manner that causes runoff such that water flows onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots, storm-water drainage infrastructure, or structures;

8. The use of a hose that dispenses water to wash motorized vehicles, boats and trailers, except where the hose is fitted with a positive shut-off nozzle or device attached to it that causes it to cease dispensing water immediately when not in use;

9. The application of water to driveways and sidewalks; and

10. The use of water in a fountain or other decorative water feature, except where the water is part of a recirculating system.

E. To further promote water conservation, each of the following actions is prohibited:

6. The use of water that causes flooding or pooling due to super-saturation of the ground or soil.

7. The use of water when the customer has been given written notice by the District to repair broken or defective plumbing, equipment, appliances, sprinklers, watering or irrigation systems, and has failed to complete such repairs for 24 hours after delivery of the notice.

8. The indiscriminate running of water or washing with water that causes runoff.

9. The use of water for single pass through cooling systems. The use of potable water ice making machines and other mechanical equipment that utilizes a single-pass cooling system to remove and discharge heat to the sewer. Water used for all cooling purposes shall be recycled or re-circulated.

10. The use of water from any fire hydrant, unless specifically authorized by the District, except by regularly constituted fire protection agencies for fire suppression purposes or for other specifically authorized uses, including water distribution flushing, fire flow testing, and filling of District approved vehicles for sewer system flushing, and street sweeping purposes.

Section 4: Mandatory Restrictions on Outdoor Irrigation of Ornamental Landscapes or Turf

F. Time of day restriction. No person shall use or cause to be used any water for ornamental landscape or turf irrigation between the hours of 8:00 a.m. and 5:00 p.m.

G. The limitations specified in Section 4.A. shall not apply to Agriculture, Plant Nurseries, Cemeteries, K-12 School Sports Fields, Private League Sports Fields, Public Parks, and Golf Courses.

H. Section 4. A. does not apply to the following categories of water use for the irrigation of ornamental landscapes or turf:

7. the use of a hand-held bucket or similar container; and

8. the use of a hand-held hose with a positive shut-off valve or similar device; and

9. the use of a properly functioning low volume irrigation system; and

10. the use for very short periods of time for the express purpose of adjusting or repairing an irrigation system; and

11. the use of a graywater system; and

12. the use of recycled water.

Section 5: Enforcement

D. Written Notice

If the District believes that water has been or is being used in violation of the above restrictions, the District will send a written notice to the customer specifying the nature of the violation and the date and time of occurrence and request that the customer cease the violation and take remedial action. The District will provide the customer with a copy of the ordinance and inform the customer that failure to comply may result in termination of water service.

E. On-Site Notification

In the event that a further violation(s) is observed by District, after the original written notice, the District will make reasonable efforts to notify the customer of the violation and post a notice on the front door or other point of entry onto the property requiring the customer to cease the violation and take remedial action within 48 hours of the on-site notification. Failure to comply after the on-site notification may result in the temporary termination of water service.

F. Termination of Water Service

4. In the event that a further violation(s) is observed by District personnel 48 or more hours after the on-site notification, it will be deemed a willful violation of the mandatory restrictions on water use and the District may temporarily discontinue water service.

5. The customer shall be responsible for paying the District's costs incurred in enforcing this ordinance, including providing the on-site notification and temporarily terminating and restoring water service, on a time and material basis.

a. Turn off during normal business hours $20.00

b. Reconnection during normal business hours $20.00

c. Reconnection other than normal business hours $50.00

d. Labor rate of $78.97 per hour during normal business hours

6. The customer shall pay all fees and charges above, and the customer's account must be in good standing, in order for the District to proceed with the reconnection of water service after it has been temporarily terminated.

Section 6: Appeal

Any customer, who disputes a staff determination of a violation of the above restrictions, may appeal in writing to the General Manager. The decision of the General Manager shall be final.

C. Written Appeal

The written appeal must be addressed to the General Manager and include: (1) the customer's name; (2) the mailing address and site address, if different; (3) the water account number; (4) a description of the violation(s); (5) the enforcement action taken; and (6) a detailed explanation of the basis of the appeal.

Coastside County Water District
Attn: General Manager
766 Main Street
Half Moon Bay, CA 94019

D. Criteria for Appeal

The General Manager will evaluate each written appeal based on the following criteria: (1) public health; (2) public safety; and (3) regulatory requirements of a state or federal agency.

Section 7: Effective Date

All provisions of this ordinance shall become effective after the publication of this ordinance and remain in effect until the District cancels implementation of Stage 2 – Water Shortage Emergency Warning of the District's Water Shortage Contingency Plan.

Section 8: Severability

If any provision of this ordinance is held to be invalid, or unenforceable in particular circumstances, such invalidity shall not affect the remainder of the ordinance which shall continue to be in full force and effect and the Board declares this ordinance to be severable for that purpose.

Section 9: Publication

The secretary is hereby directed to arrange for this ordinance to be published in a newspaper of general circulation in the District and to be posted on the District's website.

PASSED AND ADOPTED at a regular meeting of the Board of Directors of the Coastside County Water District held on this 12th day of August 2014 by the following vote:

AYES:
NOES:
ABSENT:

_____
President
Board of Directors

ATTEST:

_____
General Manager
Secretary of the District

Appendix F

Sample Ordinance: Mandatory Restrictions with Time of Day and Day of Week Irrigation

ORDINANCE NO. xxxx-xx
AN AMENDED AND RESTATED ORDINANCE OF
THE COASTSIDE COUNTY WATER DISTRICT

An ordinance establishing and expanding mandatory water use restrictions and prohibitions under Stage 2- Water Shortage Emergency Warning of the District's Water Shortage Contingency Plan

Be it ordained by the Board of Directors of the Coastside County Water District (District) as follows:

Section 1: Findings and Determinations

This ordinance is adopted in light of the following facts and circumstances, which are hereby found and declared by the Board of Directors.

WHEREAS, California is experiencing one of the most severe droughts on record; and

WHEREAS, the District implemented Stage 1 – Water Shortage Advisory of its Water Shortage Contingency Plan on October 8, 2013 informing the public of a possible water shortage and requesting voluntary water conservation; and

WHEREAS, Governor Brown declared a drought state of emergency on January 17, 2014, and called on all Californians to do their part to reduce their water use; and

WHEREAS, the wholesale water provider for a significant portion of the District's water supply, the San Francisco Public Utilities Commission (SFPUC), requested 10 percent voluntary water use reduction system-wide on January 31, 2014; and

WHEREAS, the District requested 10 percent voluntary water use reduction from all customers on February 11, 2014; and

WHEREAS, Governor Brown issued a proclamation of a continued state of emergency on April 25, 2014 to mitigate the effects of drought conditions upon the people and property of California, and called on residents to refrain from wasting water; and

WHEREAS, the District adopted Resolution 2014-02 on May 13, 2014 urging heightened water use efficiency by customers in response to drought conditions, and

WHEREAS, the State Water Resources Control Board (SWRCB) adopted drought emergency regulations on July 15, 2014 (Resolution No. 2014-0038) that imposed mandatory actions by urban water suppliers that became effective July 28, 2014; and

WHEREAS, the District was required to comply with the 2014 SWRCB drought emergency regulations as an urban water supplier, and one of the mandatory actions requires the District to implement all requirements and actions of the stage of its Water Shortage Contingency Plan that impose mandatory restrictions on outdoor irrigation of ornamental landscapes or turf with potable water; and

WHEREAS, the District is an urban water supplier that has an adopted Water Shortage Contingency Plan that is considered sufficient by the California Department of Water Resources by review of the District's 2010 Urban Water Management Plan; and

WHEREAS, Stage 2 – Water Shortage Emergency Warning of the District's Water Shortage Contingency Plan describes a menu of options including mandatory restrictions on outdoor water use, irrigation and prohibiting cleaning of exterior surfaces with potable water; and

WHEREAS, by Resolution No. 2014-06, adopted on August 12, 2014, the District implemented Stage 2 – Water Shortage Emergency Warning of its Water Shortage Contingency Plan; and

WHEREAS, by Ordinance No. 2014-02, adopted on August 12, 2014, the District established mandatory water use prohibitions and restrictions under Stage 2-Water Shortage Emergency Warning of its Water Shortage Contingency Plan; and

WHEREAS, the SWRCB extended and expanded the drought emergency regulations on March 17, 2015 (Resolution No. 2015-0013) that imposes mandatory actions by urban water suppliers that became effective March 27, 2015; and

WHEREAS, Governor Brown issued Executive Order B-29-15 on April 1, 2015, that, in part, directed the SWRCB to impose restrictions to achieve a statewide 25 percent reduction in potable urban water usage, to increase enforcement against water waste, and to implement additional restrictions on the outdoor use of potable water; and

WHEREAS, the SWRCB expanded and modified its drought emergency regulations on May 5, 2015 (Resolution 2015-0032) to achieve a statewide 25 percent reduction in potable urban water usage and the emergency regulations went into effect on May 18, 2015; and

WHEREAS, the SWRCB determined that the District had an average July-September 2014 R-GPCD of less than 65, and that the District shall reduce its total potable water production by 8 percent for each month as compared to the amount used in the same month in 2013; and

WHEREAS, the SFPUC's request for all customers to reduce water consumption by 10 percent system-wide, remains in place; and

WHEREAS, the actions taken hereinafter are exempt from the provisions of Section 21000 et seq. of the Public Resources Code as a project undertaken as immediate action necessary to prevent or mitigate an emergency pursuant to Title 14, California Code of Regulations Section 15269 and as a project undertaken to assure the maintenance, restoration or enhancement of a natural resource pursuant to Title 14, California Code of Regulations Section 15307.

Section 2: Definitions

Agricultural use: Use that meets the definition of Government Code section 51201, subdivision (b).

Customer: Any person, whether within or without the geographical boundaries of the District, who uses water supplied by the District.

District: Coastside County Water District.

General Manager: The General Manager of Coastside County Water District or the General Manager's designee.

Graywater: Untreated household wastewater which has not come in contact with toilet waste, as regulated by the 2013 California Plumbing Code Chapter 16 Section 1602.

Irrigation station: A group of sprinklers controlled by the same valve to correspond to a hydrozone, also referred to as a circuit.

Low volume irrigation systems: Any irrigation system that applies irrigation water at low pressure through a system of tubing or lateral lines and low volume emitters such as drip, driplines, microspray, and bubblers with a very low flow rate ($\leq$ 2 gallons per hour [gph]) measured in gallons per hour, and that is designed to apply small volumes of water very slowly at or near the root zone of plants. This includes but is not limited to properly functioning drip irrigation systems and soaker hoses.

Measurable rainfall: Climatological conditions that result in $\geq$ 0.1 (greater than or equal to one tenth) of an inch of precipitation in any continuous 4 (four) hour period.

Ornamental landscape: Any landscaping where the primary function is of maintaining aesthetic value. An ornamental landscape may serve other purposes, but the primary purpose is visual.

Person: Any customer, tenant, property owner, governmental entity, firm,association, organization, company or business using water.

Recycled water: Treated reclaimed wastewater from a publicly owned treatment plant.

Turf: Grasses grown for ornamental or recreational use which are mowed regularly. It is also referred to as lawn.

Water: Any water delivered by or originating from Coastside County Water District's transmission and distribution system.

Section 3: Prohibited and Restricted Activities in Promotion of Water Conservation

F. To promote water conservation, each of the following actions is prohibited, except where necessary to address an immediate health and safety need or to comply with a term or condition in a permit issued by a state or federal agency:

11. The application of water to outdoor landscapes and turf in a manner that causes runoff such that water flows onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots, storm-water drainage infrastructure, or structures;

12. The use of a hose that dispenses water to wash motorized vehicles, boats and trailers, except where the hose is fitted with a positive shut-off nozzle or device attached to it that causes it to cease dispensing water immediately when not in use;

13. The application of water to driveways and sidewalks;

14. The use of water in a fountain or other decorative water feature, except where the water is part of a recirculating system;

15. The application of water to outdoor landscapes during and within 48 hours after measurable rainfall; and

16. The application of water to ornamental turf on public street medians.

G. To prevent the waste and unreasonable use of water and to further promote water conservation, each of the following actions is prohibited:

11. The use of water that causes flooding or pooling due to super-saturation of the ground or soil;

12. The use of water when the customer has been given written notice by the District to repair broken or defective plumbing, equipment, appliances, sprinklers, watering or irrigation systems, and has failed to complete such repairs for 24 hours after delivery of the notice;

13. The indiscriminate running of water or washing with water that causes runoff;

14. The use of water for single pass through cooling systems. The use of potable water ice making machines and other mechanical equipment that utilizes a single-pass cooling system to remove and discharge heat to the sewer. Water used for all cooling purposes shall be recycled or re-circulated; and

15. The use of water from any fire hydrant, unless specifically authorized by the District, except by regularly constituted fire protection agencies for fire suppression purposes or for other specifically authorized uses, including water distribution flushing, fire flow testing, and filling of District approved vehicles for sewer system flushing, and street sweeping purposes.

H. Specific Non-Residential End-User Requirements and Prohibitions in Promotion of Water Conservation:

4. The serving of drinking water other than upon request in eating or drinking establishments, including but not limited to restaurants, hotels, cafes, cafeterias, bars, or other public places where food or drink are served and/or purchased; and

5. Operators of hotels, motels, inns, and bed and breakfast establishments shall provide guests with the option of choosing not to have towels and linens laundered daily. The operator shall prominently display notice of this option in each guestroom using clear and easily understood language; and

6. All commercial, industrial, institutional and irrigation customers that use a water supply any portion of which is from a source other than Coastside County Water District shall:

(d) Notify the District by July 1, 2015, if there is an alternate water supply associated with their property; and

(e) Limit outdoor irrigation of ornamental landscapes or turf with potable water to no more than two days per week; or

(f) Reduce potable water usage by 25 percent for the months of June 2015 through February 2016 as compared to the amount used for the same months in 2013.

Section 4: Mandatory Restrictions on Outdoor Irrigation of Ornamental Landscapes or Turf

I. Time of day restriction. No person shall use or cause to be used any water for ornamental landscape or turf irrigation between the hours of 8:00 a.m. and 5:00 p.m.

J. Length of time restriction. No person shall use or cause to be used any water for ornamental landscape or turf irrigation that exceeds 15 minutes per irrigation station during the designated days and times allowed for irrigation.

K. Days of the week restrictions. No person shall use or cause to be used any water for ornamental landscape or turf irrigation on Sunday and Saturday. Irrigation of ornamental landscape or turf is allowed only on the following days:

5. Odd Address: Monday and Thursday

6. Even Address: Tuesday and Friday

7. No Address: Monday and Thursday

8. The address used to determine Irrigation days is as it appears under service address in the utility billing database under account information.

L. The limitations specified in Section 4. A, B, and C shall not apply to Agricultural use, Floricultural use and Plant Nursery use.

M. Section 4. A, B, and C does not apply to the following categories of water use for the irrigation of ornamental landscapes or turf:

13. the use of a hand-held bucket or similar container;

14. the use of a hand-held hose with a positive shut-off valve or similar device;

15. the use of a properly functioning low volume irrigation system;

16. the use for very short periods of time for the express purpose of adjusting or repairing an irrigation system;

17. the use of a graywater system; and

18. the use of recycled water.

Section 5: Enforcement

G. Written Notice

If the District believes that water has been or is being used in violation of the above restrictions, the District will send a written notice to the customer specifying the nature of the violation and the date and time of occurrence and request that the customer cease the violation and take remedial action. The District will provide the customer with a copy of the ordinance and inform the customer that failure to comply may result in termination of water service.

H. On-Site Notification

In the event that a further violation(s) is observed by District, after the original written notice, the District will make reasonable efforts to notify the customer of the violation and post a notice on the front door or other point of entry onto the property requiring the customer to cease the violation and take remedial action within 48 hours of the on-site notification. Failure to comply after the on-site notification may result in the temporary termination of water service.

I. Termination of Water Service

7. In the event that a further violation(s) is observed by District personnel 48 or more hours after the on-site notification, it will be deemed a willful violation of the mandatory restrictions on water use and the District may temporarily discontinue water service.

8. The customer shall be responsible for paying the District's costs incurred in enforcing this ordinance, including providing the on-site notification and temporarily terminating and restoring water service, on a time and material basis in accordance with the District's rate and fee schedule.

9. The customer shall pay all fees and charges above, and the customer's account must be in good standing, in order for the District to proceed with the reconnection of water service after it has been temporarily terminated.

Section 6: Appeal

Any customer, who disputes a staff determination of a violation of the above restrictions, may appeal in writing to the General Manager. The decision of the General Manager shall be final.

E. Written Appeal

The written appeal must be addressed to the General Manager and include: (1) the customer's name; (2) the mailing address and site address, if different; (3) the water account number; (4) a description of the violation(s); (5) the enforcement action taken; and (6) a detailed explanation of the basis of the appeal.

Coastside County Water District
Attn: General Manager
766 Main Street
Half Moon Bay, CA 94019

F. Criteria for Appeal

The General Manager will evaluate each written appeal based on the following criteria: (1) public health; (2) public safety; and (3) regulatory requirements of a state or federal agency.

Section 7: Effective Date

All provisions of this amended and restated ordinance shall become effective after the publication of this ordinance and remain in effect until the District cancels implementation of Stage 2 – Water Shortage Emergency Warning of the District's Water Shortage Contingency Plan.

Section 8: Severability

If any provision of this ordinance is held to be invalid, or unenforceable in particular circumstances, such invalidity shall not affect the remainder of the ordinance which shall continue to be in full force and effect and the Board declares this ordinance to be severable for that purpose.

Section 9: Publication

The secretary is hereby directed to arrange for this ordinance to be published in a newspaper of general circulation in the District and to be posted on the District's website.

PASSED AND ADOPTED at a regular meeting of the Board of Directors of the Coastside County Water District held on this 9th day of June 2015 by the following vote:

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Appendix G

Sample Ordinance: Residential Allocations

ORDINANCE NO. _____

COASTSIDE COUNTY WATER DISTRICT

AN ORDINANCE ESTABLISHING RULES AND REGULATIONS FOR RATIONING WATER DURING A WATER SHORTAGE EMERGENCY AND ESTABLISHING PENALTIES FOR VIOLATIONS THEREOF

BE IT ORDAINED BY THE BOARD OF DIRECTORS OF THE COASTSIDE COUNTY WATER DISTRICT AS FOLLOWS:

Section 1: Findings and Determinations

This ordinance is adopted in light of the following facts and circumstances, which are hereby found and declared by the Board of Directors.

Whereas, the District obtains the majority of its water from the San Francisco Public Utilities Commission (SFPUC) and is substantially dependent on the SFPUC supply throughout the year and particularly in dry years.

Whereas, the SFPUC has, on (insert date), found that due to (add qualifier; extremely or severely) low water supplies within the reservoirs and anticipated low levels of inflow into such reservoirs, water consumption must be decreased and has declared a water shortage emergency.

Whereas, the SFPUC has adopted a water conservation program under which the amount of water allocated to the District will be reduced by approximately (insert percentage) during fiscal year (insert year).

Whereas, the District's local sources of water, which supplement the water supplies purchased from SFPUC, are also below normal as a result of (insert number of years or months) of below normal precipitation.

Whereas, the actions of the SFPUC, and the reduced amount of water available from local sources, a water shortage emergency exists within the area served by the District.

Whereas, the rules, regulations and restrictions set forth in this ordinance are intended to conserve the water supply of the District for the greatest public benefit with particular regard to domestic use, sanitation and fire protection.

Whereas, according to the District's Water Shortage and Drought Contingency Plan, conditions exist to implement Stage (insert stage number and description here), as developed under authority of California Water Code Section 10632.

Whereas, the specific uses prohibited or restricted by this ordinance are nonessential, and if allowed would constitute wastage of District water, and should be prohibited pursuant to the District's authority under California Water Code section 350 – 359 et seq., California Water Code Section 31026 et seq., and the common law.

Whereas, the actions taken hereinafter are exempt from the provisions of Section 21000 et seq. of the Public Resources Code as a project undertaken as immediate action necessary to prevent or mitigate an emergency pursuant to Title 14, California Code of Regulations Section 15269 and as a project undertaken to assure the maintenance, restoration or enhancement of a natural resource pursuant to Title 14, California Code of Regulations Section 15307.

Section 2: Definitions

A. "District" means Coastside County Water District
B. "General Manager" means the General Manager of the District.
C. "Person" means any person, firm, partnership, association, corporation, company, organization or governmental entity.
D. "Customer" means any person, whether within or without the geographic boundaries of the District, who uses water supplied by the District.
E. "Billing Unit" means a quantity of water equal to 100 cubic feet (ccf) or 748 gallons.
F. "Account" means a metered or unmetered water service.

Section 3: Prohibition of Nonessential Water Use

It shall be unlawful for any person to use water obtained from the water system of the District for nonessential uses as hereinafter defined in Sections 4 and 5.

Section 4: Allocations

A. Use of water in excess of the following allocation is hereby determined to be nonessential:

1. Residential Accounts

a. Basic Allocation: The allocation for each billing period (monthly or bi-monthly) shall be:

1. Minimum Allocation: Residential customers shall be granted an allocation based on the number of permanent, full-time residents. A customer shall submit evidence, satisfactory to the General Manager, of the number of permanent, full–time residents. The minimum allocation for a billing period is determined as follows:

Number of full-time permanent residents per living unit	Bi-Monthly Allocation (in billing units)	Monthly Allocation (in billing units)
One person	(insert ccf)	(insert ccf)
Second Person	(insert ccf)	(insert ccf)
Each Additional Person	(insert ccf)	(insert ccf)
For example, the minimum bi-monthly allocation for a living unit with three permanent, full-time residents would be (insert ccf) billing units.		

2. Maximum Allocation: No residential customer shall be entitled to an allocation of more than (insert ccf) billing units during a bi-monthly billing period.

3. Allocation for Livestock: Residential customers shall be entitled to an allocation for livestock: The allocation for a billing period is determined as follows:

Livestock	Gallons Per Day
Horse	12
Cow	20-45
Pig	5
Sheep/Goat	2
Poultry/Fowl	15/Q100
University of New Hampshire Cooperative Extension "water conservation on dairy and livestock farms"	

2. Non-Residential Customers

(fill in percent) of the base year (insert base year) during the corresponding billing period is allowed.

3. Dedicated Irrigation Customers

(fill in percent) of the base year (insert base year) during the corresponding billing period is allowed.

4. Raw Water Customers Under Contract

During a water emergency, customers under special contract shall not receive any water.

5. Allocation Where No Past History Exists

When water records are not available, individual allocations will be calculated on the basis of the current occupancy.

Section 5: General Prohibitions

The following uses of water are hereby determined to be nonessential:

A. Use of water through any meter when the customer has been given 24 hours notice to repair broken or defective plumbing, sprinkler, watering or irrigation systems and has failed to complete such repairs.

B. Use of water which results in flooding or runoff in gutters or streets.

C. The use of non-recycled water for washing cars, buses, boats, trailers, motorcycles, vehicles, and other equipment, except for washing with a bucket and rinsing with a handheld hose equipped with a nozzle with a positive shutoff valve.

D. Use of water through a hand-held hose for washing sidewalks, walkways, driveways, patios, parking lots, tennis courts, or other hard surfaced areas.

E. Use of water for initially filling or refilling any swimming pool, sauna or hot tub constructed after the date of this ordinance.

F. Use of water for construction purposes, such as dust control and consolidation of backfill.

G. Service of water by restaurants except upon the specific request of the customer.

H. Use of water for residential and commercial decorative landscaped areas, unless the plants are edible and are intended to be used as a source of food for customers. Golf courses are exempt from this prohibition.

Section 6: Exceptions

Written applications for an exception to water use restrictions (Section 5) or for an adjustment to an allocation (Section 4) may be made to the General Manager on a form provided by the District.

The General Manager may grant an exception or adjust an allocation if he finds that (1) failure to do so would adversely affect the health, sanitation, fire protection or safety of the customer or the public, or (2) failure to do so would cause an unnecessary and undue hardship to the customer or the public, such as loss of jobs in the community. The General Manager may condition the exception or adjustment upon the customer's adopting practical water conservation measures.

A customer may appeal a decision of the General Manager to the Board of Directors. To do so, he or she must submit a written statement of the reasons for the appeal, together with evidence for support.

Section 7: Excess Water Use Charge

A. An excess use charge shall be imposed on water used in excess of a customer's allocation, during each billing period, as follows:

Amount in Excess of Allocation	Excess Use Charge
Up to 10% over allocation	(insert multiplier) times the applicable regular unit rate
10.01% -20% over allocation	(insert multiplier) times the applicable regular unit rate
20.01% - 25% over allocation	(insert multiplier) times the applicable regular unit rate
25.01% or more over allocation	(insert multiplier) times the applicable regular unit rate

B. The excess use charges are in addition to the basic rate for water used.

C. One billing unit will be subtracted from the consumption amount used to calculate excess use charges to account for the fact that meter reads are based on whole numbers, so the previous billing period's usage could be carried over to the next billing period, if it was less than 1ccf.

Section 8: Rates

A. The District shall recover the cost of increased rates imposed by the SFPUC.

Water Shortage Rates

Sales Class	Consumption Range	$/ccf
Non Residential		
	1+	$ (insert dollar amount)
Residential		
	0-8	$ (insert dollar amount)
	9-25	$ (insert dollar amount)
	26-40	$ (insert dollar amount)
	41+	$ (insert dollar amount)

B. The District shall institute a water shortage surcharge to recover the increased costs of operations, maintenance and additional staffing needed for enforcement of rules and regulations. This surcharge is in addition to meter base charges.

Water Shortage Surcharge

Meter Size	Monthly	Bi-Monthly
5/8 ”	$ (insert dollar amount)	$ (insert dollar amount)
5/8 ” (serving 2 dwelling units)	$ (insert dollar amount)	$ (insert dollar amount)
3/4 “	$ (insert dollar amount)	$ (insert dollar amount)
3/4 “ (serving 2 dwelling units)	$ (insert dollar amount)	$ (insert dollar amount)
1 “	$ (insert dollar amount)	$ (insert dollar amount)
1- 1/2 “ (1.5 “)	$ (insert dollar amount)	$ (insert dollar amount)
2 “	$ (insert dollar amount)	$ (insert dollar amount)
3 “	$ (insert dollar amount)	$ (insert dollar amount)
4 “	$ (insert dollar amount)	$ (insert dollar amount)

Section 9: Enforcement

A. Installation of Flow Restricting Devices

In lieu of, or in addition to, the penalties provided for in Section 356 and Section 31029 of the California Water Code, the District may, after one written warning, install a flow restricting device on the service line of any customer violating any of the provisions of this ordinance, including use of water in excess of the allocation set out on Section 4.

B. Charges for Installation of Flow Restricting Devices and Restoration of Service

Meter Size	Installation Charge	Removal Charge
5/8” to 1”	(insert charge)	(insert charge)
1-1/2” to 2”	(insert charge)	(insert charge)
3” and larger	(insert charge)	(insert charge)

First installation to be a minimum of 3 days; succeeding installations shall be a minimum of 10 days.

C. Discontinuance of Water Service

Continued water consumption in excess of the allocation may result in the discontinuance of water service by the District. A charge of (insert charge) shall be paid prior to reactivating the service.

Section 10: Effective Date

All provisions of this ordinance shall become effective immediately. Excess use charges shall become effective and shall be included in billing statements commencing with billing statements mailed on or after July 1, (insert year).

Section 11: Severability

If any provision of this ordinance is held to be invalid, or unenforceable in particular circumstances, such invalidity shall not affect the remainder of the ordinance which shall continue to be of full force and effect and the Board declares this ordinance to be severable for that purpose.

Section 12: Publication

The Secretary is hereby directed to arrange for this ordinance to be published in a newspaper of general circulation in the District.

Passed and Adopted this (insert date) day of (insert month), (insert year) by the following vote:

Ayes:
Noes:
Absent:

_____
President, Board of Directors
Coastside County Water District

Attest:

_____
Secretary

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Appendix H

Reference Materials

AWWA M60, Drought Preparedness and Response Second Edition, 2011

California Legislative Information, http://leginfo.legislature.ca.gov/

California Water Efficiency Partnership (CalWEP), Jumpstart Water Shortage Toolkit 2021 Update, January 28, 2021

City and County of San Francisco, Water Supply Agreement between the City and County of San Francisco and Wholesale Customers in Alameda County, San Mateo County and Santa Clara County, Tier 1 and Tier 2, July 2009

County of San Mateo, The San Mateo County Hazard Mitigation Plan, July 2016, https://cmo.smcgov.org/multijurisdictional-local-hazard-mitigation-plan-resources

State of California, Department of Water Resources and State Water Resources Control Board, Making Water Conservation a California Way of Life, November 2018

State of California, Department of Water Resources, Office of Water Use Efficiency and Transfers State of California Urban Drought Guidebook 2020

State of California, Department of Water Resources, Office of Water Use Efficiency, Urban Water Management Plan Guidebook, 2020, March 2021

State of California, California Natural Resources Agency and the Department of Water Resources, California Drought Contingency Plan, November 2010

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Appendix I

SFPUC Wholesale Customer Water Annual Rationing Table (198.6 MGD with 2020 Infrastructure) with and without Bay-Delta Plan

Wholesale Customer Rationing							
SFPUC Fiscal Year (July-June)	SJI Water Year Type	2020 Infrastructure Conditions with 198.6 MGD Systemwide Demand			2020 Infrastructure Conditions and Bay-Delta Plan (40% UF) with 198.6 MGD Systemwide Demand		
		TAF/yr	MGD	Rationing (% of Total)	TAF/yr	MGD	Rationing (% of Total)
FY20-21	BN	148	132	0%	148	132	0%
FY21-22	AN	148	132	0%	148	132	0%
FY22-23	W	148	132	0%	148	132	0%
FY23-24	AN	148	132	0%	148	132	0%
FY24-25	C	148	132	0%	97	87	34%
FY25-26	BN	148	132	0%	148	132	0%
FY26-27	D	148	132	0%	148	132	0%
FY27-28	AN	148	132	0%	148	132	0%
FY28-29	BN	148	132	0%	148	132	0%
FY29-30	C	148	132	0%	97	87	34%
FY30-31	C	148	132	0%	97	87	34%
FY31-32	C	148	132	0%	83	74	44%
FY32-33	AN	148	132	0%	148	132	0%
FY33-34	D	148	132	0%	148	132	0%
FY34-35	C	148	132	0%	97	87	34%
FY35-36	AN	148	132	0%	148	132	0%
FY36-37	AN	148	132	0%	148	132	0%
FY37-38	W	148	132	0%	148	132	0%
FY38-39	W	148	132	0%	148	132	0%
FY39-40	D	148	132	0%	148	132	0%
FY40-41	AN	148	132	0%	148	132	0%
FY41-42	W	148	132	0%	148	132	0%
FY42-43	W	148	132	0%	148	132	0%
FY43-44	W	148	132	0%	148	132	0%
FY44-45	BN	148	132	0%	148	132	0%
FY45-46	AN	148	132	0%	148	132	0%
FY46-47	AN	148	132	0%	148	132	0%
FY47-48	D	148	132	0%	148	132	0%
FY48-49	BN	148	132	0%	148	132	0%
FY49-50	BN	148	132	0%	148	132	0%
FY50-51	BN	148	132	0%	148	132	0%
FY51-52	AN	148	132	0%	148	132	0%
FY52-53	W	148	132	0%	148	132	0%
FY53-54	BN	148	132	0%	148	132	0%
FY54-55	BN	148	132	0%	148	132	0%
FY55-56	D	148	132	0%	148	132	0%
FY56-57	W	148	132	0%	148	132	0%
FY57-58	BN	148	132	0%	148	132	0%
FY58-59	W	148	132	0%	148	132	0%
FY59-60	D	148	132	0%	148	132	0%

SFPUC Fiscal Year (July-June)	SJI Water Year Type	2020 Infrastructure Conditions with 198.6 MGD Systemwide Demand			2020 Infrastructure Conditions and Bay-Delta Plan (40% UF) with 198.6 MGD Systemwide Demand		
		TAF/yr	MGD	Rationing (% of Total)	TAF/yr	MGD	Rationing (% of Total)
FY60-61	C	148	132	0%	97	87	34%
FY61-62	C	148	132	0%	83	74	44%
FY62-63	BN	148	132	0%	148	132	0%
FY63-64	AN	148	132	0%	148	132	0%
FY64-65	D	148	132	0%	148	132	0%
FY65-66	W	148	132	0%	148	132	0%
FY66-67	BN	148	132	0%	148	132	0%
FY67-68	W	148	132	0%	148	132	0%
FY68-69	D	148	132	0%	148	132	0%
FY69-70	W	148	132	0%	148	132	0%
FY70-71	AN	148	132	0%	148	132	0%
FY71-72	BN	148	132	0%	148	132	0%
FY72-73	D	148	132	0%	97	87	34%
FY73-74	AN	148	132	0%	148	132	0%
FY74-75	W	148	132	0%	148	132	0%
FY75-76	W	148	132	0%	148	132	0%
FY76-77	C	148	132	0%	97	87	34%
FY77-78	C	148	132	0%	83	74	44%
FY78-79	W	148	132	0%	148	132	0%
FY79-80	AN	148	132	0%	148	132	0%
FY80-81	W	148	132	0%	148	132	0%
FY81-82	D	148	132	0%	148	132	0%
FY82-83	W	148	132	0%	148	132	0%
FY83-84	W	148	132	0%	148	132	0%
FY84-85	AN	148	132	0%	148	132	0%
FY85-86	D	148	132	0%	148	132	0%
FY86-87	W	148	132	0%	148	132	0%
FY87-88	C	148	132	0%	97	87	34%
FY88-89	C	148	132	0%	83	74	44%
FY89-90	C	148	132	0%	83	74	44%
FY90-91	C	148	132	0%	83	74	44%
FY91-92	C	148	132	0%	83	74	44%
FY92-93	C	148	132	0%	83	74	44%
FY93-94	W	148	132	0%	148	132	0%
FY94-95	C	148	132	0%	97	87	34%
FY95-96	W	148	132	0%	148	132	0%
FY96-97	W	148	132	0%	148	132	0%
FY97-98	W	148	132	0%	148	132	0%
FY98-99	W	148	132	0%	148	132	0%
FY99-00	AN	148	132	0%	148	132	0%
FY00-01	AN	148	132	0%	148	132	0%
FY01-02	D	148	132	0%	148	132	0%
FY02-03	D	148	132	0%	148	132	0%
FY03-04	BN	148	132	0%	148	132	0%
FY04-05	D	148	132	0%	148	132	0%
FY05-06	W	148	132	0%	148	132	0%
FY06-07	W	148	132	0%	148	132	0%
FY07-08	C	148	132	0%	148	132	0%
FY08-09	C	148	132	0%	148	132	0%

SFPUC Fiscal Year (July-June)	SJI Water Year Type	2020 Infrastructure Conditions with 198.6 MGD Systemwide Demand			2020 Infrastructure Conditions and Bay-Delta Plan (40% UF) with 198.6 MGD Systemwide Demand		
		TAF/yr	MGD	Rationing (% of Total)	TAF/yr	MGD	Rationing (% of Total)
FY09-10	BN	148	132	0%	148	132	0%
FY10-11	AN	148	132	0%	148	132	0%
FY11-12	W	148	132	0%	148	132	0%
FY12-13	D	148	132	0%	148	132	0%
FY13-14	C	148	132	0%	148	132	0%
FY14-15	C	148	132	0%	83	74	44%
FY15-16	C	148	132	0%	83	74	44%
FY16-17	D	148	132	0%	148	132	0%

These tables reflect simulations performed with Hetch Hetchy/Local Simulation Model (HHLSM) for the SFPUC 2020 Urban Water Management Plan.

Red highlights indicate water supply rationing.

Notes about Tier 1 Allocation calculations:

* Retail allocation cannot be above 81 million gallons per day (MGD); anything above 81 MGD gets re-allocated to wholesale customers

* Retail is required per WSA to conserve 5% in any dry year; however this doesn't impact retail allocation, it would be a demand-side reduction

* 5% conservation requirement applies only to retail, not wholesale

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Appendix J

SFPUC Wholesale Customer Water Annual Rationing Table (213.2 MGD with 2025 Infrastructure) with and without Bay-Delta Plan

Wholesale Customer Rationing							
SFPUC Fiscal Year (July-June)	SJI Water Year Type	2025 Infrastructure Conditions with 213.2 MGD Systemwide Demand			2025 Infrastructure Conditions and Bay-Delta Plan (40% UF) with 213.2 MGD Systemwide Demand		
		TAF/yr	MGD	Rationing (% of Total)	TAF/yr	MGD	Rationing (% of Total)
FY20-21	BN	164	146	0%	164	146	0%
FY21-22	AN	164	146	0%	164	146	0%
FY22-23	W	164	146	0%	164	146	0%
FY23-24	AN	164	146	0%	164	146	0%
FY24-25	C	164	146	0%	104	93	36%
FY25-26	BN	164	146	0%	164	146	0%
FY26-27	D	164	146	0%	164	146	0%
FY27-28	AN	164	146	0%	164	146	0%
FY28-29	BN	164	146	0%	164	146	0%
FY29-30	C	164	146	0%	104	93	36%
FY30-31	C	164	146	0%	104	93	36%
FY31-32	C	164	146	0%	90	80	45%
FY32-33	AN	164	146	0%	164	146	0%
FY33-34	D	164	146	0%	164	146	0%
FY34-35	C	164	146	0%	104	93	36%
FY35-36	AN	164	146	0%	164	146	0%
FY36-37	AN	164	146	0%	164	146	0%
FY37-38	W	164	146	0%	164	146	0%
FY38-39	W	164	146	0%	164	146	0%
FY39-40	D	164	146	0%	164	146	0%
FY40-41	AN	164	146	0%	164	146	0%
FY41-42	W	164	146	0%	164	146	0%
FY42-43	W	164	146	0%	164	146	0%
FY43-44	W	164	146	0%	164	146	0%
FY44-45	BN	164	146	0%	164	146	0%
FY45-46	AN	164	146	0%	164	146	0%
FY46-47	AN	164	146	0%	164	146	0%
FY47-48	D	164	146	0%	164	146	0%
FY48-49	BN	164	146	0%	164	146	0%
FY49-50	BN	164	146	0%	164	146	0%
FY50-51	BN	164	146	0%	164	146	0%
FY51-52	AN	164	146	0%	164	146	0%
FY52-53	W	164	146	0%	164	146	0%
FY53-54	BN	164	146	0%	164	146	0%

SFPUC Fiscal Year (July-June)	SJI Water Year Type	2025 Infrastructure Conditions with 213.2 MGD Systemwide Demand			2025 Infrastructure Conditions and Bay-Delta Plan (40% UF) with 213.2 MGD Systemwide Demand		
		TAF/yr	MGD	Rationing (% of Total)	TAF/yr	MGD	Rationing (% of Total)
FY54-55	BN	164	146	0%	164	146	0%
FY55-56	D	164	146	0%	164	146	0%
FY56-57	W	164	146	0%	164	146	0%
FY57-58	BN	164	146	0%	164	146	0%
FY58-59	W	164	146	0%	164	146	0%
FY59-60	D	164	146	0%	164	146	0%
FY60-61	C	164	146	0%	104	93	36%
FY61-62	C	164	146	0%	90	80	45%
FY62-63	BN	164	146	0%	164	146	0%
FY63-64	AN	164	146	0%	164	146	0%
FY64-65	D	164	146	0%	164	146	0%
FY65-66	W	164	146	0%	164	146	0%
FY66-67	BN	164	146	0%	164	146	0%
FY67-68	W	164	146	0%	164	146	0%
FY68-69	D	164	146	0%	164	146	0%
FY69-70	W	164	146	0%	164	146	0%
FY70-71	AN	164	146	0%	164	146	0%
FY71-72	BN	164	146	0%	164	146	0%
FY72-73	D	164	146	0%	104	93	36%
FY73-74	AN	164	146	0%	164	146	0%
FY74-75	W	164	146	0%	164	146	0%
FY75-76	W	164	146	0%	164	146	0%
FY76-77	C	164	146	0%	104	93	36%
FY77-78	C	164	146	0%	90	80	45%
FY78-79	W	164	146	0%	164	146	0%
FY79-80	AN	164	146	0%	164	146	0%
FY80-81	W	164	146	0%	164	146	0%
FY81-82	D	164	146	0%	164	146	0%
FY82-83	W	164	146	0%	164	146	0%
FY83-84	W	164	146	0%	164	146	0%
FY84-85	AN	164	146	0%	164	146	0%
FY85-86	D	164	146	0%	164	146	0%
FY86-87	W	164	146	0%	164	146	0%
FY87-88	C	164	146	0%	104	93	36%
FY88-89	C	164	146	0%	90	80	45%
FY89-90	C	164	146	0%	90	80	45%
FY90-91	C	164	146	0%	90	80	45%
FY91-92	C	164	146	0%	90	80	45%
FY92-93	C	164	146	0%	90	80	45%
FY93-94	W	164	146	0%	164	146	0%
FY94-95	C	164	146	0%	104	93	36%
FY95-96	W	164	146	0%	164	146	0%
FY96-97	W	164	146	0%	164	146	0%

SFPUC Fiscal Year (July-June)	SJI Water Year Type	2025 Infrastructure Conditions with 213.2 MGD Systemwide Demand			2025 Infrastructure Conditions and Bay-Delta Plan (40% UF) with 213.2 MGD Systemwide Demand		
		TAF/yr	MGD	Rationing (% of Total)	TAF/yr	MGD	Rationing (% of Total)
FY97-98	W	164	146	0%	164	146	0%
FY98-99	W	164	146	0%	164	146	0%
FY99-00	AN	164	146	0%	164	146	0%
FY00-01	AN	164	146	0%	164	146	0%
FY01-02	D	164	146	0%	164	146	0%
FY02-03	D	164	146	0%	164	146	0%
FY03-04	BN	164	146	0%	164	146	0%
FY04-05	D	164	146	0%	164	146	0%
FY05-06	W	164	146	0%	164	146	0%
FY06-07	W	164	146	0%	164	146	0%
FY07-08	C	164	146	0%	164	146	0%
FY08-09	C	164	146	0%	164	146	0%
FY09-10	BN	164	146	0%	164	146	0%
FY10-11	AN	164	146	0%	164	146	0%
FY11-12	W	164	146	0%	164	146	0%
FY12-13	D	164	146	0%	164	146	0%
FY13-14	C	164	146	0%	164	146	0%
FY14-15	C	164	146	0%	90	80	45%
FY15-16	C	164	146	0%	90	80	45%
FY16-17	D	164	146	0%	164	146	0%

These tables reflect simulations performed with Hetch Hetchy/Local Simulation Model (HHLSM) for the SFPUC 2020 Urban Water Management Plan.

Red highlights indicate water supply rationing.

Notes about Tier 1 Allocation calculations:

* Retail allocation cannot be above 81 million gallons per day (MGD); anything above 81 MGD gets re-allocated to wholesale customers
* Retail is required per WSA to conserve 5% in any dry year; however this doesn't impact retail allocation, it would be a demand-side reduction
* 5% conservation requirement applies only to retail, not wholesale

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Appendix K

San Francisco Emergency Preparedness Procedures (March 24, 2021)

PREPARATION FOR CATASTROPHIC SUPPLY INTERRUPTION

The SFPUC maintains various planning documents which collectively address its emergency preparedness and planned response in the event of a catastrophic interruption of water supplies due to power outages, earthquakes, or other disasters. These plans are described in sections 1.1 (Emergency Preparedness Plans), 1.2 (Emergency Drinking Water Planning), and 1.3 (Power Outage Preparedness and Response) below. Section 1.4 addresses the seismic risk assessment and mitigation plan required by California Water Code Section 10632.5.(a). Should a catastrophic interruption occur, the SFPUC will coordinate with any city or county within which it provides water for the possible proclamation of a local emergency (California Government Code, California Emergency Services Act Article 2, Section 8558).

EMERGENCY PREPAREDNESS PLANS

Following the 1989 Loma Prieta Earthquake, the SFPUC created a departmental Emergency Operations Plan (EOP). The SFPUC EOP was originally released in 1992 and has been updated as necessary ever since. Most recently, the SFPUC developed a Water System Emergency Response Plan (Water ERP) to comply with the America's Water Infrastructure Act (AWIA) passed in 2018. The Water ERP acts as a unifying document, integrating and referencing common components of SFPUC plans and programs that have been developed to date. The Water ERP is intended to address water transmission and distribution systems and identify the Enterprises, Divisions, and Bureaus with direct roles and responsibilities. The Water ERP integrates directly into, and functions as an annex to, the SFPUC Emergency Operations Plan (EOP). The SFPUC EOP addresses a broad range of potential emergency situations that may affect the SFPUC and supplements the City's Emergency Response Plan, which was prepared by the Department of Emergency Management and most recentlyupdated in 2017. Specifically, the purpose of the SFPUC EOP is to describe its emergency management organization, roles and responsibilities, and emergency policies and procedures.

In addition, SFPUC divisions and bureaus each have their own Division Emergency Operations Plans (DEOP) (in alignment with the SFPUC EOP), which detail that entity's specific emergency management organization, roles and responsibilities, and emergency policies and procedures. The SFPUC tests its DEOPs on a regular basis by conducting emergency exercises. Through these exercises, the SFPUC learns how well the plans and procedures will or will not work in response to an emergency. DEOP improvements are based on the results of these exercises and real-world event response and evaluation. The SFPUC also has an emergency response training plan that is based on federal, State, and local standards and exercise and incident improvement plans. SFPUC employees have emergency training requirements that are based on their emergency response roles.

The SFPUC EOP functions as a front end for the SFPUC's DEOPs, covering emergency response at the Department level; while each DEOP covers Division-specific information on the Division's emergency organization and response procedures specific to Division responsibilities, assets, technical scope, and operations. The types of events affecting SFPUC that may require emergency plans include but are not limited to:

- Majorearthquake
- Loss ofpower

- Loss of water supply
- Major fire
- Hazardous material release that threatens water supply or environment
- Major pipeline breaks
- Dam break
- Significant outage of SFPUC services
- Man-made or intentional acts of terrorism resulting in damage to the system or interruption in service

In addition to the documents described above, the SFPUC also maintains various plans and procedures that deal with the possibility of alternate supply schemes and options. These include:

- Emergency Disinfection and Recovery Plan (EDRP)
- Emergency Response Action Plan (ERAP)
- Emergency Drinking Water Equipment and Alternatives Report
- Disinfection of SFPUC Water Trailers Procedure
- City Distribution Division Hydrant Manifold Standard Operating Procedure
- Pilot plant trailer (Mobile Pilot Plan O&M Plan)

EMERGENCY DRINKING WATER PLANNING

In February 2005, the SFPUC published the City Emergency Drinking Water Alternatives report. The purpose of this report was to outline a plan for supplying emergency drinking water in the City after damage and/or contamination of the SFPUC raw and/or treated water systems resulting from a major disaster. Since the publication of this report, the SFPUC has implemented a number of projects to increase its capability to support the provision of emergency drinking water during an emergency. These projects include:

- Completion of many Water System Improvement Program (WSIP) projects and other capital upgrades to improve security, detection, and communication (see Section 1.4);

- Public Information and materials for home and business;

- Construction of a disinfection and fill station at the existing San Francisco Zoo well, and obtaining a permit to utilize this well as a standby emergency drinking water source;

- Constructed six wells as part of the San Francisco Groundwater Supply Project, two of which also serve as emergency drinking water supplies, including a distribution system to fill emergency water tankers;

- Purchase and engineering of emergency-related equipment, including water tanker trucks and water distribution manifolds, to help with distribution post-disaster; and

- Coordination of planning with other City departments, neighboring jurisdictions, and other public and private partners to maximize resources and supplies for emergency response.

The SFPUC has also prepared the RWS Water Quality Notifications and Communications Plan. This plan, which was first prepared in 1996 and was most recently updated in 2017, provides contact information, procedures, and

guidelines to be implemented by several SFPUC divisions, wholesale customers, and BAWSCA in the event of water quality impacts. The plan treats water quality issues as potential or actual supply problems, which fall under the emergency response structure of the SFPUC ERP.

POWER OUTAGE PREPAREDNESS AND RESPONSE

The SFPUC's water transmission system is primarily gravity fed from Hetch Hetchy Reservoir to the City. Within the in-City distribution system, key pump stations have generators on site and all others have connections in place that would allow portable generators to be used.

Although water conveyance throughout the RWS would not be greatly impacted by power outages because it is gravity fed, the SFPUC has prepared for potential regional power outages as follows:

- The Tesla Treatment Facility, the Sunol Valley Water Treatment Plant (SVWTP), and the San Antonio Pump Station have back-up power on site in the form of generators or diesel-powered pumps. Additionally, both the SVWTP and San Antonio Pump Station would not be impacted by a failure of the regional power grid because these facilities are powered by hydropower generated by the Hetch Hetchy Water and Power System.

- Both the Harry Tracy Water Treatment Plant (HTWTP) and the Baden Pump Station (part of the Peninsula System) have back-up generators in place.

- Administrative facilities that will act as emergency operation centers also have back-up power.

- The SFPUC has an emergency water supply connection with the Santa Clara Valley Water District (SCVWD), the SCVWD intertie, which also has back-up generators in place.

- Additionally, as described in the next section, the WSIP includes projects that expand the SFPUC's ability to remain in operation during power outages and other emergency situations.

SEISMIC RISK ASSESSMENT AND MITIGATION PLAN

As part of the Facilities Reliability Program and the Water System Improvement Program (WSIP), the SFPUC performed an extensive multi-year evaluation of seismic risks to its water system that resulted in major capital improvements to increase seismic reliability. The goals of WSIP include enhancing the ability of the SFPUC water system to meet identified service goals for water quality, seismic reliability, delivery reliability, and water supply. One of the original goals of WSIP was to limit rationing to no more than 20 percent on a system-wide basis; the WSIP was developed to reduce the likelihood of shortages, thereby reducing the likelihood of needing to implement the WSCP.

The WSIP projects include several projects located in San Francisco to improve the seismic reliability of the in-City distribution system, including more wells that can be used as emergency drinking water sources. The WSIP also incorporates many projects related to the RWS to address both seismic reliability and overall system reliability. As of August 2018, the WSIP is over 96 percent complete. Local San Francisco projects are 100 percent complete as of June 2020. The current forecasted date to complete the overall WSIP is December 2021.

WSIP seismic levels of service (LOS) informed development of capital projects and guided program implementation. The LOS established post-earthquake delivery and recovery objectives under the following seismic scenarios:

- Magnitude 7.9 event on the San Andreas fault
- Magnitude 7.3 event on the Hayward fault
- Magnitude 6.9 event on the Calaveras fault

An assessment of seismic risk and resilience is contained in the body of analysis performed to support the WSIP. The risks associated with the seismic scenarios considered are reflected in the delivery objectives established in the LOS, specifically:

- Delivery of winter month demand 24 hours after a major earthquake, and
- Delivery of average day demand 30 days after a major earthquake

In addition to the improvements that have or will come from the WSIP, the City has already constructed system interties for use during catastrophic emergencies, short-term facility maintenance and upgrade activities, and times of water shortages. These are listed below:

- A 35 mgd intertie with the EBMUD allowing EBMUD to serve the City of Hayward's demand and/or supply the SFPUC directly (and vice versa);
- A 40-mgd system intertie between the SFPUC and SCVWD; and,
- One permanent and one temporary intertie to the South Bay Aqueduct, which would enable the SFPUC to receive State Water Project water.

The WSIP also includes projects related to standby power facilities at various locations. These projects provide for standby electrical power at six critical facilities to keep them in operation during power outages and other emergency situations. Permanent engine generators are located at four locations (San Pedro Valve Lot, Millbrae Facility, Alameda West, and HTWTP), while hookups for portable engine generators are at two locations (San Antonio Reservoir and Calaveras Reservoir).The City of San Francisco also has a Hazard Mitigation Plan which was last updated in June 2014 and includes sections describing earthquakes hazards and mitigation for assets within the City's boundary, including state-regulated reservoirs (Sutro, Sunset North and South, and University Mound North and South).

Appendix L

San Francisco Risk and Resilience Assessment Approach

In compliance with the America's Water Infrastructure Act of 2018 (AWIA), the San Francisco Public Utilities Commission (SFPUC) performed a Risk and Resilience Assessment of its water system. The focus of the assessment was on evaluating those hazards that affect facility locations and the potential impacts. The assessment considered the following hazards/threats:

1. Seismic
2. Flood
3. Wildfire
4. Power Outage
5. Physical Assault
6. Water Quality Contamination
7. Cyber Attack
8. Resource Interruption

The assessment was intended to evaluate risks to the SFPUC's water system and inform the next phase of compliance by identifying those risks to be addressed through Emergency Response Plans and mitigation measures. Due to the extent of the SFPUC water system, the assessment utilized methods suitable for a regional evaluation of numerous facilities, used readily available and industry accepted hazard data (subject to their respective data limitations), and implemented conservative assumptions as appropriate. The table below describes the approach for evaluating the hazards.

The consequence component of the assessment used flow as an indicator of the impacts that may result from damage due to a natural hazard or successful malevolent act. Flow was selected for the following reasons:

- It directly reflects one of the most important impact considerations – loss of water delivery.
- Flow capacity of a facility is generally reflective of the other impact considerations of concern, such as human impacts, regional impacts, economic loss and environmental impact.
- Flow is an efficient, quantifiable and objective means of characterizing consequence for a large regional water system.

Hazard	Scenario Definition
1. Seismic	As part of the Facilities Reliability Program and the Water System Improvement Program (WSIP), SFPUC performed an extensive multi-year evaluation of seismic risks to its water system that resulted in major capital improvements to increase seismic reliability. WSIP seismic levels of service (LOS) informed development of capital projects and guided program implementation. The LOS established post-earthquake delivery and recovery objectives under the following seismic scenarios: • Magnitude 7.9 event on the San Andreas fault • Magnitude 7.3 event on the Hayward fault • Magnitude 6.9 event on the Calaveras fault For the seismic risk and resilience component of AWIA compliance, SFPUC defers to the body of analysis performed to support the WSIP. The risks associated with the seismic scenarios considered are reflected in the delivery objectives established in the LOS, specifically: • Delivery of winter month demand 24 hours after a major earthquake, and • Delivery of average day demand 30 days after a major earthquake Notwithstanding the numerous seismic improvements to the water system, delivery will be contingent upon resources and infrastructure available for restoration, and finer assessment of delivery capability at a customer-specific level is not feasible.
2. Flood	The flood hazard evaluation is based on the 100-year flood scenario. The broadly accepted 100-year flood maps developed by FEMA are utilized for this analysis and the associated likelihood of occurrence is 1% annually. For the purposes of this assessment, the conservative assumption is that the operation of facilities located in areas within the delineation of the 100-year flood will be impacted. The consequence utilizes the flow methodology described above.
3. Wildfire	The wildfire hazard evaluation utilizes California Department of Forestry and Fire Protection (CalFire) Fire Hazard Severity Zone (FHSZ) Map data to evaluate fire hazard at facility locations. The hazard mapping considers factors such as fuel, terrain, weather, fire history, expected fire behavior and expected burn probabilities. While the State's FHSZ data does not reflect a probability of occurrence for wildfires, over the last 30 years California has experienced an average of over 8,700 wildfires per year burning an average of over 570,000 acres (California State Hazard Mitigation Plan, September 2018). Therefore, a likelihood in the range of 0.1 up to 0.9 annual probability is assumed. The consequence utilizes the flow methodology described above.

4. Power Outage	The assessment of power outage risk evaluates the direct impact to operations of facilities in the event of a primary power outage, as a result of public safety power shutoffs (PSPS) and other causes. Given the California Public Utilities Commission approval of PSPS guidelines as a preventative measure against imminent and significant fire risk, and the implementation of these procedures in 2019, it is reasonable to expect power outages to occur on a nearly annual basis. The consequence utilizes the flow methodology described above. A duration and system-wide fuel storage analysis is not planned as part of this risk assessment.
5. Physical Assault	The physical assault threat addresses scenarios of terrorist threat, sabotage, and/or vandalism on utility infrastructure or staff as well as malicious physical acts with the intention of impacting facility operations. Depending on location and desirability, assets may be considered rare to unlikely targets. The consequence utilizes the flow methodology described above.
6. Source Water Contamination	The water quality contamination hazard/threat considers non-intentional (e.g. accidental, natural hazards and other causes outside the control of the SFPUC) and intentional (e.g. malevolent act) contamination of raw and treated water. Water Quality events, such as high turbidity events, may occur due to severe weather, fire, earthquake, etc. Events may affect Hetch Hetchy supply, and source waters for SFPUC Water Treatment Plants. Water treatment plant failure may occur due to process failure, such as filtration problems, or contamination may occur at treated water storage facilities. The likelihood of occurrence is based on EPAs Baseline Information on Malevolent Acts for Community Water Systems (July 2019). The consequence utilizes the flow methodology described above.

7. Cyber Attack	This threat scenario addresses potential for cyber attack of business enterprise (e.g. financial or data management) and process control (e.g. SCADA) systems. Depending on asset dependencies such as telecommunications, the likelihood of occurrence range from possible to unlikely. The consequence utilizes the flow methodology described above.

8. Resource Interruption	Resource interruptions, such as major staff shortfalls and supply interruptions for critical consumables such as treatment chemicals can potentially impact the operation of the water system. These interruptions may result from events such as natural disasters, transportation incidents, civil disruption or pandemic outbreaks. Due to the broad range of potential causes and impacts, the hazard will be addressed in a wholistic manner. A range of probabilities of occurrence is assigned depending on asset dependencies, and to reflect a conservative approach given the level of uncertainty. The consequence utilizes the flow methodology described above.

Appendix M

Ordinance No. 2008-01 – Rules and Regulations Prohibiting Wasteful Water Use During Normal Water Supply Situations

ORDINANCE NO. 2008-1

COASTSIDE COUNTY WATER DISTRICT

AN ORDINANCE ESTABLISHING RULES AND REGULATIONS PROHIBITING WASTEFUL WATER USE DURING NORMAL WATER SUPPLY SITUATIONS AND PROVIDING FOR ENFORCEMENT THEREOF

WHEREAS, the Coastside County Water District ("District") is subject to the Urban Water Management Planning Act, codified at California Water Code Section 10610 et seq. ("Act"); and

WHEREAS, the Act requires all urban water suppliers to prepare and adopt an urban water management plan ("plan") which is to describe and evaluate reasonable and practical, efficient uses of water and water conservation activities; and

WHEREAS, the District is a signatory of the California Urban Water Conservation Council's Memorandum of Understanding, and must implement best management practices, one of which is Water Waste Prohibitions; and

WHEREAS, the District's Plan contemplates that the Board of Directors will, by ordinance, adopt prohibitions on the waste of water by customers; and

WHEREAS, the District has published notice of and provided an opportunity for public hearing on this Ordinance.

NOW, THEREFORE, BE IT ORDAINED BY THE BOARD OF DIRECTORS OF THE COASTSIDE COUNTY WATER DISTRICT AS FOLLOWS:

Section 1. Findings and Declarations

It is hereby declared by the Board of Directors that, in order to conserve the District's water supply for the greatest public benefit and to reduce the quantity of water unnecessarily used by the District's customers, wasteful use of water should be minimized and, if possible, eliminated.

The provisions of this ordinance shall apply to all persons using water supplied by the District, both in and outside of the District's service areas, and regardless of whether any person using water shall have a contract for water service with the District.

Section 2. Definitions

A. "District" means Coastside County Water District.

B. "General Manager" means the General Manager of the District or his authorized representative.

C. "Person" means any person, firm, partnership, association, corporation, company, organization or governmental entity.

D. "Customer" means any person, whether within or without the geographical boundaries of the District, who uses water supplied by the District.

E. "Water" means water supplied by the District, other than reclaimed wastewater.

Section 3. Water Use Prohibitions

The following uses of water are declared to be unreasonable and are hereby prohibited:

A. Use of water when the Customer has been given written notice by the District to repair broken or defective plumbing, equipment, appliances, sprinklers, watering or irrigation systems, and has failed to effect such repairs for 48 hours after delivery of the notice.

B. Use of water which results in flooding or runoff in gutters, parking lots, sidewalks or streets.

C. Use of water for washing cars, buses, boats, trailers or other vehicles through a hand-held hose, unless the hose is equipped with a nozzle with a positive shutoff valve or other similar device to control the flow of water.

D. Use of water for construction purposes, such as dust control and consolidation of backfill, unless reclaimed wastewater is not reasonably available.

E. Use of water in landscape irrigation which results in runoff into street or pooling due to super-saturation of the ground or soil.

F. Use of water in non-recirculating decorative fountains.

G. Use of water by a commercial carwash constructed and first placed into operation after the date of December 9, 1997, unless such water is recycled through an on-site filter system.

H. Use of water for washing sidewalks, driveways, buildings, patios and other surfaces and structures through a hand-held hose, unless the hose is equipped with a nozzle with a positive shutoff valve or other similar device to control the flow of water.

I. Use of water for single-pass through cooling systems. The use of water in new ice making machines and any other new mechanical equipment that utilizes a single-pass cooling system to remove and discharge heat to the sewer. Water used for all cooling purposes shall be recycled or re-circulated.

J. Use of water from any fire hydrant, unless specifically authorized by the District, except by regularly constituted fire protection agencies for fire suppression purposes or for other specifically authorized uses, including water distribution system flushing, fire flow testing, and filling of District approved vehicles for sewer (sanitary and storm) system flushing, and street sweeping purposes.

K. Use of water by non-recirculating systems in commercial laundry systems placed in operation after the date of this ordinance.

L. The indiscriminate running of water or washing with water not otherwise prohibited in this section which is wasteful, and without reasonable purpose.

Section 4. Enforcement

A. If the District believes that the water has been or is being used in violation of the above restrictions, the General Manager shall send a written notice to the Customer specifying the nature of the waste and the time of occurrence, to the extent known by the District, and directing the Customer to cease such use and/or to take remedial action. If the Customer continues such use or fails to take the remedial action within the time specified, the District may install a flow-restricting device on the Customer's service line.

B. In the event that a further violation is observed by District personnel, after installation of a flow-restricting device, the District may discontinue service.

C. The Customer shall be responsible for paying the District's costs incurred in installing and removing a flow-restricting device and/or terminating and restoring service.

Section 5. Appeal

Any Customer, who disputes a staff determination of a violation(s) of the above restrictions, may appeal the disconnection or installation of a flow restrictor(s) to the General Manager. The written appeal should be addressed to the General Manager with a description of the

violations, and enforcement action taken and a detailed explanation of the basis of the appeal. The decision of the General Manager shall be final.

Section 6. Effective Date

This Ordinance shall take effect immediately upon its adoption.

Section 7. Repeal of Ordinance No. 1997-01.

Ordinance No. 1997-01 is hereby repealed.

Section 8. Severability

If any provision of this Ordinance is held to be invalid, or unenforceable in particular circumstances, such invalidity shall not affect the remainder of the Ordinance which shall continue to be of full force and effect and the Board declares this Ordinance to be severable for that purpose.

Section 9. Publication

The Secretary is hereby directed to arrange for this Ordinance to be published in a newspaper of general circulation in the District within ten (10) days of its adoption

Adopted this 14th day of October 2008 by the following vote of the Board:

AYES:

NOES: ABSENT:

Appendix K

Coastside County Water District Rate and Fee Schedule

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Coastside County Water District

766 Main Street, Half Moon Bay, California

Rate and Fee Schedule

October 13, 2020

Adopted by Resolution No. 658
Recodified as of March 27, 2001, July 25, 2001 and July 9, 2002
Incorporating Amendments made through Resolution No. 2001-03 and 2001-04, 2001-12, 2002-07, 2003-07, 2004-09, 2004-13, 2005-12, 2006-12, 2007-10, 2008-03, 2009-05, 2010-01, 2010-03, 2011-13, 2012-03, 2013-03, 2013-04, 2014-03, 2015-08, 2016-07; 2017-01; 2018-05; 2020-04

Rate and Fee Schedule

CONTENTS

Section 1: Water Consumption Charges

A. Base Charge

The following base charge is the minimum charge to be paid by all customers on a monthly basis. Customers may be billed on a monthly basis depending on type of meter, customer class, service address, or water usage:

Size of Meter	Effective January 1, 2021 Monthly Base Charge	Effective January 1, 2022 Monthly Base Charge
5/8 x ¾ inch	$30.35	$31.87
3/4 inch	$44.84	$47.09
1 inch	$73.82	$77.52
1-1/2 inch	$146.28	$153.60
2 inch	$233.24	$244.91
3 inch	$508.59	$534.02
4 inch	$914.40	$960.12

Meters larger than 4 inches will be subject to base charges as determined by the Board of Directors.

B. Quantity Charge

In addition to the base charge set forth in Section 1A, the following quantity charges shall be paid per one hundred cubic feet (hcf) of water delivered:

1. ***Residential Customers***

Quantity Delivered (During Monthly Billing Period)	Effective January 1, 2021 Monthly Water Consumption Charge per hcf	Effective January 1, 2022 Monthly Water Consumption Charge per hcf
1 - 4 hcf	$9.65	$10.14
5 - 8 hcf	$14.12	$14.83
9 or more hcf	$17.08	$17.94

Definition of Residential Customers: For purposes of Sections 1 and 2, Residential Customers are single family homes, duplexes, condominiums, townhouses and all apartment buildings with individual meters for separate residential dwelling units. Apartment houses with a single "master meter" measuring consumption within multiple dwelling units are not "Residential Customers" for purposes of Sections 1 and 2 but are classified as "Multi-Family" in Section 3 below.

2. *All Other Customers*

	Water Rate Quantity Charge Per Unit	
Customer Type	**Effective January 1, 2021**	**Effective January 1, 2022**
Multi-Family	$12.87	$13.52
All Other Customers	$13.72	$14.41

Section 2: Fees and Charges To Establish Water Service

A. Transmission and Storage Fee

The transmission and storage fee is determined by the number and size of service connections required to provide water service to a customer, as follows:

Size of Service Connection	Fee**
5/8 x 3/4 inch	$16,030
3/4 inch	$24,045
1 inch	$40,075
1-1/2 inch	$80,151
2 inch	$128,241
3 inch	$280,528
4 inch	$480,903

Service connections larger than 4 inches will be subject to transmission and storage fees as determined by the Board of Directors.

*** In accordance with Resolution 2013-03, Effective July 15, 2013, July 1, 2014 and August 15, 2015, the Transmission and Storage Fee will be adjusted in accordance with the Engineering News Record Construction Cost Index (ENR CCI) for January of the current year. The new Transmission and Storage Fee for each connection size will be calculated by multiplying the then current Transmission and Storage Fee by the ratio of the current year January ENR CCI to the ENR CCI for January of the previous year.*

Applicants for water service (including fire protection service) shall be charged the actual cost of labor and materials incurred by the District in installing the connection. The material costs shall include the then-current costs of corporation stops, copper tubing, meter stops, water meters, meter boxes, meter couplings, trench backfill import material, re-paving materials, off-site disposal, and any other materials utilized or out-of-pocket expenses incurred by the District in installing the connection. Labor costs shall be based on the fully burdened hourly rate for District employees who perform work directly connected to the installation.

The applicant shall be furnished a cost estimate prepared by the District, such estimate to be based on the service size and location, as shown on the application. The applicant shall deposit with the District the full amount of the cost estimate shown as attributable to the applicant before the District begins work. If the actual cost is less than the deposit, the unused balance will be refunded. If the actual cost exceeds the deposit, the applicant must pay the balance due before water service is activated.

B. Deposit for Establishment of Credit

To establish credit with the District prior to provision of water service each customer shall pay a cash deposit of seventy-five dollars ($75.00) or the amount which the General Manager estimates will equal an average monthly bill, whichever is larger. The deposit, less the amount of any unpaid water bill, will be refunded on discontinuance of service or after the deposit has been held for 12 consecutive months during which time continuous water service has been received and all bills for such service have been paid without being delinquent.

Section 3: Other Fees, Charges and Deposits

A. Reconnection Fee

Prior to the restoration of water service to premises where such service has been discontinued because of nonpayment or other violation of the District's regulations, the customer shall pay a Reconnection Fee. If the service is restored during normal business hours (8:00 a.m. to 5:00 p.m., Monday-Friday, except for holidays) this fee shall be $50.00. If the service is restored other than during normal business hours, the fee shall be $150.00

B. Returned Check Charge

If a customer's check is returned dishonored by the financial institution on which it is drawn, the customer shall pay an additional charge of $25.00.

C. Meter Test Deposit

Prior to conducting a test of the accuracy of a water meter at the customer's request, the District shall require the customer to deposit the following sum:

Size of Meter	Deposit
5/8 x 3/4 inch	$35.00
1 inch and larger	Estimated Actual Cost of Test

D. Portable Meters

Customers requesting water service through portable meters shall pay:

1. a deposit in an amount, as estimated by the General Manager, equal to the replacement cost of the meter:
2. a monthly rental charge of $100.00
3a. effective January 1, 2021, a consumption charge of $13.72 per hcf of water delivered.
3b. effective January 1, 2022, a consumption charge of $14.41 per hcf of water delivered.

E. Fire Service Charge

Effective January 1, 2021, monthly service charge for a fire service is $6.79 per inch of service line size Effective January 1, 2022, the monthly service charge for a fire service is $7.13 per inch of service line size. In addition, the customer must pay the actual cost of installation of the fire service. The estimated cost of installation must be deposited prior to commencement of work.

F. Copying Charges

1. The charge for providing copies of District records is $0.06 per page, except as provided in Section F.2.
2. If a person requests no more than three copies (e.g., three copies of one page or one copy of a three-page document), he or she shall be provided these copies without charge. A person may not make use of this small request exception from copying charges more than one time per year.
3. If a certified copy is requested, there will be an additional charge of $1.00 for each document certified.

G. Transfer Requests for Water Service Connections

Property owners requesting the transfer of an uninstalled water service connection from one parcel to another shall submit to the District an initial deposit of $600.00 to cover the District's administrative and legal costs for reviewing and processing the request. If the actual cost is less than the deposit, then the unused balance will be refunded. If the actual cost exceeds the deposit, then the applicant must pay the balance. Payment of all fees required by this section shall be received before the transferee parcel will be permitted to physically connect to the water system.

H. Boundary Change Request Fee

Any person who requests a change in the District Boundaries which gives rise to required filings of statements, map and/or plats pursuant to the Government Code shall be responsible for payment of the associated filing fees.

I. Relocation of Water Service Connection

When a customer requests that a water service connection be relocated to another portion of the property to which water service is already being provided, the customer shall pay the actual cost of relocating the service.

J. Reinstallation of a Water Meter Assembly

When a water meter is reinstalled in a vacant meter box, the actual cost of labor and materials, including but not limited to a new water meter and plumbing appurtenances, will be the basis for the charge for reinstallation.

K. [Deleted Section]

L. Unauthorized Connection to District Water Service

It is unlawful for any person to turn on water without authorization or consent from the District. A $150 penalty will be imposed for each violation. If the District's facilities or property are damaged as a result of an unauthorized turn-on, the party will be charged the actual cost of labor and materials to repair the damage to the District's facilities and property.

M. Delinquency Notice Fee

A fee in the amount of 10% of the amount past due shall be added to the bill of any customer that receives the notice set forth in Subsection 1 of Section K "Termination of Service" of the General Regulations Regarding Water Service and the total of said amounts shall thereafter be paid in full in order to avoid termination of service.

N. Shut-Off Warning Notice Fee

A Shut-Off Warning Notice fee of $15 will be charged when a 48-hour Shut-Off Warning Notice due to non-payment is provided to the customer.

Section 4: Fees and Deposits Applicable To Projects Involving Extensions of Water System

A. Initial Filing Fee

Prior to processing of the initial submittal, the Developer shall submit a filing fee with the District. This filing fee is not a deposit, and it is not subject to return to the Developer if the project is abandoned. Filing fees shall be as follows:

> ***1. For subdivisions of under 300 lots, the filing fee is $5.00 per lot; for subdivisions of 300 lots or more, the fee is $3.00 per lot. The fee will be based on the number of lots shown on the subdivision map regardless of the date of proposed construction. The minimum fee is $250.00.***
> ***2. For land not subdivided or in the process of being subdivided, the filing fee is $25.00 per gross acre. If this land is later subdivided, full credit for the gross acreage fees will be given towards any additional fee required based on the number of lots. No refunds will be given.***
> ***3. For industrial or commercial areas, motels, trailer parks, multiple dwelling units, and other areas not covered in the above, the initial and minimum filing fee will be $500.00. The Developer will be billed for any additional District costs incurred in reviewing the initial submittal in excess of this amount. District costs are defined as all costs incurred by the District including engineering, legal, and administrative.***
> ***4. For complex projects involving any combination of residential lots, apartments, commercial areas, etc., the filing fee will be computed as the sum of the individual types of land use as shown above.***

The District reserves the right to reduce the minimum fees for projects involving only a single residential, multiple dwelling, commercial, or industrial unit for which the review if of a non-complex nature.

B. Fee for Plan Checking and Construction Inspection

After approval of the amount of the construction cost estimate, the Developer shall file with the District a fee as required in the Subdivision Agreement. This fee is to cover the cost of plan checking, construction inspection, modification of water system maps, and administrative, legal and auditing costs. The fee shall be a percentage of the approved construction cost estimate for the water system facilities: 5% for the first $200,000 of construction costs, 3% for the incremental amounts over $200,000. An additional 1 % fee will be charged for plan checking for each re-submittal incorporating major project modifications. The minimum fee shall be $250.00.

C. Special Deposits

When the estimated cost of design, inspection, administration, and construction of required water development, treatment, storage and transmission or fire hydrant and detector check facilities exceeds the amount to be collected by the District in storage and transmission fees, the Developer will be required to make a special deposit to cover the cost of this work. After the construction is completed and approved by the District, the Developer will receive final refund or a statement of the balance due, amounting to the difference between the deposit and actual costs incurred by the District.

D. Non-Complex Pipeline Extensions

The non-refundable fee for processing applications for water service determined by the Manager to be non-complex under Resolution No. 730 is $500.00.

E. Incorporation of Resolution No. 730

The provisions of Resolution No. 730 "Regulations Regarding Water Service Extensions and Water System Improvements; Engineering and Construction Standards; Approved Materials" are incorporated herein and should be consulted by applicants for new water service.

DERIVATION TABLE

Section	Source
1A	Resolution 633 (amending Resolution 538, Paragraph B.5.); Resolutions 711, 767, 808, 817, 834, 845, 868 and 1999-15, 2001-12, 2002-07, 2003-07, 2004-09, 2005-12, 2006-12, 2007-10, 2008-03, 2009-05, 2010-03, 2011-13, 2012-03, 2013-04, 2014-03, 2015-08; 2016-07; 2018-05: 2020-04
1B	Resolution 633 (amending Resolution 538, Paragraph B.5.), Resolutions 711, 746, 767, 808, 817, 834, 845, 868 and 1999-15, 2001-12, 2002-07, 2003-07, 2004-09,2005-12, 2006-12, 2007-10, 2008-03, 2009-05, 2010-03, 2011-13, 2012-03, 2013-04, 2014-03, 2015-08; 2016-07; 2017-01; 2018-05; 2020-04
2A	Resolutions 627 (amending Resolution 538, Paragraph B. 1.) and 712, 2010-01, 2013-03
2B	Resolution 830
2C	Resolutions 653, 538 (Paragraph C) and 851, 2004-13
3A	Resolution 653 (amending Resolution 538, Paragraph E.6.), 2004-13, 2015-08
3B	Resolution 653 (amending Resolution 538, Paragraph D, as amended by Resolution 552), 2004-13
3C	Resolution 437(H)
3D	Resolutions 653 (amending Resolution 538, Paragraph B.3., as amended by Resolution 554), 817, 834, 845, 868 and 1999-15, 2001-12, 2002-07, 2003-07, 2004-09, 2005-12, 2006-12, 2007-10, 2008-03, 2009-05, 2010-03, 2011-13, 2012-03, 2013-04, 2014-03, 2015-08; 2016-07; 2017-01; 2018-05; 2020-04
3E	Resolution 538 (Paragraph B.4), 2015-08; 2016-07; 2018-05; 2020-04
3F	Resolutions 653 (amending Resolution 482, Exhibit A, Paragraph C) and 805. Resolution 2001-03 (amending Resolution 653 and 805, Section 3.F.1)
3G	Resolutions 538 (Paragraph D) and 851. Resolution 2001-04 (amending Resolution 538 and 851, Section 3.G.), 2015-08
3H	Resolution 806
31	Resolution 851 (Section 6)
3J	Resolution 851 (Section 7)
3K	Section deleted
3L	Resolution 851 (Section 9); 2015-08
3M	Resolution 2004-13
3N	Resolution 2015 - 08
4A	Resolution 487, Resolution 730
4B	Resolution 487, Resolution 730
4C	Resolution 487, Resolution 730, Resolution 851 (Section 10)
4D	Resolution 487, Paragraph B, as amended by Resolution 630, Resolution 730; 2020-04
4E	Resolution 658, Resolution 730

RESOLUTION NO. 2020-04

A RESOLUTION OF THE BOARD OF DIRECTORS
OF THE COASTSIDE COUNTY WATER DISTRICT
AMENDING THE RATE AND FEE SCHEDULE
TO INCREASE WATER RATES AND FINDING THAT THE AMENDMENTS ARE
EXEMPT FROM THE CALIFORNIA ENVIRONMENTAL QUALITY ACT

THIS RESOLUTION IS ADOPTED with reference to the following facts and circumstances which are found and declared by the Board of Directors:

1. The General Manager and Finance Committee, during consideration and preparation of the budgets for Fiscal Year 2020-2021 and Fiscal Year 2021-2022, determined that financing the District's operating expenses, debt service, and capital improvement program, as well as maintaining the District's existing reserve levels, will require an increase in water rates. California Water Code Section 31007 authorizes the District to establish rates and charges to yield an amount sufficient to pay operating expenses, to provide for repairs and depreciation of works owned and operated by the District, to pay interest on bonded debt, and to provide a fund to pay principal on bonded debt.

2. The District's financial consultant, Raftelis Financial Consultants, Inc. ("Raftelis"), prepared a "Cost of Service and Rate Study" report dated May 15, 2018 that analyzed the District's Fiscal Year 2018-2019 and Fiscal Year 2019-2020 revenue requirements based upon a cost of service analysis, that was used to set the District's rates for Fiscal Year's 2018-2019 and 2019-2020 and to comply with the substantive requirements of Proposition 218. Subsequently, Raftelis prepared a "Water Financial Plan And Rate Update Study" dated August 2, 2020 (and utilizing the 2018 Cost of Service and Rate Study) which encompassed developing a five-year financial plan to meet the District's revenue requirements for covering operations and maintenance costs, debt obligations, and capital repair and replacement needs, and to develop two years of proposed water rate increases to be effective January 1, 2021 and January 1, 2022. District staff prepared staff reports and presentations for the July 14, 2020, August 11, 2020 and the September 8, 2020 Board of Directors Regular Meetings that summarized Raftelis' analysis, reviewed the District's financing model, and evaluated the District's reserves and proposed reserve target levels. The Cost of Service and Rate Study dated May 15, 2018, the Water Financial Plan and Rate Update Study dated August 2, 2020, staff reports, and staff presentations are incorporated into this Resolution by this reference.

3. The Board has considered the May 15, 2018 Cost of Service and Rate Study and the August 3, 2020 Water Financial Plan And Rate Update Study in light of the approved Fiscal Year 2020-2021 and proposed Fiscal Year 2021-2022 Operation and Maintenance Budgets and Fiscal Years 2020/21 to 2029/30 Capital Improvement Program and determined that the projects

identified are important for the safe and efficient operation of the District's water system and to preserve and improve the reliability of the water system. The Fiscal Year 2020-2021 Budget was approved at the June 9, 2020 Regular Board Meeting, and the proposed Fiscal Year 2021-2022 Budget was available to the public since the August 11, 2020 Regular Board Meeting. The Fiscal Year 2020/21 to 2029/30 Capital Improvement Program was first introduced at the February 11, 2020 Regular Meeting and was updated and approved at the July 14, 2020 Regular Meeting. These approved and proposed budgets and Capital Improvement program documents, by this reference are incorporated into this resolution.

4. The anticipated increases in expenses are attributable to a number of factors including but not limited to, payment of capital project costs, debt service for financing of necessary capital improvements and replacement of aging facilities, higher costs for personnel, materials and services.

5. On August 11, 2020, the Board of Directors at its special Board meeting evaluated the proposed modifications to the District's Rate and Fee Schedule and set a scheduled public hearing for October 13, 2020 to consider the modifications to the District's Rate and Fee Schedule.

6. The District prepared a notice that described the amounts, the basis for calculating, and the reasons for the restructured and adjusted rates and charges, and identified the date, time, and location for the public hearing on the restructured and adjusted rates and charges, and the procedures for submitting a protest. The District mailed the written notice to the property owners and customers in the District at least 45 days before the date of the public hearing.

7. The Board considered its options at a public hearing at which the specific rate proposal enacted herein was addressed. Notice of the public hearing was provided to each parcel subject to the proposed rate increase. Notice of the public hearing was also advertised in the September 16, 2020 and September 23, 2020 editions of the Half Moon Bay Review newspaper. Additionally, the notice was placed on the District's website. At the public hearing, the Board of Directors considered all protests against the proposed rate modification, and written protests against the proposed rate increase were not presented by a majority of owners of the parcels subject to the proposed rate increase.

8. After discussion and consideration of the comments received before and at the public hearing, the Board finds the rates hereinafter set forth to be reasonable and required for the proper operation of the District.

9. The Board further finds that the amendments to the Rate and Fee Schedule and the amount of the rates hereinafter set forth does not exceed the amount of the estimated costs required to provide the services for which the rates are levied.

10. The Board further finds that the increases in rates effected by this Resolution are reasonable and required for the proper operation of the District, and are exempt from the

California Environmental Quality Act, pursuant to Section 21080(b)(8) of the Public Resources Code, because they are for the purposes of (1) meeting operating expenses, (2) purchasing or leasing supplies, equipment and materials, (3) meeting financial reserve requirements, and (4) obtaining funds for capital projects necessary to maintain service within existing service areas. The analysis in this Resolution and the documents incorporated into this Resolution by reference justify that the modifications to the rates and charges are for the purposes set forth in section 21080(b)(8).

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the Coastside County Water District as follows:

1. Section 1.A, Base Charge, of the Rate and Fee Schedule is hereby amended to read as follows:

"A. Base Charge

The following base charge is the minimum charge to be paid by all customers on a monthly basis. Customers may be billed on a monthly basis depending on type of meter, customer class, service address, or water usage:

Size of Meter	Effective January 1, 2021 Monthly Base Charge	Effective January 1, 2022 Monthly Base Charge
5/8 x ¾ inch	$30.35	$31.87
3/4 inch	$44.84	$47.09
1 inch	$73.82	$77.52
1-1/2 inch	$146.28	$153.60
2 inch	$233.24	$244.91
3 inch	$508.59	$534.02
4 inch	$914.40	$960.12

Meters larger than 4 inches will be subject to base charges as determined by the Board of Directors."

2. Section 1.B, Quantity Charge, of the Rate and Fee Schedule is hereby amended to read as follows:

"B. Quantity Charge

In addition to the base charge set forth in Section 1A, the following quantity charges shall be paid per one hundred cubic feet (hcf) of water delivered:

1.Residential Customers

Quantity Delivered (During Monthly Billing Period)	Effective January 1, 2021 Monthly Water Consumption Charge per hcf	Effective January 1, 2022 Monthly Water Consumption Charge per hcf
1 - 4 hcf	$9.65	$10.14
5 - 8 hcf	$14.12	$14.83
9 or more hcf	$17.08	$17.94

Definition of Residential Customers: For purposes of Sections 1 and 2, Residential Customers are single family homes, duplexes, condominiums, townhouses and all apartment buildings with individual meters for separate residential dwelling units. Apartment houses with a single "master meter" measuring consumption within multiple dwelling units are not "Residential Customers" for purposes of Sections 1 and 2 but are classified as "Multi-Family" in Section 3 below.

2. All Other Customers

	Water Rate Quantity Charge Per Unit	
Customer Type	Effective January 1, 2021	Effective January 1, 2022
Multi-Family	$12.87	$13.52
All Other Customers	$13.72	$14.41

3. Section 3.D, Portable Meters, of the Rate and Fee Schedule, is hereby amended to read as follows:

"D. Portable Meters

Customers requesting water service through portable meters shall pay:

1. a deposit in an amount, as estimated by the General Manager, equal to the replacement cost of the meter:
2. a monthly rental charge of $100.00
3a.effective January 1, 2021, a consumption charge of $13.72 per hcf of water delivered.
3b. effective January 1, 2022, a consumption charge of $14.41 per hcf of water delivered.

4. Section 3.E, Fire Service Charge, is hereby amended to read as follows:

"E. Fire Service Charge

Effective January 1, 2021, monthly service charge for a fire service is $6.79 per inch of service line size. Effective January 1, 2022, the monthly service charge for a fire service is $7.13 per inch of service line size. In addition, the customer must pay the actual cost of installation of the fire service. The estimated cost of installation must be deposited prior to commencement of work.

5. Section 4.D., Non-Complex Pipeline Extensions, is hereby amended to read as follows:

"D. Non-Complex Pipeline Extensions

The non-refundable fee for processing applications for water service determined by the Manager to be non-complex under Resolution No. 730 is $500.00."

6. This Resolution shall be effective for water delivered and services provided on or after January 1, 2021 for the Fiscal Year 2020-2021 changes, and January 1, 2020 for the Fiscal Year 2021-2022 changes and any billing for the current billing cycle that includes water delivered before the effective date shall be pro-rated.

7. The General Manager shall arrange for the Rate and Fee Schedule to be re-codified to incorporate the changes effected by this Resolution.

8. The General Manager is directed to file a Notice of Exemption with the County Clerk and to take such other actions as may be necessary to give effect to this Resolution.

PASSED AND ADOPTED THIS 13th day of October, 2020, by the following vote of the Board:

AYES:

NOES:

ABSENT:

Chris R Mickelsen

Chris Mickelsen, President
Board of Directors

ATTEST:

Mary Rogren, General Manager
Secretary of the District

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Appendix L

UWMP and WSCP Adoption Resolutions

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RESOLUTION 2021-03

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE COASTSIDE COUNTY WATER DISTRICT ADOPTING THE UPDATED WATER SHORTAGE CONTINGENCY PLAN

WHEREAS, Section 10632 of the California Water Code requires the Coastside County Water District ("District") to prepare and adopt a Water Shortage Contingency Plan, as part of its 2020 Urban Water Management Plan; and

WHEREAS, Section 350-359 and 31026-31029 of the California Water Code provides authority for the District to declare a water shortage emergency and implement regulations to manage the water shortage emergency; and

WHEREAS, the District maintains a Water Shortage Contingency Plan that is a guidance document for management of water shortages within the District's jurisdiction; and

WHEREAS, Section 10632 (b) of the California Water Code requires that, starting with the 2015 Urban Water Management Plan, water suppliers shall define water features that are artificially supplied with water; and

WHEREAS, the Board of Directors, after a notified public hearing, adopted Resolution 2016-12 on September 13, 2016, approving an updated Water Shortage Contingency Plan, and including it in the 2015 Urban Water Management Plan.

WHEREAS, the Water Shortage Contingency Plan was revised to include Section 10632(a)(3)(A) of the California Water Code that requires water suppliers to define six progressive water shortage levels; and

WHEREAS, the Water Shortage Contingency Plan was revised to include Section 10632(a)(1) of the California Water Code that requires key attributes of a Water Supply Reliability Analysis; and

WHEREAS, the Water Shortage Contingency Plan was revised to include Section 10632(a)(4) of the California Water Code that requires locally appropriate response actions for each shortage level; and

WHEREAS, the Water Shortage Contingency Plan was revised to include Section 10632(a)(2) of the California Water Code that requires that requires procedures for conducting an annual water supply and demand assessment; and

WHEREAS, the Water Shortage Contingency Plan was revised to include Section 10632(a)(5) of the California Water Code that requires that requires communication

protocols and procedures to inform the public, and government entities of current or predicted water shortages; and

WHEREAS, the Water Shortage Contingency Plan was revised to include Section 10632(a)(9) of the California Water Code that requires monitoring and reporting procedures to assure appropriate data is collected to monitor customer compliance and to respond to any state reporting requirements; and

WHEREAS, the Water Shortage Contingency Plan was revised to include Section 10632(a)(10) of the California Water Code that requires a reevaluation and improvement process to assess the functionality of its Water Shortage Contingency Plan and to make appropriate adjustments as may be warranted; and

WHEREAS, the District coordinated the preparation of the Water Shortage Contingency Plan with other appropriate agencies in the area; notified the County of San Mateo and City of Half Moon Bay that the District will be reviewing the Water Shortage Contingency Plan and considering its adoption at least 60 days prior to the public hearing; a copy of the Water Shortage Contingency Plan was available on the District's website; published a notice of the public hearing in the local newspaper once a week for two successive weeks beginning at least fourteen days prior to the public hearing and posted that notice on the District's website; held a public hearing inviting public input regarding the draft Water Shortage Contingency Plan; and considered all comments received during the public hearing.

NOW THEREFORE, BE IT RESOLVED that the Board of Directors of the Coastside County Water District hereby approves and adopts the updated Water Shortage Contingency Plan, as presented to the Board.

BE IT FURTHER RESOLVED that the Board authorizes the General Manager to incorporate comments from the public hearing as approved by the Board after the close of the public hearing.

BE IT FURTHER RESOLVED that the General Manager is authorized and directed to submit a copy of the adopted Water Shortage Contingency Plan, as part of the 2020 Urban Water Management Plan in appendix J, to the Department of Water Resources by July 1, 2021, as required by Section 10621 of the California Water Code, and to the California State Library, the County of San Mateo, and the City of Half Moon Bay within 30 days of its adoption, as required by Section 10644 of the California Water Code.

RESOLUTION 2021-03

PASSED AND ADOPTED this 8th day of June 2021 by the following votes of the Coastside County Water District's Board of Directors:

AYES: President Reynolds, Vice President Feldman, Directors Mickelsen, Coverdell and Muller

Glenn Reynolds, President Board of Directors
Coastside County Water District

Attest:

Mary Rogren, Secretary of the Board, General Manager
Coastside County Water District

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RESOLUTION 2021-04

A RESOLUTION OF THE BOARD OF DIRECTORS
OF THE COASTSIDE COUNTY WATER DISTRICT ADOPTING
THE COASTSIDE COUNTY WATER DISTRICT 2020 URBAN WATER MANAGEMENT PLAN

WHEREAS, the Urban Water Management Planning Act (California Water Code § 10610 et seq.) requires urban water suppliers to prepare and adopt an Urban Water Management Plan to, among other things, report, describe, and evaluate water deliveries, water supply sources, efficient water use, and demand management measures; and

WHEREAS, the Urban Water Management Planning Act requires that Urban Water Management Plans are to be prepared every five years by urban water suppliers with 3,000 or more service connections or supplying 3,000 or more acre-feet of water per year; and

WHEREAS, Coastside County Water District ("District") has prepared its Urban Water Management Plan ("UWMP"), which includes an updated Water Shortage Contingency Plan, as required by the Urban Water Management Planning Act; and

WHEREAS, the District has met its 2020 urban water use target under the Water Conservation Act of 2009 and is described in Chapter 5; and

WHEREAS, the 2012 to 2017 drought led to further revisions of the Urban Water Management Planning Act under the 2018 Water Conservation Legislation to improve water supply planning for long-term reliability and resilience to drought and climate change; and

WHEREAS, the District included a lay description of the District's 2020 UWMP, as required by Section 10630.5 of the California Water Code; and

WHEREAS, the impacts of the Bay-Delta Plan Amendment on the SFPUC Regional Water System are described in Chapter 7; and

WHEREAS, the District coordinated the preparation of the UWMP with other appropriate agencies in the area; notified the County of San Mateo and City of Half Moon Bay that the District will be reviewing the UWMP and considering its adoption at least 60 days prior to the public hearing; a copy of the UWMP was available on the District's website; published a notice of the public hearing in the local newspaper once a week for two successive weeks beginning at least fourteen days prior to the public hearing and posted that notice on the District's website; held a public hearing inviting public input regarding the draft UWMP; and considered all comments received during the public hearing.

NOW THEREFORE, BE IT RESOLVED that the Board of Directors of the Coastside County Water District hereby approves and adopts the 2020 Urban Water Management Plan, as presented to the Board.

RESOLUTION 2021-04

BE IT FURTHER RESOLVED that the Board authorizes the General Manager to incorporate comments from the public hearing as approved by the Board after the close of the public hearing.

BE IT FURTHER RESOLVED that the General Manager is authorized and directed to submit a copy of the adopted UWMP to the Department of Water Resources by July 1, 2021, as required by Section 10621 of the California Water Code, and to the California State Library, the County of San Mateo, and the City of Half Moon Bay within 30 days of its adoption, as required by Section 10644 of the California Water Code.

PASSED AND ADOPTED this 8th day of June 2021, by the following votes of the Coastside Water District's Board of Directors:

AYES: President Reynolds, Vice President Feldman, Directors Mickelsen, Coverdell and Muller

Glenn Reynolds, President Board of Directors
Coastside County Water District

ATTEST:

Mary Rogren, Secretary of the Board, General Manager
Coastside County Water District