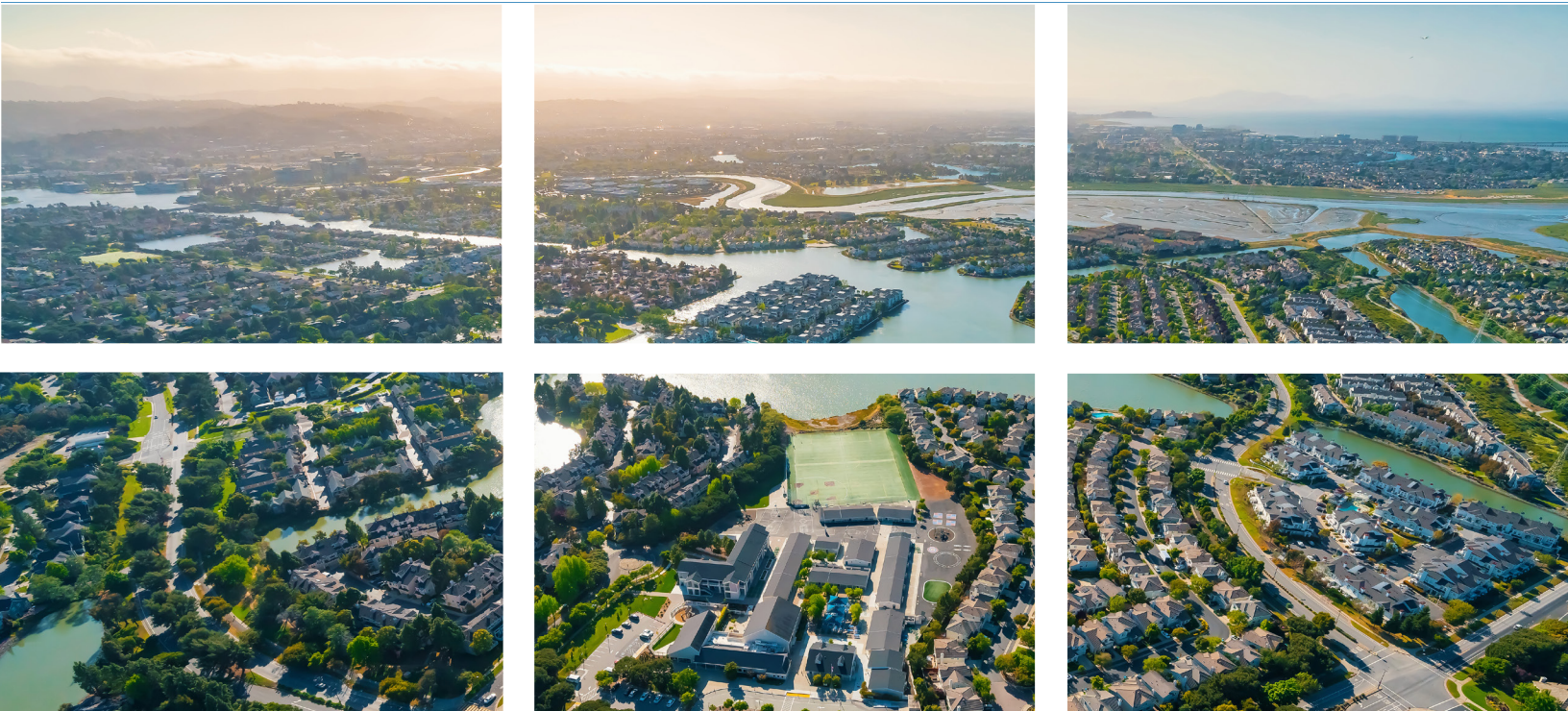
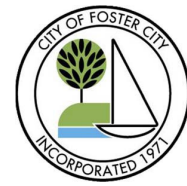


July 2021

# 2020 Urban Water Management Plan

## for Estero Municipal Improvement District





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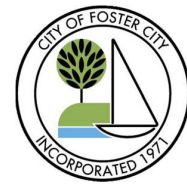
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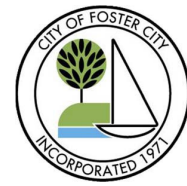
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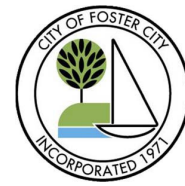
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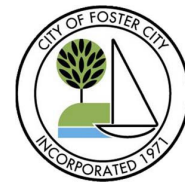
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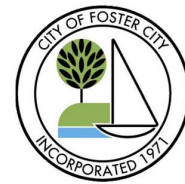


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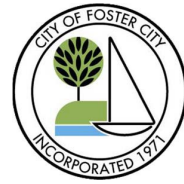
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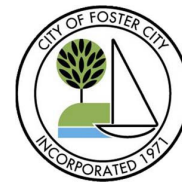
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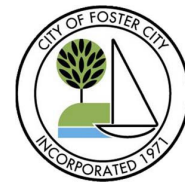


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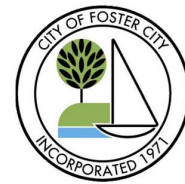
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**ABBREVIATIONS**

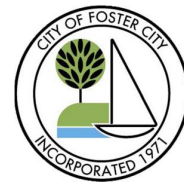
AB	Assembly Bill
ACWD	Alameda County Water District
ADWF	average dry weather flow
AF	acre-foot
AFY	acre feet per year
AMI	Advanced Metering Infrastructure
AWSP	Alternative Water Supply Planning
AWWA	American Water Works Association
BAIRWMP	Bay Area Integrated Regional Water Management Plan
BARR	Bay Area Regional Reliability
BAWSCA	Bay Area Water Supply and Conservation Agency
BDPLs	Bay Division Pipeline
BG	billions of gallons
CALGreen	California Green Building Code
CCR	California Code of Regulations
CCWD	Contra Costa Water District
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CII	Commercial and Industrial
CIP	Capital Improvement Plan
CO2	carbon dioxide
CUWCC	California Urban Water Conservation Council
CWC	California Water Code
DBP	disinfection by-product
DDW	Division of Drinking Water
DMM	demand management measure
DOF	Department of Finance
DRA	Drought Risk Assessment
DSOD	DWR Division of Safety of Dams
DSS	Decision Support System
DWR	California Department of Water Resources
EBMUD	East Bay Municipal Utilities District
EIR	Environmental Impact Statement
EIS	Environmental Impact Report
EMID	Estero Municipal Improvement District
ETo	reference evapotranspiration
FCCAP	Foster City Climate Action Plan
FCHMP	Foster City Local Hazard Mitigation Plan & Safety Element
ft	feet
FTE	full-time equivalent
FY	fiscal year
GPCD	gallons per capita per day
GSR	Groundwater Storage and Recovery Project

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GSRP	Groundwater Storage and Recovery Project
HE	High Efficiency
HET	High Efficiency Toilet
HHLSM	Hetch Hetchy and Local Simulation Model
HMP	Hazard Mitigation Plan
HOA	Homeowner Associations
HTWTP	Harry Tracy Water Treatment Plant
IPCC	International Panel on Climate Change
IRR	Irrigation
ISG	Individual Supply Guarantees
ISGs	Individual Supply Guarantees
JPA	Joint Powers Agreement
kWh	kilowatt-hour
LCSD	Lower Crystal Springs Dam Lower Crystal Springs Dam
LOS	level of service
LVE	Los Vaqueros Reservoir Expansion
MCLs	Maximum Contaminant Levels
MF	Multifamily
MG	million gallons
MGD	million gallons per day
MID	Modesto Irrigation District
MMWD	Marin Municipal Water District
MPWD	Mid-Peninsula Water District
MWELO	Model Water Efficient Landscape Ordinance
O&M	operations and maintenance
PG&E	Pacific Gas and Electric
PREP	Crystal Springs Purified Water Project
PWWF	peak wet weather flow
RCP	Representative Concentration Pathways
RUWMP	Regional Urban Water Management Plan
RWFP	Recycled Water Facilities Plan
RWQCB	Regional Water Quality Control Board
RWS	Regional Water System
SB	Senate Bill
SBX7-7	Senate Bill X7-7
SFPUC	San Francisco Public Utilities Commission
SMC	Sea Change San Mateo County
SMCAP	City of San Mateo Climate Action Plan
SMP	Surface Mining Permit
SVCW	Silicon Valley Clean Water
SVWTP	Sunol Valley Water Treatment Plant
SWAP	Shared Water Access Program
SWRCB	State Water Resources Control Board
TDS	total dissolved solid
TID	Turlock Irrigation District
TRVA	Tuolumne River Voluntary Agreement

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USD	Union Sanitary District
USEPA	U.S. Environmental Protection Agency
UV	ultraviolet
UWMP	Urban Water Management Plan
WCIP	Water Conservation Implementation Plan
WDSMP	Water Distribution System Master Plan
WQD	Water Quality Division
WSA	Water Supply Agreement
WSAP	Water Shortage Allocation Plan
WSCP	Water Shortage Contingency Plan
WSIP	Water System Improvement Program
WWTP	Waste Water Treatment Plant





## **1 INTRODUCTION**

This chapter discusses the importance and uses of this Urban Water Management plan (UWMP or Plan), the relationship of this Plan to the California Water Code (CWC), the relationship of this Plan to other local and regional planning efforts, and how this Plan is organized and developed in general accordance with the UWMP Guidebook 2020 (Guidebook; DWR, 2021).

### **1.1 Background and Purpose**

The Estero Municipal Improvement District (referred to herein as the District or EMID) is located on the San Francisco Bay Peninsula between San Francisco and San Jose. The District serves the entirety of the incorporated limits of the City of Foster City (referred to herein as the City or Foster City) as well as a portion of the City of San Mateo called Mariners Island, located immediately to the west of Foster City. EMID delivers water to residential, commercial, and a small number of industrial businesses. As of 2020, the total population served was approximately 36,516 through a total of 8,170 service connections. EMID purchases all of its potable water supplies from the San Francisco Public Utilities Commission (SFPUUC).

This UWMP is a foundational document and source of information about EMID’s historical and projected water demands, water supplies, supply reliability and potential vulnerabilities, water shortage contingency planning, and demand management programs. Among other things, the Plan serves as:

- A long-range planning document for water supply and system planning; and
- A source for data on population, housing, water demands, water supplies, and capital improvement projects used in:
  - Regional water resource management plans prepared by wholesale water suppliers and other regional planning authorities (as applicable);
  - General Plans prepared by cities and counties;
  - Statewide and broad regional water resource plans prepared by the California Department of Water Resources (DWR), the State Water Resources Control Board (State Board or SWRCB), or other state agencies; and
  - Preparation of Water Supply Assessments (WSAs) for development proposals.

EMID’s last UWMP was completed in 2016, referred to herein as the “2015 UWMP.” This Plan is an update to the 2015 UWMP and carries forward information that remains current and is relevant to this Plan and provides additional information as required by amendments to the UWMP Act (CWC § 10610 – 10657). Although this Plan is an update to the 2015 UWMP, it was developed to be a self-contained, stand-alone document and does not require readers to reference information contained in previous updates.

### **1.2 Urban Water Management Planning and the California Water Code**

The UWMP Act requires urban water suppliers to prepare an UWMP every five years and to submit this plan to the DWR, the California State Library, and any city or county within which the supplier provides water supplies. All urban water suppliers, 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 annually are required to prepare an UWMP (CWC § 10617).

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**2020 Urban Water Management Plan**  
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The UWMP Act was enacted in 1983. Over the years it has been amended in response to water resource challenges and planning imperatives confronting California. A significant amendment was made in 2009 as a result of the governor’s call for a statewide 20 percent reduction in urban water use by 2020, referred to as “20x2020,” the Water Conservation Act of 2009, and “SB X7-7.” This amendment required urban retail water suppliers to establish water use targets for 2015 and 2020 that would result in statewide water savings of 20 percent by 2020. Beginning in 2016, urban retail water suppliers were required to comply with the water conservation requirements in SB X7-7 to be eligible for state water grants or loans. Chapter 5 of this plan contains the data and calculations used to determine compliance with these requirements.

A subsequent substantial revision to the UWMP Act was made in 2018 through a pair of bills (i.e., Assembly Bill 1668 and Senate Bill 606), referred to as “Making Water Conservation a California Way of Life” or the “2018 Water Conservation Legislation.” These changes include, among other things, additional requirements for Water Shortage Contingency Plans (WSCPs), expansion of dry year supply reliability assessments to a five-year drought period, establishment of annual drought risk assessment procedures and reporting, and new conservation targets referred to as “annual water use objectives,” which will require retailers to continue to reduce water use beyond the 2020 SB X7-7 targets.

As applicable, EMID’s 2020 UWMP reflects the following significant revisions to the UWMP Act that have been made since 2015.

- **Five Consecutive Dry-Year Water Reliability Assessment.** The Legislature modified the dry-year water reliability planning from a “multiyear” time period to a “drought lasting five consecutive water years” designation.
- **Drought Risk Assessment.** The Drought Risk Assessment (DRA) requires a 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.
- **Energy Analysis.** UWMPs are now required to include water system energy usage information that can be readily obtained.
- **Seismic Risk.** The Water Code now requires suppliers to specifically address seismic risk to various water system facilities and to have a mitigation plan.
- **Water Shortage Contingency Plan.** In 2018, the Legislature modified the UWMP laws to require a WSCP with specific elements.
- **Groundwater Supplies Coordination.** Water Code now requires suppliers’ 2020 UWMPs to be consistent with Groundwater Sustainability Plans, in areas where those plans have been completed by the Groundwater Sustainability Agencies.
- **Lay Description.** The Legislature included a new statutory requirement for suppliers 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.

The UWMP Act contains numerous other requirements that an UWMP must satisfy. Appendix A to this Plan lists each of these requirements and where in the Plan they are addressed.



### **1.3 Relationship to Other Planning Efforts**

This Plan provides information specific to water management and planning within EMID’s service area. However, water management does not happen in isolation; there are other planning processes that integrate with the UWMP to accomplish urban planning. Some of these relevant planning documents include city and county General Plans, Water Master Plans, Recycled Water Master Plans, integrated resource plans, Integrated Regional Water Management Plans, and others. This Plan is informed by and helps to inform these other planning efforts. In particular, this Plan utilizes information contained in the Foster City and City of San Mateo General Plans, the Foster City Climate Action Plan, the EMID Water Distribution System Master Plan, local hazard mitigation plans, and local and regional water resource plans to the extent data from these plans are relevant.

### **1.4 Plan Organization**

The organization of this Plan follows the same sequence as outlined in the Guidebook (DWR, 2021).

Chapter 1 - Introduction

Chapter 2 - Plan Preparation

Chapter 3 - System Description

Chapter 4 - Water Use Characterization

Chapter 5 - SBX7-7 Baseline, Targets, and 2020 Compliance

Chapter 6 - Water Supply Characterization

Chapter 7 - Water Service Reliability and Drought Risk Assessment

Chapter 8 - Water Shortage Contingency Planning

Chapter 9 - Demand Management Measures

Chapter 10 - Plan Adoption and Submittal

In addition to these ten chapters, this Plan includes a number of appendices providing supporting documentation and supplemental information. Pursuant to CWC §10644(a)(2), this Plan utilizes the standardized forms, tables, and displays developed by DWR for the reporting of water use and supply information required by the UWMP Act. This Plan also includes additional tables, figures, and maps to augment the set developed by DWR, as appropriate. The table headers indicate if the table is part of DWR’s standardized set of submittal tables.

### **1.5 Demonstration of Consistency with the Delta Plan for Participants in Covered Actions**

Although not required by the UWMP Act, in the Guidebook (DWR, 2021), DWR recommends that all suppliers that are participating in, or may participate in, receiving water from a proposed project that is



considered a “covered action” under the Delta Plan<sup>1</sup>—such as a (1) multiyear water transfer; (2) conveyance facility; or (3) new diversion that involves transferring water through, exporting water from, or using water in the Sacramento-San Joaquin Delta (Delta)—provide information in their UWMP to demonstrate consistency with the Delta Plan policy WR P1, Reduce Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code of Regulations, Title 23, Section 5003). The SFPUC, EMID’s wholesale agency, has made a legal determination that this requirement does not apply to their water sources.<sup>2</sup>

## **1.6 Lay Description**

### **CWC § 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.*

This Urban Water Management Plan (UWMP or Plan) is prepared for the Estero Municipal Improvement District (also referred to as the District or EMID) which serves drinking water to 8,170 service connections. This UWMP serves as a foundational planning document and includes descriptions of historical and projected water demands, and water supplies and reliability over a 20-year planning horizon. This document also describes the actions EMID is taking to promote water conservation, both by EMID itself and affiliated agencies (referred to as “demand management measures”) and includes a plan to address potential water supply shortages such as drought or other impacts to supply availability (the “Water Shortage Contingency Plan”). This UWMP is updated every five years in accordance with state requirements under the Urban Water Management Planning Act and amendments (Division 6 Part 2.6 of the California Water Code [CWC] § 10610 – 10656). Past plans developed for EMID are available on the California Department of Water Resources (DWR) Water Use Efficiency Data Portal website: <https://wuedata.water.ca.gov/>. This document includes 10 chapters, which are summarized below.

### **Chapter 1 - Introduction**

This chapter presents the background and purpose of the UWMP, identifies the Plan organization, and provides this lay description overview of the document.

### **Chapter 2 - Plan Preparation**

This chapter discusses key structural aspects related to the preparation of the UWMP and describes the coordination and outreach conducted as part of the preparation of the Plan, including coordination with

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<sup>1</sup> The Delta Plan was developed by the Delta Stewardship Council, which was established as part of the Sacramento-San Joaquin Delta Reform Act of 2009 (Delta Reform Act), to guide agencies manage the Delta’s natural and environmental resources. The Delta Plan is separate from the Water Quality Control Plan for the San Francisco Bay/Sacramento–San Joaquin Delta Estuary (Bay-Delta Plan) and the 2018 Bay-Delta Plan Amendment which have been developed and adopted by the SWRCB and are discussed in more detail in later Chapters of this UWMP.

<sup>2</sup> Email from BAWSCA, dated February 9, 2021.





local agencies (i.e., Bay Area Water Supply and Conservation Agency [BAWSCA]), water wholesalers (i.e., San Francisco Public Utilities Commission [SFPUC]), and the public.

### ***Chapter 3 - System Description***

This chapter provides a description of EMID’s water system and the service area, including information related to the climate, population, and demographics. EMID supplies water to all customers within the City of Foster City and the Mariners Island portion of the City of San Mateo with a total population served of 36,516. EMID is anticipating population to increase by 14 percent to 41,366 by 2045 based on current development projections. EMID has a Mediterranean coastal climate characterized by cool dry summers and mild wet winters. Most of the precipitation falls during late autumn, winter, and spring, averaging 18.8 inches of rainfall annually.

### ***Chapter 4 - Water Use Characterization***

This chapter provides a description of and quantifies EMID’s current and projected water demands through the year 2045. This chapter details total water demand and potable demand. Water demands refer not only to the water used by customers but also water used as part of the system maintenance and operation, as well as unavoidable losses inherent in the operation of a water distribution system. Total water demand within EMID was 1,469 million gallons (MG) per year on average between 2016 and 2020 and 1,596 MG in 2020. The demand in 2020 was 74 percent of EMID’s contractual allocation of water (known as its Individual Supply Guarantee [ISG]) from SFPUC, which is equal to approximately 2,154 MG per year. Accounting for historical water use, expected population increase and other growth, climatic variability, water conservation, and other assumptions, water demand within EMID is projected to increase to 1,805 MG by 2045, an increase of 23 percent compared to the 2016-2020 average.

### ***Chapter 5 - SBX7-7 Baseline, Targets, and 2020 Compliance***

In this chapter, EMID demonstrates compliance with its per capita water use target for the year 2020. The Water Conservation Act of 2009 (Senate Bill X7-7) was enacted in November 2009 and requires the state of California to achieve a 20 percent reduction in urban per capita water use by December 31, 2020. To achieve this statewide reduction, each urban retail water supplier was required to establish water use targets for 2015 and 2020 using methodologies established by DWR. EMID is in compliance with its 2020 water use target of 140 gallons per capita per day (GPCD), having reduced its potable water use in 2020 to 120 GPCD.

### ***Chapter 6 - Water Supply Characterization***

This chapter presents an analysis of EMID’s water supplies, as well as an estimate of water-related energy-consumption. The intent of this chapter is to present a comprehensive overview of EMID’s water supplies, estimate the volume of available supplies over the UWMP planning horizon, and assess the sufficiency of EMID’s supplies to meet projected demands under “normal” hydrologic conditions.

EMID’s potable water supply is purchased water from SFPUC Regional Water System (RWS). EMID’s ISG is 5.9 million gallons per day (MGD), or approximately 2,154 MG per year.

Calculation and reporting of water system energy intensity is a new requirement for the 2020 UWMPs. Energy intensity is defined as the net energy used for water treatment, conveyance, and distribution for all water entering the distribution system, less the amount of energy produced within the water system itself. Accounting for the energy produced by EMID’s potable water system, the energy intensity for EMID is estimated to be approximately 155 kilowatt hours per million gallons of water (kWh/MG).



### ***Chapter 7 - Water Service Reliability and Drought Risk Assessment***

This chapter assesses the reliability of EMID’s water supplies, with a specific focus on potential constraints such as water supply availability, water quality, and climate change. The intent of this chapter is to identify any potential constraints that could affect the reliability of EMID’s supply (such as drought conditions) to support EMID’s planning efforts to ensure that it can meet projected demands. Water service reliability is assessed during normal, single dry-year, and multiple dry-year hydrologic condition. Based on this analysis, EMID expects the available supplies to be sufficient to meet projected demands in normal year conditions; however, significant shortfalls are projected in dry year conditions, which if realized would require EMID to enact its Water Shortage Contingency Plan (WSCP). Numerous uncertainties exist in the assumptions that drive the projected dry year shortage estimates, and EMID anticipates revising its water service reliability assessment within the next five years as some of these uncertainties are resolved.

### ***Chapter 8 - Water Shortage Contingency Planning***

This chapter describes the Water Shortage Contingency Plan (WSCP) for EMID. The WSCP serves as a standalone document to be engaged in the case of a water shortage event, such as a drought or supply interruption and defines specific policies and actions that will be implemented at various shortage level scenarios. For example, implementing customer water budgets and surcharges, or restricting landscape irrigation to specific days and/or times. Consistent with DWR requirements, the WSCP includes six levels to address shortage conditions ranging from 0 percent (or non-drought conditions) to greater than 50 percent shortage.

### ***Chapter 9 - Demand Management Measures***

This chapter includes descriptions of past and planned conservation programs that EMID operates within each Demand Management Measure (DMM) category outlined in the UWMP Act, specifically: (1) water waste prevention ordinances, (2) metering, (3) conservation pricing, (4) public education and outreach, (5) distribution system water loss management, (6) water conservation program coordination and staffing support, and (7) “other” DMMs. EMID has developed a suite of conservation programs and policies, which address each DMM category. Additionally, EMID participates in water conservation programs offered by BAWSCA.

### ***Chapter 10 - Plan Adoption and Submittal***

This chapter provides information on a public hearing, the adoption process for the UWMP, the adopted UWMP submittal process, plan implementation, and the process for amending the adopted UWMP. EMID adopted the UWMP during a City Council meeting on 19 July 2021. In addition, this chapter provides information on the adoption of the included WSCP. This UWMP and the associated WSCP were submitted to DWR within 30 days of adoption.



## 2 PLAN PREPARATION

This chapter discusses the type of Urban Water Management Plan (UWMP or Plan) the Estero Municipal Improvement District (EMID or the District) has prepared and includes information that will apply throughout the Plan. Coordination and outreach during the development of the Plan is also discussed.

### 2.1 Basis for Preparing a Plan

**CWC § 10617**

*“Urban water supplier” means a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. An urban water supplier includes a supplier or contractor for water, regardless of the basis of right, which distributes or sells for ultimate resale to customers. This part applies only to water supplied from public water systems subject to Chapter 4 (commencing with Section 116275) of Part 12 of Division 104 of the Health and Safety Code.*

**CWC § 10620**

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

**CWC § 10621 (a)**

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

**CWC § 10621 (f)(1)**

*Each urban water supplier shall update and submit its 2020 plan to the department by July 1, 2021.*

**CWC § 10644 (a)(2)**

*The plan, or amendments to the plan, submitted to the department ... shall include any standardized forms, tables, or displays specified by the department.*

In 2020, EMID provided 1,596 million gallons (MG) of water to 8,170 services connections (Table 2-1). Per California Water Code (CWC) § 10617, an urban water supplier is defined as a supplier that provides water for municipal purposes to more than 3,000 customers or supplies more than 3,000 acre-feet (approximately 978 million gallons [MG]) of water annually. EMID meets the criteria based on the both the volume of water supplied and the number of customers served. EMID is therefore obligated under CWC § 10621(f) to develop and submit an UWMP to the California Department of Water Resources (DWR) by July 1, 2021.



**Table 2-1 Public Water Systems (DWR Table 2-1)**

Public Water System Number	Public Water System Name	Number of Municipal Connections 2020	Volume of Water Supplied 2020
4110021	Estero Municipal Improvement District	8,170	1,596
<b>TOTAL</b>		8,170	1,596
NOTES: (a) Volumes are in units of MG. (b) Volumes are rounded to the nearest MG. (c) Production data provided by EMID.			

The Plan has been prepared in general accordance with the format suggested in the DWR UWMP Guidebook (Guidebook; DWR, 2021). Text from the UWMP Act has been included in text boxes at beginning of relevant chapters of this UWMP. The information presented in the respective UWMP chapters and the associated text, figures, tables and charts are collectively intended to fulfill the requirements of that sub-section of the UWMP Act. To the extent practicable, supporting documentation has also been provided in appendices Appendix A through Appendix N. Other sources for the information contained herein are provided in the references section of the document.

Per CWC § 10644(a)(2), selected information for the 2020 UWMP updates must be presented in standardized tables for electronic submittal to DWR. Text and tables in the main body of the UWMP document have been cross-referenced to the companion DWR tables.

Per the Guidebook, the UWMP preparer is requested to complete a checklist of specific UWMP requirements to assist the DWR review of the submitted UWMP. The completed checklist is included in Appendix A.

## 2.2 Regional Planning

Regional planning can deliver mutually beneficial solutions to all agencies involved by reducing costs for the individual agency, assessing water resources at the appropriate geographic scale, and allowing for solutions that cross jurisdictional boundaries. EMID participates in regional water resources planning initiatives as a member of the Bay Area Water Supply and Conservation Agency (BAWSCA), which represents the 26 member agencies that purchase wholesale water supplies from the San Francisco Public Utilities Commission (SFPUC). As discussed in Section 2.5.1, EMID participates in the regional water reliability planning and conservation programming provided by BAWSCA.

## 2.3 Individual or Regional Planning and Compliance (Regional Alliance)

Urban water suppliers may elect to prepare individual or regional UWMPs (RUWMPs) and report on the requirements of SB X7-7 (2009 California Conservation Act) individually or as a member of a “Regional





Alliance.” EMID has elected to prepare an individual UWMP based solely on its distribution service area (see Table 2-2).

**Table 2-2 Plan Identification Type (DWR Table 2-2)**

Select Only One	Type of Plan	Name of RUWMP or Regional Alliance <i>if applicable</i>
X	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)	
NOTES:		

## 2.4 Basis for Reporting and Units of Measure

**CWC § 10608.20 (a) (1)**

*Urban retail water suppliers...may determine the targets on a fiscal year or calendar year basis.*

As shown in Table 2-3, EMID is a retail water supplier. Information presented in this UWMP is reported on a fiscal year basis. The unit of measure for reporting water volumes is million gallons (MG) and is maintained consistently throughout the Plan, unless otherwise noted (Table 2-3).

Further, consistent with the Guidebook, the terms “water use”, “water consumption”, and “water demand” are used interchangeably in this UWMP.



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

Type of Supplier	
	Supplier is a wholesaler
X	Supplier is a retailer
Fiscal or Calendar Year	
	UWMP Tables are in calendar years
X	UWMP Tables are in fiscal years
If using fiscal years provide month and date that the fiscal year begins (mm/dd)	
(07/01)	
Units of measure used in UWMP	
Unit	MG
NOTES:	

## 2.5 Coordination and Outreach

As described below, and in Chapter 10, this UWMP has been prepared in coordination with BAWSCA, the BAWSCA member agencies, the San Francisco Public Utilities Commission (SFPUC), the public, and other appropriate entities.

### 2.5.1 Role of BAWSCA and the UWMP Common Language

Among its other functions, BAWSCA represents EMID and the 25 other water districts, cities, and utilities, collectively referred to as the “Wholesale Customers”, in negotiations and other coordination efforts with the SFPUC. Together with the SFPUC, BAWSCA developed common language for inclusion in each Wholesale Customers’ 2020 UWMP regarding the following common issues:

- Description of BAWSCA;
- Regional Water Demand and Conservation Projections;
- Long-Term Reliable Water Supply Strategy (Strategy);
- Making Conservation a Way of Life Strategic Plan;
- Tier One Drought Allocations;
- Tier Two Drought Allocations.
- Individual Supply Guarantees (ISGs);
- 2028 SFPUC Decisions (formerly 2018 SFPUC Decisions)
- Reliability of the Regional Water System; and
- Climate Change.



For clarification purposes, and as shown below, the common language provided by BAWSCA and SFPUC is shown in gray font and has been indented for emphasis; it is otherwise presented unchanged from the original text. As a result, there may be some redundancy in the information presented and the number of times that certain terms are abbreviated or defined. A description of BAWSCA’s role generally and related to the 2020 UWMP development process is provided below.

BAWSCA provides regional water reliability planning and conservation programming for the benefit of its 26 member agencies that purchase wholesale water supplies from the San Francisco Public Utilities Commission (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 Urban Water Management Plan (UWMP) updates is to work with its member agencies and the SFPUC to seek consistency among UWMP documents.

## 2.5.2 Wholesale Coordination

### **CWC § 10631 (h)**

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

The SFPUC is a wholesale water supplier to all of the BAWSCA member agencies and is the only wholesale water supplier to EMID. As part of the coordination efforts for the 2020 UWMP, and in compliance with CWC § 10631(h), BAWSCA prepared water demand projections through 2040 on behalf of EMID and transmitted EMID’s water demand projections to the SFPUC.

Additionally, as described in more detail in Chapter 7, EMID has relied upon the water supply reliability projections provided by the SFPUC for the purposes of analyzing the reliability of its SFPUC supplies during normal and dry years through 2045 (Table 2-4).<sup>3</sup>

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<sup>3</sup> Information provided by the SFPUC and BAWSCA are included in Appendix G.



**Table 2-4 Water Supplier Information Exchange (DWR Table 2-4)**

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
San Francisco Public Utilities Commission (SFPUC)
NOTES:

**2.5.3 Agency Coordination**

**CWC § 10620 (d) (3)**

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

**CWC § 10631 (a)** A plan shall be adopted in accordance with this chapter that shall do all of the following:

*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.*

As a member of BAWSCA and the BAWSCA Water Management Representative Committee, EMID has coordinated closely with BAWSCA and its 25 other member agencies throughout the update of EMID’s UWMP. Between 12 February 2021 and 9 April 2021, EMID attended a series of five webinars on supply reliability hosted by BAWSCA. During the webinars, BAWSCA and the member agencies reviewed the water supply reliability projections provided by the SFPUC, as well as the updated dry year Wholesale Agency allocations described in Section 7.1.3. EMID also attends monthly water management meetings with BAWSCA and its member agencies that, among other topics, include discussion of items pertinent to the preparation of the 2020 UWMPs.

The San Mateo Wastewater Treatment Plant (WWTP) receives wastewater from the EMID service area and is jointly owned by the Cities of Foster City and San Mateo through a Joint Powers Agreement (JPA). EMID has coordinated with the City of San Mateo, who operates the WWTP as the lead agency of the JPA and therefore serves as the wastewater agency serving the EMID service area.

In addition, EMID notified local and regional water retailers and public agencies of EMID’s intent to prepare this 2020 UWMP (and the Water Shortage Contingency Plan; WSCP), and the associated public hearing. A list of cities, counties, and other agencies receiving the public hearing notification from EMID as required per CWC § 10621 (b) are listed in Appendix B in Chapter 10 of this Plan.

A sample copy of the notices is provided in Appendix B as well as a complete list of cities, counties, and other agencies receiving the public hearing notification from EMID.



#### 2.5.4 Public Participation

**CWC § 10642**

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

Water suppliers are required by the UWMP Act to encourage active involvement of the community within the service area prior to and during the preparation of its UWMP. The UWMP Act also requires water suppliers to make a draft of the UWMP available for public review and to hold a public hearing regarding the findings of the UWMP prior to its adoption. In addition to sending notices to the various agencies listed in Appendix C, EMID also notified the public of EMID's intent to adopt its UWMP. The Public Review Draft of the 2020 UWMP was made available on EMID's established webpage on the Foster City website <https://www.fostercity.org/publicworks/page/water> and at the Foster City's City Hall on 30 June 2021.

On 30 June 2021, and again on 7 July 2021, EMID published a notice in the *Foster City Islander* newspaper informing the public that the 2020 UWMP as well as the 2020 WSCP would be available for public review at Foster City's City Hall and on EMID's page via the City's website, consistent with requirements of California Government Code 6066.<sup>4</sup> The notice also informed the public that the 2020 UWMP and 2020 WSCP public hearing would be held at City Hall on 19 July 2021. Public participation in the development of EMID's 2020 UWMP is summarized in Appendix C.

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<sup>4</sup> Government Code section 6066. Publication of notice pursuant to this section shall be once a week for two successive weeks. Two publications in a newspaper published once a week or oftener, with at least five days intervening between the respective publication dates not counting such publication dates, are sufficient. The period of notice commences upon the first day of publication and terminates at the end of the fourteenth day, including therein the first day.



### 3 SYSTEM DESCRIPTION

**CWC § 10631 (a)** *A plan shall be adopted in accordance with this chapter that shall do all of the following:*

*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.*

This chapter provides a description of the Estero Municipal Improvement District (also referred to herein as the District or EMID) water system and service area, including its climate, population, demographics, and land uses to help in understanding various elements of water supply and demand.

#### 3.1 General Description

EMID serves a population of approximately 36,516 and is located on the San Francisco Bay Peninsula, midway between San Francisco and San Jose. The EMID service area is located approximately 10 miles south of the San Francisco International Airport and adjacent to the entrance of the San Mateo/EMID Bridge. The EMID service area consists of the City of Foster City (also referred to herein as the City or Foster City) and a portion of the City of San Mateo immediately adjacent to the west, referred to as the Mariners Island area, as shown on. EMID's customers are mostly residential with a broad cross-section of offices, commercial businesses, biotech research and development businesses, and a small number of industrial businesses.

Prior to being developed as Foster City, a massive construction and landfilling project was undertaken to convert the prior baylands to the land grade that underlies Foster City today (EKI, 2016). Approximately eighteen million cubic yards of fill were imported to provide gradient for stormwater runoff, cover for utility lines, and support for buildings (EKI, 2016). Approximately 212 acres of lagoons were created for collection of stormwater, which is pumped into the San Francisco Bay (EKI, 2016). In order to fund these significant infrastructure projects, and to serve the community during the early years prior to incorporation or annexation, EMID was created by the State of California (EKI, 2016). The State legislation provided for the turnover of control to the residents as they began occupying the City. By 1971, more than 10,000 residents had moved into the area, and they voted for incorporation as a new city: Foster City (EKI, 2016).

The District purchases all of its potable water from the San Francisco Public Utilities Commission (SFPUC) Regional Water System (RWS) and is a member of Bay Area Water Supply and Conservation Agency (BAWSCA). Water distribution, water conservation, and maintenance of water quality are EMID's main water resource functions, as treated water purchased from the SFPUC RWS does not require further water treatment. EMID is governed by a board of five directors, who also serve as the City Council for Foster City. Foster City's Public Works Department manages and operates EMID.

**System Description**  
**2020 Urban Water Management Plan**  
**Estero Municipal Improvement District**



Water from the SFPUC RWS enters the EMID distribution system) through a single 24-inch transmission main line connected to the SFPUC's 54-inch main, Crystal Springs No. 2. The main line connection point is located in the City of San Mateo on Crystal Springs Road. The distribution system consists of two water pressure reducing stations, four above ground storage tanks with a total storage capacity of 20 MG, a booster pump station, 135 miles of distribution pipeline, and 8,170 service connections (HydroScience, 2020).

There are two interconnections between EMID's system and adjacent distribution systems: one intertie with California Water Service Company's (Cal Water's) Mid-Peninsula District system and one intertie with the Mid-Peninsula Water District (MPWD) system. EMID currently has emergency transfer agreements with both Cal Water and MPWD (HydroScience, 2020).

In April 2020, EMID completed a Water Distribution System Master Plan Study (WDSMP) that is referenced above and throughout this Plan. The WDSMP includes a water demand analysis, a comprehensive hydraulic modeling evaluation to determine existing and future deficiencies in the water supply system, and a long-range (20-year) Capital Improvement Plan (CIP) used to address deficiencies raised by the study (HydroScience, 2020). Detailed recommendations and proposed plans for EMID are described further in the 2020 WDSMP.

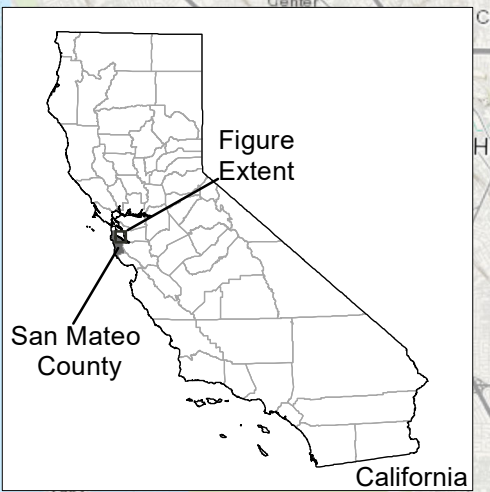
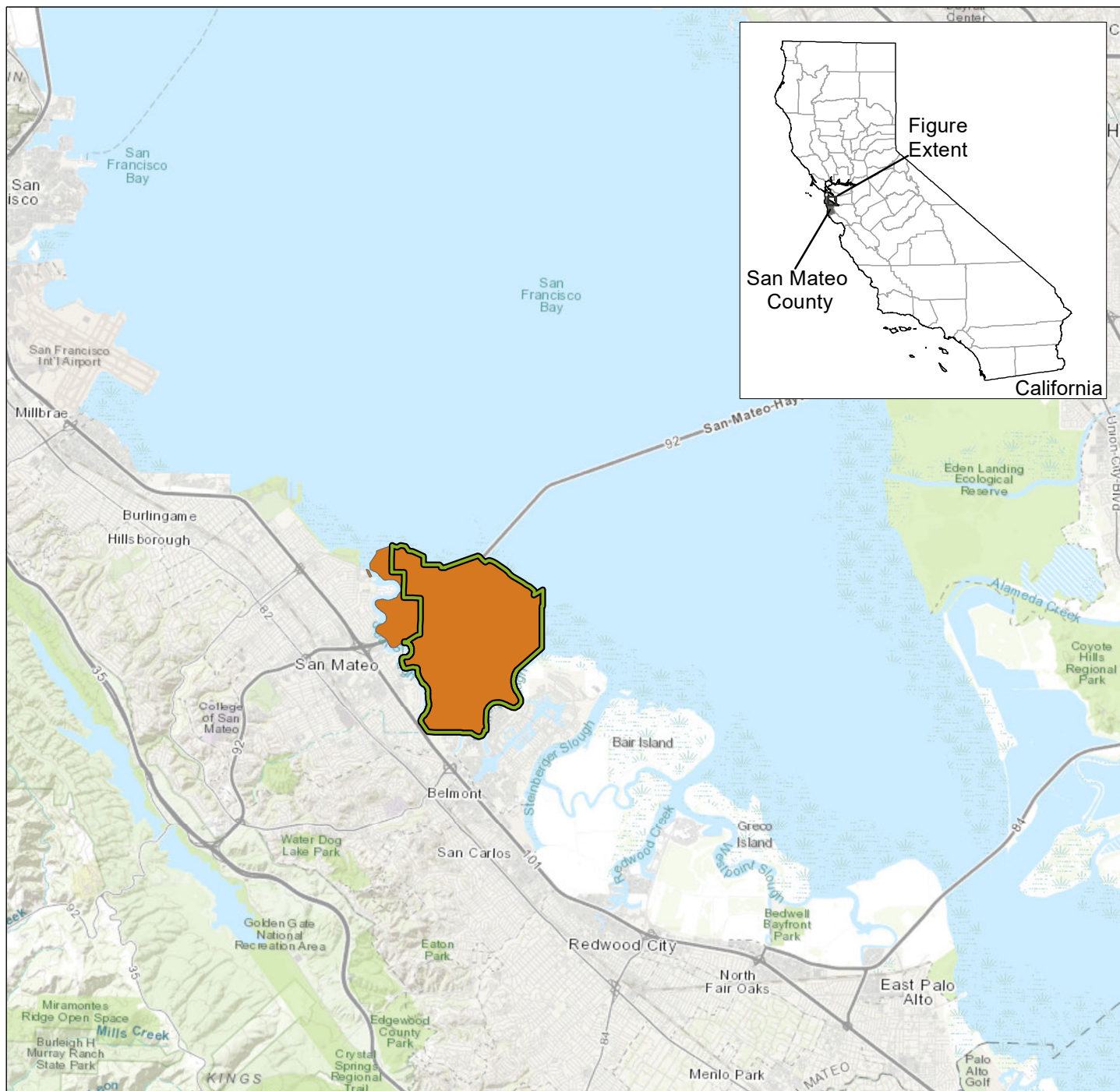
As of October 2020, the EMID/Foster City Levee Protection Planning and Improvements Project is under construction. Upon completion the levee surrounding the service area will be raised to meet the required elevation per Title 44 of the Code of Federal Regulations (CFR), Section 65.10. The raised levee will provide long-term protection to EMID's infrastructure from the effects of climate change such as intense flooding, erratic weather events, and sea level rise. The anticipated completion date for the Levee Protection Project is 2023.

In addition to the major projects identified above, the following water system improvement projects are also planned or have been completed since the 2015 UWMP to replace or rehabilitate aging infrastructure or improve operations:



- Water system improvements and valve replacements – includes the replacement and addition of several valve and bypass tees (completion anticipated Winter 2021);
- Recoating of Water Tanks 1, 2, and 3 (completion anticipated Fall 2022);
- Seismic improvements at Water Booster Pump Station and Water Tanks 1, 2, and 3 (anticipated completion Fall 2022);
- Water Quality Dosing and Tank Improvements (anticipated completion Fall 2022);
- Test Large Water Meters (4" and greater) in place to determine meter accuracy (anticipated completion Summer 2022);
- Replace Large Water Meters (4" and greater) with inaccurate readings (anticipated completion Summer 2022); and
- Repair Steel Pipeline and Replace Broken Valves (anticipated completion Summer 2022).

As required by the UWMP Act, specific information about EMID's service area, population, and climate is provided below.





**Legend**

-  Foster City Boundary
-  EMID

**Sources**

World Topographic base map provided by ArcGIS Online, obtained 27 July 2021.



**Abbreviations**

EMID= Estero Municipal Improvement District

**Notes**

1. All locations are approximate.

**Regional Vicinity Map**

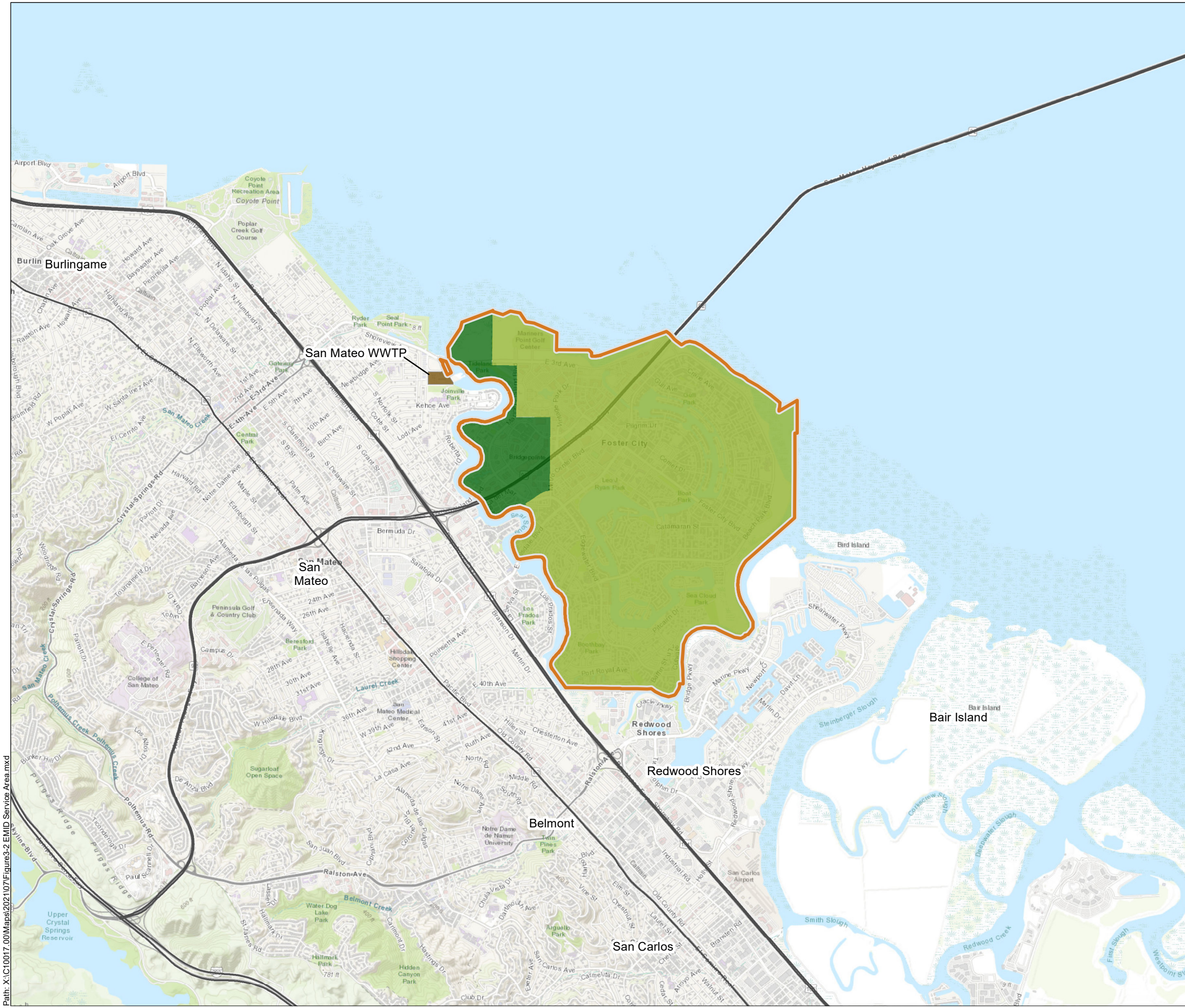
Estero Municipal Improvement District  
 2020 Urban Water Management Plan  
 Foster City, CA  
 July 2021  
 C10017.00



**Figure 3-1**

Path: X:\C10017.00\Maps\202107\Figure3-1 Regional Vicinity Map.mxd





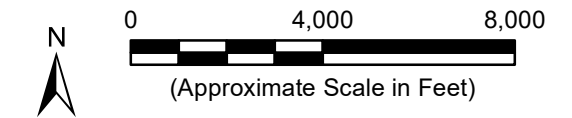
**Legend**

- EMID Service Area
- Foster City
- Mariners Island (City of San Mateo)
- San Mateo WWTP

**Abbreviations**  
 EMID= Estero Municipal Improvement District  
 WWTP= Wastewater Treatment Plant

**Notes**  
 1. All locations are approximate.

**Sources**  
 World Topographic base map provided by ArcGIS Online, obtained 27 July 2021.



**EMID Service Area Map**

Estero Municipal Improvement District  
 2020 Urban Water Management Plan  
 Foster City, CA  
 July 2021  
 C10017.00  
**Figure 3-2**

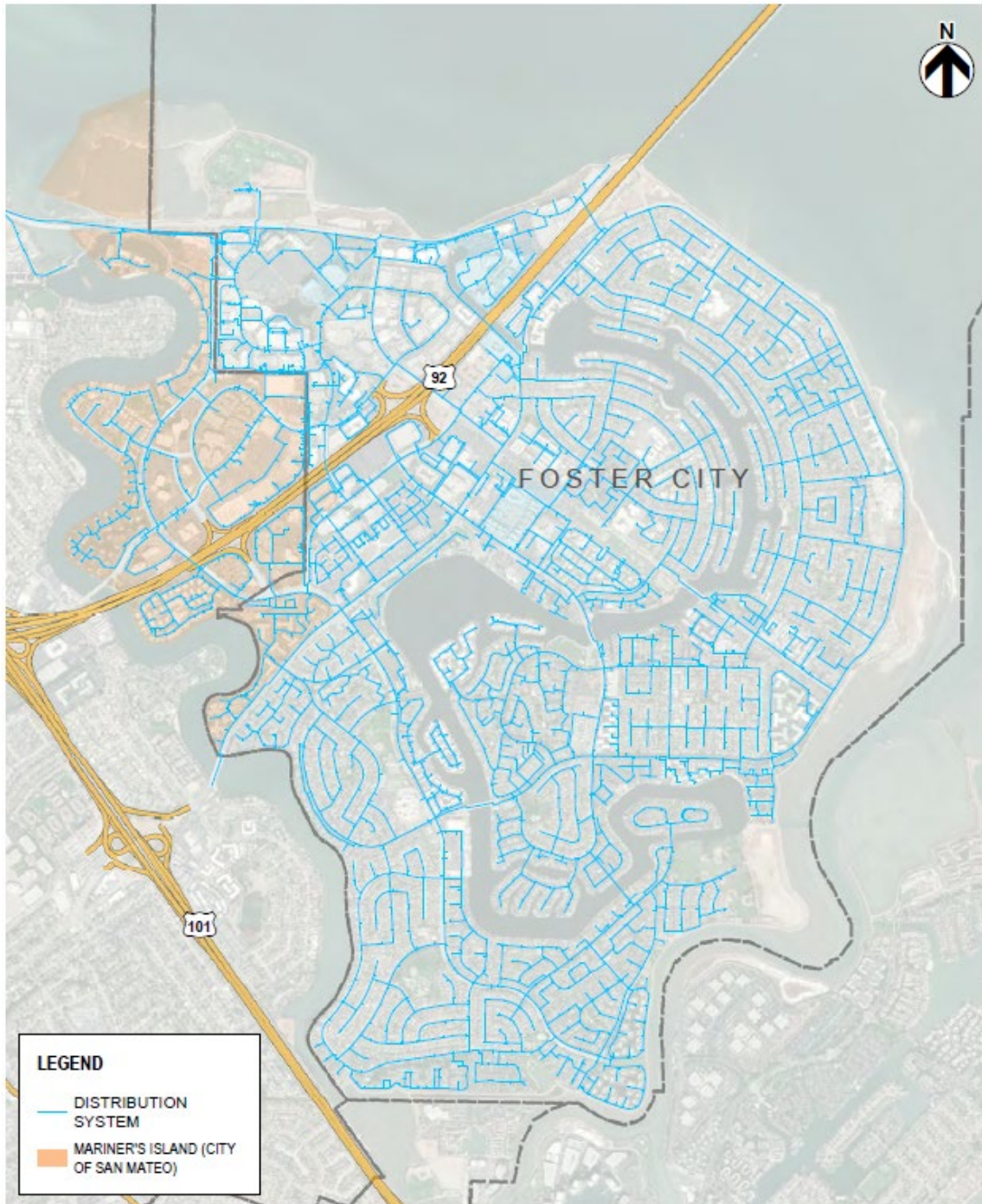


Path: X:\C10017.00\Maps\202107\Figure3-2 EMID Service Area.mxd





Figure 3-3 Agency Water System Map



Source: Water Distribution Master Plan Figure 4-2 (HydroScience, 2020)



### 3.2 Service Area Boundary Map

The EMID service area is located adjacent to the San Francisco Bay in San Mateo County. Its boundaries closely correspond with those of the City of Foster City but also include a portion of the City of San Mateo immediately adjacent to the west, referred to as the Mariners Island area, as shown on and. In general, EMID is bounded by Seal Slough to the west; Belmont Slough to the south; and the San Francisco Bay to the north and east. From northwest to southeast, the District is approximately 3.1 miles in length. The service area extends approximately 2.5 miles inland from the Bay at its widest point.

### 3.3 Service Area Population and Demographics

Suppliers are required to report their current and projected service area populations in their UWMP. The CWC does not require a specific methodology for projecting future populations, but it does require that the estimates of future population be based upon data from state, regional, or local service agency population projections.

#### 3.3.1 Service Area Population

Table 3-1 and associated chart presents EMID’s estimated 2020 and projected population. EMID’s 2020 residential population is just over 36,500, based on the output from the California DWR Population Tool. Population projections for 2025 through 2040 are based on projections provided by the Foster City Community Development Department for the City of Foster City and the City of San Mateo Community Development Department for Mariners Island (Census Tract 6079). The population projection for 2045 was interpolated based on the population data provided, resulting in an assumed an annual growth rate of approximately 0.62 percent between 2040 and 2045.<sup>5</sup>

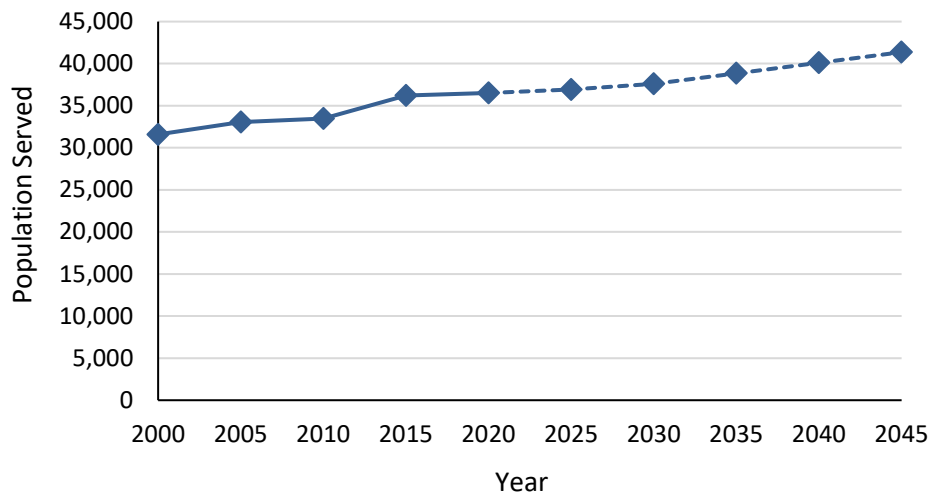
**Table 3-1 Population - Current and Projected (DWR Table 3-1)**

Population Served	2020	2025	2030	2035	2040	2045
	36,516	36,932	37,602	38,848	40,107	41,366
NOTES: (a) Source for 2020 population is the DWR Population Tool for 2020. Subsequent years estimated based on Foster City Community Development Department Projections 2040 for 2025 through 2040 for Foster City and Census Tract 6079 projections for Mariners Island.						

<sup>5</sup> Note that population estimates do not account for the draft Regional Housing Needs Allocations (RHNA) released by the Association of Bay Area Governments (ABAG) in May 2021, as these allocations are still draft and will not be finalized and incorporated into the City’s Housing Element until after adoption of the 2020 UWMP.



Chart 3-1 Current and Projected Population



### 3.3.2 Service Area Demographics

Demographics for the EMID service area are summarized in Table 3-2. These data are from the U.S. Census American Community Survey 2019 5-Year Estimates for the City of Foster City and the census tract that includes Mariners Island (Census Tract 6079).<sup>6</sup> Relative to the rest of California, EMID’s population has nearly the same age distribution and is more racially diverse. Educational attainment and median household income in the EMID service area is higher than for the state as a whole.

<sup>6</sup> U.S. Census Bureau, 2019. *2015-2019 American Community Survey 5-year Estimates*, dated 2019. Retrieved from: <https://data.census.gov/cedsci/>.



**Table 3-2 Demographic Characteristics**

Demographics (a)	EMID	California
<b>Age and Sex</b>		
All persons under 5 years	5.6%	6.2%
All persons under 18 years	21.1%	23.0%
All persons 65 years and older	17.6%	14.0%
Female persons	50.4%	50.3%
<b>Race and Hispanic Origin</b>		
White alone	44.8%	59.7%
Black or African American alone	2.4%	5.8%
American Indian and Alaska Native alone	0.2%	0.8%
Asian alone	46.2%	14.5%
Native Hawaiian and Other Pacific Islander alone	0.1%	0.4%
Two or More Races	4.9%	4.9%
Hispanic or Latino (of any race)	8.3%	39.0%
<b>Families &amp; Living Arrangements</b>		
Persons per household	2.60	2.95
Living in same house 1 year ago, percent of persons age 1 year+	78.5%	87.1%
Language other than English spoken at home, age 5 years+	51.8%	44.2%
<b>Education</b>		
High school graduate or higher, persons age 25 years+	96.3%	83.3%
Bachelor's degree or higher, persons age 25 years+	69.4%	33.9%
<b>Income &amp; Poverty</b>		
Median Household Income (2019 dollars)	\$151,767	\$75,235
Per capita income in past 12 months (2019 dollars)	\$71,136	\$36,955
Persons in poverty	4.4%	13.4%
NOTES: (a) Demographic data per the U.S. Census Bureau website, <a href="https://www.census.gov/acs/www/data/data-tables-and-tools/data-profiles">https://www.census.gov/acs/www/data/data-tables-and-tools/data-profiles</a> , accessed March 2021.		

### 3.3.3 Projected Employment

EMID employment numbers for 2020 and 2025-2040 projections (Table 3-3 and associated chart) were developed using Foster City Community Development Department projections for Foster City and City of San Mateo Community Development Department for Mariners Island. The employment projection for 2045 was interpolated based on the employment data provided, resulting in an assumed an annual growth rate of approximately 1.04 percent between 2040 and 2045.

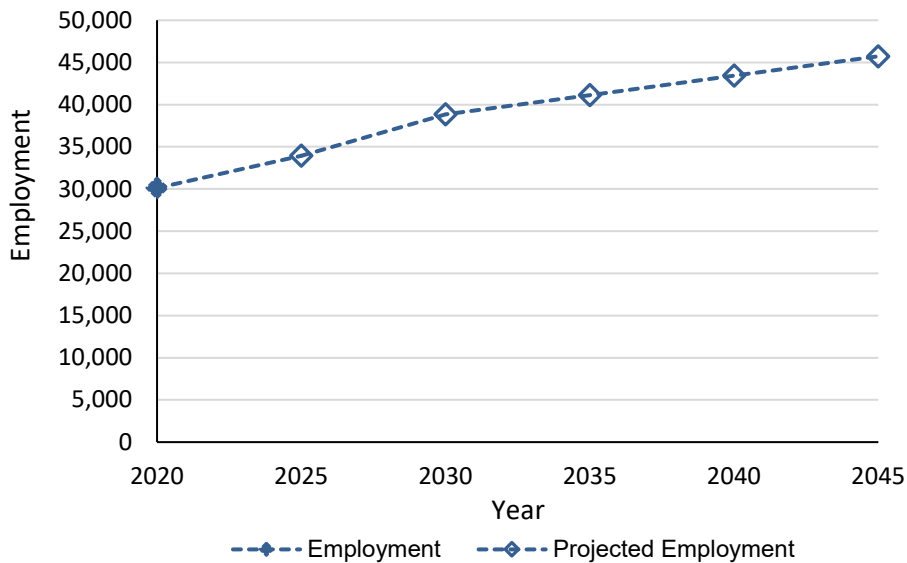


**Table 3-3 Employment - Current and Projected**

Service Area Employment	2020	2025	2030	2035	2040	2045
	30,122	33,938	38,855	41,137	43,434	45,731

NOTES:  
 (a) Source Foster City Community Development Department Projections 2040 for 2020 through 2040 for Foster City and Census Tract 6079 projections for Mariners Island.

**Chart 3-3 Current and Projected Employment**



### 3.4 Service Area Climate

The EMID service area is located within a region characterized by a Mediterranean climate with cool, wet winters and warm, dry summers. As shown in Table 3-4 and the associated chart, rainfall in the area averages 18.8 inches per year and is generally confined to the wet season from late October to early May.

The average reference evapotranspiration (ET<sub>o</sub>) for the region is 44 inches per year. The ET<sub>o</sub> is a standard measurement related to the water demand by plants in a specific region. Because the average annual ET<sub>o</sub> is approximately 25 inches more than the average annual precipitation, and because 90 percent of the annual precipitation occurs between the months of November and April, growing turf or other plantings in this region requires a significant amount of irrigation during the dry season. This irrigation demand contributes to the overall and observed seasonal variation in water demand throughout the EMID service area (see Section 4.2.1).

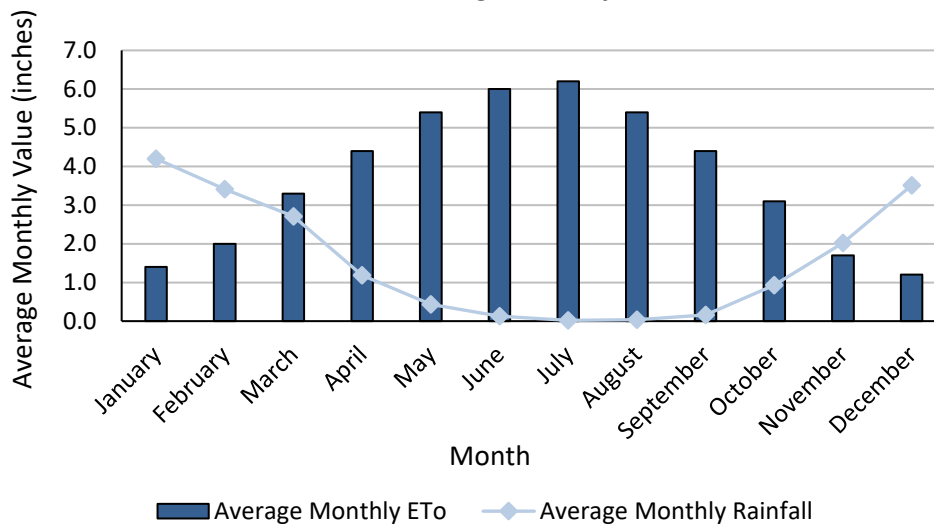


**Table 3-4 Climate Characteristics**

Month	Average Temperature		Standard Average ETo (inches)	Average Rainfall (inches)
	Min (°F)	Max (°F)		
January	39.5	58.4	1.4	4.2
February	41.8	61.9	2.0	3.41
March	43.7	65.5	3.3	2.71
April	45.4	69.9	4.4	1.19
May	48.9	74.3	5.4	0.43
June	52.5	79.6	6.0	0.13
July	54.9	82.2	6.2	0.02
August	54.8	81.7	5.4	0.04
September	53.2	80.6	4.4	0.16
October	49.1	74.7	3.1	0.93
November	43.5	65.4	1.7	2.02
December	39.9	58.8	1.2	3.51
<b>Annual</b>	<b>47.2</b>	<b>71.2</b>	<b>44</b>	<b>18.8</b>

NOTES:  
 (a) Temperature and Precipitation data are from the Western Regional Climate Center for Station #047339 REDWOOD CITY from 1 April 1906 to 19 February 2021.  
 (b) Reference evapotranspiration data are an average Eto in inches from the Department of Water Resources, California Irrigation Management System, Station Number 171 Union City.

**Chart 3-4 Average Monthly Climatic Conditions**







### **3.4.1 Climate Change Considerations**

Projections of climate change in California indicate a further intensification of wet and dry extremes and shifting temperature. Within the County of San Mateo, where EMID is located, the average temperature is expected to increase 3.2°F to 5.4°F by 2090 (San Mateo County, 2016; Cal EMA et al., 2012).

Changing climate can affect both water uses and supplies. For example, extreme and higher temperatures can lead to increases in water use; declining snowpack and earlier runoff patterns could result in changes in stream flows and reservoir operations; projection of frequent, severe, prolonged droughts could lead to not only less surface water available, but also exacerbate ongoing stressors in groundwater basins. Some of these pressures are already apparent in California as of 2021.

Several sections in the California Water Code (CWC) relevant to UWMPs refer to climate change. Pursuant to CWC requirements and the UWMP Guidebook, this Plan incorporates climate change considerations into following relevant chapters:

- Chapter 3 – System Description,
- Chapter 4 – Water Use Characterization,
- Chapter 6 – Water Supply Characterization, and
- Chapter 7 – Water Service Reliability and Drought Risk Assessment.

In addition, this Plan incorporates the following documents by reference that include information on climate change hazards and mitigation actions within the Foster City service area:

- Foster City Climate Action Plan (FCCAP; Foster City, 2015);
- City of San Mateo Climate Action Plan (SMCAP; San Mateo, 2020);
- County of San Mateo Hazard Mitigation Plan (HMP; San Mateo County, 2016); and
- Foster City Local Hazard Mitigation Plan & Safety Element (FCHMP; Foster City, 2016).

The 2015 FCCAP, 2016 FCHMP, and 2020 SMCAP discuss actions to be taken to increase resiliency in the event of climate change impacts such as sea level rise, wildfire, extreme heat, and droughts. As part of its actions to mitigate sea level rise, Foster City has partnered with other local entities and the County of San Mateo Office of Sustainability<sup>7</sup> to launch the Sea Change San Mateo County (SMC) Initiative.<sup>8</sup> The Sea Level Rise Vulnerability Assessment completed in 2018 (San Mateo County, 2018) is the first step of the Sea Change SMC Initiative and provides an overview of the risk within the County from current and future flooding. The assessment identified many built and natural assets in Foster City that are vulnerable, including stormwater, power, and wastewater infrastructure.

In 2019, as a result of the Sea Change convenings, the cities and County of San Mateo formed a Flood and Sea Level Rise Resiliency District to address sea level rise, flooding, coastal erosion, and large-scale storm

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<sup>7</sup> <https://www.smcsustainability.org/climate-ready>

<sup>8</sup> <https://seachangesmc.org/>



water infrastructure improvements through integrated regional planning, investment, and project implementation.

Chapters 4, 6, and 7 of this Plan discuss the potential impacts of climate change on water demand and water sources. As detailed in Chapter 4 and Chapter 9 of this Plan, EMID has established robust water conservation programs to increase drought resiliency. EMID continues to plan for future water needs and to enhance the resiliency of its water system.

### **3.5 Land Uses within Service Area**

General plans are required by State law to guide land use and development within cities (California Government Code §65030.1). The “Land Use and Circulation Element” section of Foster City’s 2016 General Plan details current land use and describes plans to redevelop under-utilized properties through 2025.<sup>9</sup> The “Land Use” section of the City of San Mateo 2010 General Plan details current land use and describes future plans for Mariners Island within the EMID service area.<sup>10</sup>

As of 2014, the existing land use within the City of Foster City is a mix of 46 percent Residential; 19 percent Public and Semi-Public Streets; 17 percent Recreation, Open Space, and Lagoons; and 16 percent is Commercial and Industrial (City of Foster City, 2016). Land use in the service area within the City of San Mateo is a mix of Residential, Recreation, and Commercial (City of San Mateo, 2010). Today, the City of Foster City is largely built-out. The population is expected to increase modestly in the future due to planned redevelopment projects as described in the Foster City General Plan Land Use and Circulation Element adopted in 2016. The main goals of the redevelopment projects are to aggregate and redevelop both under-used properties and outdated buildings in the older commercial and industrial areas of the City and to make progress towards meeting housing goals established in the Foster City General Plan’s Housing Element. Within the EMID service area, the City of San Mateo plans to potentially redevelop portions of the Bridgepointe Shopping Center allowing for modest increases in homes, jobs, and population.<sup>11</sup>

The future population, employment, and water demand projections presented in Chapters 3 and 4 reflect consistency with both general plans.

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<sup>9</sup> Figure 3.4 in the General Plan provides a land use map for Foster City. Foster City’s General Plan and its Land Use and Circulation Element section can be accessed at <https://www.fostercity.org/commdev/page/general-plan>

<sup>10</sup> Figure LU-3 in the General Plan provides a land use map for the City of San Mateo including Mariners Island located within the EMID’s service area. San Mateo’s General Plan and its Land Use and Circulation Element section can be accessed at <https://www.cityofsanmateo.org/1537/General-Plan>

<sup>11</sup> Alternatives for Mariners Island Bridgepointe Shopping Center in the City of San Mateo General Plan.



## 4 WATER USE CHARACTERIZATION

This chapter provides a description and quantifies the Estero Municipal Improvement District's (also referred to herein as EMID or the District) past, current, and projected water uses through 2045. For the purposes of the Urban Water Management Plan (UWMP or Plan), the terms "water use" and "water demand" are used interchangeably.

### 4.1 Non-Potable Versus Potable Water Use

As of the writing of this 2020 UWMP, EMID does not have historical or current water demands that are met with non-potable water supplies, such as recycled water or untreated surface water or groundwater. EMID's recycled water planning efforts are discussed in Chapter 6.

### 4.2 Past, Current, and Projected Water Use by Sector

**CWC § 10631 (d) (1)** A plan shall be adopted in accordance with this chapter that shall do all of the following:

*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).*

#### 4.2.1 Past and Current Potable Water Use

EMID's total water demand is equal to the total volume of potable water EMID purchases from the San Francisco Public Utilities Commission (SFPUC) Regional Water System (RWS). EMID's total water demand includes water consumed by metered accounts in the service area (metered water use), unmetered water use, and the water that is lost within the distribution system (losses).



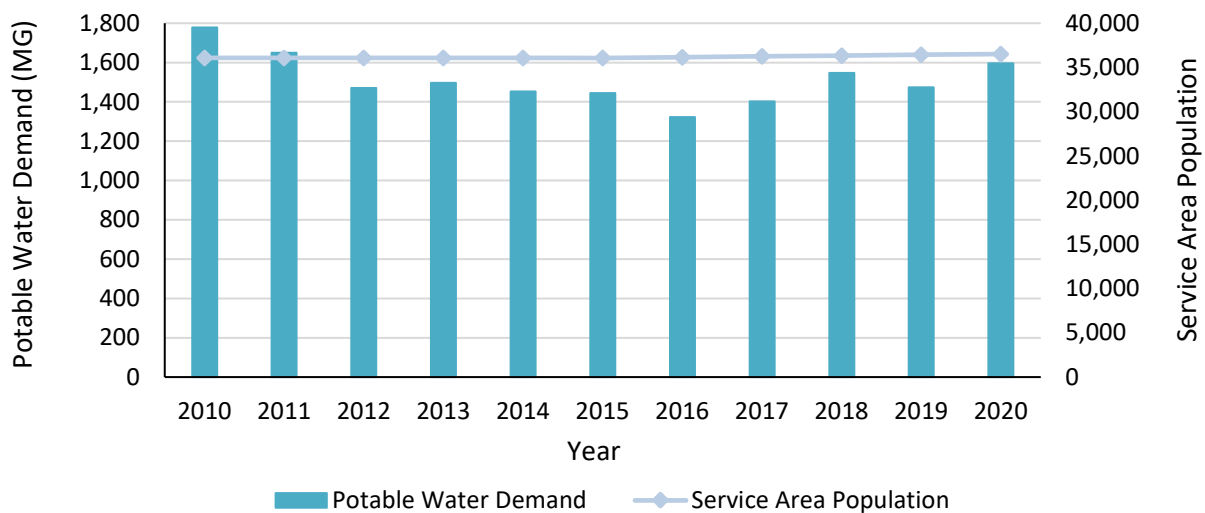
Table 4-1 and the associated charts present historical potable water use on a per capita basis and show trends in potable water demand and per capita potable water use between 2010 and 2020. Between 2014 and 2016, calls for water use cutbacks locally and the mandatory state-wide restrictions issued by the State Water Resources Control Board (SWRCB) in response to the recent historic drought led to a decline in total water demand (i.e., a 12 percent reduction between 2013 [prior to calls for cutbacks] and 2016). Per capita water use in 2016 reached a low of 100 gallons per capita per day (GPCD). A rebound in water demand has been observed since 2016 following the drought to approximately 120 GPCD as of 2020. EMID’s total water demand was 1,596 million gallons (MG) in 2020 but remains lower than water use in 2010 and 2011 despite slight population growth during this period.

**Table 4-1 Historical and Current Potable Water Demand and Population**

Year	Potable Water Demand	Service Area Population	Per Capita Potable Water Use (GPCD)
2010	1,779	36,100	135
2011	1,649	36,094	125
2012	1,471	36,088	112
2013	1,496	36,081	114
2014	1,453	36,075	110
2015	1,444	36,069	110
2016	1,322	36,158	100
2017	1,402	36,248	106
2018	1,547	36,337	117
2019	1,473	36,427	111
2020	1,596	36,516	120

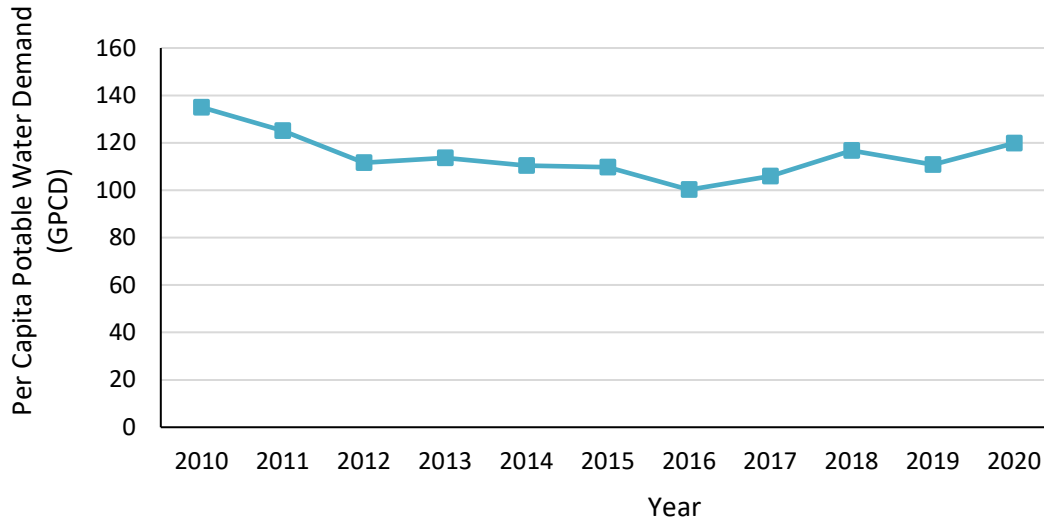
Notes:  
 (a) Volumes are in units of MG.  
 (b) Volumes are rounded to the nearest MG and may not sum due to rounding.

**Chart 4-1A Historical and Current Potable Water Demand and Population**





**Chart 4-1B Historical and Current Per Capita Potable Water Use**



Potable water demand within the EMID service area is measured using water meters that are installed at each customer account. Records of historical and current water use at each account are maintained by the Foster City’s (City’s) Public Works Department, in coordination with the Finance Department. Water demand within the EMID service area is tracked and reported on a monthly basis for the following sectors:

- Single Family Residential: Single-family, detached dwelling units that are individually metered.
- Multi-Family Residential: Two or more dwelling units contained within one building or several buildings within one complex. Water use is predominately for indoor water uses; irrigation water use for multiple family sites are usually separately metered and listed in the landscape sector.
- Commercial (includes Institutional/Governmental): Includes commercial customers that provides or distributes a product or service (Commercial) and connections dedicated to public service, including schools and other government facilities (Institutional/Governmental). Landscape irrigation water use at these sites is usually separately metered and listed in the landscape sector.
- Industrial: Includes customers that are primarily manufacturers or processors of materials. Landscape irrigation water use at these sites is usually separately metered and listed in the landscape sector.
- Landscape: Water connections supplying water exclusively for landscape irrigation uses associated with multiple family residential customers (i.e., Homeowner Associations; HOAs) and other irrigation sites.
- Other Potable - Fire: Water meters that supply water exclusively for fire suppression or fire system maintenance.

EMID provided data on metered production and consumption by water use sector from 1994 through 2020, number of accounts by sector over the same period, information on water conservation, and additional information for the historical and projected use analyses. As shown in Table 4-2 and the



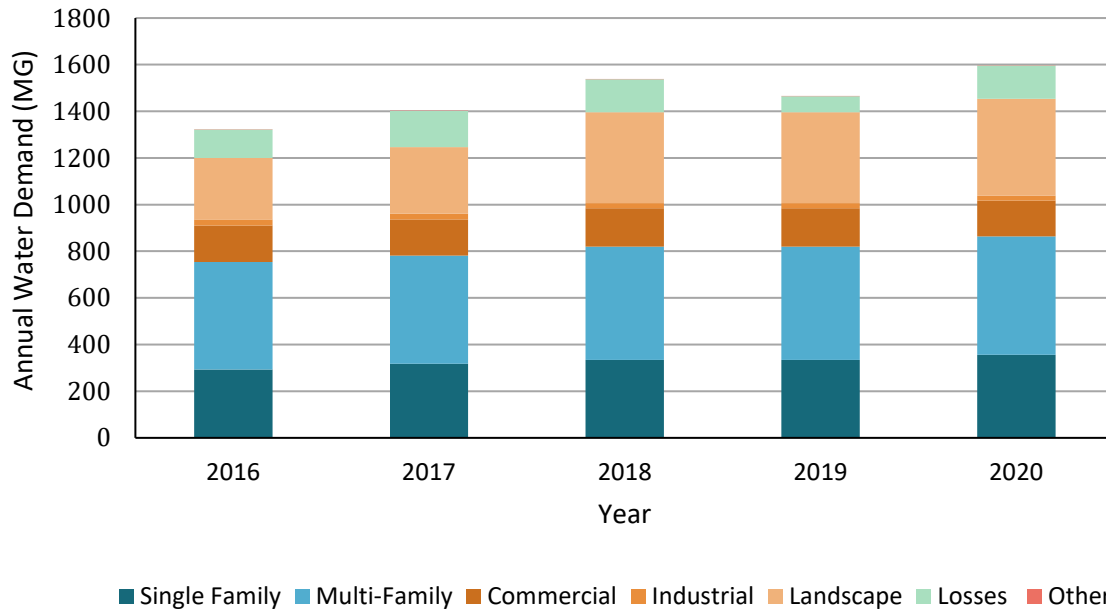
associated charts, potable water use within EMID’s service area totaled 1,596 MG in 2020, of which 55 percent was residential use (22 percent single-family residential and 33 percent multi-family residential). The remaining water use was split between commercial and institutional (11 percent), industrial (2 percent), dedicated irrigation (24 percent), fire meters (0.1 percent), and distribution system losses (8 percent). Distribution system water loss is discussed further in Section 4.2.2.

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

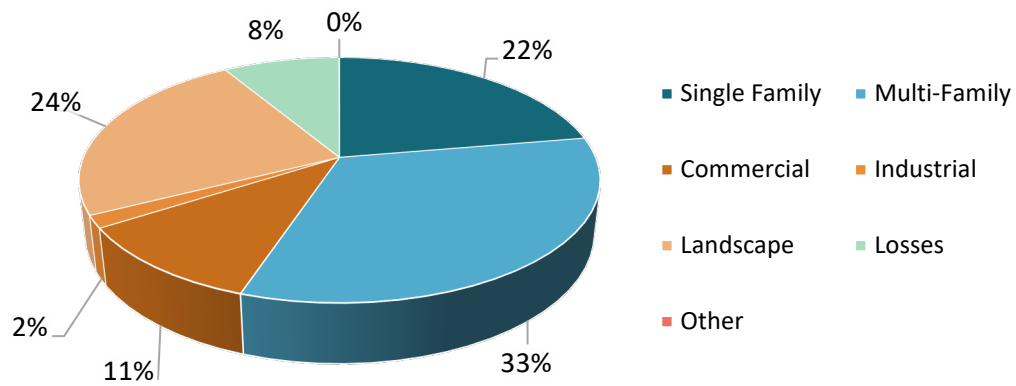
Use Type	Additional Description <i>(as needed)</i>	Level of Treatment When Delivered	Volume				
			2016	2017	2018	2019	2020
Single Family		Drinking Water	293	317	347	335	356
Multi-Family		Drinking Water	461	465	486	486	508
Commercial	Includes Institutional/ Governmental	Drinking Water	156	154	171	164	153
Industrial		Drinking Water	27	26	26	23	21
Landscape		Drinking Water	263	285	376	389	415
Other	Fire	Drinking Water	0	1	0	1	1
Losses		Drinking Water	122	155	141	77	143
<b>TOTAL</b>			<b>1,322</b>	<b>1,402</b>	<b>1,547</b>	<b>1,473</b>	<b>1,596</b>
<p>NOTES:</p> <p>(a) Volumes are in units of MG.</p> <p>(b) Volumes are rounded to the nearest MG and may not sum due to rounding.</p> <p>(c) Water loss reported in Table 4-3 is apparent and real losses, reported on a calendar year basis. Losses reported here are the difference between total demand and metered consumption on fiscal year basis and thus include unmetered water consumption and distribution system water losses.</p> <p>(d) Demand data provided by EMID.</p>							



**Chart 4-2A Annual Water Demand by Sector: 2016-2020**



**Chart 4-2B Percentage of Total Water Demand by Sector: 2016-2020**







**4.2.2 Distribution System Water Loss**

**CWC § 10631 (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.*

Since 2016, urban retail water suppliers have been required under CWC § 10608.34 and California Code of Regulations (CCR) § 638.1 et seq to quantify distribution system water losses using the American Water Works Association (AWWA) Water Audit Software (referred to as the “AWWA Water Loss Worksheet”). Water losses within EMID’s potable water distribution system over the last five years were estimated using the AWWA Water Loss Worksheet summarized in Table 4-3. EMID’s 2020 water loss audit report had not been completed at the time this Plan was prepared. The 2020 estimate shown in Table 4-3 is therefore based on EMID’s preliminary draft water loss audit results.

Water loss is the sum of apparent and real losses. Apparent loss is associated with metering inaccuracies, billing and administrative errors, authorized unmetered uses (e.g., system flushing and firefighting), and unauthorized uses. Real loss is associated with physical water lost through line breaks, leaks and seeps, and overflows of storage tanks.

**Table 4-3 Last Five Years Water Loss Audit Reporting (DWR Table 4-4)**

Reporting Period Start Date	Volume of Water Loss
01/2016	107
01/2017	144
01/2018	69
01/2019	109
01/2020	144
NOTES: (a) Volumes are in units of MG. (b) Water loss for 2020 is an estimate based on the District’s preliminary draft water loss audit results.	

CWC § 10631 (3)(c) requires that this UWMP demonstrate whether the distribution loss standards enacted by the SWRCB pursuant to § 10608.34 have been met. However, the SWRCB has yet to establish these standards, and thus consistency with these standards cannot be demonstrated herein.



#### 4.2.3 Projected Water Use

In 2020, future water demands for the District’s service area were projected by the Bay Area Water Supply and Conservation Agency (BAWSCA) on behalf of the District and other BAWSCA member agencies in the *Regional Water Demand and Conservation Projections Report* (BAWSCA, 2020). Future water demands were projected using the Demand Management Decision Support System Model (DSS Model) and were a function of the population and employment projections within the District’s service area. A detailed description of the DSS Model and the associated demand and conservation projection methodology is provided in the *Regional Water Demand and Conservation Projections Report* (BAWSCA, 2020). A brief description of BAWSCA’s 2020 demand projections is provided below.

In June 2020, BAWSCA completed the Regional Water Demand and Conservation Projections Report (Demand Study).<sup>12</sup> 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 Assembly Bill (AB) 1668 and Senate Bill (SB) 606.

Through the Demand Study process, BAWSCA and the wholesale customers (1) quantified the total average-year water demand for each BAWSCA member agency through 2045, (2) quantified passive and active conservation water savings potential for each individual wholesale customer through 2045, and (3) 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 model that can be used to support ongoing demand and conservation planning efforts, including UWMP preparation.

In 2021, as part of the 2020 UWMP update, EMID’s DSS Model was revised to account for changes to the population projections since the demand projections were estimated by BAWSCA. The 2021 DSS Model update included revised population projections consistent with the population projections presented in Section 3.3.1.

As described further in Section 4.2.4, passive and active water conservation savings associated with existing water uses in the District’s service area have been subtracted from the water demand projections. The passive conservation savings account for anticipated reductions in water use due to the ongoing effects of appliance standards and plumbing codes. The active water conservation savings account for in the DSS Model are consistent with District’s planned demand management measures (DMMs) that are described in Chapter 9.

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<sup>12</sup> Phase III Final Report: [http://bawasca.org/uploads/pdf/BAWSCA\\_Regional\\_Water\\_Demand\\_and\\_Conservation%20Projections%20Report\\_Final.pdf](http://bawasca.org/uploads/pdf/BAWSCA_Regional_Water_Demand_and_Conservation%20Projections%20Report_Final.pdf)



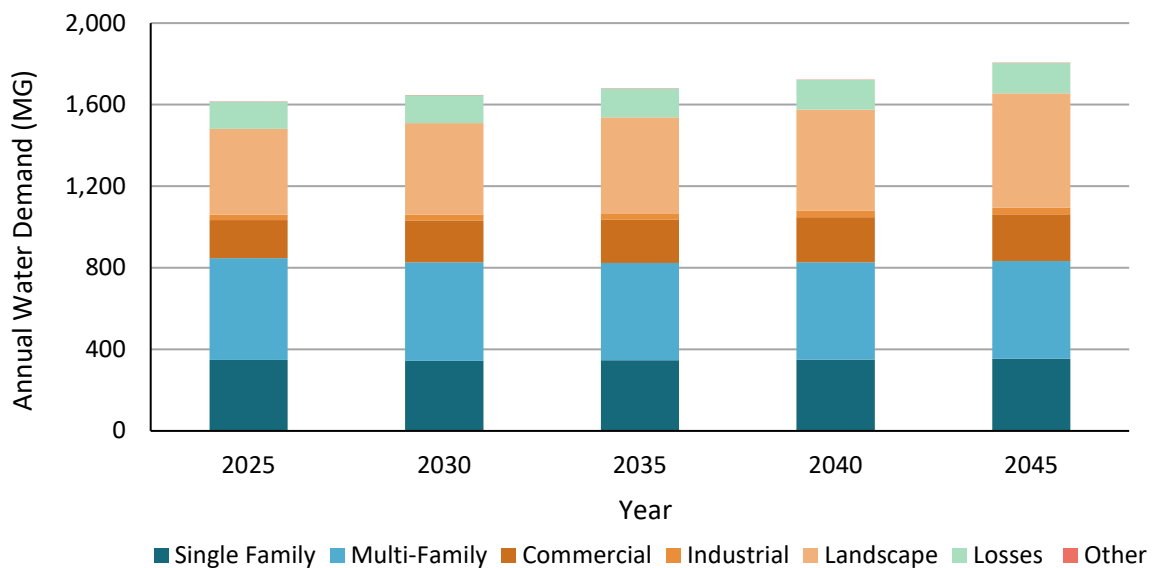
Projected water uses by sector through 2045 are summarized in Table 4-4 and Table 4-5, as well as their respective charts, according to the 2021 DSS Model results.

**Table 4-4 Use for Potable and Non-Potable - Projected (DWR Table 4-2)**

Use Type	Additional Description (as needed)	Projected Water Use				
		2025	2030	2035	2040	2045
Single Family		349	344	346	350	355
Multifamily		498	483	478	477	478
Commercial	Includes Institutional/ Governmental	187	205	213	221	230
Industrial		26	29	30	32	33
Irrigation		421	448	471	496	559
Other	Fire	1	1	1	1	1
Losses		134	137	141	145	150
<b>TOTAL</b>		<b>1,615</b>	<b>1,646</b>	<b>1,681</b>	<b>1,723</b>	<b>1,805</b>

NOTES:  
 (a) Volumes are in units of MG.  
 (b) Volumes are rounded to the nearest MG and may not sum due to rounding.  
 (c) Demands include passive and active conservation.

**Chart 4-4 Current and Projected Potable Water Demand by Sector**

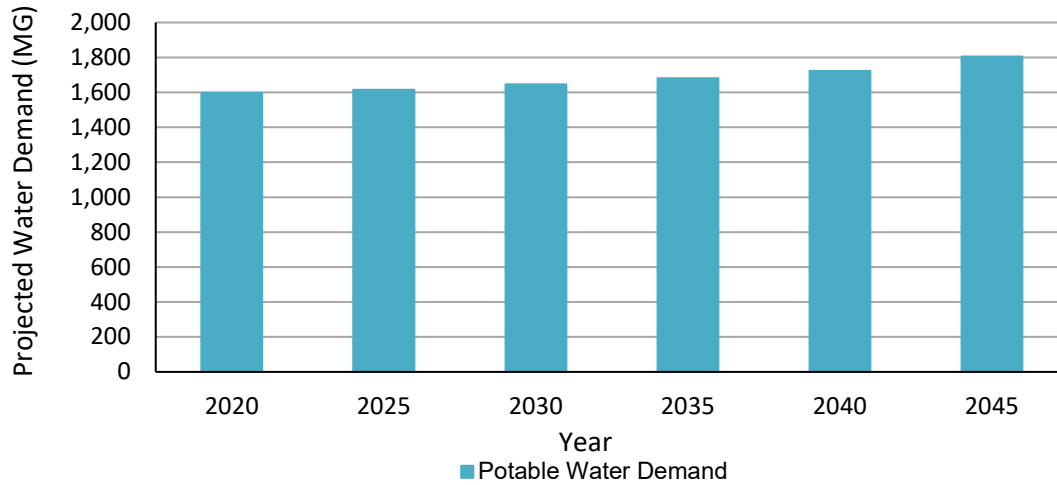




**Table 4-5 Total Water Use (Potable and Non-Potable) (DWR Table 4-3)**

	2020	2025	2030	2035	2040	2045
Potable Water, Raw, Other Non-potable <i>From DWR Tables 4-1 and 4-2</i>	1,596	1,615	1,646	1,681	1,723	1,805
Recycled Water Demand <i>From DWR Table 6-4</i>	0	0	0	0	0	0
<b>TOTAL WATER USE</b>	1,596	1,615	1,646	1,681	1,723	1,805
NOTES: (a) Volumes are in units of MG.						

**Chart 4-5 Current and Projected Total Water Use**





**4.2.4 Future Water Savings in Projected Water Use**

**CWC § 10631 (d) (4)**

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

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

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

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

As affirmed in Table 4-6, both future water savings (discussed below) and lower income residential demands (discussed in Section 4.2.5) are included in the projections of future water use.

**Table 4-6 Inclusion in Water Use Projections (DWR Table 4-5)**

Are Future Water Savings Included in Projections?	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.	Chapter 8 and 9
Are Lower Income Residential Demands Included In Projections?	Yes
NOTES:	

“Passive conservation” refers to water savings resulting from actions and activities that do not depend on direct financial assistance or educational programs implemented by water suppliers. These savings result primarily from: (1) the natural replacement of existing plumbing fixtures with water-efficient models required under current plumbing code standards,<sup>13</sup> (2) the installation of water-efficient fixtures and equipment in new buildings and retrofits as required under CALGreen Building Code Standards,<sup>14</sup> and (3) inclusion of low-water use landscaping and high-efficiency irrigation systems to minimize outdoor water use in new connections and projects in accordance with the State’s Model Water Efficient Landscape Ordinance (MWELO).

<sup>13</sup> Including the California Energy Commission Title 20 appliance standards for toilets, urinals, faucets, and showerheads – the appliance standards determine what can be sold in California and therefore will impact both new construction and replacement fixtures in existing homes.

<sup>14</sup> Foster City requires that all new and modified structures comply with the mandatory CALGreen Requirements, as described on the City’s website:

<https://www.fostercity.org/commdev/page/green-building>, accessed on 10 April 2021.



“Active conservation” refers to water savings resulting from EMID’s implementation of water conservation programs, education programs, and the offering of financial incentives (e.g., rebates). EMID’s current and planned active conservation programs, or Demand Management Measures (DMMs), are discussed in Chapter 9.

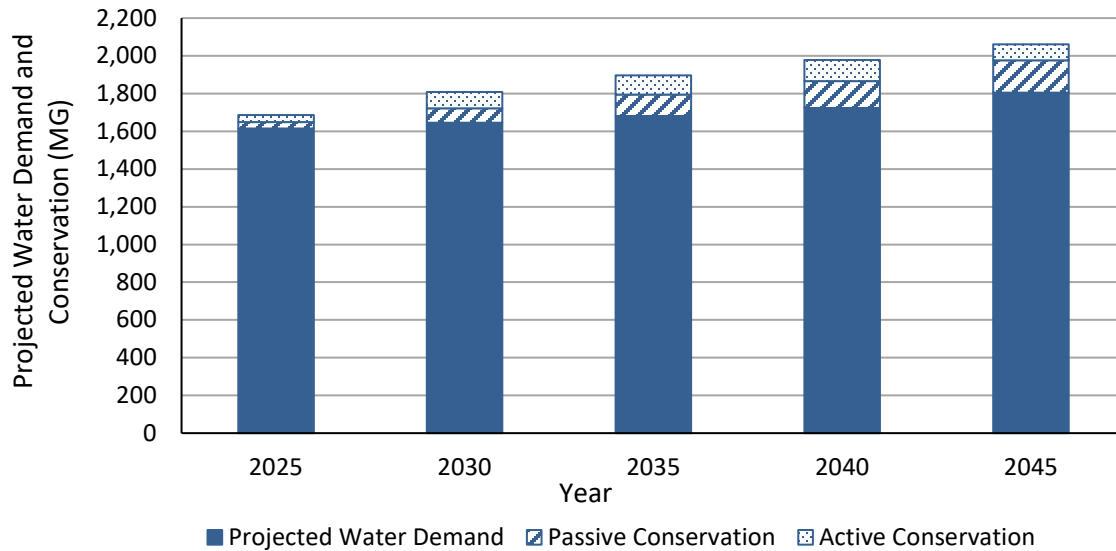
Based on results from the 2021 DSS Model update, estimated passive and active savings within EMID’s service area are subtracted from water demand projections. As shown in Table 4-7 and the associated chart, by 2045 it is estimated that passive conservation savings will reduce total projected water demand by 171 MG per year within EMID’s service area and active conservation will further reduce demands by 84 MG per year (i.e., the total 2045 demand will be reduced from 2,061 MG to 1,805 MG).

**Table 4-7 Projected Total Water Demand and Projected Passive and Active Water Conservation**

Water Conservation Type	Projected Total Water Demand				
	2025	2030	2035	2040	2045
Projected Water Demand	1,686	1,808	1,896	1,978	2,061
Projected Water Conservation					
Passive Conservation	(33)	(76)	(113)	(144)	(171)
Active Conservation	(38)	(86)	(102)	(112)	(85)
Projected Water Demand after Passive Conservation Savings	1,653	1,732	1,783	1,835	1,890
Projected Water Demand after Passive and Active Conservation Savings	1,615	1,646	1,681	1,723	1,805
NOTES:					
(a) Volumes are in units of MG.					
(b) Volumes are rounded to the nearest MG and may not sum due to rounding.					
(c) Data from the 2021 DSS Model.					



Chart 4-7 Projected Water Demand and Conservation



4.2.5 Water Use for Lower Income Households

**CWC § 10631.1**

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

(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 requirements 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.

The potable water demands presented in Section 4.2.3 include future water use by lower income households. Per Health and Safety Code 50079.5, a lower income household is defined as a household with lower than 80 percent of the Area’s Median Income (AMI).

Per the 2015-2023 Housing Element for Foster City, 26 percent of the City’s households are considered lower income. About 8 percent of the households in Foster City are estimated to be extremely low income, 6 percent are estimates to be very low income, and 12 percent are estimated to be low income. The remaining 74 percent of households are considered to be moderate or above moderate income. The 2015-2023 Housing Element for the City of San Mateo indicates that City-wide, 39 percent of housing units serve lower income resident. Mariners Island, located in the City of San Mateo, makes up a relatively small proportion of EMID service area.

Based on the above, it is assumed that approximately 26 percent of the residential water demand in EMID service area will be associated with lower income households. Table 4-8 includes the estimates total potable future water use for lower income households and includes active and passive savings.





**Table 4-8 Projected Potable Water Demand of Lower-Income Households**

Lower-Income Water Demand	2025	2030	2035	2040	2045
Single Family	91	89	90	91	93
Multifamily	129	125	124	124	124
NOTES: (a) Projected potable water demands for lower income households were estimated as a percentage of water demand for single family and multifamily residential in Table 4-4. The percentage is based on the number of total households within Foster City, per the 2015-2023 Foster City Housing Element. Demands include passive and active conservation. (b) Volumes are in units of MG.					

**4.2.6 Characteristic Five-Year Water Use**

**CWC § 10635(b)(3)**

*(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...*

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

A critical component of the new statutory language in CWC § 10635(b) is the requirement to prepare the five-year Drought Risk Assessment (DRA), found in Chapter 7. This five-year DRA can also be used to provide the water service reliability assessment for a drought lasting five years.

As a first step DWR recommends that the expected gross water use for the next five years without drought conditions (also known as *unconstrained demand*) be estimated. These numbers can then be adjusted to estimate the five-years’ cumulative drought effects. The DRA is based on the EMID’s demand projections from the 2021 DSS Model over the next five years, as shown in Table 4-9.



**Table 4-9 Characteristic Five-Year Water Use**

	2021	2022	2023	2024	2025
Gross Water Use Forecast	1,595	1,600	1,607	1,614	1,615
NOTES: (a) Water use volumes are in units of MG. (b) Demands include passive and active conservation.					

### 4.3 Water Use Sectors Not Included in the Demand Projections

Historical and projected water demands for the water use sectors described in CWC § 10631(d)(1)(G) through (I) and listed below were not included in the water demand calculations because they are not applicable to the EMID:

- Sales to other agencies;
- Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof; and
- Agricultural.

#### 4.3.1 Sales to Other Agencies

EMID does not sell water to other agencies and does not expect to in the future.

#### 4.3.2 Saline Water Intrusion Barriers, Groundwater Recharge, and Conjunctive Use

EMID does not use water for saline water intrusion barriers and does not currently participate in active groundwater recharge activities or a conjunctive use program.

#### 4.3.3 Agricultural

EMID does not sell water to agricultural customers and does not expect to in the future.

### 4.4 Climate Change Impacts to Demand

**CWC § 10635(b)**

*(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.*

The Public Policy Institute of California has predicted that five climate pressures will impact the future of California’s water management: warming temperatures, shrinking snowpack, shorter and more intense

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wet seasons, more variable precipitation, and rising seas.<sup>15</sup> Currently, some of these pressures are already apparent. The climate impact on water supply is predicted to significantly exceed the impact on water demand.

Precipitation in the Bay Area will continue to have high variability year to year, leading to very wet years sometimes and very dry years at other times. The largest winter storms in the Bay Area will likely become more powerful and potentially more damaging. Due to a predicted increase in temperature in the future, it is assumed that California and the Bay Area will experience longer and deeper droughts, which could impact the water supply.

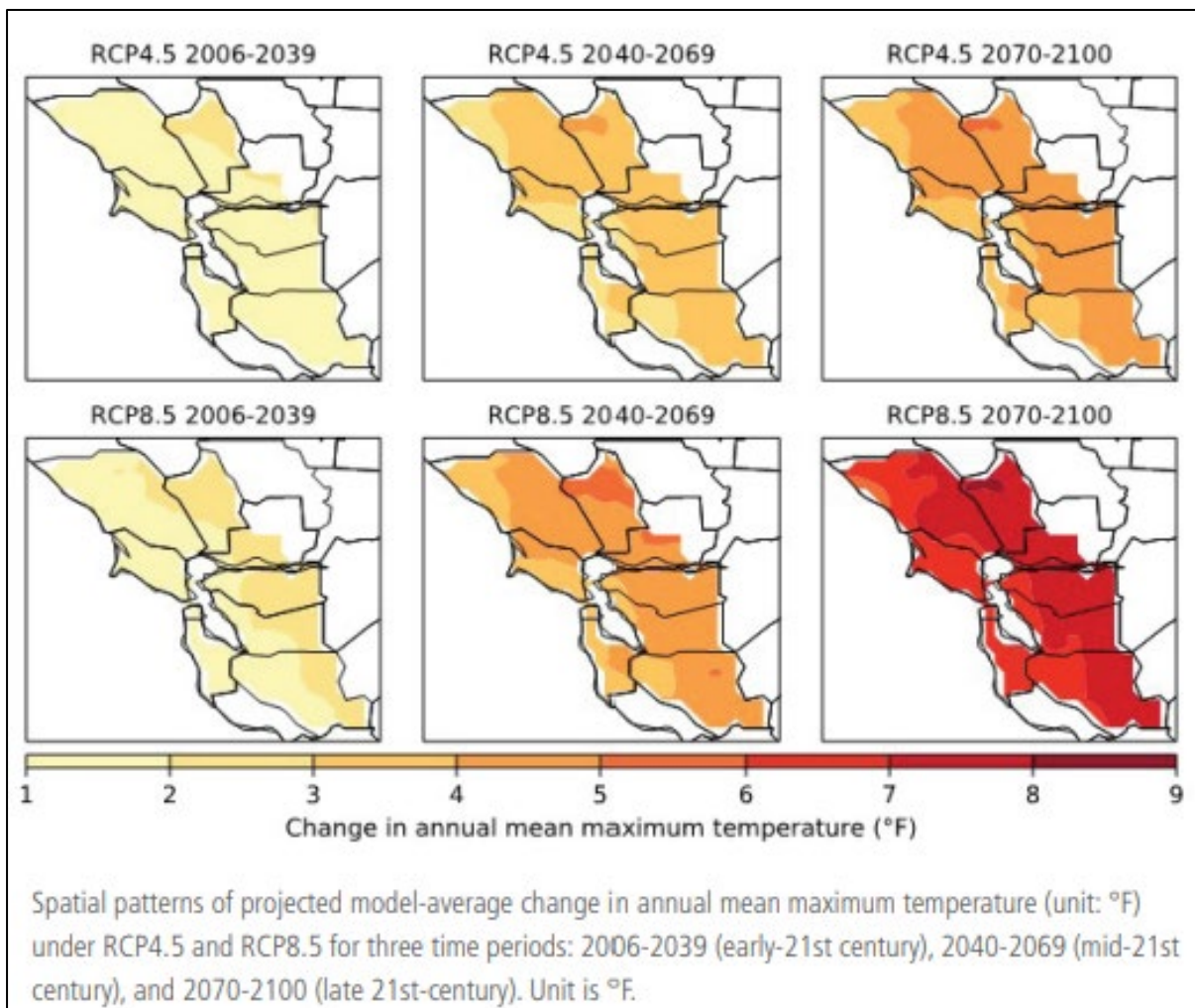
The International Panel on Climate Change (IPCC) develops several future climate change scenarios referred to as Representative Concentration Pathways (RCP). RCP 4.5 represents a mitigation scenario where global CO<sub>2</sub> emissions peak by the year 2040. RCP 8.5 represents the business-as-usual scenario where CO<sub>2</sub> emissions continue to rise throughout the 21st century. Figure 4-1 shows the spatial changes in annual mean of maximum daily temperatures across nine Bay Area counties under RCP 4.5 and RCP 8.5.

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<sup>15</sup> Accessed on 22 April 2021: <https://www.ppic.org/publication/climate-change-and-californias-water/>



Figure 4-1 Bay Area Historical and Projected Mean Maximum Temperatures



Source: Ackerly, David, Andrew Jones, Mark Stacey, Bruce Riordan. (University of California, Berkeley), 2018.

According to California’s Fourth Climate Change Assessment San Francisco Bay Area Summary Report, the Bay Area’s historical temperature increased 1.7 degrees Fahrenheit from 1950 to 2005 (Ackerly et. al 2018). It is predicted that annual mean maximum temperatures will increase by 1 to 2 degrees Fahrenheit in the early 21<sup>st</sup> century from the years 2006 to 2039, then will increase by an additional 3.3 degrees Fahrenheit in the mid-21<sup>st</sup> century from 2040 to 2069. This increment for the mid-21<sup>st</sup> century rises to 4.4 degrees Fahrenheit if the Bay Area remains under the high emissions scenario of “business-as-usual.”

The above IPCC report temperature change is broken over two time periods (early-21st century and mid-21st century). For the BAWSCA Demand Study, the time period of focus was 2019-2045. Therefore, it was necessary to combine the two time periods to get an overall temperature change for the length of the BAWSCA Demand Study.



Following are the considerations and methodology used to calculate the average annual temperature change for each of the IPCC report time periods:

- Early 21st Century (2006-2039) had an estimated temperature increase of 1 to 2 degrees Fahrenheit that was averaged to 1.5 degrees Fahrenheit. For the 33-year time period, this equates to an average annual temperature increase of 0.045 degrees Fahrenheit.
- Mid-Century (2040-2069) was estimated to have a temperature increase of 3.3 degrees Fahrenheit. For the 29-year time period, this equates to an average annual temperature increase of 0.114 degrees Fahrenheit.

Calculating the increase within each time period for the BAWSCA Demand Study required three steps:

- Step 1: Calculate a value for the 20 years from 2019 to 2039, which equates to an estimated temperature change of 0.95 degrees Fahrenheit.
- Step 2: Calculate a value for the five years from 2040 to 2045, which equates to an estimated temperature change of 0.68 degrees Fahrenheit.
- Step 3: Finally, the two values from Step 1 and Step 2 were added together to get a total temperature increase of 1.7 degrees Fahrenheit (rounded) for 2019-2045.

In summary, for the BAWSCA Demand Study, the previously mentioned predicted annual mean temperature increase in the early 21<sup>st</sup> century of 1.7 degrees Fahrenheit was incorporated into the demand forecast for all scenarios for the time period of 2019 to 2045 (Ackerly et. al 2018).

#### 4.5 Coordinating Water Use Projections

**CWC § 10631 (h)**

*An urban water supplier that relies upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available.*

EMID provided SFPUC with water use projections as part of reporting to the BAWSCA Annual Survey and other BAWSCA-led water demand and supply coordination efforts dictated by the 2009 Water Supply Agreement. As part of the coordination effort for the 2020 UWMP, and in compliance with CWC § 10631(h), EMID supplied BAWSCA with its water demand projections through 2045 for transmittal to the SFPUC.



#### 4.6 Urban Water Use Objective

**CWC § 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.*

**CWC § 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.*

**CWC § 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.*

Following the 2014-2016 drought, the State of California 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 went into effect, which built upon the executive orders implementing new urban water use objectives for urban retail water suppliers.

SB 606 and AB 1668 establish guidelines for efficient water use and a framework for the implementation and oversight of the new standards, which must be in place by 2022. The bills call for creation of new urban efficiency standards for indoor use, outdoor use, and water loss, as well as any appropriate variances for unique local conditions.

The indoor water use standard will be 55 gallons per person per day (gallons per capita per day, or GPCD) until January 2025; the standard will become stronger overtime, decreasing to 50 GPCD in January 2030. Water use standards for the remaining components will be adopted by the SWRCB by regulation no later than June 30, 2022. Using the adopted standards, each urban retail water agency will annually, beginning January 1, 2024, calculate its own objective.



Table 4-10 and the associated chart summarize estimated potable indoor and outdoor residential demand as part of EMID’s total potable water demand shown above in Table 4-4. Furthermore, Table 4-10 shows the per capita projected indoor residential water demand based on the population projections described in Section 3.3.1. These estimates show that EMID’s residential indoor water use is projected to be below the indoor water use standard.

In the past decade, the EMID has made significant strides in reducing its per capita water demand to meet the targets delineated by the Water Conservation Act (see Chapter 5). EMID plans to continue to implement conservation efforts to meet new legislative requirements. Potable water demand reductions will be achieved through the implementation of DMMS as discussed in Chapter 9. EMID will continue to monitor per capita water demand to ensure that its compliance targets are being met.

**Table 4-10 Current and Projected Residential Per Capita Water Use**

Year	Residential Potable Water Demand	Service Area Population	Per Capita Residential Potable Water Use (GPCD)	Approximate Per Capita Indoor Residential Potable Water Use (GPCD)	Approximate Per Capita Outdoor Residential Potable Water Use (GPCD)
2020	864	36,516	65	49	16
2025	847	36,932	63	48	15
2030	827	37,602	60	46	14
2035	824	38,848	58	44	14
2045	827	40,107	56	43	14

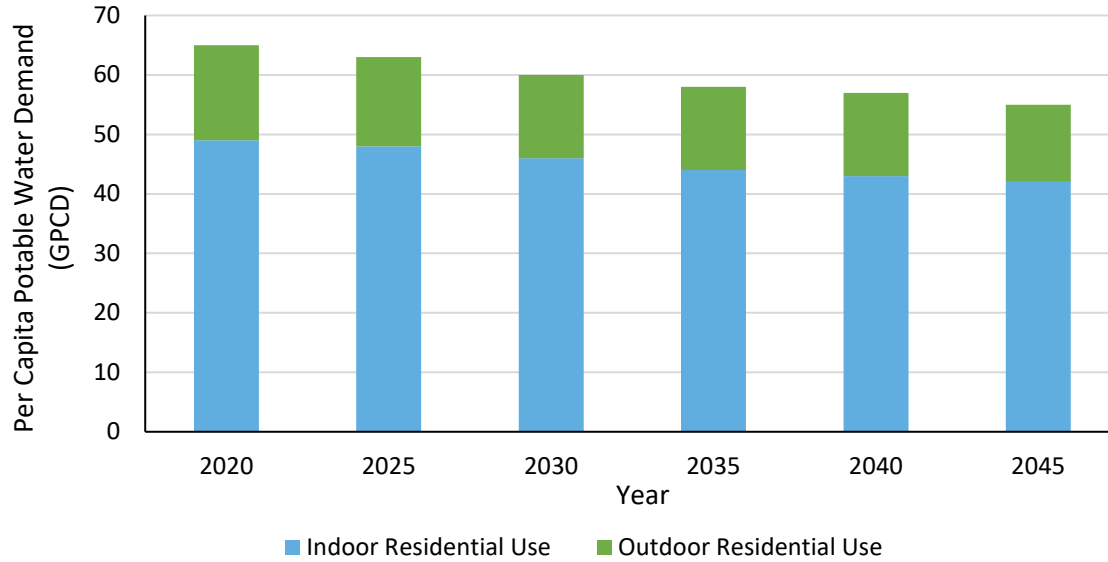
**NOTES:**

- (a) Volumes are in units of MG.
- (b) Residential potable demand includes both single family and multifamily. Projected demands include passive and active conservation.





**Chart 4-10 Current and Projected Indoor and Outdoor Residential Per Capita Potable Water Use**





## **5 SBX7-7 BASELINE, TARGETS, AND 2020 COMPLIANCE**

### **CWC § 10608.24 (b)**

*Each urban retail water supplier shall meet its urban water use target by December 31, 2020.*

### **CWC § 10608.28**

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

*(1) Through an urban wholesale water supplier.*

*(2) Through a regional agency authorized to plan and implement water conservation, including, but not limited to, an agency established under the Bay Area Water Supply and Conservation Agency Act (Division 31 commencing with Section 81300)).*

*(3) Through a regional water management group as defined in Section 10537.*

*(4) By an integrated regional water management funding area.*

*(5) By hydrologic region.*

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

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

With the adoption of the Water Conservation Act of 2009, also known as Senate Bill (SB) X7-7, the state is required to reduce urban water use by 20 percent by the year 2020. Each urban retail water supplier was required to develop a baseline daily per capita water use (“baseline water use”) in their 2010 Urban Water Management Plan (UWMP) and establish per capita water use targets for 2015 and 2020 in order to help the state achieve the 20 percent reduction.

In support of implementing the requirements of SBX7-7, DWR produced a set of methodologies for developing baseline and compliance water use and targets, which are included in Methodologies for Calculating Baseline and Compliance Urban Per Capita Water, California Department of Water Resources Division of Statewide Integrated Water Management Water Use and Efficiency Branch (Methodologies; DWR, 2016).

In this chapter, Estero Municipal Improvement District (herein referred to as the District or EMID) demonstrates compliance with its 2020 per capita water use target. As part of the compliance reporting for SBX7-7, water suppliers are required to complete and submit a set of standardized verification tables in their 2020 UWMPs. The information in these tables is discussed and summarized in the following subsections, and the complete set of SBX7-7 standardized tables are included in Appendix E and Appendix F.



## 5.1 Updates to the 2015 UWMP Calculations

EMID has not made any changes to methodologies used in its 2015 UWMP pertaining to SBX7-7. However, the service area boundary used in the population tool was updated to include a parcel east of Mariners Islands (see Figure 3-2). Changes to the service area boundary resulted in an additional 10 to 47 persons increase in population size per year in comparison to the populations used in the 2015 SBX7-7 calculations. These slight changes did not change the 5 Year Average Baseline or 10 Year Average Baseline calculations.

## 5.2 Service Area Population

### **CWC § 10608.20 (e)**

*An urban retail water supplier shall include in its urban water management plan due in 2010 pursuant to Part 2.6 (commencing with Section 10610) the 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.*

### **CWC § 10608.20 (g)**

*An urban retail water supplier may update its 2020 urban water use target in its 2015 urban water management plan required pursuant to Part 2.6 (commencing with Section 10610).*

### **Methodology 2 Service Area Population.**

*DWR will examine discrepancy between the actual population estimate and DOF's projections for 2010; if significant discrepancies are discovered, DWR may require some or all suppliers to update their baseline population estimates. (DWR, 2016)*

EMID calculated the baseline population using the persons-per-connection method described in the Methodologies (i.e., Methodology 2 – Service Area Population) in its 2015 UWMP and updated calculations in its 2020 UWMP. For each year in which a US Census was conducted (i.e., 1990 and 2000), a population estimate was obtained by compiling population estimates for each Census Block contained in EMID's service area. This population estimate was then compared to the total number of service connections in that year to determine the number of persons per connection. For all non-Census years, the persons-per-connection factor for the most recent Census year was multiplied by the number of service connections in that year in order to estimate the service area population. For the 2020 UWMP, DWR's Population Tool was used to estimate historical population through 2020. The DWR Population Tool provides population estimates based on Census data, the number of service connections provided by EMID, and the geographic boundary of the EMID service area.

As required by Per CWC § 10680.20 and the Methodologies, EMID recalculated its baseline population using 2010 Census data (which was made available in 2012) in its 2015 UWMP. In the 2020 UWMP, due to slight changes in the service area and slight increase in population, EMID's 5- and 10-year baseline populations were recalculated and are presented in Appendix D.

The same method was applied to estimate EMID's 2020 population. Using a person-per-connection value of 5.73, EMID's 2020 population is therefore estimated to be 36,516.



### 5.3 Baseline Periods, Baseline GPCD, and Confirmed 2020 Target

**CWC § 10608.20 (b)**

An urban retail water supplier shall adopt one of the following methods for determining its urban water use target pursuant to subdivision (a):

(1) Eighty percent of the urban retail water supplier's baseline per capita daily water use.

(2) The per capita daily water use that is estimated using the sum of the following performance standards:

(A) For indoor residential water use, 55 gallons per capita daily water use as a provisional standard. Upon completion of the department's 2016 report to the Legislature pursuant to Section 10608.42, this standard may be adjusted by the Legislature by statute.

(B) For landscape irrigated through dedicated or residential meters or connections, water efficiency equivalent to the standards of the Model Water Efficient Landscape Ordinance set forth in Chapter 2.7 (commencing with Section 490) of Division 2 of Title 23 of the California Code of Regulations, as in effect the later of the year of the landscape's installation or 1992. An urban retail water supplier using the approach specified in this subparagraph shall use satellite imagery, site visits, or other best available technology to develop an accurate estimate of landscaped areas.

(C) For commercial, industrial, and institutional uses, a 10-percent reduction in water use from the baseline commercial, industrial, and institutional water use by 2020.

(3) Ninety-five percent of the applicable state hydrologic region target, as set forth in the state's draft 20x2020 Water Conservation Plan (dated April 30, 2009). If the service area of an urban water supplier includes more than one hydrologic region, the supplier shall apportion its service area to each region based on population or area.

(4) A method that shall be identified and developed by the department, through a public process, and reported to the Legislature no later than December 31, 2010. The method developed by the department shall identify per capita targets that cumulatively result in a statewide 20-percent reduction in urban daily per capita water use by December 31, 2020. In developing urban daily per capita water use targets, the department shall do all of the following:

(A) Consider climatic differences within the state.

(B) Consider population density differences within the state.

(C) Provide flexibility to communities and regions in meeting the targets.

(D) Consider different levels of per capita water use according to plant water needs in different regions.

(E) Consider different levels of commercial, industrial, and institutional water use in different regions of the state.

(F) Avoid placing an undue hardship on communities that have implemented conservation measures or taken actions to keep per capita water use low.

**CWC § 10608.22**

Notwithstanding the method adopted by an urban retail water supplier pursuant to Section 10608.20, an urban retail water supplier's per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use as defined in paragraph (3) of subdivision (b) of Section 10608.12. This section does not apply to an urban retail water supplier with a base daily per capita water use at or below 100 gallons per capita per day.

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Water suppliers were required to define a 10- or 15-year base (or baseline) period for water use that was then used to develop their future target per capita water use. Water suppliers were also required to calculate water use over a 5-year baseline period and use that value to determine a minimum required reduction in water use by 2020. Utilizing a 15-year baseline period was only allowed for water suppliers that meet at least 10 percent of their 2008 measured retail water demand through recycled water; EMID did not meet this criterion and thus selected a 10-year baseline.

The 10-year baseline water use was calculated using gross per capita water usage data (calculated as total water entering the EMID water distribution system, including uses by commercial, industrial, and other users, as well as water losses, divided by total population) for the 10-year period between 1996 and 2005. The 5-year baseline water use was calculated using per capita water usage data for the 5-year period between 2004 and 2008. The 5- and 10-year baseline water uses are shown in Table 5-1 and in Appendix E. As noted above, the baseline gross per capita water usage was recalculated in 2020 according to slightly updated service area population estimates, but the results rounded to the nearest GPCD did not change.

Water suppliers were required to calculate their 2020 water use targets (Targets) and compare their actual water use in 2020 with the calculated Targets to assess compliance. The Water Conservation Act requires that water suppliers calculate their Targets using one of the following four methods:

- Method 1: Eighty percent of the water supplier’s baseline 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: Ninety-five percent of the applicable state hydrologic region target as stated in the State’s 20x2020 Water Conservation Plan, dated February 2010; or
- Method 4: Total savings subtracted from baseline water use. Savings include metering savings, residential savings, commercial, industrial, and institutional savings, and landscape and water loss savings.

Table 5-1 EMID’s 2020 Target was first calculated in its 2010 UWMP using Method 1 with a 2020 Target of 129 gallons per capita per day (GPCD). EMID’s 2020 Target was recalculated in its 2015 UWMP to include updated population estimates using Method 1 with a 2020 Target of 140 GPCD. As shown in Table 5-1, the slightly updated population estimates used in the 2020 UWMP did not change the 2020 Target of 140 GPCD calculated in the 2015 UWMP.

**Table 5-1 Baselines and Targets Summary From SB X7-7 Verification Form (DWR Submittal Table 5-1)**

Baseline Period	Start Year	End Year	Average Baseline GPCD	Confirmed 2020 Target GPCD
10-15 year	1996	2005	175	140
5 Year	2004	2008	162	
NOTES: (a) All values are in Gallons Per Capita Per Day.				



**5.4 2020 Target Compliance**

**CWC § 10608.24 (b)**

*Each urban retail water supplier shall meet its urban water use target by December 31, 2020.*

**CWC § 10608.24 (d)**

*(1) When determining compliance daily per capita water use, an urban retail water supplier may consider the following factors:*

*(A) Differences in evapotranspiration and rainfall in the baseline period compared to the compliance reporting period.*

*(B) Substantial changes to commercial or industrial water use resulting from increased business output and economic development that have occurred during the reporting period.*

*(C) Substantial changes to institutional water use resulting from fire suppression services or other extraordinary events, or from new or expanded operations, that have occurred during the reporting period.*

*(2) If the urban retail water supplier elects to adjust its estimate of compliance daily per capita water use due to one or more of the factors described in paragraph (1), it shall provide the basis for, and data supporting, the adjustment in the report required by Section 10608.40.*

**CWC § 10608.40**

*Urban water retail suppliers shall report to the department on their progress in meeting their urban water use targets as part of their urban water management plans submitted pursuant to Section 10631. The data shall be reported using a standardized form developed pursuant to Section 10608.52.*

Table 5-2 demonstrates EMID’s compliance with its 2020 Target. The data used to calculate actual 2020 GPCD are provided in Appendix F. The actual 2020 use is 120 GPCD versus a 2020 Target of 140 GPCD. The actual 2020 GPCD is considerably less than the 2020 Target GPCD, and the District is therefore in compliance with SBX7-7 requirements.

**Table 5-2 2020 Compliance From SB X7-7 2020 Compliance Form (DWR Submittal Table 5-2)**

2020 GPCD			2020 Confirmed Target GPCD	Did Supplier Achieve Targeted Reduction for 2020?
Actual 2020 GPCD	2020 TOTAL Adjustments	Adjusted 2020 GPCD (Adjusted if applicable)		
120	-	-	140	Y
NOTES: (a) All values are in gallons per capita per day.				



## 6 WATER SUPPLY CHARACTERIZATION

**CWC § 10631 (b)** *A plan shall be adopted in accordance with this chapter that shall do all of the following:*

*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).*

This chapter presents an analysis of the Estero Municipal Improvement District (EMID or the District) water supplies, as well as an estimate of water-related energy-consumption. The intent of this chapter is to present a comprehensive overview of EMID’s water supplies, estimate the volume of available supplies over the Urban Water Management Plan (UWMP or Plan) planning horizon, and assess the sufficiency of EMID’s supplies to meet projected demands under “normal” hydrologic conditions.

### 6.1 Purchased or Imported Water

EMID’s sole source of potable water is purchased water from the City and County of San Francisco’s Regional Water System (RWS), operated by the San Francisco Public Utilities Commission (SFPUC or Commission). EMID purchases water from the SFPUC RWS in accordance with the 2009 Water Supply Agreement between the City and County of San Francisco and Wholesale Customers in Alameda, San Mateo, and Santa Clara Counties, approved by the Commission on 28 April 2009 and amended in November 2018. Per the 2009 Water Supply Agreement, San Francisco has a perpetual commitment (Supply Assurance) to deliver 184 million gallons per day (MGD) to the 24 permanent Wholesale Customers, including EMID, collectively.

To maintain consistency with the UWMPs prepared by the SFPUC and the other Bay Area Water Supply and Conservation Agency (BAWSCA) member agencies, much of the language describing the SFPUC wholesale water supply in the following sections is common language provided by BAWSCA, in coordination with the SFPUC. Common language provided by BAWSCA is shown in gray font.

#### 6.1.1 Description of SFPUC RWS

Approximately 85 percent of the water supply to the SFPUC RWS originates in the Hetch Hetchy watershed, located in Yosemite National Park, and flows down the Tuolumne River into the Hetch Hetchy Reservoir. Water from the Hetch Hetchy watershed is managed through the Hetch Hetchy Water and Power Project. The remaining 15 percent of the water supply to the SFPUC RWS originates locally in the Alameda and Peninsula watersheds and is stored in six different reservoirs in Alameda and San Mateo Counties. Details of the various components of the SFPUC RWS are provided below and are shown on Figure 6-1. Information regarding the Hetch Hetchy, Alameda, and Peninsula water systems is sourced from the SFPUC’s 2020 UWMP and is provided verbatim below.



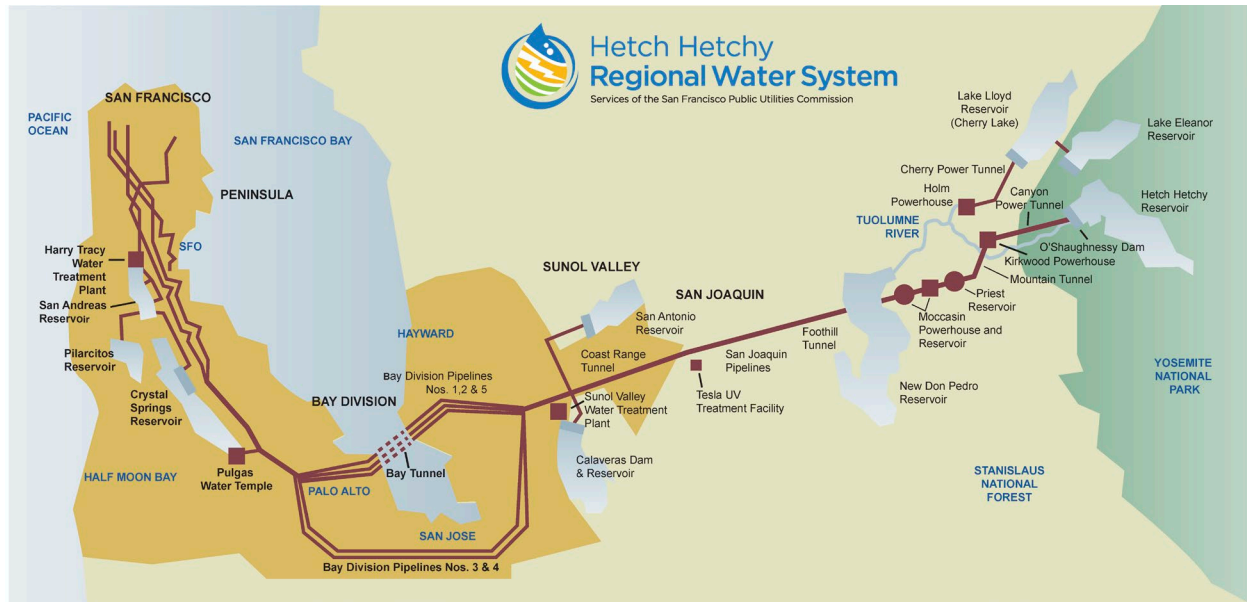


Figure 6-1 Regional Water System

### 6.1.1.1 Water Distribution

The RWS, shown in [Figure 6-1], consists of more than 280 miles of pipelines, 60 miles of tunnels, 11 reservoirs, five pump stations, and two water treatment plants. It includes the Hetch Hetchy Project and the Bay Area water system facilities. The Hetch Hetchy Project is generally composed of the reservoirs, hydroelectric generation and transmission facilities, and water transmission facilities from the Hetch Hetchy Valley west to the Alameda East Portal of the Coast Range Tunnel in Sunol Valley. Water system components of the Hetch Hetchy Project are also referred to as the Hetch Hetchy System. The local Bay Area water system is comprised of two parts—the Alameda System and the Peninsula System—generally consisting of the facilities west of the Alameda East Portal of the Coast Range Tunnel, including the 63,000-acre Alameda and Peninsula watersheds, storage reservoirs, two water treatment plants, and the distribution system that delivers water to both retail and wholesale customers. The Hetch Hetchy, Alameda, and Peninsula Systems are described in more detail below.

- Hetch Hetchy System: In the Hetch Hetchy System, water is diverted from Hetch Hetchy Reservoir into a series of tunnels and aqueducts from the Sierra Nevada to the San Joaquin Pipelines that cross the San Joaquin Valley to the Coast Range Tunnel, which connects to the Alameda System at the Alameda East Portal. Hetch Hetchy System water is disinfected at the Tesla Treatment Facility.
- Alameda System: The Alameda System includes two reservoirs, San Antonio Reservoir and Calaveras Reservoir, which collect water from the San Antonio Creek, Upper Alameda Creek, and Arroyo Hondo watersheds in Alameda County. San Antonio Reservoir also receives water from the Hetch Hetchy





System. Conveyance facilities in the Alameda System connect the Hetch Hetchy System and Alameda water sources to the Peninsula System. The BDPLs cross the South Bay to the Peninsula System delivering water to customers along the pipeline route. The Sunol Valley Water Treatment Plant (SVWTP) filters and disinfects water supplied from San Antonio Reservoir and Calaveras Reservoir.

- Peninsula System: The Peninsula System includes conveyance facilities connecting the BDPLs to the in-City distribution system and to other customers on the Peninsula. Two reservoirs, Crystal Springs Reservoir and San Andreas Reservoir, collect runoff from the San Mateo Creek watershed. Crystal Springs Reservoir also receives water from the Hetch Hetchy System. A third reservoir, Pilarcitos Reservoir, collects runoff from the Pilarcitos Creek watershed and directly serves one of the Wholesale Customers, the Coastside County Water District (which includes the City of Half Moon Bay), along with delivering water to Crystal Springs and San Andreas Reservoirs. The Harry Tracy Water Treatment Plant (HTWTP) filters and disinfects water supplied from Crystal Springs Reservoir and San Andreas Reservoir before it is delivered to customers on the Peninsula and the in-City distribution system.

#### **6.1.1.2 Water Treatment**

The Hetch Hetchy Reservoir is the largest unfiltered water supply on the West Coast, and one of only a few large unfiltered municipal water supplies in the nation. The water originates from well-protected wilderness areas in Yosemite National Park, which flows down the Tuolumne River to Hetch Hetchy Reservoir. This water meets or exceeds all federal and State criteria for watershed protection. Water from Hetch Hetchy Reservoir is protected in pipes and tunnels as it is conveyed to the Bay Area, and requires pH adjustment to control pipeline corrosion and disinfection for bacteria control. Based on the SFPUC's disinfection treatment practice, extensive bacteriological quality monitoring, and high operational standards, the U.S. Environmental Protection Agency (USEPA) and the SWRCB Division of Drinking Water (DDW) determined that the Hetch Hetchy water source meets federal and State drinking water quality requirements without the need for filtration.

A new USEPA regulation took effect in 2012 requiring secondary disinfection for all unfiltered drinking water systems to control the waterborne parasite cryptosporidium. To comply with this regulation, the SFPUC completed construction of a new ultraviolet (UV) treatment facility in 2011. The Tesla Treatment Facility is a key component of the Water System Improvement Program (WSIP) and enhances the high-quality water from the RWS. The facility has a capacity of 315 mgd, making it the third largest UV drinking water disinfection facility in the U.S.

All water derived from sources other than Hetch Hetchy Reservoir is treated at one of two treatment plants: the SVWTP or the HTWTP. The SVWTP primarily treats water from the Alameda System reservoirs and has both a peak capacity and sustainable capacity of 160 mgd. Treatment processes include coagulation, flocculation, sedimentation, filtration, disinfection, fluoridation, corrosion control treatment, and chloramination. Fluoridation, chloramination, and corrosion control treatment can also be provided for the combined Hetch Hetchy System and SVWTP water at the Sunol Valley Chloramination Facility. The HTWTP treats water from the Peninsula System reservoirs and has a peak capacity of 180 mgd and a sustainable capacity of 140 mgd.



Treatment processes include ozonation, coagulation, flocculation, filtration, disinfection, fluoridation, corrosion control treatment, and chloramination. Major upgrades to the SVWTP were completed in 2013 and to the HTWTP in 2015.

### **6.1.1.3 Water Storage**

The majority of the water delivered by the SFPUC is supplied by runoff from the upper Tuolumne River watershed on the western slope of the central Sierra Nevada. Three major reservoirs collect runoff: Hetch Hetchy Reservoir, Lake Lloyd (a.k.a., Cherry Lake), and Lake Eleanor. A “water bank” in Don Pedro Reservoir is also integrated into system operations.<sup>16</sup> Don Pedro Reservoir, which is jointly owned and operated by Modesto Irrigation District and Turlock Irrigation District (the Districts), is located on the Tuolumne River downstream of the Hetch Hetchy System.

As a by-product of water delivery and water supply management, hydroelectric power is generated by the Hetch Hetchy Water and Power System. Water stored in Hetch Hetchy Reservoir is used for hydroelectric generation and also satisfies instream flow requirements when released downstream. Normally, only Hetch Hetchy Reservoir water supplies are exported to the Bay Area, while releases from Lake Eleanor and Lake Lloyd are used to satisfy instream flow requirements, satisfy Raker Act entitlements to the Districts downstream, and produce hydroelectric power. The Hetch Hetchy Water and Power System includes three major hydroelectric powerhouses along the Tuolumne River—Holm, Kirkwood, and Moccasin—that have a collective generating capacity of nearly 400 megawatts.

Downstream of the Hetchy Hetchy System, the SFPUC utilizes local watersheds in the Bay Area. Crystal Springs, San Andreas, and Pilarcitos Reservoirs, located in San Mateo County, capture local runoff in the Peninsula watershed, and Calaveras and San Antonio Reservoirs, located in Alameda County, capture local runoff in the Alameda watershed. In addition to capturing local runoff, San Andreas, San Antonio, and Crystal Springs Reservoirs also provide storage for water from the Hetch Hetchy System and, along with Calaveras Reservoir, are an important water supply in the event of an interruption to Hetch Hetchy System deliveries.

Calaveras Reservoir had been operating in recent years at one-third of its capacity due to restrictions imposed by the DWR Division of Safety of Dams (DSOD). The Calaveras Dam Replacement Project, which took place from 2011 to 2019, involved the construction of a new dam downstream of the existing dam. The SFPUC began impounding water behind the new dam in the winter of 2018/2019 and continued the initial fill of the reservoir during the 2019/2020 winter season.

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<sup>16</sup> The Turlock Irrigation District and Modesto Irrigation District have senior water rights to the City for the Tuolumne River water and are provided the first increment of flow in the Upper Tuolumne River watershed according to the apportionment set forth in the Raker Act of 1913 (38 Stat. 242). The water bank at Don Pedro Reservoir provides a credit and debit system, which allows the City to divert water upstream while meeting its obligations to the Turlock Irrigation District and Modesto Irrigation District. Through this mechanism, the SFPUC may pre-deliver the Turlock Irrigation District’s and Modesto Irrigation District’s entitlements and credit the water bank so that at other times the SFPUC may retain water upstream while the Turlock Irrigation District and Modesto Irrigation District debit the water bank.



**Regional Water System Storage Capacity**

Reservoir	Storage	
	Acre-Foot (AF)	Billions of Gallons (BG)
Up-Country <sup>a</sup>		
Hetch Hetchy	360,360	117.4
Lake Lloyd <sup>b</sup>	273,300	89.1
Lake Eleanor	27,100	8.8
<b>Subtotal Up-Country</b>	<b>660,760</b>	<b>215.3</b>
Local		
Calaveras (East Bay) <sup>c</sup>	96,800	31.5
San Antonio (East Bay)	50,500	16.5
Crystal Springs (Peninsula) <sup>d</sup>	69,300	22.6
San Andreas (Peninsula)	19,000	6.2
Pilarcitos (Peninsula)	3,100	1.0
<b>Subtotal Local</b>	<b>238,700</b>	<b>77.8</b>
<b>Total Regional Water System<sup>e</sup></b>	<b>899,460</b>	<b>293.1</b>

- a Three other regulating reservoirs are also part of the RWS: Early Intake, Priest, and Moccasin Reservoirs.
- b Storage capacity shown includes flashboards, which are structures placed in a spillway to increase the capacity of a reservoir.
- c Calaveras Reservoir was constructed with a storage capacity of 96,800 AF. Since December 2001, in response to safety concerns about the seismic stability of the dam and a directive from the Division of Safety of Dams (DSOD), the SFPUC held the maximum water level at approximately 37,800 AF (roughly 40% of its maximum capacity). The construction of a new replacement dam downstream was completed in 2019 to restore the dam’s full storage capacity and the dam was continuing to be filled over the 2019/2020 winter season.
- d Crystal Springs Reservoir has a maximum storage capacity of 22.6 BG (at 291.8 feet). Based on permit conditions, the reservoir is currently operated at 287.8 feet (4 feet below capacity).
- e This includes 63,700 AF in dead storage (i.e., the volume in a reservoir below the lowest controllable level). In addition, the SFPUC may draw against a credit of up to 570,000 AF in storage in a water bank account in Don Pedro Reservoir, for total storage for planning purposes of 1,469,460 AF.

**6.1.2 Individual Supply Guarantees**

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.

EMID's Individual Supply Guarantee (ISG) is 5.9 million gallons per day (MGD), or approximately 2,154 million gallons (MG) per year. Between 2016 and 2020, EMID purchased between 61 percent and 74 percent of its ISG (see Table 6-8).

### **6.1.3 2028 SFPUC Decisions (formerly 2018 SFPUC Decisions)**

Information regarding the 2028 SFPUC Decisions (formerly 2018 SFPUC Decision) was provided by BAWSCA in coordination with SFPUC and is provided verbatim below.

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, and
- 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.



## 6.2 Groundwater

**CWC § 10631**

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

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

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

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

To date, as indicated in Table 6-1, EMID has not utilized groundwater as a potable water source and does not expect to utilize groundwater as a regular potable water source in the future.

**Table 6-1 Groundwater Volume Pumped (DWR Table 6-1)**

X	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	Location or Basin Name	2016	2017	2018	2019	2020
--	--	--	--	--	--	--
<b>TOTAL</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
NOTES:						

## 6.3 Surface Water

Water that is self-supplied to agencies from streams, lakes and reservoirs is considered a surface water supply. Although EMID's potable water supply is originally derived from surface water, it is categorized as



“purchased” water since the water is obtained from the SFPUC RWS. EMID does not currently, nor does it plan to in the future, use self-supplied surface water as part of its water supply portfolio.

#### 6.4 Stormwater

EMID does not currently, nor does it plan to in the future, use diverted stormwater as part of its water supply portfolio.

#### 6.5 Wastewater and Recycled Water

##### **CWC § 10633**

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

Recycling water involves treating wastewater to an acceptable level such that it can be reused for irrigation, cooling, and other non-potable applications. A key benefit of water recycling is its potential to offset the use of potable supplies. The regulatory requirements for recycled water are defined in the California Code of Regulations, Title 22, Article 3 (Title 22) and differ for different uses (e.g., irrigation for food crops, landscape, and recreation). Because recycled water is treated wastewater, its availability is closely linked to the location and treatment capability of the wastewater treatment plant that receives and treats wastewater from a water supplier’s service area.

EMID does not currently use recycled water but is coordinating with the City of San Mateo, SFPUC, and BAWSCA to assess potential options for producing and using recycled water in the future. The following sections describe wastewater collection and treatment for EMID service area, potential future uses of recycled water, and EMID’s efforts with respect to recycled water planning and use.

##### 6.5.1 Wastewater Collection, Treatment, and Disposal

##### **CWC § 10633 (a)**

*A description of the wastewater collection and treatment systems in the supplier’s service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.*

##### **CWC § 10633 (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.*

Wastewater in the EMID service area is collected by EMID/City of Foster City Public Works Department. The volume of wastewater collected from the EMID service area in 2020 was 791 MG (Table 6-2).

The EMID collection system conveys wastewater to the San Mateo Wastewater Treatment Plant (WWTP), which is located within the City of San Mateo, just west of the Mariners Island portion of the EMID service area, near the inlet of Seal Slough to the San Francisco Bay. Wastewater is currently treated at the WWTP

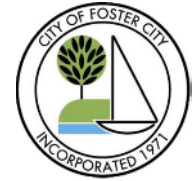


to secondary standards and then discharged to the San Francisco Bay (Figure 3-2). Therefore, as indicated in Table 6-2 and Table 6-3, no wastewater is treated or disposed of within the EMID service area.

The San Mateo WWTP is jointly owned by the Cities of Foster City and San Mateo through a Joint Powers Agreement (JPA). The City of San Mateo operates the WWTP as the lead agency of the JPA. Discharge of the advanced secondary-treated effluent is permitted by the San Francisco Regional Water Quality Control Board (RWQCB). The WWTP has a permitted capacity of 15.7 MGD for average dry weather flow (ADWF) and 40 MGD for peak wet weather flow (PWWF). The treatment processes include the following: primary sedimentation, secondary biological treatment through aeration basins, secondary clarification, chlorine disinfection, and dechlorination using sodium bisulfite. Pressure filters are also used for polishing to comply with effluent limitations but not to produce Title 22 recycled water (HydroScience, 2019). Biosolids treatment and handling includes thickening, heat treatment, anaerobic digestion, and vacuum filters for dewatering (RMC, 2014).

The WWTP is currently undergoing major repairs and improvements and construction is being administered by the City of San Mateo. As part of these improvements, EMID and the City of San Mateo are evaluating options to produce disinfected tertiary-treated Title 22 recycled water for potential non-potable reuse in the future.

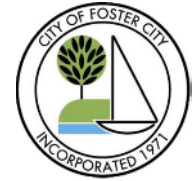




**Table 6-2 Wastewater Collected Within Area in 2020 (DWR Table 6-2)**

	There is no wastewater collection system. The supplier will not complete the table below.					
	Percentage of 2020 service area covered by wastewater collection system <i>(optional)</i>					
	Percentage of 2020 service area population covered by wastewater collection system <i>(optional)</i>					
Wastewater Collection			Recipient of Collected Wastewater			
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated?	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?	Is WWTP Operation Contracted to a Third Party? <i>(optional)</i>
EMID/ City of Foster City Public Works Department	Metered	791	City of San Mateo	San Mateo Wastewater Treatment Plant	No	
<b>Total Wastewater Collected from Service Area in 2020:</b>		791				
NOTES: (a) Volumes are in units of MG. (b) The San Mateo WWTP is jointly owned and operated by the Cities of Foster City and San Mateo as a Joint Powers Agreement.						





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

X	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)	Method of Disposal	Does This Plant Treat Wastewater Generated Outside the Service Area?	Treatment Level	2020 volumes				
							Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area	Recycled Outside of Service Area	Instream Flow Permit Requirement
--	--	--	--	--	--	--	--	--	--	--	--
						<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
NOTES:											



### 6.5.2 Current and Projected Uses of Recycled Water

**CWC § 10633 (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.*

**CWC § 10633 (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.*

**CWC § 10633 (e)**

*The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years.*

Currently there is no recycled water use in the EMID service area (Table 6-4). EMID is in the initial phases of recycled water planning and has not developed recycled water use projections for the EMID service area (Table 6-4). However, a narrative description of potential future uses of recycled water is provided below.

In 2013, Foster City conducted a market assessment and conceptual project development for potential recycled water use in the EMID service area (RMC, 2013). The objectives of this study were to: (1) estimate the quantity and types of potential recycled water customers within Foster City, (2) develop a conceptual recycled water distribution system to connect as many potential users as possible in a cost-effective manner, and (3) estimate the capital and operations and maintenance (O&M) costs of the conceptual project (RMC, 2013). The study identified a potential demand for 741 MG per year (2.03 MGD) of recycled water within the EMID service area; potential recycled water uses identified included landscape irrigation at parks, a golf course, roadway medians, Homeowner Association (HOA) landscaped areas, business parks, and filling of ponds (RMC, 2013). The study estimated that the potential capital costs associated with the construction of recycled water treatment, distribution, and storage costs could be approximately \$11,935,000 and that the ongoing operations and maintenance costs associated with the treatment and distribution systems would be approximately \$129,000 per year (RMC, 2013).

In 2014, EMID and City of San Mateo jointly submitted a Water Recycling Facilities Planning Grant Application to the State Water Resources Control Board (SWRCB) Division of Financial Assistance, Office of Water Recycling (RMC, 2014). The Recycled Water Feasibility Study Plan of Study associated with the grant application proposed to develop a facilities plan for a potential recycled water treatment and distribution system to serve recycled water users within both Foster City and San Mateo (RMC, 2014). The grant was awarded, and the first phase of the facilities plan, specifically a revised Market Assessment, was completed in 2015 (HydroScience, 2015). This updated market assessment identified sixteen major potential recycled water customers within Foster City, with a total potential recycled water demand of 138 MG per year (0.38 MGD) (HydroScience, 2015).

Using a grant from the SWRCB, EMID and City of San Mateo completed a Recycled Water Facilities Plan (RWFP) in 2017 that identified opportunities to provide recycled water to both services areas (HydroScience, 2017). The RWFP included updated near-term recycled water demand forecasts for both cities and presents possible alternatives for implementation of recycled water as well as a cost and time



breakdown of activities. The RWFP developed a preferred alternative for a recycled water distribution system with up to a total of 30 miles of 6-inch to 24-inch pipeline and identified up to 281 MG per year of potential recycled water irrigation uses in the EMID service area that could be served by the distribution system. The implementation of the RWFP was broken up into five phases with an estimated 18-year implementation timeline. The estimated cost for the distribution system and on-site retrofit capital improvements was approximately \$66.5 million of which approximately \$24 million would be EMID's share.

In addition to evaluating non-potable recycled water uses, the RWFP also reviewed opportunities to use recycled water produced at the WWTP for regional potable reuse opportunities. The RWFP identified a preferred regional potable reuse alternative of installing a pipeline from the WWTP to the SFPUC's Lower Crystal Spring Reservoir discussed further in Section 7.1.3.5 for purposes of supplying recycled water for surface water augmentation.

Based on the findings of this study and the estimated costs associated with constructing a new recycled water distribution system presented in the RWFP, EMID staff consider the regional potable reuse opportunities a more viable alternative at this time. EMID and other agencies including the City of San Mateo, SFPUC and BAWSCA, among others, have been participating in the development of the Potable Reuse Exploratory Plan (PREP) since 2016. PREP Phase 3 is currently underway to develop a feasibility study for augmenting potable water demand for the San Francisco Bay region via Indirect Potable Reuse and Direct Potable Reuse.

Given the uncertainty in future uses of recycled water in the service area, recycled water uses cannot be quantified at this time and are therefore not included in Table 6-4 or Table 6-7.



**Table 6-4 Recycled Water Direct Beneficial Uses Within Service Area (DWR Table 6-4)**

X	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)										
Source of 2020 Supplemental Water										
Beneficial Use Type	Potential Beneficial Uses of Recycled Water (Describe)	Amount of Potential Uses of Recycled Water (Quantity)	General Description of 2020 Uses	Level of Treatment	2020	2025	2030	2035	2040	2045
					--	--	--	--	--	--
				<b>Total:</b>	0	0	0	0	0	0
<b>2020 Internal Reuse</b>					0					
NOTES:										



**6.5.3 Comparison of Previously Projected Use and Actual Use**

**CWC § 10633 (e)**

*A description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.*

Currently there is no recycled water use in the EMID service area and there were no recycled water use projections made for 2020 in previous EMID UWMPs as indicated on Table 6-5.

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

X	Recycled water was not used in 2015 nor projected for use in 2020. The supplier will not complete the table below.		
Beneficial Use Type	2015 Projection for 2020	2020 Actual Use	
<b>Total</b>	0	0	
NOTES:			

**6.5.4 Promoting Recycled Water Use**

**CWC § 10633 (f-g)**

*(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.*

As discussed in Section 6.5.2, EMID and the City of San Mateo are continuing to evaluate the implementation of a recycled water facility and distribution system. If the RWFP moves ahead, it is anticipated that EMID and the City of San Mateo would promote uses of recycled water through, among other potential options, establishment of recycled water rates and adoption of ordinances to require use of recycled water for existing irrigation customers when technically feasible and for new development projects that meet certain criteria, once it is available in the area. A narrative explanation of EMID’s planned recycled water use can be found in Section 6.5.2 as referred to in Table 6-6.



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

X	Supplier does not plan to expand recycled water use in the future. Supplier will not complete the table below but will provide narrative explanation.		
62	Provide page location of narrative in UWMP		
Name of Action	Description	Planned Implementation Year	Expected Increase in Recycled Water Use
<b>Total</b>			0
NOTES:			

## 6.6 Desalinated Water Opportunities

**CWC § 10631 (g)** A plan shall be adopted in accordance with this chapter and shall do all of the following:

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

Opportunities to develop desalinated water supplies from ocean water, brackish surface, and brackish groundwater were investigated by BAWSCA as part of Phase II of its Long-Term Reliable Water Supply Strategy (see Section 7.1.3.5). According to BAWSCA, there are high costs and intensive permitting requirements associated with desalination. However, it does potentially provide a substantial yield given the limited options for generating significant new water supplies for the region. SFPUC is also exploring desalination as part of its Alternative Water Supply Planning (AWSP) Program (see Section 7.1.3.5). Aside from its support to date for the development the AWSP, EMID does not anticipate opportunities for development of desalinated water supplies within the planning horizon of this UWMP.

## 6.7 Water Exchanges and Transfers

**CWC § 10631 (c)** A plan shall be adopted in accordance with this chapter and shall do all of the following:

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

### 6.7.1 Exchanges and Transfers

There are potential transfer and exchange opportunities within and outside of the SFPUC RWS. EMID does not presently anticipate the need for water right transfers during normal year conditions. However, should that condition change in the future, it is possible that EMID could purchase water from another agency or entity either within or outside of the SFPUC RWS.

Within the SFPUC RWS, it is possible to transfer water entitlements or banked water among agencies. The Water Shortage Allocation Plan (WSAP) adopted by all BAWSCA agencies and the SFPUC provides the basis for voluntary transfers of water among BAWSCA agencies during periods when mandatory rationing is in





effect on the SFPUC RWS (see Section 7.1.1.1). Some BAWSCA agencies have the capacity to rely on groundwater or other sources during dry years and thus may be willing to transfer at an agreed upon cost a portion of their wholesale water entitlement to other BAWSCA agencies in need of supply above their allocations.

Securing water from willing sellers outside the SFPUC RWS is a more complex process than transfers within the RWS, which requires both a contract with the seller agency and approval by the SFPUC. BAWSCA has the authority to plan for and acquire supplemental water supplies and continues to evaluate the feasibility of water transfers as part of its implementation of the Strategy (see Section 7.1.3.5).

### 6.7.2 Emergency Interties

As discussed in Section 3.1, EMID has two emergency interconnections: one with California Water Service Company's Mid-Peninsula District system and one with the Mid-Peninsula Water District. These interties facilitate the short-term transfer of water due to a disruption in normal supply resulting from an event such as an earthquake or other emergency.

## 6.8 **Future Water Projects**

**CWC § 10631** *A plan shall be adopted in accordance with this chapter and shall do all of the following:*

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

*(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.*

This section describes the water supply projects that may be undertaken by both the wholesaler SFPUC and EMID. The effects of these projects on EMID's long-term water supply are not all quantifiable at this point in time, therefore only narrative descriptions are provided below as indicated in Table 6-7.

### 6.8.1 SFPUC Water Supply Projects

EMID's wholesaler SFPUC has been implementing its Water System Improvement Plan (WSIP) since it was adopted in 2008. The WSIP includes several water supply projects to address the Level of Service (LOS) Goals and Objective established in the WSIP and updated in February 2020. SFPUC has also developed an AWSP Program to explore other projects that would increase overall water supply resiliency. These programs and future water supply projects are described in Section 7.1.3.5.



**6.8.2 EMID Water Supply Projects**

The most recent update to EMID’s Capital Improvement Plan (CIP) was developed in the Water Distribution System Master Plan (HydroScience, 2020). None of the projects identified in the CIP will increase the amount of potable supply available to EMID.

As discussed in Section 6.5.2, the San Mateo WWTP is undergoing extensive upgrades that are projected to be completed by 2024. EMID and other agencies are exploring alternatives for using recycled water produced by the WWTP, including serving tertiary treated water to customers in the EMID service area, as well as other parts of the City of San Mateo, and other regional water reuse alternatives. Given that the implementation of the potential recycled water project is uncertain, it has not been included in Table 6-7.

**Table 6-7 Expected Future Water Supply Projects or Programs (DWR Table 6-7)**

X	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.					
62	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	Expected Increase in Water Supply to Supplier
	Y/N	If Yes, Supplier Name				
NOTES:						

**6.9 Summary of Existing and Planned Sources of Water**

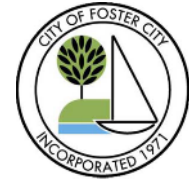
- CWC § 10631 (b)** Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a).
- CWC § 10631 (b) (4) (D)** A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

EMID purchases potable water from the SFPUC RWS to meet all of the potable water demands within EMID’s service area. In 2020, EMID received approximately 1,596 MG from the SFPUC RWS (Table 6-8 and the associated chart).

**Water Supply Characterization**  
**2020 Urban Water Management Plan**  
**Estero Municipal Improvement District**



EMID plans to continue exclusively purchasing wholesale water from the SFPUC RWS to meet its potable demands. Water supplies from the SFPUC RWS through 2045 are projected to be equivalent to EMID's ISG of 2,154 MG, which is EMID's contractual entitlement to SFPUC wholesale water and survives in perpetuity. The EMID's total water supply projections are shown in Table 6-9 and the associated chart in five-year increments through 2045.

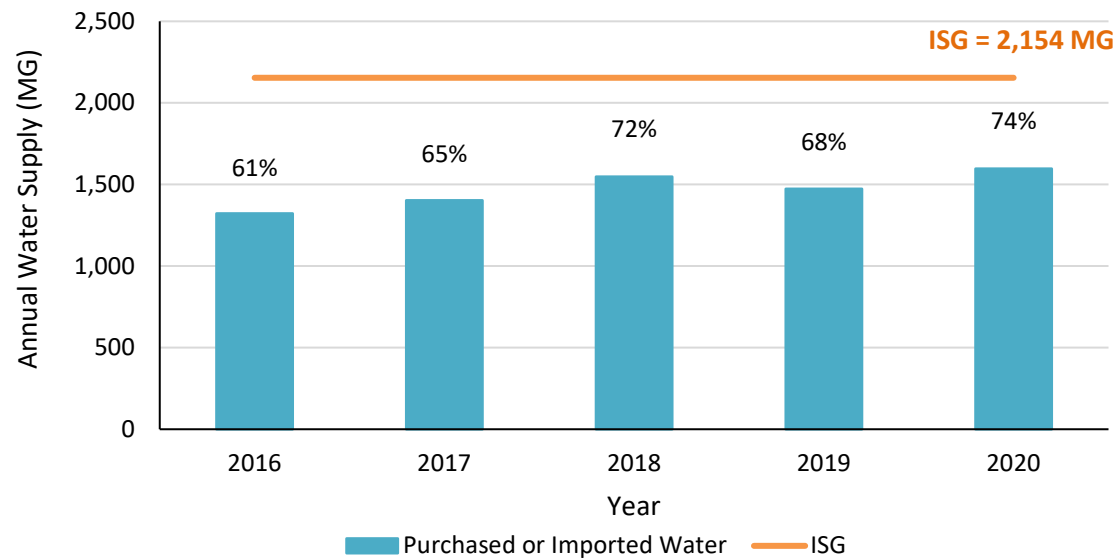


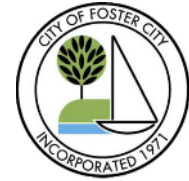
**Table 6-8 Water Supplies - Actual (DWR Table 6-8)**

Water Supply	Additional Detail on Water Supply	Actual Volume					Water Quality	Total Right or Safe Yield (optional)
		2016	2017	2018	2019	2020		
Purchased or Imported Water	SFPUC RWS	1,323	1,402	1,548	1,473	1,596	Drinking Water	2,154
<b>Total</b>		<b>1,323</b>	<b>1,402</b>	<b>1,548</b>	<b>1,473</b>	<b>1,596</b>		<b>2,154</b>

NOTES:  
 (a) Volumes are in units of MG.

**Chart 6-8 Current and Historical Water Supply**



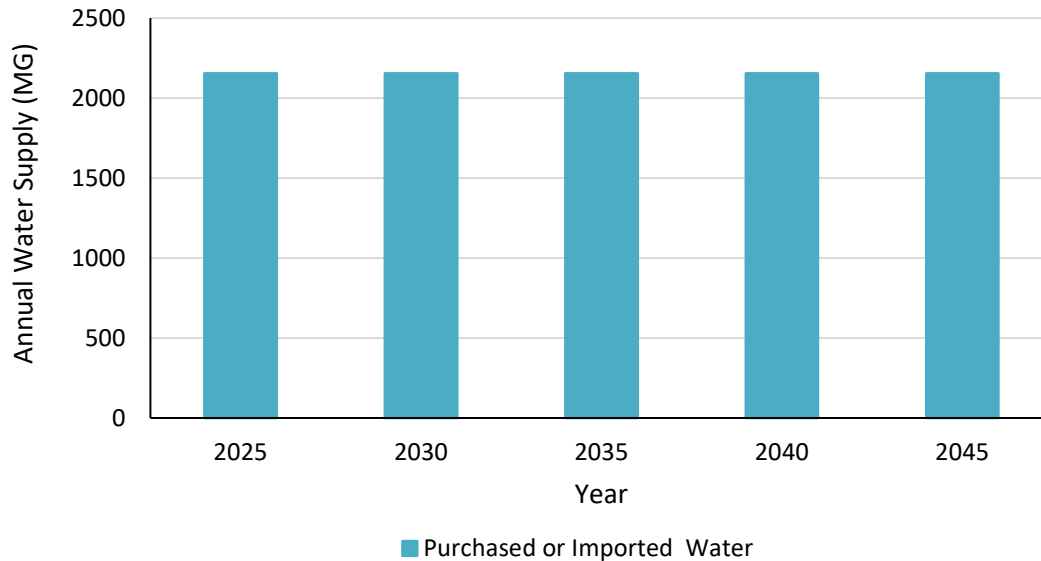


**Table 6-9 Water Supplies - Projected (DWR Table 6-9)**

Water Supply	Additional Detail on Water Supply	Projected Water Supply									
		2025		2030		2035		2040		2045	
		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)
Purchased or Imported Water	SFPUC RWS	2,154	--	2,154	--	2,154	--	2,154		2,154	--
<b>Total</b>		2,154	--	2,154	--	2,154	--	2,154	--	2,154	--
NOTES: (a) Volumes are in units of MG. (b) EMID has an Individual Supply Guarantee of 2,154 MG per year.											



**Chart 6-9 Projected Water Supply**



## 6.10 Special Conditions

**CWC § 10635(b)**

*(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.*

### 6.10.1 Climate Change Effects

Information regarding the impacts of climate change to the SFPUC RWS supply was provided by BAWSCA in coordination with SFPUC and is provided verbatim below:

The issue of climate change has become an important factor in water resources planning in California, and is frequently considered in urban water management planning processes, though the extent and precise effects of climate change remain uncertain. 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, observational data show that a warming trend occurred during the latter part of the 20th century and virtually all projections indicate this will 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:

- 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, annual average, intensity and variability of precipitation, and an increased amount of precipitation falling as rain rather than 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; and
- Changes in urban and agricultural water demand.

Both the SFPUC and BAWSCA participated in the 2020 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, the SFPUC continues to study the effect of climate change on the RWS. These works are summarized below.

**6.10.1.1 Bay Area Integrated Regional Water Management Plan**

Climate change adaptation continues to be an overarching theme for the 2019 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 (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 the table below, 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.

**Summary of BAIRWMP Climate Change Vulnerability Assessment**

<b>Vulnerability Areas</b>	<b>General Overview of Vulnerabilities</b>
<b>Water Demand</b>	<b>Urban and Agricultural Water Demand</b> – 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.



<p><b>Vulnerability Areas</b></p>	<p><b>General Overview of Vulnerabilities</b></p>
<p><b>Water Supply</b></p>	<p><b>Imported Water</b> – 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.</p> <p><b>Regional Surface Water</b> – 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.</p> <p><b>Regional Groundwater</b> – 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.</p>
<p><b>Water Quality</b></p>	<p><b>Imported Water</b> – 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</p> <p><b>Regional Surface Water</b> – 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.</p> <p><b>Regional Groundwater</b> – 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.</p>



<b>Vulnerability Areas</b>	<b>General Overview of Vulnerabilities</b>
<b>Sea-Level Rise</b>	<p>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.</p> <p>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.</p> <p>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.</p>
<b>Flooding</b>	<p>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.</p> <p>Changes to precipitation regimes may increase flooding.</p> <p>Elevated Bay elevations due to sea-level rise will increase backwater effects exacerbating the effect of fluvial floods and storm drain backwater flooding.</p>



<b>Vulnerability Areas</b>	<b>General Overview of Vulnerabilities</b>
<b>Ecosystem and Habitat</b>	<p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p>
<b>Hydropower</b>	<p>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.</p> <p>Some hydropower is also produced within the region and could also be affected by changes in the timing and amount of runoff.</p>

Source: 2019 Bay Area Integrated Regional Water Management Plan (BAIRWMP), Table 16-3.

**6.10.1.2 SFPUC Climate Change Studies**

The SFPUC views assessment of the effects of climate change as 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 0.7-2.1 percent from present-day conditions by 2040 and by 2.6-10.2 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 7.6-8.6 percent from present-day conditions by 2040 and by 24.7-29.4 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 Regional Water System'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 that could lead to developing an adaptation plan that is flexible and robust to a wide range of future outcomes.

### **6.10.2 Regulatory Conditions and Project Development**

Emerging regulatory conditions (e.g., issues surrounding the Water Quality Control Plan for the San Francisco/Sacramento-San Joaquin Delta Estuary [Bay-Delta Plan Amendment]) may affect planned future projects and the characterization of future water supply availability and analysis. A detailed description of the potential impacts of Bay-Delta Plan Amendment implementation on RWS supply reliability is included in Section 7.1.

EMID currently does not have any plans to develop new supply sources. If EMID does move forward with any plans to develop supply projects, emerging regulatory conditions will be considered, and the associated water supply reliability impacts will be assessed in future UWMP updates.

### **6.10.3 Other Locally Applicable Criteria**

Other locally applicable criteria may affect characterization and availability of an identified water supply (e.g., changes in regional water transfer rules may alter the availability of a water supply that had historically been readily available). Reliability of the RWS supply is further discussed in 7.1. EMID does not have any current plans to develop new supply sources. If EMID does move forward with any plans to



develop supply projects, locally applicable criteria will be considered, and the associated water supply reliability impacts will be assessed in future UWMP updates.

## 6.11 Energy Intensity

### CWC § 10631.2

*(a) In addition to the requirements of Section 10631, an urban water management plan shall include any of the following information that the urban water supplier can readily obtain:*

*(1) An estimate of the amount of energy used to extract or divert water supplies.*

*(2) An estimate of the amount of energy used to convey water supplies to the water treatment plants or distribution systems.*

*(3) An estimate of the amount of energy used to treat water supplies.*

*(4) An estimate of the amount of energy used to distribute water supplies through its distribution systems.*

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

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

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

*(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.*

EMID used the “Total Utility Approach” defined by DWR in the UWMP Guidebook 2021 to report water-related energy consumption. Fiscal year 2020 is selected as the one-year reporting period, and utility bills for the whole year are used as the source for energy consumption data. It is estimated that a total of approximately 246,651 kilowatt-hours (kWh) of energy was consumed for operation of water facilities in EMID’s water system in 2020. As shown in Table 6-10, based on the total volume entering the system of 1,596 MG, the energy intensity was calculated to be 154 kilowatt hours per million gallons (kWh/MG). EMID’s water system energy use is almost entirely associated with the pumping of water out of its potable water storage tanks into the distribution system.





**Table 6-10 Recommended Energy Intensity - Total Utility Approach (DWR Table O-1B)**

Urban Water Supplier: Estero Municipal Improvement District

Water Delivery Product

Retail Potable Deliveries

Enter Start Date for Reporting Period	08/02/2019	Urban Water Supplier Operational Control		
End Date	07/30/2020			
Is upstream embedded in the values reported?	No	Sum of All Water Management Processes	Non-Consequential Hydropower	
<i>Water Volume Units Used</i>	MG	Total Utility	Hydropower	Net Utility
<i>Volume of Water Entering Process (volume unit)</i>		1,596	0	1,596
<i>Energy Consumed (kWh)</i>		246,652	0	246,652
<i>Energy Intensity (kWh/volume)</i>		154.5	0.0	154.5
Quantity of Self-Generated Renewable Energy				
<span style="border: 1px solid black; padding: 2px;">0</span> kWh				
Data Quality				
<span style="border: 1px solid black; padding: 2px;">Metered Data</span>				
Data Quality Narrative:				
Volume of water data is from the SFPUC meters. Energy usage is for water facilities and is from EMID's Pacific Gas and Electric energy bills.				
Narrative:				
EMID energy use is primarily related to pump stations that pump water out of its potable water storage tanks into the distribution system.				



## 7 WATER SERVICE RELIABILITY AND DROUGHT RISK ASSESSMENT

### **CWC § 10620 (f)**

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

### **CWC § 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.*

This chapter assesses the reliability of the Estero Municipal Improvement District's (EMID or District) water supplies, with a specific focus on potential constraints, including purchased water supply availability, water quality, and climate change. The intent of this chapter is to identify any potential constraints that could affect the reliability of EMID's supply during normal, single dry-year, and multiple dry-year hydrologic conditions.

EMID purchases all of its potable water supply from the San Francisco Public Utilities Commission (SFPUC) Regional Water System (RWS). The reliability of the SFPUC RWS is anticipated to vary greatly in different year types. EMID has relied on the supply reliability estimates provided by the SFPUC for the RWS and the drought allocation structure provided by SFPUC and the Bay Area Water Supply and Conservation Agency (BAWSCA) to estimate available RWS supplies in dry year types through 2045. In addition to the long-term reliability assessment, this chapter also presents a Drought Risk Assessment (DRA) to evaluate EMID's supply risks under a severe drought period lasting for the next five consecutive years (i.e., through 2025).

### **7.1 Water Service Reliability Assessment**

The following sections describe EMID's water service reliability assessment, which presents EMID's expected water service reliability for a normal year, single dry year, and five consecutive dry years projections in five-year increments between 2025 and 2045.

#### **7.1.1 Service Reliability – Constraints on Water Sources**

As discussed in Chapter 6, EMID purchases all its potable water supply from the SFPUC RWS. The following narrative discusses potential issues and constraints on water supply availability. EMID has identified several potential constraints on future supply availability, water quality, and climate change. These constraints are summarized in the following sections.



#### 7.1.1.1 Regional Water System Supply Constraints

**CWC § 10631 (h)** *A plan shall be adopted in accordance with this chapter and shall do all of the following:*

*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).*

Detailed information is provided below regarding factors that impact the SFPUC RWS supply reliability. The source for this information is the common language provided by the SFPUC and BAWSCA (see Appendix G).

#### **Level of Service Goals**

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 Water Supply Improvement Program (WSIP) retains this mix of water supply for all year types.

In 2008, the SFPUC adopted Level of Service (LOS) Goals and Objectives in conjunction with the adoption of WSIP. The SFPUC updated the LOS Goals and Objectives in February 2020. The SFPUC's LOS Goals and Objectives related to water supply are:



Program Goal	System Performance Objective
Water Supply – <i>meet customer water needs in non-drought and drought periods</i>	<ul style="list-style-type: none"> <li>• Meet all state and federal regulations to support the proper operation of the water system and related power facilities.</li> <li>• 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.</li> <li>• Meet dry-year delivery needs while limiting rationing to a maximum 20 percent system-wide reduction in water service during extended droughts.</li> <li>• Diversify water supply options during non-drought and drought periods.</li> <li>• Improve use of new water sources and drought management, including groundwater, recycled water, conservation, and transfers.</li> </ul>

***Bay-Delta Plan Amendment Impacts***

Based on information provided by SFPUC and BAWSCA (Appendix G and Appendix H) the adoption of the 2018 Bay-Delta Plan Amendment is anticipated to impact the reliability of the RWS supplies in the future.

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 30-50% of the “unimpaired flow”<sup>17</sup> 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% of unimpaired flow.

If the Bay-Delta Plan Amendment is implemented, the SFPUC will be able to meet the projected water demands presented in this Urban Water Management Plan (UWMP) in normal years but would experience supply shortages in single dry years or multiple dry years. Implementation of the Bay-Delta Plan Amendment will require rationing in all single dry years and multiple dry years. The SFPUC has initiated an Alternative

<sup>17</sup> "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](https://www.waterboards.ca.gov/plans_policies/docs/2018wqcp.pdf).)



Water Supply Planning Program (AWSP) 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 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 SWRCB has stated that it intends to implement the Bay-Delta Plan Amendment on the Tuolumne River by the year 2022, assuming all required approvals are obtained by that time. But implementation of the Plan Amendment is uncertain for multiple reasons.

First, 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.

Second, 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).

Third, 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 Commission 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.<sup>18</sup>

### ***Drought Allocation Methodology***

Given the constraints described above, the SFPUC has provided all of the Wholesale Customers with estimates of the RWS reliability in all year types through 2045, as shown in Appendix H. The Tier One Plan describes the method for allocating RWS water between Retail and Wholesale Customers during system-wide shortages of 20 percent or less. The Tier Two Plan allocates the collective Wholesale Customer share from the Tier One Plan among each of SFPUC's 26 Wholesale Customers.

For the purposes of 2020 UWMP development only, SFPUC and BAWSCA have provided revised methodologies to allocate RWS supplies during projected future single dry and multiple dry years in instances where the projected supply shortfalls are greater than 20 percent. SFPUC and BAWSCA assumed that Tier One allocations for system-wide shortfalls of 16 percent to 20 percent would apply for all shortfalls greater than 20 percent. BAWSCA provided a revised methodology to allocate RWS supplies to Wholesale Agencies. The inclusion of these revised methodologies, which serve as the preliminary basis for UWMP supply reliability analyses, does not in any way imply an agreement by BAWSCA member agencies as to the exact allocation methodologies.

The Tier One and Tier Two Plans and the drought allocation methodologies used in the 2020 UWMP for shortfalls of greater than 20 percent are further described below.

### ***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 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.

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<sup>18</sup> 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/>.





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%

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<sup>19</sup>) 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.

As discussed above, the Tier One Plan only applies to system-wide shortages of 20 percent or less, and there is currently no methodology for sharing available water between SFPUC and Wholesale Customers for system-wide shortages of greater than 20 percent. SFPUC and BAWSCA assumed that Tier One allocations for System-Wide shortfalls of 16 percent to 20 percent would apply for all shortfalls greater than 20 percent for purposes of the UWMP supply reliability analyses. The analysis included herein does not in any way imply an agreement by BAWSCA member agencies with the assumed application of the Tier One allocations by SFPUC and BAWSCA for shortages of greater than 20 percent.

**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

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<sup>19</sup> See Water Supply Agreement, Water Shortage Allocation Plan (Attachment H), Section 2.1.



a formula that takes into account 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.

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% or less. For Regional Water System shortages in excess of 20%, San Francisco shall (a) follow the Tier 1 Shortage Plan allocations up to the 20% reduction, (b) meet and discuss how to implement incremental reductions above 20% with the Wholesale Customers, and (c) make a final determination of allocations above the 20% 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 San Francisco Regional Water System (RWS) shortages in excess of 20%, 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.

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.



### Revised Drought Allocation Plan

As detailed by BAWSCA in multiple memos and workshops (Appendix H), the Tier Two Plan was not designed for RWS shortages greater than 20 percent.<sup>20</sup> In a memorandum dated February 18, 2021, BAWSCA provided a refined methodology to allocate RWS supplies during projected future single dry and multiple dry years in the instance where the supply shortfalls are greater than 20 percent. The revised methodology developed by BAWSCA allocates the wholesale RWS supplies as follows:

1. When the average Wholesale Customers' RWS shortages are 10 percent or less, an equal percent reduction will be applied across all agencies. This is consistent with the existing Tier Two requirement of a minimum 10 percent cutback in any Tier Two application scenario.
2. When average Wholesale Customers' shortages are between 10 and 20 percent, the Tier Two Plan will be applied.
3. When the average Wholesale Customers' RWS shortages are greater than 20 percent, an equal percent reduction will be applied across all agencies.

The associated allocations based on the updated BAWSCA methodology are included as Appendix H. While this allocation methodology has been used herein, EMID notes per BAWSCA's memoranda dated February 18, 2021 (Appendix H):

"BAWSCA recognizes that this is not an ideal situation or method for allocation of available drought supplies. In the event of actual RWS shortages greater than 20 percent, the Member Agencies would have the opportunity to negotiate and agree upon a more nuanced and equitable approach. Such an approach would likely consider basic health and safety needs, the water needs to support critical institutions such as hospitals, and minimizing economic impacts on individual communities and the region."

As such, this allocation method is only intended to serve as the preliminary basis for the 2020 UWMP supply reliability analysis. The analysis provided herein does not in any way imply an agreement by BAWSCA member agencies as to the exact allocation methodology. BAWSCA member agencies are in discussions about jointly developing an allocation method that would consider additional equity factors in the event that SFPUC is not able to deliver its contractual supply volume and cutbacks to the RWS supply exceed 20 percent.

#### 7.1.1.2 Water Quality

##### **CWC § 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.*

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<sup>20</sup> Note that the Tier One Drought Allocations were also not designed for shortages greater than 20 percent. SFPUC and BAWSCA have assumed for UWMP planning purposes that the Wholesale Share will remain 62.5 percent for all shortfalls greater than 16 percent.



Impaired water quality also has the potential to affect water supply reliability. EMID has and will continue to meet all state and federal water quality regulations. All drinking water standards are set by the U.S. Environmental Protection Agency (USEPA) under the authorization of the Federal Safe Drinking Water Act of 1974. In California, the State Water Resources Control Board (SWRCB), Division of Drinking Water (DDW) can either adopt the USEPA standards or set more stringent standards, which are then codified in Title 22 of the California Code of Regulations. There are two general types of drinking water standards:

- **Primary Maximum Contaminant Levels (MCLs)** are health protective standards and are established using a very conservative risk-based approach for each constituent that takes into potential health effects, detectability and treatability, and costs of treatment. Public water systems may not serve water that exceeds Primary MCLs for any constituent.
- **Secondary MCLs** are based on the aesthetic qualities of the water such as taste, odor, color, and certain mineral content, and are considered limits for constituents that may affect consumer acceptance of the water.

EMID routinely monitors the water that is served to customers to ensure that water delivered to customers meets these drinking water standards. The results of this testing are reported to the SWRCB DDW following each test and are summarized annually in Water Quality Reports (also known as “Consumer Confidence Reports”), which are provided to customers by mail and made available on the Foster City’s website: <https://www.fostercity.org/publicworks/page/water-quality-report-consumer-confidence-report>.

As discussed in Chapter 6, most of EMID’s potable water is supplied by the SFPUC RWS from the Hetch Hetchy Reservoir in the Sierra Nevada Mountains. The Hetch Hetchy Reservoir is considered a very high-quality water source due to low total dissolved solid (TDS) concentrations and other factors. Additional water supplies from the Alameda and Peninsula sources come from areas with restricted access to protect the source water quality.

The SFPUC’s Water Quality Division (WQD) regularly collects and tests water samples from reservoirs and designated sampling points throughout the RWS to ensure that the SFPUC’s water meets or exceeds federal and state drinking water standards. In 2019, the WQD conducted more than 53,650 drinking water tests in the sources and transmission systems. This is in addition to the extensive treatment process control monitoring performed by the SFPUC’s certified operators and online instruments. The SFPUC also has online instruments providing continuous water quality monitoring at numerous locations.

Given EMID’s and SFPUC’s proactive monitoring and management of water quality, water quality is not expected to impact the reliability of EMID’s available supplies within the planning horizon (i.e., through 2045).

#### 7.1.1.3 Climate Change

**CWC § 10631 (b) (1)**

*...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.*



Section 6.10.1 provides a summary of the assessments of the applicable climate change on supplies that SFPUC has previously performed and those planned for the near term. The anticipated effects of climate change have been directly factored into EMID’s assessment of its supply reliability.

### 7.1.2 Service Reliability - Year Type Characterization

**CWC § 10631 (b)**

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

**CWC § 10631 (b)(1)**

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

**CWC § 10635 (a)**

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

Per the UWMP Guidebook 2021, the water service reliability assessment includes three unique year types:

- A normal hydrologic year represents the water supplies available under normal conditions, this could be an averaged range of years or a single representative year,
- A single dry year represents the lowest available water supply, and
- A five-consecutive year drought represents the driest five-year period in the historical record.

Identification of dry year periods consistent with the UWMP Guidebook 2020 methodology is provided in the language and supply projections provided by BAWSCA and the SFPUC in Appendix G and Appendix H and as presented in Table 7-1 and Table 7-2. The data and methods used to develop these dry year supply availabilities are described in the sections, below.



**Table 7-1 Basis of Water Year Data (Reliability Assessment) (DWR Table 7-1)**

Year Type	Base Year	Available Supplies if Year Type Repeats	
		X	Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location: Table 7-2
		—	Quantification of available supplies is provided in this table as either volume only, percent only, or both.
		Volume Available	% of Average Supply
Average Year			100%
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			
NOTES:			

**7.1.2.1 SFPUC Supply Modeled RWS Dry Year Supply Availability**

As described in SFPUC’s 2020 UWMP, SFPUC used the Hetch Hetchy and Local Simulation Model (HHLSTM) to estimate SFPUC RWS supply availability for water service reliability assessment and the drought risk assessment (DRA; Section 7.2). HHLSTM simulates supplies over a historical record of hydrology from 1920 through 2017 with a representation of current and planned SFPUC RWS infrastructure and operations.

Water supply shortfalls presented by SFPUC in Appendix H were estimated using SFPUC’s design drought methodology. The SFPUC uses a hypothetical 8.5-year design drought that is more severe than what the RWS has historically experienced as the basis for planning and modeling of future scenarios. The design drought consists of the 1987-92 drought, followed by an additional 2.5 years of dry conditions from the hydrologic record that include the 1976-77 drought. The five-consecutive-year dry sequence used for the UWMP represents years 2 through 6 of the design drought. However, the modeling approach assumes water supply rationing each year that is designed to provide sufficient carry-over water in SFPUC reservoirs to continue delivering water, although at reduced levels, during each year of the five-consecutive year drought and the remaining years of the design drought (SFPUC, 2021).

SFPUC provided results for two modeled scenarios, which show significantly different supply reliability projections for the RWS:

1. With full implementation of the Bay-Delta Plan Amendment in 2023
2. Without implementation of the Bay-Delta Plan Amendment





The SFPUC decided to present the water reliability analysis with full implementation of the Bay-Delta Plan Amendment in the SFPUC 2020 UWMP Submittal Tables and provided the following rationale for that decision:

The adoption of the Bay-Delta Plan Amendment may significantly impact the supply available from the RWS. SFPUC recognizes that the Bay-Delta Plan Amendment has been adopted and that, given that it is now state law, we must plan for a future in which it is fully implemented. SFPUC also acknowledges that the plan is not self-implementing and therefore does not automatically go into effect. SFPUC is currently pursuing a voluntary agreement as well as a lawsuit which would limit implementation of the Plan. With both of these processes occurring on an unknown timeline, 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 doesn't include implementation of the Bay-Delta Plan Amendment, as that represents a potential supply reliability scenario.

Because of the uncertainty surrounding implementation of the Bay-Delta Plan Amendment, the SFPUC conducted water service reliability assessment that includes: (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. The standardized tables associated with the SFPUC's UWMP contain the future scenario that assumes implementation of the Bay-Delta Plan Amendment starting in 2023.

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 draft UWMP that the Bay-Delta Plan Amendment will be fully implemented starting in 2023.

As shown in Appendix H, SFPUC also provided results for each of the modeling scenarios described above assuming demands on the RWS equal to both: (1) the total of projected retail demands and projected Wholesale Customer purchases, and (2) a constant water demand of 265 mgd from the SFPUC watersheds for retail and Wholesale Customers, consistent with SFPUC's contractual obligation. According to the SFPUC, the modeling based on a demand of 265 mgd was used to "facilitate planning that supports meeting this Level of Service goal and their contractual obligations." Supply modeling results presented in the text of the SFPUC's 2020 UWMP reflect an input of projected retail and Wholesale demands on the RWS.

Consistent with SFPUC's approach and guidance from SFPUC and BAWSCA, EMID's UWMP presents results for the water service reliability assessment and the DRA (Section 7.2) based on the modeling scenario that assumes full implementation of the Bay Delta Plan Amendment in 2023 and uses projected demands on the RWS. SFPUC modeling results for this scenario showing the total RWS supply available to Wholesale Customers during the characteristic year types can be found in Tables 3a-3g of the SFPUC letter dated March 30, 2021. **These results show total Wholesale RWS supply shortfalls ranging from 36 percent to 54 percent of projected purchases during dry years after 2023.**

For comparison purposes, results for the scenario without the Bay-Delta Plan Amendment can be found in Tables 4a-4g of the same SFPUC letter. These results indicated that the SFPUC would be able to meet 100 percent of Wholesale projected purchases during all year types except during the fourth and fifth consecutive dry years for base year 2045 when 15 percent Wholesale supply shortages are projected.





**7.1.2.2 *EMID’s Year-Type Characterization***

As discussed in Section 6.1.2, in accordance with the SFPUC’s perpetual obligation to EMID’s Supply Assurance, EMID has an Individual Supply Guarantee (ISG) of 5.9 million gallons per day (MGD), or 2,154 million gallons (MG) per year. SFPUC is obligated to provide EMID with up to 100 percent of EMID’s ISG during normal years.

Using the SFPUC modeling results presented in the of the SFPUC letter dated March 30, 2021, BAWSCA provided single and five-consecutive dry-year allocations for each agency based on the methodology described in Section 7.1.1.1. As discussed therein, for the purposes for the 2020 UWMP supply reliability analysis only, Wholesale Agency drought allocations assume an equal percent reduction across all agencies when the average Wholesale Customers’ RWS shortages are greater than 20 percent. These percent reductions for the scenario that assumes the implementation of the Bay-Delta Plan Amendment in 2023 are included in Table E of the BAWSCA updated drought allocation memorandum data April 1, 2021 (Appendix H) and reproduced in Table 7-2, below, for base year 2025 through 2045. The percent of available supply shown in Table 7-2 are applied to EMID’s projected potable demands listed in Table 4-5 for each respective base year to calculate the projected dry-year RWS supplies shown in Table 7-4 and Table 7-5.

**Table 7-2 RWS Wholesale Supply Availability During Normal and Dry Years for Base Years 2025 through 2045 (Responds to DWR Table 7-1)**

Base Year	Normal Year	Single Dry Year	Multiple Dry Years				
			Year 1	Year 2	Year 3	Year 4	Year 5
2025	100%	64%	64%	55%	55%	55%	55%
2030	100%	64%	64%	55%	55%	55%	55%
2035	100%	64%	64%	54%	54%	54%	50%
2040	100%	63%	63%	54%	54%	48%	48%
2045	100%	54%	54%	54%	54%	46%	46%

**NOTES:**

- (a) Normal-year water supply availability is presented in terms of percentage of EMID’s ISG (5.9 MGD).
- (b) Dry-year water supply availability is presented in terms of percentage of projected RWS demands for each base year (Table 4-5) consistent the revised BAWSCA Drought Methodology that assumes equal percent cutbacks across all Wholesale Agencies.
- (c) Results reflect scenario with Bay-Delta Plan Amendment implemented in 2023 and the use projected RWS purchases.



**7.1.3 Service Reliability - Supply and Demand Assessment**

**CWC § 10635 (a)**

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

The following sections compare EMID’s projected water demands, described in Chapter 4, with EMID’s projected water supply availability during normal, single dry, and multiple dry years to assess the reliability of EMID’s water supplies.

**7.1.3.1 Water Service Reliability - Normal Year**

Table 7-3 shows the projected supply and demand totals for a normal year. The supply and demand totals are consistent with those in Table 6-9 and Table 4-5, respectively. EMID is expected to have adequate water supplies during normal years to meet its projected demands through 2045.

**Table 7-3 Normal Year Supply and Demand Comparison (DWR Table 7-2)**

	2025	2030	2035	2040	2045
Supply totals <i>From DWR Table 6-9</i>	2,154	2,154	2,154	2,154	2,154
Demand totals <i>From DWR Table 4-3</i>	1,615	1,646	1,681	1,723	1,805
Difference	539	508	473	431	349
NOTES: (a) Volumes are in units of MG. (b) Volumes are rounded to the nearest MG and may not sum due to rounding.					

**7.1.3.2 Water Service Reliability – Single Dry Year**

The reliability of the SFPUC RWS supply is anticipated to vary greatly in different year types. As described above and detailed in Appendix H, EMID has relied on the supply reliability estimates provided by the SFPUC for the RWS and the drought allocation structure provided by SFPUC and BAWSCA to estimate available RWS supplies in dry year types through 2045.

Table 7-4 shows the projected supply and demand totals for the single dry year.



**Table 7-4 Single Dry Year Supply and Demand Comparison (DWR Table 7-3)**

	2025	2030	2035	2040	2045
Supply totals	1,033	1,049	1,067	1,093	984
Demand totals	1,615	1,646	1,681	1,723	1,805
Difference	(582)	(597)	(613)	(630)	(821)
NOTES: (a) Volumes are in units of MG. (b) Volumes are rounded to the nearest MG and may not sum due to rounding.					

**7.1.3.3 Water Service Reliability – Five Consecutive Dry Years**

Based on the supply reliability estimates and allocation structure provided by SFPU and BAWSCA, Table 7-5 shows the projected supply and demand totals for multiple dry year periods extending five years.

**Table 7-5 Multiple Dry Years Supply and Demand Comparison (DWR Table 7-4)**

		2025	2030	2035	2040	2045
First year	Supply totals	1,033	1,049	1,067	1,093	984
	Demand totals	1,615	1,646	1,681	1,723	1,805
	Difference	(582)	(597)	(614)	(630)	(821)
Second year	Supply totals	885	900	915	938	984
	Demand totals	1,615	1,646	1,681	1,723	1,805
	Difference	(730)	(746)	(766)	(785)	(821)
Third year	Supply totals	885	900	915	938	984
	Demand totals	1,615	1,646	1,681	1,723	1,805
	Difference	(730)	(746)	(766)	(785)	(821)
Fourth year	Supply totals	885	900	915	827	836
	Demand totals	1,615	1,646	1,681	1,723	1,805
	Difference	(730)	(746)	(766)	(896)	(969)
Fifth year	Supply totals	885	900	838	827	836
	Demand totals	1,615	1,646	1,681	1,723	1,805
	Difference	(730)	(746)	(843)	(896)	(969)
NOTES: (a) Volumes are in units of MG (b) Volumes are rounded to the nearest MG and may not sum due to rounding.						

**7.1.3.4 Uncertainties in Dry Year Water Supply Projections**

As shown in the above tables, significant water supply shortfalls are currently projected in future single and multiple dry years, directly because of the Bay-Delta Plan Amendment implementation. However, numerous uncertainties remain in the implementation of the Bay-Delta Plan Amendment. The water supply projections presented above likely represent a worst-case scenario in which the Bay-Delta Plan



Amendment is implemented without the SFPUC and the State Water Resources Control Board (SWRCB) reaching a Voluntary Agreement and do not account for implementation of SFPUC's Alternative Water Supply Program (AWSP), described in more detail below. Under this supply scenario, SFPUC appears not to be able to meet its contractual obligations (i.e., Level of Service goals) and EMID's forecasted demands during droughts.

As discussed in Section 7.1.2.1, SFPUC also provided water supply reliability projections without the Bay-Delta Plan Amendment (see Appendix H), which likely represents a highly optimistic water supply reliability outcome. These projections indicated that without the Bay-Delta Plan Amendment SFPUC would be able to supply 100 percent of projected RWS demands in all year types through 2045, except for the 4th and 5th consecutive dry year in 2045, during which 90 percent of projected RWS demands (85 percent of the Wholesale demands) would be met. The large disparity in projected water supply reliability between these two scenarios demonstrate the current level of uncertainty.

In addition to these two UWMP scenarios, in a March 26, 2021 Special Commission Meeting, SFPUC staff presented HHLSM modeling results for 10 different scenarios, including scenarios with the implementation of the Tuolumne River Voluntary Agreement (TRVA), with the implementation of the Bay-Delta Plan Amendment and the AWSP, and with the use of a modified rationing policy and a modified design drought (Appendix I). Results for the scenarios with the TRVA and with the AWSP (particularly with a modified rationing policy and design drought) showed significantly improved RWS supply availability compared to the Bay-Delta Plan Amendment scenario shown herein.

The current sources of uncertainty in the dry year water supply projections are summarized below:

- Implementation of the Bay-Delta Plan Amendment is under negotiation. The SFPUC is continuing negotiations with the SWRCB on implementation of the Bay-Delta Plan Amendment for water supply cutbacks, particularly during droughts. The SFPUC, in partnership with other key stakeholders, has proposed a voluntary substitute agreement to the Bay-Delta Plan Amendment, the TRVA, that provides a collaborative approach to protect the environment and plan for a reliable and high-quality future potable water supply. This is a dynamic situation and the projected drought cutback allocations may need to be revised before the next (i.e., 2025) UWMP depending on the outcome of ongoing negotiations.
- Benefits of the AWSP are not accounted for in current supply projections. As discussed in Section 7.1.3.5 and Appendix H, SFPUC is exploring options to increase its supplies through the AWSP. Implementation of feasible projects developed under the AWSP is not yet reflected in the supply reliability scenarios presented herein and is anticipated to reduce the projected RWS supply shortfalls (Appendix I).
- Methodology for Tier One and Tier Two Wholesale drought allocations have not been established for wholesale shortages greater than 20 percent. As discussed in Section 7.1.1.1, the current Tier One and Tier Two Plans are not designed for RWS supply shortages of greater than 20 percent. For UWMP planning purposes per BAWSCA guidance, the Tier One Wholesale share for a 16 percent to 20 percent supply reduction (62.5 percent) has been applied for reductions greater than 20 percent and an equal percent reduction has been applied across all Wholesale agencies. BAWSCA member agencies have not formally agreed to adopt this shortage allocation methodology and are in discussions about jointly developing an alternative allocation method that would consider additional equity factors if SFPUC is unable to deliver its contractual supply volume and cutbacks to the RWS supply exceed 20 percent.



- RWS demands are subject to change. The RWS supply availability is dependent upon the system demands. As discussed in Section 7.1.2, the supply scenarios are based on the total projected Wholesale Customer purchases provided by BAWSCA to SFPUC in January 2021. Many BAWSCA agencies have refined their projected demands during the UWMP process after these estimates were provided to SFPUC. Furthermore, the RWS demand projections are subject to change in the future based upon future housing needs, increased conservation, and development of additional local supplies.
- Frequency and duration of cutbacks are also uncertain. While the projected shortfalls presented in the UWMP appear severe, the actual frequency and duration of such shortfalls are uncertain. Based on the HHLSM simulations provided by BAWSCA for the with Bay-Delta Plan Amendment scenario (Appendix H), rationing is anticipated to be required 20 percent of years for base year 2025 through 2035, 23 percent of all years for base year 2040, and 25 percent of years for base year 2045. In addition to the supply volumes, the above listed uncertainties would also impact the projected frequency and duration of shortfalls.

As such, in addition to evaluating local options to increase supply reliability, EMID has placed high priority on working with BAWSCA and SFPUC in the upcoming years to better refine the estimates of RWS supply reliability and may amend this UWMP when new information becomes available.

The above uncertainties notwithstanding, BAWSCA's current drought allocation cutbacks will require EMID to apply its Water Shortage Contingency Plan (WSCP) Stage 6 for water use restrictions for shortages above 50 percent (see Appendix J) and will affect EMID's short- and long-term water management decisions. As described further below (Section 7.1.3.5), EMID is working independently and with the other BAWSCA agencies to identify regional mitigation measures to improve reliability for regional and local water supplies and meet its customers' water needs. If conditions for large drought cutbacks to the RWS persist, EMID will need to implement additional demand management practices to invoke strict restrictions on potable water use and accelerate efforts to develop alternative supplies of water.

EMID recommends that users of its 2020 UWMP contact EMID staff for potential updates about its water supply reliability before using the 2020 UWMP drought cutback projections for their planning projects and referencing the drought.

#### 7.1.3.5 Strategies and Actions to Address Dry Year Supply Shortfalls

Although there remains significant uncertainty in future supply availability, as discussed above, EMID, SFPUC, and BAWSCA have developed strategies and actions to address the projected dry year supply shortfalls. These efforts are discussed in the following sections.

### ***SFPUC and other Regional Actions and Strategies***

#### Dry Year Water Supply Projects

The WSIP authorized the SFPUC to undertake a number of water supply projects to meet dry-year demands with no greater than 20% system-wide rationing in any one year. Implementation of these projects is also expected to mitigate impacts of the implementation of the Bay-Delta Plan Amendment. 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.

- 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 SMP (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.
- Lower Crystal Springs Dam Improvements. The Lower Crystal Springs Dam (LCSD) 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 LCSD 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 Project (GSRP) is a strategic partnership between SFPUC and three San Mateo County agencies – Cal Water, 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 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 acre-feet). 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, and to mitigate the impacts of the Bay-Delta Plan, 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.

#### Alternative Water Supply Program

As discussed, below, BAWSCA has taken steps to ensure that SFPUC develops alternative water supplies:

With the adoption of the Bay-Delta Plan Phase 1 (Bay-Delta Plan) by the State Water Resources Control Board in December of 2018, coupled with the uncertainties associated with litigation and the development of Voluntary Agreements that, if successful, would provide an alternative to the 40% unimpaired flow requirement that is required by the Bay-Delta Plan, BAWSCA redoubled its efforts to ensure that the SFPUC took necessary action to develop alternative water supplies such that they would be in place to fill any potential gap in supply by implementation of the Bay-Delta Plan and that the SFPUC would be able to meet its legal and contractual obligations to its Wholesale Customers.

In 2019, BAWSCA held numerous meetings with the SFPUC encouraging them to develop a division within their organization whose chief mission was to spearhead alternative water supply development. On June 25, 2019, BAWSCA provided a written and oral statement to the Commissioners urging the SFPUC to focus on developing new sources of supply in a manner similar to how it addressed the implementation of the Water System Improvement Program (WSIP). BAWSCA urged that a new water supply program was called for, with clear objectives, persistent focus, a dedicated team, adequate funding, and a plan for successful execution. The SFPUC Commission supported BAWSCA's recommendation and directed staff to undertake such an approach.

In early 2020, the SFPUC began implementation of the Alternative Water Supply Planning Program (AWSP), a program designed to investigate and plan for new water supplies to address future long-term water supply reliability challenges and vulnerabilities on the RWS.

Included in the AWSP is a suite of diverse, non-traditional supply projects that, to a great degree, leverage regional partnerships and are designed to meet the water supply needs of the SFPUC Retail and Wholesale Customers through 2045. As of the most recent Alternative Water Supply Planning Quarterly Update, SFPUC has budgeted \$264 million over the next ten years to fund water supply projects. BAWSCA is heavily engaged with the SFPUC on its AWSP efforts.





SFPUC's AWSP is described in more detail below:

The SFPUC is increasing and accelerating its efforts to acquire additional water supplies and explore other projects that would increase overall water supply resilience through the AWSP. The drivers for the program include: (1) the adoption of the Bay-Delta Plan Amendment and the resulting potential limitations to RWS supply during dry years, (2) the net supply shortfall following the implementation of WSIP, (3) San Francisco's perpetual obligation to supply 184 MGD to the Wholesale Customers, (4) adopted LOS Goals to limit rationing to no more than 20 percent system-wide during droughts, and (5) 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 AWSP are as follows:

1. Offset instream flow needs and meet regulatory requirements
2. Meet existing obligations to existing permanent customers
3. Make interruptible customers permanent
4. 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 applicable 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<sup>21</sup>, which was a potential project identified in the SFPUC's 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,

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<sup>21</sup> While this potential project was identified in the 2015 UWMP, it has since been approved by Daly City following environmental review and has a higher likelihood of being implemented.



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 is equivalent to 1.25 MGD or 1,400 AFY. The project is envisioned to provide recycled water to 13 cemeteries and other smaller irrigation customers, offsetting existing groundwater pumping from the South Westside Groundwater Basin; this will free up groundwater, 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 Alameda County Water District's (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 (PREP) Project is a purified water project that could provide 6-12 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, Bay Area Water Supply and Conservation Agency (BAWSCA), SVCW, CalWater, 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 (CCWD), 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, CCWD is leading the planning, design and environmental review efforts. CCWD's Board certified the 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 (BARR SWAP): As part of the BARR Partnership, a consortium of 8 Bay Area water utilities (including ACWD, BAWSCA, CCWD, EBMUD, Marin Municipal Water District (MMWD), 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 (SWAP) 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 CCWD, the SFPUC, Valley Water, and Zone 7 Water Agency. The East Bay Municipal Utilities District (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 CCWD'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 acre-feet (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 Modesto Irrigation District (MID) and Turlock Irrigation District (TID) 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.

- *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.

#### BAWSCA's Long Term Reliability 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:

- 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 Individual Supply Guarantee (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 Bay Area Regional Reliability Partnership (BARR)<sup>22</sup>, a partnership among eight Bay Area water utilities (including the SFPUC, Alameda County Water District, BAWSCA, Contra Costa Water District, Santa Clara Valley Water District) 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.

### ***EMID Actions and Strategies***

In addition to the management tools and options discussed below, EMID has been involved directly and through BAWSCA to advocate for an alternative to the Bay-Delta Plan Amendment, including submitting letters and testimony (see Appendix K) that identify, among other things, the significant impact to local water supply reliability.

Further, as part of this UWMP process, EMID submitted letters to BAWSCA and SFPUC (see Appendix K) enumerating concerns regarding the fact that the SFPUC RWS supply allocations do not meet the Level of Service Goals included in the WSA (see Section 7.1.1.1) and, therefore, SFPUC is not meeting its contractual obligations to the Wholesale Customers.

EMID's letter to BAWSCA further states that while it is applying BAWSCA's revised Tier Two allocation methodology for RWS shortages greater than 20 percent for preliminary planning purposes, EMID is not

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<sup>22</sup> <https://www.bayareareliability.com/>



agreeing to, or adopting, the revised Tier Two methodology. Among other issues, EMID notes that the revised Tier Two methodology does not take minimum health and safety standards into account.

As described in Section 7.1.4, EMID is committed to improving its supply reliability, including development of recycled water in the future and continued commitment to its water conservation program.

#### **7.1.4 Management Tools and Options**

**CWC § 10620 (f)**

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

At a regional level, EMID maintains active involvement in the work that SFPUC and BAWSCA are doing with respect to optimizing the use of regional water supplies and pursuing additional supplies. These efforts are detailed in Section 7.1.3.5.

In addition to supporting SFPUC and BAWSCA, EMID has been working with the City of San Mateo to develop recycled water supplies. If recycled water is made available, the potable water demands will be less than the current projections and therefore the resultant potable supply shortage will likely to be smaller; however, plans to develop recycled water are still be developed and will not be completed in the near future.

EMID has also been implementing, and plans to continue to implement, the demand management measures described in Chapter 9. Further, in response to the anticipated future dry-year shortfalls, EMID has developed a robust WSCP that systematically identifies ways in which EMID can reduce water demands. The WSCP is included in Appendix J.





## 7.2 Drought Risk Assessment

### **CWC § 10635(b)**

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

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

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

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

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

In addition to the long-term water service reliability assessment presented above, the DRA evaluates EMID's supply risks under a severe drought period lasting for the next five consecutive years after the assessment is completed, i.e., from 2021 through 2025. The DRA is intended to inform the demand management measures and water supply projects and programs to be included in the UWMP (see Chapters 8 and 9). Suppliers may conduct an interim update or updates to this DRA within the five-year cycle of its urban water management plan update, i.e., before the 2025 UWMP.

### **7.2.1 Data, Methods, and Basis for Water Shortage Condition**

As a first step to the DRA, EMID has estimated unconstrained water demand for the next five years (2021-2025). Unconstrained water demand is the expected water use in the absence of drought water use restrictions. The characteristic five-year water demand is described in Section 4.2.6 and is based upon the Decision Support System (DSS) Water Demand and Conservation Model results discussed in Section 4.2.1.

The available potable water supplies assumed in the DRA are based upon the same methodology and assumptions used for the long-term water service reliability assessment (Section 7.1) and relies on information provided by SFPUC and BAWSCA (Appendix G and Appendix H). The available RWS water supplies are estimated based on the following assumptions: (1) The RWS demands are held constant at 132.1 MGD (i.e., 2020 demand levels), (2) implementation of the Bay-Delta Plan Amendment occurs in 2023, and (3) the 2020 infrastructure conditions are maintained (see Table 1 of the January 22, 2021 SFPUC letter in Appendix H). Details of how EMID's available supplies are then estimated as part of the DRA are provided below.





**7.2.2 Drought Risk Assessment Water Source Reliability**

As described in Chapter 6, EMID purchases imported surface water from the SFPUC RWS to meet its potable water demands.

EMID’s available potable water supplies during the five-consecutive-year drought are based upon information provided by SFPUC and BAWSCA included in Appendix H, as indicated in Section 7.2.1. Specifically, based on the modeling results presented in the March 30, 2021 SFPUC letter, BAWSCA provided individual agency drought allocation volumes for 2021 to 2025 in Table F2 of the April 1, 2021 BAWSCA drought allocation tables, which are reproduced for EMID in Table 7-6, below, and serve as the basis for the RWS Reliability in the DRA.

**Table 7-6 EMID 2020 Base Year Multiple Dry Year Drought Allocations**

	2021	2022	2023	2024	2025
EMID Drought Allocation	1,635	1,646	873	873	873
NOTES: (a) Volumes are in units of MG. (b) Source: Table F2 from the BAWSCA drought allocation tables dated April 1, 2021. (c) Five consecutive year drought assumed to start in 2021. (d) Scenario reflects implementation of the Bay-Delta Plan Amendment in 2023. (e) Sufficient RWS supplies will be available to meet the Wholesale Customers’ purchase requests during the first two consecutive dry years, prior to implementation of the Bay-Delta Plan Amendment. Volumes for 2021 and 2022 reflect EMID’s near-term projected purchases previously provided to BAWSCA. (f) Per system-wide shortages are projected starting in 2023, Wholesale RWS demand is assumed to be static for the remainder of the drought sequence per the Water Supply Agreement.					

As shown in Table 7-6, prior to the assumed implementation of the Bay-Delta Plan Amendment in 2023, sufficient RWS supplies will be available to meet the Wholesale Customers’ purchase requests during the first two consecutive dry years (i.e., 2021 and 2022).

Shortages are projected to begin in 2023 with the implementation of the Bay-Delta Plan Amendment. In the event of a shortage, the current Tier 2 Drought Allocation Plan (Section 7.1.1.1) specifies that each agencies’ Allocation Factor would be calculated once at the onset of a shortage based on the previous year’s use and remain the same until the shortage condition is over. Therefore, for the purpose of drought allocations for the DRA, the available RWS supply is assumed to remain static in 2023-2025 as shown in Table 7-6.

**7.2.3 Drought Risk Assessment Total Water Supply and Use Comparison**

Table 7-7 provides a comparison of the water supply sources available to EMID with the total projected water use for an assumed drought period of 2021 through 2025. **EMID is expected to experience significant shortfalls in years 2023-2025 of the DRA with unconstrained demands because of the assumed implementation of the Bay-Delta Plan Amendment in 2023.**



EMID has developed a WSCP (Chapter 8) to address water shortage conditions resulting from any cause (e.g., droughts, impacted distribution system infrastructure, regulatory-imposed shortage restrictions, etc.). The WSCP identifies a variety of actions that EMID will implement to reduce demands and further ensure supply reliability at various levels of water shortage. EMID intends to implement its WSCP to reduce water use and address the supply shortfalls.

Given the current uncertainty discussed in Section 7.1.3.4, EMID could update its DRA prior to the 2025 UWMP update if significant new information becomes available. CWC §10635(b) permits urban water suppliers to conduct an interim update or updates to their DRA within the five-year cycle of its UWMP update. EMID anticipates that by the 2025 UWMP update, SFPUC will provide more specific information about the AWSP, with estimated water supply contributions from such projects. Additionally, EMID expects that SFPUC will provide more specific information and a refined estimate of the Bay-Delta Plan Amendment impacts to the SFPUC supply. EMID will also have more information regarding the potential expansion of its recycled water system by the 2025 UWMP update. Further, it is anticipated that the Wholesale Customers will negotiate a revised Tier 2 allocation formula that could affect each agency's share of available supplies in drought years relative to what has been presented herein.

EMID recommends that users of its 2020 UWMP contact EMID staff for potential updates to the DRA presented in the 2020 UWMP for their planning projects.

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

2021	Total
Total Water Use	1,595
Total Supplies	1,635
Surplus/Shortfall w/o WSCP Action	40
<b>Planned WSCP Actions (use reduction and supply augmentation)</b>	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	0
Revised Surplus/(shortfall)	40
Resulting % Use Reduction from WSCP action	0%

2022	Total
Total Water Use	1,600
Total Supplies	1,646
Surplus/Shortfall w/o WSCP Action	46
<b>Planned WSCP Actions (use reduction and supply augmentation)</b>	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	0
Revised Surplus/(shortfall)	46
Resulting % Use Reduction from WSCP action	0%

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 Estero Municipal Improvement District



2023	Total
Total Water Use	1,607
Total Supplies	873
Surplus/Shortfall w/o WSCP Action	(734)
<b>Planned WSCP Actions (use reduction and supply augmentation)</b>	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	734
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	46%

2024	Total
Total Water Use	1,614
Total Supplies	873
Surplus/Shortfall w/o WSCP Action	(741)
<b>Planned WSCP Actions (use reduction and supply augmentation)</b>	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	741
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	46%

2025	Total
Total Water Use	1,615
Total Supplies	873
Surplus/Shortfall w/o WSCP Action	(742)
<b>Planned WSCP Actions (use reduction and supply augmentation)</b>	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	742
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	46%

NOTES:

(a) Volumes are in units of MG.

(b) Volumes are rounded to the nearest MG and may not sum due to rounding.



## 8 WATER SHORTAGE CONTINGENCY PLANNING

The Water Shortage Contingency Plan (WSCP) for the Estero Municipal Improvement District (EMID) is included as Appendix J. The WSCP serves as a standalone plan that will be implemented in the case of a water shortage event, such as a drought or supply interruption, and defines specific policies and actions that will be implemented at various shortage level scenarios. The primary objective of the WSCP is to ensure that EMID has in place the necessary resources and management responses needed to protect health and human safety, minimize economic disruption, and preserve environmental and community assets during water supply shortages and interruptions. Consistent with California Water Code (CWC) § 10632, the WSCP includes six levels to address shortage conditions ranging from up to 10 percent to greater than 50 percent shortage, identifies a suite of demand reduction measures for EMID to implement at each level, and identifies procedures for EMID to annually assess whether or not a water shortage is likely to occur in the coming year, among other things. A summary of the key elements of the WSCP including water shortage levels and demand reduction actions is shown in Table 8-1, Table 8-2, and Table 8-3. Additional details are provided in Appendix J.

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

Shortage Level	Percent Shortage Range <sup>1</sup> <i>Numerical value as a percent</i>	Shortage Response Actions
0	0% (Normal)	A Level 0 Water Supply Shortage – Condition exists when EMID notifies its water users that no supply reductions are anticipated in this year. EMID proceeds with planned water efficiency best practices to support consumer demand reduction in line with state mandated requirements and local EMID goals for water supply reliability. Permanent water waste prohibitions are in place as stipulated in EMID’s Water Shortage Response Code Chapter 8.60 Water Conservation and Rationing (Appendix A).
1	Up to 10%	A Level 1 Water Supply Shortage – Condition exists when EMID notifies its water users that due to drought or other supply reductions, a consumer demand reduction of up to 10% is necessary to make more efficient use of water and respond to existing water conditions. Upon the declaration of a Water Aware condition, EMID shall implement the mandatory Level 1 conservation measures identified in this WSCP. The type of event that may prompt EMID to declare a Level 1 Water Supply Shortage may include, among other factors, a finding that its wholesale water provider calls for extraordinary water conservation.



Shortage Level	Percent Shortage Range <sup>1</sup> <i>Numerical value as a percent</i>	Shortage Response Actions
2	Up to 20%	A Level 2 Water Supply Shortage – Condition exists when EMID notifies its water users that due to drought or other supply reductions, a consumer demand reduction of up to 20% is necessary to make more efficient use of water and respond to existing water conditions. Upon declaration of a Level 2 Water Supply Shortage condition, EMID shall implement the mandatory Level 2 conservation measures identified in this WSCP.
3	Up to 30%	A Level 3 Water Supply Shortage – Condition exists when EMID declares a water shortage emergency condition pursuant to California Water Code Section 350 and notifies its residents and businesses that up to 30% consumer demand reduction is required to ensure sufficient supplies for human consumption, sanitation and fire protection. EMID must declare a Water Supply Shortage Emergency in the manner and on the grounds provided in Water Code Section 350.
4	Up to 40%	A Level 4 Water Supply Shortage – Condition exists when EMID declares a water shortage emergency condition pursuant to Water Code Section 350 and notifies its residents and businesses that up to 40% consumer demand reduction is required to ensure sufficient supplies for human consumption, sanitation and fire protection. EMID must declare a Water Supply Shortage Emergency in the manner and on the grounds provided in Water Code Section 350.
5	Up to 50%	A Level 5 Water Supply Shortage – Condition exists when EMID declares a water shortage emergency condition pursuant to Water Code Section 350 and notifies its residents and businesses that up to 50% or more consumer demand reduction is required to ensure sufficient supplies for human consumption, sanitation and fire protection. EMID must declare a Water Supply Shortage Emergency in the manner and on the grounds provided in Water Code Section 350.

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Shortage Level	Percent Shortage Range <sup>1</sup> <i>Numerical value as a percent</i>	Shortage Response Actions
6	>50%	A Level 6 Water Supply Shortage – Condition exists when EMID declares a water shortage emergency condition pursuant to Water Code Section 350 and notifies its residents and businesses that greater than 50% or more consumer demand reduction is required to ensure sufficient supplies for human consumption, sanitation and fire protection. EMID must declare a Water Supply Shortage Emergency in the manner and on the grounds provided in Water Code Section 350.





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

Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap?	Additional Explanation or Reference <i>(optional)</i>	Penalty, Charge, or Other Enforcement?
0	Other water feature or swimming pool restriction	Statewide Prohibition is Required	All decorative water features shall use only re-circulated or recycled water.	Yes
0	Other	Statewide Prohibition is Required	Washing or hosing down vehicles is prohibited except by use of a handheld container, hose with an automatic shut off device, or at a commercial car wash.	Yes
0	Other – Prohibit use of potable water for washing hard surfaces	Statewide Prohibition is Required	Washing driveway, sidewalk, walkways, buildings, hard or paved surfaces is prohibited except to alleviate safety or sanitary hazards using a hand-held container, hose with an automatic shut off device, or a low-volume high pressure cleaning machine that recycles used water.	Yes
0	Landscape – Restrict or prohibit runoff from landscape irrigation	Statewide Prohibition is Required	Watering vegetated areas in a manner that causes excessive water flow or runoff onto an adjoining sidewalk, walkway, driveway, street, alley, gutter, parking lot, non-irrigated area, ditch, or other hard surface is prohibited.	Yes
0	Landscape – Other landscape restriction or prohibition	Statewide Prohibition is Required	Irrigating ornamental turf on public street medians is prohibited.	Yes

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Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap?	Additional Explanation or Reference <i>(optional)</i>	Penalty, Charge, or Other Enforcement?
0	Landscape – Other landscape restriction or prohibition	Statewide Prohibition is Required	No landscape watering shall occur within 48 hours after measurable precipitation.	Yes
0	Other – Customers must repair leaks, breaks, and malfunctions in a timely manner	On-going Long Term- Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	Fix leaks or faulty sprinklers promptly/within two weeks.	Yes
0	CII – Restaurants may only serve water upon request	On-going Long Term- Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	Restaurants may only serve water upon request.	Yes
0	CII – Lodging establishment must offer opt-out of linen service	On-going Long Term- Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan	Lodging establishment must offer opt-out of linen service.	Yes

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Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap?	Additional Explanation or Reference (optional)	Penalty, Charge, or Other Enforcement?
		quantifiable savings.		
0	CII – Other CII restriction or prohibition	On-going Long Term- Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	No single pass cooling systems may be installed in new or remodeled buildings.	Yes
0	Other – Require automatic shutoff hoses	On-going Long Term- Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	Use a shutoff nozzle on hoses.	Yes
0	Other	On-going Long Term- Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	Unauthorized use of hydrants is prohibited. Authorization for use must be obtained from water supplier.	Yes

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Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap?	Additional Explanation or Reference (optional)	Penalty, Charge, or Other Enforcement?
1	Expand Public Information Campaign	0-1%	Community outreach and messaging (expand public information campaign).	No
1	Expand Public Information Campaign	0-1%	Encourage customers to wash only full loads of dishes or clothes.	No
1	Expand Public Information Campaign	0-1%	Encourage customers to use pool covers to minimize evaporation.	No
1	Other – Customers must repair leaks, breaks, and malfunctions in a timely manner	0-1%	Fix leaks or faulty sprinklers promptly/within 5 days.	Yes
1	Other – Prohibit vehicle washing except at facilities using recycled or recirculating water	0-1%	All new commercial car wash and laundry facilities must re-circulate the wash water or obtain a waiver from EMID.	Yes
1	CII – Commercial kitchens required to use pre-rinse spray valves	0-1%	Food preparation establishments must use water efficient kitchen spray valves.	Yes
1	CII – Other CII restriction or prohibition	0-1%	Commercial, industrial, institutional equipment must be properly maintained and in full working order.	Yes
1	Expand Public Information Campaign	0-1%	Encourage customers to use AMI Portal to monitor usage.	No
1	Provide Rebates for Turf Replacement	0-1%	Provide rebates for turf replacement.	No
1	Landscape – Other landscape restriction or prohibition	0-5%	Irrigation with potable water outside of newly constructed homes and buildings not delivered by drip or microspray is prohibited.	Yes

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Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap?	Additional Explanation or Reference <i>(optional)</i>	Penalty, Charge, or Other Enforcement?
1	Water Features – Restrict water use for decorative water features, such as fountains	0-1%	Recreational water features shall be covered when not in use.	Yes
1	Provide Rebates for Landscape Irrigation Efficiency	0-1%	Provide Landscape Irrigation Efficiency Rebate.	No
1	Landscape – Limit landscape irrigation to specific times	0-5%	Watering or irrigation of vegetated areas is prohibited between 9 am and 6 pm except by use of a handheld device, hose equipped with an automatic shutoff device, or for adjusting or repairing an irrigation system for short periods of time.	Yes
1	Other	5-10%	EMID may implement other prohibited water uses as determined by EMID, after notice to customers.	Yes
2	Other – Customers must repair leaks, breaks, and malfunctions in a timely manner	0-1%	Fix leaks or faulty sprinklers within 4 days.	Yes
2	Landscape – Limit landscape irrigation to specific days	5-10%	Irrigation shall be limited to 3 days/week turf watering when using potable water. Plant containers, trees, shrubs, vegetable gardens may be watered additional days using only drip irrigation or hand watering.	Yes
2	Landscape – Prohibit certain types of landscape irrigation	0-1%	All non-essential water use for nurseries should cease.	Yes
2	Landscape – Prohibit certain types of landscape irrigation	0-1%	All non-essential water use for public entities should cease.	Yes

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Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap?	Additional Explanation or Reference <i>(optional)</i>	Penalty, Charge, or Other Enforcement?
2	Landscape – Prohibit certain types of landscape irrigation	0-1%	All non-essential water use for commercial and industrial use should cease.	Yes
2	Decrease Line Flushing	0-1%	Decrease line flushing.	Yes
2	Pools and Spas – Require covers for pools and spas	0-1%	Pools and spas – require covers for pools and spas.	Yes
2	Other	5-10%	EMID may implement other prohibited water uses as determined by EMID, after notice to customers.	Yes
3	Landscape – Limit landscape irrigation to specific days	10-25%	Irrigation shall be limited to 2 days/week turf watering when using potable water. Plant containers, trees, shrubs, vegetable gardens may be watered additional days using only drip irrigation or hand watering.	Yes
3	Water Features – Restrict water use for decorative water features, such as fountains	0-1%	Filling or refilling ornamental lakes and ponds is prohibited.	Yes
3	Other – Customers must repair leaks, breaks, and malfunctions in a timely manner	0-1%	Fix leaks or faulty sprinklers within 3 days.	Yes
3	Other water feature or swimming pool restriction	0-1%	Decorative water features that use potable water must be drained and kept dry.	Yes
3	Pools – Allow filling of swimming pools only when an appropriate cover is in place	0-1%	Allow filling of swimming pools only when an appropriate cover is in place.	Yes

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Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap?	Additional Explanation or Reference <i>(optional)</i>	Penalty, Charge, or Other Enforcement?
3	Other	5-10%	EMID may implement other prohibited water uses as determined by EMID, after notice to customers.	Yes
4	Other – Customers must repair leaks, breaks, and malfunctions in a timely manner	0-1%	Fix leaks or faulty sprinklers within 2 days.	Yes
4	Other water feature or swimming pool restriction	0-1%	Existing pools shall not be emptied and refilled using potable water unless required for public health and safety purposes.	Yes
4	Other – Prohibit use of potable water for construction and dust control	0-1%	Require a construction water use plan be submitted to the water supplier that addresses how impacts to existing water users will be mitigated (such as dust control).	Yes
4	Other – Prohibit vehicle washing except at facilities using recycled or recirculating water	0-1%	Car washing is only permitted using a commercial carwash that recycles or recirculates water or by high pressure/low volume wash systems.	Yes
4	Landscape – Prohibit all landscape irrigation	0-1%	Previous waivers for watering during an establishment period will be revoked.	Yes
4	Landscape – Prohibit certain types of landscape irrigation	0-1%	Plant containers, trees, shrubs, and vegetable gardens shall be watered only by drip irrigation or hand watering.	Yes



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Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap?	Additional Explanation or Reference <i>(optional)</i>	Penalty, Charge, or Other Enforcement?
4	Other	5-10%	EMID may reduce water allocations in all categories to meet the available water supply.	Yes
4	Other	5-10%	EMID may implement other prohibited water uses as determined by EMID, after notice to customers.	Yes
5	Other – Customers must repair leaks, breaks, and malfunctions in a timely manner	0-1%	Fix leaks or faulty sprinklers within 1 day.	Yes
5	Landscape – Prohibit certain types of landscape irrigation	0-1%	Watering of all golf course areas is prohibited.	Yes
5	Landscape – Prohibit certain types of landscape irrigation	0-1%	Watering of parks, school grounds, and recreation fields is prohibited, except for rare plant or animal species.	Yes
5	Landscape – Limit landscape irrigation to specific days	5-20%	Irrigation shall be limited to 1 day per week turf watering when using potable water. Plant containers, trees, shrubs, and vegetable gardens may be watered additional days using only drip irrigation or hand watering.	Yes
5	Other	0-1%	Water for agricultural or commercial nursery purposes, except for livestock watering, is prohibited.	Yes
5	Other	5-10%	EMID may implement other prohibited water uses as determined by EMID, after notice to customers.	Yes

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Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap?	Additional Explanation or Reference <i>(optional)</i>	Penalty, Charge, or Other Enforcement?
6	Landscape – Prohibit all landscape irrigation	0-5%	EMID may shut off all non-essential water services. All irrigation is prohibited.	Yes
6	Landscape – Other landscape restriction or prohibition	0-1%	No new landscape installations or renovations will be permitted.	Yes
6	Landscape – Other landscape restriction or prohibition	0-1%	With the exception of landscapes watered with non-potable water, limit the installation of new landscaping to drought tolerant trees, shrubs, and groundcover. Prohibit installation of new turf or hydroseed. Customers may apply for a waiver to irrigate during an establishment period for the installation of new turf or hydroseed.	Yes
6	CII – Other CII restriction or prohibition	0-15%	Water for commercial, manufacturing, or processing purposes shall be reduced in volume by up to 50% or exceeded if necessary for public health and safety purposes.	Yes
6	Other water feature or swimming pool restriction	0-1%	No new permits for pools will be issued.	Yes
6	Other	0-70%	Water use for public health and safety purposes only. Customer rationing may be implemented.	Yes



Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap?	Additional Explanation or Reference <i>(optional)</i>	Penalty, Charge, or Other Enforcement?
6	Other	0-1%	The EMID may discontinue service to consumers who willfully violate any water conservation provisions.	Yes
6	Other	0-1%	Water for air conditioning is prohibited.	Yes
NOTES:				

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

Shortage Level	Supply Augmentation Methods and Other Actions by Water Supplier	How much is this going to reduce the shortage gap?	Additional Explanation or Reference <i>(optional)</i>
1	Expand Public Information Campaign	Potential yield 0-5%	EMID can increase public education to promote water conservation rebates.
1	Other Actions (describe)	Potential yield 10-15%	EMID can increase enforcement of conservation penalties for not complying with actions listed in the WSCP.
2	Expand Public Information Campaign	Potential yield 0-5%	EMID can increase public education to promote water conservation rebates.
2	Other Actions (describe)	Potential yield 10-15%	EMID can increase enforcement of conservation penalties for not complying with actions listed in the WSCP.
2	Other Actions (describe)	Potential yield 10-15%	EMID can take actions such as decrease line flushing, increase leak detection on water service lines, and/or increase water waste patrols.
3	Expand Public Information Campaign	Potential yield 0-5%	EMID can increase public education to promote water conservation rebates.

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Shortage Level	Supply Augmentation Methods and Other Actions by Water Supplier	How much is this going to reduce the shortage gap?	Additional Explanation or Reference <i>(optional)</i>
3	Other Actions (describe)	Potential yield 10-15%	EMID can increase enforcement of conservation penalties for not complying with actions listed in the WSCP.
3	Other Actions (describe)	Potential yield 10-15%	EMID can take actions such as decrease line flushing, increase leak detection on water service lines, and/or increase water waste patrols.
4	Expand Public Information Campaign	Potential yield 0-5%	EMID can increase public education to promote water conservation rebates.
4	Other Actions (describe)	Potential yield 10-15%	EMID can increase enforcement of conservation penalties for not complying with actions listed in the WSCP.
4	Other Actions (describe)	Potential yield 10-15%	EMID can take actions such as decrease line flushing, increase leak detection on water service lines, and/or increase water waste patrols.
5	Expand Public Information Campaign	Potential yield 0-5%	EMID can increase public education to promote water conservation rebates.
5	Other Actions (describe)	Potential yield 10-15%	EMID can increase enforcement of conservation penalties for not complying with actions listed in the WSCP.
5	Other Actions (describe)	Potential yield 10-15%	EMID can take actions such as decrease line flushing, increase leak detection on water service lines, and/or increase water waste patrols.

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Shortage Level	Supply Augmentation Methods and Other Actions by Water Supplier	How much is this going to reduce the shortage gap?	Additional Explanation or Reference <i>(optional)</i>
5	Other Purchases	TBD (see note below)	There are two interconnections between EMID's system and adjacent distribution systems: one intertie with California Water Service Company's (Cal Water's) Mid-Peninsula District system and one intertie with the Mid-Peninsula Water District (MPWD) system. EMID currently has emergency transfer agreements with both Cal Water and MPWD.
6	Expand Public Information Campaign	Potential yield 0-5%	EMID can increase public education to promote water conservation rebates.
6	Other Actions (describe)	Potential yield 10-15%	EMID can increase enforcement of conservation penalties for not complying with actions listed in the WSCP.
6	Other Actions (describe)	Potential yield 10-15%	EMID can take actions such as decrease line flushing, increase leak detection on water service lines, and/or increase water waste patrols.
<p>NOTES: (a) Volume listed is the theoretical amount that could be obtained. Actual volumes will depend on the agency's ability to implement the programs and deliver water.</p>			



## 9 DEMAND MANAGEMENT MEASURES

### CWC § 10631 (e)

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

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

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

*(i) Water waste prevention ordinances.*

*(ii) Metering.*

*(iii) Conservation pricing.*

*(iv) Public education and outreach.*

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

*(vi) Water conservation program coordination and staffing support.*

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

This section provides an overview of Estero Municipal Improvement District's (EMID's) current and planned demand management measures (DMMs), which include specific types and groupings of water conservation measures typically implemented by water suppliers; the DMMs are closely aligned with the California Urban Water Conservation Council (CUWCC) Best Management Practices. EMID administers several of its DMMs through participation in Bay Area Water Supply and Conservation Agency's (BAWSCA's) Regional Water Conservation Program. The following sections describe BAWSCA's Regional Water Conservation Program and the nature and extent of the specific DMMs implemented by EMID.

### 9.1 Regional Water Conservation

EMID participates in BAWSCA's Regional Water Conservation Program, as a part of its overall 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

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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 automated 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.

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, which built upon the executive orders implementing new urban water use objectives for urban retail water suppliers.

Although the BAWSCA Regional Water Conservation Program was designed and available at a regional level, most of the implementation of the individual programs within the EMID service area is done by EMID staff.

The Core Programs provided as a part of the Regional Water Conservation Program include conservation measures that benefit from regional implementation and provide overall regional benefit and are funded through the annual BAWSCA budget. The Subscription Programs are conservation measures that individual agencies must elect to participate in and whose benefits are primarily realized within individual water agency service areas. As such, the Subscription Programs are funded by individual member agencies, based on their participation level. EMID is actively participating in the following Subscription Programs:

- Water Conservation School Education Program
- EarthCapades School Assembly Program
- Large Landscape Audits
- Lawn Be Gone! Turf Replacement Rebates

EMID's implementation, and participation in, the Core and Subscription Programs are described in detail below, as they relate to EMID's implementation of the DMMs.





## 9.2 Agency Water Conservation

### **CWC § 10631 (e)**

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

*(1) (A) For an urban retail water supplier, as defined in Section 10608.12, a narrative description that addresses the nature and extent of each water demand management measure implemented over the past five years.*

EMID implements all of the DMMs as described in the following sections.

### 9.2.1 **DMM 1 – Water Waste Prevention Ordinances**

The Estero Municipal Improvement District Code (District Code) prohibits water waste by customers. Specifically, Chapter 8.12 states that “No customer shall knowingly permit leaks or waste of water. Where water is wastefully or negligently used on a customer’s premises, seriously affecting the general service, the district may discontinue the service if such conditions are not corrected within the time specified in the written notice. (Ord. 126 § 1 (part), 2009).”

As discussed in EMID’s Water Shortage Contingency Plan (WSCP), EMID has the authority within Chapter 8.60 of the District Code to require water rationing and conservation and to enforce penalties. In addition, on 9 May 2016, Governor Brown issued Executive Order B-37-16 that directed the State Water Resource Control Board (SWRCB) to make permanent the mandatory restrictions that were imposed previously as part of the 2014 and 2015 emergency drought regulations. EMID adopted Chapter 8.59 in 2018 in response to Governor Brown’s Executive Order B-40-17 issued on April 7, 2017. Prohibitions to prevent water waste are included as Stage 0, or non-drought, of EMID’s WSCP, and remain in place at all times, irrespective of water supply conditions. Stage 0 of EMID’s WSCP includes the following water waste prohibitions:

- All decorative water features shall use only re-circulated or recycled water.
- Washing or hosing down vehicles is prohibited except by use of a handheld container, hose with an automatic shut off device, or at a commercial car wash.
- Washing driveway, sidewalk, walkways, buildings, hard or paved surfaces is prohibited except to alleviate safety or sanitary hazards using a hand-held container, hose with an automatic shut off device, or a low-volume high pressure cleaning machine that recycles used water.
- Watering vegetated areas in a manner that causes excessive water flow or runoff onto an adjoining sidewalk, walkway, driveway, street, alley, gutter, parking lot, non-irrigated area, ditch, or other hard surface is prohibited.
- Irrigating ornamental turf on public street medians is prohibited.
- No landscape watering shall occur within 48 hours after measurable precipitation.
- Fix leaks or faulty sprinklers promptly/within two weeks.
- Restaurants may only serve water upon request.
- Lodging establishment must offer opt-out of linen service.



- No single pass cooling systems may be installed in new or remodeled buildings.
- Use a shutoff nozzle on hoses.
- Unauthorized use of hydrants is prohibited. Authorization for use must be obtained from water supplier.

In subsequent stages of the WSCP, the water waste prohibitions become increasingly restrictive to respond to water shortages.

### **9.2.2 DMM 2 – Metering**

#### **CWC § 526 (a)**

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

*(1) On or before January 1, 2013, install water meters on all service connections to residential and nonagricultural commercial buildings constructed prior to January 1, 1992, located within its service area.*

*(2) On and after March 1, 2013, or according to the terms of the Central Valley Project water contract in operation, charge customers for water based on the actual volume of deliveries, as measured by a water meter.*

#### **CWC § 527 (a)**

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

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

EMID has installed water meters on each water service connection, with the exception of fire services. Over a period from 2008 through 2015, all of the meters within the EMID service area were upgraded to Advanced Metering Infrastructure (AMI) meters. The implementation of AMI meters allows EMID to automate meter reading and provide real-time water use data to EMID staff and customers that can be used to aggressively target leaks and atypically high water use during normal years and periods of water shortage. Customers can also access this real-time water data through EMID's online water management tool. For billing purposes, customer meters are read on a bimonthly basis.

Some non-residential and multi-family customers also have separate irrigation meters to monitor water use for landscape irrigation separately from indoor uses. The EMID's updated Water Efficient Landscaping Ordinance (Chapter 8.80 of the EMID Code, adopted 19 January 2016) requires non-residential projects to install a separate irrigation meter if landscaped areas meet specific size thresholds.



### **9.2.3 DMM 3 – Conservation Pricing**

EMID’s current water rate structure for all customers includes a monthly fixed meter charge and a tiered water consumption charge based on water usage.<sup>23</sup> The water consumption charge is tiered such that customers are billed at a lower rate for efficient water use and a higher rate for high water use. The rate structure for the water consumption charge includes two tiers of bi-monthly water use for single-family residential customers: (1) 0 to 20 hundred cubic feet (ccf), and (2) greater than 20 ccf. Multi-family residential customers are also charged for bi-monthly water use on a two-tiered basis: (1) 0 to 10 ccf and (2) over 10 ccf. Customers with dedicated irrigation accounts are charged relative to their annual water budget, and commercial customers are charged a single rate per ccf used. This conservation pricing structure is always in place and is not dependent on water shortage.

### **9.2.4 DMM 4 – Public Education and Outreach**

EMID implements several public education and outreach initiatives with support from the BAWSCA Regional Water Conservation Program. Specific initiatives include:

- **EarthCapades School Assembly Program:** EMID facilitates the school assemblies performed by EarthCapades at schools within its service area. The EarthCapades performances combine age-appropriate state science standards with circus skills, juggling, music, storytelling, comedy, and audience participation to teach environmental awareness, water science, and conservation. EarthCapades assemblies are designed to include local water source and watershed education and specific information pertaining to the EMID service area. EMID and BAWSCA provide specific information to EarthCapades regarding the San Francisco Public Utilities Commission (SFPUC) Regional Water System (RWS) and other topics (e.g., recycled water). EarthCapades integrates this information into the specific scripts used for assemblies conducted within the EMID service area. EMID facilitated and paid for 50 EarthCapades assemblies between 2016 and 2020.
- **Water Conservation School Education Program:** The water conservation school education program, formerly known as the Water-Wise school education program, is provided by Resource Action Programs (a contractor to BAWSCA) to 5th grade students within the EMID service area. Resource Action Programs works directly with teachers and schools to provide them with turn-key, in-classroom water conservation curriculum and indoor and outdoor water conservation kits (i.e., the Water-Wise Kits). The Water-Wise curriculum has been designed to be easily implemented by teachers, and easily understood and taken back into the home by the students. The Water-Wise Kits include water saving devices that can be installed at the student’s homes (e.g., low-flow showerheads and faucet aerators) and a water audit that the students can perform with their parents.

The students are provided with the motivation, information, and tools they need to perform an in-home water audit. The information and material provided to the teachers and students also includes methods that can be used to quantify the water savings as a result of installing the

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<sup>23</sup> Current EMID water rate structure located online at [https://www.fostercity.org/sites/default/files/fileattachments/public\\_works/page/15515/2020\\_water\\_wastewater\\_rate\\_218\\_notice\\_to\\_printer\\_revised.pdf](https://www.fostercity.org/sites/default/files/fileattachments/public_works/page/15515/2020_water_wastewater_rate_218_notice_to_printer_revised.pdf), accessed 14 April 2021.



equipment contained in the kit and performing the recommended, water-conserving actions. After the student performs the audit and installs the water and energy saving devices, affidavits signed by the parents are returned to the school, collected by the teacher, and forwarded to Resource Action Programs for documentation of measure implementation and the estimated water savings. Resource Action Programs then prepares a final report for distribution to EMID. EMID has participated in the Water-Wise School Education Program every year between 2016 and 2020 and distributed a total of 1,089 kits.

- Online water management tool: EMID offers online water management and billing tools to its customers. By visiting the online tool websites, EMID customers can pay their bills electronically, view water use reports, and detect water leaks.
- Hosting information booths at fairs and public events: EMID staff set up information booths at large public events in the EMID service area, such as Earth Day, cityFEST, Summer Days, and July 4th celebration, to distribute information regarding EMID's water conservation programs including rebate programs, landscape analysis programs, and fixture giveaways.
- Informative website, online tools, or social media: EMID maintains pages on its website ([www.fostercity.org](http://www.fostercity.org)) that are dedicated to its water conservation program. The website provides information regarding its rebate programs, water-saving fixture giveaways, water regulations, and conservation tips and links to interactive tools. EMID also posts outreach materials on its social media accounts.
- Media campaigns and other outreach: EMID encourages water conservation and markets its rebate programs through methods including newsletters, bill inserts, ads at the EMID facilities, and press releases. Newsletters and bill inserts include a link to EMID's website where information on rebate programs can be found.

#### **9.2.5 DMM 5 – Programs to Assess and Manage Distribution System Real Loss**

As discussed in Section 4.2.1, distribution system water loss was estimated to be approximately 8 percent of total water demand between 2016 and 2020, based on available data for 2016 and 2020.

Water supply to EMID is recorded by two (2) master meters. The meters are read daily using wireless technology. Water distributed to customers is also metered, with the exception of water used from fire hydrants. Water from the hydrants is used for flushing, firefighting and training, and construction. These activities account for a portion of the "unaccounted for water".

EMID has trained staff and equipment to detect leaks in the distribution system. Staff routinely performs regular visual inspections and responds to public complaints and repairs are performed immediately when leaks are detected. EMID started a meter-replacement program in 2008 to replace all touch-read meters (over 8,200) with AMI meters; this project was completed in 2015. The new meters are more accurate and capable of reporting unusual consumption patterns instantaneously.

#### **9.2.6 DMM 6 – Water Conservation Program Coordination and Staffing Support**

EMID does not have a dedicated Water Conservation Coordinator. Responsibilities related to water conservation efforts are administered by staff members from various departments, and amount to an



approximately 0.2 full-time equivalent (FTE) staff person. Regional planning and coordination efforts are handled by BAWSCA with input from agency representatives.

Contact information for EMID's conservation program is listed below:

Phone: 650-286-8140

Email: [PublicWorks@fostercity.org](mailto:PublicWorks@fostercity.org)

EMID estimated that its total water conservation program budget for FY 2019-20 was \$200,000, including the cost for participation in the Subscription Programs through BAWSCA's Regional Water Conservation Program.

### **9.2.7 DMM 7 – Other DMMs**

Other DMMs provided by the EMID, in addition to those discussed above, include the following:

- **High Efficiency Toilet (HET) Rebates:** The EMID locally administers an HET Rebate Program for its residential and commercial customers. The EMID has been providing HET rebates since 1992, and the program is one of the Subscription Programs available to BAWSCA member agencies. As part of this program, EMID offers customers the following rebates for customers replacing a high-volume toilet (i.e., 3.5 gallons per flush (gpf), or more):
  - Up to a \$175 Rebate for replacing an existing toilet with a qualifying MaP® Premium model toilet (1.06 gallons or less per flush); or
  - Up to a \$100 Rebate per standard HET (i.e., between 1.06 gallons and 1.28 gallons per flush).

Up to three rebates are allowed per address. Between July 2015 and December 2019, EMID provided a total of 540 rebates to 336 customer accounts. The HET Rebate program ended in December 2019.

- **High-Efficiency Residential Washing Machine Rebates:** The EMID locally administers a High-Efficiency Residential Washing Machine Rebate program for its residential customers which, through joint participation with Pacific Gas & Electric (PG&E), includes a rebate of up to \$150 to customers that purchase a qualifying washing machine.<sup>24</sup> The High-Efficiency Residential Washing Machine Rebate program is one of the Subscription Programs available to BAWSCA member agencies. Between July 2015 and December 2017, EMID provided 190 washing machine rebates to its customers. The High-Efficiency Residential Washing Machine Rebate program was discontinued in December 2017.
- **Landscape Water Use Audits:** The EMID locally administers the BAWSCA Large Landscape Audits program to commercial and multi-family residential accounts, as described below. Waterfluence, BAWSCA's contractor, implements the program:
  - **Landscape Analysis Program:** The EMID currently offers a Large Landscape Analysis (a \$1,400 value) for free to multi-family and commercial accounts. An irrigation expert evaluates landscapes and provides customers with a personalized report on how they can

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<sup>24</sup> PG&E currently contributes \$50 of the total \$150 rebate. Total rebate value has varied from year to year.



improve water efficiency and save on water costs. The EMID offered landscape analyses to approximately 3 customers per year from 2016 to 2020

- Large Landscape Water Budgets: The EMID distributes water budgets to all dedicated irrigation accounts. Water rates charged to these irrigation accounts are increased if an account exceeds its annual water budget.
- Lawn Be Gone! Turf Replacement Rebates: The EMID locally administers the BAWSCA Lawn Be Gone! turf replacement rebate program for its residential and commercial customers. The EMID offers its residential customers \$2 per square foot of turf removed up to a maximum \$4,000 rebate and \$2 per square foot for large landscape properties up to a maximum of \$10,000. In order to qualify for participation in the Lawn Be Gone! Program, the new landscape must include at least 50 percent live plant coverage, with the difference completed in permeable hardscape, and all plants must be low water use plants from the BAWSCA-approved plant list. This program offers EMID's customers a financial incentive to reduce their outdoor water use and create permanent and lasting water savings. Also, because eligible landscapes must include front yards and areas visible to the public, this program has an educational and public-outreach element (i.e., demonstrating to the wider public that low water use landscaping can be an attractive alternative to lawns and encouraging conversations about responsible water use among neighbors). The EMID began participating in the program in 2011, and budgets \$50,000 per year for Lawn Be Gone! rebates. Between July of 2015 and June of 2020 approximately 59,496 square feet of turf has been replaced under this program within the EMID service area.
- Smart Irrigation Controller Rebates: The EMID administers a smart irrigation controller rebate program for its residential and irrigation customers. In order to qualify, the smart irrigation controller must have gone through the Irrigation Association's Smart Water Application Technology testing protocol or displays the WaterSense label. Controllers must meet certain requirements. The EMID offers customers the following rebates for installing a qualifying smart irrigation controller:
  - 100 percent of the cost of the controller up to a \$250 maximum rebate for any residential customer with individual responsibility for water landscaping.
  - 100 percent of the cost of the controllers up to \$50 per station with a maximum rebate of \$7,500 for irrigation customers.

Between 2016 and 2020, EMID provided a total of 68 smart irrigation controller rebates.

- Synthetic Turf Replacement Rebates: EMID administers a turf rebate replacement program that financially incentivizes replacement of turf with synthetic turf. Since 1 May 2011, EMID has offered its customers \$4 per square foot of turf removed up to a maximum \$5000 rebate for residential customers and up to \$10,000 for large landscape customers. In order to qualify for participation in this program, customers must arrange for a pre-installation on-site visit by EMID staff. From 2016 through 2020, 66,753 square feet of turf have been replaced under this program within the EMID service area.
- Pressure Regulating Sprinkler Heads & Rotating Nozzle Rebates: EMID administers a water saving sprinkler & nozzle replacement program. The maximum for residential is up to \$4 a set with a limit of 15 sets. Large landscape properties may be eligible for \$4 per set with no limit on quantity. In order to qualify for participation in this program, customers must arrange for a pre-installation





on-site visit by EMID staff. From 2016 through 2020 EMID has granted nine rebates for this program.

### **9.3 Implementation over the Past Five Years**

Table 9-1 and the associated chart summarizes the DMMs implemented by EMID and the extent of implementation (e.g., number of kits, number of rebates) for each of the programs each year between 2016 and 2020. Through implementation of the DMMs, EMID has been able to significantly reduce water demands in its service area and help its customers to achieve water and cost savings

### **9.4 Implementation to Achieve Water Use Targets**

#### **CWC § 10631 (e)**

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

*(1) (A) ... 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.*

EMID implemented all of the DMMs described in Section 9.2 to achieve its Senate Bill (SB) X7-7 water use targets. As shown in Chapter 5, EMID's water use in 2020 was 120 gallons per capital per day (GPCD), which is substantially lower than its SB X7-7 water use target of 140 GPCD.

### **9.5 Urban Water Use Objectives (Future Requirement)**

CWC § 10609 requires that urban retail water suppliers develop new water use objectives that are based on specific standards for certain water use sectors. These water use objectives will not be developed until 2023. Suppliers are encouraged in this UWMP cycle to consider how they will align their conservation management actions in order to meet these future obligations.

EMID intends to continue and expand implementation of the DMMs discussed above and will continue to participate in BAWSCA's Regional Water Conservation Program.

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 requirements.



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- Organized an Advanced Metering Infrastructure symposium to enable information exchange, including case studies, implementation strategies, and data analysis techniques.
- Initiated a regional CII audit pilot program, which BAWSCA aims to complete in 2021.<sup>25</sup>
- 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.

As described in Section 4.2.4, EMID's 2021 Decision Support System Model (DSS) Model estimates projected water demands and quantifies passive and active conservation water savings potential. As discussed in Section 4.2.4, the DSS Model projections demonstrate that per capita indoor residential potable water use within the EMID is expected to be below the indoor use standards presented in the legislation.

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<sup>25</sup> Efforts on the CII audit pilot program stalled in March 2020 due to the COVID 19 pandemic and related shelter-in-place orders.



Table 9-1 Summary of DMMs and Implementation over the Past Five Years (2015-2020)

DMM Category	Program or Activity	Target Sector	Nature of Implementation	Extent of Implementation
1	Water Waste Prevention Ordinances	SF, MF, CII and IRR	Chapter 8.12 of the EMID code states that “No customer shall knowingly permit leaks or waste of water. Where water is wastefully or negligently used on a customer’s premises, seriously affecting the general service, the district may discontinue the service if such conditions are not corrected within the time specified in the written notice. (Ord. 126 § 1 (part), 2009).”	The water waste prohibition is in place at all times.
2	Metering	SF, MF, CII and IRR	All water service connections are metered, with the exception of fire services. Many non-residential and multi-family customers have sub-meters to monitor water use for landscape irrigation separately from indoor uses. All EMID meters were upgraded to an Advanced Metering Infrastructure (AMI) system over the period of 2008 through 2015	All accounts are metered and read on a bimonthly basis.
3	Conservation Pricing	SF, MF, CII and IRR	The water consumption charge is tiered such that customers are billed at a lower rate for efficient water use and a higher rate for high water use. Effective 1 July 2015, the rate structure for the water consumption charge includes two tiers of bi-monthly water use.	Single family residential: (1) 0 to 20 hundred cubic feet (ccf), and (2) greater than 20 ccf. Multi-family residential: (1) 0 to 10 ccf, and (2) over 10 ccf. Irrigation accounts are charged relative to their annual water budget Commercial customers are charged a single rate per ccf used.
4	School Education Program: Earth Capades	SF and MF	School assemblies that teach water science and conservation to students, including local water source and watershed education and specific information pertaining to the EMID service area. The EMID participates through the BAWSCA Regional Water Conservation Program.	FY 2015-2016: 4 schools, 10 assemblies FY 2016-2017: 4 schools, 8 assemblies FY 2017-2018: 4 schools, 12 assemblies FY 2018-2019: 4 schools, 9 assemblies FY 2019-2020: 4 schools, 11 assemblies
4	Water-Wise School Education Kits and Curriculum	SF and MF	Fifth grade teachers are provided with a water conservation curriculum. Kits are distributed to 5th grade students that enable them to install water saving devices and perform a water audit in their home. EMID participates through the BAWSCA Regional Water Conservation Program.	FY 2015-16: 4 schools, 239 kits FY 2016-17: 4 schools, 266 kits FY 2017-18: 4 schools, 252 kits FY 2018-19: 4 schools, 220 kits FY 2019-20: 4 schools, 112 kits
4	Online Water Management Tool	SF, MF, CII and IRR	EMID offers an online water management and billing tool to its customers. By visiting the online tool website, EMID customers can pay their bills electronically, view water use reports, and detect water leaks.	Ongoing implementation from FY 2016 through 2020.
4	Information Booths at Public Events	SF, MF, CII and IRR	At public events, EMID distributes information and materials to participants regarding its water conservation programs.	Ongoing implementation from FY 2016 through 2020
4	Other Outreach	SF, MF, CII, and IRR	The EMID maintains pages on the City of Foster City’s website ( <a href="http://www.fostercity.org">http://www.fostercity.org</a> ) that are dedicated to its water conservation programs.	Ongoing implementation from FY 2016 through 2020

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DMM Category	Program or Activity	Target Sector	Nature of Implementation	Extent of Implementation
			The website provides information regarding EMID's rebate programs, water regulations, and conservation tips and links to interactive tools such as Water-Wise Gardening in the Bay Area. The EMID encourages water conservation and markets its rebate programs through methods including newsletters, bill inserts, and ads at the EMID facilities.	
5	Programs to Assess and Manage Distribution System Real Losses	Non-Revenue	EMID has an active program to manage loss, which includes staff trained to perform regular visual inspections and responds to public complaints. Repairs are performed immediately when leaks are detected (EKI, 2016).	Ongoing implementation from FY 2016- 2020
6	Conservation Program Coordination and Staff	SF, MF, CII and IRR	EMID employs coordination staff and funds the water conservation program.	The water conservation program is coordinated and administered by various EMID staff equating to 0.2 FTE staff dedicating time to water conservation program activities.
7	High Efficiency (HE) Toilet Rebate	SF, MF, and CII	Up to \$175 rebate for qualifying toilets less than 1.06 gpf; up to \$100 rebate per HET (between 1.06 and 1.28 gpf). Up to three rebates are allowed per address. The EMID participates through the BAWSCA Regional Water Conservation Program. The program was discontinued in December 2019.	FY 2015-16: 128 rebates to 212 accounts FY 2016-17: 66 rebates to 106 accounts FY 2017-18: 55 rebates to 87 accounts FY 2018-18: 56 rebates to 85 accounts FY 2019-20: 31 rebates to 50 accounts
7	High-Efficiency Residential Washing Machine Rebate Program	SF and MF	Through a partnership with PG&E, up to a \$150 rebate is offered to residential customers, for qualifying high-efficiency washing machines. The EMID participates through the BAWSCA Regional Water Conservation Program. This program was discontinued in December 2017.	FY 2015-16: 90 rebates FY 2016-17: 50 rebates FY 2017-18: 50 rebates FY 2018-19: discontinued FY 2019-20: discontinued
7	Landscape Analysis Program	MF and CII	Free landscape analyses (value of \$1,400) are offered to commercial and multi-family residential accounts and provide customers with reports on how to improve landscape water efficiency. The EMID participates through the BAWSCA Regional Water Conservation Program.	FY 2015-16: 4 participants FY 2016-17: 4 participants FY 2017-18: 0 participants FY 2018-19: 3 participants FY 2019-20: 2 participants
7	Large Landscape Water Budgets	IRR	EMID distributes water budgets to all dedicated irrigation accounts. Water rates charged to these irrigation accounts are increased if an account exceeds its annual water budget.	FY 2015-16: 217 participants FY 2016-17: 222 participants FY 2017-18: 222 participants FY 2018-19: 223 participants FY 2019-20: 223 participants
7	Lawn Be Gone! Turf Replacement Rebates	SF, MF, and CII	Customers are offered \$4 per square foot of turf removed and replaced with water-efficient landscaping, up to a \$5,000 rebate. The new landscape must include at least 80 percent live plant coverage, permeable hardscape, and all plants must be	FY 2015-16: 16 rebates FY 2016-17: 25 rebates FY 2017-18: 1 rebate FY 2018-19: 2 rebates

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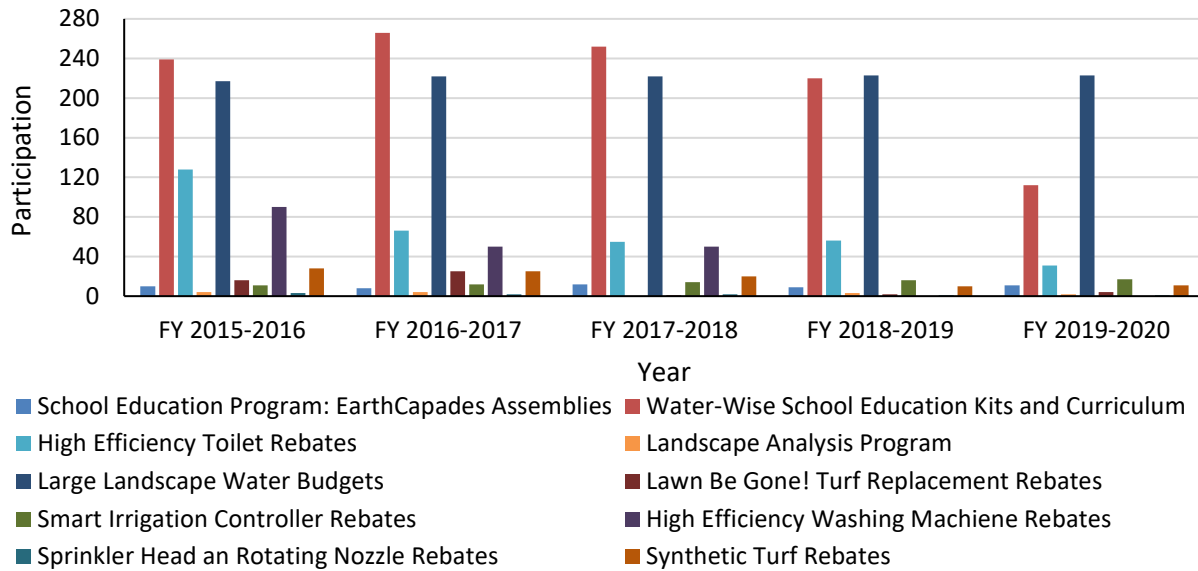


DMM Category	Program or Activity	Target Sector	Nature of Implementation	Extent of Implementation
			low water use plants from the BAWSCA-approved plant list. The EMID participates through the BAWSCA Regional Water Conservation Program.	FY 2019-20: 4 rebates
7	Synthetic Turf Replacement Rebates	SF, MF, CII	EMID administers a turf rebate replacement program that financially incentivizes replacement of turf with synthetic turf. Since 1 May 2011, EMID has offered its customers \$4 per square foot of turf removed up to a maximum \$5,000 rebate for residential customers and up to \$10,000 for large landscape customers. In order to qualify for participation in this program, customers must arrange for a pre-installation on-site visit by EMID staff.	FY 2015-16: 28 rebates FY 2016-17: 25 rebates FY 2017-18: 20 rebates FY 2018-19: 10 rebates FY 2019-20: 11 rebates
7	Smart Irrigation Controller Rebates	SF, MF, IRR	EMID administers a smart irrigation controller rebate program for its residential and irrigation customers. In order to qualify, the smart irrigation controller must have gone through the Irrigation Association's Smart Water Application Technology testing protocol or displays the WaterSense label. Controllers must meet certain requirements.	FY 2015-16: 11 rebates FY 2016-17: 22 rebates FY 2017-18: 14 rebates FY 2018-19: 16 rebates FY 2019-20: 15 rebates
7	Pressure Regulating Sprinkler Heads & Rotating Nozzle Rebates	SF, MF, IRR	EMID administers a water saving sprinkler & nozzle replacement program. The maximum for residential is up to \$4 a set with a limit of 15 sets. Large landscape properties may be eligible for \$4 per set with no limit on quantity. In order to qualify for participation in this program, customers must arrange for a pre-installation on-site visit by EMID staff. From 2016 through 2020 EMID has granted 9 rebates for this program.	FY 2015-16: 3 rebates FY 2016-17: 2 rebates FY 2017-18: 2 rebates FY 2018-19: 1 rebate FY 2019-20: 1 rebate

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**Chart 9-1 DMM Participation (2015-2020)**





## 10 PLAN ADOPTION AND SUBMITTAL

Preparation of the Urban Water Management Plan (UWMP) and the Water Shortage Contingency Plan (WSCP) began in January 2021 for completion in July 2021, with notifications and interactions between stakeholders as discussed further below.

### 10.1 Notification of UWMP Preparation

**CWC § 10621 (b)**

*Every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days before the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. The urban water supplier may consult with, and obtain comments from, any city or county that receives notice pursuant to this subdivision.*

On 21 January 2021 and 26 January 2021, the Estero Municipal Improvement District (EMID or the District) sent a letter to 51 recipients from 28 entities, including the San Francisco Public Utilities Commission (SFPUC), Bay Area Water Supply and Conservation Agency (BAWSCA), each BAWSCA member agency, San Mateo County, and other local agencies informing them that EMID was in the process of updating its UWMP and WSCP and soliciting their input in the update process. A list of the entities contacted is provided in Table 10-1 and Appendix B. The letter was sent more than 60 days before the public hearing as required by code. A sample outreach letter is included in Appendix B.

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

City Name	60 Day Notice	Notice of Public Hearing
City of San Mateo	X	X
County Name	60 Day Notice	Notice of Public Hearing
San Mateo County	X	X
Other Agency Name	60 Day Notice	Notice of Public Hearing
Note (a)	X	X
NOTES: (a) See Appendix B for the full list of cities and agencies that EMID provided notification to.		



## 10.2 Notification of Public Hearing

### **CWC § 10642**

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

### 10.2.1 Notice to Cities and Counties

On 22 June 2021, EMID sent notification to each of the above-mentioned entities informing them of the locations the Public Review Draft 2020 UWMP and the updated WSCP would be available for review and welcoming their input and comments on the document. The Public Review Draft 2020 UWMP and the WSCP was available for public review at the Foster City (City) Hall and on the City's website: <https://www.fostercity.org/publicworks/page/water>. The letter also informed the agencies that the UWMP and WSCP public hearing would be occurring at City Hall on 19 July 2021. A sample copy of the notification letters is included in Appendix B.

### 10.2.2 Notice to the Public

EMID issued public notifications soliciting public input during the preparation of 2020 UWMP and the WSCP.

On 30 June 2021 and 7 July 2021, EMID published a notice in the *Foster City Islander* Daily News informing the public that the 2020 UWMP and the WSCP would be available for public review at Foster City Hall and on the Foster City's website, consistent with requirements of California Government Code 6066. The notice also informed the public that the 2020 UWMP and WSCP public hearing would be held at Foster City Hall on 19 July 2021. Copies of the newspaper announcements are included in Appendix C.





### 10.3 Public Hearing and Adoption

**CWC § 10608.26**

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

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

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

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

As described above, the EMID informed the public and the appropriate agencies of (1) its intent to prepare a UWMP and the associated WSCP, (2) where the UWMP and WSCP were available for public review, and (3) when the public hearing regarding the UWMP and WSCP would be held.

Pursuant to CWC § 10608.26(a), as part of the public hearing, EMID provided the audience with information on compliance with the Senate Bill (SB) X7-7, including its baseline daily per capita water use, water use targets, implementation plan, and 2020 compliance.

This UWMP was adopted by Resolution No. 3596 by the City Council during its 19 July 2021 City Council meeting. The WSCP included as Appendix J was adopted by Resolution No. 3597 during the same meeting. Copies of the resolutions are included in Appendix L and Appendix M respectively.



#### 10.4 Plan Submittal

**CWC § 10621**

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

**CWC § 10635 (c)**

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

**CWC § 10644**

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

A copy of the adopted 2020 UWMP and associated WSCP will be provided to the Department of Water Resources (DWR), the California State Library, and San Mateo County within 30 days of the adoption. An electronic copy of the adopted 2020 UWMP will be submitted to the DWR using the DWR online submittal tool. Furthermore, if the WSCP is amended, each of the steps for notification, public hearing, adoption, and submittal will also be followed for the amended document no later than 30 days after adoption. Due to SFPUC's forecast for unprecedented water supply reductions, which were finalized and shared with member agencies in April 2021, EMID determined additional time was necessary for public outreach,

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review, and comment on the 2020 UWMP beyond the 1 July 2021 deadline. Notification to DWR was sent on 28 June 2021 of the intent to submit late (see Appendix N).

### **10.5 Public Availability**

**CWC § 10645**

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

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

A copy of the adopted 2020 UWMP and associated WSCP will be available for public review in the City Hall during normal business hours and on the Foster City's website within 30 days of filing the plan with DWR.

## References

### 2020 Urban Water Management Plan Estero Municipal Improvement District



## 11 REFERENCES

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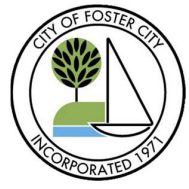


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**Appendices**  
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**APPENDIX A**  
**COMPLETED UWMP CHECKLIST**

Completed UWMP Checklist  
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Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
x	x	Chapter 1	10615	A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses, reclamation and demand management activities.	Introduction and Overview	Chapter 1
x	x	Chapter 1	10630.5	Each plan shall include a simple description of the supplier's plan including water availability, future requirements, a strategy for meeting needs, and other pertinent information. Additionally, a supplier may also choose to include a simple description at the beginning of each chapter.	Summary	Section 1.6
x	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 and Table 2-1
x	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	Section 1.3, Section 2.5.3, Section 10.1, and Table 10-1



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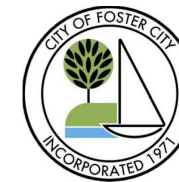
Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
x	x	Section 2.6.2	10642	Provide supporting documentation that the water supplier has encouraged active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan and contingency plan.	Plan Preparation	Section 2.5.4
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 2.5.2 and Table 2-4
	x	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	N/A
x	x	Section 3.1	10631(a)	Describe the water supplier service area.	System Description	Chapter 3
x	x	Section 3.3	10631(a)	Describe the climate of the service area of the supplier.	System Description	Section 3.4
x	x	Section 3.4	10631(a)	Provide population projections for 2025, 2030, 2035, 2040 and optionally 2045.	System Description	Section 3.3.1 and Table 3-1
x	x	Section 3.4.2	10631(a)	Describe other social, economic, and demographic factors affecting the supplier's water management planning.	System Description	Section 3.3.2 and Table 3-2

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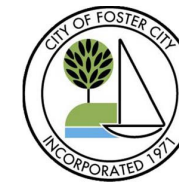
Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
x	x	Sections 3.4 and 5.4	10631(a)	Indicate the current population of the service area.	System Description and Baselines and Targets	Section 3.3.1 and Table 3-1
x	x	Section 3.5	10631(a)	Describe the land uses within the service area.	System Description	Section 3.5
x	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, Table 4-2, Table 4-4, and Table 4-5
x	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 4.2.2, Table 4-3
x	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 4.2.4 and Table 4-7
x	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	Section 4.2.4
x	optional	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 4.2.2 and Table 4-3
x	optional	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 4.2.5 and Table 4-8
x	x	Section 4.5	10635(b)	Demands under climate change considerations must be included as part of the drought risk assessment.	System Water Use	Section 4.4

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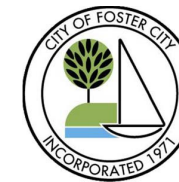
Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
x		Chapter 5	10608.20(e)	Retail suppliers shall provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.	Baselines and Targets	Chapter 5
x		Chapter 5	10608.24(a)	Retail suppliers shall meet their water use target by December 31, 2020.	Baselines and Targets	Section 5.4 and Table 5-2
	x	Section 5.1	10608.36	Wholesale suppliers shall include an assessment of present and proposed future measures, programs, and policies to help their retail water suppliers achieve targeted water use reductions.	Baselines and Targets	N/A
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 5.4 and Table 5-2
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 5.3

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Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
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	Appendix F
x	x	Sections 6.1 and 6.2	10631(b)(1)	Provide a discussion of anticipated supply availability under a normal, single dry year, and a drought lasting five years, as well as more frequent and severe periods of drought.	System Supplies	Section 7.1.1 and Section 7.1.2
x	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, <i>including changes in supply due to climate change.</i>	System Supplies	Section 6.10.1 and Section 7.1.1.3
x	x	Section 6.1	10631(b)(2)	When multiple sources of water supply are identified, describe the management of each supply in relationship to other identified supplies.	System Supplies	Chapter 6
x	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	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 and Table 6-9

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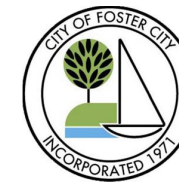
Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
x	x	Section 6.2	10631(b)	Indicate whether groundwater is an existing or planned source of water available to the supplier.	System Supplies	Section 6.2
x	x	Section 6.2.2	10631(b)(4)(A)	Indicate 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	N/A
x	x	Section 6.2.2	10631(b)(4)(B)	Describe the groundwater basin.	System Supplies	N/A
x	x	Section 6.2.2	10631(b)(4)(B)	Indicate if the basin has been adjudicated and include a copy of the court order or decree and a description of the amount of water the supplier has the legal right to pump.	System Supplies	N/A
x	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	N/A

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Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
x	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	N/A
x	x	Section 6.2.2	10631(b)(4)(D)	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	System Supplies	N/A
x	x	Section 6.2.7	10631(c)	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	System Supplies	Section 6.7
x	x	Section 6.2.5	10633(b)	Describe the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.	System Supplies (Recycled Water)	Section 6.5.2, Section 6.5.3, and Table 6-3
x	x	Section 6.2.5	10633(c)	Describe the recycled water currently being used in the supplier's service area.	System Supplies (Recycled Water)	Section 6.5.2 and Table 6-3
x	x	Section 6.2.5	10633(d)	Describe and quantify the potential uses of recycled water and provide a determination of the technical and economic feasibility of those uses.	System Supplies (Recycled Water)	Section 6.5.4 and Table 6-4

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Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
x	x	Section 6.2.5	10633(e)	Describe the projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected.	System Supplies (Recycled Water)	Section 6.5.4 and Table 6-5
x	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 6.5.4 and Table 6-6
x	x	Section 6.2.5	10633(g)	Provide a plan for optimizing the use of recycled water in the supplier's service area.	System Supplies (Recycled Water)	Table 6-6
x	x	Section 6.2.6	10631(g)	Describe desalinated water project opportunities for long-term supply.	System Supplies	Section 6.6
x	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 6.5.1, Table 6-2, and Table 6-3
x	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 and Table 6-7

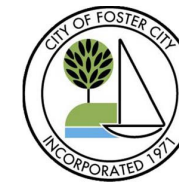


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Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
x	x	Section 6.4 and Appendix O	10631.2(a)	The UWMP must include energy information, as stated in the code, that a supplier can readily obtain.	System Suppliers, Energy Intensity	Section 6.11 and Table 6-10
x	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 7.1.1.3
x	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 7.1.4
x	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	Section 7.1.3
x	x	Section 7.3	10635(b)	Provide a drought risk assessment as part of information considered in developing the demand management measures and water supply projects.	Water Supply Reliability Assessment	Section 7.2

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Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
x	x	Section 7.3	10635(b)(1)	Include a description of the data, methodology, and basis for one or more supply shortage conditions that are necessary to conduct a drought risk assessment for a drought period that lasts 5 consecutive years.	Water Supply Reliability Assessment	Section 7.2.1
x	x	Section 7.3	10635(b)(2)	Include a determination of the reliability of each source of supply under a variety of water shortage conditions.	Water Supply Reliability Assessment	Section 7.2.2
x	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 7.2.3
x	x	Section 7.3	10635(b)(4)	Include considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.	Water Supply Reliability Assessment	Section 7.2.1
x	x	Chapter 8	10632(a)	Provide a water shortage contingency plan (WSCP) with specified elements below.	Water Shortage Contingency Planning	Appendix J
x	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	Appendix J

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Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
x	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	Appendix J
x	x	Section 8.2	10632(a)(2)(A)	Provide the written decision- making process and other methods that the supplier will use each year to determine its water reliability.	Water Shortage Contingency Planning	Appendix J
x	x	Section 8.2	10632(a)(2)(B)	Provide data and methodology to evaluate the supplier’s water reliability for the current year and one dry year pursuant to factors in the code.	Water Shortage Contingency Planning	Appendix J
x	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	Appendix J
x	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	Appendix J

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Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
x	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
x	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
x	x	Section 8.4	10632(a)(4)(C)	Specify locally appropriate operational changes.	Water Shortage Contingency Planning	Appendix J
x	x	Section 8.4	10632(a)(4)(D)	Specify additional mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions are appropriate to local conditions.	Water Shortage Contingency Planning	Appendix J
x	x	Section 8.4	10632(a)(4)(E)	Estimate the extent to which the gap between supplies and demand will be reduced by implementation of the action.	Water Shortage Contingency Planning	Appendix J
x	x	Section 8.4.6	10632.5	The plan shall include a seismic risk assessment and mitigation plan.	Water Shortage Contingency Plan	Appendix J
x	x	Section 8.5	10632(a)(5)(A)	Suppliers must describe that they will inform customers, the public and others regarding any current or predicted water shortages.	Water Shortage Contingency Planning	Appendix J

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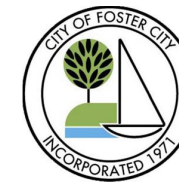
Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
x	x	Section 8.5 and 8.6	10632(a)(5)(B) 10632(a)(5)(C)	Suppliers must describe that they will inform customers, the public and others regarding any shortage response actions triggered or anticipated to be triggered and other relevant communications.	Water Shortage Contingency Planning	Appendix J
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
x	x	Section 8.7	10632(a)(7)(A)	Describe the legal authority that empowers the supplier to enforce shortage response actions.	Water Shortage Contingency Planning	Appendix J
x	x	Section 8.7	10632(a)(7)(B)	Provide a statement that the supplier will declare a water shortage emergency Water Code Chapter 3.	Water Shortage Contingency Planning	Appendix J
x	x	Section 8.7	10632(a)(7)(C)	Provide a statement that the supplier will coordinate with any city or county within which it provides water for the possible proclamation of a local emergency.	Water Shortage Contingency Planning	Appendix J
x	x	Section 8.8	10632(a)(8)(A)	Describe the potential revenue reductions and expense increases associated with activated shortage response actions.	Water Shortage Contingency Planning	Appendix J
x	x	Section 8.8	10632(a)(8)(B)	Provide a description of mitigation actions needed to address revenue reductions and expense increases associated with activated shortage response actions.	Water Shortage Contingency Planning	Appendix J

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Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
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
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
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
x	x	Sections 8.12 and 10.4	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	Appendix J and Section 10.4
x	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 after adopted the plan.	Water Shortage Contingency Planning	Appendix J

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Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
	x	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	N/A
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 9.1, Section 9.2, and Section 9.3
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
x	x	Section 10.2.1	10621(b)	Notify, at least 60 days prior to the public hearing, any city or county within which the supplier provides water that the 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 2.5.3 and Section 10.1
x	x	Section 10.4	10621(f)	Each urban water supplier shall update and submit its 2020 plan to the department by July 1, 2021.	Plan Adoption, Submittal, and Implementation	Section 10.4



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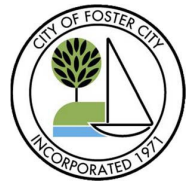
Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
x	x	Sections 10.2.2, 10.3, and 10.5	10642	Provide supporting documentation that the urban water supplier made the plan and contingency plan available for public inspection, published notice of the public hearing, and held a public hearing about the plan and contingency plan.	Plan Adoption, Submittal, and Implementation	Section 10.3
x	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	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 10.4
x	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	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
x	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

Completed UWMP Checklist  
 2020 Urban Water Management Plan  
 Estero Municipal Improvement District



Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
x	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	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	x	Section 10.6	10621(c)	If supplier is regulated by the Public Utilities Commission, include its plan and contingency plan as part of its general rate case filings.	Plan Adoption, Submittal, and Implementation	N/A
x	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 10.4

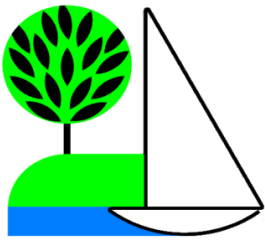
**Appendices**  
**2020 Urban Water Management Plan**  
**Estero Municipal Improvement District**



**APPENDIX B**  
**UWMP AGENCY NOTIFICATION LETTERS**

### **Notification Distribution List**

Alameda County Water District  
Bay Area Water Supply and Conservation Agency  
California Water Service Company - Bear Gulch  
California Water Service Company - Mid Peninsula District  
California Water Service Company - South San Francisco District  
City of Brisbane/ Guadalupe Valley Municipal Improvement District  
City of Burlingame  
City of Daly City  
City of East Palo Alto  
City of Hayward  
City of Menlo Park  
City of Millbrae  
City of Milpitas  
City of Mountain View  
City of Palo Alto  
City of San Bruno  
City of San Mateo  
City of Santa Clara  
City of Sunnyvale  
Coastside County Water District  
Mid-Peninsula Water District  
North Coast County Water District  
Public Works Services Department  
Purissima Hills Water District  
San Francisco Public Utilities Commission  
San Jose Municipal Water System  
San Mateo County  
Stanford University  
Town of Hillsborough  
Westborough Water District



# *City of Foster City*

## **ESTERO MUNICIPAL IMPROVEMENT DISTRICT**

610 FOSTER CITY BOULEVARD  
FOSTER CITY, CA 94404-2222  
(650) 286-3200  
FAX (650) 286-3589

January 21, 2021

Tom Francis  
Bay Area Water Supply and Conservation Agency  
155 Bovet Road, Suite 650  
San Mateo, CA 94402

Subject: Notice of Preparation of Urban Water Management Plan and Water Shortage Contingency Plan - 2020 Update

The Urban Water Management Planning Act (California Water Code §10608–10656) requires the Estero Municipal Improvement District (“District”) to update its Urban Water Management Plan (UWMP) and associated Water Shortage Contingency Plan (WSCP) every five years. The District is currently reviewing its existing UWMP and associated WSCP, which were updated in 2016 and 2018, respectively, and considering revisions to the documents. The updated UWMP and WSCP are due by July 1, 2021. We invite your agency’s participation in this revision process.

A draft of the 2020 UWMP and WSCP will be made available for public review and a public hearing will be scheduled in 2021. In the meantime, if you would like more information regarding the District’s 2015 UWMP and WSCP and the schedule for updating these documents, or if you would like to participate in the preparation of the 2020 UWMP and WSCP, please contact me at:

City of Foster City/Estero Municipal Improvement District  
Department of Public Works  
610 Foster City Boulevard  
Foster City, CA 94404  
Phone: (650) 286-3270  
[vma@fostercity.org](mailto:vma@fostercity.org)

Sincerely,

Vivian Ma, P.E.  
Associate Civil Engineer

cc: Dante Hall, Assistant City Manager/Acting Parks & Recreation and Public Works Director  
Allen Smith, Public Works Maintenance Manager  
Laura Galli, Public Works Engineering Manager  
Subject  
Chron

**From:** Dante Hall <dhall@fostercity.org>

**Sent:** Tuesday, June 22, 2021 7:24 PM

**To:** leonard.ash@acwd.com; laura.hidas@acwd.com; rbreault@ci.brisbane.ca.us; jflanagan@ci.brisbane.ca.us; amorimoto@burlingame.org; tmcauliffe@burlingame.org; kjenkins@calwater.com; dsmithson@calwater.com; rmoilan@calwater.com; mrogren@coastsidewater.org; cbrennan@coastsidewater.org; gkrauss@dalycity.org; wdonnelly@dalycity.org; pheisinger@cityofepa.org; kfallaha@cityofepa.org; Dante Hall <dhall@fostercity.org>; Allen Smith <asmith@fostercity.org>; alex.ameri@hayward-ca.gov; Cheryl.Munoz@hayward-ca.gov; pwillis@hillsborough.net; ecooney@hillsborough.net; phlowe@menlopark.org; ctlamm@menlopark.org; TammyR@midpeninsulawater.org; rramirez@midpeninsulawater.org; klim@ci.millbrae.ca.us; SReider@ci.millbrae.ca.us; tndah@ci.milpitas.ca.gov; Lisa.Au@mountainview.gov; Elizabeth.flegel@mountainview.gov; acarr@nccwd.com; Karla.Dailey@CityofPaloAlto.org; lisa.bilir@CityofPaloAlto.org; philw@purissimawater.org; samv@purissimawater.org; watermanager@redwoodcity.org; jchapel@redwoodcity.org; jtan@sanbruno.ca.gov; MReinhardt@sanbruno.ca.gov; Jeffrey.provenzano@sanjoseca.gov; henry.louie@sanjoseca.gov; gwelling@santaclaraca.gov; smehta@SantaClaraCA.gov; JuliaNN@stanford.edu; Bmanning@stanford.edu; mnasser@sunnyvale.ca.gov; rchinnakotla@sunnyvale.ca.gov; dbarrow@westboroughwater.com; nsandkulla@bawsca.org; tfrancis@bawsca.org; pkehoe@sfwater.org; amitch@cityofsanmateo.org; jporter@co.sanmateo.ca.us; Peter Pirnejad <ppirnejad@fostercity.org>

**Cc:** Laura Galli <lgalli@fostercity.org>; Vivian Ma <vma@fostercity.org>; Julie Paping <jpaping@fostercity.org>

**Subject:** Estero Municipal Improvement District - Notice of Public Hearing for the 2020 Urban Water Management Plan and Water Shortage Contingency Plan

Greetings,

The Urban Water Management Planning Act (California Water Code §10608–10656) requires the Estero Municipal Improvement District (EMID) to update its Urban Water Management Plan (UWMP) and associated Water Shortage Contingency Plan (WSCP) every 5 years. EMID must also make the draft documents available for public review and hold a public hearing before adopting its UWMP and associated WSCP.

This is to notify you that EMID will hold a public hearing on July 19, 2021 at 6:30 p.m. to consider proposed revisions and updates to the 2020 UWMP and associated WSCP. The public hearing will be held by teleconference and/or video conference at [www.fostercity.org/fctv](http://www.fostercity.org/fctv). The meeting may also be held as a hybrid meeting with an in-person component, subject to appropriate regulations. If held as a hybrid meeting, the meeting address is 620 Foster City Boulevard, Foster City, CA 94404. We invite your agency's participation in the process. Visit <https://www.fostercity.org/agendasandminutes> for the Foster City Council meeting agenda and for links to the virtual public hearing. In conjunction with the update to the UWMP, the public may also provide input on the urban water use target included in the UWMP, any impacts to the local economy, and the EMID's method of determining its urban water use target.

The UWMP and associated WSCP will be made available for public review by July 2, 2021 at <https://www.fostercity.org/publicworks/page/water>.

If you have any questions about the 2020 UWMP or WSCP or the process for updating these documents, please contact Project Engineer, Vivian Ma, at [vma@fostercity.org](mailto:vma@fostercity.org).

**DANTE G. HALL**, ICMA-CM \_\_\_\_\_

ASSISTANT CITY/DISTRICT MANAGER, ACTING PARKS AND RECREATION DIRECTOR, ACTING PUBLIC WORKS DIRECTOR

CITY OF FOSTER CITY

610 Foster City Blvd , Foster City, CA 94404

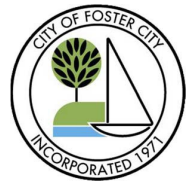
Phone: 650.286.3214

[dhall@fostercity.org](mailto:dhall@fostercity.org) | [www.fostercity.org](http://www.fostercity.org)

---

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**APPENDIX C**  
**UWMP PUBLIC NOTIFICATION NOTICES**

## IN OUR COMMUNITY

### First & Third Thursday

- If that number is on your card, click the number on your card and it will mark it for you.

- Once you have a Bingo, comment on the feed "Bingo" and then follow it up with the numbers that make up your bingo.

Please remember this is on the honor system but the Bingo Caller may ask you to verify your winning card by taking a screenshot of your card and quickly emailing it to Recreation staff (bingo@fostercity.org) for verification.

Get your bingo card at the link below: <https://bingobaker.com/play/1228516>

Once you click the link, click "generate card" and you will have your card for the game.

### Creation - Every

mobile device You'll need to have 2 devices to play live!

Log in to Zoom prior to the start of the game. The trivia host will prompt you to enter the unique Kahoot pin into the device you'll use to answer the questions.

The faster you answer correctly, the more points you get.

### Farmer's Market

giving lessons at the old OSH garden center location. SEE USSD ad for details!

### Conservatory Name That

### Wednesday at 8:00 pm

you choose, you will have a fun time. For more information, visit the Hillbarn website at [www.hillbarntheatre.org](http://www.hillbarntheatre.org)

### Events

### Adults; Every Monday;

of the unique features of Zoom such as close-ups and the four edges of the screen to find new ways to surprise and support

## PUBLIC NOTICES

### NOTICE OF PUBLIC HEARING

#### FY 2021-2022 APPROPRIATIONS LIMIT

NOTICE IS HEREBY GIVEN that the City Council/ Board of Directors of the City of Foster City/Estero Municipal Improvement District will hold a PUBLIC HEARING on Monday, July 19, 2021 at 6:30 p.m., as required by Article XIIB of the California Constitution, to hear and consider comments regarding the FY 2021-2022 Appropriations Limit of the City/District. Resolutions for the City Council/Board of Directors will be acted upon at the meeting. The Appropriations Limit recommended is:

	FY 2021-2022
City of Foster City	\$77,974,453
Estero Municipal Improvement District	73,033,805
<b>TOTAL</b>	<b>\$151,008,258</b>

Public input and discussion is invited. Information regarding computation of the above is available in the Financial Services Department, City Hall, 610 Foster City Boulevard, Foster City. For more information, please contact Finance Director Edmund Suen, [esuen@fostercity.org](mailto:esuen@fostercity.org).

SAID PUBLIC HEARING will be held by teleconference and/or video conference at [www.fostercity.org/fctv](http://www.fostercity.org/fctv). The meeting may also be held as a hybrid meeting with an in-person component, subject to appropriate regulations. If held as a hybrid meeting, the meeting address is 620 Foster City Boulevard, Foster City, CA 94404. Final meeting location(s) will be listed on the published agenda.

The public may participate by submitting comments via email to [publiccomment@fostercity.org](mailto:publiccomment@fostercity.org) or by providing live verbal public comment by joining the meeting via teleconference and/or video conference, or in person, if held as a hybrid meeting. Instructions on how to join the meeting are included in the top portion of the agenda posted at: [www.fostercity.org/agendasandminutes](http://www.fostercity.org/agendasandminutes).

Priscilla Schaus  
City Clerk/District Secretary

Date & Posted: June 23, 2021

Published: June 30, 2021

#### Fictitious Business Name Statement No. 287931

The following persons are doing business as:

**Renli Global Partners**, at 646 Ash Avenue, South San Francisco, CA 94080.

Registered Owner(s):

**Edmund Lee**, of 646 Ash Avenue, South San Francisco, CA 94080.

The registrant commenced to transact business under the fictitious business name listed above on **N/A**.

This business is conducted by an **Individual**  
s/ **Edmund Lee**

This statement was filed by the County Clerk of San Mateo County on **June 8, 2021**.

(FCI) 6-16, 6-23, 6-30, 7-7-21

#### Fictitious Business Name

### NOTICE OF PUBLIC HEARING

NOTICE IS HEREBY GIVEN that the Board of Directors of the Estero Municipal Improvement District will hold a PUBLIC HEARING on Monday, July 19, 2021 at 6:30 p.m. to hear and consider public input on the following:

Proposed Revisions and Updates to the Urban Water Management Plan (UWMP) and associated Water Shortage Contingency Plan (WSCP).

The draft UWMP and associated WSCP are available for public review at City Hall, 610 Foster City Boulevard and Foster City Library, 1000 East Hillsdale Boulevard, and on the City's website via the following link: <https://www.fostercity.org/publicworks/page/water>.

SAID PUBLIC HEARING will be held by teleconference and/or video conference at [www.fostercity.org/fctv](http://www.fostercity.org/fctv). The meeting may also be held as a hybrid meeting with an in-person component, subject to appropriate regulations. If held as a hybrid meeting, the meeting address is 620 Foster City Boulevard, Foster City, CA 94404. Final meeting location(s) will be listed on the published agenda.

The public may participate by submitting comments via email to [publiccomment@fostercity.org](mailto:publiccomment@fostercity.org) or by providing live verbal public comment by joining the meeting via teleconference and/or video conference, or in person, if held as a hybrid meeting. Instructions on how to join the meeting are included in the top portion of the agenda posted at: [www.fostercity.org/agendasandminutes](http://www.fostercity.org/agendasandminutes).

THE PUBLIC IS INVITED TO ATTEND.

Priscilla Schaus, District Secretary

Dated: June 23, 2021

Posted/Published: June 30, 2021 and  
July 7, 2021

#### ESTATE OF REGINA McNEIL NOTICE OF PETITION TO ADMINISTER ESTATE OF: REGINA McNEIL, (DECEDENT) CASE NUMBER: 21-PRO-00719

To all heirs, beneficiaries, creditors, contingent creditors, and persons who may otherwise be interested in the will or estate, or both, of: **REGINA McNEIL**

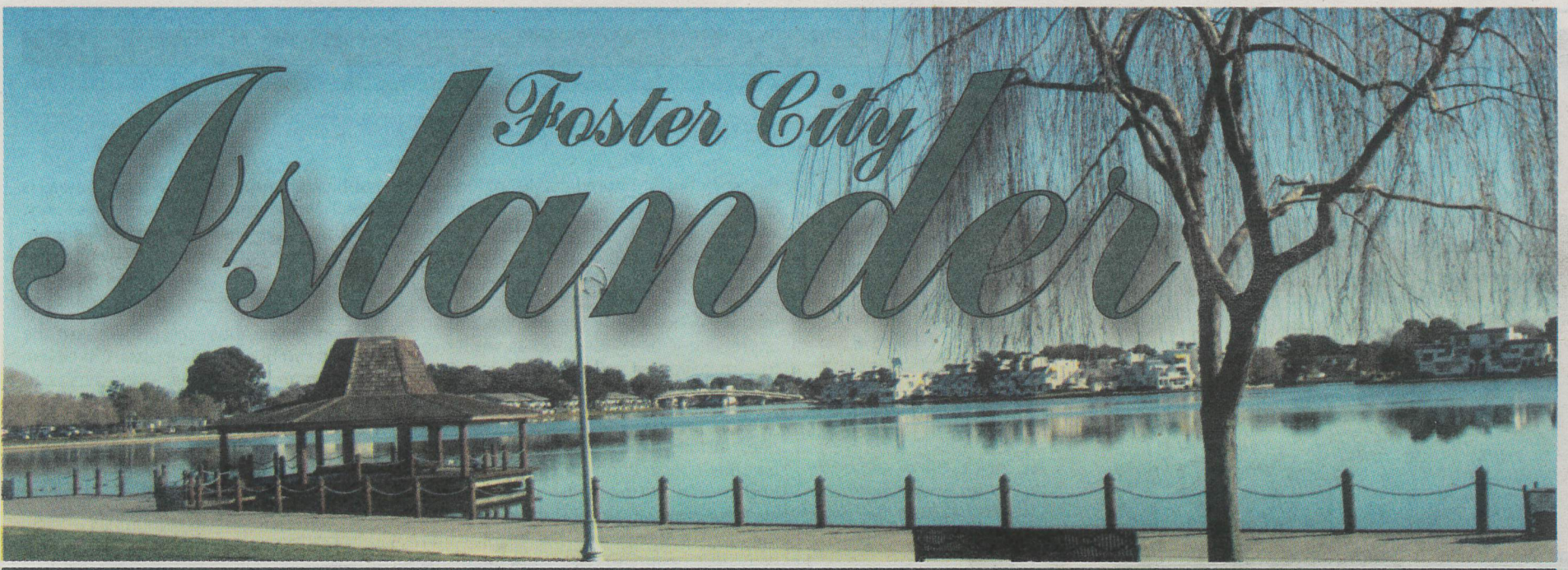
A PETITION FOR PROBATE has been filed by: **CATHERINE McKAY AND SEAN McKAY** Petitioner(s), in the Superior Court of California, County of SAN MATEO

THE PETITION FOR PROBATE requests that **CATHERINE McKAY AND SEAN McKAY** be appointed as personal representative to administer the estate of the decedent.

THE PETITION requests the decedent's will and codicils, if any be admitted to probate. The will and any codicils are available for examination in the file kept by the court.

THE PETITION requests authority to administer the estate under the Independent Administration of Estates Act. (This authority will allow the personal representative to take many actions without obtaining court approval. Before taking certain very important actions however, the personal representative will be required to give notice to interested persons unless they have waived notice or consented to the proposed action.) The independent administration authority will be granted unless an interested person files an objection to the petition and shows good cause why the court should not grant the authority.





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email: news@fostercityislander.com

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July 7, 2021

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## Foster City Levee Improvement Passes Major Milestone

The Levee Improvements Project has completed phase 3 sheet pile installation and grading from the San Mateo Bridge to Anchor Road, marking a significant milestone for the project.

With this work done, sheet pile installation and grading on all city-owned and permitted areas are finished which means the City is one step closer to project completion and an upgraded levee wall

structure. There is only one area between Baffin Street and Port Royal Park in the Phase 1 area of the project where this type of work remains to be done.

"The completion of sheet pile installation represents the team's hard work and is a great milestone for the project," said Project Manager Paul Nagengast. "Despite

*continued on page 2*

## Lagoon Water Quality and Testing

### Three Foster City Beaches Are Among The Worst in The State

Heal the Bay released its "Beach Bummers" list Tuesday, June 29, and three of the state's top ten polluted beaches identified are in Foster City (Erckenbrack Park - No. 2, Gull Park - No. 4, and Marlin Park - No. 8) and part of our City's enclosed lagoon network. Each year, Heal the Bay distributes an annual water quality report card grading 500 California beaches "A" through "F." This was similar to the list published by Heal the Bay last year, when some Foster City beaches also made the list.

In February 2021, the City hired Environmental and Public Health Engineering (EOA) to investigate the source of bacteria detected in our Lagoon and confirm sample results collected by the County Department of Environmental Health Services (EHS). As part of the scope of work, EOA will recommend strategies to control elevated levels of Enterococci (or E. coli). E. coli is the sole indicator now used by the State Water Resources Control Board threshold to protect recreational uses from the effects of pathogens in brackish and marine waters.

The contract with EOA calls for 12 samples to be collected every other week from March 2021 through August 2021. This schedule intentionally includes the end of the wet season, the possibility of storm events occurring during or before sampling and extends through much of

the summer season. The samples are also being evaluated for DNA source markers to determine whether the source of the bacteria is from a human, dog, goose, or seagull.

Initial monitoring results revealed two of the six samples collected to date had E. coli levels near or above the State's threshold. No human DNA source markers were detected in any of the samples. Based on these results, it is unlikely that human waste from sewer leakage or other sources is present in our lagoon system. In contrast, goose and seagull DNA markers were detected in some of the samples.

"While human waste could contribute enterococci and other FIB to the Lagoon, there are many other sources of FIB, including wildlife and pets. These other sources of fecal material generally pose less of a threat to the health of swimmers compared to human waste," said Managing Scientist Bonnie de Berry, Certified Professional in Stormwater Quality from Environmental and Public Health Engineering (EOA),

The City will continue to collect samples approximately every other week throughout the summer recreation season and further evaluate the need for future control measures to protect beach water quality.

## Drought - It Is Real

### Estero Municipal Improvement District Updates Urban Water Management Plan and Water Shortage Contingency Plan

The Estero Municipal Improvement District (EMID) is reviewing and updating its Urban Water Management Plan (UWMP) and associated Water Shortage Contingency Plan (WSCP) in compliance with state law. The State of California requires that the plans be updated every five years. The UWMP was last updated in 2016, and the associated WSCP was last updated in 2018. EMID must also make

the draft documents available for public review and hold a public hearing before adopting its UWMP and associated WSCP.

EMID encourages its customers to participate in the review process. Proposed revisions to the UWMP and associated WSCP are available for public review at City Hall, 610 Foster City Boulevard

*continued on page 2*

## FOSTER CITY PRE-SCHOOL & DAY CARE CENTER

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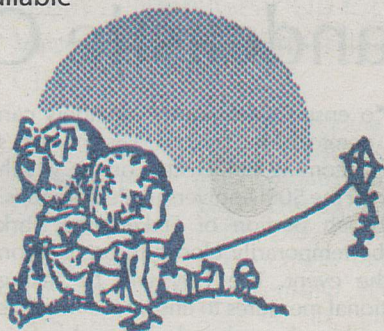
**Call For Information**  
**650-341-2041**

1685 Eisenhower Street  
San Mateo CA 94403

State Lic.# 414004458

[www.fostercitypreschool.com](http://www.fostercitypreschool.com)

Foster City Preschool and Day Care Center provides exceptional preparation for your child's future and lifelong learning and development



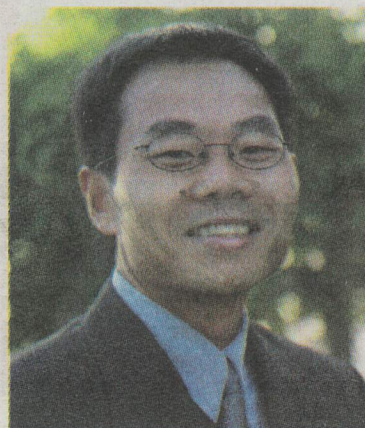
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**No.1 Agent**

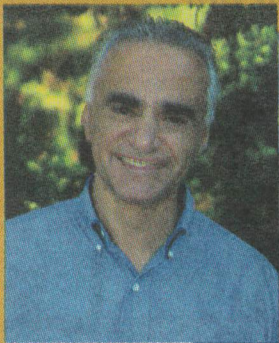
2020, 2019, 2018, 2017, 2016, 2015, 2014, 2013  
Berkshire Hathaway CA Realty - BRE#01868784

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Proud Member of



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880 E. Hillsdale Blvd Foster City, CA 94404 Tel: 650-349-1848

## Levee... from page 1

the sometimes unpredictable nature of construction work on major projects, we are pleased with how the Levee Improvements Project has progressed so far. We understand that the closures and impacts due to the project are a temporary inconvenience to the community and so appreciate your cooperation as we move toward restoring trail access as soon as possible."

Though the permanent sheet piles have been installed and graded, there will still be other construction activities within the project area and the contractor may revisit sections of the sheet piles throughout the duration of the project. As construction activities continue, the community is reminded that the closed, fenced trail and staging areas are not safe for the

public and trespassing into fenced areas is prohibited at all times for everyone's safety. Also, please remember that bike lanes are for bicyclists only, while sidewalks are for pedestrians, joggers, non-motorized scooters, rollerbladers and skateboarders.

To learn more about the project visit the project website: [www.FosterCityLevee.org](http://www.FosterCityLevee.org), where community members can review detour maps, the construction timeline and levee renderings, read through Frequently Asked Questions and even sign up for regular construction updates.

Any construction-related inquiries may be emailed to [leveeproject@fostercity.org](mailto:leveeproject@fostercity.org) or can be reported to the project hotline at 1-800-213-6320 (calls will typically be returned within 24 hours).

## Drought... from page 1

and the Foster City Public Library, 1000 East Hillsdale Boulevard, as well as on the City's website at [www.fostercity.org/publicworks/page/water](http://www.fostercity.org/publicworks/page/water). A public hearing is scheduled to be held on Monday, July 19, 2021.

EMID provides potable water to residents in Foster City and the Mariners Island area of San Mateo. The UWMP outlines EMID's water supply projections, describes demand management measures

and reports progress toward meeting a targeted 20% reduction of urban water consumption by 2020. As part of the process of preparing the UWMP, EMID is also updating its WSCP to mitigate future water supply shortages.

For more information or questions, please contact Project Engineer Vivian Ma, at (650) 286-3270 or email [vma@fostercity.org](mailto:vma@fostercity.org).

# Levee Improvement Project to Conduct Additional Work Along Beach Park Boulevard

The Levee Improvements Project will conduct additional paving work along Beach Park Boulevard to expand and maximize safety efforts in the area on or around Monday, July 12.

"Safety is the project's first priority and the work that will be completed will support this by patching a pavement crack in, and adjacent to, the bicycle lane at various locations along Beach Park Boulevard," said Project Manager Paul Nagengast. "We know the project impacts can be an inconvenience, especially along Beach Park Boulevard, and so we highly encourage the use of alternative routes to avoid the work area."

During the three-day paving operation, Beach Park Boulevard will include temporary traffic control measures including one-way traffic with an escort pilot car to safely lead drivers through the work zone. The project team and the City of Foster City would like to remind community members to use extra caution

when driving along Beach Park Boulevard.

As construction continues, the community is reminded that the closed, fenced trail and staging areas are not safe for the public and trespassing into fenced areas is prohibited at all times. Also, please remember that bike lanes are for bicyclists only, while sidewalks are for pedestrians, joggers, non-motorized scooters, rollerbladers and skateboarders.

To learn more about the project visit the project website: [www.FosterCityLevee.org](http://www.FosterCityLevee.org), where community members can review detour maps, the construction timeline and levee renderings, read through Frequently Asked Questions, and even sign up for regular construction updates.

Any construction-related inquiries may be emailed to [leveeproject@fostercity.org](mailto:leveeproject@fostercity.org) or can be reported to the project hotline at 1-800-213-6320 (calls will typically be returned within 24 hours).

# Foster City Prepares Erckenbrack Park for Sandcastle Contest

To ensure community members can comfortably enjoy Foster City's upcoming Sandcastle Contest, which is part of the 50th anniversary celebrations, the beach portion of Erckenbrack Park will be temporarily closed in preparation for the event. The City will be taking additional measures to ensure the beach is thoroughly cleaned and prepared before the event is held Saturday, July 10. As a

result, the waterfront segment and beach section of the park will be closed from Wednesday, July 7, to the morning of the event.

Crews will spend the days before the Sandcastle Contest cleaning the existing sand at the beach and delivering additional fresh sand. After, the site will be raked,

*concluded on page 3*

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# City & County Updates

## CITY NEWS

### Apply to the County's Mosquito and Vector Control District Board

Looking for ways to help give back to your community? San Mateo County needs a Foster City resident to represent the City on the Mosquito and Vector Control District Board. The district's mission is to protect the health and comfort of local residents.

### Housing to Be Discussed at Next Planning Commission Meeting

Your input is critical to help shape the future of our City! The Planning Commission will examine the Regional Housing Needs Allocation (RHNA), plan for the City's housing element and also discuss an Affordable Housing Overlay Zone (AHOZ) on Thursday, 7/15.

### Come Learn About Foster City's Water Management Planning

Foster City is updating its Urban Water Management and Water Shortage Contingency plans. Residents are encouraged to participate in the review process.

### Levee Project Completes Phase 3 Sheet Pile; More Paving Expected Along Beach Park Boulevard

The City's Levee Improvement Project completed phase three of sheet pile work. Read all about work passing this significant milestone. Looking ahead, work crews are expected to begin paving along Beach Park Boulevard.

## SAN MATEO COUNTY NEWS

Board of Supervisors Steps in After Federal Support of Great Plates Program Ends; Approves \$1M to Assist Renters

With federal support for the Great Plates Delivered program ending on July 9, 2021, the County of San Mateo will use federal COVID-19 stimulus funds to

continue addressing the food insecurity needs of homebound older adults who have no alternative options.

At its regular meeting on June 29, 2021, the Board approved approximately \$4 million to continue serving Great Plates participants. Up to \$2.55 million will go to Second Harvest of Silicon Valley, one of the largest food banks in the country, to help provide home-delivered groceries to Great Plates participants who continue to need food assistance and are able to prepare meals at home. The Board also voted to provide almost \$2 million a year for the next two fiscal years to current County-contracted senior nutrition providers to be able to ensure a seamless transition of home delivered meals for Great Plates participants who are homebound and unable to prepare meals.

At the same meeting, the Board unanimously approved allocating \$1 million to the San Mateo County Emergency Financial Assistance Program. This program can help renters earning 60 percent or below the area's median income who do not qualify for the state Emergency Rental Assistance Program.

### Youth Leaders Gear Up For Vaccine Week, Youth-Hosted Clinic

Youth leaders from the Sequoia Teen Wellness Center, Star Vista Health Ambassador Program – Youth, Jefferson Union High School District. Be the Change Coalition, the Daly City Youth Health Center, and the County Office of Education summer internship program have banded together to promote COVID-19 vaccination among their peers. The goal is to get young people 12 years old and up fully vaccinated before the start of the school year in the fall.

They are receiving training sessions from COVID-19 experts from San Mateo County Health in preparation for conducting their outreach activities. They will host a youth-to-youth podcast and a youth town hall, post social media messages, and promote July 18-24 as Youth Vaccine Week. The youth-led campaign will culminate from 9 a.m to 6 p.m on Saturday, July 24, with a youth-hosted vaccine clinic at the San Mateo Medical Center parking lot and will include drawings for prizes donated by the San Francisco Giants.

## Get Involved – Represent Foster City on the San Mateo County Mosquito and Vector Control District Board

Applications are being accepted for appointment to the San Mateo County Mosquito and Vector Control District Board of Trustees. Currently, there is one vacant position representing Foster City for a partial term from January 1, 2020 through December 31, 2023.

The District uses an integrated pest management strategy for the control and management of mosquitoes, rodents and other vectors causing human disease, discomfort, or injury. The District's mission is to protect the health and comfort of county residents through a science-based program of integrated vector management. Board members are appointed by cities and the County to govern the District knowledgeably and effectively. The twenty-one board members each serve a term of two or four years. Meetings are held on the second Wednesday of the month, 6:00 p.m. at 1351 Rollins Road

in Burlingame. During the COVID-19 pandemic, meetings are held virtually on Zoom.

Applications for this vacancy are due by Thursday July 22, 2021 at 5:00 p.m. Applicants must be Foster City residents and registered voters (per California Health and Safety Code § 2022) and are required to attend the August 2, 2021 Foster City Council meeting at 6:30 p.m. for consideration.

For more information and to download an application, call (650) 286-3250, or visit [www.fostercity.org/smc\\_mvcd](http://www.fostercity.org/smc_mvcd), email [clerk@fostercity.org](mailto:clerk@fostercity.org). Completed applications should be sent via email to [clerk@fostercity.org](mailto:clerk@fostercity.org). For information about this Commission, please contact Brian Weber, District Manager and Commission Liaison, at (650) 344-8592 or [bweber@smcmvcd.org](mailto:bweber@smcmvcd.org).

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**During COVID, We Remodeled Our Bistro!**

## United Studios of SELF DEFENSE

**Zoom Online Training Available! & Safe Limited Private lessons by appointment at the Studio!**

We are now holding group-lessons in the nursery section of the old Orchard Supply store at the corner of Metro Center and Foster City Blvds.

Call USSD for outdoor class times and Studio appointments at 650-577-9234, or visit the web page at [ussdfostercity.com](http://ussdfostercity.com).

Learn how our self defense program builds strong minds and bodies for young people. Our instructors inspire and encourage both self esteem and humility in kids ages 5 through young adult.

Certified Covid-19 Service Master professionally deep cleans and disinfects our facility every two weeks, and our staff cleans every day.

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Foster City, CA 94404



SCHOOL SCENE

News From the San Mateo Foster City School District

District Facilities Projects in Foster City

Facility improvements to schools in Foster City over the last decade include:

- Foster City Elementary: New gym/multipurpose room, library and administration building accompanied by the addition of an onsite dropoff lane and additional parking
- Audubon Elementary: New two-story classroom building
- Bowditch Middle School: Replacement of the heating/ventilation/air conditioning equipment in the majority of Bowditch's buildings and the addition of relocatable classrooms and restrooms to accommodate increasing enrollments
- Brewer Island: Exterior painting
- All Four Schools: Installation of security fencing

Measure X:

Measure X, which was passed by voters in November 2015, included two major projects in Foster City:

- Construction of a fourth elementary school, Beach Park Elementary, which opened its doors to students in grades K-3rd and staff on May 10, 2021
- Two new buildings at Bowditch Middle School - Planning began in summer 2020 with detailed plans on target for submission to the Division of State Architect for its required review and approval:

o A science building with six combined science classrooms and labs surrounding a lab prep room designed to meet the recently adopted comprehensive National Standards for Science Instruction, and

o A drama building for both instructional and after school uses to support Bowditch's vibrant drama program.

Measure T:

Voter approval of Measure T in November 2020 set the stage for improvements across all SMFCSD schools including important enhancements at the District's Foster City sites. Projects at schools in Foster City include:

Bowditch Middle School:

- The Master Plan for Bowditch's Build/Rebuild/Renovate Project has been approved by the Board of Trustees. Major elements include adding a state-of-the-art gym and locker rooms, demolishing and rebuilding of more than 20 classrooms and the Media/Resource Center in another part of the campus, the relocation of the turf and hardscape areas to the corner of Tarpon and Beach Park, and renovation of most of the remaining buildings.

All Elementary Schools in Foster City:

- Addition of water bottle fillers, air filtration and hand sanitizing stations
- Updating of student and staff restrooms at the current Foster City schools which have not been renovated recently
- Replacement of all carpeting in classrooms for improved health and safety
- Plumbing and sewer upgrades
- Electrical power upgrades

Brewer Island and Foster City Elementary Schools

- Addition of heating/ventilation and air conditioning in classrooms where there is none

Audubon Elementary School:

- Replacement of the heating/ventilation and air conditioning systems

Foster City Elementary School:

- Installation of new turf on the large field

An Update, June 2021 News

concluded on page 8

NOTICE OF PUBLIC MEETING

NOTICE IS HEREBY GIVEN that the City Council/ Board of Directors of the City of Foster City/Estero Municipal Improvement District will hold a PUBLIC MEETING on Monday, July 19, 2021, at 6:30 p.m. to hear and consider comments regarding the following:

Consideration of Preliminary Review of a Proposal to Allow Research & Development Use on floors Four (4) through Eight (8) at Parkside Towers Office Development- DGA - 1001 E. Hillsdale Blvd. - Town Center Neighborhood - APN 094-524-220 - PR2020-0007

SAID PUBLIC MEETING will be held by teleconference and/or video conference at [www.fostercity.org/fctv](http://www.fostercity.org/fctv). The meeting may also be held as a hybrid meeting with an in-person component, subject to appropriate regulations. If held as a hybrid meeting, the meeting address is 620 Foster City Boulevard, Foster City, CA 94404. Final meeting location(s) will be listed on the published agenda.

The public may participate by submitting comments via email to [publiccomment@fostercity.org](mailto:publiccomment@fostercity.org) or by providing live verbal public comment by joining the meeting via teleconference and/or video conference, or in person, if held as a hybrid meeting. Instructions on how to join the meeting are included in the top portion of the agenda posted at: [www.fostercity.org/agendasandminutes](http://www.fostercity.org/agendasandminutes).

THE PUBLIC IS INVITED TO ATTEND.

Priscilla Schaus

City Clerk/District Secretary

Dated/Posted: June 30, 2021

Published: July 7, 2021

Fictitious Business Name Statement No. 287931

The following persons are doing business as:

**Renli Global Partners**, at 646 Ash Avenue, South San Francisco, CA 94080.

Registered Owner(s):

**Edmund Lee**, of 646 Ash Avenue, South San Francisco, CA 94080.

The registrant commenced to transact business under the fictitious business name listed above on N/A.

This business is conducted by an **Individual** s/ **Edmund Lee**

This statement was filed by the County Clerk of San Mateo County on **June 8, 2021**.

(FCI) 6-16, 6-23, 6-30, 7-7-21

Fictitious Business Name Statement No. 288026

The following persons are doing business as:

**DKA Construction**, at 508 Cleveland Street, Redwood City CA 94062.

Registered Owner(s):

**Dylan Kurt Anderson**, of 508 Cleveland Street, Redwood City CA 94062.

The registrant commenced to transact business under the fictitious business name listed above on N/A.

This business is conducted by an **Individual** s/ **Dylan Kurt Anderson**

This statement was filed by the County Clerk of San Mateo County on **June 21, 2021**.

(FCI) 6-30, 7-7, 7-14, 7-21-21

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Email us today [info@fostercityislander.com](mailto:info@fostercityislander.com) to get your ad placed in the Foster City Islander!

The Staff of the Foster City Islander would like to thank the businesses who continue to support this paper for the enjoyment of the community during these difficult times. We ask our readers to please support these same businesses as they will begin to re-open in the coming weeks!

NOTICE OF PUBLIC MEETING

NOTICE IS HEREBY GIVEN that the City Council/ Board of Directors of the City of Foster City/Estero Municipal Improvement District will hold a PUBLIC MEETING at a regular meeting on Monday, July 19, 2021, at 6:30 p.m. to consider comments and take action regarding the following:

1. Certification of an Environmental Impact Report (EIR) and adoption of findings under the California Environmental Quality Act and Standard Conditions and Mitigation Monitoring and Reporting Program (SCAMMRP); and

2. Rezoning to the Foster City Zoning Map to modify the previously approved General Development Plan for the ±100-acre lands known as Metro Center in the C-2/PD (General Business/Planned Development) District to a C-2/PD (General Business/Planned Development) District with an amended General Development Plan to allow up to two (2) hotels with a total of approximately 298 guest rooms, including a seven-story, approximately 89'-0"-tall, ±83,187 square-foot limited-service hotel with 151 guest rooms on lot 20 of tract map no. 91-83, located at the southwest corner of Metro Center Boulevard and Shell Boulevard in the Town Center Neighborhood.

The Planning Commission, at the June 18, 2020, regular meeting, took the following action:

By a vote of 5-0, adopted Resolution P-07-20, recommending certification of the Final Environmental Impact Report (EIR) for the proposed development of a new, approximately 83,190 square-foot, seven-story hotel with 156 rooms on the vacant lot located at the southwest corner of Metro Center Boulevard and Shell Boulevard in the Town Center Neighborhood

The Planning Commission, at the June 17, 2021, regular meeting, took the following actions:

1. By a vote of 5-0, adopted Resolution P-09-21 (EA2019-0002) recommending that the City Council:

1) approve the Statement of Findings under the California Environmental Quality Act (CEQA Findings) and

2) approve the Standard Conditions and Mitigation Monitoring and Reporting Program (SCAMMRP) for the Final EIR prepared by Urban Planning Partners, LLC as completed and adequate;

2. By a vote of 5-0, adopted Resolution P-10-21 (RZ2019-0002) recommending that the City Council adopt an amendment to the Foster City Zoning Map to modify the previously approved General Development Plan for the ±100-acre lands known as Metro Center in the C-2/PD (General Business/Planned Development) District to a C-2/PD (General Business/Planned Development) District with an amended General Development Plan to allow up to two (2) hotels with a total of approximately 298 guest rooms, including a seven-story, approximately 89'-0"-tall, ±83,187 square-foot limited-service hotel with 151 guest rooms on lot 20 of tract map no. 91-83, located at the southwest corner of Metro Center Boulevard and Shell Boulevard in the Town Center Neighborhood; and

3. By a vote of 4-1, adopted Resolution P-11-21 (UP2019-0006), approving a Specific Development Plan/Use Permit request for construction of a seven-story, approximately 89'-0"-tall, ±83,187 square-foot limited-service hotel with 151 guest rooms at the southwest corner of Metro Center Boulevard and Shell Boulevard in the Town Center Neighborhood.

SAID PUBLIC MEETING will be held by teleconference and/or video conference at [www.fostercity.org/fctv](http://www.fostercity.org/fctv). The meeting may also be held as a hybrid meeting with an in-person component, subject to appropriate regulations. If held as a hybrid meeting, the meeting address is 620 Foster City Boulevard, Foster City, CA 94404. Final meeting location(s) will be listed on the published agenda.

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THE PUBLIC IS INVITED TO ATTEND.

Priscilla Schaus  
City Clerk/District Secretary

Dated/Posted: June 30, 2021

Published: July 7, 2021

NOTICE OF PUBLIC HEARING

NOTICE IS HEREBY GIVEN that the Board of Directors of the Estero Municipal Improvement District will hold a PUBLIC HEARING on Monday, July 19, 2021 at 6:30 p.m. to hear and consider public input on the following:

Proposed Revisions and Updates to the Urban Water Management Plan (UWMP) and associated Water Shortage Contingency Plan (WSCP).

The draft UWMP and associated WSCP are available for public review at City Hall, 610 Foster City Boulevard and Foster City Library, 1000 East Hillsdale Boulevard, and on the City's website via the following link: <https://www.fostercity.org/publicworks/page/water>.

SAID PUBLIC HEARING will be held by teleconference and/or video conference at [www.fostercity.org/fctv](http://www.fostercity.org/fctv). The meeting may also be held as a hybrid meeting with an in-person component, subject to appropriate regulations. If held as a hybrid meeting, the meeting address is 620 Foster City Boulevard, Foster City, CA 94404. Final meeting location(s) will be listed on the published agenda.

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THE PUBLIC IS INVITED TO ATTEND.

Priscilla Schaus, District Secretary

Dated: June 23, 2021

Posted/Published: June 30, 2021 and July 7, 2021

ESTATE OF REGINA McNEIL

NOTICE OF PETITION TO ADMINISTER ESTATE OF: REGINA McNEIL, (DECEDENT) CASE NUMBER: 21-PRO-00719

To all heirs, beneficiaries, creditors, contingent creditors, and persons who may otherwise be interested in the will or estate, or both, of: **REGINA McNEIL**

A PETITION FOR PROBATE has been filed by: **CATHERINE McKAY AND SEAN McKAY** Petitioner(s), in the Superior Court of California, County of SAN MATEO

THE PETITION FOR PROBATE requests that **CATHERINE McKAY AND SEAN McKAY** be appointed as personal representative to administer the estate of the decedent.

THE PETITION requests the decedent's will and codicils, if any be admitted to probate. The will and any codicils are available for examination in the file kept by the court.

THE PETITION requests authority to administer the estate under the Independent Administration of Estates Act. (This authority will allow the personal representative to take many actions without obtaining court approval. Before taking certain very important actions however, the personal representative will be required to give notice to interested persons unless they have waived notice or consented to the proposed action.) The independent administration authority will be granted unless an interested person files an objection to the petition and shows good cause why the court should not grant the authority.

A HEARING on the petition will be held in this court as follows:

**August 25, 2021 at 9:00 A.M.**

Superior Court of California, County of San Mateo, located at 400 County Center, Redwood City CA 94063.

IF YOU OBJECT to the granting of the petition, you should appear at the hearing and state your objections or file written objections with the court before the hearing. Your appearance may be in person or by your attorney.

IF YOU ARE A CREDITOR or a contingent creditor of the decedent, you must file your claim with the court and mail a copy to the personal representative appointed by the court within the later of either (1) four months from the date of first issuance of the letters to a general personal representative, as defined in Section 58(b) of the California Probate Code, or (2) 60 days from the date of mailing or personal delivery to you of a notice under section 9052 of the California Probate Code. Other California statutes and legal authority may affect your rights as a creditor. You may want to consult with an attorney knowledgeable in California Law.

YOU MAY EXAMINE the file kept by the court. If you are a person interested in the estate, you may file with the court a Request for Special Notice (form DE-154) of the filing of an inventory and appraisal of estate assets or of any petition or account as provided in Probate Code section 1250. A Request For Special Notice form is available from the court clerk.

Petitioner(s):  
Catherine McKay and Sean McKay  
1573 Cottage Grove Avenue,  
San Mateo, CA 94401  
650-344-4107

(ENDORSED) FILED

SAN MATEO COUNTY June 4, 2021

Clerk of the Superior Court by:

Paul Silverio, Deputy Clerk.

Published in the Foster City Islander 6-30, 7-7, 7-14-21



**PROOF OF PUBLICATION  
AFFIDAVIT/DECLARATION**

State of California )  
San Mateo County )  
 )


**THE FOSTER CITY ISLANDER**

The Foster City Islander ("Islander") is a Newspaper of General Circulation for the State of California, the County of San Mateo, and the City of Foster City, as defined by Sections 6000 et seq, of the California Government Code. The Islander was decreed as such by the San Mateo County Superior Court on April 27, 1976 (Decree No: 200683). The Islander is printed and published weekly in accordance with said code provisions. The notice that is attached hereto and incorporated herein, was printed and published in the following editions of the Islander:

**6-30-21  
7-7-21**

I declare under the penalty of perjury of the State of California that the foregoing facts are true and of my own personal knowledge. This declaration is being made in San Mateo County, CA

on 7-9-21

  
\_\_\_\_\_  
Bob Jungbluth, Publisher  
of the Foster City Islander

**LEGAL NOTICE**

**NOTICE OF PUBLIC HEARING**

NOTICE IS HEREBY GIVEN that the Board of Directors of the Estero Municipal Improvement District will hold a PUBLIC HEARING on Monday, July 19, 2021 at 6:30 p.m. to hear and consider public input on the following:

Proposed Revisions and Updates to the Urban Water Management Plan (UWMP) and associated Water Shortage Contingency Plan (WSCP).

The draft UWMP and associated WSCP are available for public review at City Hall, 610 Foster City Boulevard and Foster City Library, 1000 East Hillsdale Boulevard, and on the City's website via the following link: <https://www.fostercity.org/publicworks/page/water>.

SAID PUBLIC HEARING will be held by teleconference and/or video conference at [www.fostercity.org/fctv](http://www.fostercity.org/fctv). The meeting may also be held as a hybrid meeting with an in-person component, subject to appropriate regulations. If held as a hybrid meeting, the meeting address is 620 Foster City Boulevard, Foster City, CA 94404. Final meeting location(s) will be listed on the published agenda.

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**THE PUBLIC IS INVITED TO ATTEND.**

Priscilla Schaus, District Secretary

Dated: June 23, 2021

Posted/Published: June 30, 2021 and  
July 7, 2021



# FOSTER CITY CALIFORNIA

## COMMUNITY

### Esterero Municipal Improvement District Updates Urban Water Management Plan and Water Shortage Contingency Plan

**For immediate release:** June 28, 2021

**Contact:** Public Works Department, (650) 286-3270, [publicworks@fostercity.org](mailto:publicworks@fostercity.org)

Foster City, CA; June 28, 2021 – The Esterero Municipal Improvement District (EMID) is reviewing and updating its Urban Water Management Plan (UWMP) and associated Water Shortage Contingency Plan (WSCP) in compliance with state law. The State of California requires that the plans be updated every five years. The UWMP was last updated in 2016, and the associated WSCP was last updated in 2018. EMID must also make the draft documents available for public review and hold a public hearing before adopting its UWMP and associated WSCP.

EMID encourages its customers to participate in the review process. Proposed revisions to the UWMP and associated WSCP are available for public review at City Hall, 610 Foster City Boulevard and the Foster City Public Library, 1000 East Hillsdale Boulevard, as well as on the City's website at [www.fostercity.org/publicworks/page/water](http://www.fostercity.org/publicworks/page/water). **A public hearing is scheduled to be held on Monday, July 19, 2021.**

EMID provides potable water to residents in Foster City and the Mariners Island area of San Mateo. The UWMP outlines EMID's water supply projections, describes demand management measures and reports progress toward meeting a targeted 20% reduction of urban water consumption by 2020. As part of the process of preparing the UWMP, EMID is also updating its WSCP to mitigate future water supply shortages.

For more information or questions, please contact Project Engineer Vivian Ma, at (650) 286-3270 or email [vma@fostercity.org](mailto:vma@fostercity.org).

###

# FOSTER CITY

## CALIFORNIA

### National Night Out

08/03/2021 - 5:30pm

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City of Foster City @CityofFC · Jun 28

The Estero Municipal Improvement District is updating its Urban Water Management Plan & Water Shortage Contingency Plan. The public is encouraged to participate in the review process and attend the public hearing on 7/19.

Read the full press release: [ow.ly/CL0m50Fknyt](https://ow.ly/CL0m50Fknyt)



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City of Foster City, CA - Government ✓

June 28 at 2:30 PM · 🌐

The Estero Municipal Improvement District (EMID) is reviewing and updating its Urban Water Management Plan (UWMP) and associated Water Shortage Contingency Plan (WSCP) in compliance with state law, and the public is encouraged to participate in the review process. We also invite you to attend the public hearing on Monday, 7/19.

Read the full press release: <http://ow.ly/fZZA50FkntB>



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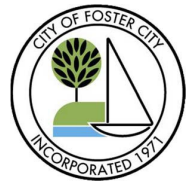
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**Appendices**  
**2020 Urban Water Management Plan**  
**Estero Municipal Improvement District**



**APPENDIX D**  
**DWR POPULATION TOOL**



Please print this page to a PDF and include as part of your UWMP submittal.

Confirmation Information			
Generated By	Water Supplier Name	Confirmation #	Generated On
Meghan Engh	Estero Municipal Improvement District	6165326774	3/2/2021 3:53:41 PM

Boundary Information		
Census Year	Boundary Filename	Internal Boundary ID
1990	EMID_rev2.kml	1544
2000	EMID_rev2.kml	1544
2010	EMID_rev2.kml	1544
1990	EMID_rev2.kml	1544
2000	EMID_rev2.kml	1544
2010	EMID_rev2.kml	1544
1990	EMID_rev2.kml	1544
2000	EMID_rev2.kml	1544
2010	EMID_rev2.kml	1544

**Baseline Period Ranges**

**10 to 15-year baseline period**

Number of years in baseline period:

Year beginning baseline period range:

Year ending baseline period range<sup>1</sup>: 2005

**5-year baseline period**

Year beginning baseline period range:

Year ending baseline period range<sup>2</sup>: 2008

<sup>1</sup> The ending year must be between December 31, 2004 and December 31, 2010.

<sup>2</sup> The ending year must be between December 31, 2007 and December 31, 2010.

**Persons-Per-SF Connection and Persons-Per-MF/GQ Connection**

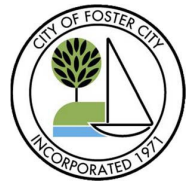
Year	Census Block Group Level	Census Block Level			# SF Connections	# MF/GQ Connections	Persons per SF Connection	Persons per MF/GQ Connection
	% Population in SF Housing	Service Area Population	Population in SF Housing (calculated)	Population in MF/GQ Housing (calculated)				
1990	70.67%	29,922	21,145	8,777			4.81	2.19
1991	-	-	-	-	-	-	4.81	2.31
1992	-	-	-	-	-	-	4.81	2.43
1993	-	-	-	-	-	-	4.81	2.55
1994	-	-	-	-	-	-	4.81	2.66
1995	-	-	-	-	-	-	4.80	2.78
1996	-	-	-	-	-	-	4.80	2.90
1997	-	-	-	-	-	-	4.80	3.02
1998	-	-	-	-	-	-	4.80	3.14
1999	-	-	-	-	-	-	4.80	3.25
2000	71.29%	31,603	22,528	9,075	4698	2692	4.80	3.37
2001	-	-	-	-	-	-	4.80	3.49
2002	-	-	-	-	-	-	4.80	3.61
2003	-	-	-	-	-	-	4.79	3.72
2004	-	-	-	-	-	-	4.79	3.84
2005	-	-	-	-	-	-	4.79	3.96
2006	-	-	-	-	-	-	4.79	4.08
2007	-	-	-	-	-	-	4.79	4.20
2008	-	-	-	-	-	-	4.78	4.31
2009	-	-	-	-	-	-	4.78	4.43
2010	64.74%	33,496	21,684	11,812	4540	2596	4.78	4.55
2011	-	-	-	-	-	-	4.80	3.37
2012	-	-	-	-	-	-	4.80	3.37
2013	-	-	-	-	-	-	4.80	3.37
2014	-	-	-	-	-	-	4.80	3.37
2015	-	-	-	-	-	-	4.80	3.37
2020	-	-	-	-	-	-	4.75 *	5.73 *

Population Using Persons-Per-SF Connection and Persons-Per-MF/GQ Connection

Year		# SF Connections	# MF/GQ Connections	Persons per SF Connection	Persons per MF/GQ Connection	SF Population	MF/GQ Population	Total Population
<b>10 to 15 Year Baseline Population Calculations</b>								
Year 1	1996	4688	2698	4.80	2.90	22,516	7,823	30,339
Year 2	1997	4536	2571	4.80	3.02	21,777	7,758	29,535
Year 3	1998	4598	2631	4.80	3.14	22,066	8,249	30,315
Year 4	1999	4660	2691	4.80	3.25	22,355	8,754	31,109
Year 5	2000	4698	2692	4.80	3.37	22,528	9,075	31,603
Year 6	2001	4657	2666	4.80	3.49	22,344	9,299	31,643
Year 7	2002	4670	2689	4.80	3.61	22,397	9,697	32,094
Year 8	2003	4649	2734	4.79	3.72	22,287	10,181	32,469
Year 9	2004	4649	2734	4.79	3.84	22,278	10,504	32,782
Year 10	2005	4649	2734	4.79	3.96	22,269	10,827	33,095
<b>5 Year Baseline Population Calculations</b>								
Year 1	2004	4649	2734	4.79	3.84	22,278	10,504	32,782
Year 2	2005	4649	2734	4.79	3.96	22,269	10,827	33,095
Year 3	2006	4649	2734	4.79	4.08	22,259	11,149	33,409
Year 4	2007	4690	2677	4.79	4.20	22,446	11,233	33,679
Year 5	2008	4690	2677	4.78	4.31	22,437	11,549	33,986
<b>2020 Compliance Year Population Calculations</b>								
2020		4533	2616	4.75 *	5.73 *	21,526	14,990	36,516

Hide Print Confirmation

QUESTIONS / ISSUES? CONTACT THE WUEdata HELP DESK  
 MWELo QUESTIONS / ISSUES? CONTACT THE MWELo HELP DESK



**APPENDIX E**  
**SBX7-7 VERIFICATION TABLES**

**SB X7-7 Table 7: 2020 Target Method***Select Only One*

Target Method		Supporting Tables
<input checked="" type="checkbox"/>	Method 1	SB X7-7 Table 7A
<input type="checkbox"/>	Method 2	SB X7-7 Tables 7B, 7C, and 7D
<input type="checkbox"/>	Method 3	SB X7-7 Table 7-E
<input type="checkbox"/>	Method 4	Method 4 Calculator <i>Located in the WUE Data Portal at <a href="http://wuedata.water.ca.gov">wuedata.water.ca.gov</a> Resources button</i>

NOTES:

**SB X7-7 Table 7-A: Target Method 1**  
20% Reduction

10-15 Year Baseline GPCD	2020 Target GPCD
175	<b>140</b>
NOTES:	



**SB X7-7 Table 7-F: Confirm Minimum Reduction for 2020 Target**

5 Year Baseline GPCD From SB X7-7 Table 5	Maximum 2020 Target <sup>1</sup>	Calculated 2020 Target <sup>2</sup>			Confirmed 2020 Target <sup>4</sup>
		As calculated by supplier in this SB X7-7 Verification Form	Special Situations <sup>3</sup>		
			Prorated 2020 Target	Population Weighted Average 2020 Target	
162	154	139.9861484			140

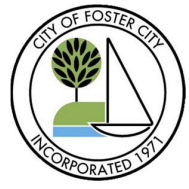
<sup>1</sup> **Maximum 2020 Target** is 95% of the 5 Year Baseline GPCD except for suppliers at or below 100 GPCD.

<sup>2</sup> **Calculated 2020 Target** is the target calculated by the Supplier based on the selected Target Method, see SB X7-7 Table 7 and corresponding tables for agency's calculated target. Supplier may only enter one calculated target.

<sup>3</sup> **Prorated targets and population weighted target** are allowed for special situations only. These situations are described in Appendix P, Section P.3

<sup>4</sup> **Confirmed Target** is the lesser of the Calculated 2020 Target (C5, D5, or E5) or the Maximum 2020 Target (Cell B5)

NOTES:



**APPENDIX F**  
**SBX7-7 COMPLIANCE TABLES**

**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**

<b>Method Used to Determine 2020 Population</b> (may check more than one)	
<input type="checkbox"/>	<b>1. Department of Finance (DOF) or American Community Survey (ACS)</b>
<input type="checkbox"/>	<b>2. Persons-per-Connection Method</b>
<input checked="" type="checkbox"/>	<b>3. DWR Population Tool</b>
<input type="checkbox"/>	<b>4. Other</b> DWR recommends pre-review
NOTES:	

<b>SB X7-7 Table 3: 2020 Service Area Population</b>	
<b>2020 Compliance Year Population</b>	
<b>2020</b>	36,516
NOTES:	



**SB X7-7 Table 4: 2020 Gross Water Use**

Compliance Year 2020	2020 Volume Into Distribution System <i>This column will remain blank until SB X7-7 Table 4-A is completed.</i>	2020 Deductions					2020 Gross Water Use
		Exported Water *	Change in Dist. System Storage* (+/-)	Indirect Recycled Water <i>This column will remain blank until SB X7-7 Table 4-B is completed.</i>	Water Delivered for Agricultural Use*	Process Water <i>This column will remain blank until SB X7-7 Table 4-D is completed.</i>	
	1,596			-		-	1,596

\* 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:

<b>SB X7-7 Table 5: 2020 Gallons Per Capita Per Day (GPCD)</b>		
<b>2020 Gross Water <i>Fm SB X7-7 Table 4</i></b>	<b>2020 Population <i>Fm</i> <i>SB X7-7 Table 3</i></b>	<b>2020 GPCD</b>
1,596	36,516	<b>120</b>
NOTES:		

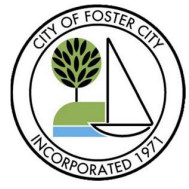
**SB X7-7 Table 9: 2020 Compliance**

Actual 2020 GPCD <sup>1</sup>	Optional Adjustments to 2020 GPCD					2020 Confirmed Target GPCD <sup>1,2</sup>	Did Supplier Achieve Targeted Reduction for 2020?
	Enter "0" if Adjustment Not Used			TOTAL Adjustments <sup>1</sup>	Adjusted 2020 GPCD <sup>1</sup> <i>(Adjusted if applicable)</i>		
	Extraordinary Events <sup>1</sup>	Weather Normalization <sup>1</sup>	Economic Adjustment <sup>1</sup>				
120	-	-	-	-	120	140	YES

<sup>1</sup> All values are reported in GPCD

<sup>2</sup> **2020 Confirmed Target GPCD** is taken from the Supplier's SB X7-7 Verification Form Table SB X7-7, 7-F.

NOTES:



**APPENDIX G**  
**SFPUC AND BAWSCA COMMON LANGUAGE FOR 2020 UWMP**

## Draft Common Language for BAWSCA Member Agencies' 2020 UWMPs

### 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.

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%

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% during droughts. If Retail Customer demands are lower than the Retail Customer allocation (resulting in a “positive allocation” to Retail<sup>1</sup>) 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% 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

<sup>1</sup> See Water Supply Agreement, Water Shortage Allocation Plan (Attachment H), Section 2.1.

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 takes into account 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.

### **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.

[Name of Agency's] ISG is \_\_\_\_\_ mgd.

### **2028 SFPUC Decisions (formerly 2018 SFPUC Decisions)**

*[Note: This section is intended to be optional language that individual BAWSCA member agencies may use.]*

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, and
- 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.

### **Reliability of the Regional Water System**

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

The SFPUC's LOS Goals and Objectives related to water supply are:

Program Goal	System Performance Objective
Water Supply – <i>meet customer water needs in non-drought and drought periods</i>	<ul style="list-style-type: none"> <li>• Meet all state and federal regulations to support the proper operation of the water system and related power facilities.</li> <li>• 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.</li> <li>• Meet dry-year delivery needs while limiting rationing to a maximum 20 percent system-wide reduction in water service during extended droughts.</li> <li>• Diversify water supply options during non-drought and drought periods.</li> <li>• Improve use of new water sources and drought management, including groundwater, recycled water, conservation, and transfers.</li> </ul>

***Factors Impacting Supply Reliability***

Adoption of the 2018 Bay-Delta Plan Amendment

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 30-50% of the “unimpaired flow”<sup>2</sup> 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% of unimpaired flow.

If the Bay-Delta Plan Amendment is implemented, the SFPUC will be able to meet the projected water demands presented in this UWMP in normal years but would experience supply shortages in single dry years or multiple dry years. Implementation of the Bay-Delta Plan Amendment will require rationing in all single dry years and multiple dry years. The SFPUC has initiated 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 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

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<sup>2</sup> "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](https://www.waterboards.ca.gov/plans_policies/docs/2018wqcp.pdf).)

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 SWRCB has stated that it intends to implement the Bay-Delta Plan Amendment on the Tuolumne River by the year 2022, assuming all required approvals are obtained by that time. But implementation of the Plan Amendment is uncertain for multiple reasons.

First, 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.

Second, 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).

Third, 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 Commission 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.<sup>3</sup>

### ***Water Supply – All Year Types***

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

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<sup>3</sup> 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/>.

- 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.

### ***WSIP Dry Year Water Supply Projects***

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.

- **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 SMP (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.

- **Lower Crystal Springs Dam Improvements**

The Lower Crystal Springs Dam (LCSD) 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 LCSD 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 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 acre-feet). 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.

### ***Alternative Water Supply Planning Program***

The SFPUC is increasing and accelerating its efforts to acquire additional water supplies and explore other projects that would increase overall water supply resilience through the Alternative Water Supply Planning Program. The drivers for the program include: (1) the adoption of the Bay-Delta Plan Amendment and the resulting potential limitations to RWS supply during dry years, (2) the net supply shortfall following the implementation of WSIP, (3) San Francisco's perpetual obligation to supply 184 MGD to the Wholesale Customers, (4) adopted Level of Service Goals to limit rationing to no more than 20 percent system-wide during droughts, and (5) 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:

1. Offset instream flow needs and meet regulatory requirements
2. Meet existing obligations to existing permanent customers
3. Make interruptible customers permanent
4. 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 applicable 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<sup>4</sup>, 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 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 other smaller irrigation customers, offsetting existing groundwater pumping from the South Westside Groundwater Basin; this will free up groundwater, 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.

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<sup>4</sup> While this potential project was identified in the 2015 UWMP, it has since been approved by Daly City following environmental review and has a higher likelihood of being implemented.



- **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 Alameda County Water District's (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 (PREP) Project is a purified water project that could provide 6-12 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 10-20 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, CalWater, 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 (CCWD), 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, CCWD is leading the planning, design and environmental review efforts. CCWD's Board certified the 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 (BARR SWAP):** As part of the BARR Partnership, a consortium of 8 Bay Area water utilities (including ACWD, BAWSCA, CCWD, EBMUD, Marin Municipal Water District (MMWD), 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 (SWAP) 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 CCWD, the SFPUC, Valley Water, and Zone 7 Water Agency. East Bay Municipal Utilities District (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 CCWD'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 Modesto Irrigation District (MID) and Turlock Irrigation District (TID) 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.

- **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.

### ***Projected SFPUC Regional Water System Supply Reliability***

The SFPUC will provide tables presenting the projected RWS supply reliability under normal, single dry year, and multiple dry year scenarios.

### **Climate Change**

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 processes, though the extent and precise effects of climate change remain uncertain. 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, observational data show that a warming trend occurred during the latter part of the 20th century and virtually all projections indicate this will 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:

- 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, annual average, intensity and variability of precipitation, and an increased amount of precipitation falling as rain rather than 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; and
- Changes in urban and agricultural water demand.

Both the SFPUC and BAWSCA participated in the 2020 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, the SFPUC continues to study the effect of climate change on the Regional Water System (RWS). These works are summarized below.

### ***Bay Area Integrated Regional Water Management Plan***

Climate change adaptation continues to be an overarching theme for the 2019 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 (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 Department of Water Resources' (DWR's) *Climate Change Handbook for Regional Water Planning* and using the most current science available for the Region. The vulnerability assessment, summarized in the table below, 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.

### Summary of BAIRWMP Climate Change Vulnerability Assessment

<b>Vulnerability Areas</b>	<b>General Overview of Vulnerabilities</b>
<b>Water Demand</b>	<p><b>Urban and Agricultural Water Demand</b> – 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.</p>
<b>Water Supply</b>	<p><b>Imported Water</b> – 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.</p> <p><b>Regional Surface Water</b> – 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.</p> <p><b>Regional Groundwater</b> – 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.</p>
<b>Water Quality</b>	<p><b>Imported Water</b> – 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),</p>

<b>Vulnerability Areas</b>	<b>General Overview of Vulnerabilities</b>
	<p>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</p> <p><b>Regional Surface Water</b> – 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.</p> <p><b>Regional Groundwater</b> – 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.</p>
<b>Sea-Level Rise</b>	<p>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.</p> <p>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.</p> <p>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.</p>
<b>Flooding</b>	<p>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.</p> <p>Changes to precipitation regimes may increase flooding.</p> <p>Elevated Bay elevations due to sea-level rise will increase backwater effects exacerbating the effect of fluvial floods and storm drain backwater flooding.</p>

<b>Vulnerability Areas</b>	<b>General Overview of Vulnerabilities</b>
<b>Ecosystem and Habitat</b>	<p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p>
<b>Hydropower</b>	<p>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.</p> <p>Some hydropower is also produced within the region and could also be affected by changes in the timing and amount of runoff.</p>

Source: 2019 Bay Area Integrated Regional Water Management Plan (BAIRWMP), Table 16-3.

**SFPUC Climate Change Studies**

The SFPUC views assessment of the effects of climate change as 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 0.7-2.1% from present-day conditions by 2040 and by 2.6-10.2% 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 7.6-8.6% from present-day conditions by 2040 and by 24.7-29.4% 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% 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 Regional Water System'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 that could lead to developing an adaptation plan that is flexible and robust to a wide range of future outcomes.

## **Common Language for BAWSCA Member Agencies'**

### **2020 UWMP Updates**

#### **BAWSCA**

##### **Description 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 San Francisco Public Utilities Commission (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 Urban Water Management Plan (UWMP) updates is to work with its member agencies and the SFPUC to seek consistency among UWMP documents.

##### **Regional Water Demand and Conservation Projections**

In June 2020, BAWSCA completed the Regional Water Demand and Conservation Projections Report (Demand Study).<sup>1</sup> 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 Assembly Bill (AB) 1668 and Senate Bill (SB) 606.

Through the Demand Study process, BAWSCA and the Wholesale Customers (1) quantified the total average-year water demand for each BAWSCA member agency through 2045, (2) quantified passive and active conservation water savings potential for each individual Wholesale Customer through 2045, and (3) 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 model that can be used to support ongoing demand and conservation planning efforts, including UWMP preparation.

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<sup>1</sup> Phase III Final Report: [http://bawasca.org/uploads/pdf/BAWSCA\\_Regional\\_Water\\_Demand\\_and\\_Conservation%20Projections%20Report\\_Final.pdf](http://bawasca.org/uploads/pdf/BAWSCA_Regional_Water_Demand_and_Conservation%20Projections%20Report_Final.pdf)

## 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:

- 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 Individual Supply Guarantee (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 Bay Area Regional Reliability Partnership<sup>2</sup> (BARR), a partnership among eight Bay Area water utilities (including the SFPUC, Alameda County Water District, BAWSCA, Contra Costa Water District, Santa Clara Valley Water District) 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.

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<sup>2</sup> <https://www.bayareareliability.com/>

## **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, which built 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 requirements.
- Organized an Advanced Metering Infrastructure symposium to enable information exchange, including case studies, implementation strategies, and data analysis techniques.
- Initiated a regional CII audit pilot program, which BAWSCA aims to complete in 2021.<sup>3</sup>
- 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.

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<sup>3</sup> Efforts on the CII audit pilot program stalled in March 2020 due to the COVID 19 pandemic and related shelter-in-place orders.

## 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; 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.

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% or less. For Regional Water System shortages in excess of 20%, San Francisco shall (a) follow the Tier 1 Shortage Plan allocations up to the 20% reduction, (b) meet and discuss how to implement incremental reductions above 20% with the Wholesale Customers, and (c) make a final determination of allocations above the 20% 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 San Francisco Regional Water System (RWS) shortages in excess of 20%, 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.

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.

### **SFPUC's Efforts to Develop of Alternative Water Supplies**

With the adoption of the Bay-Delta Plan Phase 1 (Bay-Delta Plan) by the State Water Resources Control Board in December of 2018, coupled with the uncertainties associated with litigation and the development of Voluntary Agreements that, if successful, would provide an alternative to the 40% unimpaired flow requirement that is required by the Bay-Delta Plan, BAWSCA redoubled its efforts to ensure that the SFPUC took necessary action to develop alternative water supplies such that they would be in place to fill any potential gap in supply by implementation of the Bay-Delta Plan and that the SFPUC would be able to meet its legal and contractual obligations to its Wholesale Customers.

In 2019, BAWSCA held numerous meetings with the SFPUC encouraging them to develop a division within their organization whose chief mission was to spearhead alternative water supply development. On June 25, 2019, BAWSCA provided a written and oral statement to the Commissioners urging the SFPUC to focus on developing new sources of supply in a manner similar to how it addressed the implementation of the Water System Improvement Program (WSIP). BAWSCA urged that a new water supply program was called for, with clear objectives, persistent focus, a dedicated team, adequate funding, and a plan for successful execution. The SFPUC Commission supported BAWSCA's recommendation and directed staff to undertake such an approach.

In early 2020, the SFPUC began implementation of the Alternative Water Supply Planning Program (AWSP), a program designed to investigate and plan for new water supplies to address future long-term water supply reliability challenges and vulnerabilities on the RWS.

Included in the AWSP is a suite of diverse, non-traditional supply projects that, to a great degree, leverage regional partnerships and are designed to meet the water supply needs of the SFPUC Retail and Wholesale Customers through 2045. As of the most recent Alternative Water Supply Planning Quarterly Update, SFPUC has budgeted \$264 million over the next ten years to fund water supply projects. BAWSCA is heavily engaged with the SFPUC on its AWSS efforts.

### **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 automated 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.

## 7. Additional language requested by the Member Agencies

### **SFPUC's Decision to use With Bay-Delta Plan Scenario in UWMP Submittal Tables**

The adoption of the Bay-Delta Plan Amendment may significantly impact the supply available from the RWS. SFPUC recognizes that the Bay-Delta Plan Amendment has been adopted and that, given that it is now state law, we must plan for a future in which it is fully implemented. SFPUC also acknowledges that the plan is not self-implementing and therefore does not automatically go into effect. SFPUC is currently pursuing a voluntary agreement as well as a lawsuit which would limit implementation of the Plan. With both of these processes occurring on an unknown timeline, 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 doesn't include implementation of the Bay-Delta Plan Amendment, as that represents a potential supply reliability scenario.

Because of the uncertainty surrounding implementation of the Bay-Delta Plan Amendment, the SFPUC conducted water service reliability assessment that includes: (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. The standardized tables associated with the SFPUC's UWMP contain the future scenario that assumes implementation of the Bay-Delta Plan Amendment starting in 2023.

### **Bay-Delta Plan Implementation Starting Year**

Because of the uncertainty surrounding implementation of the Bay-Delta Plan Amendment, the water service reliability assessment presented in the SFPUC's draft UWMP looks at two future supply scenarios, both with and without implementation of the Bay-Delta Plan Amendment. 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 draft UWMP that the Bay-Delta Plan Amendment will be fully implemented starting in 2023.

### **SFPUC's Decision to Present Both Modeling Results in its UWMP**

A key input for the HHLSTM model is the anticipated level of demand on the RWS. Supply modeling results presented in the text of the SFPUC's UWMP reflect an input of projected demands on the RWS consisting of (1) projected retail demands on the RWS (total retail demands minus local groundwater and recycled water supplies), and (2) projected Wholesale Customer purchases. 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. Therefore, the SFPUC has also conducted modeling based on a demand of 265 mgd in order to facilitate planning that supports meeting this Level of Service goal and their contractual obligations.



**APPENDIX H**

**REGIONAL WATER SUPPLY RELIABILITY AND BAWSCA TIER 2 DROUGHT IMPLEMENTATION SCENARIOS**

- Memorandum on Updated Drought Cutbacks, dated 18 February 2021 with Attachment B, dated 8 April 2021
- UWMP 2020 Additional Modeling, dated 30 March 2021
- Updated Drought Allocations, dated 1 April 2021
- Memorandum on Regional Water System Supply Reliability and UWMP 2020, dated 2 June 2021



February 18, 2021

**TO:** BAWSCA Member Agencies

**FROM:** Danielle McPherson, Senior Water Resources Specialist  
Tom Francis, Water Resources Manager

**SUBJECT:** San Francisco Regional Water System Supply Reliability for 2020 Urban Water Management Plans

The purpose of this memorandum is to provide updated drought allocations among the Member Agencies under the various scenarios provided in the San Francisco Public Utilities Commission (SFPUC) Regional Water System (RWS) Supply Reliability Letter dated January 22, 2021 and transmitted to the Member Agencies via email on January 25<sup>th</sup> ("Supply Reliability Letter", Attachment A). As presented and discussed at the February 12<sup>th</sup> BAWSCA Urban Water Management Plan (UWMP) Workshop, the Tier 2 Drought Allocation Plan was not designed for RWS shortages greater than 20 percent. As a result, the Tier 2 allocation tables shared with the Supply Reliability Letter showed unexpected and wide-ranging results between Member Agencies that should not be used for UWMP purposes.

As provided for in the 2018 Amended and Restated Water Supply Agreement (WSA), the SFPUC will honor new Tier 2 allocations agreed upon by all Member Agencies if an RWS shortage greater than 20 percent is declared. However, at this time, there is no method for allocating supplies under such significant cutbacks. Additionally, the time it would take to negotiate a modified Tier 2 plan to address those significant cutbacks would be extensive and greater than the timeline required for BAWSCA to provide your agency with numbers for input into your 2020 UWMP submittals.

For these reasons, BAWSCA is recommending that for the purpose of the 2020 UWMP updates, allocation of wholesale RWS supplies should be as follows:

1. When the average Wholesale Customers' RWS shortages are 10 percent or less, an equal percent reduction will be applied across all agencies. This is consistent with the existing Tier 2 requirement of a minimum 10 percent cutback in any Tier 2 application scenario.
2. When average Wholesale Customers' shortages are between 10 and 20 percent, the Tier 2 Drought Allocation Plan will be applied.
3. When the average Wholesale Customers' RWS shortages are greater than 20 percent, an equal percent reduction will be applied across all agencies.

Attachment B "Updated 2020 UWMP Drought Cutbacks" provides further detail, including recommended wholesale RWS allocation tables, for use in your agency's 2020 UWMP.

BAWSCA recognizes that this is not an ideal situation or method for allocation of available drought supplies. In the event of actual RWS shortages greater than 20 percent, the Member Agencies would have the opportunity to negotiate and agree upon a more nuanced and equitable approach. Such an approach would likely consider basic health and safety needs, the

Memo To: Member Agencies  
February 18, 2021  
Page 2 of 2

water needs to support critical institutions such as hospitals, and minimizing economic impacts on individual communities and the region.

Enclosed: Attachment A: Supply Reliability Letter  
Attachment B: Updated 2020 UWMP Drought Cutbacks

cc: Nicole Sandkulla  
Allison Schutte



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

**London N. Breed**  
 Mayor

**Sophie Maxwell**  
 President

**Anson Moran**  
 Vice President

**Tim Paulson**  
 Commissioner

**Ed Harrington**  
 Commissioner

**Michael Carlin**  
 Acting  
 General Manager





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](mailto:striolo@sfwater.org) or (628) 230 0802.

Sincerely,



Paula Kehoe  
Director of Water Resources

**Table 1: WSIP Project Assumptions**

	<b>2020</b>	<b>2025 and Beyond</b>
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]:**

<b>Year</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>	<b>2035</b>	<b>2040</b>	<b>2045</b>
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	<ul style="list-style-type: none"> <li>• At 10% shortage, wholesale allocation is 64%, or 152.6 mgd</li> <li>• Retail allocation is 36%, or 85.9 mgd</li> <li>• Retail allocations above 81 mgd are re-allocated to Wholesale Customers, per the 2018 WSA</li> <li>• 4.9 mgd added to wholesale allocation, bringing it to 157.5 mgd</li> </ul>
Consecutive 1 <sup>st</sup> Dry year		238.5	90%	157.5	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>
Consecutive 2 <sup>nd</sup> Dry year		212	80%	132.5	<ul style="list-style-type: none"> <li>• At a 20% shortage, wholesale allocation is 62.5%, or 132.5 mgd</li> <li>• Retail allocation is 37.5%, or 79.5 mgd</li> </ul>
Consecutive 3 <sup>rd</sup> Dry year <sup>1</sup>		119.25	45%	74.5	<ul style="list-style-type: none"> <li>• WSA does not define percentage split above a 20% shortage level</li> <li>• Assume same split as for a 20% shortage level, i.e. Wholesale Customers receive 62.5%</li> </ul>
Consecutive 4 <sup>th</sup> Dry year		119.25	45%	74.5	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>
Consecutive 5 <sup>th</sup> Dry year		119.25	45%	74.5	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>

<sup>1</sup> 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	<ul style="list-style-type: none"> <li>• At 10% shortage, wholesale allocation is 64%, or 152.6 mgd</li> <li>• Retail allocation is 36%, or 85.9 mgd</li> <li>• Retail allocations above 81 mgd are re-allocated to Wholesale Customers, per the 2018 WSA</li> <li>• 4.9 mgd added to wholesale allocation, bringing it to 157.5 mgd</li> </ul>
Consecutive 1 <sup>st</sup> Dry year		238.5	90%	157.5	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>
Consecutive 2 <sup>nd</sup> Dry year		212	80%	132.5	<ul style="list-style-type: none"> <li>• At a 20% shortage, wholesale allocation is 62.5%, or 132.5 mgd</li> <li>• Retail allocation is 37.5%, or 79.5 mgd</li> </ul>
Consecutive 3 <sup>rd</sup> Dry year		212	80%	132.5	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>
Consecutive 4 <sup>th</sup> Dry year		212	80%	132.5	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>
Consecutive 5 <sup>th</sup> Dry year		212	80%	132.5	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>

**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	<ul style="list-style-type: none"> <li>• WSA does not define percentage split above a 20% shortage level</li> <li>• Assume same split as for a 20% shortage level, i.e. Wholesale Customers receive 62.5%</li> </ul>
Consecutive 1 <sup>st</sup> Dry year		132.5	50%	82.8	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>
Consecutive 2 <sup>nd</sup> Dry year		119.25	45%	74.5	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>
Consecutive 3 <sup>rd</sup> Dry year		119.25	45%	74.5	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>
Consecutive 4 <sup>th</sup> Dry year		119.25	45%	74.5	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>
Consecutive 5 <sup>th</sup> Dry year		119.25	45%	74.5	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>

**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	<ul style="list-style-type: none"> <li>• At 10% shortage, wholesale allocation is 64%</li> <li>• Retail allocation is 36%, or 85.9 mgd; retail allocations above 81 mgd are re-allocated to Wholesaler Customers, per the 2018 WSA</li> <li>• 4.9 mgd added to wholesale allocation, bringing it to 157.5 mgd</li> </ul>
Consecutive 1 <sup>st</sup> Dry year		238.5	90%	157.5	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>
Consecutive 2 <sup>nd</sup> Dry year		238.5	90%	157.5	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>
Consecutive 3 <sup>rd</sup> Dry year		238.5	90%	157.5	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>
Consecutive 4 <sup>th</sup> Dry year		212	80%	132.5	<ul style="list-style-type: none"> <li>• At a 20% shortage, wholesale allocation is 62.5%, or 132.5 mgd</li> <li>• Retail allocation is 37.5%, or 79.5 mgd</li> </ul>
Consecutive 5 <sup>th</sup> Dry year		212	80%	132.5	<ul style="list-style-type: none"> <li>• Same as above</li> </ul>

**Table 7: Projected Multiple Dry Years Wholesale Supply from RWS [For Table 7-4], With Bay Delta Plan**

	<b>2025</b>	<b>2030</b>	<b>2035</b>	<b>2040</b>	<b>2045</b>
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**

	<b>2025</b>	<b>2030</b>	<b>2035</b>	<b>2040</b>	<b>2045</b>
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	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>
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	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>
RWS Supply (mgd)	238.5	212	212	212	212
Wholesale Supply (mgd)	157.5	132.5	132.5	132.5	132.5



## **Attachment B: Updated 2020 UWMP Drought Cutbacks**

The January 22, 2021, SFPUC Regional Water System (RWS) Supply Reliability Letter (Supply Reliability Letter) provides RWS supplies available to the Wholesale Customers under two scenarios: (1) With Bay-Delta Plan, and (2) Without Bay-Delta Plan. Your agency must choose which scenario to use for your agency's 2020 UWMP submittal tables. However, you may discuss both scenarios in the body of your agency's UWMP. The purpose of this attachment is to provide further detail about your agency's allocation of total RWS supplies available to the Wholesale Customers under both scenarios.

### **Data Sources for Projected RWS Purchases**

Supply allocations are based on projected RWS purchases provided to BAWSCA by the Member Agencies. Following the completion of the Demand Study in June 2020, BAWSCA used the results to develop a table for each Member Agency listing possible supplies and total demand for 2025, 2030, 2035, 2040, and 2045. BAWSCA populated the tables with total demand after passive conservation and entered active conservation, as calculated in the agencies' DSS Model, as a source of supply. Multi-source agencies were asked to complete the table with supply projections, including from the RWS, to meet total demand. Single-source agencies were offered the opportunity to review the tables upon request. Because active conservation was treated as a source of supply, projected RWS purchases are after passive and active conservation.<sup>1</sup>

Water Management Representatives (WMRs) received a draft copy of all projected wholesale RWS purchase requests as part of the January 7, 2021 WMR meeting agenda packet and meeting slides. Agencies were asked to notify BAWSCA if changes were necessary regarding their purchase requests prior to BAWSCA sending those purchase requests to the SFPUC. Purchase requests were transmitted to the SFPUC via a letter dated January 15, 2021 for use in their 2020 UWMP efforts.

Note that the projected RWS purchases used by BAWSCA for fiscal years 2020-21 and for 2021-22 were provided to Christina Tang, BAWSCA's Finance Manager, by each Member Agency in January 2021. This annual reporting is part of the SFPUC's wholesale rate setting process. Member Agencies have provided BAWSCA with these projected purchases annually for the past 10 years.

### **UWMP Tables 7-1 and 7-5**

UWMP Table 7-1 requests supply reliability for a normal year, a single dry year, and multiple (five) dry years. Tables 3, 4, 5, and 6 provided in the Supply Reliability Letter will help your agency complete UWMP Table 7-1. The Drought Risk Assessment (DRA) in UWMP Table 7-5 also requests a five-year drought sequence but specifies years 2021 through 2025. Supply Reliability Letter Tables 9 and 10 will help your agency complete UWMP Table 7-5.

The Supply Reliability Letter provides four scenarios to select from for completing UWMP Table 7-1. The Supply Reliability Letter Tables 3 (with Bay-Delta Plan) and 4 (without Bay-Delta Plan) use 2020 as the base year. Depending on which scenario you choose, these will be the basis for your agency's five-year DRA (UWMP Table 7-5). The Supply Reliability Letter Tables 5 (with Bay-Delta Plan) and 6 (without Bay-Delta Plan) use 2025 as the base year. Depending on which scenario you choose, these will be the basis for UWMP Tables 7-2 through 7-4.

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<sup>1</sup> Projected RWS purchases are after conservation, except for Mountain View.

**Attachment B: Updated 2020 UWMP Drought Cutbacks**

Total RWS supplies available to the Wholesale Customers in the first through fifth consecutive dry years in Supply Reliability Letter Table 3 align with those in Table 9 of the same letter. Similarly, Supply Reliability Letter Table 4 aligns with Table 10 of the same letter.

Table A below provides a summary of the Member Agencies' RWS supply drought cutbacks under each of the four supply availability conditions and is intended to help you complete UWMP Tables 7-1 and 7-5.

**Table A: Wholesale Customer Drought Cutbacks Based on a Single Dry Year and Multiple Dry Years (Base Year 2020)**

	(a)	(b)	(c)	(d)	(e)	(f)	(g)
(1)	Projected SF RWS Wholesale Purchases	132.2 MGD	138.6 MGD	140.8 MGD	142.5 MGD	144.3 MGD	146.0 MGD
(2)	Supply Available to the Wholesale Customers	Percent Cutback on Wholesale RWS Purchases					
		<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>
(3)	157.5 MGD	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
(4)	132.5 MGD	0.0%	-4.4%	-5.9%	-7.0%	-8.2%	-9.3%
(5)	82.8 MGD	-37.4%	-40.3%	-41.2%	-41.9%	-42.6%	-43.3%
(6)	74.5 MGD	-43.7%	-46.3%	-47.1%	-47.7%	-48.4%	-49.0%

Table A, column (a), rows 3 through 6 lists total RWS supplies available to the Wholesale Customers as provided in the Supply Reliability Letter tables. Row 1 provides cumulative actual wholesale RWS purchases for 2020 and projected purchases for 2021 through 2025. Projected RWS purchases for years 2021 and 2022 were provided to Christina Tang, BAWSCA's Finance Manager, by the Member Agencies in January. Projected RWS purchases for 2025 were provided to BAWSCA by the Member Agencies as described previously in this memo. Projected wholesale RWS purchases for 2023 and 2024 were derived assuming a linear change between 2022 and 2025.

Table B below provides a summary of the Member Agencies' RWS supply drought cutbacks under each of the four supply availability conditions and is intended to help you complete UWMP Table 7-1.

**Table B: Wholesale Customer Drought Cutbacks Based on a Single Dry Year and Multiple Dry Years (Base Year 2025)**

	(a)	(b)	(c)	(d)	(e)	(f)	(g)
(1)	Projected SF RWS Wholesale Purchases	146.0 MGD	146.4 MGD	146.8 MGD	147.1 MGD	147.5 MGD	147.9 MGD
(2)	Supply Available to the Wholesale Customers	Percent Cutback on Wholesale RWS Purchases					
		<b>2025</b>	<b>2026</b>	<b>2027</b>	<b>2028</b>	<b>2029</b>	<b>2030</b>
(3)	157.5 MGD	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
(4)	132.5 MGD	-9.2%	-9.5%	-9.7%	-9.9%	-10.2%	-10.4%
(5)	82.8 MGD	-43.3%	-43.4%	-43.6%	-43.7%	-43.9%	-44.0%
(6)	74.5 MGD	-49.0%	-49.1%	-49.3%	-49.4%	-49.5%	-49.6%

## Attachment B: Updated 2020 UWMP Drought Cutbacks

Table B, column (a), rows 3 through 6 lists total RWS supplies available to the Wholesale Customers as provided in the Supply Reliability Letter tables. Row 1 provides cumulative projected wholesale RWS purchases for 2025 through 2030. Projected wholesale RWS purchases for years 2025 and 2030 were provided to BAWSCA by the Member Agencies as described previously in this memo. Projected wholesale RWS purchases for 2026 through 2029 were derived assuming a linear change between 2025 and 2030.

To complete UWMP Tables 7-1 and 7-5, reference tables in the Supply Reliability Letter to identify total RWS supplies available to the Wholesale Customers and apply the percent cutback in the corresponding year of the drought sequence using Tables A and B. For example, in Supply Reliability Letter Table 3, in the 5<sup>th</sup> consecutive year of a drought, the volume available to the Wholesale Customers is 74.5 MGD. To calculate RWS supplies available to your agency in 2025 using table A, locate the row with 74.5 MGD on the table – row 6 – and the column for 2025 – column (g). Then apply the percent cutback to your agency's RWS demand in 2025.

A list of purchase projections by agency are provided in Tables C, D, E, and F. The table also indicates the percent cutback that should be applied based on total RWS supplies available to the Wholesale Customers. Tables C and E use Scenario 1: With Bay-Delta Plan. Tables D and F use Scenario 2: Without Bay-Delta Plan. Tables C and D use 2020 as the base year and Tables E and F use 2025 as the base year.

BAWSCA understands that agencies are updating projected demands for their 2020 UWMPs and that projected RWS purchases may change from what was previously provided. Additionally, BAWSCA recognizes that not all Member Agencies will choose the same scenario for their UWMP supply reliability tables. For both reasons, projected RWS purchases in each Member Agency's 2020 UWMP may not add up to total Wholesale demands in the SFPUC's 2020 UWMP. This is consistent with direction given by the Department of Water Resources, which encourages suppliers use the UWMP tables to represent what they believe to be the most likely supply reliability scenario and to characterize the five-consecutive year drought in a manner that is best suited for understanding and managing their water service reliability and individual agency level of risk tolerance.

**Attachment B: Updated 2020 UWMP Drought Cutbacks**

**Table C: Scenario 1: With Bay-Delta Plan - Projected Wholesale Customer RWS Demand and Percent Cutback for a Single Dry Year and Multiple Dry Years (Base Year 2020)**

Agency	2020 (184 MGD)		2021 (157.5 MGD)		2022 (132.5 MGD)		2023 (74.5 MGD)		2024 (74.5 MGD)		2025 (74.5 MGD)	
	Actual Purchases	Drought Cutback	Projected Demand	Drought Cutback	Projected Demand	Drought Cutback	Projected Demand	Drought Cutback	Projected Demand	Drought Cutback	Projected Demand	Drought Cutback
ACWD	7.87	0.0%	9.44	0.0%	9.46	-5.9%	8.87	-47.7%	8.27	-48.4%	7.68	-49.0%
Brisbane/GVMID	0.64	0.0%	0.62	0.0%	0.65	-5.9%	0.73	-47.7%	0.81	-48.4%	0.89	-49.0%
Burlingame	3.48	0.0%	3.34	0.0%	3.35	-5.9%	3.67	-47.7%	4.00	-48.4%	4.33	-49.0%
Coastside	1.02	0.0%	1.54	0.0%	1.23	-5.9%	1.29	-47.7%	1.34	-48.4%	1.40	-49.0%
CalWater Total	29.00	0.0%	29.66	0.0%	29.81	-5.9%	29.87	-47.7%	29.93	-48.4%	29.99	-49.0%
Daly City	3.97	0.0%	4.00	0.0%	4.01	-5.9%	3.86	-47.7%	3.72	-48.4%	3.57	-49.0%
East Palo Alto	1.57	0.0%	1.63	0.0%	1.69	-5.9%	1.75	-47.7%	1.81	-48.4%	1.88	-49.0%
Estero	4.34	0.0%	4.48	0.0%	4.51	-5.9%	4.36	-47.7%	4.22	-48.4%	4.07	-49.0%
Hayward	13.92	0.0%	14.47	0.0%	15.12	-5.9%	16.03	-47.7%	16.94	-48.4%	17.86	-49.0%
Hillsborough	2.62	0.0%	2.95	0.0%	3.05	-5.9%	3.12	-47.7%	3.19	-48.4%	3.26	-49.0%
Menlo Park	2.96	0.0%	2.92	0.0%	2.93	-5.9%	3.14	-47.7%	3.35	-48.4%	3.55	-49.0%
Mid-Peninsula	2.66	0.0%	2.65	0.0%	2.80	-5.9%	2.82	-47.7%	2.84	-48.4%	2.86	-49.0%
Millbrae	1.90	0.0%	1.95	0.0%	2.15	-5.9%	2.19	-47.7%	2.24	-48.4%	2.29	-49.0%
Milpitas	5.92	0.0%	5.88	0.0%	5.34	-5.9%	5.76	-47.7%	6.17	-48.4%	6.59	-49.0%
Mountain View	7.67	0.0%	7.80	0.0%	8.05	-5.9%	8.23	-47.7%	8.42	-48.4%	8.60	-49.0%
North Coast	2.37	0.0%	2.58	0.0%	2.66	-5.9%	2.56	-47.7%	2.45	-48.4%	2.34	-49.0%
Palo Alto	9.75	0.0%	9.44	0.0%	9.66	-5.9%	9.79	-47.7%	9.93	-48.4%	10.06	-49.0%
Purissima Hills	1.75	0.0%	1.97	0.0%	2.02	-5.9%	2.04	-47.7%	2.06	-48.4%	2.09	-49.0%
Redwood City	8.76	0.0%	8.72	0.0%	9.07	-5.9%	8.86	-47.7%	8.66	-48.4%	8.46	-49.0%
San Bruno	0.95	0.0%	3.39	0.0%	3.40	-5.9%	3.35	-47.7%	3.29	-48.4%	3.24	-49.0%
San José	4.26	0.0%	4.31	0.0%	4.51	-5.9%	4.51	-47.7%	4.50	-48.4%	4.50	-49.0%
Santa Clara	3.27	0.0%	3.29	0.0%	3.50	-5.9%	3.83	-47.7%	4.17	-48.4%	4.50	-49.0%
Stanford	1.43	0.0%	1.40	0.0%	1.54	-5.9%	1.70	-47.7%	1.85	-48.4%	2.01	-49.0%
Sunnyvale	9.33	0.0%	9.35	0.0%	9.45	-5.9%	9.35	-47.7%	9.26	-48.4%	9.16	-49.0%
Westborough	0.82	0.0%	0.84	0.0%	0.81	-5.9%	0.83	-47.7%	0.84	-48.4%	0.86	-49.0%
<b>Wholesale Total</b>	<b>132.2</b>	<b>132.2†</b>	<b>138.6</b>	<b>138.6†</b>	<b>140.8</b>	<b>132.5†</b>	<b>142.5</b>	<b>74.5†</b>	<b>144.3</b>	<b>74.5†</b>	<b>146.0</b>	<b>74.5†</b>

† Total supply available to the Wholesale Customers after drought cutback.

**Attachment B: Updated 2020 UWMP Drought Cutbacks**

**Table D: Scenario 2: Without Bay-Delta Plan - Projected Wholesale Customer RWS Demand and Percent Cutback for a Single Dry Year and Multiple Dry Years (Base Year 2020)**

Agency	2020 (184 MGD)		2021 (157.5 MGD)		2022 (132.5 MGD)		2023 (132.5 MGD)		2024 (132.5 MGD)		2025 (132.5 MGD)	
	Actual Purchases	Drought Cutback	Projected Demand	Drought Cutback	Projected Demand	Drought Cutback	Projected Demand	Drought Cutback	Projected Demand	Drought Cutback	Projected Demand	Drought Cutback
ACWD	7.87	0.0%	9.44	0.0%	9.46	-5.9%	8.87	-7.0%	8.27	-8.2%	7.68	-9.2%
Brisbane/GVMID	0.64	0.0%	0.62	0.0%	0.65	-5.9%	0.73	-7.0%	0.81	-8.2%	0.89	-9.2%
Burlingame	3.48	0.0%	3.34	0.0%	3.35	-5.9%	3.67	-7.0%	4.00	-8.2%	4.33	-9.2%
Coastside	1.02	0.0%	1.54	0.0%	1.23	-5.9%	1.29	-7.0%	1.34	-8.2%	1.40	-9.2%
CalWater Total	29.00	0.0%	29.66	0.0%	29.81	-5.9%	29.87	-7.0%	29.93	-8.2%	29.99	-9.2%
Daly City	3.97	0.0%	4.00	0.0%	4.01	-5.9%	3.86	-7.0%	3.72	-8.2%	3.57	-9.2%
East Palo Alto	1.57	0.0%	1.63	0.0%	1.69	-5.9%	1.75	-7.0%	1.81	-8.2%	1.88	-9.2%
Estero	4.34	0.0%	4.48	0.0%	4.51	-5.9%	4.36	-7.0%	4.22	-8.2%	4.07	-9.2%
Hayward	13.92	0.0%	14.47	0.0%	15.12	-5.9%	16.03	-7.0%	16.94	-8.2%	17.86	-9.2%
Hillsborough	2.62	0.0%	2.95	0.0%	3.05	-5.9%	3.12	-7.0%	3.19	-8.2%	3.26	-9.2%
Menlo Park	2.96	0.0%	2.92	0.0%	2.93	-5.9%	3.14	-7.0%	3.35	-8.2%	3.55	-9.2%
Mid-Peninsula	2.66	0.0%	2.65	0.0%	2.80	-5.9%	2.82	-7.0%	2.84	-8.2%	2.86	-9.2%
Millbrae	1.90	0.0%	1.95	0.0%	2.15	-5.9%	2.19	-7.0%	2.24	-8.2%	2.29	-9.2%
Milpitas	5.92	0.0%	5.88	0.0%	5.34	-5.9%	5.76	-7.0%	6.17	-8.2%	6.59	-9.2%
Mountain View	7.67	0.0%	7.80	0.0%	8.05	-5.9%	8.23	-7.0%	8.42	-8.2%	8.60	-9.2%
North Coast	2.37	0.0%	2.58	0.0%	2.66	-5.9%	2.56	-7.0%	2.45	-8.2%	2.34	-9.2%
Palo Alto	9.75	0.0%	9.44	0.0%	9.66	-5.9%	9.79	-7.0%	9.93	-8.2%	10.06	-9.2%
Purissima Hills	1.75	0.0%	1.97	0.0%	2.02	-5.9%	2.04	-7.0%	2.06	-8.2%	2.09	-9.2%
Redwood City	8.76	0.0%	8.72	0.0%	9.07	-5.9%	8.86	-7.0%	8.66	-8.2%	8.46	-9.2%
San Bruno	0.95	0.0%	3.39	0.0%	3.40	-5.9%	3.35	-7.0%	3.29	-8.2%	3.24	-9.2%
San José	4.26	0.0%	4.31	0.0%	4.51	-5.9%	4.51	-7.0%	4.50	-8.2%	4.50	-9.2%
Santa Clara	3.27	0.0%	3.29	0.0%	3.50	-5.9%	3.83	-7.0%	4.17	-8.2%	4.50	-9.2%
Stanford	1.43	0.0%	1.40	0.0%	1.54	-5.9%	1.70	-7.0%	1.85	-8.2%	2.01	-9.2%
Sunnyvale	9.33	0.0%	9.35	0.0%	9.45	-5.9%	9.35	-7.0%	9.26	-8.2%	9.16	-9.2%
Westborough	0.82	0.0%	0.84	0.0%	0.81	-5.9%	0.83	-7.0%	0.84	-8.2%	0.86	-9.2%
<b>Wholesale Total</b>	<b>132.2</b>	<b>132.2†</b>	<b>138.6</b>	<b>138.6†</b>	<b>140.8</b>	<b>132.5†</b>	<b>142.5</b>	<b>132.5†</b>	<b>144.3</b>	<b>132.5†</b>	<b>146.0</b>	<b>132.5†</b>

† Total supply available to the Wholesale Customers after drought cutback.

**Attachment B: Updated 2020 UWMP Drought Cutbacks**

**Table E: Scenario 1: With Bay-Delta Plan - Projected Wholesale Customer RWS Demand and Percent Cutback for a Single Dry Year and Multiple Dry Years (Base Year 2025)**

Agency	2025 (184 MGD)		2026 (82.8 MGD)		2027 (74.5 MGD)		2028 (74.5 MGD)		2029 (74.5 MGD)		2030 (74.5 MGD)	
	Projected Demand	Drought Cutback	Projected Demand	Drought Cutback	Projected Demand	Drought Cutback	Projected Demand	Drought Cutback	Projected Demand	Drought Cutback	Projected Demand	Drought Cutback
ACWD	7.68	0%	7.68	-43.4%	7.68	-49.3%	7.68	-49.4%	7.68	-49.5%	7.68	-49.6%
Brisbane/GVMID	0.89	0%	0.89	-43.4%	0.89	-49.3%	0.89	-49.4%	0.89	-49.5%	0.89	-49.6%
Burlingame	4.33	0%	4.34	-43.4%	4.35	-49.3%	4.37	-49.4%	4.38	-49.5%	4.40	-49.6%
Coastside	1.40	0%	1.40	-43.4%	1.39	-49.3%	1.39	-49.4%	1.38	-49.5%	1.38	-49.6%
CalWater Total	29.99	0%	29.94	-43.4%	29.89	-49.3%	29.84	-49.4%	29.79	-49.5%	29.74	-49.6%
Daly City	3.57	0%	3.56	-43.4%	3.55	-49.3%	3.54	-49.4%	3.53	-49.5%	3.52	-49.6%
East Palo Alto	1.88	0%	1.89	-43.4%	1.91	-49.3%	1.92	-49.4%	1.93	-49.5%	1.95	-49.6%
Estero	4.07	0%	4.08	-43.4%	4.08	-49.3%	4.09	-49.4%	4.10	-49.5%	4.11	-49.6%
Hayward	17.86	0%	18.02	-43.4%	18.19	-49.3%	18.35	-49.4%	18.52	-49.5%	18.68	-49.6%
Hillsborough	3.26	0%	3.26	-43.4%	3.26	-49.3%	3.26	-49.4%	3.26	-49.5%	3.25	-49.6%
Menlo Park	3.55	0%	3.58	-43.4%	3.60	-49.3%	3.63	-49.4%	3.66	-49.5%	3.68	-49.6%
Mid-Peninsula	2.86	0%	2.85	-43.4%	2.85	-49.3%	2.85	-49.4%	2.84	-49.5%	2.84	-49.6%
Millbrae	2.29	0%	2.33	-43.4%	2.37	-49.3%	2.41	-49.4%	2.46	-49.5%	2.50	-49.6%
Milpitas	6.59	0%	6.62	-43.4%	6.65	-49.3%	6.68	-49.4%	6.72	-49.5%	6.75	-49.6%
Mountain View	8.60	0%	8.66	-43.4%	8.72	-49.3%	8.78	-49.4%	8.84	-49.5%	8.90	-49.6%
North Coast	2.34	0%	2.34	-43.4%	2.33	-49.3%	2.33	-49.4%	2.33	-49.5%	2.33	-49.6%
Palo Alto	10.06	0%	10.08	-43.4%	10.10	-49.3%	10.12	-49.4%	10.13	-49.5%	10.15	-49.6%
Purissima Hills	2.09	0%	2.09	-43.4%	2.09	-49.3%	2.09	-49.4%	2.09	-49.5%	2.09	-49.6%
Redwood City	8.46	0%	8.46	-43.4%	8.47	-49.3%	8.48	-49.4%	8.49	-49.5%	8.49	-49.6%
San Bruno	3.24	0%	3.23	-43.4%	3.23	-49.3%	3.22	-49.4%	3.22	-49.5%	3.22	-49.6%
San José	4.50	0%	4.50	-43.4%	4.50	-49.3%	4.50	-49.4%	4.50	-49.5%	4.50	-49.6%
Santa Clara	4.50	0%	4.50	-43.4%	4.50	-49.3%	4.50	-49.4%	4.50	-49.5%	4.50	-49.6%
Stanford	2.01	0%	2.04	-43.4%	2.08	-49.3%	2.11	-49.4%	2.15	-49.5%	2.18	-49.6%
Sunnyvale	9.16	0%	9.19	-43.4%	9.22	-49.3%	9.24	-49.4%	9.27	-49.5%	9.30	-49.6%
Westborough	0.86	0%	0.86	-43.4%	0.86	-49.3%	0.86	-49.4%	0.85	-49.5%	0.85	-49.6%
<b>Wholesale Total</b>	<b>146.0</b>	<b>146.0†</b>	<b>146.4</b>	<b>82.8†</b>	<b>146.8</b>	<b>74.5†</b>	<b>147.1</b>	<b>74.5†</b>	<b>147.5</b>	<b>74.5†</b>	<b>147.9</b>	<b>74.5†</b>

† Total supply available to the Wholesale Customers after drought cutback.



**Attachment B: Updated 2020 UWMP Drought Cutbacks**

**Table F: Scenario 2: Without Bay-Delta Plan - Projected Wholesale Customer RWS Demand and Percent Cutback for a Single Dry Year and Multiple Dry Years (Base Year 2025)**

Agency	2025 (184 MGD)		2026 (157.5 MGD)		2027 (157.5 MGD)		2028 (157.5 MGD)		2029 (132.5 MGD)		2030 (132.5 MGD)	
	Projected Demand	Drought Cutback	Projected Demand	Drought Cutback	Projected Demand	Drought Cutback	Projected Demand	Drought Cutback	Projected Demand	Drought Cutback	Projected Demand	Drought Cutback
ACWD	7.68	0.0%	7.68	0.0%	7.68	0.0%	7.68	0.0%	7.68	-10.2%	7.68	-10.4%
Brisbane/GVMID	0.89	0.0%	0.89	0.0%	0.89	0.0%	0.89	0.0%	0.89	-10.2%	0.89	-10.4%
Burlingame	4.33	0.0%	4.34	0.0%	4.35	0.0%	4.37	0.0%	4.38	-10.2%	4.40	-10.4%
Coastside	1.40	0.0%	1.40	0.0%	1.39	0.0%	1.39	0.0%	1.38	-10.2%	1.38	-10.4%
CalWater Total	29.99	0.0%	29.94	0.0%	29.89	0.0%	29.84	0.0%	29.79	-10.2%	29.74	-10.4%
Daly City	3.57	0.0%	3.56	0.0%	3.55	0.0%	3.54	0.0%	3.53	-10.2%	3.52	-10.4%
East Palo Alto	1.88	0.0%	1.89	0.0%	1.91	0.0%	1.92	0.0%	1.93	-10.2%	1.95	-10.4%
Estero	4.07	0.0%	4.08	0.0%	4.08	0.0%	4.09	0.0%	4.10	-10.2%	4.11	-10.4%
Hayward	17.86	0.0%	18.02	0.0%	18.19	0.0%	18.35	0.0%	18.52	-10.2%	18.68	-10.4%
Hillsborough	3.26	0.0%	3.26	0.0%	3.26	0.0%	3.26	0.0%	3.26	-10.2%	3.25	-10.4%
Menlo Park	3.55	0.0%	3.58	0.0%	3.60	0.0%	3.63	0.0%	3.66	-10.2%	3.68	-10.4%
Mid-Peninsula	2.86	0.0%	2.85	0.0%	2.85	0.0%	2.85	0.0%	2.84	-10.2%	2.84	-10.4%
Millbrae	2.29	0.0%	2.33	0.0%	2.37	0.0%	2.41	0.0%	2.46	-10.2%	2.50	-10.4%
Milpitas	6.59	0.0%	6.62	0.0%	6.65	0.0%	6.68	0.0%	6.72	-10.2%	6.75	-10.4%
Mountain View	8.60	0.0%	8.66	0.0%	8.72	0.0%	8.78	0.0%	8.84	-10.2%	8.90	-10.4%
North Coast	2.34	0.0%	2.34	0.0%	2.33	0.0%	2.33	0.0%	2.33	-10.2%	2.33	-10.4%
Palo Alto	10.06	0.0%	10.08	0.0%	10.10	0.0%	10.12	0.0%	10.13	-10.2%	10.15	-10.4%
Purissima Hills	2.09	0.0%	2.09	0.0%	2.09	0.0%	2.09	0.0%	2.09	-10.2%	2.09	-10.4%
Redwood City	8.46	0.0%	8.46	0.0%	8.47	0.0%	8.48	0.0%	8.49	-10.2%	8.49	-10.4%
San Bruno	3.24	0.0%	3.23	0.0%	3.23	0.0%	3.22	0.0%	3.22	-10.2%	3.22	-10.4%
San José	4.50	0.0%	4.50	0.0%	4.50	0.0%	4.50	0.0%	4.50	-10.2%	4.50	-10.4%
Santa Clara	4.50	0.0%	4.50	0.0%	4.50	0.0%	4.50	0.0%	4.50	-10.2%	4.50	-10.4%
Stanford	2.01	0.0%	2.04	0.0%	2.08	0.0%	2.11	0.0%	2.15	-10.2%	2.18	-10.4%
Sunnyvale	9.16	0.0%	9.19	0.0%	9.22	0.0%	9.24	0.0%	9.27	-10.2%	9.30	-10.4%
Westborough	0.86	0.0%	0.86	0.0%	0.86	0.0%	0.86	0.0%	0.85	-10.2%	0.85	-10.4%
<b>Wholesale Total</b>	<b>146.0</b>	<b>146.0†</b>	<b>146.4</b>	<b>146.4†</b>	<b>146.8</b>	<b>146.8†</b>	<b>147.1</b>	<b>147.1†</b>	<b>147.5</b>	<b>132.5†</b>	<b>147.9</b>	<b>132.5†</b>

† Total supply available to the Wholesale Customers after drought cutback.

**Attachment B: Updated 2020 UWMP Drought Cutbacks**

**UWMP Table 7-4**

Supply Reliability Letter Tables 7 and 8 will help your agency complete UWMP Table 7-4. Table G below provides a summary of the Member Agencies’ RWS supply drought cutbacks under each of the four supply availability conditions and is intended to help you complete UWMP Table 7-4. The table assumes (1) the Tier 2 Plan will be used to allocate supplies available to the Wholesale Customers when average Wholesale Customers’ RWS shortages are greater than 10 and up to 20 percent, and (2) an equal percent reduction will be shared across all Wholesale Customers when average Wholesale Customers’ RWS shortages are 10 percent or less or greater than 20 percent.

**Table G: Drought Cutbacks Based on Projected Demands Under All Water Supply Availability Conditions**

	(a)	(b)	(c)	(d)	(e)	(f)
(1)	Projected SF RWS Wholesale Purchases	146.0 MGD	147.9 MGD	151.9 MGD	156.3 MGD	162.8 MGD
(2)	Supply Available to the Wholesale Customers	% Cutback on Wholesale RWS Purchases				
		<b>2025</b>	<b>2030</b>	<b>2035</b>	<b>2040</b>	<b>2045</b>
(3)	157.5 MGD	0.0%	0.0%	0.0%	0.0%	-3.2%
(4)	132.5 MGD	-9.3%	-10.4%	Tier 2 Avg. -14%*	Tier 2 Avg. -16%*	Tier 2 Avg. -19%*
(5)	82.8 MGD	-43.3%	-44.0%	-45.5%	-47.0%	-49.1%
(6)	74.5 MGD	-49.0%	-49.6%	-51.0%	-52.3%	-54.2%

\* Calculated average. Individual agency cutbacks are calculated in Table H.

Table G, column (a) lists total RWS supplies available to the Wholesale Customers as provided in the Supply Reliability Letter tables. Row 1 provides cumulative projected wholesale RWS purchases for 2025, 2030, 2035, 2040, and 2045.

Tables H, I, J and K provide additional detail by agency for each of the four supply availability conditions listed in Table G. To complete UWMP Table 7-4, reference Table 7 or 8 (depending on which Bay-Delta Plan scenario you choose) in the Supply Reliability Letter to identify total RWS supplies available to the Wholesale Customers and apply the percent cutback in the corresponding year using Table G or input the volumetric drought allocation using Tables H, I, J and K below.

**Attachment B: Updated 2020 UWMP Drought Cutbacks**

**Table H: Drought Allocations when Total Supplies Available to the Wholesale Customers are Equal to 157.5 MGD**

Projected SF RWS Wholesale Purchases	146.0 MGD	147.9 MGD	151.9 MGD	156.3 MGD	162.8 MGD
	Drought Allocation (MGD)				
Agency	2025	2030	2030	2040	2045
ACWD	7.68	7.68	7.68	7.68	8.82
Burlingame	0.89	0.89	0.88	0.89	0.87
Burlingame	4.33	4.40	4.47	4.58	4.54
Coastside	1.40	1.38	1.36	1.33	1.28
CalWater Total	29.99	29.74	29.81	30.27	29.71
Daly City	3.57	3.52	3.49	3.46	3.32
East Palo Alto	1.88	1.95	2.10	2.49	2.80
Estero	4.07	4.11	4.18	4.23	4.24
Hayward	17.86	18.68	19.75	20.82	21.43
Hillsborough	3.26	3.25	3.26	3.26	3.15
Menlo Park	3.55	3.68	3.87	4.06	4.15
Mid-Peninsula	2.86	2.84	2.88	2.89	2.83
Millbrae	2.29	2.50	2.45	2.82	3.10
Milpitas	6.59	6.75	7.03	7.27	7.29
Mountain View	8.60	8.90	9.20	9.51	9.61
North Coast	2.34	2.33	2.34	2.34	2.27
Palo Alto	10.06	10.15	10.28	10.51	10.44
Purissima Hills	2.09	2.09	2.12	2.13	2.08
Redwood City	8.46	8.49	8.64	8.74	8.62
San Bruno	3.24	3.22	3.20	3.20	3.11
San José	4.50	4.50	4.50	4.50	4.35
Santa Clara	4.50	4.50	4.50	4.50	4.35
Stanford	2.01	2.18	2.35	2.53	2.61
Sunnyvale	9.16	9.30	10.70	11.44	11.71
Westborough	0.86	0.85	0.85	0.84	0.82
<b>Wholesale Total</b>	<b>146.0</b>	<b>147.9</b>	<b>151.9</b>	<b>156.3</b>	<b>157.5</b>

**Attachment B: Updated 2020 UWMP Drought Cutbacks**

**Table I: Drought Allocations when Total Supplies Available to the Wholesale Customers are Equal to 132.5 MGD**

Projected SF RWS Wholesale Purchases	146.0 MGD	147.9 MGD	151.9 MGD	156.3 MGD	162.8 MGD
	Drought Allocation (MGD)				
Agency	2025	2030	2030	2040	2045
ACWD	6.97	6.88	6.91	6.91	8.20
Burlingame	0.81	0.79	0.73	0.73	0.72
Burlingame	3.93	3.94	3.96	3.89	3.80
Coastside	1.27	1.24	1.22	1.20	1.19
CalWater Total	27.21	26.65	26.46	25.69	24.69
Daly City	3.24	3.15	3.04	3.01	2.98
East Palo Alto	1.70	1.75	1.97	2.30	2.62
Esteros	3.69	3.68	3.76	3.87	3.77
Hayward	16.20	16.74	17.32	17.69	18.07
Hillsborough	2.96	2.92	2.90	2.75	2.56
Menlo Park	3.22	3.30	3.37	3.33	3.26
Mid-Peninsula	2.59	2.54	2.59	2.62	2.54
Millbrae	2.07	2.24	2.16	2.32	2.45
Milpitas	5.98	6.05	6.25	6.31	6.35
Mountain View	7.80	7.97	8.28	8.49	8.34
North Coast	2.12	2.09	2.11	2.11	2.11
Palo Alto	9.13	9.09	9.26	9.46	9.71
Purissima Hills	1.89	1.87	1.42	1.38	1.32
Redwood City	7.67	7.61	7.89	7.70	7.49
San Bruno	2.94	2.88	2.56	2.51	2.45
San José	4.08	4.03	3.03	2.91	2.76
Santa Clara	4.08	4.03	3.03	2.91	2.76
Stanford	1.82	1.95	2.06	2.13	2.16
Sunnyvale	8.31	8.33	9.46	9.51	9.43
Westborough	0.78	0.76	0.76	0.76	0.76
<b>Wholesale Total</b>	<b>132.5</b>	<b>132.5</b>	<b>132.5</b>	<b>132.5</b>	<b>132.5</b>

**Attachment B: Updated 2020 UWMP Drought Cutbacks**

**Table J: Drought Allocations when Total Supplies Available to the Wholesale Customers are Equal to 82.8 MGD**

Projected SF RWS Wholesale Purchases	146.0 MGD	147.9 MGD	151.9 MGD	156.3 MGD	162.8 MGD
	Drought Allocation (MGD)				
Agency	2025	2030	2030	2040	2045
ACWD	4.36	4.30	4.19	4.07	4.64
Burlingame	0.51	0.50	0.48	0.47	0.45
Burlingame	2.45	2.46	2.44	2.43	2.39
Coastside	0.79	0.77	0.74	0.71	0.68
CalWater Total	17.00	16.65	16.25	16.03	15.62
Daly City	2.02	1.97	1.90	1.83	1.75
East Palo Alto	1.06	1.09	1.14	1.32	1.47
Estero	2.31	2.30	2.28	2.24	2.23
Hayward	10.13	10.46	10.77	11.03	11.26
Hillsborough	1.85	1.82	1.78	1.73	1.66
Menlo Park	2.01	2.06	2.11	2.15	2.18
Mid-Peninsula	1.62	1.59	1.57	1.53	1.49
Millbrae	1.30	1.40	1.34	1.49	1.63
Milpitas	3.74	3.78	3.83	3.85	3.83
Mountain View	4.88	4.98	5.01	5.04	5.05
North Coast	1.33	1.30	1.28	1.24	1.19
Palo Alto	5.71	5.68	5.61	5.57	5.49
Purissima Hills	1.18	1.17	1.15	1.13	1.10
Redwood City	4.80	4.76	4.71	4.63	4.53
San Bruno	1.83	1.80	1.75	1.70	1.63
San José	2.55	2.52	2.45	2.38	2.29
Santa Clara	2.55	2.52	2.45	2.38	2.29
Stanford	1.14	1.22	1.28	1.34	1.37
Sunnyvale	5.19	5.21	5.83	6.06	6.16
Westborough	0.49	0.48	0.46	0.45	0.43
<b>Wholesale Total</b>	<b>82.8</b>	<b>82.8</b>	<b>82.8</b>	<b>82.8</b>	<b>82.8</b>

**Attachment B: Updated 2020 UWMP Drought Cutbacks**

**Table K: Drought Allocations when Total Supplies Available to the Wholesale Customers are Equal to 74.5 MGD**

Projected SF RWS Wholesale Purchases	146.0 MGD	147.9 MGD	151.9 MGD	156.3 MGD	162.8 MGD
	Drought Allocation (MGD)				
Agency	2025	2030	2030	2040	2045
ACWD	3.92	3.87	3.77	3.66	4.17
Burlingame	0.46	0.45	0.43	0.42	0.41
Burlingame	2.21	2.21	2.19	2.18	2.15
Coastside	0.71	0.70	0.67	0.64	0.61
CalWater Total	15.30	14.98	14.62	14.43	14.05
Daly City	1.82	1.77	1.71	1.65	1.57
East Palo Alto	0.96	0.98	1.03	1.19	1.32
Esteros	2.08	2.07	2.05	2.02	2.00
Hayward	9.11	9.41	9.69	9.92	10.14
Hillsborough	1.66	1.64	1.60	1.55	1.49
Menlo Park	1.81	1.86	1.90	1.94	1.96
Mid-Peninsula	1.46	1.43	1.41	1.38	1.34
Millbrae	1.17	1.26	1.20	1.34	1.47
Milpitas	3.36	3.40	3.45	3.47	3.45
Mountain View	4.39	4.48	4.51	4.53	4.54
North Coast	1.19	1.17	1.15	1.12	1.07
Palo Alto	5.14	5.11	5.04	5.01	4.94
Purissima Hills	1.06	1.05	1.04	1.02	0.99
Redwood City	4.31	4.28	4.24	4.17	4.08
San Bruno	1.65	1.62	1.57	1.53	1.47
San José	2.30	2.27	2.21	2.14	2.06
Santa Clara	2.30	2.27	2.21	2.14	2.06
Stanford	1.03	1.10	1.15	1.21	1.24
Sunnyvale	4.67	4.69	5.25	5.45	5.54
Westborough	0.44	0.43	0.41	0.40	0.39
<b>Wholesale Total</b>	<b>74.5</b>	<b>74.5</b>	<b>74.5</b>	<b>74.5</b>	<b>74.5</b>





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 21<sup>st</sup> (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 <sup>1, 2</sup>	132.1	146.0	147.9	151.9	156.3	162.8
<b>Total</b>	<b>198.6</b>	<b>213.2</b>	<b>215.4</b>	<b>220.5</b>	<b>226.8</b>	<b>236.5</b>

<sup>1</sup> Wholesale purchase request projections provided to the SFPUC by BAWSCA on January 21<sup>st</sup>, 2021

<sup>2</sup> Includes demands for Cities of San Jose and Santa Clara

Please note the following about the information presented in the attached tables:

**OUR MISSION:** To provide our customers with high-quality, efficient and reliable water, power and sewer services in a manner that values environmental and community interests and sustains the resources entrusted to our care.

**London N. Breed**  
 Mayor  
**Sophie Maxwell**  
 President  
**Anson Moran**  
 Vice President  
**Tim Paulson**  
 Commissioner  
**Ed Harrington**  
 Commissioner  
**Michael Carlin**  
 Acting  
 General Manager



- Assumptions about infrastructure conditions remain the same as what was provided in our January 22<sup>nd</sup> letter.
- The Tier 1 allocations were applied to the RWS supplies to determine the wholesale supply, as was also described in the January 22<sup>nd</sup> 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@sflower.org](mailto:striolo@sflower.org) or (628) 230 0802.

Sincerely,

A handwritten signature in blue ink that reads "Paula Kehoe". The signature is fluid and cursive, with a long horizontal flourish extending to the right.

Paula Kehoe  
Director of Water Resources

**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 <sup>a</sup> (mgd)	132.1	146.0	147.9	151.9	156.3	162.8

<sup>a</sup> 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 1 <sup>st</sup> Dry year		198.6	100%	132.1	
Consecutive 2 <sup>nd</sup> Dry year		198.6	100%	132.1	
Consecutive 3 <sup>rd</sup> Dry year <sup>1</sup>		119.2	60%	74.5	• At shortages 20% or greater, wholesale allocation is assumed to be 62.5%
Consecutive 4 <sup>th</sup> Dry year		119.2	60%	74.5	• Same as above
Consecutive 5 <sup>th</sup> Dry year		119.2	60%	74.5	• Same as above

<sup>1</sup> 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 1 <sup>st</sup> Dry year		149.2	70%	93.3	• Same as above
Consecutive 2 <sup>nd</sup> Dry year		127.9	60%	80.0	• Same as above
Consecutive 3 <sup>rd</sup> Dry year		127.9	60%	80.0	• Same as above
Consecutive 4 <sup>th</sup> Dry year		127.9	60%	80.0	• Same as above
Consecutive 5 <sup>th</sup> 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	<ul style="list-style-type: none"> <li>At shortages 20% or greater, wholesale allocation is assumed to be 62.5%</li> </ul>
Consecutive 1 <sup>st</sup> Dry year		150.8	70%	94.2	<ul style="list-style-type: none"> <li>Same as above</li> </ul>
Consecutive 2 <sup>nd</sup> Dry year		129.2	60%	80.8	<ul style="list-style-type: none"> <li>Same as above</li> </ul>
Consecutive 3 <sup>rd</sup> Dry year		129.2	60%	80.8	<ul style="list-style-type: none"> <li>Same as above</li> </ul>
Consecutive 4 <sup>th</sup> Dry year		129.2	60%	80.8	<ul style="list-style-type: none"> <li>Same as above</li> </ul>
Consecutive 5 <sup>th</sup> Dry year		129.2	60%	80.8	<ul style="list-style-type: none"> <li>Same as above</li> </ul>

**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	<ul style="list-style-type: none"> <li>At shortages 20% or greater, wholesale allocation is assumed to be 62.5%</li> </ul>
Consecutive 1 <sup>st</sup> Dry year		154.4	70%	96.5	<ul style="list-style-type: none"> <li>Same as above</li> </ul>
Consecutive 2 <sup>nd</sup> Dry year		132.3	60%	82.7	<ul style="list-style-type: none"> <li>Same as above</li> </ul>
Consecutive 3 <sup>rd</sup> Dry year		132.3	60%	82.7	<ul style="list-style-type: none"> <li>Same as above</li> </ul>
Consecutive 4 <sup>th</sup> Dry year		132.3	60%	82.7	<ul style="list-style-type: none"> <li>Same as above</li> </ul>
Consecutive 5 <sup>th</sup> Dry year		121.3	55%	75.8	<ul style="list-style-type: none"> <li>Same as above</li> </ul>

**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	<ul style="list-style-type: none"> <li>At shortages 20% or greater, wholesale allocation is assumed to be 62.5%</li> </ul>
Consecutive 1 <sup>st</sup> Dry year		158.8	70%	99.2	<ul style="list-style-type: none"> <li>Same as above</li> </ul>
Consecutive 2 <sup>nd</sup> Dry year		136.1	60%	85.1	<ul style="list-style-type: none"> <li>Same as above</li> </ul>
Consecutive 3 <sup>rd</sup> Dry year		136.1	60%	85.1	<ul style="list-style-type: none"> <li>Same as above</li> </ul>
Consecutive 4 <sup>th</sup> Dry year		120.2	53%	75.1	<ul style="list-style-type: none"> <li>Same as above</li> </ul>
Consecutive 5 <sup>th</sup> Dry year		120.2	53%	75.1	<ul style="list-style-type: none"> <li>Same as above</li> </ul>

**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	<ul style="list-style-type: none"> <li>At shortages 20% or greater, wholesale allocation is assumed to be 62.5%</li> </ul>
Consecutive 1 <sup>st</sup> Dry year		141.9	60%	88.7	<ul style="list-style-type: none"> <li>Same as above</li> </ul>
Consecutive 2 <sup>nd</sup> Dry year		141.9	60%	88.7	<ul style="list-style-type: none"> <li>Same as above</li> </ul>
Consecutive 3 <sup>rd</sup> Dry year		141.9	60%	88.7	<ul style="list-style-type: none"> <li>Same as above</li> </ul>
Consecutive 4 <sup>th</sup> Dry year		120.6	51%	75.4	<ul style="list-style-type: none"> <li>Same as above</li> </ul>
Consecutive 5 <sup>th</sup> Dry year		120.6	51%	75.4	<ul style="list-style-type: none"> <li>Same as above</li> </ul>

**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 1 <sup>st</sup> Dry year	100%	70%	70%	70%	70%	60%
Consecutive 2 <sup>nd</sup> Dry year	100%	60%	60%	60%	60%	60%
Consecutive 3 <sup>rd</sup> Dry year <sup>1</sup>	60%	60%	60%	60%	60%	60%
Consecutive 4 <sup>th</sup> Dry year	60%	60%	60%	60%	53%	51%
Consecutive 5 <sup>th</sup> Dry year	60%	60%	60%	55%	53%	51%

<sup>1</sup> 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 1 <sup>st</sup> Dry year		198.6	100%	132.1	
Consecutive 2 <sup>nd</sup> Dry year		198.6	100%	132.1	
Consecutive 3 <sup>rd</sup> Dry year		198.6	100%	132.1	
Consecutive 4 <sup>th</sup> Dry year		198.6	100%	132.1	
Consecutive 5 <sup>th</sup> 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 1 <sup>st</sup> Dry year		213.2	100%	146.0	
Consecutive 2 <sup>nd</sup> Dry year		213.2	100%	146.0	
Consecutive 3 <sup>rd</sup> Dry year		213.2	100%	146.0	
Consecutive 4 <sup>th</sup> Dry year		213.2	100%	146.0	
Consecutive 5 <sup>th</sup> 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 1 <sup>st</sup> Dry year		215.4	100%	147.9	
Consecutive 2 <sup>nd</sup> Dry year		215.4	100%	147.9	
Consecutive 3 <sup>rd</sup> Dry year		215.4	100%	147.9	
Consecutive 4 <sup>th</sup> Dry year		215.4	100%	147.9	
Consecutive 5 <sup>th</sup> 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 1 <sup>st</sup> Dry year		220.5	100%	151.9	
Consecutive 2 <sup>nd</sup> Dry year		220.5	100%	151.9	
Consecutive 3 <sup>rd</sup> Dry year		220.5	100%	151.9	
Consecutive 4 <sup>th</sup> Dry year		220.5	100%	151.9	
Consecutive 5 <sup>th</sup> 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 1 <sup>st</sup> Dry year		226.8	100%	156.3	
Consecutive 2 <sup>nd</sup> Dry year		226.8	100%	156.3	
Consecutive 3 <sup>rd</sup> Dry year		226.8	100%	156.3	
Consecutive 4 <sup>th</sup> Dry year		226.8	100%	156.3	
Consecutive 5 <sup>th</sup> 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 1 <sup>st</sup> Dry year		236.5	100%	162.8	
Consecutive 2 <sup>nd</sup> Dry year		236.5	100%	162.8	
Consecutive 3 <sup>rd</sup> Dry year		236.5	100%	162.8	
Consecutive 4 <sup>th</sup> Dry year		212.8	90%	139.1	<ul style="list-style-type: none"> <li>At a 10% shortage level, the wholesale allocation is 64% of available supply</li> <li>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</li> </ul>
Consecutive 5 <sup>th</sup> Dry year		212.8	90%	139.1	<ul style="list-style-type: none"> <li>Same as above</li> </ul>

**Table 4g: Projected RWS Supply [Alternative to Table 7-1], Years 2020-2045, Without Bay-Delta Plan Amendment**

<b>Year</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>	<b>2035</b>	<b>2040</b>	<b>2045</b>
Average year	100%	100%	100%	100%	100%	100%
Single dry year	100%	100%	100%	100%	100%	100%
Consecutive 1 <sup>st</sup> Dry year	100%	100%	100%	100%	100%	100%
Consecutive 2 <sup>nd</sup> Dry year	100%	100%	100%	100%	100%	100%
Consecutive 3 <sup>rd</sup> Dry year	100%	100%	100%	100%	100%	100%
Consecutive 4 <sup>th</sup> Dry year	100%	100%	100%	100%	100%	90%
Consecutive 5 <sup>th</sup> 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**

	<b>2025</b>	<b>2030</b>	<b>2035</b>	<b>2040</b>	<b>2045</b>
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**

	<b>2025</b>	<b>2030</b>	<b>2035</b>	<b>2040</b>	<b>2045</b>
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	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>
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	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>
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)<sup>a</sup>**

Agency	2020	Projected Wholesale RWS Purchases				
	Actual	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
<b>Total</b>	<b>132.22</b>	<b>146.01</b>	<b>147.87</b>	<b>151.90</b>	<b>156.31</b>	<b>162.76</b>

<sup>a</sup> 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	Projected and Estimated Wholesale RWS Purchases					
	2020 Actual	2021 <sup>b</sup>	2022 <sup>b</sup>	2023 <sup>c</sup>	2024 <sup>c</sup>	2025 <sup>c</sup>
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
<b>Total</b>	<b>132.22</b>	<b>138.61</b>	<b>140.77</b>	<b>140.77</b>	<b>140.77</b>	<b>140.77</b>

<sup>b</sup> Wholesale RWS purchase projections for 2021 and 2022 were provided to Christina Tang, BAWSCA's Finance Manager, by the Member Agencies in January 2021.

<sup>c</sup> 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 30<sup>th</sup> letter) With Bay-Delta Plan (mgd)**

	2020 <sup>e</sup>	2025	2030	2035	2040	2045
Projected Purchases <sup>d</sup>	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

<sup>d</sup> 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.

<sup>e</sup> 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 1<sup>st</sup> and 2<sup>nd</sup> 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)<sup>f</sup>**

	2020	2025	2030	2035	2040	2045
Projected Purchases <sup>d</sup>	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

<sup>f</sup> 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<sup>g</sup>**

	2020	2025	2030	2035	2040	2045
Projected Purchases <sup>d</sup>	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%

<sup>g</sup> 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)**

<b>Year Consecutive Dry Year</b>	<b>2020 Actual</b>	<b>2021 1<sup>st</sup></b>	<b>2022 2<sup>nd</sup></b>	<b>2023 3<sup>rd</sup></b>	<b>2024 4<sup>th</sup></b>	<b>2025 5<sup>th</sup></b>
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)**

<b>Agency</b>	<b>2020</b>	<b>Wholesale RWS Drought Allocations</b>				
	<b>Actual</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>
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
<b>Total</b>	<b>132.2</b>	<b>138.6</b>	<b>140.8</b>	<b>74.5</b>	<b>74.5</b>	<b>74.5</b>

**Table G1: Basis of Water Supply Data [For Tables 7-1 and 7-4], Base Year 2025, With Bay-Delta Plan (mgd)**

<b>Consecutive Dry Year</b>	<b>1<sup>st</sup></b>	<b>2<sup>nd</sup></b>	<b>3<sup>rd</sup></b>	<b>4<sup>th</sup></b>	<b>5<sup>th</sup></b>
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)**

<b>Consecutive Dry Year</b>	<b>Wholesale RWS Drought Allocations</b>				
	<b>1<sup>st</sup></b>	<b>2<sup>nd</sup></b>	<b>3<sup>rd</sup></b>	<b>4<sup>th</sup></b>	<b>5<sup>th</sup></b>
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
<b>Total</b>	<b>93.3</b>	<b>80.0</b>	<b>80.0</b>	<b>80.0</b>	<b>80.0</b>

**Table H1: Basis of Water Supply Data [For Tables 7-1 and 7-4], Base Year 2030, With Bay-Delta Plan (mgd)**

<b>Consecutive Dry Year</b>	<b>1<sup>st</sup></b>	<b>2<sup>nd</sup></b>	<b>3<sup>rd</sup></b>	<b>4<sup>th</sup></b>	<b>5<sup>th</sup></b>
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)**

<b>Consecutive Dry Year</b>	<b>Wholesale RWS Drought Allocations</b>				
	<b>1<sup>st</sup></b>	<b>2<sup>nd</sup></b>	<b>3<sup>rd</sup></b>	<b>4<sup>th</sup></b>	<b>5<sup>th</sup></b>
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
<b>Total</b>	<b>94.2</b>	<b>80.8</b>	<b>80.8</b>	<b>80.8</b>	<b>80.8</b>

**Table I1: Basis of Water Supply Data [For Tables 7-1 and 7-4], Base Year 2035, With Bay-Delta Plan (mgd)**

<b>Consecutive Dry Year</b>	<b>1<sup>st</sup></b>	<b>2<sup>nd</sup></b>	<b>3<sup>rd</sup></b>	<b>4<sup>th</sup></b>	<b>5<sup>th</sup></b>
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)**

<b>Consecutive Dry Year</b>	<b>Wholesale RWS Drought Allocations</b>				
	<b>1<sup>st</sup></b>	<b>2<sup>nd</sup></b>	<b>3<sup>rd</sup></b>	<b>4<sup>th</sup></b>	<b>5<sup>th</sup></b>
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
<b>Total</b>	<b>96.5</b>	<b>82.7</b>	<b>82.7</b>	<b>82.7</b>	<b>75.8</b>

**Table J1: Basis of Water Supply Data [For Table 7-1 and 7-4], Base Year 2040, With Bay-Delta Plan (mgd)**

<b>Consecutive Dry Year</b>	<b>1<sup>st</sup></b>	<b>2<sup>nd</sup></b>	<b>3<sup>rd</sup></b>	<b>4<sup>th</sup></b>	<b>5<sup>th</sup></b>
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)**

<b>Consecutive Dry Year</b>	<b>Wholesale RWS Drought Allocations</b>				
	<b>1<sup>st</sup></b>	<b>2<sup>nd</sup></b>	<b>3<sup>rd</sup></b>	<b>4<sup>th</sup></b>	<b>5<sup>th</sup></b>
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
<b>Total</b>	<b>99.2</b>	<b>85.1</b>	<b>85.1</b>	<b>75.1</b>	<b>75.1</b>

**Table K1: Basis of Water Supply Data [For Tables 7-1 and 7-4], Base Year 2045, With Bay-Delta Plan (mgd)**

<b>Consecutive Dry Year</b>	<b>1<sup>st</sup></b>	<b>2<sup>nd</sup></b>	<b>3<sup>rd</sup></b>	<b>4<sup>th</sup></b>	<b>5<sup>th</sup></b>
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)**

<b>Consecutive Dry Year</b>	<b>Wholesale RWS Drought Allocations</b>				
	<b>1<sup>st</sup></b>	<b>2<sup>nd</sup></b>	<b>3<sup>rd</sup></b>	<b>4<sup>th</sup></b>	<b>5<sup>th</sup></b>
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
<b>Total</b>	<b>88.7</b>	<b>88.7</b>	<b>88.7</b>	<b>75.4</b>	<b>75.4</b>



### 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 30<sup>th</sup> letter) Without Bay-Delta Plan (mgd)<sup>h</sup>**

	2020	2025	2030	2035	2040	2045
Projected Purchases <sup>i</sup>	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

<sup>h</sup> 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 4<sup>th</sup> and 5<sup>th</sup> consecutive dry year at 2045 levels.

<sup>i</sup> 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 30<sup>th</sup> 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 <sup>i</sup>	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 <sup>i</sup>	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)**

<b>Consecutive Dry Year</b>	<b>1<sup>st</sup></b>	<b>2<sup>nd</sup></b>	<b>3<sup>rd</sup></b>	<b>4<sup>th</sup></b>	<b>5<sup>th</sup></b>
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)**

<b>Consecutive Dry Year</b>	<b>Wholesale RWS Drought Allocations</b>					<b>Tier 2 Drought Cutback</b>
	<b>1<sup>st</sup></b>	<b>2<sup>nd</sup></b>	<b>3<sup>rd</sup></b>	<b>4<sup>th</sup></b>	<b>5<sup>th</sup></b>	
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%
<b>Total</b>	<b>162.8</b>	<b>162.8</b>	<b>162.8</b>	<b>139.1</b>	<b>139.1</b>	

## **Attachment B: Updated 2020 UWMP Drought Cutbacks**

The January 22, 2021, SFPUC Regional Water System (RWS) Supply Reliability Letter (Supply Reliability Letter) provides RWS supplies available to the Wholesale Customers under two scenarios: (1) With Bay-Delta Plan, and (2) Without Bay-Delta Plan. Your agency must choose which scenario to use for your agency's 2020 UWMP submittal tables. However, you may discuss both scenarios in the body of your agency's UWMP. The purpose of this attachment is to provide further detail about your agency's allocation of total RWS supplies available to the Wholesale Customers under both scenarios.

### **Data Sources for Projected RWS Purchases**

Supply allocations are based on projected RWS purchases provided to BAWSCA by the Member Agencies. Following the completion of the Demand Study in June 2020, BAWSCA used the results to develop a table for each Member Agency listing possible supplies and total demand for 2025, 2030, 2035, 2040, and 2045. BAWSCA populated the tables with total demand after passive conservation and entered active conservation, as calculated in the agencies' DSS Model, as a source of supply. Multi-source agencies were asked to complete the table with supply projections, including from the RWS, to meet total demand. Single-source agencies were offered the opportunity to review the tables upon request. Because active conservation was treated as a source of supply, projected RWS purchases are after passive and active conservation.

Water Management Representatives (WMRs) received a draft copy of all projected wholesale RWS purchase requests as part of the January 7, 2021 WMR meeting agenda packet and meeting slides. Agencies were asked to notify BAWSCA if changes were necessary regarding their purchase requests prior to BAWSCA sending those purchase requests to the SFPUC. Purchase requests were transmitted to the SFPUC via a letter dated January 15, 2021 for use in their 2020 UWMP efforts.

Note that the projected RWS purchases used by BAWSCA for fiscal years 2020-21 and for 2021-22 were provided to Christina Tang, BAWSCA's Finance Manager, by each Member Agency in January 2021. This annual reporting is part of the SFPUC's wholesale rate setting process. Member Agencies have provided BAWSCA with these projected purchases annually for the past 10 years.

### **UWMP Tables 7-1 and 7-5**

UWMP Table 7-1 requests supply reliability for a normal year, a single dry year, and multiple (five) dry years. Tables 3, 4, 5, and 6 provided in the Supply Reliability Letter will help your agency complete UWMP Table 7-1. The Drought Risk Assessment (DRA) in UWMP Table 7-5 also requests a five-year drought sequence but specifies years 2021 through 2025. Supply Reliability Letter Tables 9 and 10 will help your agency complete UWMP Table 7-5.

The Supply Reliability Letter provides four tables for completing UWMP Table 7-1. The Supply Reliability Letter Tables 3 (with Bay-Delta Plan) and 4 (without Bay-Delta Plan) use 2020 as the base year. Depending on which scenario you choose, these will be the basis for your agency's five-year DRA (UWMP Table 7-5). The Supply Reliability Letter Tables 5 (with Bay-Delta Plan) and 6 (without Bay-Delta Plan) use 2025 as the base year. Depending on which scenario you choose, these will be the basis for UWMP Tables 7-2 through 7-4. Your agency may submit multiple UWMP Tables 7-1 with different base years (see Figure 1 below).

**Attachment B: Updated 2020 UWMP Drought Cutbacks**

**Figure 1: Footnote from Draft UWMP Table 7-1**

*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.*

Total RWS supplies available to the Wholesale Customers in the first through fifth consecutive dry years in Supply Reliability Letter Table 3 align with those in Table 9 of the same letter. Similarly, Supply Reliability Letter Table 4 aligns with Table 10 of the same letter.

Table A below provides a summary of the Member Agencies' RWS supply drought cutbacks under each of the four supply availability conditions and is intended to help you complete UWMP Tables 7-1 and 7-5.

**Table A: Wholesale Customer Drought Cutbacks Based on a Single Dry Year and Multiple Dry Years (Base Year 2020)**

	(a)	(b)	(c)	(d)	(e)	(f)	(g)
(1)	Projected SF RWS Wholesale Purchases	132.2 MGD	138.6 MGD	140.8 MGD	140.8 MGD	140.8 MGD	140.8 MGD
(2)	Supply Available to the Wholesale Customers	Percent Cutback on Wholesale RWS Purchases					
		<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>
(3)	157.5 MGD	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
(4)	132.5 MGD	0.0%	-4.4%	-5.9%	-5.9%	-5.9%	-5.9%
(5)	82.8 MGD	-37.4%	-40.3%	-41.2%	-41.2%	-41.2%	-41.2%
(6)	74.5 MGD	-43.7%	-46.3%	-47.1%	-47.1%	-47.1%	-47.1%

Table A, column (a), rows 3 through 6 lists total RWS supplies available to the Wholesale Customers as provided in the Supply Reliability Letter tables. Row 1 provides cumulative actual wholesale RWS purchases for 2020. 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 2021 and 2022 is equal to the cumulative projected wholesale RWS. Projected RWS purchases for years 2021 and 2022 were provided to Christina Tang, BAWSCA's Finance Manager, by the Member Agencies in January 2021. 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. Therefore, wholesale RWS demand in 2023 through 2025 is assumed to be static based on the 2022 projected demand.

Table B below provides a summary of the Member Agencies' RWS supply drought cutbacks under each of the four supply availability conditions and is intended to help you complete UWMP Table 7-1.

**Attachment B: Updated 2020 UWMP Drought Cutbacks**

**Table B: Wholesale Customer Drought Cutbacks Based on a Single Dry Year and Multiple Dry Years (Base Year 2025)**

	(a)	(b)	(c)	(d)	(e)	(f)
(1)	Projected SF RWS Wholesale Purchases	146.0 MGD	146.0 MGD	146.0 MGD	146.0 MGD	146.0 MGD
(2)	Supply Available to the Wholesale Customers	Percent Cutback on Wholesale RWS Purchases				
		<b>2025</b>	<b>2026</b>	<b>2027</b>	<b>2028</b>	<b>2029</b>
(3)	157.5 MGD	0.0%	0.0%	0.0%	0.0%	0.0%
(4)	132.5 MGD	-9.2%	-9.2%	-9.2%	-9.2%	-9.2%
(5)	82.8 MGD	-43.3%	-43.3%	-43.3%	-43.3%	-43.3%
(6)	74.5 MGD	-49.0%	-49.0%	-49.0%	-49.0%	-49.0%

Table B, column (a), rows 3 through 6 lists total RWS supplies available to the Wholesale Customers as provided in the Supply Reliability Letter tables. Row 1 provides cumulative projected wholesale RWS purchases for 2025 through 2029. 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. Therefore, wholesale RWS demand is assumed to be static between 2025 and 2029 based on the 2025 projected demand.

To complete UWMP Tables 7-1 and 7-5, reference tables in the Supply Reliability Letter to identify total RWS supplies available to the Wholesale Customers and apply the percent cutback in the corresponding year of the drought sequence using Tables A and B. For example, in Supply Reliability Letter Table 3, in the 5<sup>th</sup> consecutive year of a drought, the volume available to the Wholesale Customers is 74.5 MGD. To calculate RWS supplies available to your agency in 2025 using table A, locate the row with 74.5 MGD on the table – row 6 – and the column for 2025 – column (g). Then apply the percent cutback to your agency's RWS demand in 2025.

A list of purchase projections by agency are provided in Tables C, D, E, and F. The table also indicates the percent cutback that should be applied based on total RWS supplies available to the Wholesale Customers. Tables C and E use Scenario 1: With Bay-Delta Plan. Tables D and F use Scenario 2: Without Bay-Delta Plan. Tables C and D use 2020 as the base year and Tables E and F use 2025 as the base year.

BAWSCA understands that agencies are updating projected demands for their 2020 UWMPs and that projected RWS purchases may change from what was previously provided. Additionally, BAWSCA recognizes that not all Member Agencies will choose the same scenario for their UWMP supply reliability tables. For both reasons, projected RWS purchases in each Member Agency's 2020 UWMP may not add up to total Wholesale demands in the SFPUC's 2020 UWMP. This is consistent with direction given by the Department of Water Resources, which encourages suppliers use the UWMP tables to represent what they believe to be the most likely supply reliability scenario and to characterize the five-consecutive year drought in a manner that is best suited for understanding and managing their water service reliability and individual agency level of risk tolerance.

**Attachment B: Updated 2020 UWMP Drought Cutbacks**

**Table C: Scenario 1: With Bay-Delta Plan - Projected Wholesale Customer RWS Demand and Percent Cutback for a Single Dry Year and Multiple Dry Years (Base Year 2020)**

Agency	2020 (184 MGD)		2021 (157.5 MGD)		2022 (132.5 MGD)		2023 (74.5 MGD)		2024 (74.5 MGD)		2025 (74.5 MGD)	
	Actual Purchases	Drought Cutback	Projected Demand	Drought Cutback	Projected Demand	Drought Cutback	Projected Demand	Drought Cutback	Projected Demand	Drought Cutback	Projected Demand	Drought Cutback
ACWD	7.87	0.0%	9.44	0.0%	9.46	-5.9%	9.46	-47%	9.46	-47%	9.46	-47%
Brisbane/GVMID	0.64	0.0%	0.62	0.0%	0.65	-5.9%	0.65	-47%	0.65	-47%	0.65	-47%
Burlingame	3.48	0.0%	3.34	0.0%	3.35	-5.9%	3.35	-47%	3.35	-47%	3.35	-47%
Coastside	1.02	0.0%	1.54	0.0%	1.23	-5.9%	1.23	-47%	1.23	-47%	1.23	-47%
CalWater Total	29.00	0.0%	29.66	0.0%	29.81	-5.9%	29.81	-47%	29.81	-47%	29.81	-47%
Daly City	3.97	0.0%	4.00	0.0%	4.01	-5.9%	4.01	-47%	4.01	-47%	4.01	-47%
East Palo Alto	1.57	0.0%	1.63	0.0%	1.69	-5.9%	1.69	-47%	1.69	-47%	1.69	-47%
Estero	4.34	0.0%	4.48	0.0%	4.51	-5.9%	4.51	-47%	4.51	-47%	4.51	-47%
Hayward	13.92	0.0%	14.47	0.0%	15.12	-5.9%	15.12	-47%	15.12	-47%	15.12	-47%
Hillsborough	2.62	0.0%	2.95	0.0%	3.05	-5.9%	3.05	-47%	3.05	-47%	3.05	-47%
Menlo Park	2.96	0.0%	2.92	0.0%	2.93	-5.9%	2.93	-47%	2.93	-47%	2.93	-47%
Mid-Peninsula	2.66	0.0%	2.65	0.0%	2.80	-5.9%	2.80	-47%	2.80	-47%	2.80	-47%
Millbrae	1.90	0.0%	1.95	0.0%	2.15	-5.9%	2.15	-47%	2.15	-47%	2.15	-47%
Milpitas	5.92	0.0%	5.88	0.0%	5.34	-5.9%	5.34	-47%	5.34	-47%	5.34	-47%
Mountain View	7.67	0.0%	7.80	0.0%	8.05	-5.9%	8.05	-47%	8.05	-47%	8.05	-47%
North Coast	2.37	0.0%	2.58	0.0%	2.66	-5.9%	2.66	-47%	2.66	-47%	2.66	-47%
Palo Alto	9.75	0.0%	9.44	0.0%	9.66	-5.9%	9.66	-47%	9.66	-47%	9.66	-47%
Purissima Hills	1.75	0.0%	1.97	0.0%	2.02	-5.9%	2.02	-47%	2.02	-47%	2.02	-47%
Redwood City	8.76	0.0%	8.72	0.0%	9.07	-5.9%	9.07	-47%	9.07	-47%	9.07	-47%
San Bruno	0.95	0.0%	3.39	0.0%	3.40	-5.9%	3.40	-47%	3.40	-47%	3.40	-47%
San José	4.26	0.0%	4.31	0.0%	4.51	-5.9%	4.51	-47%	4.51	-47%	4.51	-47%
Santa Clara	3.27	0.0%	3.29	0.0%	3.50	-5.9%	3.50	-47%	3.50	-47%	3.50	-47%
Stanford	1.43	0.0%	1.40	0.0%	1.54	-5.9%	1.54	-47%	1.54	-47%	1.54	-47%
Sunnyvale	9.33	0.0%	9.35	0.0%	9.45	-5.9%	9.45	-47%	9.45	-47%	9.45	-47%
Westborough	0.82	0.0%	0.84	0.0%	0.81	-5.9%	0.81	-47%	0.81	-47%	0.81	-47%
<b>Wholesale Total</b>	<b>132.2</b>	<b>132.2†</b>	<b>138.6</b>	<b>138.6†</b>	<b>140.8</b>	<b>132.5†</b>	<b>140.8</b>	<b>74.5†</b>	<b>140.8</b>	<b>74.5†</b>	<b>140.8</b>	<b>74.5†</b>

† Total supply available to the Wholesale Customers after drought cutback.

**Attachment B: Updated 2020 UWMP Drought Cutbacks**

**Table D: Scenario 2: Without Bay-Delta Plan - Projected Wholesale Customer RWS Demand and Percent Cutback for a Single Dry Year and Multiple Dry Years (Base Year 2020)**

Agency	2020 (184 MGD)		2021 (157.5 MGD)		2022 (132.5 MGD)		2023 (132.5 MGD)		2024 (132.5 MGD)		2025 (132.5 MGD)	
	Actual Purchases	Drought Cutback	Projected Demand	Drought Cutback	Projected Demand	Drought Cutback	Projected Demand	Drought Cutback	Projected Demand	Drought Cutback	Projected Demand	Drought Cutback
ACWD	7.87	0.0%	9.44	0.0%	9.46	-5.9%	9.46	-5.9%	9.46	-5.9%	9.46	-5.9%
Brisbane/GVMID	0.64	0.0%	0.62	0.0%	0.65	-5.9%	0.65	-5.9%	0.65	-5.9%	0.65	-5.9%
Burlingame	3.48	0.0%	3.34	0.0%	3.35	-5.9%	3.35	-5.9%	3.35	-5.9%	3.35	-5.9%
Coastside	1.02	0.0%	1.54	0.0%	1.23	-5.9%	1.23	-5.9%	1.23	-5.9%	1.23	-5.9%
CalWater Total	29.00	0.0%	29.66	0.0%	29.81	-5.9%	29.81	-5.9%	29.81	-5.9%	29.81	-5.9%
Daly City	3.97	0.0%	4.00	0.0%	4.01	-5.9%	4.01	-5.9%	4.01	-5.9%	4.01	-5.9%
East Palo Alto	1.57	0.0%	1.63	0.0%	1.69	-5.9%	1.69	-5.9%	1.69	-5.9%	1.69	-5.9%
Estero	4.34	0.0%	4.48	0.0%	4.51	-5.9%	4.51	-5.9%	4.51	-5.9%	4.51	-5.9%
Hayward	13.92	0.0%	14.47	0.0%	15.12	-5.9%	15.12	-5.9%	15.12	-5.9%	15.12	-5.9%
Hillsborough	2.62	0.0%	2.95	0.0%	3.05	-5.9%	3.05	-5.9%	3.05	-5.9%	3.05	-5.9%
Menlo Park	2.96	0.0%	2.92	0.0%	2.93	-5.9%	2.93	-5.9%	2.93	-5.9%	2.93	-5.9%
Mid-Peninsula	2.66	0.0%	2.65	0.0%	2.80	-5.9%	2.80	-5.9%	2.80	-5.9%	2.80	-5.9%
Millbrae	1.90	0.0%	1.95	0.0%	2.15	-5.9%	2.15	-5.9%	2.15	-5.9%	2.15	-5.9%
Milpitas	5.92	0.0%	5.88	0.0%	5.34	-5.9%	5.34	-5.9%	5.34	-5.9%	5.34	-5.9%
Mountain View	7.67	0.0%	7.80	0.0%	8.05	-5.9%	8.05	-5.9%	8.05	-5.9%	8.05	-5.9%
North Coast	2.37	0.0%	2.58	0.0%	2.66	-5.9%	2.66	-5.9%	2.66	-5.9%	2.66	-5.9%
Palo Alto	9.75	0.0%	9.44	0.0%	9.66	-5.9%	9.66	-5.9%	9.66	-5.9%	9.66	-5.9%
Purissima Hills	1.75	0.0%	1.97	0.0%	2.02	-5.9%	2.02	-5.9%	2.02	-5.9%	2.02	-5.9%
Redwood City	8.76	0.0%	8.72	0.0%	9.07	-5.9%	9.07	-5.9%	9.07	-5.9%	9.07	-5.9%
San Bruno	0.95	0.0%	3.39	0.0%	3.40	-5.9%	3.40	-5.9%	3.40	-5.9%	3.40	-5.9%
San José	4.26	0.0%	4.31	0.0%	4.51	-5.9%	4.51	-5.9%	4.51	-5.9%	4.51	-5.9%
Santa Clara	3.27	0.0%	3.29	0.0%	3.50	-5.9%	3.50	-5.9%	3.50	-5.9%	3.50	-5.9%
Stanford	1.43	0.0%	1.40	0.0%	1.54	-5.9%	1.54	-5.9%	1.54	-5.9%	1.54	-5.9%
Sunnyvale	9.33	0.0%	9.35	0.0%	9.45	-5.9%	9.45	-5.9%	9.45	-5.9%	9.45	-5.9%
Westborough	0.82	0.0%	0.84	0.0%	0.81	-5.9%	0.81	-5.9%	0.81	-5.9%	0.81	-5.9%
<b>Wholesale Total</b>	<b>132.2</b>	<b>132.2<sup>†</sup></b>	<b>138.6</b>	<b>138.6<sup>†</sup></b>	<b>140.8</b>	<b>132.5<sup>†</sup></b>	<b>140.8</b>	<b>132.5<sup>†</sup></b>	<b>140.8</b>	<b>132.5<sup>†</sup></b>	<b>140.8</b>	<b>132.5<sup>†</sup></b>

<sup>†</sup> Total supply available to the Wholesale Customers after drought cutback.



**Attachment B: Updated 2020 UWMP Drought Cutbacks**

**Table E: Scenario 1: With Bay-Delta Plan - Projected Wholesale Customer RWS Demand and Percent Cutback for a Single Dry Year and Multiple Dry Years (Base Year 2025)**

Agency	2025 (184 MGD)		2026 (82.8 MGD)		2027 (74.5 MGD)		2028 (74.5 MGD)		2029 (74.5 MGD)	
	Projected Demand	Drought Cutback	Projected Demand	Drought Cutback	Projected Demand	Drought Cutback	Projected Demand	Drought Cutback	Projected Demand	Drought Cutback
ACWD	7.68	0%	7.68	-43.3%	7.68	-49%	7.68	-49%	7.68	-49%
Brisbane/GVMID	0.89	0%	0.89	-43.3%	0.89	-49%	0.89	-49%	0.89	-49%
Burlingame	4.33	0%	4.33	-43.3%	4.33	-49%	4.33	-49%	4.33	-49%
Coastside	1.40	0%	1.40	-43.3%	1.40	-49%	1.40	-49%	1.40	-49%
CalWater Total	29.99	0%	29.99	-43.3%	29.99	-49%	29.99	-49%	29.99	-49%
Daly City	3.57	0%	3.57	-43.3%	3.57	-49%	3.57	-49%	3.57	-49%
East Palo Alto	1.88	0%	1.88	-43.3%	1.88	-49%	1.88	-49%	1.88	-49%
Estero	4.07	0%	4.07	-43.3%	4.07	-49%	4.07	-49%	4.07	-49%
Hayward	17.86	0%	17.86	-43.3%	17.86	-49%	17.86	-49%	17.86	-49%
Hillsborough	3.26	0%	3.26	-43.3%	3.26	-49%	3.26	-49%	3.26	-49%
Menlo Park	3.55	0%	3.55	-43.3%	3.55	-49%	3.55	-49%	3.55	-49%
Mid-Peninsula	2.86	0%	2.86	-43.3%	2.86	-49%	2.86	-49%	2.86	-49%
Millbrae	2.29	0%	2.29	-43.3%	2.29	-49%	2.29	-49%	2.29	-49%
Milpitas	6.59	0%	6.59	-43.3%	6.59	-49%	6.59	-49%	6.59	-49%
Mountain View	8.60	0%	8.60	-43.3%	8.60	-49%	8.60	-49%	8.60	-49%
North Coast	2.34	0%	2.34	-43.3%	2.34	-49%	2.34	-49%	2.34	-49%
Palo Alto	10.06	0%	10.06	-43.3%	10.06	-49%	10.06	-49%	10.06	-49%
Purissima Hills	2.09	0%	2.09	-43.3%	2.09	-49%	2.09	-49%	2.09	-49%
Redwood City	8.46	0%	8.46	-43.3%	8.46	-49%	8.46	-49%	8.46	-49%
San Bruno	3.24	0%	3.24	-43.3%	3.24	-49%	3.24	-49%	3.24	-49%
San José	4.50	0%	4.50	-43.3%	4.50	-49%	4.50	-49%	4.50	-49%
Santa Clara	4.50	0%	4.50	-43.3%	4.50	-49%	4.50	-49%	4.50	-49%
Stanford	2.01	0%	2.01	-43.3%	2.01	-49%	2.01	-49%	2.01	-49%
Sunnyvale	9.16	0%	9.16	-43.3%	9.16	-49%	9.16	-49%	9.16	-49%
Westborough	0.86	0%	0.86	-43.3%	0.86	-49%	0.86	-49%	0.86	-49%
<b>Wholesale Total</b>	<b>146.0</b>	<b>146.0†</b>	<b>146.0</b>	<b>82.8†</b>	<b>146.0</b>	<b>74.5†</b>	<b>146.0</b>	<b>74.5†</b>	<b>146.0</b>	<b>74.5†</b>

† Total supply available to the Wholesale Customers after drought cutback.

**Attachment B: Updated 2020 UWMP Drought Cutbacks**

**Table F: Scenario 2: Without Bay-Delta Plan - Projected Wholesale Customer RWS Demand and Percent Cutback for a Single Dry Year and Multiple Dry Years (Base Year 2025)**

Agency	2025 (184 MGD)		2026 (157.5 MGD)		2027 (157.5 MGD)		2028 (157.5 MGD)		2029 (132.5 MGD)	
	Projected Demand	Drought Cutback	Projected Demand	Drought Cutback	Projected Demand	Drought Cutback	Projected Demand	Drought Cutback	Projected Demand	Drought Cutback
ACWD	7.68	0.0%	7.68	0.0%	7.68	0.0%	7.68	0.0%	7.68	-9.2%
Brisbane/GVMID	0.89	0.0%	0.89	0.0%	0.89	0.0%	0.89	0.0%	0.89	-9.2%
Burlingame	4.33	0.0%	4.33	0.0%	4.33	0.0%	4.33	0.0%	4.33	-9.2%
Coastside	1.40	0.0%	1.40	0.0%	1.40	0.0%	1.40	0.0%	1.40	-9.2%
CalWater Total	29.99	0.0%	29.99	0.0%	29.99	0.0%	29.99	0.0%	29.99	-9.2%
Daly City	3.57	0.0%	3.57	0.0%	3.57	0.0%	3.57	0.0%	3.57	-9.2%
East Palo Alto	1.88	0.0%	1.88	0.0%	1.88	0.0%	1.88	0.0%	1.88	-9.2%
Estero	4.07	0.0%	4.07	0.0%	4.07	0.0%	4.07	0.0%	4.07	-9.2%
Hayward	17.86	0.0%	17.86	0.0%	17.86	0.0%	17.86	0.0%	17.86	-9.2%
Hillsborough	3.26	0.0%	3.26	0.0%	3.26	0.0%	3.26	0.0%	3.26	-9.2%
Menlo Park	3.55	0.0%	3.55	0.0%	3.55	0.0%	3.55	0.0%	3.55	-9.2%
Mid-Peninsula	2.86	0.0%	2.86	0.0%	2.86	0.0%	2.86	0.0%	2.86	-9.2%
Millbrae	2.29	0.0%	2.29	0.0%	2.29	0.0%	2.29	0.0%	2.29	-9.2%
Milpitas	6.59	0.0%	6.59	0.0%	6.59	0.0%	6.59	0.0%	6.59	-9.2%
Mountain View	8.60	0.0%	8.60	0.0%	8.60	0.0%	8.60	0.0%	8.60	-9.2%
North Coast	2.34	0.0%	2.34	0.0%	2.34	0.0%	2.34	0.0%	2.34	-9.2%
Palo Alto	10.06	0.0%	10.06	0.0%	10.06	0.0%	10.06	0.0%	10.06	-9.2%
Purissima Hills	2.09	0.0%	2.09	0.0%	2.09	0.0%	2.09	0.0%	2.09	-9.2%
Redwood City	8.46	0.0%	8.46	0.0%	8.46	0.0%	8.46	0.0%	8.46	-9.2%
San Bruno	3.24	0.0%	3.24	0.0%	3.24	0.0%	3.24	0.0%	3.24	-9.2%
San José	4.50	0.0%	4.50	0.0%	4.50	0.0%	4.50	0.0%	4.50	-9.2%
Santa Clara	4.50	0.0%	4.50	0.0%	4.50	0.0%	4.50	0.0%	4.50	-9.2%
Stanford	2.01	0.0%	2.01	0.0%	2.01	0.0%	2.01	0.0%	2.01	-9.2%
Sunnyvale	9.16	0.0%	9.16	0.0%	9.16	0.0%	9.16	0.0%	9.16	-9.2%
Westborough	0.86	0.0%	0.86	0.0%	0.86	0.0%	0.86	0.0%	0.86	-9.2%
<b>Wholesale Total</b>	<b>146.0</b>	<b>146.0†</b>	<b>146.0</b>	<b>146.4†</b>	<b>146.0</b>	<b>146.8†</b>	<b>146.0</b>	<b>147.1†</b>	<b>146.0</b>	<b>132.5†</b>

† Total supply available to the Wholesale Customers after drought cutback.

**Attachment B: Updated 2020 UWMP Drought Cutbacks**

**UWMP Table 7-4**

Supply Reliability Letter Tables 7 and 8 will help your agency complete UWMP Table 7-4. Table G below provides a summary of the Member Agencies’ RWS supply drought cutbacks under each of the four supply availability conditions and is intended to help you complete UWMP Table 7-4. The table assumes (1) the Tier 2 Plan will be used to allocate supplies available to the Wholesale Customers when average Wholesale Customers’ RWS shortages are greater than 10 and up to 20 percent, and (2) an equal percent reduction will be shared across all Wholesale Customers when average Wholesale Customers’ RWS shortages are 10 percent or less or greater than 20 percent.

**Table G: Drought Cutbacks Based on Projected Demands Under All Water Supply Availability Conditions**

	(a)	(b)	(c)	(d)	(e)	(f)
(1)	Projected SF RWS Wholesale Purchases	146.0 MGD	147.9 MGD	151.9 MGD	156.3 MGD	162.8 MGD
(2)	Supply Available to the Wholesale Customers	% Cutback on Wholesale RWS Purchases				
		<b>2025</b>	<b>2030</b>	<b>2035</b>	<b>2040</b>	<b>2045</b>
(3)	157.5 MGD	0.0%	0.0%	0.0%	0.0%	-3.2%
(4)	132.5 MGD	-9.3%	-10.4%	Tier 2 Avg. -14%*	Tier 2 Avg. -16%*	Tier 2 Avg. -19%*
(5)	82.8 MGD	-43.3%	-44.0%	-45.5%	-47.0%	-49.1%
(6)	74.5 MGD	-49.0%	-49.6%	-51.0%	-52.3%	-54.2%

\* Calculated average. Individual agency cutbacks are calculated in Table H.

Table G, column (a) lists total RWS supplies available to the Wholesale Customers as provided in the Supply Reliability Letter tables. Row 1 provides cumulative projected wholesale RWS purchases for 2025, 2030, 2035, 2040, and 2045.

Tables H, I, J and K provide additional detail by agency for each of the four supply availability conditions listed in Table G. To complete UWMP Table 7-4, reference Table 7 or 8 (depending on which Bay-Delta Plan scenario you choose) in the Supply Reliability Letter to identify total RWS supplies available to the Wholesale Customers and apply the percent cutback in the corresponding year using Table G or input the volumetric drought allocation using Tables H, I, J and K below.

**Attachment B: Updated 2020 UWMP Drought Cutbacks**

**Table H: Drought Allocations when Total Supplies Available to the Wholesale Customers are Equal to 157.5 MGD**

Projected SF RWS Wholesale Purchases	146.0 MGD	147.9 MGD	151.9 MGD	156.3 MGD	162.8 MGD
	Drought Allocation (MGD)				
Agency	2025	2030	2035	2040	2045
ACWD	7.68	7.68	7.68	7.68	8.82
Brisbane/GVMID	0.89	0.89	0.88	0.89	0.87
Burlingame	4.33	4.40	4.47	4.58	4.54
Coastside	1.40	1.38	1.36	1.33	1.28
CalWater Total	29.99	29.74	29.81	30.27	29.71
Daly City	3.57	3.52	3.49	3.46	3.32
East Palo Alto	1.88	1.95	2.10	2.49	2.80
Estero	4.07	4.11	4.18	4.23	4.24
Hayward	17.86	18.68	19.75	20.82	21.43
Hillsborough	3.26	3.25	3.26	3.26	3.15
Menlo Park	3.55	3.68	3.87	4.06	4.15
Mid-Peninsula	2.86	2.84	2.88	2.89	2.83
Millbrae	2.29	2.50	2.45	2.82	3.10
Milpitas	6.59	6.75	7.03	7.27	7.29
Mountain View	8.60	8.90	9.20	9.51	9.61
North Coast	2.34	2.33	2.34	2.34	2.27
Palo Alto	10.06	10.15	10.28	10.51	10.44
Purissima Hills	2.09	2.09	2.12	2.13	2.08
Redwood City	8.46	8.49	8.64	8.74	8.62
San Bruno	3.24	3.22	3.20	3.20	3.11
San José	4.50	4.50	4.50	4.50	4.35
Santa Clara	4.50	4.50	4.50	4.50	4.35
Stanford	2.01	2.18	2.35	2.53	2.61
Sunnyvale	9.16	9.30	10.70	11.44	11.71
Westborough	0.86	0.85	0.85	0.84	0.82
<b>Wholesale Total</b>	<b>146.0</b>	<b>147.9</b>	<b>151.9</b>	<b>156.3</b>	<b>157.5</b>

**Attachment B: Updated 2020 UWMP Drought Cutbacks**

**Table I: Drought Allocations when Total Supplies Available to the Wholesale Customers are Equal to 132.5 MGD**

Projected SF RWS Wholesale Purchases	146.0 MGD	147.9 MGD	151.9 MGD	156.3 MGD	162.8 MGD
	Drought Allocation (MGD)				
Agency	2025	2030	2035	2040	2045
ACWD	6.97	6.88	6.91	6.91	8.20
Brisbane/GVMID	0.81	0.79	0.73	0.73	0.72
Burlingame	3.93	3.94	3.96	3.89	3.80
Coastside	1.27	1.24	1.22	1.20	1.19
CalWater Total	27.21	26.65	26.46	25.69	24.69
Daly City	3.24	3.15	3.04	3.01	2.98
East Palo Alto	1.70	1.75	1.97	2.30	2.62
Esteros	3.69	3.68	3.76	3.87	3.77
Hayward	16.20	16.74	17.32	17.69	18.07
Hillsborough	2.96	2.92	2.90	2.75	2.56
Menlo Park	3.22	3.30	3.37	3.33	3.26
Mid-Peninsula	2.59	2.54	2.59	2.62	2.54
Millbrae	2.07	2.24	2.16	2.32	2.45
Milpitas	5.98	6.05	6.25	6.31	6.35
Mountain View	7.80	7.97	8.28	8.49	8.34
North Coast	2.12	2.09	2.11	2.11	2.11
Palo Alto	9.13	9.09	9.26	9.46	9.71
Purissima Hills	1.89	1.87	1.42	1.38	1.32
Redwood City	7.67	7.61	7.89	7.70	7.49
San Bruno	2.94	2.88	2.56	2.51	2.45
San José	4.08	4.03	3.03	2.91	2.76
Santa Clara	4.08	4.03	3.03	2.91	2.76
Stanford	1.82	1.95	2.06	2.13	2.16
Sunnyvale	8.31	8.33	9.46	9.51	9.43
Westborough	0.78	0.76	0.76	0.76	0.76
<b>Wholesale Total</b>	<b>132.5</b>	<b>132.5</b>	<b>132.5</b>	<b>132.5</b>	<b>132.5</b>

**Attachment B: Updated 2020 UWMP Drought Cutbacks**

**Table J: Drought Allocations when Total Supplies Available to the Wholesale Customers are Equal to 82.8 MGD**

Projected SF RWS Wholesale Purchases	146.0 MGD	147.9 MGD	151.9 MGD	156.3 MGD	162.8 MGD
	Drought Allocation (MGD)				
Agency	2025	2030	2035	2040	2045
ACWD	4.36	4.30	4.19	4.07	4.64
Brisbane/GVMID	0.51	0.50	0.48	0.47	0.45
Burlingame	2.45	2.46	2.44	2.43	2.39
Coastside	0.79	0.77	0.74	0.71	0.68
CalWater Total	17.00	16.65	16.25	16.03	15.62
Daly City	2.02	1.97	1.90	1.83	1.75
East Palo Alto	1.06	1.09	1.14	1.32	1.47
Estero	2.31	2.30	2.28	2.24	2.23
Hayward	10.13	10.46	10.77	11.03	11.26
Hillsborough	1.85	1.82	1.78	1.73	1.66
Menlo Park	2.01	2.06	2.11	2.15	2.18
Mid-Peninsula	1.62	1.59	1.57	1.53	1.49
Millbrae	1.30	1.40	1.34	1.49	1.63
Milpitas	3.74	3.78	3.83	3.85	3.83
Mountain View	4.88	4.98	5.01	5.04	5.05
North Coast	1.33	1.30	1.28	1.24	1.19
Palo Alto	5.71	5.68	5.61	5.57	5.49
Purissima Hills	1.18	1.17	1.15	1.13	1.10
Redwood City	4.80	4.76	4.71	4.63	4.53
San Bruno	1.83	1.80	1.75	1.70	1.63
San José	2.55	2.52	2.45	2.38	2.29
Santa Clara	2.55	2.52	2.45	2.38	2.29
Stanford	1.14	1.22	1.28	1.34	1.37
Sunnyvale	5.19	5.21	5.83	6.06	6.16
Westborough	0.49	0.48	0.46	0.45	0.43
<b>Wholesale Total</b>	<b>82.8</b>	<b>82.8</b>	<b>82.8</b>	<b>82.8</b>	<b>82.8</b>


**Attachment B: Updated 2020 UWMP Drought Cutbacks**

**Table K: Drought Allocations when Total Supplies Available to the Wholesale Customers are Equal to 74.5 MGD**

Projected SF RWS Wholesale Purchases	146.0 MGD	147.9 MGD	151.9 MGD	156.3 MGD	162.8 MGD
	Drought Allocation (MGD)				
Agency	2025	2030	2035	2040	2045
ACWD	3.92	3.87	3.77	3.66	4.17
Brisbane/GVMID	0.46	0.45	0.43	0.42	0.41
Burlingame	2.21	2.21	2.19	2.18	2.15
Coastside	0.71	0.70	0.67	0.64	0.61
CalWater Total	15.30	14.98	14.62	14.43	14.05
Daly City	1.82	1.77	1.71	1.65	1.57
East Palo Alto	0.96	0.98	1.03	1.19	1.32
Esteros	2.08	2.07	2.05	2.02	2.00
Hayward	9.11	9.41	9.69	9.92	10.14
Hillsborough	1.66	1.64	1.60	1.55	1.49
Menlo Park	1.81	1.86	1.90	1.94	1.96
Mid-Peninsula	1.46	1.43	1.41	1.38	1.34
Millbrae	1.17	1.26	1.20	1.34	1.47
Milpitas	3.36	3.40	3.45	3.47	3.45
Mountain View	4.39	4.48	4.51	4.53	4.54
North Coast	1.19	1.17	1.15	1.12	1.07
Palo Alto	5.14	5.11	5.04	5.01	4.94
Purissima Hills	1.06	1.05	1.04	1.02	0.99
Redwood City	4.31	4.28	4.24	4.17	4.08
San Bruno	1.65	1.62	1.57	1.53	1.47
San José	2.30	2.27	2.21	2.14	2.06
Santa Clara	2.30	2.27	2.21	2.14	2.06
Stanford	1.03	1.10	1.15	1.21	1.24
Sunnyvale	4.67	4.69	5.25	5.45	5.54
Westborough	0.44	0.43	0.41	0.40	0.39
<b>Wholesale Total</b>	<b>74.5</b>	<b>74.5</b>	<b>74.5</b>	<b>74.5</b>	<b>74.5</b>





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

- London N. Breed**  
Mayor
- Sophie Maxwell**  
President
- Anson Moran**  
Vice President
- Tim Paulson**  
Commissioner
- Ed Harrington**  
Commissioner
- Newsha Ajami**  
Commissioner
- Michael Carlin**  
Acting  
General Manager



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.

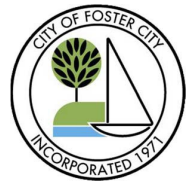
### **In litigation with the State over the proposed Don Pedro FERC Water Quality Certification**

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**  
**26 MARCH 2021 SFPUC COMMISSION SPECIAL MEETING – WATER WORKSHOP NUMBER 3 WATER**  
**SUPPLY PLANNING SCENARIOS SFPUC STAFF PRESENTATION MATERIALS**

# **Water Workshop Number 3 Water Supply Planning Scenarios**

**March 26, 2021**

# Introduction

---

- Ten water supply planning scenarios were run using our HHLSTM system modeling tool and the Regional Water System Supply and Demand Worksheet.
- For each scenario the ultimate result is either a surplus or deficit of supply, and each scenario produces different results, demonstrating the effect of the choices that are made.
- The assumptions and results for each scenario will be displayed in this presentation.
- The presentation concludes with a summary table of the bottom-line results for all the scenarios.

# The Ten Scenarios

---

- I. Previous Demand Estimates
- II. Current Conditions
- III. Tuolumne River Voluntary Agreement
- IV. Bay-Delta Plan
- V. Bay-Delta Plan with Alternative Water Supply Projects
- VI. Bay-Delta Plan with Alternative Water Supply Projects and Modified Rationing Policy
- VII. Bay-Delta Plan with Alternative Water Supply Projects, Modified Rationing Policy and Modified Design Drought
- VIII. Water Quality Certification (401) with Alternative Water Supply Projects, Modified Rationing Policy and Modified Design Drought
- IX. NGO scenario 1: Current system, 198 mgd constant demand, Bay-Delta Plan flows
- X. NGO Scenario 2: Current system, 223 mgd constant demand, 7 ½ year design drought, Bay-Delta Plan flows

# I. Prior Demand Estimates

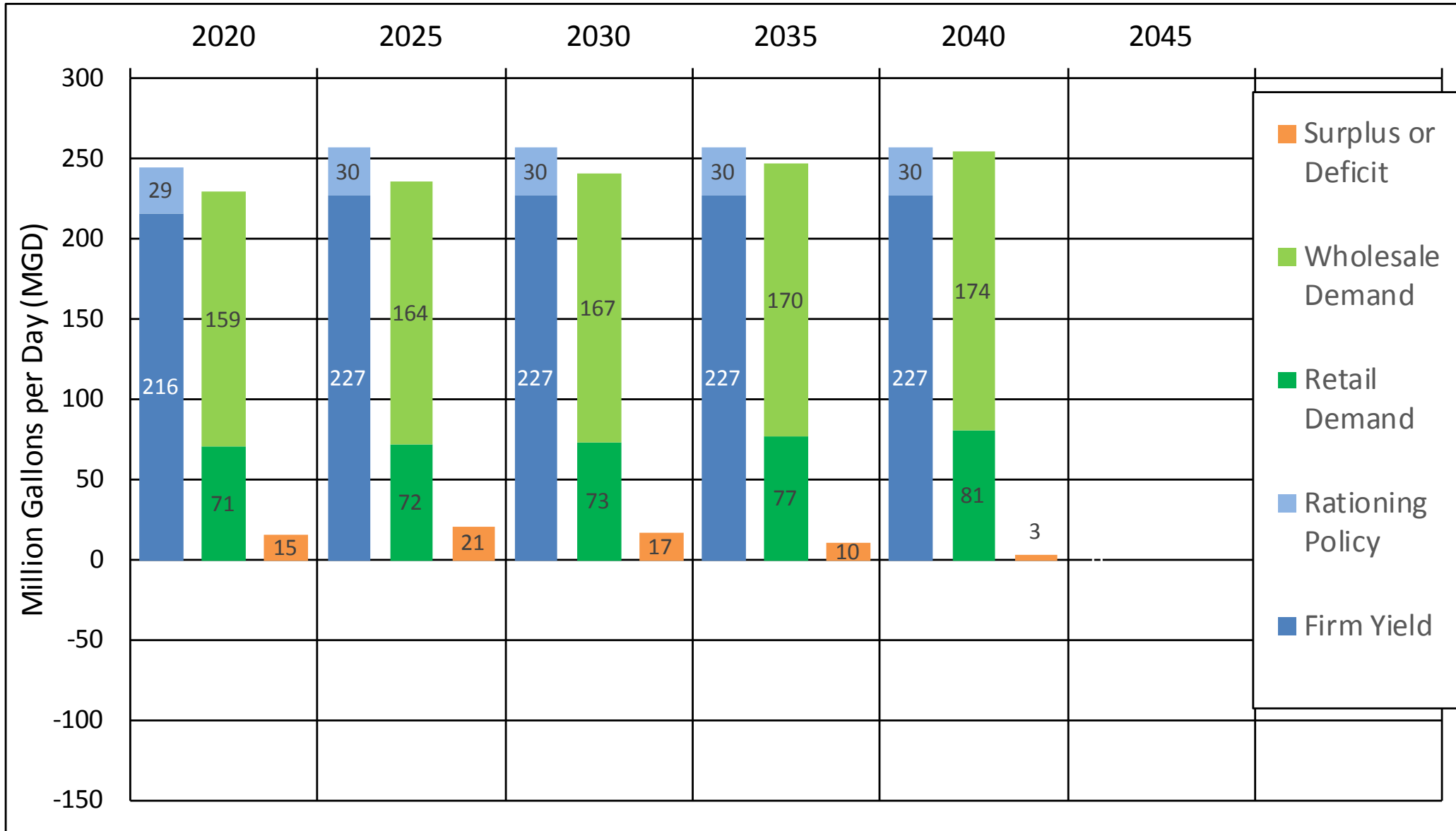
- Includes retail demand projections from the 2015 Urban Water Management Plan
- Includes 2015 purchase projections from wholesale customers
- Includes current side agreement on flows in the lower Tuolumne River
- Yield values are based on the 8.5-year design drought and the adopted WSIP rationing policy

SFPUC Water Supply and Demand Worksheet Results  
All values are in million gallons per day (MGD)

	2020	2025	2030	2035	2040	2045
Total Yield:	245	257	257	257	257	NA
RWS Demand:	230	236	241	247	255	NA
Lower Tuolumne Contribution:	NA	NA	NA	NA	NA	NA
Surplus or Deficit:	15	21	17	10	3	NA



# I. Prior Demand Estimates



## II. Current Conditions

- Includes updated demand projections for anticipated development in retail service area\*
- Includes most recent purchase projections from wholesale customers\*
- Includes a total of 9 MGD for San Jose and Santa Clara\*
- Includes the 1995 side agreement on flows in the lower Tuolumne River
- Yield values are based on the 8.5-year design drought and the adopted WSIP rationing policy

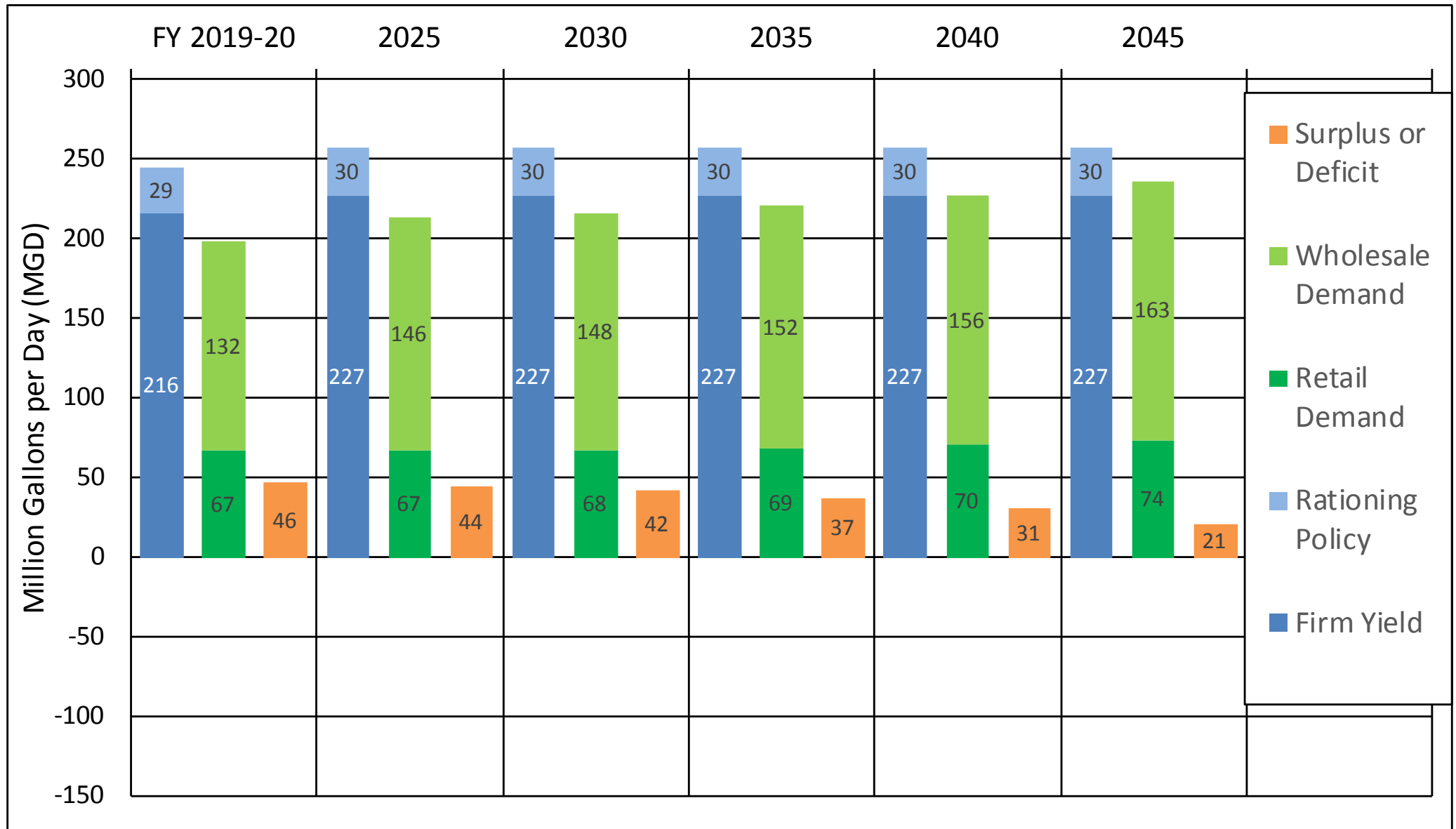
### SFPUC Water Supply and Demand Worksheet Results

All values are in million gallons per day (MGD)

	FY 2019-20	2025	2030	2035	2040	2045
Total Yield:	245	257	257	257	257	257
RWS Demand:	198	213	215	220	227	236
Lower Tuolumne Contribution:	NA	NA	NA	NA	NA	NA
Surplus or Deficit:	46	44	42	37	31	21

\* Base Conditions in later slides

## II. Current Conditions



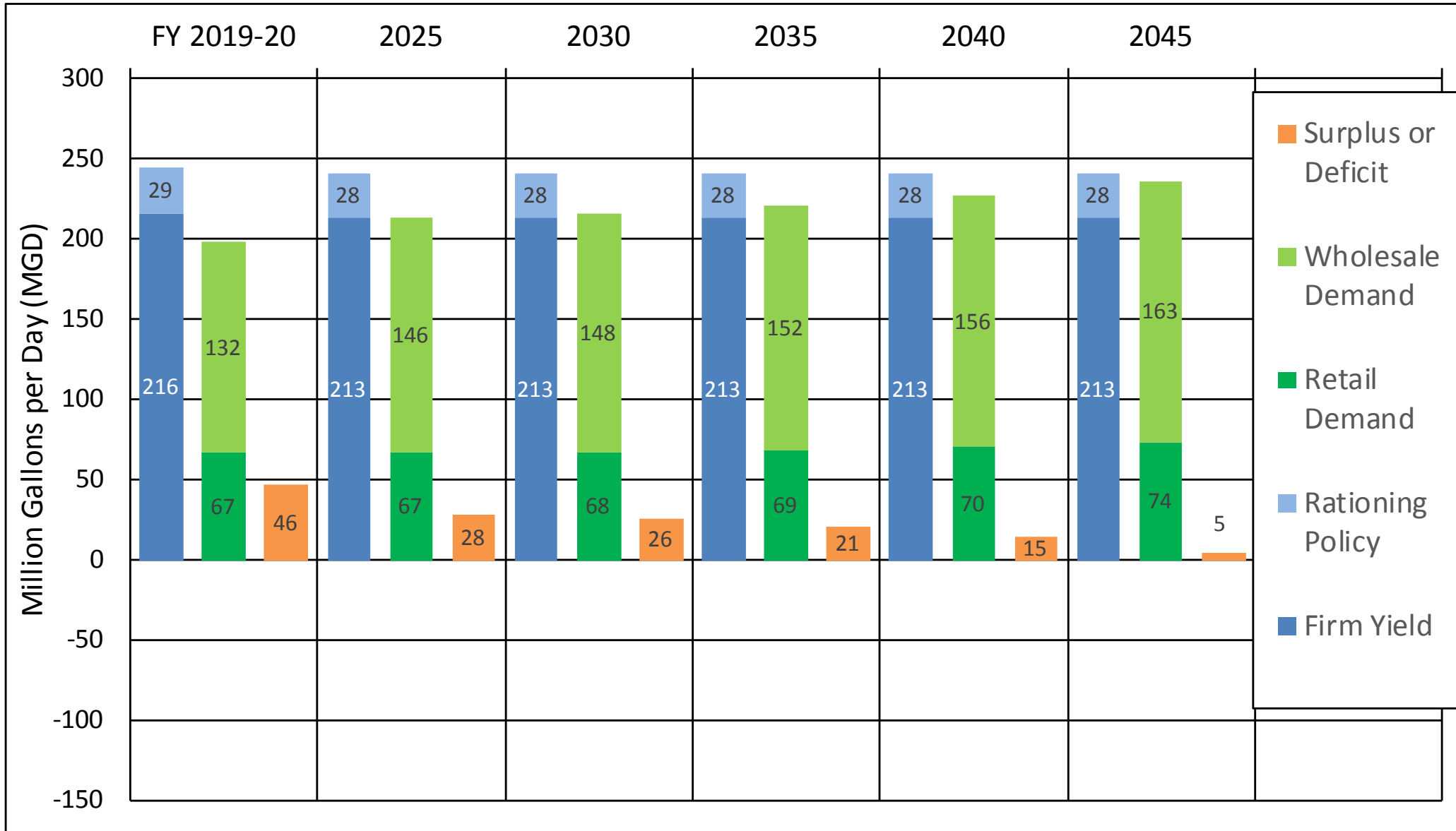
### III. Tuolumne River Voluntary Agreement

- Base Conditions
- Yield values are based on the 8.5-year design drought and the adopted WSIP rationing policy
- Includes SFPUC contribution to the TRVA, displayed in the graph as a reduction in Firm Yield
- SFPUC contributions are calculated according to the 4<sup>th</sup> Agreement and assumes continuation of the 1995 side agreement.

SFPUC Water Supply and Demand Worksheet Results  
All values are in million gallons per day (MGD)

	FY 2019-20	2025	2030	2035	2040	2045
Total Yield:	245	241	241	241	241	241
RWS Demand:	198	213	215	220	227	236
Lower Tuolumne Contribution:	NA	14	14	14	14	14
Surplus or Deficit:	46	28	26	21	15	5

# III. Tuolumne River Voluntary Agreement



## IV. Bay-Delta Plan

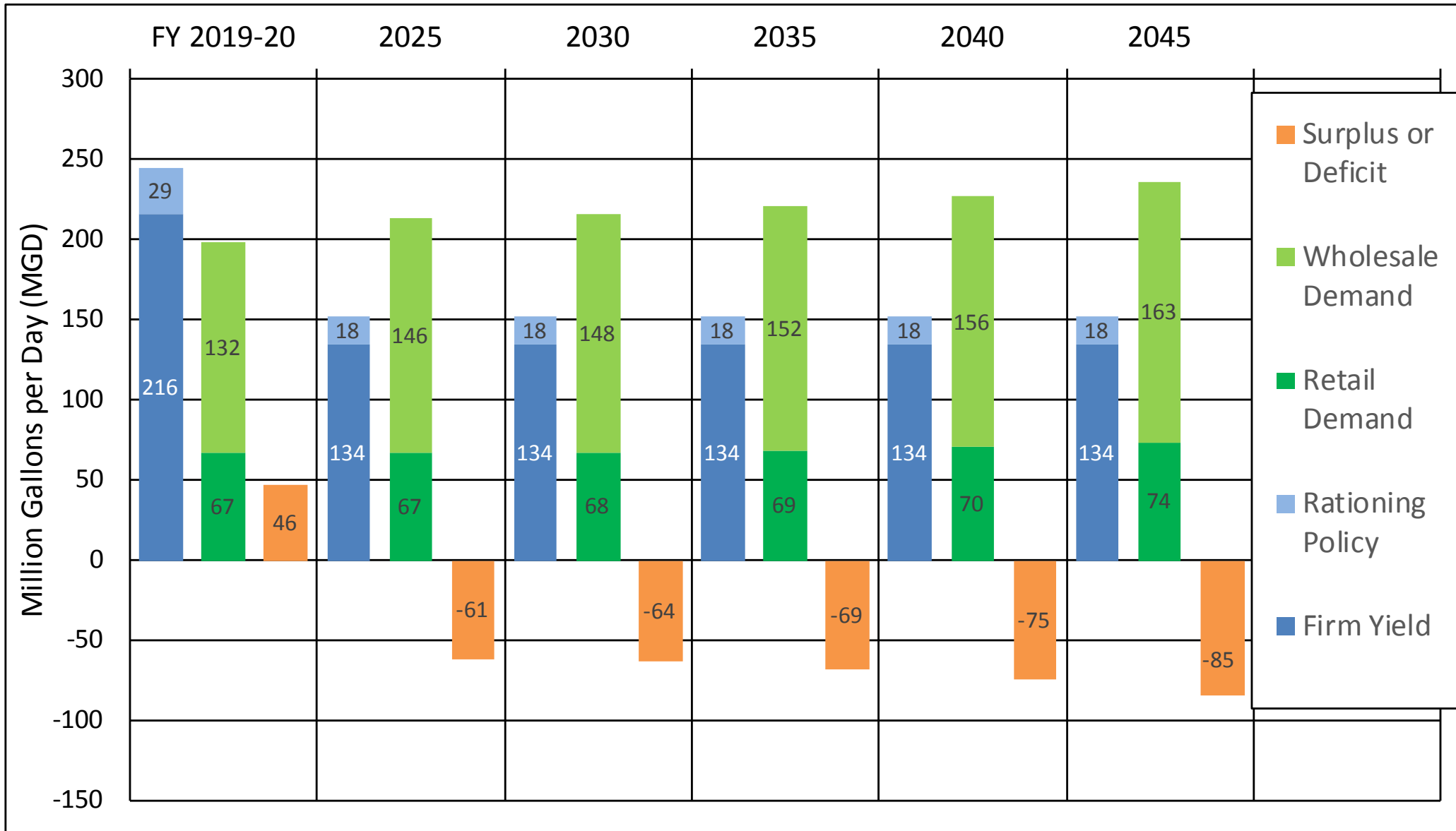
- Base Conditions
- Yield values are based on the 8.5-year design drought and the adopted WSIP rationing policy
- Includes SFPUC contribution to the Bay-Delta Plan displayed in the graph as a reduction in Firm Yield, assuming the flow requirement is 40% of unimpaired flow at La Grange from February through June. Current FERC flow requirements are assumed for the rest of the year.
- SFPUC contributions are calculated according to the 4<sup>th</sup> Agreement and assuming continuation of the 1995 side agreement.

### SFPUC Water Supply and Demand Worksheet Results

All values are in million gallons per day (MGD)

	FY 2019-20	2025	2030	2035	2040	2045
Total Yield:	245	152	152	152	152	152
RWS Demand:	198	213	215	220	227	236
Lower Tuolumne Contribution:	NA	93	93	93	93	93
Surplus or Deficit:	46	-61	-64	-69	-75	-85

# IV. Bay-Delta Plan





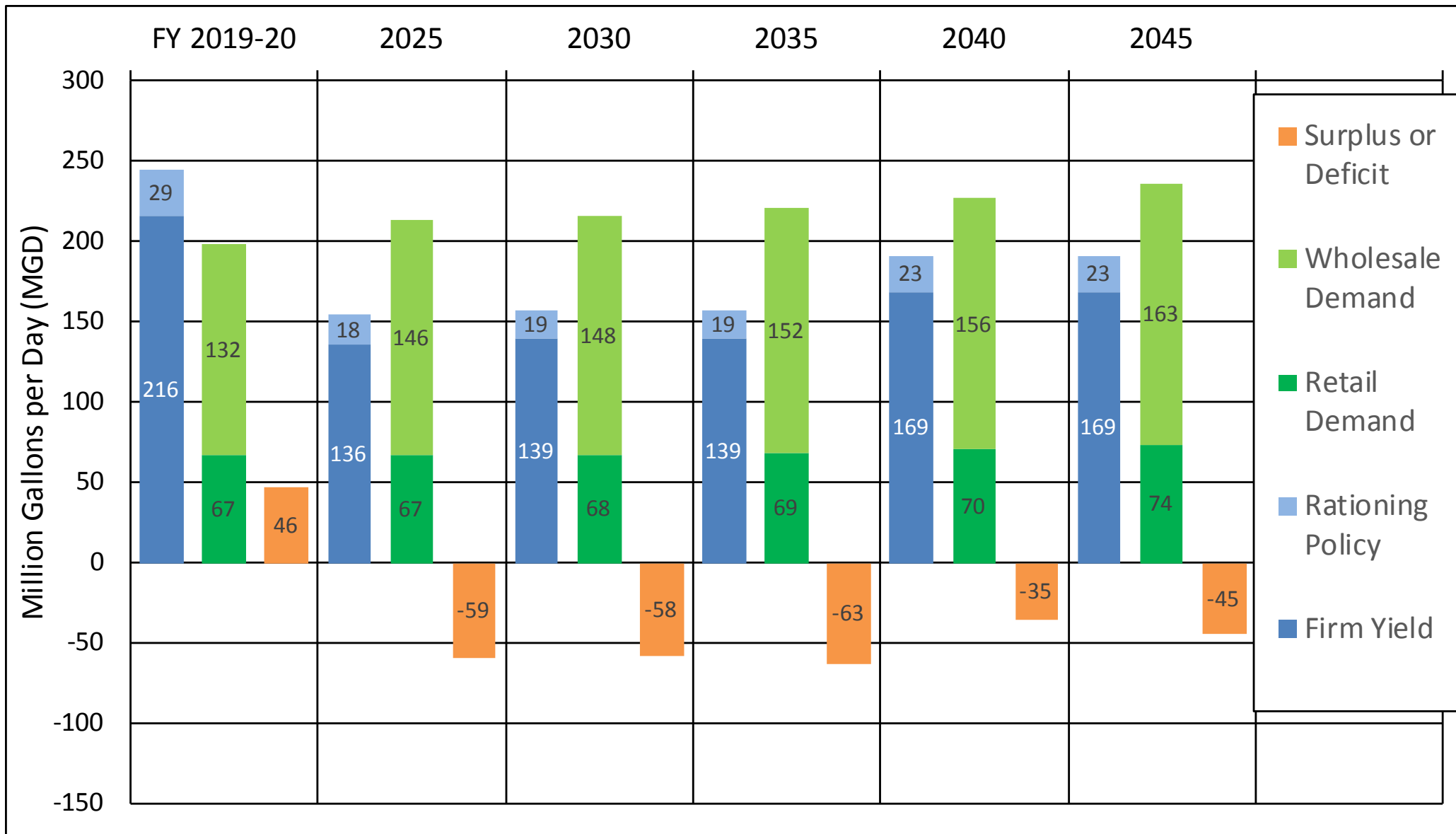
# V. Bay-Delta Plan with Alternative Water Supply Projects

- Base Conditions
- Yield values are based on the 8.5-year design drought and the adopted WSIP rationing policy
- Includes SFPUC contribution to the Bay-Delta Plan displayed in the graph as a reduction in Firm Yield, assuming the flow requirement is 40% of unimpaired flow at La Grange from February through June. Current FERC flow requirements are assumed for the rest of the year.
- SFPUC contributions are calculated according to the 4<sup>th</sup> Agreement and continuation of the 1995 side agreement.
- Includes a total of 35 MGD of new water supply projects, which are assumed to be added between 2025 and 2040. The firm yield from the new projects is shown separately in the table to demonstrate the estimated development of the projects over time. The new project yield is also included in the Total Yield shown in the table.

SFPUC Water Supply and Demand Worksheet Results  
All values are in million gallons per day (MGD)

	FY 2019-20	2025	2030	2035	2040	2045
Total Yield:	245	154	158	158	192	192
RWS Demand:	198	213	215	220	227	236
Lower Tuolumne Contribution:	NA	93	93	93	93	93
Alternative Water Supply Projects:	NA	2	5	5	35	35
Surplus or Deficit:	46	-59	-58	-63	-35	-45

# V. Bay-Delta Plan with Alternative Water Supply Projects





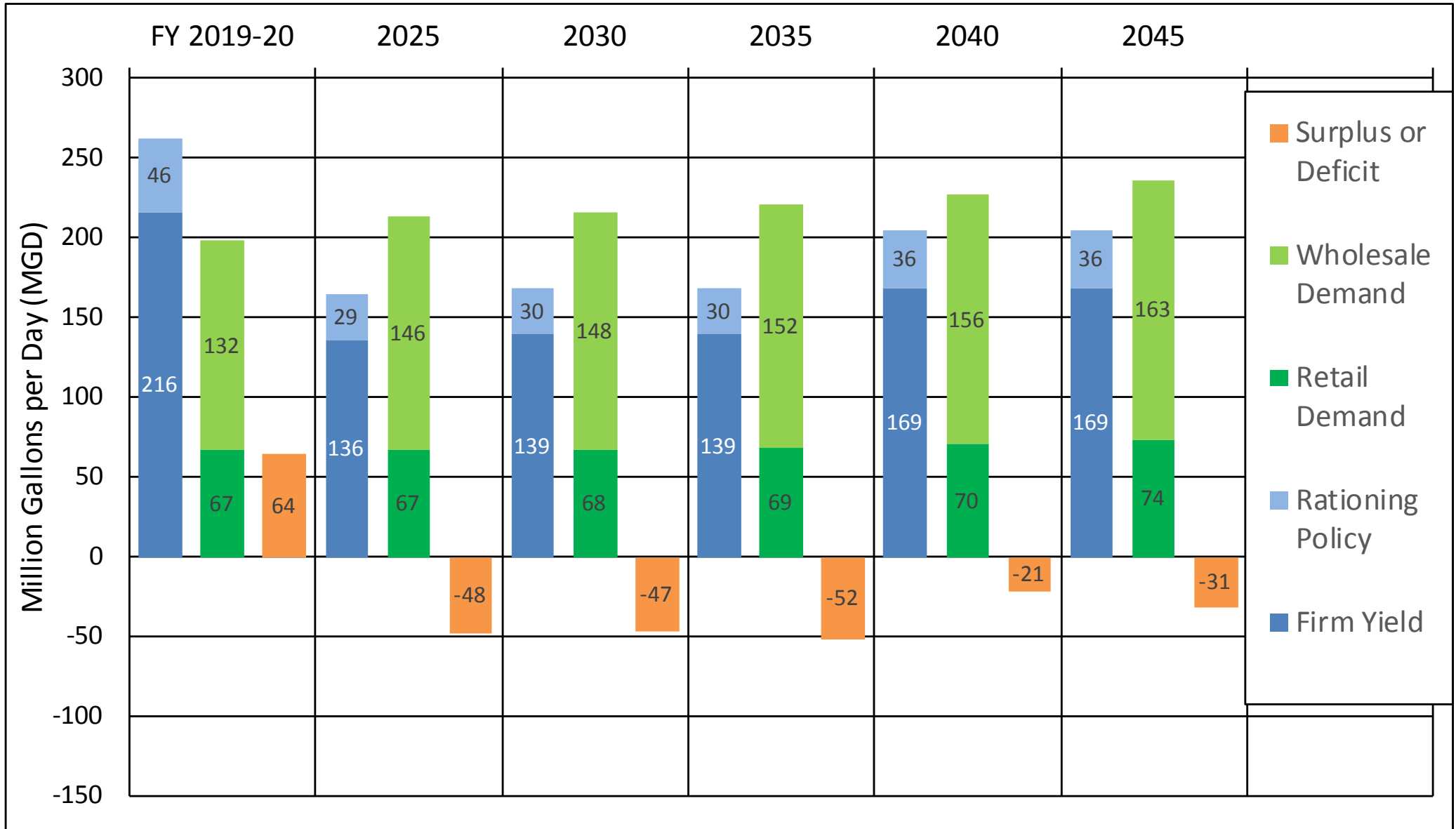
# VI. Bay-Delta Plan with Alternative Water Supply Projects and Modified Rationing Policy

- Base Conditions
- Yield values are based on the 8.5-year design drought
- Includes SFPUC contribution to the Bay-Delta Plan displayed in the graph as a reduction in Firm Yield, assuming the flow requirement is 40% of unimpaired flow at La Grange from February through June. Current FERC flow requirements are assumed for the rest of the year.
- SFPUC contributions are calculated according to the 4<sup>th</sup> Agreement and assuming continuation of the 1995 side agreement.
- Includes a total of 35 MGD of new water supply projects, as described on slide 12 for scenario V
- Includes 7.5 years of rationing at 20% in the 8.5-year design drought sequence

SFPUC Water Supply and Demand Worksheet Results  
All values are in million gallons per day (MGD)

	FY 2019-20	2025	2030	2035	2040	2045
Total Yield:	262	165	169	169	205	205
RWS Demand:	198	213	215	220	227	236
Lower Tuolumne Contribution:	NA	93	93	93	93	93
Surplus or Deficit:	64	-48	-47	-52	-21	-31

# VI. Bay-Delta Plan with Alternative Water Supply Projects and Modified Rationing Policy





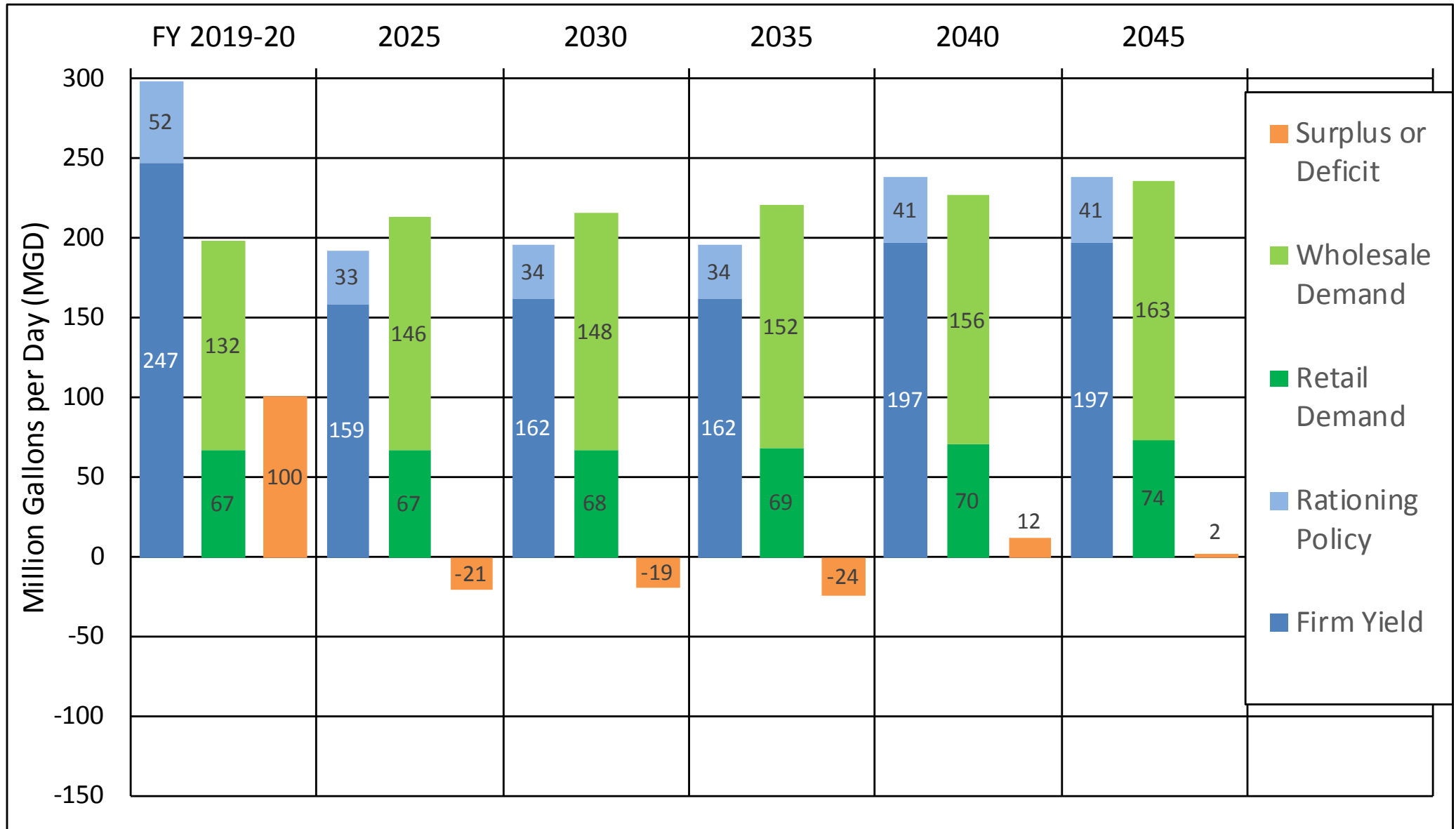
# VII. Bay-Delta Plan with Alternative Water Supply Projects, Modified Rationing Policy and Modified Design Drought

- Base Conditions
- Includes SFPUC contribution to the Bay-Delta Plan displayed in the graph as a reduction in Firm Yield, assuming the flow requirement is 40% of unimpaired flow at La Grange from February through June. Current FERC flow requirements are assumed for the rest of the year.
- SFPUC contributions are calculated according to the 4<sup>th</sup> Agreement and assuming continuation of the 1995 side agreement.
- Includes a total of 35 MGD of new water supply projects, as described on slide 12 for scenario V
- Yield values are estimated using a 7.5-year design drought
- Includes 6.5 years of rationing at 20% in the 7.5-year design drought sequence.

SFPUC Water Supply and Demand Worksheet Results  
All values are in million gallons per day (MGD)

	FY 2019-20	2025	2030	2035	2040	2045
Total Yield:	299	192	196	196	238	238
RWS Demand:	198	213	215	220	227	236
Lower Tuolumne Contribution:	NA	101	101	101	101	101
Surplus or Deficit:	100	-21	-19	-24	12	2

# VII. Bay-Delta Plan with Alternative Water Supply Projects, Modified Rationing Policy and Modified Design Drought





# VIII. Water Quality Certification (401) with Alternative Water Supply Projects, Modified Rationing Policy and Modified Design Drought

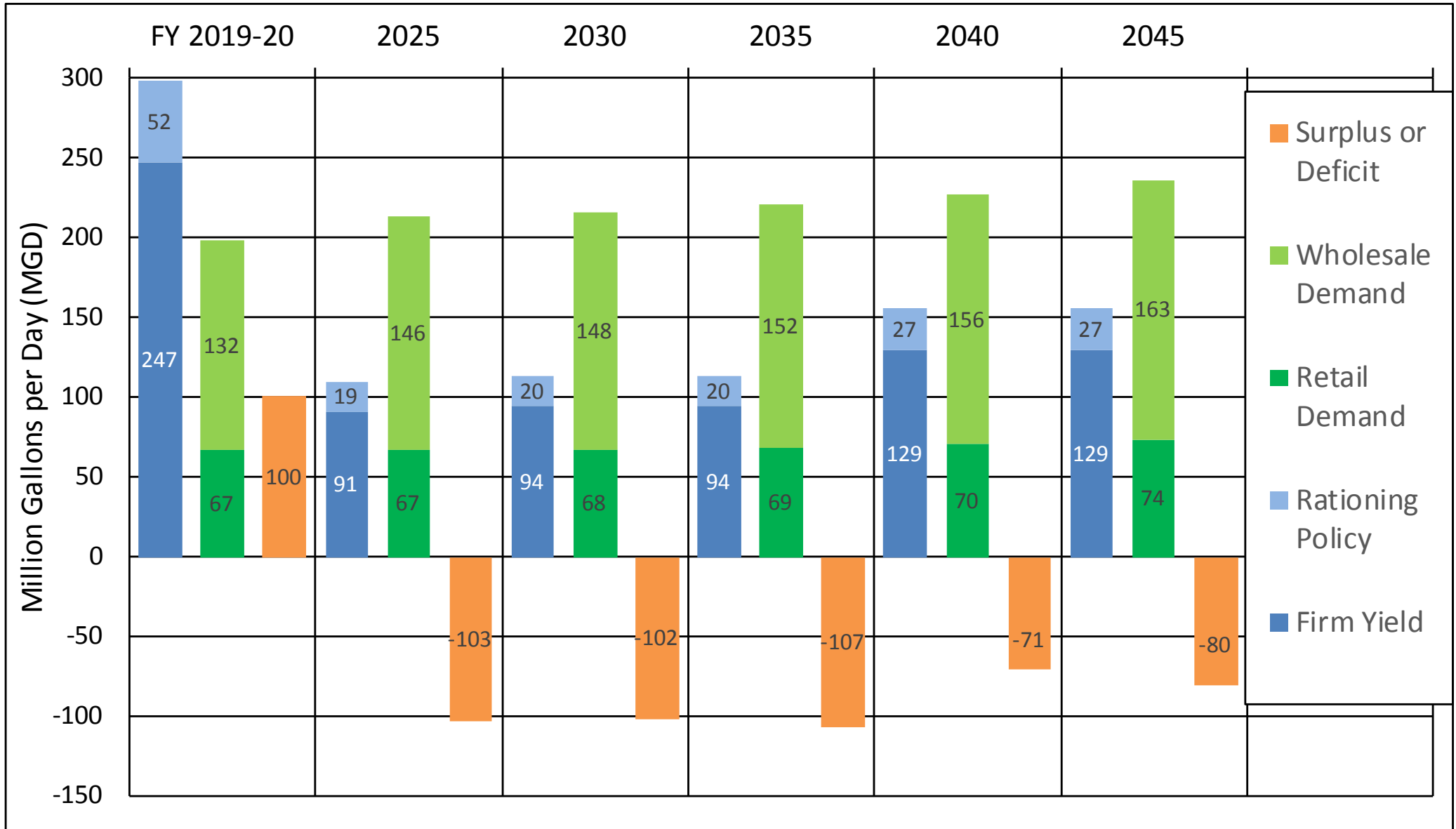
- Base Conditions
- Includes SFPUC contribution to the Section 401 water quality certification on the FERC license displayed in the graph as a reduction in Firm Yield.
- SFPUC contributions are calculated according to the 4<sup>th</sup> Agreement and assuming continuation of the 1995 side agreement.
- Includes a total of 35 MGD of new water supply projects, as described on slide 12 for scenario V
- Yield values are estimated using a 7.5-year design drought
- Includes 6.5 years of rationing at 20% in the 7.5-year design drought sequence.

SFPUC Water Supply and Demand Worksheet Results  
All values are in million gallons per day (MGD)

	FY 2019-20	2025	2030	2035	2040	2045
Total Yield:	299	110	114	114	156	156
RWS Demand:	198	213	215	220	227	236
Lower Tuolumne Contribution:	NA	169	169	169	169	169
Surplus or Deficit:	100	-103	-102	-107	-71	-80



# VIII. Water Quality Certification (401) with Alternative Water Supply Projects, Modified Rationing Policy and Modified Design Drought



## IX. NGO scenario 1: Current system, 198 mgd constant demand, Bay-Delta Plan flows

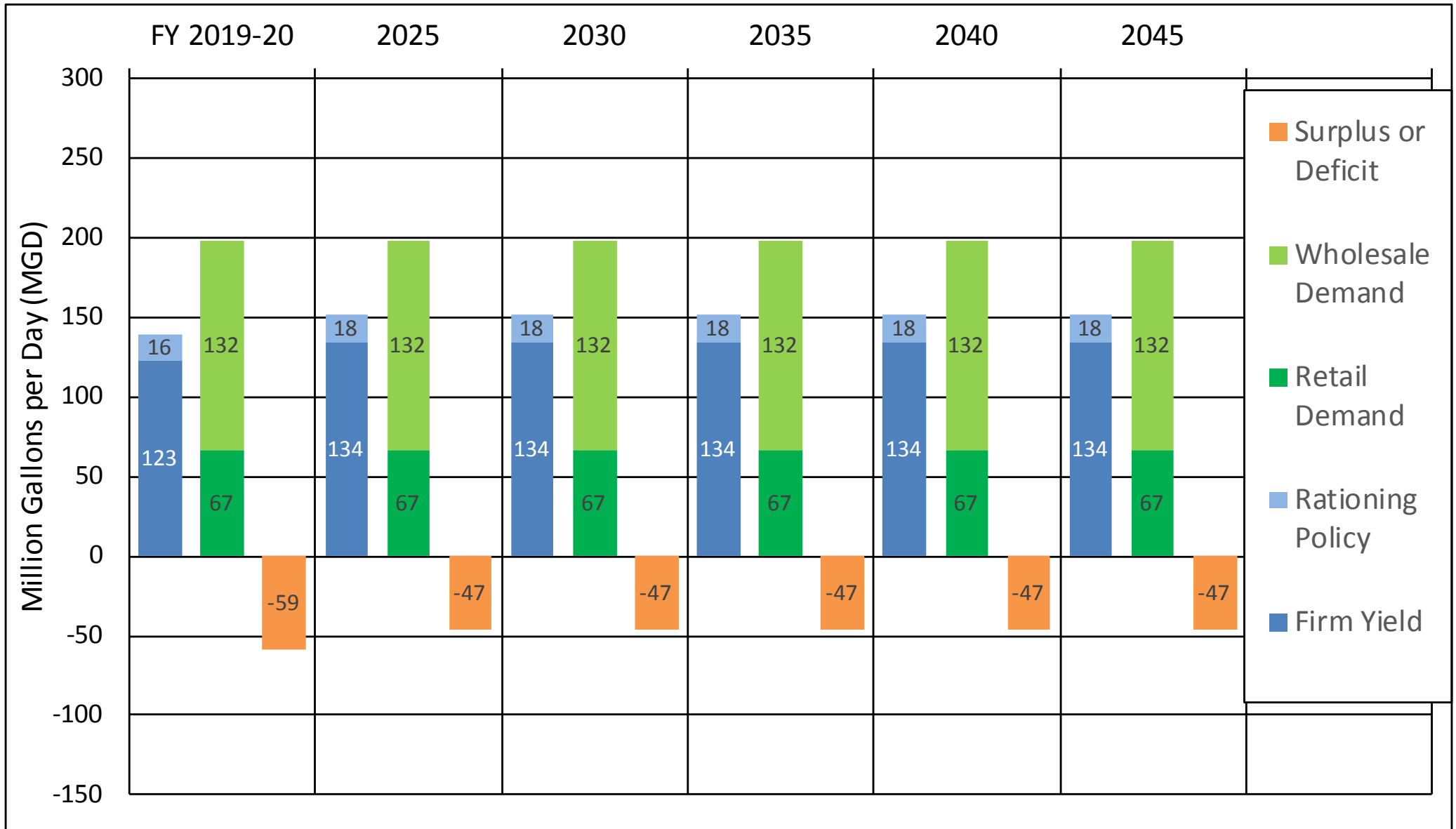
- Assumes that retail and wholesale demand on the RWS remain at the current level of approximately 198 MGD, and that SFPUC contributions to the Bay-Delta Plan are being made now
- Yield values are based on the 8.5-year design drought and the adopted WSIP rationing policy
- Includes SFPUC contribution to the Bay-Delta Plan, assuming the flow requirement is 40% of unimpaired flow at La Grange from February through June. Current FERC flow requirements are assumed for the rest of the year.
- SFPUC contributions are calculated according to the 4<sup>th</sup> Agreement and assuming continuation of the 1995 side agreement.

### SFPUC Water Supply and Demand Worksheet Results

All values are in million gallons per day (MGD)

	FY 2019-20	2025	2030	2035	2040	2045
Total Yield:	139	152	152	152	152	152
RWS Demand:	198	198	198	198	198	198
Lower Tuolumne Contribution:	93	93	93	93	93	93
Surplus or Deficit:	-59	-47	-47	-47	-47	-47

# IX. NGO scenario 1: Current system, 198 mgd constant demand, Bay-Delta Plan flows





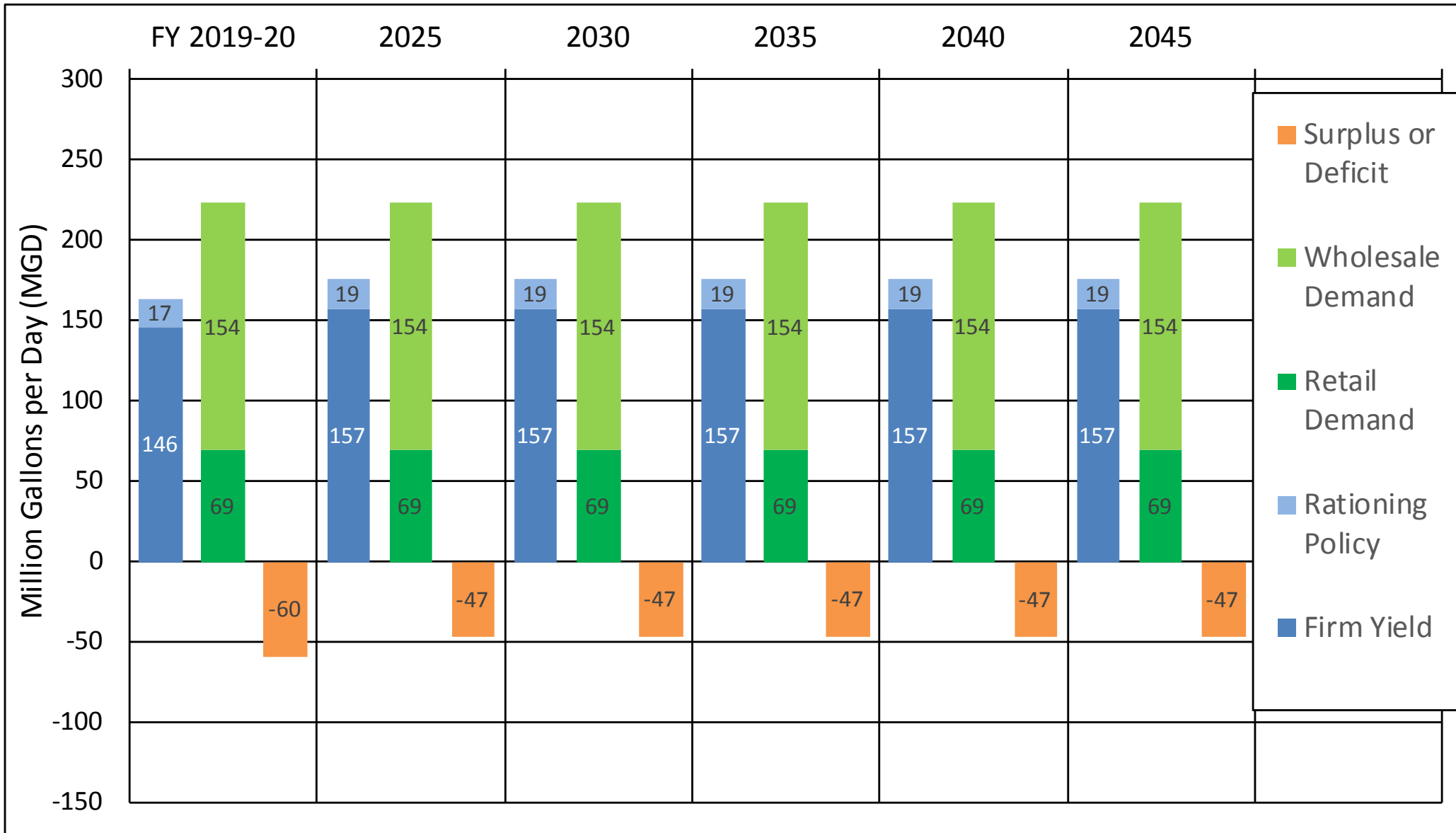
# X. NGO scenario 2: Current system, 223 mgd constant demand, 7½ year design drought, Bay-Delta Plan flows

- Includes an assumed demand of 223 MGD for the SFPUC service area in all years
- Includes a total of 9 MGD for San Jose and Santa Clara
- Includes SFPUC contribution to the Bay-Delta Plan, assuming the flow requirement is 40% of unimpaired flow at La Grange from February through June. Current FERC flow requirements are assumed for the rest of the year. Assumes this contribution begins now.
- SFPUC contributions are calculated according to the 4<sup>th</sup> Agreement and assuming continuation of the 1995 side agreement.
- Yield values are estimated using a 7.5-year design drought and a truncated version of the adopted WSIP rationing policy

SFPUC Water Supply and Demand Worksheet Results  
All values are in million gallons per day (MGD)

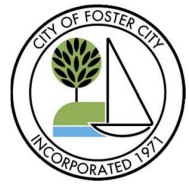
	FY 2019-20	2025	2030	2035	2040	2045
Total Yield:	163	176	176	176	176	176
RWS Demand:	223	223	223	223	223	223
Lower Tuolumne Contribution:	101	101	101	101	101	101
Surplus or Deficit:	-59	-47	-47	-47	-47	-47

# X. NGO scenario 2: Current system, 223 mgd constant demand, 7½ year design drought, Bay-Delta Plan flows



## SCENARIO SURPLUSES OR DEFICITS

SCENARIOS	FY19-20	2025	2030	2035	2040	2045
I. Previous Demand Estimates	15	21	17	10	3	NA
II. Current Conditions	46	44	42	37	31	21
III. Tuolumne River Voluntary Agreement	46	28	26	21	15	5
IV. Bay-Delta Plan	46	-61	-64	-69	-75	-85
V. Bay-Delta Plan with Alternative Water Supply Projects	46	-59	-58	-63	-35	-45
VI. Bay-Delta Plan with Alternative Water Supply Projects and Modified Rationing Policy	64	-48	-47	-52	-21	-31
VII. Bay-Delta Plan with Alternative Water Supply Projects, Modified Rationing Policy and Modified Design	100	-21	-19	-24	12	2
VIII. Water Quality Certification (401) with Alternative Water Supply Projects, Modified Rationing Policy and Modified Design Drought	100	-103	-102	-107	-71	-80
IX. NGO scenario 1: Current system and 198 mgd constant demand and Bay-Delta Plan flows	-59	-47	-47	-47	-47	-47
X. NGO Scenario 2: Current system, 223 mgd constant demand, 7 ½ year design drought and Bay-Delta Plan	-60	-47	-47	-47	-47	-47



**APPENDIX J**  
**WATER SHORTAGE CONTINGENCY PLAN**





# Estero Municipal Improvement District 2020 Water Shortage Contingency Plan

July 2021



Prepared by:



**MADDAUS  
WATER  
MANAGEMENT INC.**

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## LIST OF ABBREVIATIONS AND ACRONYMS

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2020 UWMP	2020 Urban Water Management Plan
AMI	Advanced Metering Infrastructure
BAWSCA	Bay Area Water Supply and Conservation Agency
BWA	Bartle Wells Associates
Cal Water	California Water Service Company
CFR	Code of Federal Regulations
CII	Commercial, Industrial, and Institutional
CWC	California Water Code
DRA	Drought Risk Assessment
DSS Model	Least Cost Planning Decision Support System Model
DWR	California Department of Water Resources
EMID	Estero Municipal Improvement District
EOP	Emergency Operations Plan
ERP	Emergency Response Plan
ISG	Individual Supply Guarantee
MF	multifamily
MG	million gallons
MGD	million gallons per day
MPWD	Mid-Peninsula Water District
RWS	Regional Water Supply
SF	Single Family
SFPUC	San Francisco Public Utilities Commission
UWMP	Urban Water Management Plan
WDSMP	Water Distribution System Master Plan
WSCP	Water Shortage Contingency Plan
WSIP	Water System Improvement Program

# 1 INTRODUCTION AND WSCP OVERVIEW

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The Water Shortage Contingency Plan (WSCP) is a strategic planning document designed to prepare for and respond to water shortages. This WSCP complies with California Water Code (CWC) Section 10632, which requires that every urban water supplier shall prepare and adopt a WSCP as part of its urban water management plan (UWMP). This level of detailed planning and preparation is intended to help maintain reliable supplies and reduce the impacts of supply interruptions.

The WSCP is the operating manual that Estero Municipal Improvement District (EMID) uses to prevent catastrophic service disruptions through proactive, rather than reactive, management. A water shortage occurs when water supply availability is insufficient to meet the normal, expected customer water use at a given point in time. This may occur due to a number of reasons, such as population and land use growth, climate change, drought, or catastrophic events. This WSCP provides a structured guide for EMID to deal with water shortages, incorporating prescriptive information and standardized action levels along with implementation actions in the event of a supply interruption. Therefore, when shortage conditions arise, EMID's governing body, its staff, and the public can easily identify and efficiently implement pre-determined steps to manage the shortage. A well-structured WSCP allows for efficient management of any shortage with predictability and accountability through real-time water supply availability assessment and structured steps designed to respond to actual conditions.

The WSCP also describes EMID's procedures for conducting an Annual Water Supply and Demand Assessment (Annual Assessment) that is required by CWC Section 10632.1 and is to be submitted to the California Department of Water Resources (DWR) on or before July 1 of each year, or within 14 days of receiving final allocations from the State Water Project, whichever is later. EMID's 2020 WSCP is included as an appendix to its 2020 UWMP. However, this WSCP is created separately from EMID's 2020 UWMP and can be amended, as needed, without amending the UWMP. It should be noted that the Water Code does not prohibit an urban water supplier from taking actions not specified in its WSCP, if needed, without having to formally amend its UWMP or WSCP.

## 1.1 Water Shortage Contingency Plan Requirements and Organization

The WSCP provides the steps and water shortage response actions to be taken in times of water shortage conditions. The WSCP has prescriptive elements, such as an analysis of water supply reliability; the water shortage response actions for each of the six standard water shortage levels, that correspond to water shortage percentages ranging from 10% to greater than 50%; an estimate of potential to close supply gap for each measure; protocols and procedures to communicate identified actions for any current or predicted water shortage conditions; procedures for an annual water supply and demand assessment; monitoring and reporting requirements to determine customer compliance; reevaluation and improvement procedures for evaluating the WSCP.

This WSCP is organized into three main sections with Section 3 aligned with the California Water Code Section 16032 requirements.

**Section 1 Introduction and WSCP Overview** gives an overview of the WSCP fundamentals.

**Section 2 Background** provides a background on EMID's water service area.

**Section 3 Water Shortage Contingency Preparedness and Response Planning**

**Section 3.1 Water Supply Reliability Analysis** provides a summary of the water supply analysis and water reliability findings from the 2020 UWMP.

**Section 3.2 Annual Water Supply and Demand Assessment Procedures** provide a description of procedures to conduct and approve the Annual Assessment.

**Section 3.3 Six Standard Water Shortage Stages** explains the WSCP’s six standard water shortage levels corresponding to progressive ranges of up to 10, 20, 30, 40, 50, and more than 50% shortages.

**Section 3.4 Shortage Response Actions** describes the WSCP’s shortage response actions that align with the defined shortage levels.

**Section 3.5 Communication Protocols** addresses communication protocols and procedures to inform customers, the public, interested parties, and local, regional, and state governments regarding any current or predicted shortages and any resulting shortage response actions.

**Section 3.6 Public Outreach** describes actions that will be taken by EMID to communicate with customers during a drought.

**Section 3.7 Compliance and Enforcement** describes customer compliance, enforcement, appeal, and exemption procedures for triggered shortage response actions.

**Section 3.8 Legal Authorities** is a description of the legal authorities that enable EMID to implement and enforce its shortage response actions

**Section 3.9 Financial Consequences of the WSCP** provides a description of the financial consequences of and responses to drought conditions.

**Section 3.10 Monitoring and Reporting** describes monitoring and reporting requirements and procedures that ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance and to meet state reporting requirements.

**Section 3.11 WSCP Refinement Procedures** addresses reevaluation and improvement procedures for monitoring and evaluating the functionality of the WSCP.

**Section 3.12 Special Water Feature Distinction** is a required definition for inclusion in a WSCP per the Water Code.

**Section 3.13 Plan Adoption, Submittal, Availability, and Implementation** provides a record of the process EMID followed to adopt and implement its WSCP.

The California Water Code Section 10632.3 acknowledges that the state defers to the locally adopted WSCPs to the extent practicable. Planning for water shortages necessitates that water suppliers consider the regional and local water supply reliability and understand the key factors that could contribute to water supply constraints (see Chapter 7 of the EMID 2020 UWMP).

EMID’s WSCP serves as a “stand-alone” preparedness and response plan, not only during water shortage conditions, but before and after as well. It includes specific actions for management of EMID’s water supply and demand, addresses the impacts associated with water shortages, and facilitates the timely implementation of effective contingency responses. The WSCP can be updated between UWMP cycles.

## 1.2 Integration with Other Planning Efforts

EMID developed this WSCP based on the following guiding principle:

*This WSCP concentrates on the reduction of non-essential water uses such as landscape irrigation and other discretionary outdoor water use and gives the highest priority to preserving water uses that are essential to the health, safety, welfare, and economic vitality of EMID's customers.<sup>1</sup>*

Practically, this principle guides EMID to ask for a shared contribution from all its customers toward meeting water reduction goals during periods of water shortage. It further directs EMID to focus its water conservation efforts on reducing discretionary water uses, such as outdoor irrigation, while attempting to minimize economic and other impacts to its residential and commercial customers.

The 2015-2023 Housing Element for Foster City (City of Foster City, 2015) includes the following Water Service Priority Policy, consistent with Government Code Section 65589.7:

*H-A-3-c **Water and Sewer Agency Coordination.** Annually review water and sewer procedures and priority for water and sewer service allowances for developments with units affordable to lower-income households. Target: Upon Housing Element adoption; review annually. Responsible Agency: Community Development Department and Public Works Department.*

The Water Service Priority Policy directs EMID to prioritize water and sewer service to proposed developments that include units for lower income households.

As a retail water supplier in San Mateo County, EMID considered other key entities in the development of this WSCP, including the San Francisco Public Utilities Commission (SFPUC).

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<sup>1</sup> California Water Code (CWC), Division 1, Chapter 3, 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." Accessed online June 2021:

[http://leginfo.legislature.ca.gov/faces/codes\\_displayText.xhtml?lawCode=WAT&division=1.&title=&part=&chapter=3.&article=](http://leginfo.legislature.ca.gov/faces/codes_displayText.xhtml?lawCode=WAT&division=1.&title=&part=&chapter=3.&article=)



## 2 BACKGROUND INFORMATION

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EMID serves a population of approximately 36,500 and is located on the San Francisco Bay Peninsula, midway between San Francisco and San Jose. The EMID service area is located approximately 10 miles south of the San Francisco International Airport and adjacent to the entrance of the San Mateo/EMID Bridge. The EMID service area consists of the City of Foster City (referred to herein as the “City” or “Foster City”) and a portion of the City of San Mateo immediately adjacent to the west, referred to as the Mariners Island area, as shown in Figure 2-1. EMID’s customers are mostly residential with a broad cross-section of offices, commercial businesses, biotech research and development businesses, and a small number of industrial businesses.

### 2.1 EMID Service Area

EMID purchases all of its potable water from the SFPUC Regional Water System (RWS) and is a member of the Bay Area Water Supply and Conservation Agency (BAWSCA). Water distribution, water conservation, and maintenance of water quality are EMID’s main water resource functions, as treated water purchased from the SFPUC RWS does not require further water treatment. EMID is governed by a board of five directors that also serves as the City Council for Foster City.

Water from the SFPUC RWS enters the EMID distribution system (Figure 2-1) through a single 24-inch transmission main line connected to SFPUC’s 54-inch main, Crystal Springs No. 2. The main line connection point is located in the City of San Mateo on Crystal Springs Road. The distribution system consists of two water pressure reducing stations, four above ground storage tanks with a total storage capacity of 20 MG, a booster pump station, 135 miles of distribution pipeline, and 8,170 service connections (HydroScience, 2020).

There are two interconnections between EMID’s system and adjacent distribution systems: 1) an intertie with California Water Service Company’s (Cal Water’s) Mid-Peninsula District system, and 2) an intertie with the Mid-Peninsula Water District (MPWD) system. EMID currently has emergency transfer agreements with both Cal Water and MPWD (HydroScience, 2020).

In April 2020, EMID completed a Water Distribution System Master Plan (WDSMP) Study that is referenced above and throughout this WSCP. The WDSMP includes a water demand analysis, a comprehensive hydraulic modeling evaluation to determine existing and future deficiencies in the water supply system, and a long-range (20-year) Capital Improvement Plan used to address deficiencies raised by the study (HydroScience, 2020). Detailed recommendations and proposed plans for EMID are described further in the 2020 WDSMP.

As of October 2020, the EMID Levee Protection Planning and Improvements Project is under construction. Upon completion, the levee surrounding the service area will be raised to meet the required elevation per Title 44 of the Code of Federal Regulations (CFR), Section 65.10.<sup>2</sup> The raised levee will provide long-term protection to EMID’s infrastructure from the effects of climate change such as intense flooding, erratic weather events, and sea level rise. The anticipated completion date for the Levee Protection Project is 2023.

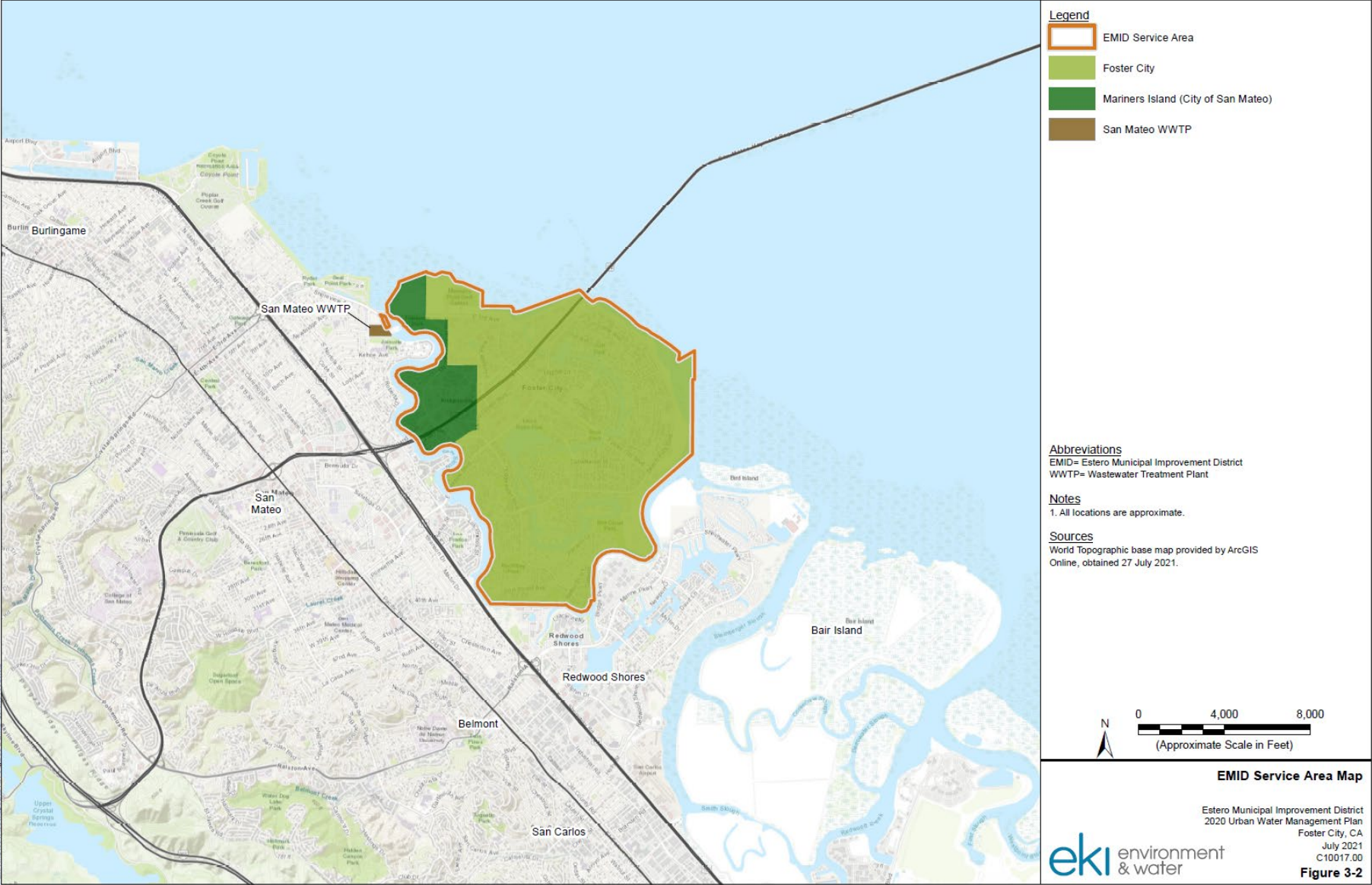
In addition to the major projects identified above, the following water system improvement projects were listed in the 2015 UWMP with anticipated completion dates shown in parentheses for each project:

- Water system improvements and valve replacements – includes the replacement and addition of several valve and bypass tees (Winter 2021)
- Recoating of Water Tanks 1, 2, and 3 (Fall 2022)
- Seismic improvements at Water Booster Pump Station and water tanks 1, 2, and 3 (Fall 2022)
- Water Quality Dosing and Tank Improvements (Fall 2022)
- Test Large Water Meters (4” and greater) in place to determine meter accuracy (Summer 2022)
- Replace Large Water Meters (4” and greater) with inaccurate readings (Summer 2022)
- Repair Steel Pipeline and Replace Broken Valves (Summer 2022)

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<sup>2</sup> U.S. Government. (2011). Code of Federal Regulations, Title 44, Section 65.10.  
<https://www.govinfo.gov/content/pkg/CFR-2011-title1-vol1/pdf/CFR-2011-title1-vol1.pdf>

Figure 2-1. EMID Service Area

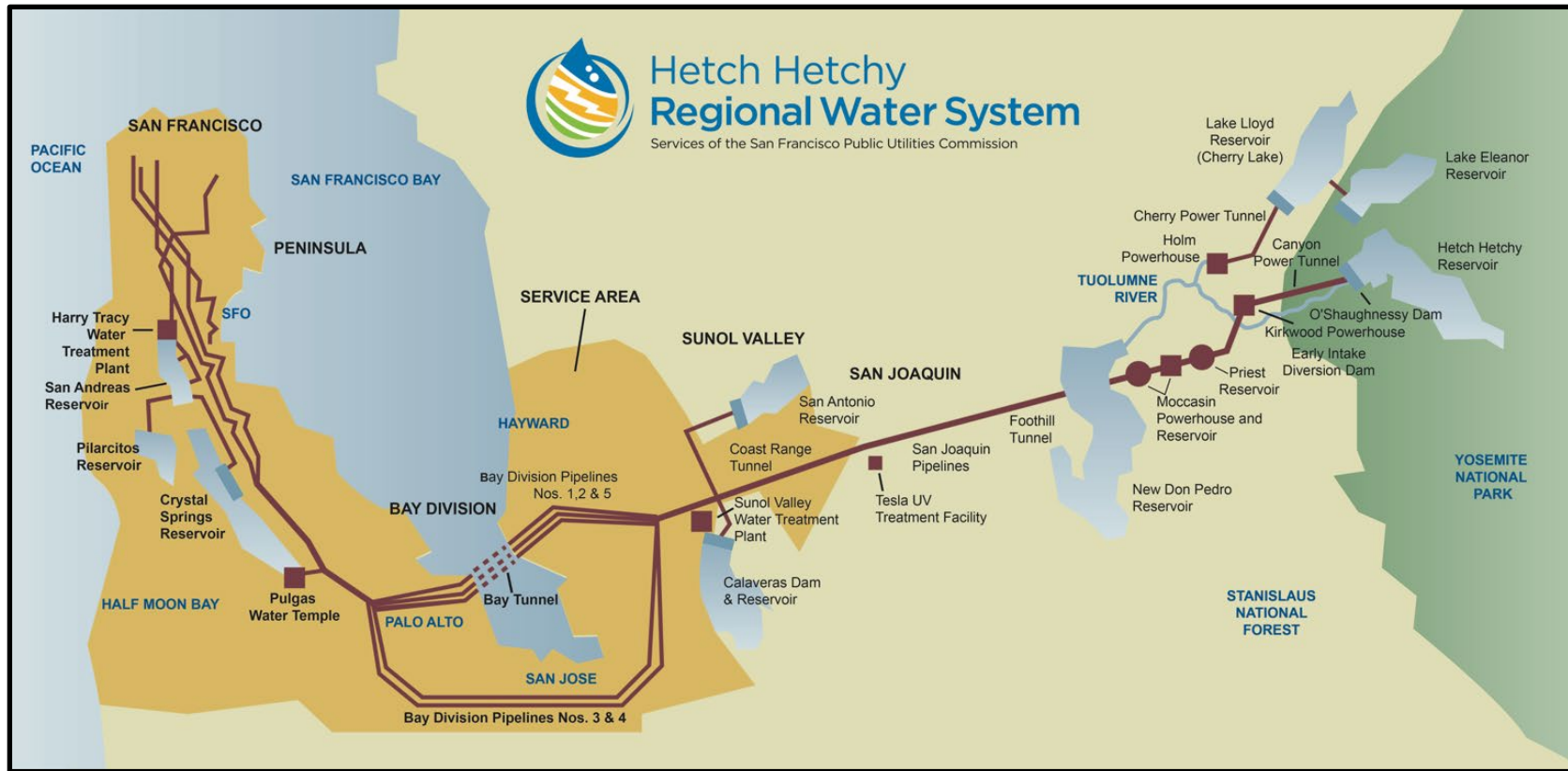


Source: EKI Environment & Water, Inc. (2021). Estero Municipal Improvement District 2020 Urban Water Management Plan, Figure 3-2.

## 2.2 Relationship to Wholesalers

EMID purchases all of its potable water supply from the SFPUC RWS, which is predominantly from the Sierra Nevada, delivered through the Hetch Hetchy aqueducts. The SFPUC RWS also includes treated water produced by SFPUC from its local watersheds and facilities in Alameda and San Mateo Counties (Figure 2-2). Water from the RWS is treated before delivery and supplied to EMID from two connections: 1) Bay Division Pipelines 1 and 2, and 2) the Crystal Springs Bypass Tunnel. The SFPUC water is delivered to EMID through a single 24-inch transmission main line connected to SFPUC's 54-inch main, Crystal Springs No.2.

Figure 2-2. SFPUC Regional Water System Map



Source: SFPUC, 2020 UWMP.

The amount of imported water available to SFPUC's customers is constrained by climate, hydrology, physical facilities, and the institutional parameters that allocate the water supply of the Tuolumne River, the key source for SFPUC. Due to these constraints, SFPUC is very dependent on reservoir and snowpack storage to manage its water supplies.

## 3 WATER SHORTAGE CONTINGENCY PREPAREDNESS AND RESPONSE PLANNING

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The EMID WSCP is a detailed guide of how EMID intends to act in the case of an actual water shortage condition. The WSCP anticipates a water supply shortage and provides pre-planned guidance for managing and mitigating the shortage. Regardless of the reason for the shortage, the WSCP is based on having adequate details of demand reduction and supply augmentation measures that are structured to match varying degrees of shortage to ensure that relevant stakeholders understand what to expect during a water shortage situation.

### 3.1 Water Supply Reliability Analysis

Per Water Code Section 10632 (a)(1), the WSCP shall provide an analysis of water supply reliability conducted pursuant to Water Code Section 10635 and the key issues that may create a shortage condition when looking at EMID's water asset portfolio.

Understanding water supply reliability, factors that could contribute to water supply constraints, availability of alternative supplies, and what effect these have on meeting customer demands provides EMID with a solid basis on which to develop appropriate and feasible response actions in the event of a water shortage. In the 2020 UWMP, EMID conducted a Water Reliability Assessment to compare the total water supply sources available with long-term projected water use over the next 25 years in five-year increments (for a normal water year, a single dry water year, and a drought lasting five consecutive water years). EMID also conducted a Drought Risk Assessment (DRA) to evaluate a drought period that lasts five consecutive water years starting from the year following when the assessment was conducted.

### 3.2 Annual Water Supply and Demand Assessment Procedures

Per Water Code Section 10632.1, EMID will conduct an annual water supply and demand assessment pursuant to subdivision (a) of Section 10632 and by July 1st of each year, beginning in 2022. In addition, EMID will submit an annual water shortage assessment with information for anticipated shortage, triggered shortage response actions, compliance and enforcement actions, and communication actions consistent with EMID's WSCP.

This section documents the decision-making process required for formal approval of EMID's Annual Assessment determination of water supply reliability each year (Figure 3-1) and the key data inputs and methodologies used to evaluate the water system reliability for the coming year, while considering that the year to follow would be dry.

As of July 1, 2022, EMID is required to prepare its Annual Water Supply and Demand Assessment and submit it to DWR. Pursuant to California Water Code Section 10632(a), EMID'S WSCP includes its procedures for:

- Annual steps in its demand and supply assessment process.
- Timeline to complete the Annual Assessment, such that it can be consistently followed year-after-year, regardless of changing staff performing the assessment.

The focus of EMID's Annual Assessment is based on actual forecasted near-term water supply conditions (for the next 12 months) to ensure appropriate shortage response actions are triggered in a timely manner with expected outcomes. This analysis contrasts with the DRA in Chapter 7 of the 2020 UWMP that has a longer-term, multiyear water supply reliability focus.

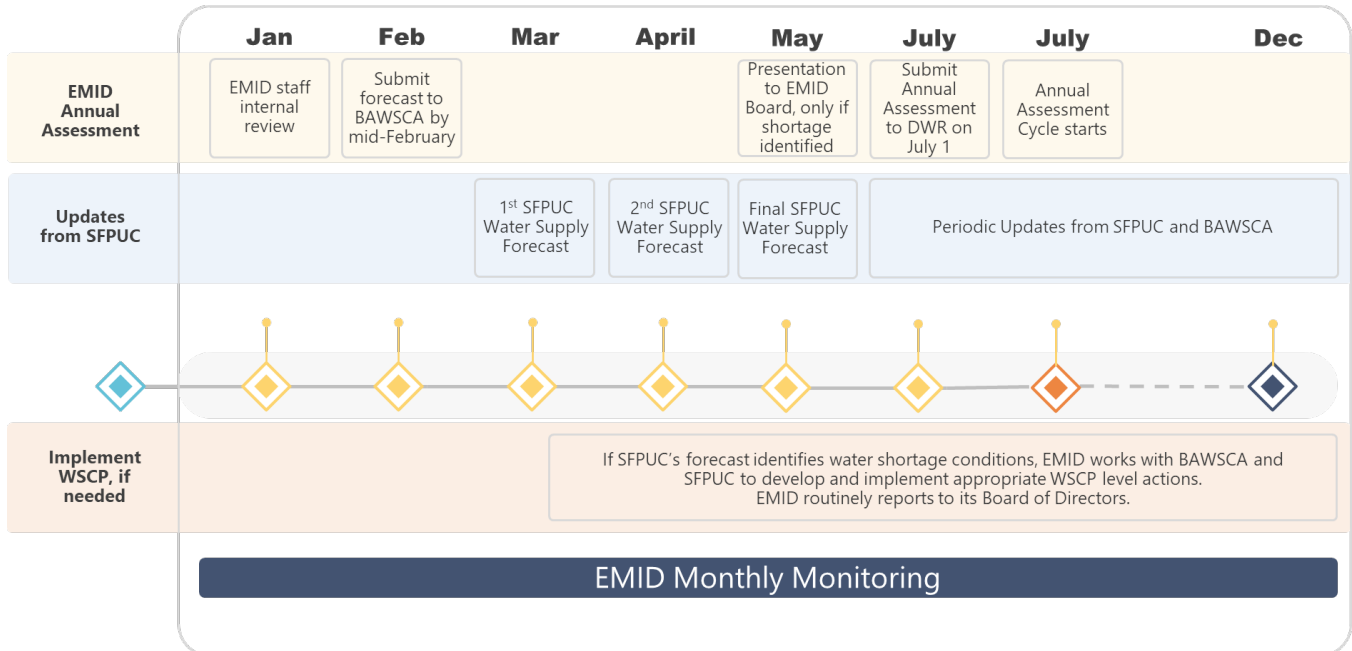
The Water Code Section 10632.1 requires that EMID completes specific response actions for its Annual Water Supply and Demand Assessment.



## Decision-Making Process

Throughout the year, EMID attends working meetings with BAWSCA and reviews water supply availability updates from SFPUC. SFPUC updates BAWSCA on January 1, February 1, and provides the final annual supply availability by April 15. A sample timeline for EMID’s Annual Assessment report is presented in Figure 3-1.

**Figure 3-1. Sample of EMID’s Annual Assessment Report Timeline**



As required by Water Code Section 10632(a)(2), the procedures EMID will follow to conduct its Annual Assessment for water demand and supply and formally approve it include staff and Board actions, such as:

- Review and analysis of monthly and annual (prior year) service area water consumption by sector.
- Comparison and analysis of monthly and annual EMID consumption to SFPUC production data.
- Review and analysis of actual consumption compared to forecast (i.e., EMID’s update and Least Cost Planning Decision Support System Model<sup>3</sup> [DSS Model] forecast), and, if changes are apparent, review of potential impacts on water use patterns (e.g., drought, COVID-19 pandemic, etc.).
- Review and analysis of SFPUC updated (final SFPUC supply availability on April 15, annually) annual supply projections (SFPUC’s hydrological and water availability forecast), and available related information.
- New regulatory requirements that could potentially impact EMID’s water supply.
- Other related data and information including an analysis of water system reliability for the coming year with the presumption that the year would be dry.
- If a shortage is identified, the Annual Assessment will be taken to the EMID Board for approval. Findings will be presented to the Board with any recommendations for discussion and approval. If no shortage is identified, the Annual Assessment will be approved by the Public Works Director or designee. Under normal conditions (no cutbacks), there would be no further formal Board action.
- Upon approval, EMID completes and submits its Annual Assessment report to DWR by July 1<sup>st</sup>.

<sup>3</sup> Maddaus Water Management. (2020). Least Cost Planning Decision Support System Model (DSS Model).

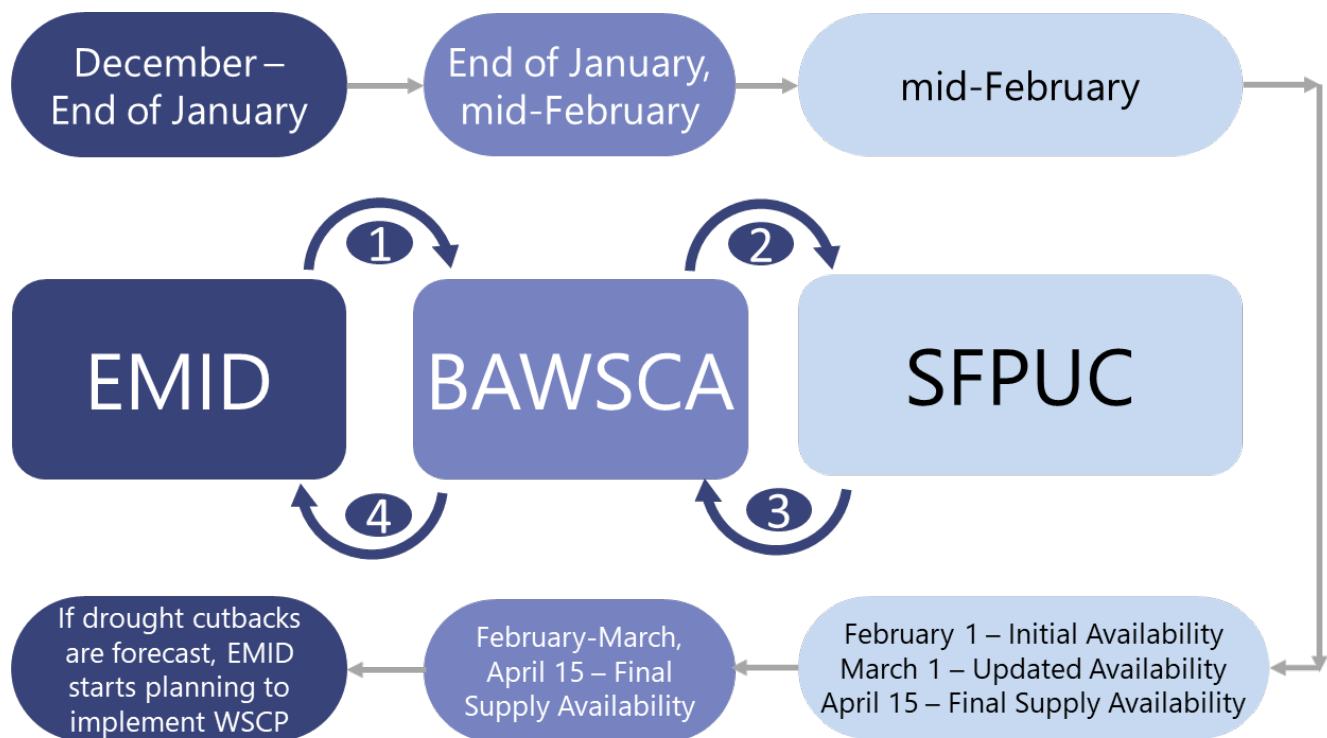
- EMID implements approved actions resulting from EMID’s Annual Assessment, if any, in addition to routine demand and supply monitoring, and starts new assessment cycle.

If the SFPUC water supply availability is normal, without expected shortages, the WSCP is not implemented.

If shortage conditions are expected by SFPUC, EMID staff will review the implementation options of the WSCP and present recommendations to the Board. Following discussion, deliberations, and any follow-up actions from staff (e.g., if the WSCP is implemented), specific actions are identified, such as communication with customers, implementation of shortage levels, and other necessary steps.

EMID’s routine annual demand and supply assessment and approval process includes interactions with BAWSCA and SFPUC. Figure 3-2 illustrates the annual demand and supply steps in the communication and decision-making process between EMID, BAWSCA, and SFPUC.

**Figure 3-2. Annual Update Process Between EMID, BAWSCA, and SFPUC for EMID’s Water Demand and Supply**



Typically, the annual water demand and supply assessment includes the following interactions with BAWSCA and SFPUC:

- (Optional) In January of each year, using EMID’s current DSS Model, EMID may review its previous demand forecast and update it as needed in preparation to submit to BAWSCA for the following year.
- Also in January, BAWSCA asks EMID to provide an updated forecast for its SFPUC water purchase for the next fiscal year (July 1 to June 30).
- By mid- to late January, EMID submits its current demand forecast to BAWSCA for its next fiscal year. For the past 10 years, annually BAWSCA agencies have had the opportunity to review and revise their purchase forecasts that BAWSCA submits to SFPUC annually in January. This annual reporting is routine for BAWSCA agencies and part of SFPUC’s wholesale rate setting process.
- By mid-February, BAWSCA submits the aggregate demand forecast of its 26 agencies to SFPUC.

- On February 1<sup>st</sup>, SFPUC provides BAWSCA with its initial “Water Supply Availability” conditions for its RWS. On March 1<sup>st</sup>, SFPUC provides an update and by April 15<sup>th</sup>, SFPUC identifies the Water Supply Availability for the year and provides tables that reflect the RWS supply conditions, including its determination if drought conditions are expected and cutbacks will be imposed. Routinely, SFPUC’s supply assessment includes information about its Tuolumne and San Francisco Bay Area watersheds, precipitation at Hetch-Hetchy (85% of its supply) and snowpack, reservoir storage, and supply limitations due to regulatory constraints.
- For triggered shortages, EMID uses its WSCP and documents the response actions.
- When water conditions return to normal, with Board approval, EMID communicates the water supply conditions to its customers.
- Routinely, EMID continues to monitor the SFPUC supply and its service area demand conditions using monthly metering results and analyzing its water use by sector. As needed, staff provides updates about water supply and demand conditions to the EMID Board and, as directed, follows up with response actions.

DWR is developing a guidance document with recommend procedures and analytical methods that may be used by water suppliers to comply with the Annual Assessment requirements. The Annual Assessment guidance will be reviewed by EMID, when provided by DWR and compliant with the requested submittal schedule.

### Regional Water Supply Planning

EMID, as part of BAWSCA, also participates in regional water supply planning. BAWSCA’s regional planning involves three major efforts:<sup>4</sup>

1. BAWSCA Annual Survey.<sup>5</sup>
2. Update DSS Model for member agencies.<sup>6</sup>
3. Update to the BAWSCA Demand Study.<sup>7</sup>

#### **BAWSCA Annual Survey**

Each year, BAWSCA conducts an annual survey (Survey) of its members in order to update key BAWSCA service area information including population, current and projected water use, and climate. BAWSCA conducts the Survey using its Water Conservation Data Base. BAWSCA’s annual timeline for the Survey begins each fall and concludes between March and June of the following year. Once BAWSCA receives the annual updates from all 26 member agencies, it compiles the information in the Survey. The Survey summarizes actual water use in the fiscal year that was just completed, projected use by source, and projected water demand (purchases) by source. Once the Draft Annual Survey is completed by BAWSCA, it sends it to its agencies for review and incorporates agency comments into the Final Annual Survey. In March 2021, BAWSCA finalized the Survey for FY19-20.<sup>8</sup>

#### **Least Cost Planning Decision Support System Model (DSS Model)**

The purpose of the DSS Model is to update each BAWSCA agency’s actual and forecast population, jobs, water production, water consumption by sector, annual water loss, water conservation, new planned water

<sup>4</sup> Email communication: BAWSCA, March 13, 2021.

<sup>5</sup> BAWSCA. (2021). *Annual Survey, Fiscal Year 2019-2020*, March 2021.  
[http://bawasca.org/uploads/userfiles/files/Annual%20Survey%20FY%2019-20\\_FINAL.pdf](http://bawasca.org/uploads/userfiles/files/Annual%20Survey%20FY%2019-20_FINAL.pdf)

<sup>6</sup> EMID DSS Model, 2020.

<sup>7</sup> BAWSCA Demand Study, June 26, 2020.

<sup>8</sup> BAWSCA. (2021). *Annual Survey, Fiscal Year 2019-2020*, March 2021.



conservation measures, and related information. Typically, the DSS Model update process for all 26 BAWSCA agencies takes about a year and is conducted approximately every four years. The resulting 26 DSS models are used for individual agency planning, their UWMPs, updating BAWSCA's Demand Study, and for forecasting purchases from SFPUC. Currently EMID's DSS Model forecasts its data through 2045.

### **BAWSCA Demand Study**

The purpose of the BAWSCA Demand Study is to aggregate each agency's near-term and future demands for water purchases from SFPUC. The Demand Study data, currently through 2045, are updated every two to four years and used for regional planning by BAWSCA agencies and SFPUC.

### **Data and Methodologies**

The following paragraphs document the key data inputs and methodologies used to evaluate the water system reliability.

#### **Water Supply**

For its water supply and demand assessment in the 2020 UWMP, EMID used available annual and monthly total production and consumption and billing data; data about its service area including population, land use development, and climate change projections; and SFPUC's projected water supply and its reliability.

EMID purchases potable water from the SFPUC RWS to meet all of the potable water demands within EMID's service area. In 2020, EMID received approximately 1,596 MG from the SFPUC RWS as described in Chapter 3 of the 2020 UWMP. EMID's contractual allocation of water (known as its Individual Supply Guarantee [ISG]) is 5.9 million gallons per day (MGD) or approximately 2,154 MG per year. EMID anticipates continuing to exclusively purchase wholesale water from the SFPUC RWS in the near future to meet its potable demands. Water supplies from the SFPUC RWS through 2045 are projected to be equivalent to EMID's ISG of 2,154 MG, which is EMID's contractual entitlement to SFPUC wholesale water and survives in perpetuity. EMID's total water supply projections in five-year increments through 2045 are shown in Table 6-9 and the associated Chart 6-9 in Chapter 6 of the 2020 UWMP.

#### **Unconstrained Customer Demand**

The WSCP and Annual Assessment define unconstrained demand as expected water use prior to any projected shortage response actions that may be taken under the WSCP. Unconstrained demand is distinguished from observed demand, which may be constrained by preceding, ongoing, or future actions, such as emergency supply allocations during a multi-year drought. WSCP shortage response actions to constrain demand are inherently extraordinary; routine activities such as ongoing conservation programs and regular operational adjustments are not considered as constraints on demands. This is further addressed in Chapter 7 of the 2020 UWMP.

#### **Planned Water Use for Current Year Considering Dry Subsequent Year**

Water Code Section 10632(a)(2)(B)(ii) requires the Annual Assessment to determine "current year available supply, considering hydrological and regulatory conditions in the current year and one dry year." The Annual Assessment will include two separate estimates of EMID's annual water supply and unconstrained demand using: 1) current year conditions, and 2) assumed dry year conditions. The "single dry year" is characterized to resemble a year in which conditions reflect the lowest water supply available to EMID. Accordingly, the Annual Assessment's shortage analysis will present separate sets of findings for the current year and dry year scenarios. The Water Code does not specify the characteristics of a dry year, allowing discretion to the Supplier. EMID will use its discretion to refine and update its assumptions for a dry year scenario in each Annual Assessment as information becomes available and in accordance with best management practices.

For current year conditions, EMID uses the SFPUC Final Water Supply Availability Report provided annually by April 15<sup>th</sup>. SFPUC also, provides assumed dry year conditions with supply cutback information, as applicable. If

SFPUC determines cutbacks in its supply, BAWSCA applies an allocation formula (i.e., Tier 2 if less than 20% cutback and an alternate cutback formula if more than 20%) to allocate the SFPUC supply available to wholesale customers.

### **Infrastructure Considerations**

The Annual Assessment will include consideration of any infrastructure issues that may pertain to near-term water supply reliability, including repairs, construction, and environmental mitigation measures that may temporarily constrain capabilities, as well as any new projects that may add to system capacity.

EMID does not have any current plans to develop new supply sources. If EMID does move forward with any plans to develop supply projects, locally applicable criteria will be considered, and the associated water supply reliability impacts will be assessed in future UWMP updates.

### **Other Factors**

For the Annual Assessment, any known issues related to water quality would be considered for their potential effects on water supply reliability.

Emerging regulatory conditions (e.g., issues surrounding the Water Quality Control Plan for the San Francisco/Sacramento-San Joaquin Delta Estuary [Bay-Delta Plan Amendment]) may affect planned future projects and the characterization of future water supply availability and analysis. Chapter 7 of the 2020 UWMP contains a detailed description of the potential impacts of Bay-Delta Plan Amendment implementation on RWS supply reliability.

## **3.3 Six Standard Water Shortage Levels**

Per Water Code Section 10632 (a)(3)(A), EMID must include the six standard water shortage levels that represent shortages from the normal reliability as determined in the Annual Assessment. The shortage levels have been standardized to provide a consistent regional and statewide approach to conveying the relative severity of water supply shortage conditions. This is an outgrowth of the severe statewide drought of 2012-2016, and the widely recognized public communication and state policy uncertainty associated with the many different local definitions of water shortage levels.

The six standard water shortage levels correspond to progressively increasing estimated shortage conditions (up to 10, 20, 30, 40, 50, and greater than 50% shortage compared to the normal reliability condition) and align with the response actions EMID would implement to meet the severity of the impending shortages.

**Table 3-1. Retail: Water Shortage Contingency Plan Levels (DWR Submittal Table 8-1)**

Water Shortage Contingency Plan Levels		
Shortage Levels	Complete Both	
	Percent Shortage Range <sup>1</sup> <i>Numerical value as a percent</i>	Water Shortage Condition <i>(Narrative description)</i>
0	0% (Normal)	A Level 0 Water Supply Shortage – Condition exists when EMID notifies its water users that no supply reductions are anticipated in this year. EMID proceeds with planned water efficiency best practices to support consumer demand reduction in line with state mandated requirements and local EMID goals for water supply reliability. Permanent water waste prohibitions are in place as stipulated in EMID’s Water Shortage Response Code Chapter 8.60 Water Conservation and Rationing (Appendix A).
1	Up to 10%	A Level 1 Water Supply Shortage – Condition exists when EMID notifies its water users that due to drought or other supply reductions, a consumer demand reduction of up to 10% is necessary to make more efficient use of water and respond to existing water conditions. Upon the declaration of a Water Aware condition, EMID shall implement the mandatory Level 1 conservation measures identified in this WSCP. The type of event that may prompt EMID to declare a Level 1 Water Supply Shortage may include, among other factors, a finding that its wholesale water provider calls for extraordinary water conservation.
2	11% to 20%	A Level 2 Water Supply Shortage – Condition exists when EMID notifies its water users that due to drought or other supply reductions, a consumer demand reduction of up to 20% is necessary to make more efficient use of water and respond to existing water conditions. Upon declaration of a Level 2 Water Supply Shortage condition, EMID shall implement the mandatory Level 2 conservation measures identified in this WSCP.
3	21% to 30%	A Level 3 Water Supply Shortage – Condition exists when EMID declares a water shortage emergency condition pursuant to California Water Code Section 350 and notifies its residents and businesses that up to 30% consumer demand reduction is required to ensure sufficient supplies for human consumption, sanitation and fire protection. EMID must declare a Water Supply Shortage Emergency in the manner and on the grounds provided in Water Code Section 350.
4	31% to 40%	A Level 4 Water Supply Shortage – Condition exists when EMID declares a water shortage emergency condition pursuant to Water Code Section 350 and notifies its residents and businesses that up to 40% consumer demand reduction is required to ensure sufficient supplies for human consumption, sanitation and fire protection. EMID must declare a Water Supply Shortage Emergency in the manner and on the grounds provided in Water Code Section 350.
5	41% to 50%	A Level 5 Water Supply Shortage – Condition exists when EMID declares a water shortage emergency condition pursuant to Water Code Section 350 and notifies its residents and businesses that up to 50% or more consumer demand reduction is required to ensure sufficient supplies for human consumption, sanitation and fire protection. EMID must declare a Water Supply Shortage Emergency in the manner and on the grounds provided in Water Code Section 350.
6	>50%	A Level 6 Water Supply Shortage – Condition exists when EMID declares a water shortage emergency condition pursuant to Water Code Section 350 and notifies its residents and businesses that greater than 50% or more consumer demand reduction is required to ensure sufficient supplies for human consumption, sanitation and fire protection. EMID must declare a Water Supply Shortage Emergency in the manner and on the grounds provided in Water Code Section 350.

<sup>1</sup> One level in the Water Shortage Contingency Plan must address a water shortage of 50%.

### 3.4 Shortage Response Actions

Water Code Section 10632 (a)(4) requires the WSCP to specify shortage response actions that align with the defined shortage levels. EMID has defined specific shortage response actions that align with the defined shortage levels in Table 3-1. These shortage response actions were developed with consideration to the system infrastructure and operations changes, supply augmentation responses, customer-class or water use-specific demand reduction initiatives, and increasingly stringent water use prohibitions.

#### Demand Reduction

The demand reduction measures that would be implemented to address shortage levels are described in Table 3-2. This table indicates which actions align with specific defined shortage levels and estimates the extent to which that action will reduce the gap between supplies and demands to demonstrate that the suite of shortage response actions can be expected to deliver the outcomes necessary to meet the requirements of a given shortage level. This table also identifies the enforcement action, if any, associated with each demand reduction measure.

However, even the extensive suite of EMID’s shortage response actions presented in Table 3-2 may not deliver the unprecedented demand reductions that may be necessary due to the projected SFPUC shortages for multi-year droughts. These would have to be used in conjunction with supply augmentation measures (discussed in the next section) to mitigate a high level of sustained supply shortfall.

**Table 3-2. Demand Reduction Actions (DWR Submittal Table 8-2)**

Demand Reduction Actions				
Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap? <i>Include units used (volume type or percentage)</i>	Additional Explanation or Reference <i>(optional)</i>	Penalty, Charge, or Other Enforcement? <i>For Retail Suppliers Only Drop Down List</i>
0	Other water feature or swimming pool restriction	Statewide Prohibition is Required	All decorative water features shall use only re-circulated or recycled water.	Yes
0	Other	Statewide Prohibition is Required	Washing or hosing down vehicles is prohibited except by use of a handheld container, hose with an automatic shut off device, or at a commercial car wash.	Yes
0	Other – Prohibit use of potable water for washing hard surfaces	Statewide Prohibition is Required	Washing driveway, sidewalk, walkways, buildings, hard or paved surfaces is prohibited except to alleviate safety or sanitary hazards using a hand-held container, hose with an automatic shut off device, or a low-volume high pressure cleaning machine that recycles used water.	Yes

## Demand Reduction Actions

Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap? <i>Include units used (volume type or percentage)</i>	Additional Explanation or Reference <i>(optional)</i>	Penalty, Charge, or Other Enforcement? <i>For Retail Suppliers Only Drop Down List</i>
0	Landscape – Restrict or prohibit runoff from landscape irrigation	Statewide Prohibition is Required	Watering vegetated areas in a manner that causes excessive water flow or runoff onto an adjoining sidewalk, walkway, driveway, street, alley, gutter, parking lot, non-irrigated area, ditch, or other hard surface is prohibited.	Yes
0	Landscape – Other landscape restriction or prohibition	Statewide Prohibition is Required	Irrigating ornamental turf on public street medians is prohibited.	Yes
0	Landscape – Other landscape restriction or prohibition	Statewide Prohibition is Required	No landscape watering shall occur within 48 hours after measurable precipitation.	Yes
0	Other – Customers must repair leaks, breaks, and malfunctions in a timely manner	On-going Long Term-Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	Fix leaks or faulty sprinklers promptly/within two weeks.	Yes
0	CII – Restaurants may only serve water upon request	On-going Long Term-Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	Restaurants may only serve water upon request.	Yes
0	CII – Lodging establishment must offer opt-out of linen service	On-going Long Term-Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	Lodging establishment must offer opt-out of linen service.	Yes
0	CII – Other CII restriction or prohibition	On-going Long Term-Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	No single pass cooling systems may be installed in new or remodeled buildings.	Yes

## Demand Reduction Actions

Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap? <i>Include units used (volume type or percentage)</i>	Additional Explanation or Reference <i>(optional)</i>	Penalty, Charge, or Other Enforcement? <i>For Retail Suppliers Only Drop Down List</i>
0	Other – Require automatic shutoff hoses	On-going Long Term-Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	Use a shutoff nozzle on hoses.	Yes
0	Other	On-going Long Term-Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	Unauthorized use of hydrants is prohibited. Authorization for use must be obtained from water supplier.	Yes
1	Expand Public Information Campaign	0-1%	Community outreach and messaging (expand public information campaign).	No
1	Expand Public Information Campaign	0-1%	Encourage customers to wash only full loads of dishes or clothes.	No
1	Expand Public Information Campaign	0-1%	Encourage customers to use pool covers to minimize evaporation.	No
1	Other – Customers must repair leaks, breaks, and malfunctions in a timely manner	0-1%	Fix leaks or faulty sprinklers promptly/within 5 days.	Yes
1	Other – Prohibit vehicle washing except at facilities using recycled or recirculating water	0-1%	All new commercial car wash and laundry facilities must re-circulate the wash water or obtain a waiver from EMID.	Yes
1	CII – Commercial kitchens required to use pre-rinse spray valves	0-1%	Food preparation establishments must use water efficient kitchen spray valves.	Yes
1	CII – Other CII restriction or prohibition	0-1%	Commercial, industrial, institutional equipment must be properly maintained and in full working order.	Yes

Demand Reduction Actions				
Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap? <i>Include units used (volume type or percentage)</i>	Additional Explanation or Reference <i>(optional)</i>	Penalty, Charge, or Other Enforcement? <i>For Retail Suppliers Only Drop Down List</i>
1	Expand Public Information Campaign	0-1%	Encourage customers to use AMI Portal to monitor usage.	No
1	Provide Rebates for Turf Replacement	0-1%	Provide rebates for turf replacement.	No
1	Landscape – Other landscape restriction or prohibition	0-5%	Irrigation with potable water outside of newly constructed homes and buildings not delivered by drip or microspray is prohibited.	Yes
1	Water Features – Restrict water use for decorative water features, such as fountains	0-1%	Recreational water features shall be covered when not in use.	Yes
1	Provide Rebates for Landscape Irrigation Efficiency	0-1%	Provide Landscape Irrigation Efficiency Rebate.	No
1	Landscape – Limit landscape irrigation to specific times	0-5%	Watering or irrigation of vegetated areas is prohibited between 9 am and 6 pm except by use of a handheld device, hose equipped with an automatic shutoff device, or for adjusting or repairing an irrigation system for short periods of time.	Yes
1	Other	5-10%	EMID may implement other prohibited water uses as determined by EMID, after notice to customers.	Yes
2	Other – Customers must repair leaks, breaks, and malfunctions in a timely manner	0-1%	Fix leaks or faulty sprinklers within 4 days.	Yes



Demand Reduction Actions				
Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap? <i>Include units used (volume type or percentage)</i>	Additional Explanation or Reference <i>(optional)</i>	Penalty, Charge, or Other Enforcement? <i>For Retail Suppliers Only Drop Down List</i>
2	Landscape – Limit landscape irrigation to specific days	5-10%	Irrigation shall be limited to 3 days/week turf watering when using potable water. Plant containers, trees, shrubs, vegetable gardens may be watered additional days using only drip irrigation or hand watering.	Yes
2	Landscape – Prohibit certain types of landscape irrigation	0-1%	All non-essential water use for nurseries should cease.	Yes
2	Landscape – Prohibit certain types of landscape irrigation	0-1%	All non-essential water use for public entities should cease.	Yes
2	Landscape – Prohibit certain types of landscape irrigation	0-1%	All non-essential water use for commercial and industrial use should cease.	Yes
2	Decrease Line Flushing	0-1%	Decrease line flushing.	Yes
2	Pools and Spas – Require covers for pools and spas	0-1%	Pools and spas – require covers for pools and spas.	Yes
2	Other	5-10%	EMID may implement other prohibited water uses as determined by EMID, after notice to customers.	Yes
3	Landscape – Limit landscape irrigation to specific days	10-25%	Irrigation shall be limited to 2 days/week turf watering when using potable water. Plant containers, trees, shrubs, vegetable gardens may be watered additional days using only drip irrigation or hand watering.	Yes
3	Water Features – Restrict water use for decorative water features, such as fountains	0-1%	Filling or refilling ornamental lakes and ponds is prohibited.	Yes

## Demand Reduction Actions

Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap? <i>Include units used (volume type or percentage)</i>	Additional Explanation or Reference <i>(optional)</i>	Penalty, Charge, or Other Enforcement? <i>For Retail Suppliers Only Drop Down List</i>
3	Other – Customers must repair leaks, breaks, and malfunctions in a timely manner	0-1%	Fix leaks or faulty sprinklers within 3 days.	Yes
3	Other water feature or swimming pool restriction	0-1%	Decorative water features that use potable water must be drained and kept dry.	Yes
3	Pools – Allow filling of swimming pools only when an appropriate cover is in place	0-1%	Allow filling of swimming pools only when an appropriate cover is in place.	Yes
3	Other	5-10%	EMID may implement other prohibited water uses as determined by EMID, after notice to customers.	Yes
4	Other – Customers must repair leaks, breaks, and malfunctions in a timely manner	0-1%	Fix leaks or faulty sprinklers within 2 days.	Yes
4	Other water feature or swimming pool restriction	0-1%	Existing pools shall not be emptied and refilled using potable water unless required for public health and safety purposes.	Yes
4	Other – Prohibit use of potable water for construction and dust control	0-1%	Require a construction water use plan be submitted to the water supplier that addresses how impacts to existing water users will be mitigated (such as dust control).	Yes

## Demand Reduction Actions

Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap? <i>Include units used (volume type or percentage)</i>	Additional Explanation or Reference <i>(optional)</i>	Penalty, Charge, or Other Enforcement? <i>For Retail Suppliers Only Drop Down List</i>
4	Other – Prohibit vehicle washing except at facilities using recycled or recirculating water	0-1%	Car washing is only permitted using a commercial carwash that recycles or recirculates water or by high pressure/low volume wash systems.	Yes
4	Landscape – Prohibit all landscape irrigation	0-1%	Previous waivers for watering during an establishment period will be revoked.	Yes
4	Landscape – Prohibit certain types of landscape irrigation	0-1%	Plant containers, trees, shrubs, and vegetable gardens shall be watered only by drip irrigation or hand watering.	Yes
4	Other	5-10%	EMID may reduce water allocations in all categories to meet the available water supply.	Yes
4	Other	5-10%	EMID may implement other prohibited water uses as determined by EMID, after notice to customers.	Yes
5	Other – Customers must repair leaks, breaks, and malfunctions in a timely manner	0-1%	Fix leaks or faulty sprinklers within 1 day.	Yes
5	Landscape – Prohibit certain types of landscape irrigation	0-1%	Watering of all golf course areas is prohibited.	Yes
5	Landscape – Prohibit certain types of landscape irrigation	0-1%	Watering of parks, school grounds, and recreation fields is prohibited, except for rare plant or animal species.	Yes

## Demand Reduction Actions

Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap? <i>Include units used (volume type or percentage)</i>	Additional Explanation or Reference <i>(optional)</i>	Penalty, Charge, or Other Enforcement? <i>For Retail Suppliers Only Drop Down List</i>
5	Landscape – Limit landscape irrigation to specific days	5-20%	Irrigation shall be limited to 1 day per week turf watering when using potable water. Plant containers, trees, shrubs, and vegetable gardens may be watered additional days using only drip irrigation or hand watering.	Yes
5	Other	0-1%	Water for agricultural or commercial nursery purposes, except for livestock watering, is prohibited.	Yes
5	Other	5-10%	EMID may implement other prohibited water uses as determined by EMID, after notice to customers.	Yes
6	Landscape – Prohibit all landscape irrigation	0-5%	EMID may shut off all non-essential water services. All irrigation is prohibited.	Yes
6	Landscape – Other landscape restriction or prohibition	0-1%	No new landscape installations or renovations will be permitted.	Yes
6	Landscape – Other landscape restriction or prohibition	0-1%	With the exception of landscapes watered with non-potable water, limit the installation of new landscaping to drought tolerant trees, shrubs, and groundcover. Prohibit installation of new turf or hydroseed. Customers may apply for a waiver to irrigate during an establishment period for the installation of new turf or hydroseed.	Yes

Demand Reduction Actions				
Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap? <i>Include units used (volume type or percentage)</i>	Additional Explanation or Reference <i>(optional)</i>	Penalty, Charge, or Other Enforcement? <i>For Retail Suppliers Only Drop Down List</i>
6	CII – Other CII restriction or prohibition	0-15%	Water for commercial, manufacturing, or processing purposes shall be reduced in volume by up to 50% or exceeded if necessary for public health and safety purposes.	Yes
6	Other water feature or swimming pool restriction	0-1%	No new permits for pools will be issued.	Yes
6	Other	0-70%	Water use for public health and safety purposes only. Customer rationing may be implemented.	Yes
6	Other	0-1%	The EMID may discontinue service to consumers who willfully violate any water conservation provisions.	Yes
6	Other	0-1%	Water for air conditioning is prohibited.	Yes

### Supply Augmentation

The supply augmentation actions are presented in Table 3-3. Funding will be necessary to implement these augmentation measures safely, reliably, and on a large scale throughout EMID’s service area to supplement the SFPUC supply during multi-year supply cutbacks.

For the long-term, EMID is working with BAWSCA and member agencies to coordinate mutual agreements for emergency water supplies.

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

Supply Augmentation and Other Actions			
Shortage Level	Supply Augmentation Methods and Other Actions by Water Supplier	How much is this going to reduce the shortage gap? <i>Include volume units used.</i>	Additional Explanation or Reference <i>(optional)</i>
1	Expand Public Information Campaign	Potential yield 0-5%	EMID can increase public education to promote water conservation rebates.
1	Other Actions (describe)	Potential yield 10-15%	EMID can increase enforcement of conservation penalties for not complying with actions listed in the WSCP.
2	Expand Public Information Campaign	Potential yield 0-5%	EMID can increase public education to promote water conservation rebates.
2	Other Actions (describe)	Potential yield 10-15%	EMID can increase enforcement of conservation penalties for not complying with actions listed in the WSCP.
2	Other Actions (describe)	Potential yield 10-15%	EMID can take actions such as decrease line flushing, increase leak detection on water service lines, and/or increase water waste patrols.
3	Expand Public Information Campaign	Potential yield 0-5%	EMID can increase public education to promote water conservation rebates.
3	Other Actions (describe)	Potential yield 10-15%	EMID can increase enforcement of conservation penalties for not complying with actions listed in the WSCP.
3	Other Actions (describe)	Potential yield 10-15%	EMID can take actions such as decrease line flushing, increase leak detection on water service lines, and/or increase water waste patrols.
4	Expand Public Information Campaign	Potential yield 0-5%	EMID can increase public education to promote water conservation rebates.
4	Other Actions (describe)	Potential yield 10-15%	EMID can increase enforcement of conservation penalties for not complying with actions listed in the WSCP.
4	Other Actions (describe)	Potential yield 10-15%	EMID can take actions such as decrease line flushing, increase leak detection on water service lines, and/or increase water waste patrols.
5	Expand Public Information Campaign	Potential yield 0-5%	EMID can increase public education to promote water conservation rebates.
5	Other Actions (describe)	Potential yield 10-15%	EMID can increase enforcement of conservation penalties for not complying with actions listed in the WSCP.
5	Other Actions (describe)	Potential yield 10-15%	EMID can take actions such as decrease line flushing, increase leak detection on water service lines, and/or increase water waste patrols.

Supply Augmentation and Other Actions			
Shortage Level	Supply Augmentation Methods and Other Actions by Water Supplier	How much is this going to reduce the shortage gap? <i>Include volume units used.</i>	Additional Explanation or Reference <i>(optional)</i>
5	Other Purchases	TBD (see note below)	There are two interconnections between EMID's system and adjacent distribution systems: one intertie with California Water Service Company's (Cal Water's) Mid-Peninsula District system and one intertie with the Mid-Peninsula Water District (MPWD) system. EMID currently has emergency transfer agreements with both Cal Water and MPWD.
6	Expand Public Information Campaign	Potential yield 0-5%	EMID can increase public education to promote water conservation rebates.
6	Other Actions (describe)	Potential yield 10-15%	EMID can increase enforcement of conservation penalties for not complying with actions listed in the WSCP.
6	Other Actions (describe)	Potential yield 10-15%	EMID can take actions such as decrease line flushing, increase leak detection on water service lines, and/or increase water waste patrols.
NOTES: Volume listed is the theoretical amount that could be obtained. Actual volumes will depend on the agency's ability to implement the programs and deliver water.			

### Operational Changes

During shortage conditions, EMID operations may be affected by reducing demand and/or augmenting supply. EMID reviewed its operational procedures to identify changes that could be implemented to address water shortage on a short-term basis, including the following:

- Reduce or temporarily stop system flushing operations
- Suspend temporary water service meters
- Delay planned projects
- Defer water storage tank projects that require emptying tanks
- Defer planned system outages
- Temporarily reduce pressure in zones during periods of low demand (when safe)
- Implement other short-term operational adjustments to increase water savings while maintaining safe conditions in system water quality and supply

Multi-year extended and severe water shortages, such as those beyond EMID's Level 4, will necessitate an increase in system water quality and demand monitoring, analysis, and close tracking of the data. Operational changes will necessitate that EMID develops a strategy for additional water quality and system monitoring. Management of the additional data collection and its analysis also will likely necessitate additional resources.



## Additional Mandatory Restrictions

California Water Code Section 10632(a)(4)(D) calls for “additional, mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions and appropriate to the local conditions” to be included among the WSCP’s shortage response actions. EMID has identified additional mandatory restrictions in EMID’s Water Shortage Response Code Chapter 8.60 Water Conservation and Rationing.

EMID may reduce water allocations in all categories to meet the available water supply. Following a notice to customers, EMID may prohibit other water uses as determined by EMID’s District Manager and Board of Directors.

## Emergency Response Plan (Hazard Mitigation Plan)

A catastrophic water shortage would be addressed according to the appropriate water shortage level and response actions. It is likely that a catastrophic shortage would immediately trigger Shortage Level 6 and response actions have been put in place to mitigate a catastrophic shortage. In addition, there are several plans that address catastrophic failures and align with the WSCP.

## EMID

This Water Shortage Contingency Plan is in support of, but does not supersede, any direction provided in any emergency response plans. Catastrophic supply interruptions may be caused by a regional power outage, an earthquake, or other disaster. EMID benefits from two levels of emergency planning: its own emergency planning work and planning by SFPUC. In the event of a catastrophic supply interruption, the response procedures that EMID would follow are described in:

- SFPUC Emergency Operations Plan (EOP)
- San Mateo County’s Operational Area EOP Potable Water Procurement and Distribution Annex
- EMID Water System Emergency Response Plan (ERP)

Actions described in the SFPUC EOP focus on maintaining flow within, and from, the Regional Water System (RWS) pipelines. The EMID Emergency Response Plan focuses on response actions to prevent, minimize, and mitigate damages to the EMID water system. During a catastrophic supply interruption, EMID will take actions including, but not limited to, the following:

- Notifying its customers of the supply catastrophe
- Activating the Emergency Operations Center
- Following procedures in the EMID Water System Emergency Response Plan

Together, these EOPs and the ERP provide the framework for responding to major emergencies or disasters associated with natural disasters, technological incidents, and national security/terrorism. Sections of these EOPs outline specific strategies to prepare for, mitigate, respond to, and recover from an emergency or disaster that affects the water utilities that serve the population within San Mateo County and EMID.

## Seismic Risk Assessment and Mitigation Plan

Earthquakes are common in California and are recognized as high probability occurrences in many regions across the state. Per the Water Code Section 10632.5, EMID is required to assess its seismic risk to water supplies as part of its WSCP. The WSCP also must include the mitigation plan for the seismic risk(s).

Since EMID purchases 100% of its water from SFPUC, it is highly dependent on the SFPUC RWS infrastructure reliability. The SFPUC conveyance system crosses five major faults and the majority (about 85%) travels 167 miles through pipelines and tunnels from the Hetch-Hetchy watershed in the Sierra Nevada Mountains. SFPUC also

has four major storage facilities and distribution lines in the San Francisco Bay Area. Both the regional and San Francisco Bay Area parts of the SFPUC system are vulnerable to seismic events. However, the SFPUC's nearly completed Water System Improvement Program (WSIP) provides improvements in reliability for water delivery and supply through the SFPUC RWS. The SFPUC's 2020 Capital Improvement Program includes various projects to enhance reliability of the SFPUC RWS.<sup>9</sup>

EMID's seismic risk assessment for its system is part of the San Mateo County multi-hazard mitigation plan (San Mateo County Local Hazard Mitigation Plan, Volume 2, Section 3, Part 2, Chapter 4, 2016) that is required under the federal Disaster Mitigation Act of 2000 (Public Law 106-390). EMID's San Mateo County Local Hazard Mitigation Plan is included in the 2020 UWMP and provided in the link below.<sup>10</sup> This Mitigation Plan is in the process of being updated.<sup>11</sup> As required, EMID also has an ERP that describes strategies, resources, plans, and procedures utilities can use to prepare for and respond to an incident, natural or man-made, that threatens life, property, or the environment.

The California Office of Emergency Services provides an online planning tool for local governments and others called My Plan.<sup>12</sup> The tool includes many layers related to seismic risk that can be explored by users. Maps include, but are not limited to, information on shaking hazards, landslide zones, liquefaction, and fault lines.

### Shortage Response Action Effectiveness

For each specific Shortage Response Action identified in the plan, the WSCP also estimates the extent to which that action will reduce the gap between supplies and demands identified in Table 3-2. To the extent feasible, EMID has estimated percentage savings for the chosen suite of shortage response actions, which can be expected to deliver the outcomes necessary to meet the requirements of a given shortage level.

EMID monitors water use through analysis of wholesale water purchases and customer meter readings. EMID reads meters installed on each of its supply turnouts to monitor wholesale water purchases. In addition, each customer account is metered. Some non-residential and multifamily customers also have separate irrigation meters to monitor water use for landscape irrigation separately from indoor uses. EMID's updated Water Efficient Landscaping Ordinance (Chapter 8.80 of the EMID Code – see Appendix A of this WSCP) requires non-residential projects to install a separate irrigation meter if landscaped areas meet specific size thresholds, as discussed in the 2020 UWMP.

EMID can read all customer meters remotely and automatically using the Advanced Metering Infrastructure (AMI) system. During a supply shortage, EMID may use this AMI system to monitor water use on a more frequent basis than the bi-monthly billing schedule to determine the effectiveness of the customer response to the implementation of this WSCP. More frequent water meter readings also will allow EMID to document atypically high water use and notify individual customers to resolve the cause. In addition, customers can use EMID's online water management tool to assess water usage and detect water leaks.

## 3.5 Communication Protocols

Prior to water shortage level declaration, EMID will pursue outreach to inform customers of water shortage levels and definitions, targeted water savings for each drought stage, guidelines that customers are to follow

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<sup>9</sup> SFPUC 2020 Capital Improvement Program, adopted February 11, 2020. [San Francisco Public Utilities Commission: 2020 Agendas-Minutes](#)

<sup>10</sup> San Mateo County Local Hazard Mitigation Plan, Chapter 5, 2016. <https://cmo.smcgov.org/multijurisdictional-local-hazard-mitigation-plan-resources>

<sup>11</sup> <https://cmo.smcgov.org/blog/2021-03-12/county-launches-multijurisdictional-local-hazard-mitigation-plan-update>

<sup>12</sup> <https://www.myplan.caloes.ca.gov/>

during each stage, and sources of current information on EMID supply and demand response status. Water savings guidelines are predicated on being equitable across the various customer account types.

Timely and effective communication is a key element of the WSCP implementation. Per the Water Code Section 10632 (a)(5), EMID has established communication protocols and procedures to inform customers, the public, interested parties, and local, regional, and state governments regarding any current or predicted shortages as determined by the annual water supply and demand assessment described pursuant to Section 10632.1; any shortage response actions triggered or anticipated to be triggered by the annual water supply and demand assessment described pursuant to Section 10632.1; and any other relevant communications.

The provisions of each water shortage stage of action are triggered upon the EMID Board of Directors' determination that a Governing Authority has required EMID to achieve a voluntary or mandatory reduction in water use because of water shortage conditions.

The stage of action will become effective after the Board of Directors declares a particular stage of action and EMID has published notice of this determination. Once effective, the provisions of a water shortage stage of action will stay in effect until 1) a different stage of action is declared, or 2) the Board of Directors determines that the water shortfall condition no longer exists and EMID has published notice of this determination.

After the termination of the water shortage conditions, EMID will oversee any remaining termination and WSCP review activities. These activities could include:

- Publicizing gratitude for the community's cooperation.
- Restoring water utility operations, organization, and services to pre-event levels.
- Documenting the event and response and compiling applicable records for future reference.
- Collecting cost accounting information, assessing revenue losses and financial impact, and reviewing deferred projects or programs.
- Debriefing staff to review effectiveness of actions, to identify the lessons learned, and to enhance response and recovery efforts in the future.
- Updating the WSCP, as needed.

This section includes specific communications protocols that would be triggered to address each shortage level and response actions implemented. This element is focused on communicating the water shortage contingency planning actions that can be derived from the results of the Annual Assessment, and it would likely trigger based upon the decision-making process in Section 3.2 of this WSCP and/or emergency communications protocols to address earthquakes, fires, infrastructure failures, civil unrest, and other catastrophic events.

The type and degree of communication varies with each shortage level, thus predefined and actionable communication protocols improve EMID's ability to message necessary events. These communication protocols and procedures are summarized in Table 3-4.

Public information and outreach are important elements of EMID WSCP because the customer response to drought will ultimately dictate the amount of water savings achieved. EMID's Communications Department will lead public information and outreach efforts in close coordination with SFPUC and BAWSCA. EMID will share information and provide guidance to its customers as well as monitor the customer response and attitude toward both voluntary and mandatory customer response guidelines. EMID customer outreach is required to successfully achieve targeted water savings during each drought stage.

EMID will communicate information on drought stage, targeted water savings, and water saving guidelines that customers are expected to practice as further described in Table 3-2 and Appendix B.

### 3.6 Public Outreach

Even before formal declaration of a water shortage, a public information program will be activated to provide customers with as much advanced notice as possible. Following declaration of a shortage, EMID customers would need to be provided notice of water shortage rules and regulations via a variety of media and communications methods.

Coordination between EMID and other public agencies can begin prior to formal declaration of a water shortage and can be accomplished through regular meetings, e-mail group updates, and presentations. In a regional water shortage scenario, EMID would use the public outreach resources and materials provided by BAWSCA and/or the SFPUC. In addition to these materials, EMID may develop its own materials to communicate with customers, such as a dedicated customer service hotline, and expand its normal public outreach to support its water conservation efforts as described in Chapter 9 of the 2020 UWMP.

**Table 3-4. Outreach Options Based on Shortage Level**

Water Shortage Level	0	1	2	3	4	5	6
Messaging	Permanent Water Waste Prohibitions, Water Awareness	Definition of Level 1 Shortage	Definition of Level 2 Shortage	Definition of Level 3 Shortage	Definition of Level 4 Shortage	Definition of Level 5 Shortage	Definition of Level 6 Shortage
Desired Behavior	Efficient Water Use	Minimum 10% reduction in water use	Minimum 20% reduction in water use	Minimum 30% reduction in water use	Minimum 40% reduction in water use	Minimum 50% reduction in water use	Essential Water Use only
Outreach Strategies							
City's Website	X	X	X	X	X	X	X
City's Newsletter/Weekly Update		X	X	X	X	X	X
City's Social Media		X	X	X	X	X	X
Press Release		X	X	X	X	X	X
Marquee Sign		X	X	X	X	X	X

### 3.7 Compliance and Enforcement

Per the Water Code Section 10632 (a)(6), EMID has defined customer compliance, enforcement, appeal, and exemption procedures for triggered shortage response actions. Enforcement of EMID's water use restrictions and prohibitions is focused on soliciting cooperation from water customers who are unaware of the restrictions or have failed to comply with the provisions of EMID's Water Shortage Ordinance (EMID Code Chapters 8.59 and 8.60) and this WSCP. If discussions with the customer are unsuccessful in obtaining compliance, EMID is authorized to issue penalties listed in EMID Code Chapters 8.59 and 8.60 to customers that violate the restrictions and prohibitions.

As discussed in Section 9.2.6 of the 2020 UWMP, Water Conservation Program Coordination and Staffing Support, EMID/Foster City currently has several staff members who jointly share the responsibilities for water conservation. Staff time dedicated to water conservation and enforcement action will increase with the severity of a supply shortage. Additional duties may be assigned to current EMID/Foster City employees or hiring of temporary staff may be considered to meet staffing needs during extreme water shortages.

### 3.8 Legal Authorities

Per Water Code Section 10632 (a)(7)(A), EMID has provided a description of the legal authorities that empower EMID to implement and enforce its shortage response. EMID has authority within Chapters 8.59 and 8.60 of the EMID Code (see Appendix A of this WSCP) to require water conservation and rationing and to enforce penalties. EMID Code Chapter 8.60 was amended by Ordinance 134 in response to Executive Order B-37-16. This 2020 WSCP plan will supersede the previous EMID which WSCP was adopted in 2018.

Given the Governor Brown-issued permanent water use prohibition in April 2017 with Executive Order B-40-17, EMID has further amended EMID Code Chapters 8.59 and 8.60 by Ordinance No. 136 in accordance with relevant state requirements.

*Per Water Code Section 10632 (a)(7) (B), EMID shall declare a water shortage emergency condition to prevail within the area served by such wholesaler whenever it finds and determines that the ordinary demands and requirements of water consumers cannot be satisfied without depleting the water supply of the distributor to the extent that there would be insufficient water for human consumption, sanitation, and fire protection.*

*Per Water Code Section 10632 (a)(7)(C), EMID shall coordinate with any EMID or county within which it provides water supply services for the possible proclamation of a local emergency under California Government Code, California Emergency Services Act (Article 2, Section 8558). Table 3-5 identifies the contacts for all cities or counties for which the Supplier provides service in the WSCP, along with developed coordination protocols, can facilitate compliance with this section of the Water Code in the event of a local emergency as defined in subpart (c) of Government Code Section 8558.*

**Table 3-5. Agency Contacts and Coordination Protocols**

Agency	Contact	Coordination Protocols
SFPUC – Water Purveyor	Eddy So, Senior Water Quality Engineer	(650) 652-3115 eso@sewater.org
Mid-Peninsula Water District – Emergency Intertie	Rene Ramirez, Operations Manager	(650) 591-8941 rramirez@midpeninsula.org
California Water Service – Emergency Intertie	John Gomez, Superintendent	(650) 854-6332
City of San Mateo – Public Works	Rob Learmonth, Lead worker	(650) 477-5883

### 3.9 Financial Consequences of WSCP

Per Water Code Section 10632(a)(8), Suppliers must include a description of the overall anticipated financial consequences to the Supplier of implementing the WSCP. This description must include potential reductions in revenue and increased expenses associated with implementation of the shortage response actions. This should be coupled with an identification of the anticipated mitigation actions needed to address these financial impacts.

The Water Shortage Actions designed to address a range of water shortage conditions have the potential to impact EMID’s revenues and expenditures. To assess these impacts, Bartle Wells Associates (BWA) prepared a Water Rate Study for EMID in April 2016 (BWA, 2016). The study includes an analysis of the financial impacts of

three different scenarios: (1) a reduction in water use including up to a 50% reduction in water supply, (2) adjustments in penalties or charges for excessive use, and (3) a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster. A summary of the analysis by BWA is provided below.

EMID water rates are designed to recover "fixed costs", or expenses that do not vary substantially over the course of the year, from fixed meter charges. These expenses include employee services, internal services, services and supplies, reallocations, capital outlay, capital improvement fund transfers, and operating net revenues (BWA, 2016).

EMID's water rates are also designed to recover "volumetric costs", or expenses that vary based on the level of water use, from volumetric rates. These expenses include wholesale water purchases from the SFPUC, BAWSCA bond repayments (recovered through a surcharge on water sales), and water sustainability fund transfers. EMID volumetric charges are designed to be greater than the wholesale water costs plus the BAWSCA bond surcharge (BWA, 2016).

Under scenarios resulting in as much as a 50% reduction in EMID water purchases and the resulting decrease in water sales, EMID is projected to recover all its fixed costs through its fixed meter rate. Further, since wholesale water purchase costs would decrease proportionally with water sales, the volumetric rates are projected to fully fund expenses under potential water use cutback scenarios, with two potential exceptions: the water sustainability fund transfers and BAWSCA bond payments (BWA, 2016).

Under certain water cutback scenarios, EMID may need to adjust the Tier 2 and blended commercial rates to account for less water use and to recover EMID's sustainability program transfers (estimated at \$400,000 per year). The Tier 2 rates and a portion of the commercial uniform tier water rate constitute EMID's charges for excessive use under the current rate methodology (BWA, 2016).

The volumetric rates may also need to be adjusted to pass through an updated allocation of BAWSCA repayment costs (currently estimated at \$900,000 per year), depending on EMID's water purchase cutback in relation to other BAWSCA agencies (BWA, 2016).

Under scenarios which include a catastrophic interruption of water supplies, such as a regional power outage, an earthquake, or other disaster, the water enterprise has established prudent reserve targets of 90 days of operating expenses and at least \$2 million in capital reserves. As of June 30, 2015, the water enterprise meets the \$2 million capital reserve requirement and holds about 15 days of operating expenses, with a plan to meet the 90-day target within five years (BWA, 2016).

Water shortage mitigation actions will impact revenues and require additional costs for drought response activities such as increased staff costs for tracking, reporting, and communications. The following measures can be implemented by EMID to overcome each reduction in water sales scenario outlined above depending on anticipated short-term and long-term financial impacts.

- EMID can defer non-mission critical capital improvement projects and reallocate the funds to cover the cost of operations and critical maintenance.
- EMID Manager can recommend EMID Council to declare a water shortage and implement EMID's Water Shortage Contingency Plan. Depending on the severity of the shortage and impact on revenue, EMID Council may increase water rates, by an amount necessary as determined by EMID Board of Directors. The subsequent rate increases enacted will remain in effect until such time EMID Board of Directors declares a water shortage no longer exists.

### 3.10 Monitoring and Reporting

Per Water Code Section 10632(a)(9), EMID is required to provide a description of the monitoring and reporting requirements and procedures that have been implemented to ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance and to meet state reporting requirements.



Monitoring and reporting key water use metrics is fundamental to water supply planning and management. Monitoring is also essential in times of water shortage to ensure that the response actions are achieving their intended water use reduction purposes, or if improvements or new actions need to be considered (see Section 3.4). Monitoring for customer compliance tracking is also useful in enforcement actions.

Under normal water supply conditions, potable water production figures are recorded daily. Weekly and monthly reports are prepared and monitored. This data will be used to measure the effectiveness of any water shortage contingency level that may be implemented. As levels of water shortage are declared by the EMID Board, EMID will follow implementation of those levels as appropriate based on EMID's risk profile provided in Chapter 7 of the 2020 UWMP and continue to monitor water demand levels. When water shortage conditions call for extraordinary conservation, the EMID Public Works Department will coordinate public information activities with the Communications Department and monitor the effectiveness of ongoing conservation programs.

EMID will participate in monthly member agency manager meetings with BAWSCA and SFPUC to monitor and discuss monthly water allocation charts. This will enable EMID to be aware of imported supply conditions compared to the service area's water use reductions as a result of specific actions taken in response to EMID's Water Shortage Contingency Plan.

### **3.11 WSCP Refinement Procedures**

Per Water Code Section 10632 (a)(10), EMID must provide 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.

EMID's WSCP is prepared and implemented as an adaptive management plan. EMID will use the monitoring and reporting process defined in Section 3.10 to refine the WSCP. In addition, if certain procedural refinements or new actions are identified by EMID staff, or suggested by customers or other interested parties, EMID will evaluate their effectiveness, incorporate them into the WSCP, and implement them quickly at the appropriate water shortage level.

It is envisioned that the WSCP will be periodically re-evaluated to ensure that its shortage risk tolerance is adequate, and the shortage response actions are effective and up to date based on lessons learned from implementing the WSCP. The WSCP will be revised and updated during the UWMP update cycle to incorporate updated and new information. For example, supply augmentation actions may be modified, and actions that are no longer applicable for reasons such as program expiration will be removed. However, if revisions to the WSCP are warranted before the UWMP is updated, the WSCP will be updated outside of the UWMP update cycle. In the course of preparing the Annual Assessment each year, EMID staff will routinely consider the functionality the overall WSCP and will prepare recommendations for the EMID Board if changes are found to be needed.

### **3.12 Special Water Feature Distinction**

Per Water Code Section 10632 (b), EMID has defined water features in 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 (see EMID Water Shortage Contingency Response Codes in Appendix A).

### **3.13 Plan Adoption, Submittal, and Availability**

Per Water Code Section 10632 (a)(c), EMID provided notice of the availability of the draft 2020 UWMP and draft 2020 WSCP and notice of the public hearing to consider adoption of the WSCP. The public review drafts of the



2020 UWMP and WSCP were posted prominently on the City of Foster City's website<sup>13</sup> on June 30, more than 14 days in advance of the public hearing on July 19, 2021. Copies of the draft WSCP were also made available for public inspection at City Hall and the Foster City Library. Public hearing notifications were published in local newspapers on June 30 and July 7, 2021. As an additional outreach effort, EMID issued a press release on June 28, 2021. Copies of the published Notice of Public Hearing and the press release are included in Appendix C.

EMID held the public hearing for the draft 2020 UWMP and draft 2020 WSCP on July 19, 2021, at the Foster City Council/EMID Board meeting. Foster City Council/EMID Board reviewed and approved the 2020 UWMP and the 2020 WSCP at its July 19, 2021 meeting after the public hearing. See Appendix D for the adoption resolution approving the WSCP.

By July 31, 2021, EMID's adopted 2020 UWMP and 2020 WSCP was filed with DWR, California State Library, and the San Mateo County. EMID will make the WSCP available for public review on its website no later than 30 days after filing with DWR.

Based on DWR's review of the WSCP, EMID will make any amendments in its adopted 2020 WSCP as required and directed by DWR.

If EMID revises its 2020 WSCP after the 2020 UWMP is approved by DWR, then an electronic copy of the revised WSCP will be submitted to DWR within 30 days of its adoption.

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<sup>13</sup> <https://www.fostercity.org/publicworks/page/water>

## 4 REFERENCES

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All links below were accessed in June 2021 unless otherwise indicated.

Bartle Wells Associates (BWA). (2016). *Water Rate Study*.

Bay Area Water Supply and Conservation Agency (BAWSCA). (2021). *Annual Survey, Fiscal Year 2019-2020*, March 2021. [http://bawasca.org/uploads/userfiles/files/Annual%20Survey%20FY%2019-20\\_FINAL.pdf](http://bawasca.org/uploads/userfiles/files/Annual%20Survey%20FY%2019-20_FINAL.pdf)

California Department of Water Resources, et al. (2017). *Making Water Conservation a California Way of Life, Implementing Executive Order B-37-16*. [https://cawaterlibrary.net/wp-content/uploads/2017/06/20170407\\_EO\\_B-37-16\\_Final\\_Report.pdf](https://cawaterlibrary.net/wp-content/uploads/2017/06/20170407_EO_B-37-16_Final_Report.pdf)

California State Legislature. (1983). Water Code Section 10632.1. [http://leginfo.legislature.ca.gov/faces/codes\\_displaySection.xhtml?sectionNum=10632.1&lawCode=WAT](http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=10632.1&lawCode=WAT)

Ibid. (1953). Water Code Division 1, Chapter 3, 353. [https://leginfo.legislature.ca.gov/faces/codes\\_displayText.xhtml?lawCode=WAT&division=1.&title=&part=&chapter=3.&article](https://leginfo.legislature.ca.gov/faces/codes_displayText.xhtml?lawCode=WAT&division=1.&title=&part=&chapter=3.&article)

Ibid. (1983). Water Code Section 10632.5. [http://leginfo.legislature.ca.gov/faces/codes\\_displaySection.xhtml?sectionNum=10632.5&lawCode=WAT](http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=10632.5&lawCode=WAT)

City of Foster City. (2015). *2015-2023 Housing Element for Foster City*.

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San Mateo County. (2016). *Local Hazard Mitigation Plan*. <https://cmo.smcgov.org/multijurisdictional-local-hazard-mitigation-plan-resources>

U.S. Government. (2011). Code of Federal Regulations, Title 44, Section 65.10. <https://www.govinfo.gov/content/pkg/CFR-2011-title1-vol1/pdf/CFR-2011-title1-vol1.pdf>

## APPENDIX A – EMID WATER SHORTAGE CONTINGENCY RESPONSE CODES

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Below are weblinks to the current EMID Municipal Codes 8.59, 8.60, and 8.80:

Chapter 8.59 Restrictions on Wasteful Water Practices (last accessed on June 24, 2021)

<https://www.codepublishing.com/CA/FosterCity/EsteroMIDC/Estero08/Estero0859.html#8.59>

Chapter 8.60 Water Conservation and Rationing (last accessed on June 24, 2021)

<https://www.codepublishing.com/CA/FosterCity/EsteroMIDC/Estero08/Estero0860.html#8.60>

Chapter 8.80 Outdoor Water Conservation in Landscaping

<https://www.codepublishing.com/CA/FosterCity/EsteroMIDC/Estero08/Estero0880.html>

## APPENDIX B – COMMUNICATION PROCEDURES

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### B.1 Communication Protocol

Public communication is an ongoing activity where the purpose, audience, message, tools, and channels may change at any given moment. In the context of water shortage response, the purpose may be an immediate emergency water shortage situation, such as may result from an earthquake, or a longer-term emergency shortage condition, such as may result from a drought. In a catastrophic emergency under crisis conditions, the EMID will activate the communication protocol detailed in the Foster City/EMID American Water Infrastructure Act Risk and Resilience Assessment and Emergency Response Plan (ERP). In a longer-term water shortage situation, the EMID will implement the procedures identified in this Communication Plan.

Timely and effective communication is a key element of the WSCP implementation. Per Section 10632 (a)(5) of the CWC, the EMID has established communication protocols and procedures to inform stakeholders regarding any current or predicted shortages as determined by the annual water supply and demand assessment described pursuant to Section 10632.1; any shortage response actions triggered or anticipated to be triggered by the annual water supply and demand assessment described pursuant to Section 10632.1; and any other relevant communications.

#### B.1.1 Emergency Response Plan Communication

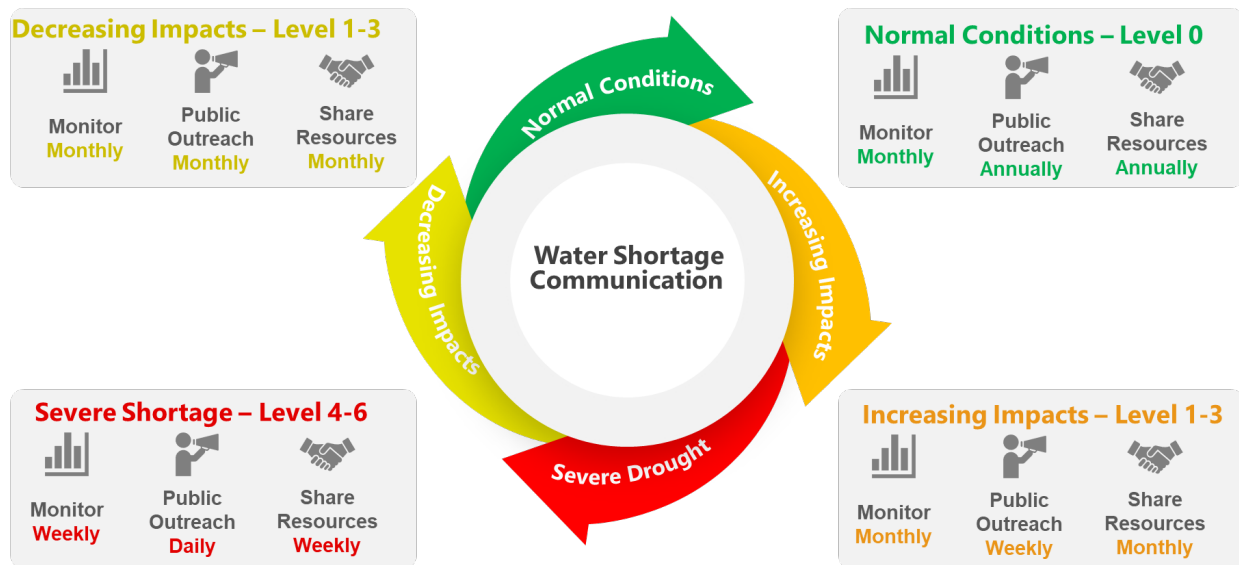
The ERP defines the actions to be taken by EMID staff to reduce the loss of water and wastewater infrastructure; to respond effectively to a disaster; and to coordinate recovery operations in the aftermath of any emergency involving extensive damage to local and regional water and wastewater utilities. The ERP includes activation notification protocols that will be used to contact partner agencies to inform them of the situation, activation status of the ERP, known damage or impacts, or resource needs. The ERP is a standalone document that is reviewed annually and updated every 5 years. Refer to the ERP for full details.

#### B.1.2 EMID Water Shortage Communication Plan

The Water Shortage Communication Plan serves as the baseline understanding for how the EMID will provide information and value to its various stakeholders, partners, and employees during normal conditions where water efficiency is an everyday goal for water supply reliability. In times of water shortage, this Communications Plan can be enhanced for the purposes of a Water Shortage Communication Plan. The Public Works Department and Communications Department work to elevate public awareness and participation in water efficiency so, in the event of a water shortage, the community is aware of the importance of response actions and can identify as an active participant in the EMID demand reduction target levels. The Communications Plan is designed to provide transparent, reliable, and accurate information to the public and collaborating agencies by identifying goals and objectives for each shortage level and outlining the appropriate communication interface tools and implementation schedule to for effective communication to assist customers with curtailing their water use.

#### Goals and Objectives

The goal of the EMID's Water Shortage Communication Plan is to create a local awareness of water shortage conditions and to encourage water efficiency from all citizens. The Water Shortage Communication Plan objectives further refine the focus of the program goal to achieve a desired outcome at shortage level. As a water shortage condition escalates, the objectives of the Communication Plan also escalate to ensure progress toward water supply reliability. The defined objectives for each Water Shortage level will determine the information that is communicated at each level.



## Target Audiences

EMID reviewed its water demand and customer class profile to develop a communication plan to be the most effective with its unique customer profile and water demands. Based on the 2025 projections in the 2020 UWMP, the EMID single family water use is expected to account for approximately 22% of the total water demand. Commercial, industrial, and institution water use is projected to account for about 13% of total demand. Multifamily and landscape use are projected to account for 31% and 26% of total demand, respectively based on recent trends. Remaining water uses are associated with losses and other potable uses (fire). By understanding the local customer and water use profile, the EMID can implement a Water Shortage Communication Plan that leverages the appropriate communications tools to reach the target audience most effectively during a water shortage.

EMID has further refined its customer categories to identify the following target audiences for communication:

- EMID staff
- Homeowners and renters
- Business owners
- Local Industries
- Property owners and managers
- School district administrators and teachers
- Elected officials and staff
- Environmental/public interest groups
- General Public
- Local Media
- Homeowners Associations
- Golf Courses

## Communications Interfaces and Tools

EMID will work closely during a normal and water shortage condition. EMID will utilize a comprehensive set of communication interface tools to engage water customers. The interface options and tools include:

- Water Bill communications
- Website Information on the “Foster City/EMID” homepage
- Social Media outreach
- Media Coverage (print and electronic)
- Publications and Handouts
- Water Bill Pay Portal Communication
- Presence at local events
- Mayor/Manager Public Service Announcements
- Direct mailings to homes and businesses
- School education programs

## Communication Tactics and Implementation Schedule

The EMID understands their responsibility to be transparent, accountable, have a positive impact on the community, and provide actionable guidance in times of water shortage. Carefully developed and executed communication tactics and implementation schedule will establish trust and credibility for all stakeholders by clearly communicating expectations and responsibilities. Below is a description of the Water Shortage Communication Plan Tactics.

This Water Shortage Communication Plan is designed to have a standard set of Tactics systematically align to the current Water Shortage Level. For example, information that may be educational during Shortage Level 0 will shift to specific status information and shortage level response action requirements, as defined in Section 3.4.1 of the WSCP and Table 3-2, as water shortage levels increase from 1 to 6. In Shortage Level 0, shortage communication will include a general overview of water efficiency and water shortage levels so, in the event of a water shortage, the understanding and response requirements are familiar. As the Water Shortage Levels increase, messaging will align with specific shortage level response requirements and objectives.

### Website

- Foster City/EMID website: Provide water efficiency information and resources on Foster City/EMID website including water shortage level status.
- Water Shortage Indicator: develop a permanent image on the webpage that identifies water shortage level status. Image will be updated promptly when status level changes and will link to additional shortage level information.

### Social Media

- Facebook/ Instagram: post water efficiency information and shortage level status on the Foster City/EMID's Facebook/Instagram page. This may include unique EMID content or reposting of regional messages and images.
- Twitter: Tweet water efficiency information and water shortage level status on the Foster City/EMID's account. This may include unique EMID content or reposting of regional messages and images.

### Digital and Print Media

- Flyers/Signage/Brochures: Create and provide informational materials on water efficiency actions, local/regional water resource awareness, and water shortage level status.
- Consumer Confidence Reports (CCRs): provide a conservation reminder in CCR along with conservation tips.

### Media Relations

- News stories/News Releases Newsletters: Provide news releases with information regarding water shortage level and expected trends.
- Briefing papers/Talking points: Provide briefing papers to local media outlets such as newspapers, magazines, and other publications. This may also include social media posts and infographics.

### Community Outreach

- Public Events: Promote water efficiency and water awareness at local events such as parades, festivals, farmers market, community organizations, and other events.
- Promotional giveaways: Provide promotional water efficiency devices or messaging materials (i.e. hats, stickers, mugs, etc.) promoting water efficiency and response.

### Educational Outreach

- School Programs: Provide water resource and efficiency presentations for local schools, including information and response to water shortage levels.

- Residential Water Efficiency Educational Classes: Provide educational classes to community on topics such as finding and fixing leaks, irrigation program scheduling, waterwise vegetation, etc.
- Non-residential water efficiency training classes/programs: Provide training programs to local irrigation and cooling tower service technicians on water efficient practices and water shortage level requirements.

**EMID Water Efficiency Programs**




- Rebate/Incentive Programs: Promote regional rebate and incentive programs for local water users. Messaging frequency increased as the shortage levels increase.
- Turf Removal: Promote regional rebate and incentive programs for local water users. Messaging frequency increased as the shortage levels increase.
- Water Surveys- Commercial: Promote regional rebate and incentive programs for local water users. Messaging frequency increased as the shortage levels increase.
- Water Surveys – Residential: Promote regional rebate and incentive programs for local water users. Messaging frequency increased as the shortage levels increase. The EMID staff may participate limited residential surveys to assist with efficiency, identify and correct leaks, provide communication to customer.

**Direct Customer Communication**

- Billing Inserts: Include billing inserts in water utility billings including water shortage level status and response actions.
- Water Use notifications: Include a comparison of actual water use and information regarding penalties.
- Neighborhood Canvassing: EMID staff and/or representatives may canvas neighborhoods to educate residents of water shortage status and response action requirements.

**Partnerships/Regional Initiatives**

- SFPUC/BAWSCA: Utilize regional messaging programs, messages, and resources to communicate with local water users.
- Coordinate messaging with other member agencies and public partnerships.

	Wholesaler	EMID	Stakeholders
Decision	<b>Wholesaler Board of Directors</b>	<b>EMID Board of Directors</b> 	<b>Member Agencies Board/Council</b>  <b>Community Groups</b>
Interagency Coordination	<b>Water Shortage Team Leader</b>	<b>EMID Water Shortage Leader</b> 	<b>Member Agencies and Community Group Leaders</b>
Support Staff	<b>Coordination Support</b> <ul style="list-style-type: none"> <li>• Policy/Legal</li> <li>• Public Outreach</li> <li>• Logistics</li> <li>• Monitoring</li> </ul>	<b>EMID Water Shortage Team</b> <ul style="list-style-type: none"> <li>• Engineering Planning</li> <li>• Operations</li> <li>• Communications</li> <li>• Financial</li> <li>• Urban Conservation</li> <li>• Public Outreach</li> </ul> 	<b>Member Agency Water Shortage Team</b>  <b>Community Group Water Shortage Support</b>

**Monitor, Evaluate, and Amend**

The effectiveness of the EMID’s Communication Plan depends on a large variety of factors including technological advancements or changes, the rise and fall of audience engagement, current news or media concentration, political changes in leadership and focus, and the weather. The Communication Plan will be evaluated for effectiveness and updated accordingly based on available metrics and stakeholder feedback.



## APPENDIX C – NOTICE OF PUBLIC HEARING

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FOSTER CITY  
CALIFORNIA

COMMUNITY

### Foster Municipal Improvement District Updates Urban Water Management Plan and Water Shortage Contingency Plan

**For immediate release:** June 28, 2021

**Contact:** Public Works Department, (650) 286-3270, [publicworks@fostercity.org](mailto:publicworks@fostercity.org)

Foster City, CA; June 28, 2021 - The Estero Municipal Improvement District (EMID) is reviewing and updating its Urban Water Management Plan (UWMP) and associated Water Shortage Contingency Plan (WSCP) in compliance with state law. The State of California requires that the plans be updated every five years. The UWMP was last updated in 2016, and the associated WSCP was last updated in 2018. EMID must also make the draft documents available for public review and hold a public hearing before adopting its UWMP and associated WSCP.

EMID encourages its customers to participate in the review process. Proposed revisions to the UWMP and associated WSCP are available for public review at City Hall, 610 Foster City Boulevard and the Foster City Public Library, 1000 East Hillsdale Boulevard, as well as on the City's website at [www.fostercity.org/publicworks/page/water](http://www.fostercity.org/publicworks/page/water). A public hearing is scheduled to be held on Monday, July 19, 2021.

EMID provides potable water to residents in Foster City and the Mariners Island area of San Mateo. The UWMP outlines EMID's water supply projections, describes demand management measures and reports progress toward meeting a targeted 20% reduction of urban water consumption by 2020. As part of the process of preparing the UWMP, EMID is also updating its WSCP to mitigate future water supply shortages.

For more information or questions, please contact Project Engineer Vivian Ma, at (650) 286-3270 or email [vma@fostercity.org](mailto:vma@fostercity.org).

###

**PROOF OF PUBLICATION  
AFFIDAVIT/DECLARATION**

State of California )  
San Mateo County )  
 )

**THE FOSTER CITY ISLANDER**

The Foster City Islander ("Islander") is a Newspaper of General Circulation for the State of California, the County of San Mateo, and the City of Foster City, as defined by Sections 6000 et seq, of the California Government Code. The Islander was decreed as such by the San Mateo County Superior Court on April 27, 1976 (Decree No: 200683). The Islander is printed and published weekly in accordance with said code provisions. The notice that is attached hereto and incorporated herein, was printed and published in the following editions of the Islander:

**6-30-21  
7-7-21**

I declare under the penalty of perjury of the State of California that the foregoing facts are true and of my own personal knowledge. This declaration is being made in San Mateo County, CA

on 7-9-21

  
\_\_\_\_\_  
Bob Jungbluth, Publisher  
of the Foster City Islander

**LEGAL NOTICE**

**NOTICE OF PUBLIC HEARING**

NOTICE IS HEREBY GIVEN that the Board of Directors of the Estero Municipal Improvement District will hold a PUBLIC HEARING on Monday, July 19, 2021 at 6:30 p.m. to hear and consider public input on the following:

Proposed Revisions and Updates to the Urban Water Management Plan (UWMP) and associated Water Shortage Contingency Plan (WSCP).

The draft UWMP and associated WSCP are available for public review at City Hall, 610 Foster City Boulevard and Foster City Library, 1000 East Hillsdale Boulevard, and on the City's website via the following link: <https://www.fostercity.org/publicworks/page/water>.

SAID PUBLIC HEARING will be held by teleconference and/or video conference at [www.fostercity.org/fctv](http://www.fostercity.org/fctv). The meeting may also be held as a hybrid meeting with an in-person component, subject to appropriate regulations. If held as a hybrid meeting, the meeting address is 620 Foster City Boulevard, Foster City, CA 94404. Final meeting location(s) will be listed on the published agenda.

The public may participate by submitting comments via email to [publiccomment@fostercity.org](mailto:publiccomment@fostercity.org) or by providing live verbal public comment by joining the meeting via teleconference and/or video conference, or in person, if held as a hybrid meeting. Instructions on how to join the meeting are included in the top portion of the agenda posted at: [www.fostercity.org/agendasandminutes](http://www.fostercity.org/agendasandminutes).

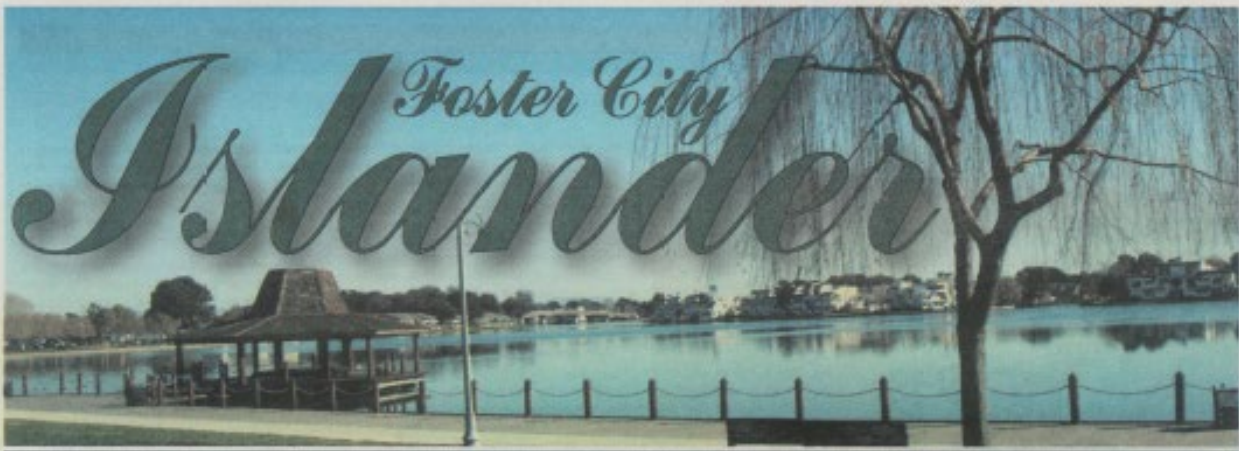
**THE PUBLIC IS INVITED TO ATTEND.**

Priscilla Schaus, District Secretary

Dated: June 23, 2021

Posted/Published: June 30, 2021 and July 7, 2021





ph 650-574-5952 fax 650-240-3870  
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## Foster City Levee Improvement Passes Major Milestone

The Levee Improvements Project has completed phase 3 sheet pile installation and grading from the San Mateo Bridge to Anchor Road, marking a significant milestone for the project.

With this work done, sheet pile installation and grading on all city-owned and permitted areas are finished which means the City is one step closer to project completion and an upgraded levee wall

structure. There is only one area between Baffin Street and Port Royal Park in the Phase 1 area of the project where this type of work remains to be done.

"The completion of sheet pile installation represents the team's hard work and is a great milestone for the project," said Project Manager Paul Nagengast. "Despite

*continued on page 2*

## Drought - It Is Real

### Estero Municipal Improvement District Updates Urban Water Management Plan and Water Shortage Contingency Plan

The Estero Municipal Improvement District (EMID) is reviewing and updating its Urban Water Management Plan (UWMP) and associated Water Shortage Contingency Plan (WSCP) in compliance with state law. The State of California requires that the plans be updated every five years. The UWMP was last updated in 2016, and the associated WSCP was last updated in 2018. EMID must also make

the draft documents available for public review and hold a public hearing before adopting its UWMP and associated WSCP.

EMID encourages its customers to participate in the review process. Proposed revisions to the UWMP and associated WSCP are available for public review at City Hall, 610 Foster City Boulevard

*continued on page 2*

## Lagoon Water Quality and Testing

### Three Foster City Beaches Are Among The Worst in The State

Heal the Bay released its "Beach Bummers" list Tuesday, June 29, and three of the state's top ten polluted beaches identified are in Foster City (Erckenbrack Park - No. 2, Gull Park - No. 4, and Marlin Park - No. 8) and part of our City's enclosed lagoon network. Each year, Heal the Bay distributes an annual water quality report card grading 500 California beaches "A" through "F." This was similar to the list published by Heal the Bay last year, when some Foster City beaches also made the list.

In February 2021, the City hired Environmental and Public Health Engineering (EPA) to investigate the source of bacteria detected in our Lagoon and confirm sample results collected by the County Department of Environmental Health Services (EHS). As part of the scope of work, EPA will recommend strategies to control elevated levels of Enterococci (or E. coli). E. coli is the sole indicator now used by the State Water Resources Control Board threshold to protect recreational uses from the effects of pathogens in freshwater and marine waters.

The contract with EPA calls for 12 samples to be collected every other week from March 2021 through August 2021. This schedule intentionally includes the end of the wet season, the possibility of storm events occurring during or before sampling and extends through much of

the summer season. The samples are also being evaluated for DNA source markers to determine whether the source of the bacteria is from a human, dog, goose, or seagull.

Initial monitoring results revealed two of the six samples collected to date had E. coli levels near or above the State's threshold. No human DNA source markers were detected in any of the samples. Based on these results, it is unlikely that human waste from sewer leakage or other sources is present in our lagoon system. In contrast, goose and seagull DNA markers were detected in some of the samples.

"While human waste could contribute enterococci and other FIB to the Lagoon, there are many other sources of FIB, including wildlife and pets. These other sources of fecal material generally pose less of a threat to the health of swimmers compared to human waste," said Managing Scientist Bonnie de Berry, Certified Professional in Stormwater Quality from Environmental and Public Health Engineering (EPA).

The City will continue to collect samples approximately every other week throughout the summer recreation season and further evaluate the need for future control measures to protect beach water quality.



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### Levee... from page 1

the sometimes unpredictable nature of construction work on major projects, we are pleased with how the Levee Improvements Project has progressed so far. We understand that the closures and impacts due to the project are a temporary inconvenience to the community and so appreciate your cooperation as we move toward restoring trail access as soon as possible.

Though the permanent sheet piles have been installed and graded, there will still be other construction activities within the project area and the contractor may revisit sections of the sheet piles throughout the duration of the project. As construction activities continue, the community is reminded that the closed, fenced trail and staging areas are not safe for the

public and trespassing into fenced areas is prohibited at all times for everyone's safety. Also, please remember that bike lanes are for bicyclists only, while sidewalks are for pedestrians, joggers, non-motorized scooters, rollerblades and skateboarders.

To learn more about the project visit the project website: [www.FosterCityLevee.org](http://www.FosterCityLevee.org), where community members can review detour maps, the construction timeline and levee renderings, read through Frequently Asked Questions and even sign up for regular construction updates.

Any construction-related inquiries may be emailed to [leveeproject@fostercity.org](mailto:leveeproject@fostercity.org) or can be reported to the project hotline at 1-800-213-6320 (calls will typically be returned within 24 hours).

### Drought... from page 1

and the Foster City Public Library, 1000 East Hillsdale Boulevard, as well as on the City's website at [www.fostercity.org/publicworks/page/water](http://www.fostercity.org/publicworks/page/water). A public hearing is scheduled to be held on Monday, July 19, 2021.

EMID provides potable water to residents in Foster City and the Mariniers Island area of San Mateo. The UWMP outlines EMID's water supply projections, describes demand management measures

and reports progress toward meeting a targeted 20% reduction of urban water consumption by 2020. As part of the process of preparing the UWMP, EMID is also updating its WSCP to mitigate future water supply shortages.

For more information or questions, please contact Project Engineer Vivian Ma, at (650) 286-3270 or email [vma@fostercity.org](mailto:vma@fostercity.org).

## City & County Updates

### CITY NEWS

#### Apply to the County's Mosquito and Vector Control District Board

Looking for ways to help give back to your community? San Mateo County needs a Foster City resident to represent the City on the Mosquito and Vector Control District Board. The district's mission is to protect the health and comfort of local residents.

#### Housing to Be Discussed at Next Planning Commission Meeting

Your input is critical to help shape the future of our City! The Planning Commission will examine the Regional Housing Needs Allocation (RHNA) plan for the City's housing element and also discuss an Affordable Housing Overlay Zone (AHOZ) on Thursday, 7/15.

#### Come Learn About Foster City's Water Management Planning

Foster City is updating its Urban Water Management and Water Shortage Contingency plans. Residents are encouraged to participate in the review process.

#### Levee Project Completes

continue addressing the food insecurity needs of homebound older adults who have no alternative options.

At its regular meeting on June 29, 2021, the Board approved approximately \$4 million to continue serving Great Plates participants. Up to \$2.55 million will go to Second Harvest of Silicon Valley, one of the largest food banks in the country, to help provide home-delivered groceries to Great Plates participants who continue to need food assistance and are able to prepare meals at home. The Board also voted to provide almost \$2 million a year for the next two fiscal years to current County-contracted senior nutrition providers to be able to ensure a seamless transition of home delivered meals for Great Plates participants who are homebound and unable to prepare meals.

At the same meeting, the Board unanimously approved allocating \$1 million to the San Mateo County Emergency Financial Assistance Program. This program can help renters earning 60 percent or below the area's median income who do not qualify for the state Emergency Rental Assistance Program.

#### Youth Leaders Gear Up For Vaccine Week, Youth-Hosted Clinic

Youth leaders from the Sequoia Teen Wellness Center, Star Vista Health Ambassador Program - Youth, Jefferson Union High School District, Be the

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**City of Foster City, CA - Government**

June 28 at 2:30 PM

The Estero Municipal Improvement District (EMID) is reviewing and updating its Urban Water Management Plan (UWMP) and associated Water Shortage Contingency Plan (WSCP) in compliance with state law, and the public is encouraged to participate in the review process. We also invite you to attend the public hearing on Monday, 7/19.

Read the full press release: <http://ow.ly/1ZZA50FkntB>



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The Estero Municipal Improvement District is updating its Urban Water Management Plan & Water Shortage Contingency Plan. The public is encouraged to participate in the review process and attend the public hearing on 7/19.

Read the full press release: [ow.ly/CL0m50Fknyt](http://ow.ly/CL0m50Fknyt)



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# WEEKLY UPDATE



July 1, 2021

## CITY NEWS

### Celebrate Independence Day With In-Person and Virtual Events

Foster City is planning a variety of fun ways to celebrate Independence Day in-person and virtually. Please join us Sunday, 7/4, in Leo Ryan Park for a pancake breakfast, BBQ and other activities the entire community can enjoy. All in-person programming will require pre-registration. [View the full list of events and register here.](#)



### Apply to the County's Mosquito and Vector Control District Board

Looking for ways to help give back to your community? San Mateo County needs a Foster City resident to represent the City on the Mosquito and Vector Control District Board. The district's mission is to protect the health and comfort of local residents. [Find more details, get an application and stay involved.](#)



### Housing to Be Discussed at Next Planning Commission Meeting

Your input is critical to help shape the future of our City! The Planning Commission will examine the Regional Housing Needs Allocation (RHNA). [Join for the City's housing element](#) and also discuss an Affordable Housing Overlay Zone (AHOZ) on Thursday, 7/15. [Attend the meeting to follow the conversation.](#)



### Come Learn About Foster City's Water Management Planning

Foster City is updating its Urban Water Management and Water Shortage Contingency plans. Residents are encouraged to participate in the review process. [Check out the plans before the 7/19 public hearing.](#)



### Levee Project Completes Phase 3 Sheet Pile; More Paving Expected Along Beach Park Boulevard

The City's Levee Improvement Project completed phase three of sheet pile work. [Read all about work passing this significant milestone.](#) Looking ahead, work crews are expected to begin paving along Beach Park Boulevard. [Learn more about ways traffic will be impacted.](#)



## SAN MATEO COUNTY NEWS

### Board of Supervisors Steps In After Federal Support of Great Plates Program Ends; Approves \$1M to Assist Renters

With federal support for the Great Plates Delivered program ending on July 9, 2021, the County of San Mateo will use federal COVID-19 stimulus funds to continue addressing the food insecurity needs of homebound older adults who have no alternative options.

At its regular meeting on June 29, 2021, [the Board approved](#) approximately \$4 million to continue serving Great Plates participants. Up to \$2.55 million will go to Second Harvest of Silicon Valley, one of the largest food banks in the country, to help provide home-delivered groceries to Great Plates participants who continue to need food assistance and are able to prepare meals at home. The Board also voted to provide almost \$2 million a year for the next two fiscal years to current County-contracted senior nutrition providers to be able to ensure a seamless transition of home delivered meals for Great Plates participants who are homebound and unable to prepare meals.

At the same meeting, the Board unanimously approved allocating \$1 million to the [San Mateo County Emergency Financial Assistance Program](#). This program can help renters earning 60 percent or below the area's median income who do not qualify for the state [Emergency Rental Assistance Program](#).

### Youth Leaders Gear Up For Vaccine Week, Youth-Hosted Clinic

Youth leaders from the Sequoia Teen Wellness Center, Star Vista Health Ambassador Program – Youth, Jefferson Union High School District Be the Change Coalition, the Daly City Youth Health Center, and the County Office of Education summer internship program have banded together to promote COVID-19 vaccination among their peers. The goal is to get young people 12 years old and up fully vaccinated before the start of the school year in the fall.

## APPENDIX D – ADOPTION RESOLUTION

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### RESOLUTION NO. 3597

#### A RESOLUTION OF THE BOARD OF DIRECTORS OF THE ESTERO MUNICIPAL IMPROVEMENT DISTRICT ADOPTING THE 2020 WATER SHORTAGE CONTINGENCY PLAN

##### ESTERO MUNICIPAL IMPROVEMENT DISTRICT

WHEREAS, Assembly Bill (AB) 797 (Water Code Section 10610 et seq.), known as the Urban Water Management Planning Act, enacted by the California Legislature during the 1983-1984 Regular Session, which subsequently has been amended by AB 2661, mandates that every supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually, prepare an Urban Water Management Plan (UWMP) to assess the reliability of its water sources over a 20-year planning horizon; and

WHEREAS, the Urban Water Management Planning Act requires periodic review of the UWMP every five years, followed by any amendments or changes to the UWMP that are indicated by that review; and

WHEREAS, in 1991, the State of California added requirements to include a Water Shortage Contingency Plan (WSCP) as part of the UWMP to outline the urban water supplier's response and plan for changes or shortages in water supplies; and

WHEREAS, Estero Municipal Improvement District (EMID) is an urban supplier of water providing water to more than 3,000 customers and supplying more than 3,000 acre-feet of water annually; and

WHEREAS, EMID updated and adopted its UWMP and associated WSCP in 2016 per EMID Resolution No. 3335 in compliance with AB 797, AB 2661, and SB X7-7; and

WHEREAS, EMID further updated and adopted its WSCP in 2018 per EMID Resolution No. 3411 in response to the Governor's Executive Order B-40-17, reflecting lessons learned from the prior recent drought and "Making Water Conservation a California Way of Life;"

WHEREAS, the EMID Board awarded a contract to EKI Environmental & Water (EKI) to develop EMID's 2020 UWMP and associated WSCP in January 2021 per EMID Resolution No. 3552; and

WHEREAS, EMID receives all of its water from the San Francisco Public Utilities Commission (SFPUC); and



WHEREAS, the Bay Area Water Supply and Conservation Agency provides regional water reliability planning and conservation programming for 26 member agencies, including EMID, that purchase wholesale water supplies from SFPUC; and

WHEREAS, the EMID Board held a Study Session on March 24, 2021 to discuss the preliminary findings of water supply reliability and potential drought cutbacks during dry years based on information provided by SFPUC and BAWSCA; and

WHEREAS, the EMID Board held another Study Session on June 9, 2021, in which EMID staff provided an update on its progress on the development of the 2020 UWMP and associated WSCP; and

WHEREAS, the 2020 UWMP and associated WSCP were due to the California Department of Water Resources (DWR) on July 1<sup>st</sup>, 2021; however, due to SFPUC's forecast for unprecedented water supply reductions and resulting drought allocations, which was finalized and shared with BAWSCA member agencies in April 2021, additional time was necessary for EMID to review the plans, discuss findings at the City Council/EMID Board meetings, and ensure compliance to the Final UWMP Guidebook, which was also released in April 2021; and

WHEREAS, as recommended by DWR, EMID staff notified DWR on June 14, 2021 of the targeted date of July 19, 2021 for the 2020 UWMP and associated WSCP public hearing; and

WHEREAS, per California Water Code Section 10632, EMID has updated its WSCP to include six standard water shortage levels and procedures for conducting an Annual Water Supply and Demand Assessment; and

WHEREAS, EMID has circulated for public review a draft 2020 WSCP, and EMID held a duly noticed public hearing on July 19, 2021 to consider the 2020 UWMP and associated WSCP, and all public testimony in compliance with the requirements of CWC Section 10642 and California Government Code Section 6066; and

WHEREAS, pursuant to Section 10652 of the CWC and the California Environmental Quality Act (CEQA) Guidelines Section 15282 (v), CEQA does not apply to the preparation and adoption of UWMPs. Additionally, the adoption of the WSCP is an action authorized by state or local ordinance to assure the maintenance of a natural resources and thus statutorily exempt from CEQA pursuant to CEQA Guidelines Section 15307.

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of the Estero Municipal Improvement District does hereby adopt EMID's 2020 WSCP for submittal to the DWR within 30 days of adoption.

PASSED AND ADOPTED as a resolution of the Board of Directors of the Estero Municipal Improvement District at the regular meeting held on the 19th day of July, 2021, by the following vote:

AYES: Directors Awasthi, Froomin, Hindi, Sullivan, and President Gehani

NOES: None

ABSENT: None

ABSTAIN: None

DocuSigned by:  
*Sanjay Gehani*  
SANJAY GEHANI, PRESIDENT

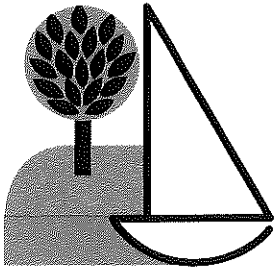
ATTEST:

DocuSigned by:  
*Priscilla Schaus*  
PRISCILLA SCHAUS, DISTRICT SECRETARY

**Appendices**  
**2020 Urban Water Management Plan**  
**Estero Municipal Improvement District**



**APPENDIX K**  
**LETTERS TO SWRCB, BAWSCA, AND SFPUC**



# City of Foster City

## ESTERO MUNICIPAL IMPROVEMENT DISTRICT

610 FOSTER CITY BOULEVARD  
FOSTER CITY, CA 94404-2222

February 22, 2017

Jeanine Townsend, Clerk to the Board  
State Water Resources Control Board, Cal/EPA Headquarters  
1001 "I" Street, 24th Floor  
Sacramento, CA 95814-0100

### **Subject: COMMENT LETTER – 2016 BAY-DELTA PLAN AMENDMENT & SED**

Dear Ms. Townsend:

The City of Foster City/Estero Municipal Improvement District 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, the City of Foster City/Estero Municipal Improvement District 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 of the SED proposal's impact on the City of Foster City/Estero Municipal Improvement District 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:

- As a wholesale customer of SFPUC that purchases 100% of its potable water supply from the San Francisco Regional Water System, water supply available to the City of Foster City/Estero Municipal Improvement District under the SED proposal could be reduced by more than 50% under drought conditions for multiple consecutive years.
- The City of Foster City/Estero Municipal Improvement District has made significant strides in water conservation in the past 10 years. Residential per capita water use has decreased 32.6%, from 95 gallons per capita per day (gpcd) to 65 gpcd.
- Based on the City of Foster City/Estero Municipal Improvement District's 2015 Urban Water Management Plan, this significant cut to water supply would force the City of

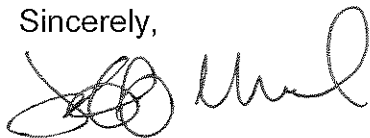
Foster City/Estero Municipal Improvement District to take a number of significant actions, including further water restrictions to water consumption such as reducing water budgets for landscape irrigation, as well as measures identified by the City in the City's Municipal Code and to minimize nonessential uses of water so that water is available for human consumption, sanitation, and fire protection.

- The City of Foster City/Estero Municipal Improvement District serves water to 37,518 residential customers, over 1,000 businesses, and approximately 15,000 non-residential employees working in Foster City. 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 City of Foster City/Estero Municipal Improvement District service area.
- Since outdoor use represents a relatively small proportion of the City of Foster City/Estero Municipal Improvement District'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 here by reference, the City of Foster City/Estero Municipal Improvement 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.

Lastly, the Governor has indicated his strong support for negotiated voluntary agreements to resolve these issues. The City of Foster City/Estero Municipal Improvement District requests that the SWRCB provide adequate time for voluntary agreements 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 implementation of the current proposal. The City of Foster City/Estero Municipal Improvement District shares BAWSCA's commitment to continue working closely with the diverse interests and stakeholders to develop that shared solution.

Sincerely,



Jeff Moneda, P.E.  
Public Works Director/District Engineer  
City of Foster City/Estero Municipal Improvement District

cc: Subject/Chron



*City of Foster City*

**ESTERO MUNICIPAL IMPROVEMENT DISTRICT**

610 FOSTER CITY BOULEVARD  
FOSTER CITY, CA 94404-2222

June 11, 2021

Nicole Sandkulla, Chief Executive Officer  
Bay Area Water Supply Conservation Agency  
155 Bovet Road, Suite 650  
San Mateo, CA 94402

**SUBJECT: REGIONAL WATER SYSTEM SUPPLY RELIABILITY AND CUTBACK ALLOCATIONS**

Ms. Sandkulla:

I write to you on behalf of the Estero Municipal Improvement District ("EMID"), a member of the Bay Area Water Supply Conservation Agency ("BAWSCA") and a Wholesale Customer under the Water Supply Agreement with the City and County of San Francisco dated November 2018 ("WSA"). As you know, EMID and the other Wholesale Customers are currently working to adopt new 2020 Urban Water Management Plans ("UWMPs") by the July 1, 2021 deadline. In January, the SFPUC issued a Regional Water Supply ("RWS") Reliability Letter, which was then updated in March, outlining the water supplies available to Wholesale Customers for use in drafting and adopting the 2020 UWMPs.

The RWS Reliability Letter outlines projected water supply available to the Wholesale Customers both with and without Bay-Delta Plan implementation. The Bay-Delta Plan is the water quality control plan, proposed in July 2018 and adopted by the State Water Board in December 2018, which established flow requirements to be implemented in 2022 for the Lower San Joaquin River, including the primary source of the water supplied to the Wholesale Customers.

Should the Bay-Delta Plan be implemented as planned in 2022, the projected RWS available to Wholesale Customers in dry years would potentially drop by up to 54%. This is a disastrous outcome for water suppliers like EMID. It is also well short of the Level of Service Goal included in Section 3.11(C)(4) of the WSA between San Francisco and the Wholesale Customers, which is to ensure no more than a 20% shortage in any year of the planned designed drought.

EMID understands that the City and County of San Francisco has joined a lawsuit challenging the implementation of the Bay-Delta Plan. It also understands that SFPUC is currently advocating, in conjunction with BAWSCA, for a Voluntary Agreement to supplant the Bay-Delta Plan with an approach designed to provide similar environmental benefits to the Bay-Delta Plan without imposing the same flow restrictions that would cause large RWS shortfalls. Additionally, EMID acknowledges the San Francisco Public Utilities Commission's (SFPUC) effort to implement the Alternative Water Supply Planning Program to supplement additional water supply. EMID supports each of these efforts.

Regardless of the outcomes of these efforts to halt implementation or replace the Bay-Delta Plan by Voluntary Agreement, EMID continues to support BAWSCA, as the administrator of the WSA and the representative for the Wholesale Customers in negotiations with San Francisco, to prioritize and focus its efforts on rectifying the supply shortfall and push the SFPUC to honor its contractual obligations to exercise "its best efforts to identify potential sources of dry year water supplies and establish the contractual and other means to access and deliver those supplies in sufficient quantity to meet a goal of not more than 20 percent system-wide shortage in any year of the design drought."

Although the Bay-Delta Plan was adopted more than two years ago, there has not been a consolidated effort to effectively plan for and negotiate the potential allocation cutbacks among the BAWSCA membership. While the WSA makes clear that the BAWSCA Member Agencies are free to negotiate a nuanced, equitable approach to supply shortages greater than 20%, negotiation of such allocation cutbacks has not been initiated, despite it appearing that shortfalls greater than 20% would result from the Bay-Delta Plan upon its adoption in 2018. For planning purposes under the 2020 UWMPs, BAWSCA recommends that the Wholesale Customers adopt an "equal allocation cutback," in which each Agency will have its supply reduced equally, and potentially up to 54%.

Per BAWSCA's direction, the EMID staff plans to recommend to the Board of Directors that it adopt a 2020 UWMP with the equal allocation cutback methodology. However, EMID does not agree to the methodology, as it would render inequitable results, threaten the health and safety of those in vulnerable communities, cause detrimental economic effects, exacerbate the region's housing crisis, and endanger critical institutions like schools and healthcare facilities.

We believe BAWSCA understands the problematic inequities that would occur if the equal allocation cutback methodology were employed and we expect, therefore, that BAWSCA will now proactively initiate the negotiation among the Member Agencies to ensure that cutbacks are allocated equitably in the event of a severe drought. We should not wait until we are already burdened by drought-related cutbacks to hold this negotiation.



Sincerely,

*Peter Pirnejad*  
Peter Pirnejad (Jun 11, 2021 19:00 PDT)

Dr. Peter Pirnejad  
City/District Manager  
City of Foster City/Estero Municipal Improvement District

cc: EMID Board of Directors  
Dante Hall, Assistant City/District Manager, Acting Public Works Director  
Subject/Chron



*City of Foster City*

**ESTERO MUNICIPAL IMPROVEMENT DISTRICT**

610 FOSTER CITY BOULEVARD  
FOSTER CITY, CA 94404-2222

June 11, 2021

Paula Kehoe, Director of Water Resources  
San Francisco Public Utilities Commission  
525 Golden Gate Avenue, 13<sup>th</sup> Floor  
San Francisco, CA 94102

**SUBJECT: REGIONAL WATER SYSTEM SUPPLY RELIABILITY**

Dear Ms. Kehoe:

I write to you on behalf of the Estero Municipal Improvement District (“EMID”), a member of the Bay Area Water Supply Conservation Agency (“BAWSCA”) and a Wholesale Customer under the Water Supply Agreement with the City and County of San Francisco dated November 2018 (“WSA”). Like all other water providers in the region, EMID is currently working to adopt a new 2020 Urban Water Management Plan (“UWMP”) by the July 1, 2021 deadline. In January, the SFPUC issued a Regional Water Supply (“RWS”) Reliability Letter, which was then updated in March, outlining the water supplies available to Wholesale Customers for use in drafting and adopting the 2020 UWMPs. The RWS Reliability Letter outlines projected water supply available to the Wholesale Customers both with and without Bay-Delta Plan implementation. The Bay-Delta Plan is the water quality control plan, proposed in July 2018 and adopted by the State Water Board in December 2018, which established flow requirements to be implemented in 2022 for the Lower San Joaquin River, including the primary source of the water supplied to the Wholesale Customers.

Should the Bay-Delta Plan be implemented as planned in 2022, the projected RWS available to Wholesale Customers in dry years would potentially be reduced by up to 54% of demand. This is a disastrous outcome for water suppliers, and well short of the Level of Service Goal included in the WSA, which is to ensure no more than a 20% shortage in any year of the planned designed drought.

EMID understands that the City and County of San Francisco has joined a lawsuit challenging the implementation of the Bay-Delta Plan. It also understands that SFPUC is currently advocating, in conjunction with BAWSCA, for a Voluntary Agreement to supplant the Bay-Delta Plan with an approach designed to provide similar environmental

benefits to the Bay-Delta Plan without imposing the same flow restrictions that would cause large RWS shortfalls. Additionally, EMID acknowledges the San Francisco Public Utilities Commission's (SFPUC) effort in implementing the Alternative Water Supply Planning Program to supplement additional water supply. EMID supports each of these efforts.

However, we are frustrated to find ourselves and the other Wholesale Customers in such a dire position. Should the efforts to halt implementation or replace the Bay-Delta Plan by Voluntary Agreement be unsuccessful, EMID expects that SFPUC will honor its obligation under Section 3.11(C)(4) of the WSA and put forth "its best efforts to identify potential sources of dry year water supplies and establish the contractual and other means to access and deliver those supplies in sufficient quantity to meet a goal of not more than 20 percent system-wide shortage in any year of the design drought."

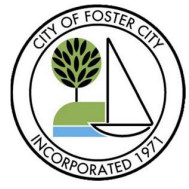
Sincerely,

  
Peter Pirnejad (Jun 11, 2021 19:00 PDT)

Dr. Peter Pirnejad  
City/District Manager  
City of Foster City/Estero Municipal Improvement District

cc: Michael Carlin, SFPUC Acting General Manager  
Steve Ritchie, SFPUC Assistant General Manager  
EMID Board of Directors  
Dante Hall, Assistant City/District Manager, Acting Public Works Director  
Subject/Chron

**Appendices**  
**2020 Urban Water Management Plan**  
**Estero Municipal Improvement District**



**APPENDIX L**  
**RESOLUTION NO. 3596, URBAN WATER MANAGEMENT PLAN, 2020 UPDATE**

RESOLUTION NO. 3596

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE ESTERO MUNICIPAL IMPROVEMENT DISTRICT ADOPTING THE 2020 URBAN WATER MANAGEMENT PLAN AND CARRY OVER OF THE UNSPENT PROJECT APPROPRIATION FROM ACCOUNT 401-0960-461-4251 TO FY 2021-2022

ESTERO MUNICIPAL IMPROVEMENT DISTRICT

WHEREAS, Assembly Bill (AB) 797 (Water Code Section 10610 et seq.), known as the Urban Water Management Planning Act, enacted by the California Legislature during the 1983-1984 Regular Session, which subsequently has been amended by AB 2661, mandates that every supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually, prepare an Urban Water Management Plan (UWMP) to assess the reliability of its water sources over a 20-year planning horizon; and

WHEREAS, the Urban Water Management Planning Act requires periodic review of the UWMP every five years, followed by any amendments or changes to the UWMP that are indicated by that review; and

WHEREAS, Senate Bill (SB) X7-7, enacted in November 2009, mandated a Statewide per capita potable water use reduction of 20% by the year 2020; and

WHEREAS, Estero Municipal Improvement District (EMID) is an urban supplier of water providing water to more than 3,000 customers and supplying more than 3,000 acre-feet of water annually; and

WHEREAS, EMID updated and adopted its 2015 UWMP in 2016 per EMID Resolution No. 3335 in compliance with AB 797, AB 2661, and SB X7-7; and

WHEREAS, the EMID Board awarded a contract to EKI Environmental & Water (EKI) to develop EMID's 2020 UWMP and associated Water Shortage Contingency Plan (WSCP) in January 2021 per EMID Resolution No. 3552; and

WHEREAS, EMID receives all of its water from the San Francisco Public Utilities Commission (SFPUC); and

WHEREAS, SFPUC provided water supply reliability data in January 2021, which was then updated in March 2021, with the 2018 Bay-Delta Plan Amendment based on projected demands, which may reduce available supplies in single dry years or multiple dry years as much as 50% starting in year 2023; and

WHEREAS, the Bay Area Water Supply and Conservation Agency provides regional water reliability planning and conservation programming for 26 member agencies, including EMID, that purchase wholesale water supplies from SFPUC; and

WHEREAS, BAWSCA provided a temporary methodology that allocates SFPUC supplies as an equal percent reduction applied across all member agencies when SFPUC shortages are greater than 20%. This allocation method is only temporary as the preliminary basis for the 2020 UWMP supply reliability analysis, and does not in any way imply an agreement by EMID as to the exact allocation methodology; and

WHEREAS, the EMID Board held a Study Session on March 24, 2021 to discuss the preliminary findings of water supply reliability and potential drought cutbacks during dry years; and

WHEREAS, the EMID Board held another Study Session on June 9, 2021, in which EMID staff provided an update on its progress on the development of the 2020 UWMP and associated WSCP; and

WHEREAS, the 2020 UWMP was due to the California Department of Water Resources (DWR) on July 1<sup>st</sup>, 2021; however, due to SFPUC's forecast for unprecedented water supply reductions and resulting drought allocations, which was finalized and shared with BAWSCA member agencies in April 2021, additional time was necessary for EMID to review the plans, discuss findings at the City Council/EMID Board meetings, and ensure compliance to the Final UWMP Guidebook, which was also released in April 2021; and

WHEREAS, as recommended by DWR, EMID staff notified DWR on June 14, 2021 of the targeted date of July 19, 2021 for the 2020 UWMP and associated WSCP public hearing; and

WHEREAS, EMID has prepared and circulated for public review a draft 2020 UWMP, and held a duly noticed public hearing on July 19, 2021 to consider the 2020 UWMP and associated WSCP, and all public testimony in compliance with the requirements of California Water Code (CWC) Section 10642 and California Government Code Section 6066; and

WHEREAS, pursuant to Section 10652 of the CWC and the California Environmental Quality Act (CEQA) Guidelines Section 15282 (v), CEQA does not apply to the preparation and adoption of UWMPs. Additionally, the adoption of an UWMP is an action authorized by state or local ordinance to assure the maintenance of a natural resources and thus statutorily exempt from CEQA pursuant to CEQA Guidelines Section 15307.

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of the Estero Municipal Improvement District does hereby adopt EMID's 2020 UWMP for submittal to the DWR within 30 days of adoption, and authorizes the carryover of the unspent appropriation of \$77,855 from Account 401-0960-461-4251 to FY2021-2022 to fund the remainder of EKI's contract to complete the work in FY2021-2022.

PASSED AND ADOPTED as a resolution of the Board of Directors of the Estero Municipal Improvement District at the regular meeting held on the 19th day of July, 2021, by the following vote:

AYES: Directors Awasthi, Froomin, Hindi, Sullivan, and President Gehani

NOES: None

ABSENT: None

ABSTAIN: None

DocuSigned by:

*Sanjay Gehani*

SANJAY GEHANI, PRESIDENT

ATTEST:

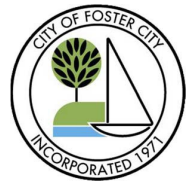
DocuSigned by:

*Priscilla Schaus*

PRISCILLA SCHAUS, DISTRICT SECRETARY



**Appendices**  
**2020 Urban Water Management Plan**  
**Estero Municipal Improvement District**



**APPENDIX M**  
**RESOLUTION NO. 3597, WATER SHORTAGE CONTINGENCY PLAN, 2020 UPDATE**

RESOLUTION NO. 3597

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE ESTERO MUNICIPAL IMPROVEMENT DISTRICT ADOPTING THE 2020 WATER SHORTAGE CONTINGENCY PLAN

ESTERO MUNICIPAL IMPROVEMENT DISTRICT

WHEREAS, Assembly Bill (AB) 797 (Water Code Section 10610 et seq.), known as the Urban Water Management Planning Act, enacted by the California Legislature during the 1983-1984 Regular Session, which subsequently has been amended by AB 2661, mandates that every supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually, prepare an Urban Water Management Plan (UWMP) to assess the reliability of its water sources over a 20-year planning horizon; and

WHEREAS, the Urban Water Management Planning Act requires periodic review of the UWMP every five years, followed by any amendments or changes to the UWMP that are indicated by that review; and

WHEREAS, in 1991, the State of California added requirements to include a Water Shortage Contingency Plan (WSCP) as part of the UWMP to outline the urban water supplier's response and plan for changes or shortages in water supplies; and

WHEREAS, Estero Municipal Improvement District (EMID) is an urban supplier of water providing water to more than 3,000 customers and supplying more than 3,000 acre-feet of water annually; and

WHEREAS, EMID updated and adopted its UWMP and associated WSCP in 2016 per EMID Resolution No. 3335 in compliance with AB 797, AB 2661, and SB X7-7; and

WHEREAS, EMID further updated and adopted its WSCP in 2018 per EMID Resolution No. 3411 in response to the Governor's Executive Order B-40-17, reflecting lessons learned from the prior recent drought and "Making Water Conservation a California Way of Life;"

WHEREAS, the EMID Board awarded a contract to EKI Environmental & Water (EKI) to develop EMID's 2020 UWMP and associated WSCP in January 2021 per EMID Resolution No. 3552; and

WHEREAS, EMID receives all of its water from the San Francisco Public Utilities Commission (SFPUC); and

WHEREAS, the Bay Area Water Supply and Conservation Agency provides regional water reliability planning and conservation programming for 26 member agencies, including EMID, that purchase wholesale water supplies from SFPUC; and

WHEREAS, the EMID Board held a Study Session on March 24, 2021 to discuss the preliminary findings of water supply reliability and potential drought cutbacks during dry years based on information provided by SFPUC and BAWSCA; and

WHEREAS, the EMID Board held another Study Session on June 9, 2021, in which EMID staff provided an update on its progress on the development of the 2020 UWMP and associated WSCP; and

WHEREAS, the 2020 UWMP and associated WSCP were due to the California Department of Water Resources (DWR) on July 1<sup>st</sup>, 2021; however, due to SFPUC's forecast for unprecedented water supply reductions and resulting drought allocations, which was finalized and shared with BAWSCA member agencies in April 2021, additional time was necessary for EMID to review the plans, discuss findings at the City Council/EMID Board meetings, and ensure compliance to the Final UWMP Guidebook, which was also released in April 2021; and

WHEREAS, as recommended by DWR, EMID staff notified DWR on June 14, 2021 of the targeted date of July 19, 2021 for the 2020 UWMP and associated WSCP public hearing; and

WHEREAS, per California Water Code Section 10632, EMID has updated its WSCP to include six standard water shortage levels and procedures for conducting an Annual Water Supply and Demand Assessment; and

WHEREAS, EMID has circulated for public review a draft 2020 WSCP, and EMID held a duly noticed public hearing on July 19, 2021 to consider the 2020 UWMP and associated WSCP, and all public testimony in compliance with the requirements of CWC Section 10642 and California Government Code Section 6066; and

WHEREAS, pursuant to Section 10652 of the CWC and the California Environmental Quality Act (CEQA) Guidelines Section 15282 (v), CEQA does not apply to the preparation and adoption of UWMPs. Additionally, the adoption of the WSCP is an action authorized by state or local ordinance to assure the maintenance of a natural resources and thus statutorily exempt from CEQA pursuant to CEQA Guidelines Section 15307.

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of the Estero Municipal Improvement District does hereby adopt EMID's 2020 WSCP for submittal to the DWR within 30 days of adoption.

PASSED AND ADOPTED as a resolution of the Board of Directors of the Estero Municipal Improvement District at the regular meeting held on the 19th day of July, 2021, by the following vote:

AYES: Directors Awasthi, Froomin, Hindi, Sullivan, and President Gehani

NOES: None

ABSENT: None

ABSTAIN: None

DocuSigned by:

*Sanjay Gehani*

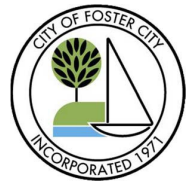
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SANJAY GEHANI, PRESIDENT

ATTEST:

DocuSigned by:

*Priscilla Schaus*

6131E59FA33B4AB  
PRISCILLA SCHAUS, DISTRICT SECRETARY



**APPENDIX N**  
**NOTIFICATION OF LATE SUBMITTAL TO DWR**

**From:** [Vivian Ma](#)  
**To:** [DWR UWMP Help](#)  
**Cc:** [Jonathan Sutter](#); [Anona Dutton](#); [Meghan Eng](#)  
**Subject:** Estero Municipal Improvement District - Notice of Public Hearing for the 2020 Urban Water Management Plan and Water Shortage Contingency Plan  
**Date:** Monday, June 28, 2021 5:41:23 PM  
**Attachments:** [image002.png](#)  
[image003.png](#)  
[image004.png](#)  
[image005.png](#)  
[Notice to DWR Regarding UWMPWSCP Submittal.msg](#)

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Hi Department of Water Resources (DWR) Staff:

The Estero Municipal Improvement District (EMID) had previously sent the attached email to DWR staff with regards to the targeted 2020 UWMP & WSCP submittal date. Unfortunately, we ran into difficulties with uploading the attached email as an attachment to the WUE portal without the entire UWMP. Therefore, our consultant, EKI, reached out to DWR staff. DWR staff advised us to forward the attached email to you, and ask that you upload the attached email to the WUE portal as an informal correspondence.

If you could reply to this email confirming receipt and that the attached email has been uploaded to the WUE portal as an informal correspondence, that would be greatly appreciated!

Regards,  
Vivian



**Vivian Ma, P.E.**  
Department of Public Works | City of Foster City

650-286-3270 | [www.fostercity.org](http://www.fostercity.org)  
610 Foster City Boulevard | Foster City, CA 94404



**From:** [Dante Hall](#)  
**To:** [lea.garrison@water.ca.gov](mailto:lea.garrison@water.ca.gov)  
**Cc:** [sabrina.cook@water.ca.gov](mailto:sabrina.cook@water.ca.gov); [julia.ekstrom@water.ca.gov](mailto:julia.ekstrom@water.ca.gov); [Laura Galli](#); [Vivian Ma](#); [Julie Paping](#); [Peter Pirnejad](#)  
**Subject:** Notice to DWR Regarding UWMP/WSCP Submittal  
**Date:** Monday, June 14, 2021 3:50:05 PM

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Greetings,

Due to the Estero Municipal Improvement District's (EMID) supplier's (San Francisco Public Utilities Commission) forecast for unprecedented water supply reductions, which was finalized and shared with water agencies in April 2021, EMID has determined that additional time is necessary for public outreach, review, and comment of the 2020 Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP) beyond the July 1, 2021 Department of Water Resources (DWR) deadline.

On March 24, 2021, the EMID Board held a Study Session to discuss the preliminary findings of water supply reliability and potential drought cutbacks during dry years. On June 9, 2021, the EMID Board held another Study Session, in which EMID staff provided an update on its progress on the development of the 2020 UWMP & WSCP.

EMID has targeted July 19, 2021 as the public hearing date for the 2020 UWMP & WSCP.

We understand that EMID is required to submit this notice through the DWR WUE portal and fully intends to do so but wanted to reach out via email as an additional effort.

Thank you, Lea, for sharing this message with Director Karla Nemeth.

Regards,

**DANTE G. HALL**, ICMA-CM  
ASSISTANT CITY/DISTRICT MANAGER, ACTING PARKS AND RECREATION DIRECTOR, ACTING PUBLIC WORKS DIRECTOR  
CITY OF FOSTER CITY  
610 Foster City Blvd , Foster City, CA 94404  
Phone: 650.286.3214  
[dhall@fostercity.org](mailto:dhall@fostercity.org) | [www.fostercity.org](http://www.fostercity.org)

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RETURN THE ORIGINAL MESSAGE TO OUR OFFICE VIA THE UNITED STATES POSTAL SERVICE. 610  
FOSTER CITY BLVD. FOSTER CITY CA 94404 (650) 286-3200.



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(650) 292-9100 | Fax (650) 552-9012 | [Ekiconsult.com](http://Ekiconsult.com)