Public Review Draft May 2021

2020 Urban Water Management Plan

for City of East Palo Alto






CITY OF EAST PALO ALTO · INCORPORATED 1983 ·

eki environment & water

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ABBREVIATIONS

AB	Assembly Bill
ACWD	Alameda County Water District
AF	acre-feet
AFY	acre-feet per year
AWSP	Alternative Water Supply Planning Program
BAIRWMP	Bay Area Integrated Regional Water Management Plan
BARR	Bay Area Regional Reliability
BAWSCA	Bay Area Water Supply and Conservation Agency
BDPL	Bay Division Pipeline
BG	billions of gallons
BMP	best management practices
CCWD	Contra Costa Water District
Census	United States Census
CEQA	California Environmental Quality Act
CII	commercial, industrial, and institutional
CUWCC	California Urban Water Conservation Council
CWC	California Water Code
DBP	disinfection by-product
DDW	Division of Drinking Water
DMM	demand management measures
DOF	Department of Finance
DRT	Drought Response Tool
DSOD	California Department of Water Resources Division of Safety of Dams
DSS Model	Demand Management Decision Support System Model
DWR	Department of Water Resources
EBMUD	East Bay Municipal Utilities District
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EKI	EKI Environment & Water, Inc.
EPA	City of East Palo Alto
EPASD	East Palo Alto Sanitary District
ETo	reference evapotranspiration
GPCD	gallons per capita per day
ft	feet
FY	fiscal year
GPCD	gallons per capita per day
gpf	gallons per flush
gpm	gallons per minute
GRP	Groundwater Reliability Partnership
GSP	Groundwater Sustainability Plan
GSRP	Groundwater Storage and Recovery Project
Guidebook	*2020 Urban Water Management Plans Guidebook for Urban Water Suppliers*
GWMP	groundwater management plan
HET	High-Efficiency Toilet

HHLSM	Hetch Hetchy and Local Simulation Model
HTWTP	Harry Tracy Water Treatment Plant
IRR	irrigation
ISG	Individual Supply Guarantee
JPA	Joint Powers Authority
kWh	kilowatt-hour
LCSD	Lower Crystal Springs Dam
LOS	Level of Service
LVE	Los Vaqueros Reservoir Expansion
MCL	Maximum Contaminant Level
Methodologies	*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*
MFR	multi-family residential
MG	million gallons
MGD	million gallons per day
MID	Modesto Irrigation District
MMWD	Marin Municipal Water District
MPMW	Menlo Park Municipal Water
MWELO	Model Water Efficient Landscape Ordinance
PAPMWC	Palo Alto Park Mutual Water Company
PG&E	Pacific Gas & Energy
R-GPCD	residential gallons per capita per day
RUWMP	Regional Urban Water Management Plan
RWQCB	Regional Water Quality Control Board
RWQCP	Regional Water Quality Control Plant
RWS	Regional Water System
SB	Senate Bill
SCVWD	Santa Clara Valley Water District
SFPUC	San Francisco Public Utilities Commission
SFR	single family residential
SGMA	Sustainable Groundwater Management Act
SMP	Surface Mining Permit
Strategy	BAWSCA Long Term Reliable Water Supply Strategy
SVCW	Silicon Valley Clean Water
SVWTP	Sunol Valley Water Treatment Plant
SWAP	Shared Water Access Program
SWRCB	State Water Resources Control Board
Target	water use target
TDS	total dissolved solids
TID	Turlock Irrigation District
Title 22	California Code of Regulations, Title 22
TRVA	Tuolumne River Voluntary Agreement
UFW	unaccounted-for water
USD	Union Sanitary District

USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UV	ultraviolet
UWMP	Urban Water Management Plan
UWMP Act	Urban Water Management Planning Act
WBSD	West Bay Sanitary District
WCIP	Water Conservation Implementation Plan
WQD	Water Quality Division
WSA	Water Supply Assessment
WSCP	Water Shortage Contingency Plan
WSAP	Water Shortage Allocation Plan
WSIP	Water System Improvement Program
WWTP	wastewater 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 City of East Palo Alto (referred to herein as the City or East Palo Alto) serves water to the majority of the City of East Palo Alto, which is located along the San Francisco Bay in San Mateo County. The City's water system is operated as public-private partnership between the City and Veolia North America (Veolia). Other water purveyors within the City limits include the Palo Alto Park Mutual Water Company and the O'Connor Tract Co-operative Water Company. East Palo Alto delivers water to residential, commercial, industrial, and governmental customers. The City operates one groundwater well and purchases the remainder of its potable water supplies from the San Francisco Public Utilities Commission (SFPUC) Regional Water System (RWS). As of 2020, the City serves 4,058 connections within its service area.

This UWMP is a foundational document and source of information about the City's historical and projected water demands, water supplies, supply reliability and potential vulnerabilities, water shortage contingency planning, and demand management programs. Among other things, it is used 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, and
    - Statewide and broad regional water resource plans prepared by the California Department of Water Resources (DWR), the State Water Resources Control Board (SWRCB), or other state agencies.

The City's last UWMP was completed in 2016, referred to herein as the "2015 UMWP." This Plan is an update to the 2015 UWMP and carries forward information that remains current and 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 plans.

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).

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% 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% by 2020. Beginning in 2016, urban retail water suppliers were required to comply with the water conservation requirements in SB X7-7 in order 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, the City'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.

1.3 Relationship to Other Planning Efforts

This Plan provides information specific to water management and planning within the City'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 relevant 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 was prepared in close coordination with the City's Public Works and Planning departments and has been integrated with the City's planning efforts. As such, the City's 2020 UWMP has been developed to be consistent with the City's 2016 General Plan (City of East Palo Alto, 2016a) and subsequent documents. Information related to future land use changes and the associated water demand and supply impacts were integrated into the 2020 UWMP based on the General Plan Update (City of East Palo Alto, 2016a) — also referred to as "Vista 2035"— and the Water Supply Assessment (WSA) prepared in support of the General Plan Update (IRM, 2015).

Primary coordination was achieved through City staff's participation in two workshops (held on January 20 and April 13, 2021). At these workshops, key information regarding the 2020 UWMP content was presented, and City representatives were provided the opportunity to review, comment, and present additional information.

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, Submittal, and Implementation

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—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, the City's wholesale agency, has made a legal determination that this requirement does not apply to their water sources.[1]

1.6 Lay Description

☑ ***CWC § 10630.5***

Suppliers shall provide a simple lay description of their projected water use for the foreseeable future.

This Urban Water Management Plan (UWMP or Plan) is prepared for the City of East Palo Alto (City or East Palo Alto), which serves drinking water to a population of approximately 25,935. This UWMP serves as a foundational planning document and includes descriptions of historical and projected water demands, and water supplies and reliability over a more than 20-year planning horizon. This document also describes the actions the City is taking to promote water conservation, both by the City 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 the City are available on the California Department of Water Resources (DWR) Water Use Efficiency Data Portal website: https://wuedata.water.ca.gov/. This document includes ten 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

[1] 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]), the other Wholesale Customers, and the public.

Chapter 3 – System Description

This chapter provides a description of the City's water system and the service area, including information related to the climate, demographics, and the water distribution system. The City supplies water to the majority of customers in the incorporated City boundaries. The City is located in San Mateo County and serves a population of approximately 25,935. As with many Bay Area cities, there is very little undeveloped land in the City for new developments or parks, and therefore new housing and jobs must come from redevelopment, infill, densification, or adaptive building reuse. Planned development is described in the City's General Plan Update and the associated Water Supply Assessment (WSA). The densities of new developments are expected to be higher than the existing land uses they replace, which drives the population and employment growth projections. Population in the City is projected to increase at an annual rate of 1% and employment is projected to increase at an annual rate of 10%.

The City distributes water purchased from the SFPUC Regional Water System (RWS) to its one pressure zone via three SFPUC service connections (turnouts). The City operates one groundwater well for potable water use and maintains three interties with adjacent water systems.

The City's service area is located within a region characterized by a Mediterranean climate with cool, wet winters and warm, dry summers. The majority of precipitation falls during late autumn, winter, and spring, averaging 15.2 inches of rainfall annually.

Chapter 4 – Water Use Characterization

This chapter provides a description of and quantifies the City's current and projected demands through the year 2045. The City provides drinking water (also referred to as "potable water") to customers. Water demands refer not only to the water used by customers but also includes the water used as part of the system maintenance and operation, as well as unavoidable losses inherent in the operation of a water distribution system. Water demand within the City was 552 million gallons (MG) per year on average between 2016 and 2020.

Taking into account historical water use, expected population increase and other growth, climatic variability, and other assumptions, water demand within the City is projected to increase to 1,078 MG by 2045, a projected increase of 89% compared to the water demand of 572 MG in 2020.

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

In this chapter, the City 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% reduction in urban per capita water use by December 31, 2020. In order to achieve this, each urban retail water supplier was required to establish water use targets for 2015 and 2020 using methodologies established by DWR. The City is in compliance with its 2020 water use target of 124 gallons per capita per day (GPCD), having reduced its water use in 2020 to 60 GPCD.

Chapter 6 – Water Supply Characterization

This chapter presents an analysis of the City'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 the City's water

supplies, estimate the volume of available supplies over the UWMP planning horizon, and assess the sufficiency of the City's supplies to meet projected demands under "normal" hydrologic conditions.

The City gets its water supply from two sources: (1) purchased water from the SFPUC RWS and (2) one groundwater well. The City's contractual allocation of SFPUC supplies (known as its Individual Supply Guarantee [ISG]) is 3.46 million gallons per day (MGD), or approximately 1,264 MG per year. During normal years, the City expects to produce 7 MG per year from groundwater.

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. The City distribution system is pressurized by the SFPUC RWS and thus does not use any energy to treat or distribute water from SFPUC. Additionally, the City did not operate its groundwater well between 2015 and 2020.

Chapter 7 – Water Service Reliability and Drought Risk Assessment

This chapter assesses the reliability of the City'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 the City's supply (such as drought conditions) to support the City's planning efforts to ensure that its customers are well served. Water service reliability is assessed during normal, single dry-year, and multiple dry-year hydrologic conditions.

Based on this analysis, the City expects the available supplies to be sufficient to meet projected demands in normal years. However, significant shortfalls are projected in dry year conditions, which if realized would require the City to enact its Water Shortage Contingency Plan. Numerous uncertainties exist in the assumptions that drive the projected dry year shortage estimates, and the City 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 introduces the Water Shortage Contingency Plan (WSCP) for the City, which serves as a standalone document (see Appendix K) 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 up to 10% to greater than 50% shortage.

Chapter 9 – Demand Management Measures

This chapter includes descriptions of past and ongoing conservation programs offered by the City. These conservation programs and policies address 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. Additionally, the City participates in water conservation programs offered by BAWSCA.

Chapter 10 – Plan Adoption, Submittal, and Implementation

This chapter provides information on a public hearing, the adoption process for the UWMP and the WSCP, the submittal process, plan implementation, and the process for amending the adopted UWMP and WSCP. Prior to adopting the Plans, the City held a public hearing for adoption of the 2020 UWMP and WSCP on June 1, 2021, 6:30 PM. This UWMP and WSCP was submitted to DWR within 30 days of adoption and by the July 1, 2021 deadline.

2. PLAN PREPARATION

This chapter discusses the type of Urban Water Management Plan (UWMP or Plan) the City of East Palo Alto (City or East Palo Alto) 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 Compliance with the UWMP Act, Including Changes Since 2015

☑ ***CWC § 10620 (b)***

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

The City's 2020 UWMP has been prepared in accordance with the Urban Water Plan Act (UWMP Act), which is defined by the California Water Code (CWC) §10610 - §10657. The UWMP Act requires every urban water supplier that provides water for municipal purposes to more than 3,000 connections or supplies more than 3,000 acre-feet (AF) of water annually, to adopt and submit a plan every five years to the California Department of Water Resources (DWR). Table 2-1 provides information on the City's public water system which services 4,058 connections within its service area and is therefore subject to the requirements of the UWMP Act.

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
4110024	City of East Palo Alto	4,058	572
	TOTAL	4,058	572
NOTES: (a) 572 MG is approximately equal to 1,756 acre-feet.			

As indicated in Table 2-2, the City's 2020 UWMP is an individual plan. It has been prepared in general accordance with the format suggested in DWR's UWMP Guidebook (Guidebook; DWR, 2021). Text from the UWMP Act has been included in grey boxes at beginning of relevant sections of this UWMP. The information presented in the respective UWMP sections 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 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. To the extent applicable, text and tables in the main body of the UWMP document have been cross-referenced to the companion DWR tables.

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

Select Only One	Type of Plan		Name of RUWMP or Regional Alliance *if applicable*
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:			

2.2 Coordination and Outreach

As described below and in Chapter 10, this UWMP has been prepared in coordination with the Bay Area Water Supply and Conservation Agency (BAWSCA), the BAWSCA member agencies (i.e., the Wholesale customers), the San Francisco Public Utilities Commission (SFPUC), the public, and other appropriate entities.

2.2.1 Role of BAWSCA and the UWMP Common Language

Among its other functions, BAWSCA represents the City 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;
- Making Conservation a Way of California Life Strategic Plan
- Tier One Drought Allocations;
- Tier Two Drought Allocations;
- SFPUC Regional Water System
- Individual Supply Guarantees (ISGs);
- 2028 SFPUC Decisions (formerly 2018 SFPUC Decisions);
- Reliability of the Regional Water System;
- Climate Change;

- SFPUC's Efforts to Develop Alternative Water Supplies
- SFPUC's Decision to use Bay-Delta Plan Scenario in UWMP Submittal Tables;
- Bay Delta Plan Implementation Starting Year;
- SFPUC's Decision to Present Both Modeling Results in its UWMP;
- Rate Impacts of Water Shortages; and
- BAWSCA Conservation Programs.

For clarification purposes, and as shown below, the common language provided by BAWSCA is shown in grey font and has been indented for emphasis; it is otherwise presented unchanged from the original text provide by BAWSCA. 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.

2.2.2 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 East Palo Alto. As part of the coordination effort for the 2020 UWMP, and in compliance

with CWC §10631(h), the City supplied BAWSCA with its water demand projections through 2045 for transmittal to the SFPUC.[2]

Additionally, as described in more detail in Chapter 7, the City 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 2-3).[3]

Table 2-3 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 CWC 10631.
Wholesale Water Supplier Name
San Francisco Public Utilities Commission
NOTES:

2.2.3 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.

As a member of BAWSCA and the BAWSCA Water Management Representative Committee, the City has coordinated closely with BAWSCA and its 25 other member agencies throughout the update of the City's UWMP. Between February 12, 2021 and April 9, 2021, City staff representatives attended a series of five webinar 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 supply allocations described in Chapter 7. Representatives for the City also attend 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 City has also coordinated with the wastewater agencies serving the City's service area, the East Palo Alto Sanitary District (EPASD) and the West Bay Sanitary District (WBSD), in the preparation of this Plan.

[2] Email to BAWSCA, dated April 1, 2021

[3] Email from BAWSCA dated January 25, 2021, and information provided by the SFPUC, Appendix G.

This coordination included, among other things, the provision of data regarding the volume of wastewater collected within the City's service area.

In addition, on February 4, 2021 and March 12, 2021, the City notified local and regional water retailers and public agencies of the City's intent to prepare this 2020 UWMP (and the associated Water Shortage Contingency Plan; WSCP), and the associated public hearing (Table 2-4). A sample copy of the notice is provided in Appendix B.

Table 2-4 Notification to Cities and Counties (DWR Table 10-1)

City Name	60 Day Notice	Notice of Public Hearing	Provided Comments
Alameda County Water District	☑	☑	
Bay Area Water Supply and Conservation Agency	☑	☑	
City of Brisbane	☑	☑	
City of Burlingame	☑	☑	
City of Daly City	☑	☑	
City of Foster City	☑	☑	
City of Hayward	☑	☑	
City of Menlo Park	☑	☑	
City of Millbrae	☑	☑	
City of Milpitas	☑	☑	
City of Mountain View	☑	☑	
City of Palo Alto	☑	☑	
City of Redwood City	☑	☑	
City of San Bruno	☑	☑	
City of Santa Clara	☑	☑	
City of Sunnyvale	☑	☑	

Agency Name	60 Day Notice	Notice of Public Hearing	Provided Comments
California Water Service	☑	☑	
Coastside County Water District	☑	☑	
East Bay Municipal Utility District	☑	☑	
Mid-Peninsula Water District	☑	☑	
North Coast County Water District	☑	☑	
O'Connor Tract Cooperative Water Company	☑	☑	
Palo Alto Park Mutual Water Company.	☑	☑	
Purissima Hills Water District	☑	☑	
San Francisco Public Utilities Commission	☑	☑	
San Jose Municipal Water System	☑	☑	
County of San Mateo	☑	☑	
Stanford University	☑	☑	
Town of Hillsborough	☑	☑	
Westborough Water District	☑	☑	
NOTES: This list includes cities that the City of East Palo Alto chose to notify, not the cities that the City of East Palo was required to notify.			

2.2.4 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 and WSCP. The UWMP Act also requires water suppliers to make a draft of the plans available for public review and to hold a public hearing regarding the findings of the UWMP and WSCP prior to adoption. In addition to sending notices to the various agencies listed in Table 2-4, the City also included a public notice in the local newspaper notifying the public of the City's intent to prepare its UWMP and WSCP. Drafts of the Plans were made available for public inspection at the City of East Palo Alto's City Hall and Central Public Library. The Public Review Draft 2020 UWMP and WSCP was made available on the City's website on May 28, 2021 (https://www.cityofepa.org/publicworks/project/urban-water-management-plan-update-2020).

On June 1, 2021 and June 8, 2021, the City published a notice in the *San Mateo County Times* daily newspaper informing the public that the 2020 UWMP and WSCP would be available for public review at the above mentioned locations, consistent with requirements of California Government Code 6066.[4] The notice also informed the public that the 2020 UWMP and WSCP public hearing would be held via video conference meeting on June 15, 2021. Copies of the newspaper notices are included in Appendix C.

[4] 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.

2.3 UWMP Structure, Standard Units, and Basis for Reporting

Per CWC §10644(a)(2), selected information for the 2020 UWMP updates must be presented in standardized tables for electronic submittal to DWR. As such, tables in the UWMP document follows DWR required format and have been cross-referenced to DWR table numbers.

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.

As shown in Table 2-5, the City is a retailer. The information presented in this UWMP is reported on a fiscal year basis. As such, "2020" refers to Fiscal Year 2019-20, and so forth. The units of measure for reporting water volumes is million gallons (MG) and is maintained consistently throughout the Plan, unless otherwise noted (Table 2-5).

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

Table 2-5 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:	

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.

The City of East Palo Alto's (City or East Palo Alto) water system is operated as a public-private partnership between the City and Veolia North America (Veolia). The City serves the majority of the City of East Palo Alto, which is located along San Francisco Bay in San Mateo County, between the cities of Menlo Park and Palo Alto (Figure 3-1). Other purveyors within City limits include: (1) the Palo Alto Park Mutual Water Company, which serves customers within the western portion of the City using five groundwater production wells located within the City, and (2) the O'Connor Tract Co-operative Water Company, which serves the southwestern portion of the City using two groundwater production wells located in the City of Menlo Park. Figure 3-2 shows the City's service area and the approximate service area extents of the other water purveyors within the City. This UWMP is only for the City's water service area.

The City is a member of Bay Area Water Supply and Conservation Agency (BAWSCA) and gets its water supply from two sources: (1) purchased water from the San Francisco Public Utilities Commission (SFPUC) Regional Water System (RWS) and 2) one groundwater well. A major portion of the City's water system was formerly operated by the County of San Mateo under the name East Palo Alto County Waterworks District. The City of East Palo Alto assumed operation of the water distribution system from the County of San Mateo in 2001. Currently, Veolia manages the distribution, operation, and maintenance of the municipal water system on behalf of, and under contract with, the City.

As required by the Urban Water Management Planning Act (UWMP Act), specific information about the City service area, population, and climate is provided below.

3.1 Population and Employment Trends Within the Service Area

3.1.1 Historical and Projected Population

Historical and projected population data from 2000 through 2045 within the City's service area are shown in Table 3-1 and the associated chart. Consistent with DWR requirements, the historical and current population served by the City has been estimated herein using United States Census Bureau data and the DWR Population Tool as documented in Section 5.1 [[2020 Population to be confirmed]].

The City's service area is largely built-out and population growth is attributed primarily to redevelopment and infill projects within the existing urban footprint. The population projections presented in Table 3-1

are consistent with the General Plan Update and associated WSA (City of East Palo Alto, 2016a and IRM, 2015). The City-wide population projected in the General Plan Update was adjusted, based on 2010 Census data, to reflect the portion of this population that is included the City's service area.

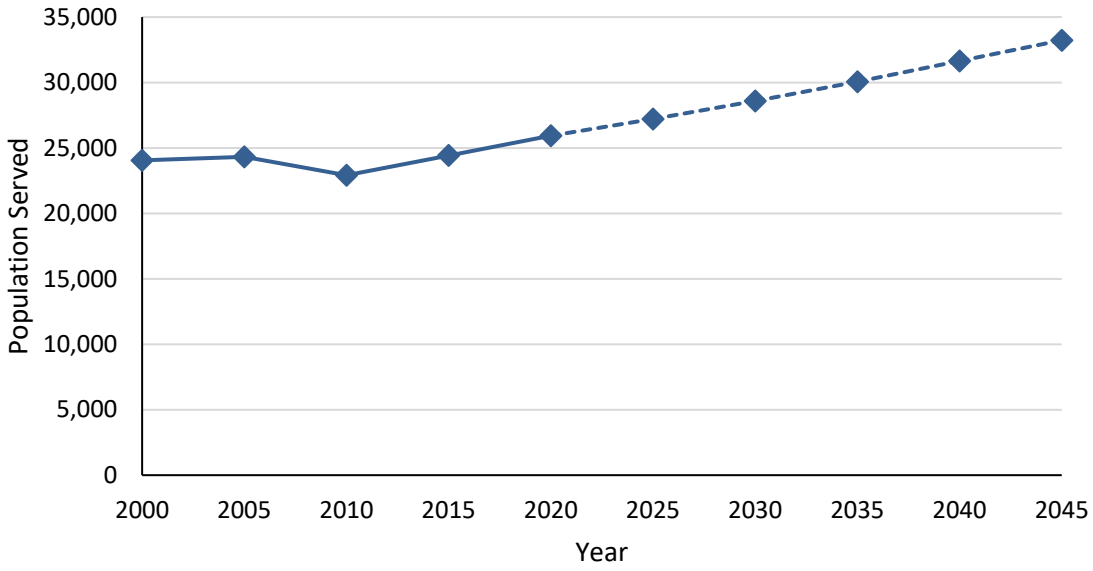
The total projected population within the City's service area is expected to be 33,230 by 2045, which is equivalent to an increase of 28% relative to the 2020 population of 25,935 or an average annual increase of 1%.

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

Population Served	2020	2025	2030	2035	2040	2045
	25,935	27,215	28,589	30,062	31,646	33,230

NOTES:
(a) Projected population growth based on City's General Plan (City of East Palo Alto, 2016a) and its associated WSA (IRM, 2015).

Chart 3-1 Current and Projected Population



3.1.2 Future Employment Growth

Current and projected employment data from 2020 through 2045 within the City's service area are presented in Table 3-2 and the associated chart. Future population and employment projections are consistent with the City's General Plan and associated WSA (City of East Palo Alto, 2016a and IRM, 2015).

The City also supplies water to its commercial, industrial, and institutional (CII) customers, which were collectively estimated to provide 3,407 jobs within the City's service area in 2020 (IRM, 2015). The City is anticipating significant commercial growth over the forecast timeframe, with the number of jobs within the City's service area projected to increase by 246% to 11,779 in 2045, with an average annual increase

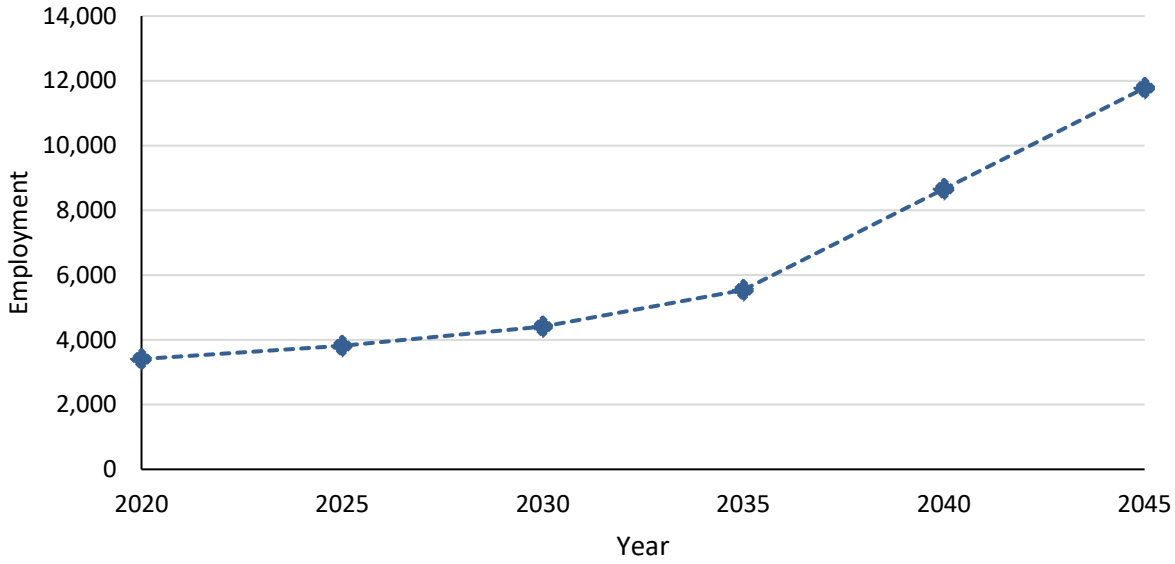
of 10% (Table 3-2). Employment is projected to increase at a steady rate from 2020 to 2030, with a large increase in jobs occurring between 2030 and 2040.

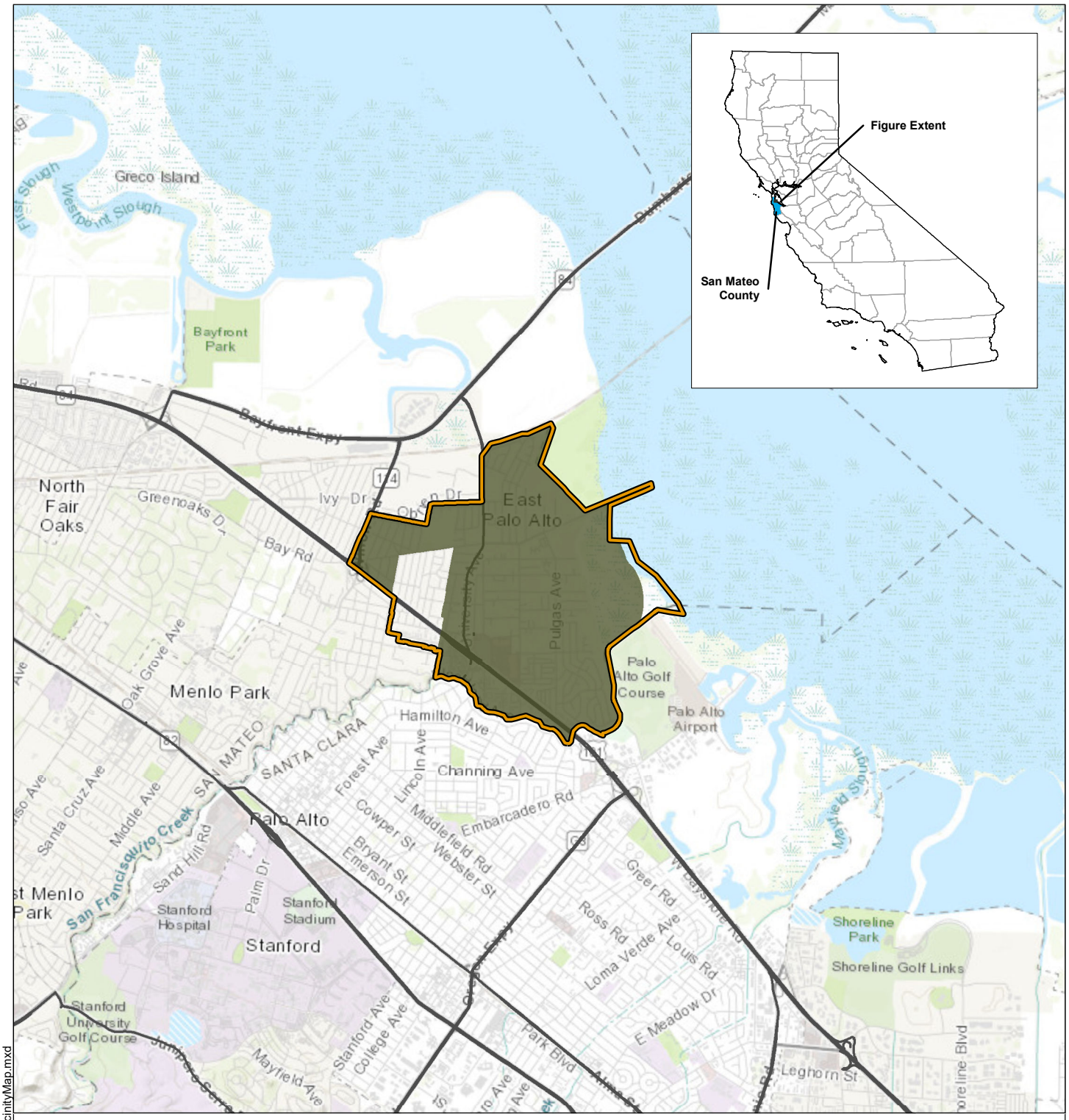
Table 3-2 Employment - Current and Projected

Service Area Employment	2020	2025	2030	2035	2040	2045
	3,407	3,815	4,409	5,539	8,659	11,779

NOTES:
(a) Projected employment growth from City's General Plan (City of East Palo Alto, 2016a) and its associated WSA (IRM, 2015).

Chart 3-2 Current and Projected Employment





Legend

- East Palo Alto City Limit
- East Palo Alto Service Area

N

0 1 2

Miles

Notes

1. All locations are approximate.

Sources

Topographic base map provided by ArcGIS Online

Regional Vicinity Map

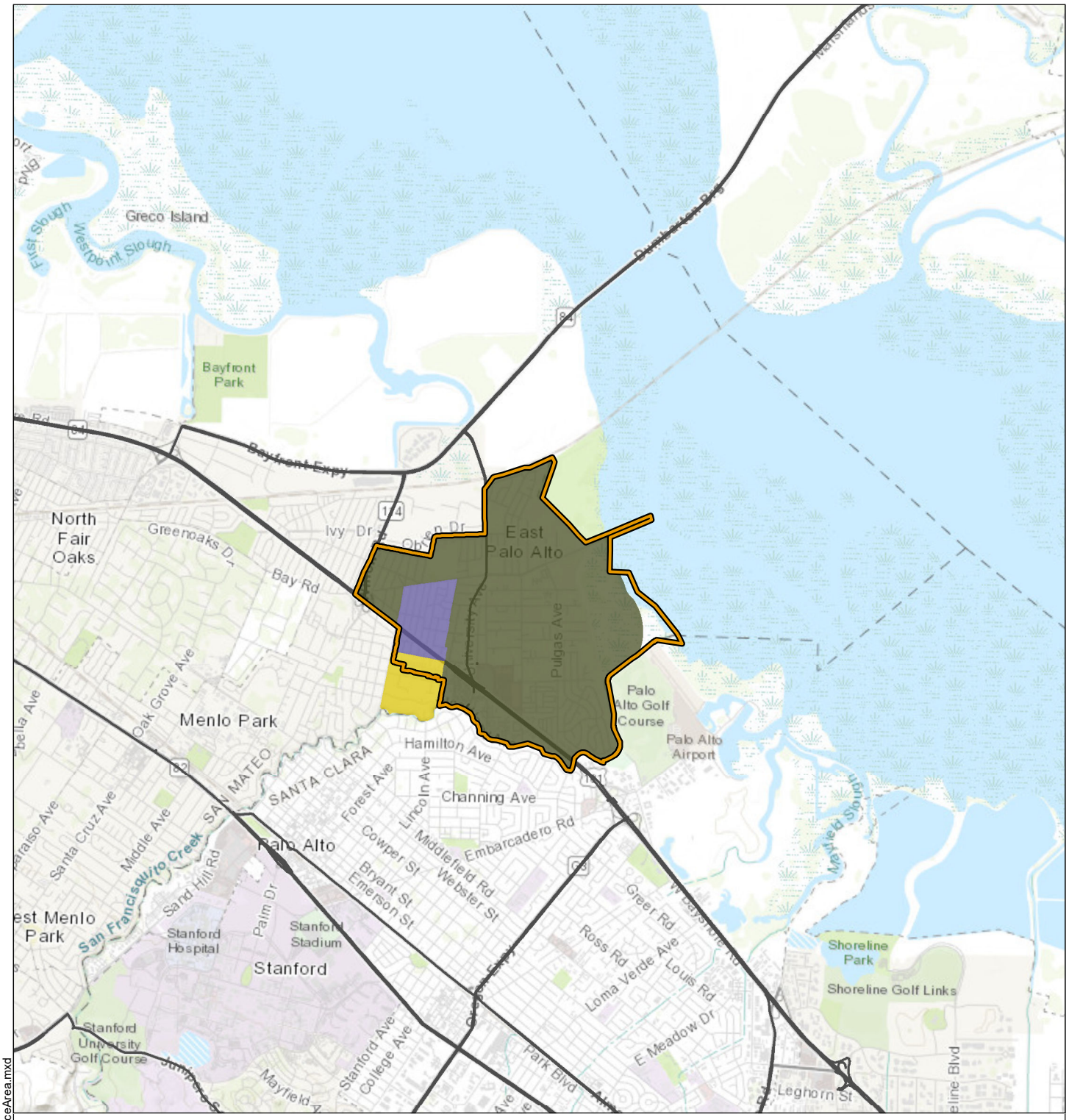
DRAFT

City of East Palo Alto
2020 Urban Water Management Plan
East Palo Alto, CA
May 2021
EKI C00118.00

Figure 3-1

eki environment & water

Path: X:\C00118\Maps\2021\05\Fig3-1_EastPaloAlto_RegionalVicinityMap.mxd



Legend

East Palo Alto City Limit

Service Areas

- City of East Palo Alto
- Palo Alto Park Mutual Water Company
- O'Connor Tract Co-operative Water Company

Notes

1. All locations are approximate.
2. Service area data were provided by City of East Palo Alto on 12 April 2016.

Sources

Topographic base map provided by ArcGIS Online

N

0 1 2

Miles

Water Service Area

DRAFT

City of East Palo Alto
2020 Urban Water Management Plan
East Palo Alto, CA
May 2021
EKI C00118.00

Figure 3-2

eki environment & water

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3.1.3 Other Social, Economic, and Demographic Factors

Demographics for the City are summarized in Table 3-3. The same data are also provided for the state of California as a whole and for San Mateo County and were obtained from the U.S. Census Bureau QuickFacts website (U.S. Census, 2021). Relative to the rest of San Mateo County and California, the City is racially diverse, with less than half of the population identifying as White and with a large percentage of the population identifying as Hispanic or Latino. Educational attainment and median household income in the City are lower than for the County and state as a whole.

Table 3-3 Demographic and Housing Characteristics

Demographics (a)	City of East Palo Alto	San Mateo County	California
Age and Sex			
Persons under 5 years	7.6%	5.5%	6.0%
Persons under 18 years	28%	20%	23%
Persons 65 years and older	17%	6.9%	15%
Female persons	49%	51%	50%
Race and Hispanic Origin			
White alone	35%	60%	72%
Black or African American alone	12%	2.8%	6.5%
American Indian and Alaska Native alone	1.4%	0.9%	1.6%
Asian alone	5.0%	31%	16%
Native Hawaiian and Other Pacific Islander alone	4.6%	1.5%	0.50%
Two or More Races	4.3%	4.8%	4.0%
Hispanic or Latino	66%	24%	39%
White alone, not Hispanic or Latino	10%	39%	37%
Families & Living Arrangements			
Persons per household	3.81	2.87	2.95
Living in same house 1 year ago, percent of persons age 1 year+	89%	88%	87%
Language other than English spoken at home, age 5 years+	70%	46%	44%
Education			
High school graduate or higher, persons age 25 years+	66%	90%	83%
Bachelor's degree or higher, persons age 25 years+	21%	51%	34%
Income & Poverty			
Median Household Income (2019 dollars)	$67,087	$122,641	$75,235
Per capita income in past 12 months (2019 dollars)	$27,703	$61,545	$36,955
Persons in poverty	13.5%	6.1%	12%

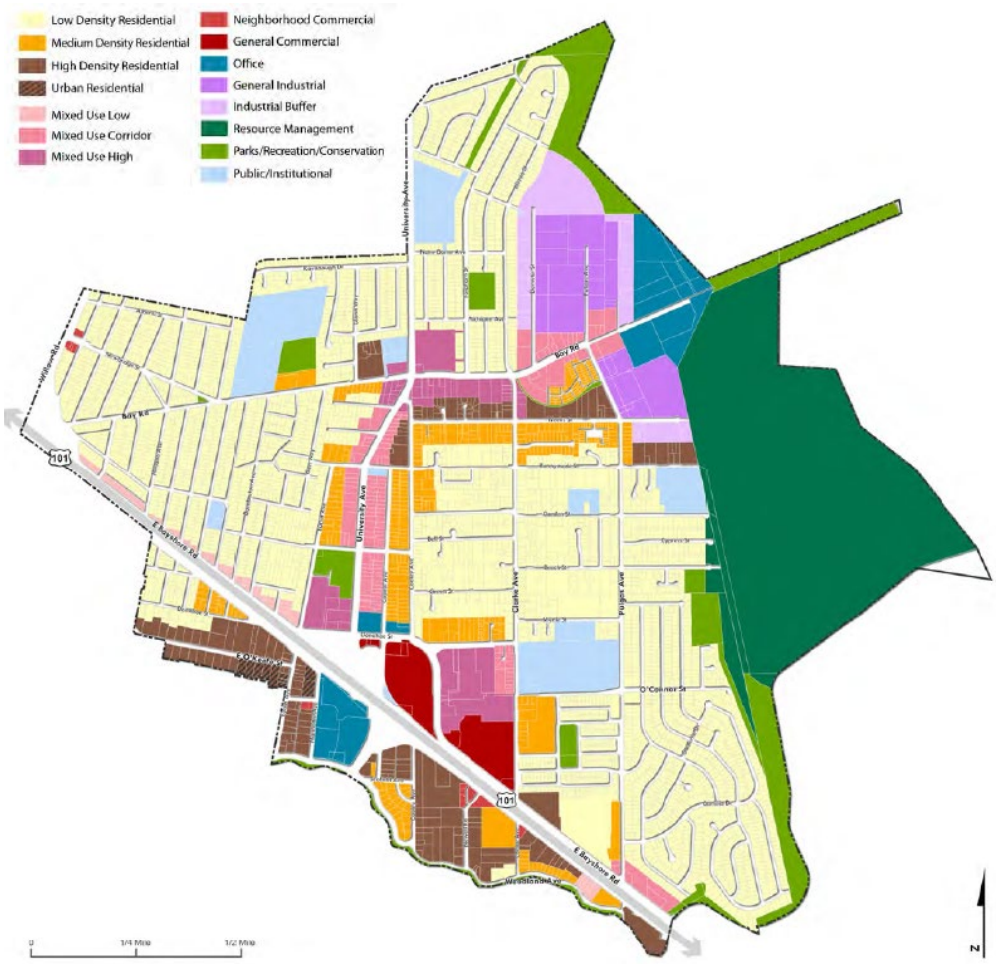
NOTES:
(a) Demographic data per the U.S. Census Bureau QuickFacts website (U.S. Census, 2021).

3.2 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). In 2012, the City began to engage the community and refine the City's vision through an update to the General Plan. The General Plan Update (City of East Palo Alto, 2016a) was adopted October 2016. The General Plan Update provides the foundation for establishing goals, purposes, zoning, and activities allowed on each land parcel. Figure 3-3 illustrates the planned distribution of land uses throughout the service area.

The City is mostly built out with the exception of open space and marshlands and vacant land in the Ravenswood industrial area. The densities of new developments are expected to be higher than the existing land uses they replace, which drives the population and employment growth projections presented in Section 3.1. Of the developed areas, residential uses are the most common land use in the City. As described in the General Plan Update, the majority of the City's land use is residential (50%), while the remaining 50% is split among other uses, notably CII (20%), Parks and Recreation (2%), Vacant (9%) and Bayland and Marshland (19%).

Figure 3-3 General Plan Land Use Designations



Source: City of East Palo Alto, 2016a

3.3 Climate

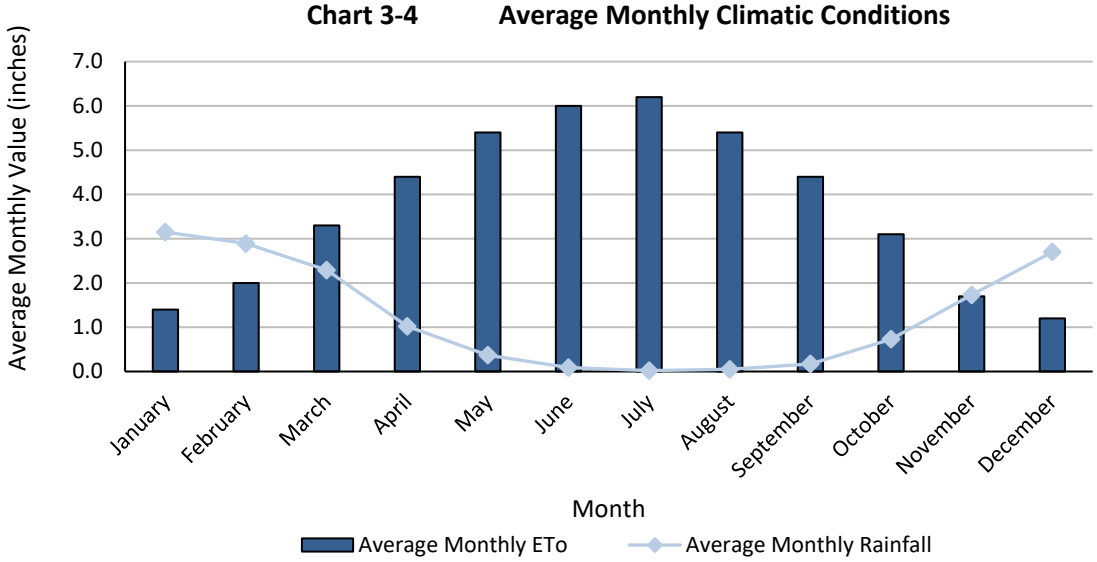
The City's service area is located within a region characterized by a Mediterranean climate with cool, wet winters and warm, dry summers. As shown in Table 3-4 and the associated chart, rainfall in the area averages 15.2 inches per year and is generally confined to the wet season from late October to early May. The average reference evapotranspiration (ETo) for the region is 44 inches per year. The ETo is a standard measurement related to the water demand by plants in a specific region. Because the average annual ETo is approximately 30 inches more than the average annual precipitation, and because 90% 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. Although there is limited landscaping in the City's service area, the City does experience seasonal peaks in demand that are attributable to irrigation.

Table 3-4 Average Monthly Climate Characteristics

Month	Average Temperature		Standard Average Eto (inches)	Average Rainfall (inches)
	Min (°F)	Max (°F)		
January	38.5	57.4	1.4	3.15
February	41.3	61.1	2.0	2.89
March	43.1	64.2	3.3	2.29
April	44.7	68.4	4.4	1.02
May	48.5	72.9	5.4	0.37
June	52.5	77.4	6.0	0.09
July	54.9	78.4	6.2	0.02
August	54.8	78.4	5.4	0.05
September	52.6	78.3	4.4	0.17
October	48.0	73.0	3.1	0.73
November	42.6	64.3	1.7	1.73
December	38.2	57.8	1.2	2.70
Annual	**46.6**	**69.3**	**44**	**15.2**

NOTES:
(a) Temperature and precipitation data are from the Western Regional Climate Center for Station #046646 PALO ALTO from 1 September 1953 to 4 June 2016.
(b) Reference evapotranspiration data for Union City station #171 are from the Department of Water Resources, California Irrigation Management Information System.

Chart 3-4 Average Monthly Climatic Conditions



3.3.1 Climate Change Considerations

Projections of climate change in California indicate a further intensification of wet and dry extremes and shifting temperature. 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.

The Sea Level Rise Vulnerability Assessment completed in 2018 (San Mateo County, 2018) is the first step of the Sea Change San Mateo County Initiative and provides an overview of the risk within the County from current and future flooding. The assessment identified built and natural assets in the 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 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 9 of this Plan, the City has established robust water conservation programs to increase drought resiliency. The City continues to plan for future water needs and to enhance the resiliency of its water system.

3.4 Water Distribution System

The City's water distribution system and current and planned groundwater production wells are described in the following sections.

3.4.1 Distribution System

The City obtains SFPUC Regional Water System (RWS) water through three turnouts off SFPUC Bay Division Pipelines 1 and 2. The turnouts are located on the aqueduct near Willow Road, O'Brien Drive, and University Avenue. Treated water is supplied from the SFPUC RWS within one pressure zone. Pressure-regulating valves at each turnout reduce the pressure as it enters the distribution system. From the turnouts, water flows through the City's distribution system, which includes a network of 1½-inch to 12-inch diameter pipes.

The City currently has three metered interties with other water systems: two one-way interties with Palo Alto Park Mutual Water Company and O'Connor Tract Co-operative Water Company and one intertie with the City of Menlo Park[5]. The City previously had an intertie with the City of Palo Alto and is exploring the option of constructing an intertie in the future. There is currently no storage within the City's water distribution system.

3.4.2 Groundwater Wells

The City currently owns and operates one groundwater well located at the intersection of Gloria Way and Bay Road. The "Gloria Way Well" was constructed by the East Palo Alto County Water District in 1981. Use of the well for potable purposes ceased shortly thereafter due to customer complaints related to elevated concentrations of manganese. In 2018, the City completed construction of an iron and manganese treatment facility at the Gloria Way Well so it could be used as a potable water source. Since completion, the City has only used the well intermittently but plans to operate it on a more regular basis in the future.

As described in more detail in Section 6.2, the City is currently working on installing an emergency potable water supply well at the Pad D site at the corner of Clarke Road and East Bayshore Drive (i.e., the "Pad D Well").

[5] The City has seven additional interties with Menlo Park, however they are unmetered and currently valved off.

4. WATER USE CHARACTERIZATION

☑ ***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).*

For the purposes of this Urban Water Management Plan (UWMP or Plan), potable water demand is defined as the volume of potable water that the City of East Palo Alto (City or East Palo Alto) purchases from the San Francisco Public Utilities Commission (SFPUC) Regional Water System (RWS) or produces from its well. Among other things, water demand is dependent on climate, population, industry, and the types of development present in a community. Sections 4.1 and 4.2 describe the historical and projected water demands for the residential, commercial, industrial, and institutional sectors within the City service area (as described per California Water Code [CWC] §10631(d)(1)(A) though (E) and (J)). As described in Section 4.3, this discussion does not include demands for sales to other agencies, saline water intrusion barriers, and agricultural sectors (CWC §10631(d)(1) water use sectors (F) through (I)) as they are not applicable or present within the City service area.

4.1 Historic and Current Total Water Demand

All demands within the City service area are currently met with potable water. The current and historical total water demands include the water consumed by metered accounts in the service area (metered water consumption) and the water that is lost within the distribution system or otherwise unaccounted for (i.e., losses).

Table 4-1 and the associated charts show the City's potable water demand and per capita water use between 2010 and 2020. Before the 2013-2016 drought, the City's per capital potable water use was about 80 gallons per capita per day (GPCD). The drought then caused local and state agencies (i.e., the

State Water Resources Control Board [SWRCB][6]) to issue mandatory water use restrictions which led to a significant decline in water use. The City saw a 28.8% reduction between 2013 and 2016 for the compliance period of June through December.[7] Water demand in 2016 was at a ten-year low between 2010 and 2020. Since 2016, water use rebounded slightly to 60 GPCD, but has not returned to pre-drought water use levels.

Overall, the City's per capita water use is significantly lower than the average per capita water use across all Bay Area Water Supply and Conservation Agency (BAWSCA) agencies and throughout the state.

[6] On July 28, 2014, the SWRCB adopted emergency regulations to mandate water agencies, including East Palo Alto, to implement their Water Shortage Contingency Plan and minimum actions to reduce outdoor water use. On May 5, 2015, SWRCB adopted Resolution 2015-0032 to mandate further minimum actions by water suppliers and their customers to reduce potable water use into 2016 and assigns a mandatory water conservation savings goal to each water supplier based on their residential water use. On February 2, 2016, the SWRCB voted to extend the reduction targets through October 2016. East Palo Alto has a SWRCB-mandated reduction target of 16%.

[7] SWRCB, Water Conservation Portal - Conservation Reporting; June 2015 - December 2015 Cumulative Savings and Urban Water Supplier Conservation Compliance Dataset and June 2014 - December 2015 Urban Water Supplier Report Dataset:

http://www.waterboards.ca.gov/water_issues/programs/conservation_portal/conservation_reporting.shtml

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	630	22,916	75
2011	646	22,991	77
2012	679	23,170	80
2013	756	23,465	88
2014	607	23,562	71
2015	573	24,424	64
2016	514	24,726	57
2017	550	25,028	60
2018	566	25,331	61
2019	556	25,633	59
2020	572	25,935	60

NOTES:

(a) Unless otherwise noted, volumes are in units of MG.
(b) Detailed historical and current water demand data from 2010 through 2020 are documented in Table 4-1. Demands are based on purchases from SFPUC, on a fiscal year basis.
(c) Service area population data from 2010 through 2015 are estimated from the City's 2015 UWMP. Service area population in 2020 is detailed in Table 3-1. Service area population between 2015 and 2020 are estimated to be linearly interpolated.
(d) Per capita potable water demand is calculated by dividing the total annual potable water demand by the service area population and the number of days in a year.

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

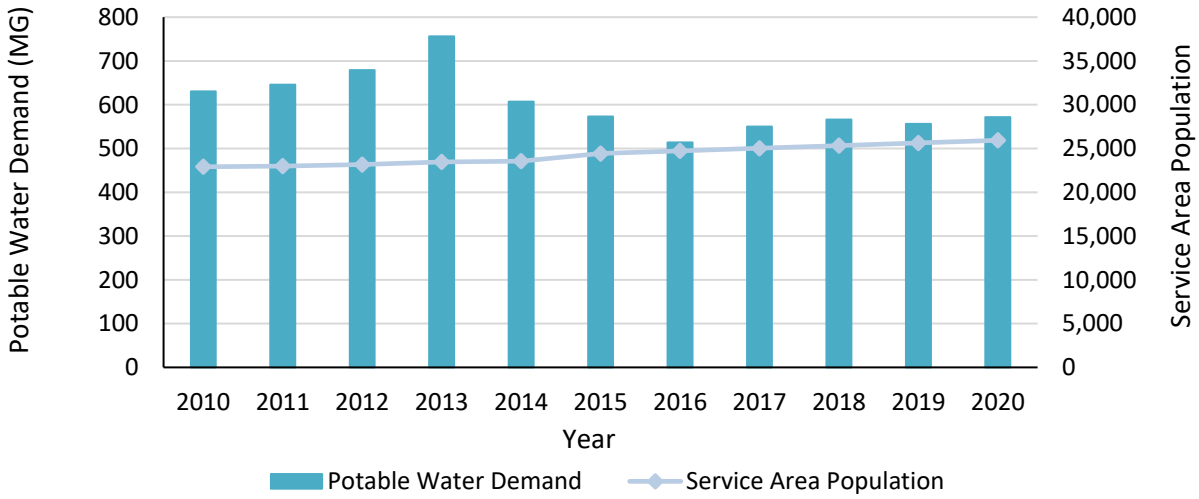
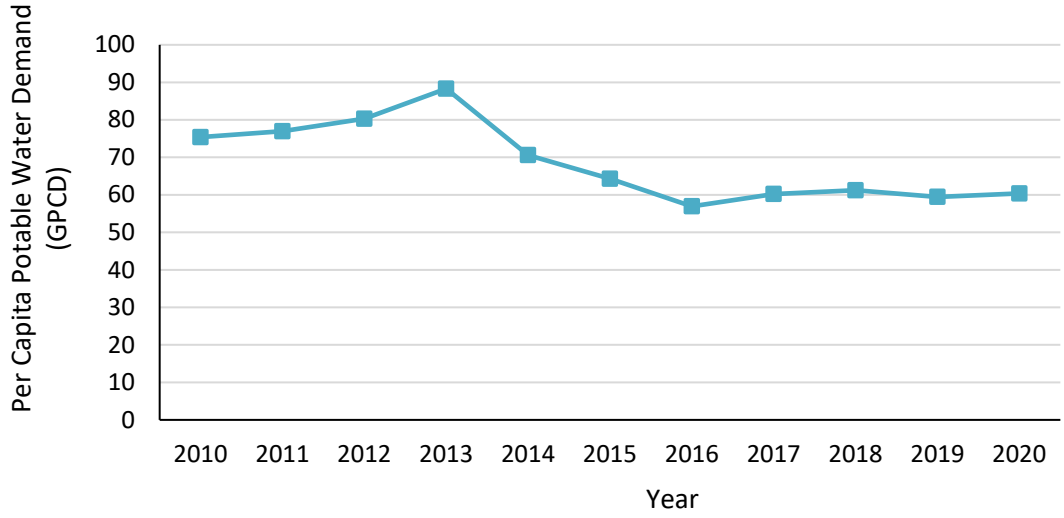


Chart 4-1B Historical and Current Per Capita Potable Water Use



4.1.1 Current and Historical Potable Water Demand

Potable water demand within the City's service area is measured using water meters that are installed at each customer account. Records of current and historical water use at each account are maintained by Veolia North America (Veolia). Water demand within the City's service area is tracked and reported on a monthly basis for the following sectors:

- Residential: Combined Single Family and Multi-Family meters.
- Commercial: Includes commercial customers.
- Industrial: Includes industrial customers.
- Institutional/Governmental: Includes meters serving City sites and other institutional meters; and
- Other: Includes fire services and temporary meters for construction.

As shown in Table 4-2 and associated charts, the residential sector accounted for an average of approximately 71% of the potable water demand in the City's service area between 2016 and 2020. The City's commercial, industrial, and institutional (CII) accounts accounted for approximately 20% of potable water demand for the 2016-2020 period. The commercial sector accounted for most of the City's CII demand (18%), while the industrial and institutional/governmental sectors each accounted for approximately 1% of the total water demand. Since irrigation demand is not tracked as a separate water demand sector, water that is used for irrigation is embedded in the residential and CII water demands presented in Table 4-2. Section 4.7 estimates indoor and outdoor water use in the context of compliance with forthcoming urban water use objectives.

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

Use Type	Additional Description *(as needed)*	Level of Treatment When Delivered	Volume				
			2016	2017	2018	2019	2020
Single Family		Drinking Water	460	374	369	366	400
Commercial		Drinking Water	51	89	96	157	98
Industrial		Drinking Water	0	6	6	5	5
Institutional/Governmental		Drinking Water	0	7	7	11	10
Losses		Drinking Water	3	73	84	16	58
Other	Fire Service	Drinking Water	0	1	0	0	1
Other	Portable	Drinking Water	0	0	4	1	0
		TOTAL	514	550	566	556	572

NOTES:
(a) Volumes are in units MG.
(b) Single-family demand includes total residential water demand. The City's projected water demands do not specify demands between single-family and multi-family.
(c) Water demand was provided through various City records. Water demand for FY 16, 17, and 18 was recorded in the DSS Model and water demand for FY19, and 20 were provided by Veolia.
(d) Losses are estimated as the difference between total demand and metered consumption, and thus includes unmetered water consumption and distribution system water losses.

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

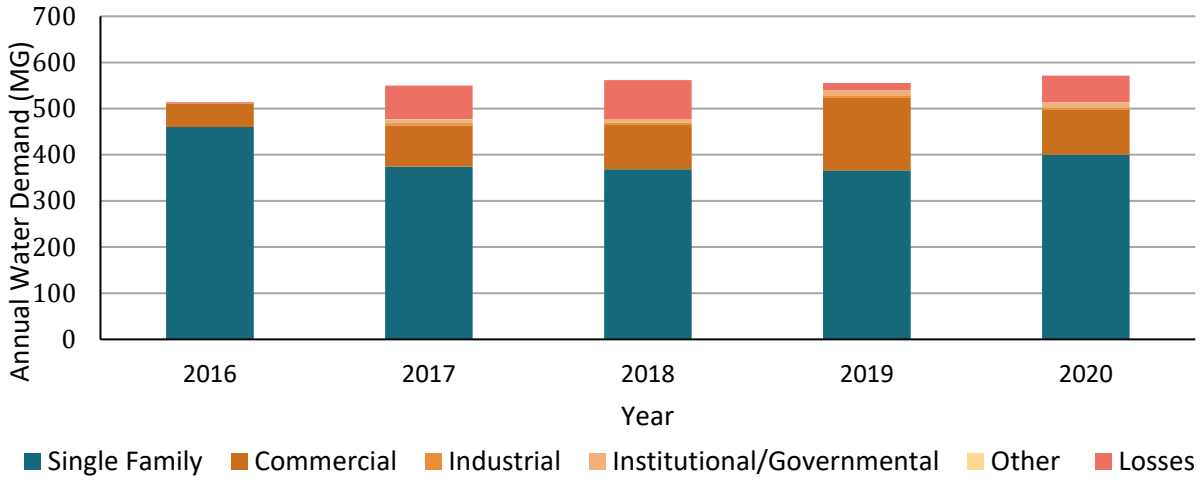
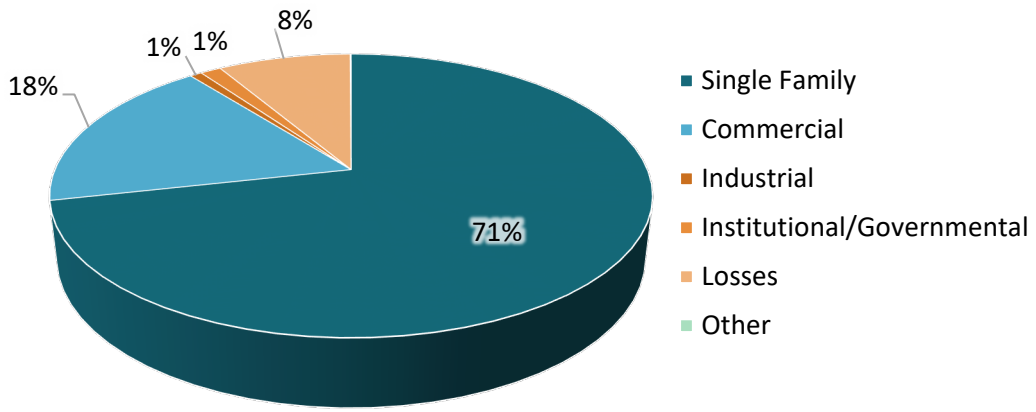


Chart 4-2B Percentage of Total Water Demand by Sector: 2016-2020



4.1.2 Current and Historical Non-Potable Water Demand

The City previously used Gloria Way Well for non-potable purposes such as street cleaning and construction dust control. In 2018, the City installed an iron and manganese treatment system and water supplied from Gloria Way Well enters the City's potable water system. Groundwater supply is further discussed in Section 6.2. There are no current or historical water demands that are met with recycled water supplies within the City's service area.

4.1.3 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.

Distribution system water losses are the physical water losses from the water distribution system and the supplier storage facilities, up to the point of customer consumption. The total differential between water supply and metered water use is categorized as unaccounted-for-water in Table 4-2 and discussed in Section 4.1.1. However, this category includes unbilled water uses such as system flushing, leak repair flushing, hydrant leaks, and street sweeping. In order to isolate the water loss attributed to the distribution system, the City has estimated water losses using the Department of Water Resources (DWR) Water Audit Method.

Of the total demand of 550 MG in 2017, 477 MG were attributable to metered consumption and 73 MG were estimated to be the non-revenue water demand, which includes unmetered consumption and distribution system water loss. Of the 73 MG of non-revenue water in 2017, 50 MG was estimated to be attributed to water losses from the American Water Works Association (AWWA) Free Water Audit Report (see Table 4-3). Metering of the City's distribution system is further discussed in Section 9.2.2.

Table 4-3 12 Month Water Loss Audit Reporting (DWR Table 4-4)

Reporting Period Start Date	Volume of Water Loss
07/2016	50
NOTES: (a) Volumes are in units of MG (b) Water losses for FY 2016-17 are reported in the City's AWWA Water Loss Audit Report.	

CWC § 10631 (3)(c) requires that this UWMP demonstrate whether the distribution loss standards enacted by the State Water Resources Control Board (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 Projected Total Water Demand

Per CWC §§10631(d)(1), potable and non-potable water demand projections are discussed in the following sections.

4.2.1 Projected Potable Water Demand

Future potable water demands within the City's service area are estimated as the projected water demands associated with population and employment growth within the City's service area. The demand estimation methodology and associated demand estimates are described below and presented in Table 4-4 in five-year increments from 2025 through 2045.

In 2020, future water demands based on the General Plan Update WSA (IRM, 2015) were projected by Bay Area Water Supply and Conservation Agency (BAWSCA) on behalf of East Palo Alto 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)[8] and were based on population and employment projections within the City's service area, which were in turn developed from the General Plan Update and associated Water Supply Assessment (WSA).

A detailed description of the DSS Model and the associated water 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). 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.

[8] The DSS model was provided to East Palo Alto by Maddaus Water Management Inc. in June 2020, as a modified version of the model provided in BAWSCA's *Regional Water Demand and Conservation Projections Report*.

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.

As described further in Section 4.2.4, passive water conservation savings associated with existing water uses in the City's service area have been subtracted from the water demand projections. The total projected potable water demand in the City's service area, accounting for this projected passive conservation savings is estimated to be 1,078 MG in 2045, as shown in Table 4-4 and the associated chart.

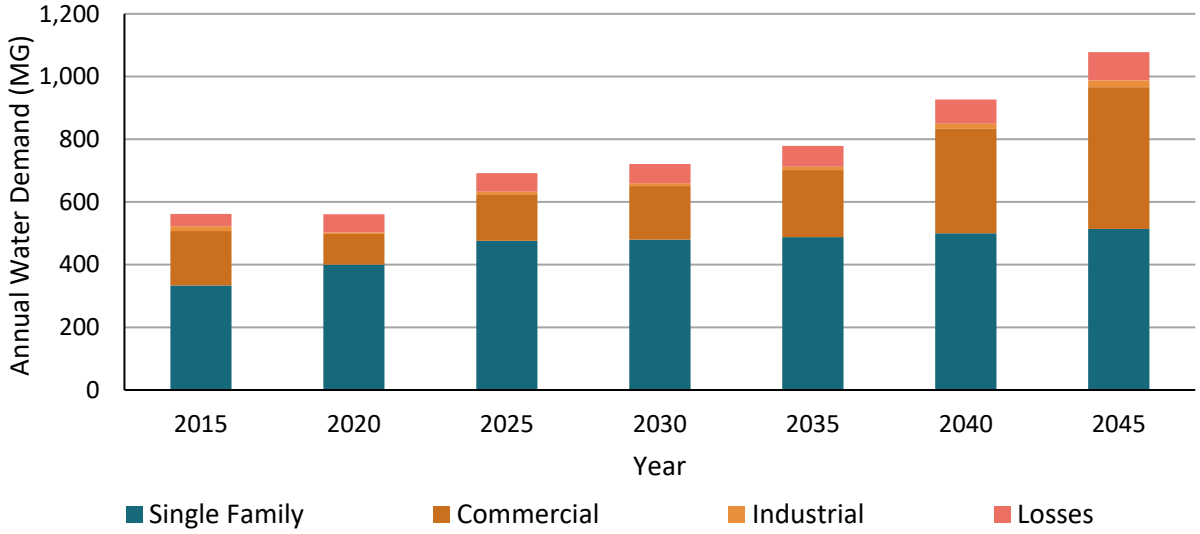
There is a significant increase in the projected potable water demand between 2020 and 2045, (89% increase relative to the actual 2020 water demand of 572 MG). Over the same period, population is estimated to increase by 28% and jobs are expected to increase by approximately 246% in the City's service area. Total projected potable water demand for each water use sector within the City's service area is shown in five-year increments through 2045 in Table 4-4 and the associated chart.

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		476	479	487	500	514
Commercial		149	171	214	334	452
Industrial		8	9	11	16	22
Losses		59	62	66	77	90
TOTAL		692	721	779	927	1,078

NOTES:
(a) Volumes are in units of MG.
(b) Projected demand based on City's General Plan Update and associated Water Supply Assessments.
(c) Single-family demand includes total residential water demand. The City's projected water demands do not specify demands between single-family and multi-family.
(d) Totals may not sum due to rounding.
(e) Projected demands include passive savings.

Chart 4-4 Current and Projected Water Demand by Sector



4.2.2 Projected Non-Potable Water Demand

The City does not currently supply non-potable water to customers, nor does it currently have plans to use recycled water within its service area.

4.2.3 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 4.2.1 include projected 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% of the City's median income.

The Existing Conditions Report (Raimi and Associates, 2014) indicates that in 2011 there were 7,759 housing units within the City and that approximately 57% of these units served residents with less than 80% of the median income adjusted for family size. It is assumed that the service area includes the same general percentage of lower income households as is observed in the totality of the City. The City's 2015-2023 Housing Element (City of East Palo Alto, 2016b) projects that, per the Association of Bay Area

Government's Residential Housing Needs Allocation, 25% of future housing demands will serve residents with less than 80% of the median income. Therefore, it is assumed that approximately 57% of 2015 residential demand within the City's service area is associated with lower income households, and that 25% of additional, future residential water demand since 2015 is and will be associated with lower income households. Table 4-5 contains the estimated future water use by lower income households. These demands were included in the total potable water demand projections described above and shown in Table 4-5.

Table 4-5 Projected Potable Water Demand of Lower Income Households

Residential Type	Projected Potable Water Demand				
	2025	2030	2035	2040	2045
Lower Income Water Demand	226	227	229	232	235
NOTES: a) Volumes are in units of MG. b) Projected demands for lower income households were estimated as 57% of 2015 residential demands in addition to approximately 25% of additional, future residential demands.					

4.2.4 Water Savings from Codes, Standards, Ordinances, or Transportation and Land Use Plans

☑ ***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 4.2.3) 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,[9] (2) the installation of water-efficient fixtures and equipment in new buildings and retrofits as required under CALGreen Building Code Standards, 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).

"Active conservation" refers to water savings resulting from the City's implementation of water conservation programs, education programs, and the offering of financial incentives (e.g., rebates). The City's current and planned active conservation programs are discussed in Chapter 9.

The potable water demand projections discussed in Section 4.2.1 take into account passive conservation savings, as shown in Table 4-7 and the associated chart. Additional water savings are expected due to the City's active conservation efforts; however, for conservative planning purposes these conservation savings are not included in the total potable water demand projections. As can be seen in Table 4-7, by 2045, it is estimated that passive conservation savings will reduce total projected water demand by 171 MG within the City's service area (i.e., the total 2045 demand will be reduced from 1,249 MG to 1,078 MG). An additional 22 MG of water savings may be achieved through active conservation.

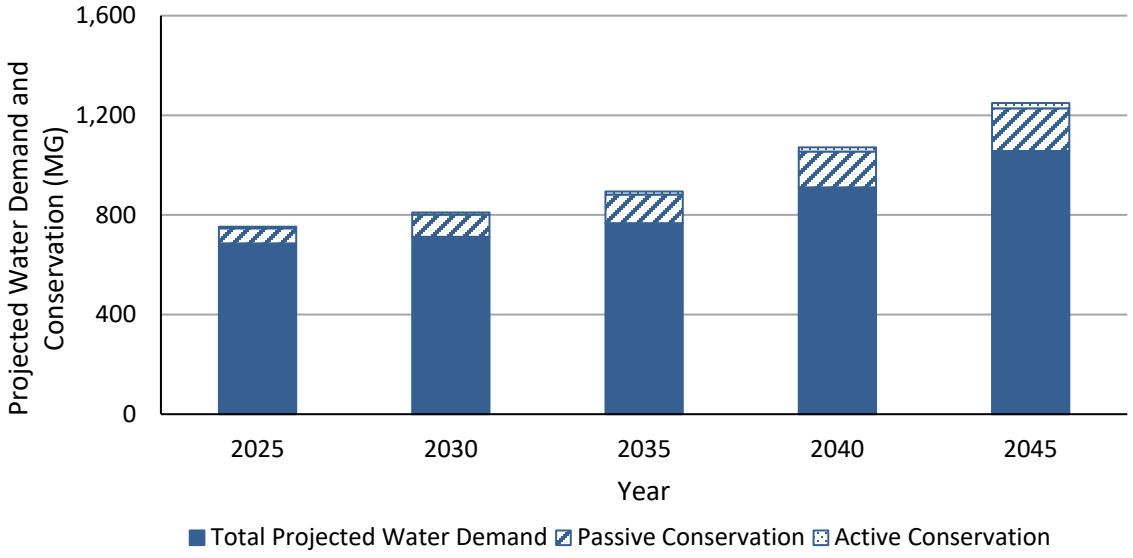
[9] Including the California Energy Commission Title 20 appliance standards for toilets, urinals, faucets, and showerheads. The appliance standards determine what can be sold in California and therefore will impact both new construction and replacement fixtures in existing homes.

Table 4-7 Projected Potable Water Demand and Projected Passive and Active Water Conservation

Water Conservation Type	Projected Potable Water Demand				
	2025	2030	2035	2040	2045
Projected Water Demand	753	810	894	1,071	1,249
Projected Water Conservation					
Passive Conservation	61	89	115	144	171
Active Conservation	7	9	12	17	22
Projected Water Demand after Passive Conservation Savings	692	721	779	927	1,078
Projected Water Demand after Passive and Active Conservation Savings	686	712	767	910	1,056

NOTES:
(a) Projected water demands and conservation were estimated using the updated DSS Model, provided by Maddaus Water Management Inc. June 2020, as well as population and employment projections documented in Table 3-1 and 3-2.
(b) Total water demand is the sum of metered water consumption and losses.

Chart 4-5 Projected Water Demand and Conservation



4.2.5 Projected Total Water Demand

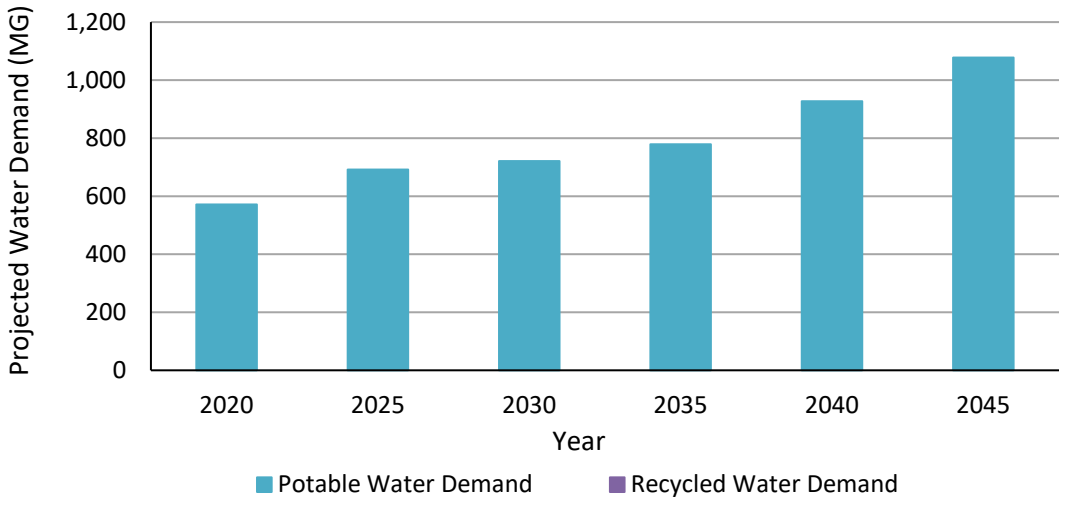
As shown in Table 4-8, the projected total water demand is the same as the projected potable water demand described in Section 4.2.1 because the City does not serve recycled water.

Table 4-8 Total Water Use (Potable and Non-Potable) (DWR Table 4-3)

	2020	2025	2030	2035	2040	2045
Potable Water, Raw, Other Non-potable	572	692	721	779	927	1,078
Recycled Water Demand	0	0	0	0	0	0
Optional Deduction of Recycled Water Put Into Long-Term Storage	0	0	0	0	0	0
TOTAL WATER USE	572	692	721	779	927	1,078

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

Chart 4-7 Current and Projected Total Water Use



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)(F) through (I) and listed below were not included in the City's water demand calculations because they are not applicable to the City:

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

4.3.6 Landscape

Landscape irrigation does occur within the City, but the City does not currently track landscape irrigation as a separate water use sector. Therefore, water used for landscape irrigation is included in the historical demands and demand projections for the residential and CII water use sectors.

4.3.1 Sales to Other Agencies

Under the terms of the dissolution of the East Palo Alto County Waterworks District, the City is required to transfer up to 243 AFY of SFPUC RWS water to the City of Menlo Park. The City does not consider water that is received on behalf of, and immediately sold to, the City of Menlo Park to be a part of its water supply or demand.

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

The City 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

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

4.4 Potential Additional Future Development

Based on information provided by the City on 14 December 2020, three development projects in the early planning, pre-approval stage and are therefore not explicitly included in the demand projections described in Section 4.2. The EPA Waterfront Project, Harvest Properties, and Four Corners 1675 Bay Rd are mixed-use developments with a planned combined area of 2,758,000 square feet (sq ft) of commercial development and 440 residential units. The City is developing a Specific Plan/General Plan amendment and associated California Environmental Quality Act (CEQA) documentation that will address the timing, water demand, and supply availability for these potential developments.

4.5 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.

Hotter and drier weather may lead to an increased demand in landscape irrigation. The DSS Model assesses the sensitivity of the City's water demand to weather and then incorporates predicted weather and climate change data into demand projections. Therefore, the demand projections presented in Section 4.2 includes considerations of climate change.

A description of the weather and climate change data incorporated into the DSS Model is provided Section 3.6 of the BAWSCA Demand Study (BAWSCA, 2020). Based on data published by International Panel on Climate Change and the California's Fourth Climate Change Assessment San Francisco Bay Area Summary Report, a predicted annual mean temperature increase of 1.7°F was incorporated into the DSS Model demand forecast for the time period of 2019 to 2045.

4.6 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.

The City provides the SFPUC with water use projections annually as part of reporting for the BAWSCA Annual Surveys and other BAWSCA-led water demand and supply coordination efforts, as dictated by the 2009 Water Supply Agreement. As part of the coordination effort for the 2020 UWMP, and in compliance with CWC Section 10631(h), the City supplied BAWSCA with its water demand projections through 2045 for transmittal to the SFPUC.[10]

[10] Email from the City to BAWSCA dated 1 April 2021.

4.7 Urban Water Use Objectives

☑ ***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.

Beginning in 2023, urban water retailers will be required to report on "annual water use objectives" by November 1 of each year and to achieve these objectives by January 1, 2027. The annual water use objectives will be calculated based on standards for indoor residential water use, outdoor residential water use, and distribution system water loss. Additionally, it is anticipated that performance-based standards for the commercial, industrial, and institutional sectors, separate from the annual water use objectives, will also be developed by DWR and implemented in the future. However, the specific standards that will be used to determine a retailer's annual urban water use objectives are currently under development by DWR, and thus, the annual urban water use objectives for the City cannot be calculated or estimated. Once the urban water use objectives are released, the City will evaluate its historical and current water use compared to the new objectives and will evaluate the need to adjust its conservation and water loss management measures to meet the new objectives.

One of the components for calculating the future water use objectives is provided for in CWC § 10609.4(a), which states "(1) Until January 1, 2025, the standard for indoor residential water use shall be 55 gallons per capita daily. (2) Beginning January 1, 2025, and until January 1, 2030, the standard for indoor residential water use shall be the greater of 52.5 gallons per capita daily or a standard recommended

pursuant to subdivision (b). (3) Beginning January 1, 2030, the standard for indoor residential water use shall be the greater of 50 gallons per capita daily or a standard recommended pursuant to subdivision (b)."[11] Table 4-9 shows an estimate of the City's projected future per capita residential water use, broken out by estimated indoor and outdoor water use, provided from the DSS Model projections.

The City has one of the lowest per capita water demand among BAWSCA member agencies. Based on these estimates, per capita indoor residential potable water use is expected to be at or below the indoor use standards presented in the legislation. Although indoor residential water use is expected to be within the indoor residential water use standard, it should be noted that because standards have not yet been developed for the outdoor water use or water loss components of the future water use objectives, it cannot be known whether projected demands for the City will be in compliance with the pending requirements.

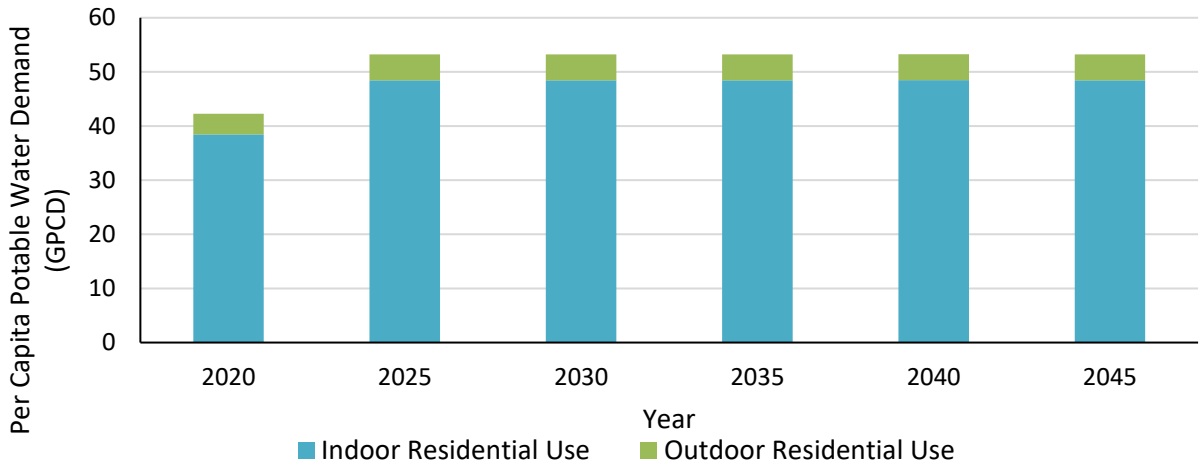
Table 4-9 Current and Projected Residential Per Capita Water Use

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	400	25,935	42	38	4
2025	529	27,215	53	48	5
2030	556	28,589	53	48	5
2035	584	30,062	53	48	5
2040	615	31,646	53	48	5
2045	646	33,230	53	48	5

NOTES:
(a) Unless otherwise noted, volumes are in units of MG.
(b) See Table 4-4 for more details on projected water demand.
(c) See Table 3-1 for more details on projected service area population.
(d) Per capita potable water demand is calculated by dividing the annual potable water demand by the service area population and the number of days in a year.
(e) Projected indoor and outdoor water demand was estimated using the updated DSS Model, provided by Maddaus Water Management Inc. June 2020.

[11] While the legislation appears to be clear on the method to calculate the indoor residential water use component, the SWRCB has begun the California Environmental Quality Act (CEQA) process for the new water use objective requirements and has expressed concern that using the 55 gallons per capita per day (GPCD) number in the legislation will constitute "backsliding" (compared to the reduction required by SB X7-7) and thus may need to be lowered.

Chart 4-8 Current and Projected Indoor and Outdoor Residential Per Capita Potable Water Use



5. SBX7-7 BASELINE, TARGETS, AND 2020 COMPLIANCE

☑ ***CWC § 10608.20***

The department, through a public process and in consultation with the California Urban Water Conservation Council, shall develop technical methodologies and criteria for the consistent implementation of this part, including, but not limited to, both of the following:

A. Methodologies for calculating base daily per capita water use, baseline commercial industrial, and institutional water use, compliance daily per capital water use, gross water use, service area population, indoor residential water use, and landscaped area water use.

B. Criteria for adjustments pursuant to subdivisions (d) and (e) of Section 10608.24.

The Water Conservation Act of 2009 (Water Conservation Act) directed the Department of Water Resources (DWR) to develop technical methodologies and criteria to ensure the consistent implementation of the Water Conservation Act and to provide guidance to urban retail water suppliers in developing baseline and compliance water use. The Water Conservation Act was incorporated into Division 6 of the California Water Code (CWC) commencing with Section 10608 of Part 2.55. The methodologies for developing baseline and compliance water use are established 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*, March 2016 update (Methodologies; DWR, 2016)

The CWC §10608.20 and §10608.28 allow water suppliers the choice of complying individually or regionally by mutual agreement with other water suppliers or regional agencies. The DWR has also developed a methodology for regional compliance. The following calculation methodologies have been developed and are described in Methodologies (DWR, 2016):

- Methodology 1: Gross Water Use
- Methodology 2: Service Area Population
- Methodology 3: Base Daily Per Capita Water Use
- Methodology 4: Compliance Daily Per Capita Water Use
- Methodology 5: Indoor Residential Use
- Methodology 6: Landscaped Area Water Use
- Methodology 7: Baseline Commercial, Industrial, and Institutional Water Use
- Methodology 8: Criteria for Adjustments to Compliance Daily Per Capita Water Use
- Methodology 9: Regional Compliance

Baselines and water use targets for the City of East Palo Alto's (City or East Palo Alto) service area were presented in the 2010 Urban Water Management Plan (UWMP or Plan) in response to the Water Conservation Act. Per requirements of the DWR, the 2015 UWMP included an update to the baseline and water use target calculations using 2010 United States Census (Census) data and analyzed the City's compliance with its 2015 interim water use target. In this 2020 UWMP, water use targets and 2020

compliance data are summarized in Table 5-1 through Table 5-3. Detailed calculations are included in Appendix D.

5.1 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)

In the 2015 UWMP, the City modified its baseline and target gallons per capita per day (GPCD) values from the 2010 UWMP to meet DWR's requirement of using 2010 Census data for its baseline population calculations. In 2010, the population for the City's service area was estimated using the persons-per-connection method described in Appendix A of DWR's Methodologies for Calculating Baseline and Compliance Urban Per Capita Water (DWR, 2016). Census data for 2000 was compared to City records to determine a persons-per-connection factor, which was then applied to the number of connections in each year over the period 2001 through 2010 to estimate the City's service area population. For the 2015 UWMP update, the City used the DWR Population Tool to estimate service area population. This tool applies the persons-per-connection methodology and incorporates 2010 Census data. The 2010 service area population was estimated to be 22,916, approximately 82% of the total City-wide population according to 2010 Census data.

The population in 2020 for the service area within City limits was estimated to be 25,935 [[2020 population to be confirmed]] based on data and projections in the City's General Plan (City of East Palo Alto, 2016a), (see Table 5-1).

Table 5-1 SB X7-7 Service Area Population (SB X7-7 Table 3)

Year		Population
10 to 15 Year Baseline Population		
Year 1	2001	23,399
Year 2	2002	23,338
Year 3	2003	23,685
Year 4	2004	24,012
Year 5	2005	24,319
Year 6	2006	24,115
Year 7	2007	23,808
Year 8	2008	23,499
Year 9	2009	23,384
Year 10	2010	22,916
5 Year Baseline Population		
Year 1	2006	24,115
Year 2	2007	23,808
Year 3	2008	23,499
Year 4	2009	23,384
Year 5	2010	22,916
2020 Compliance Year Population		
2020		25,935
NOTES:		

5.2 Baseline Water Use

Water suppliers must define a 10- or 15-year base (or baseline) period for water use that is then used to develop their future target per capita water use. Water suppliers must also 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 is only allowed for water suppliers that meet at least 10% of their 2008 measured retail water demand through recycled water; East Palo Alto does not meet this criterion and thus selected a 10-year baseline. In the 2015 UWMP, the City updated the per capita water use calculations to use the revised population estimates described in Section 5.1 and the historical potable water demand information presented in the 2010 UWMP.

The 10-year baseline water use was calculated as 82 GPCD using gross per capita water usage data (calculated as total water entering the City's water distribution system divided by total population) for the 10-year period between 1 July 2000 and 30 June 2010. The 5-year baseline water use was also calculated as 82 GPCD using per capita water usage data for the 5-year period between 1 July 2005 and 30 June 2010. The updated 5- and 10-year baseline water uses are shown in Table 5-2 and in Appendix D.

5.3 Water Use Targets

☑ ***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.

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.

The 2020 Target was adjusted in 2015 to achieve a minimum reduction in water use regardless of the target method (this is explained in Methodology 3). The CWC §10608.24 directs that water suppliers must compare their actual water use in 2020 with their calculated Target to assess compliance. In addition, as part of the 2015 UWMP water suppliers had to comply with an "Interim Target" in 2015 which was established as the midpoint between the baseline water use and the 2020 Target. The years 2015 and 2020 are referred to in the Methodologies as compliance years.

The City's 2020 Target was first calculated in 2010 using Method 3 and was then recalculated in its 2015 UWMP using updated service area population. The updated 2020 Target was 124 GPCD. Table 5-2, shows the City's 5- and 10-year baseline periods, the associated baseline water use in GPCD, and its 2020 target.

Table 5-2 Baselines and Targets Summary (DWR Table 5-1)

Baseline Period	Start Year	End Year	Average Baseline GPCD	Confirmed 2020 Target GPCD
10-15 year	*2001*	*2010*	*82*	*124*
5 Year	*2006*	*2010*	*82*	*124*
NOTES:				

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.

The CWC §10608.24 (b) directs that water suppliers must calculate their actual water use in 2020 to determine whether or not they have met their 2020 Target. Per the Methodologies (DWR, 2016), there are several allowable adjustments that can be made to a supplier's 2020 per capita water use calculations as part of evaluating target compliance. However, no adjustments were made to the City's 2020 per capita water use calculations.

As described above, in 2020, actual water demand within the City's service area was 572 MG and the service area population was estimated to be 25,935. Therefore, the calculated per capita water use in 2020 was 60 GPCD, approximately 52% of the City's 2020 Target of 124 GPCD (see Table 5-3). Therefore, the City is in compliance with its 2020 Target.

Table 5-3 2020 Compliance (DWR 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)*		
60	0		60	Y
NOTES:				

5.5 Water Use Reduction Plan

The actual water demand within the City's service area in FY 2019-20 was well below the 2020 Target. This is both due to water use cutbacks achieved during the recent drought and the conservation efforts that the City has supported during the past five years to reduce water use (see Section 9.3).

A partial rebound in water demand is expected to occur from 2020 to 2025. However, water demand is not expected to return to pre-drought demand. Per capita water demand is projected to be approximately 73 GPCD in 2025, which remains in compliance with the 2020 Target of 124 GPCD. This estimate is based on population projections described in Section 3.1.1 and the future water demand projections described in Section 4.2.

The City will continue to actively manage its per capita water use through implementation of demand management measures as discussed in Section 9.4. To the extent that the City develops additional recycled water supplies or individual development projects implement on-site water recycling, as discussed in Chapter 6, the projected future potable demands in 2045 are likely to be further reduced beyond the conservative estimates presented herein.

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).

The City of East Palo Alto (City or East Palo Alto) purchases most of its potable water from the San Francisco Public Utilities Commission (SFPUC) Regional Water System (RWS) in accordance with the Water Supply Agreement (WSA) between the City and County of San Francisco and Wholesale Customers in Alameda, San Mateo and Santa Clara Counties, that was approved by the SFPUC on April 28, 2009 and amended in November 2018. The City also uses a small amount of groundwater that is produced at a well owned and operated by the City, however it was not used during this reporting period.

To maintain consistency with the Urban Water Management Plans (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.

6.1 Purchased or Imported Water

This section describes the sources of wholesale water provided by SFPUC, and the process for allocating water between SFPUC, BAWSCA, and wholesale customers.

6.1.1 Description of SFPUC RWS

Approximately 85% 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% 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.

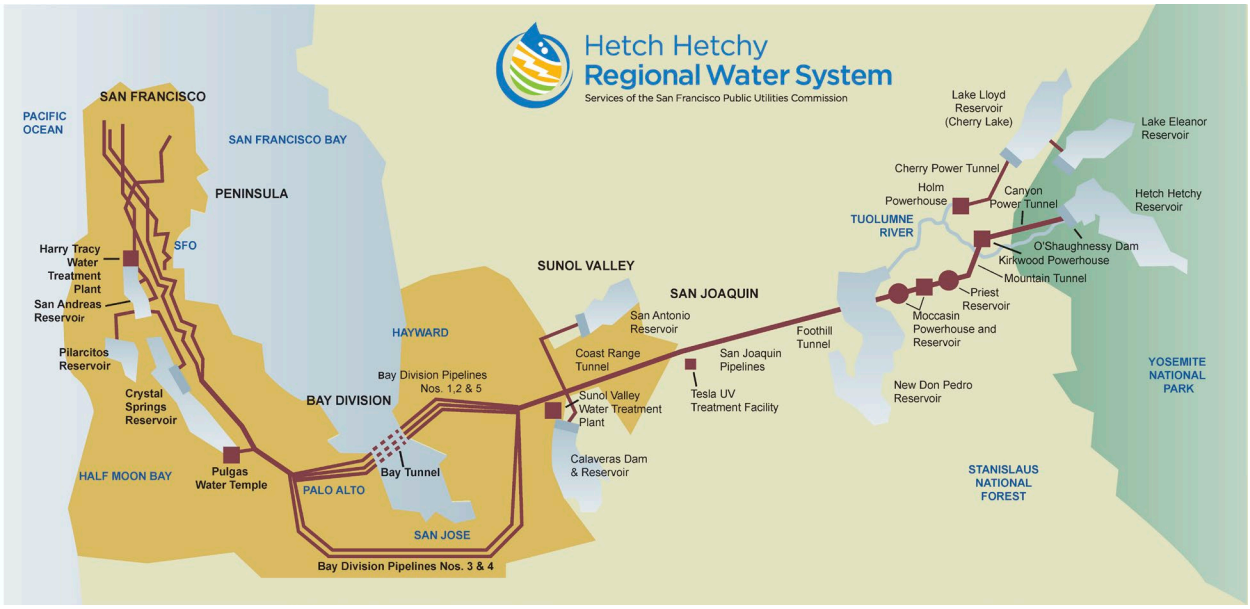


Figure 6-1. Regional Water System

Water Distribution

The RWS, shown on [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 Bay Division Pipelines 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.

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.

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.[12] 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 Country, 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

[12] 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.

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.

Table 6-1 Regional Water System Storage Capacity

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

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.

Prior 2018, East Palo Alto's ISG was 1.963 MGD or approximately 717 million gallons (MG) per year. In 2018 and 2019, a portion of ISG's from the City of Mountain View and the City of Palo Alto were permanently transferred to East Palo Alto, resulting in the City's current ISG of 3.46 MGD, or approximately 1,264 MG per year.[13] In 2016 and 2017, the City purchased 72% and 77% of its ISG, respectively. However, following the ISG increase, the City used 52%, 44% and 45% of its ISG in 2018, 2019, and 2020, respectively (see Table 6-9).

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.

[13] East Palo Alto purchased 1.0 MGD from the City of Mountain View in 2017. The City of Palo Alto transferred 0.5 MGD to East Palo Alto in 2018.

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.

The County of San Mateo Department of Public Works constructed a groundwater well at the Gloria Way site in 1979. The well was put into operation by the City as a source of supply in 1981 and used as such until 1989 when it was taken offline due to issues with the quality of the produced groundwater (i.e., high TDS, iron, and manganese).[14] In 2018, the City completed a well reactivation project, including pump replacement, installation of a new iron and manganese treatment system, blending system, pump station and surge tank, reconnection to the City's water distribution system, and reactivation of the well from a permitting perspective. The reactivated Gloria Way well has not yet been brought into production but is permitted for use by the City as a potable water source. The City has also taken steps towards the addition of another well at the Pad D site, including drilling and installation of a test well, and completion of design and California Environmental Quality Act (CEQA) documentation for a new standby production well and treatment system at the site. Information related to the local groundwater basin is described in more detail below.

[14] Todd Engineers, Kennedy/Jenks Consultants, & ESA, 2012*, Gloria Way Water Well Production Alternatives Analysis & East Palo Alto Water Security Feasibility Study*, dated November 2012.

6.2.1 Groundwater Basin Description

The City overlies the southern end of the San Mateo Plain Subbasin (groundwater basin number 2-009.03; or "subbasin") of the Santa Clara Valley Basin. The subbasin is not adjudicated, nor has it been found by Department of Water Resources (DWR) to be in a condition of overdraft. As part of the implementation of the Sustainable Groundwater Management Act (SGMA), the subbasin was ranked as a "very low priority" basin under the 2014 California Statewide Groundwater Elevation Monitoring (CASGEM) basin prioritization process and maintained this ranking in DWR's latest basin prioritization effort in 2019. The subbasin is therefore not subject to the requirements of SGMA.

6.2.1.1 *Physical Setting*

The subbasin is approximately 38,000 acres[15] and is bounded by the Santa Cruz Mountains on the west, San Francisco Bay and the Niles Cone subbasin on the east, the Westside Basin on the north near Burlingame Avenue and Coyote Point, and the San Francisquito Creek and the Santa Clara subbasin to the south. Figure 6-2 shows the subbasin boundary, the surrounding subbasins of the Santa Clara Valley Basin, and the location of the City's service area within the subbasin.

The subbasin is filled with alluvial fan deposits formed by tributaries to San Francisco Bay that drained across the basin and toward the center of the Bay (EKI et al., 2018). These alluvial fan deposits are interbedded with thick clay aquitards or confining layers and comprise the main water bearing formations within the subbasin. The major water bearing formation of the subbasin is the Quaternary alluvium, from which all larger yielding wells acquire their water. The Santa Clara Formation underlies the Quaternary alluvium and is the other water bearing formation of the subbasin. In general, the groundwater system is unconfined in the higher elevations, and confined or semiconfined at lower elevations closer to San Francisco Bay.

Groundwater flow in the subbasin is generally from west-southwest to east-northeast, from the edge of the Santa Cruz Mountains to San Francisco Bay. Both the southern and eastern edges of the subbasin are political boundaries that are roughly coincident with County lines, rather than physical hydrogeologic barriers to groundwater flow (EKI et al., 2018). Depending upon temporally varying streamflow, recharge, and pumping conditions, groundwater flow likely occurs in variable directions across each boundary.

Natural recharge occurs by infiltration of water from streams that enter the valley from the upland areas within the drainage basin, including San Francisquito Creek, San Mateo Creek, and other smaller creeks, and by percolation of precipitation that falls directly on the land surface. Additional recharge occurs as a result of infiltration of applied irrigation water. Subbasin outflows include limited municipal and private well pumping and groundwater outflows across subbasin boundaries.

It is further noted that the United States Geological Survey (USGS) has defined the "San Francisquito Alluvial Fan" as a unique groundwater subbasin that is roughly coincident with the known lateral extent

[15] Basin area is based on the SGMA 2019 Basin Prioritization results.

of the San Francisquito Creek alluvial fan deposits.[16] The San Francisquito Alluvial Fan subbasin underlies portions of East Palo Alto, and overlaps with the southern end of the subbasin. The San Francisquito Alluvial Fan subbasin has been the subject of several hydrologic and water balance studies. As described in the Final Feasibility of Supplemental Groundwater Resources Development in Menlo Park and East Palo Alto (Todd Engineers, 2005), the San Francisquito Alluvial Fan subbasin encompasses mountainous bedrock terrain and relatively flat alluvial fan deposits. The geology is composed of the coarse- and fine-grained alluvial deposits of San Francisquito Creek. The groundwater system includes a shallow aquifer, a laterally extensive confining clay layer, and a multi-layered deep aquifer that extends to depths of up to 1,000 feet below ground surface. Storativity values indicate the shallow aquifer is unconfined and the deeper aquifer system is semi-confined. Pumping test and empirical transmissivity and well yield data indicate that development of a municipal supply wells within the San Francisquito Cone portion of the subbasin is feasible.

6.2.1.2 *Groundwater Conditions*

Groundwater use in the subbasin has been relatively limited for the last several decades, as the primary water supply source for the overlying population has been imported water from the SFPUC RWS. The only municipal water suppliers within the subbasin that utilize groundwater as a potable supply source are the City of East Palo Alto, Palo Alto Park Mutual Water Company (PAPMWC), and O'Connor Tract Co-operative Water Company (O'Connor Tract CWC). As part of its Emergency Water Storage/Supply Project, Menlo Park Municipal Water (MPMW) has installed one groundwater well and has plans to install several more wells with a total capacity of 3,000 gallons per minute (gpm); however, groundwater is currently not considered by MPMW as a regular normal or dry year supply. In addition to the above municipal uses, groundwater is also used by various entities in the subbasin for landscape or domestic irrigation purposes. Total groundwater production for water supply within the subbasin is approximately 2,300 acre-feet per year (AFY) (EKI et al., 2018)[17].

Based on limited available groundwater level information, the subbasin is currently in a relatively full and stable condition. However, historical information indicates that during past periods of high groundwater production in the 1850s to 1960s, groundwater levels in the subbasin were significantly lower and negative impacts including seawater intrusion and land subsidence were observed (EKI et al., 2018). A recent renewed interest in groundwater development in the subbasin has increased the need and interest in gaining a better understanding of the subbasin and evaluating the extent to which increased groundwater development can be pursued, while mitigating potential negative impacts. Details on the subbasin groundwater management efforts are described in the section below.

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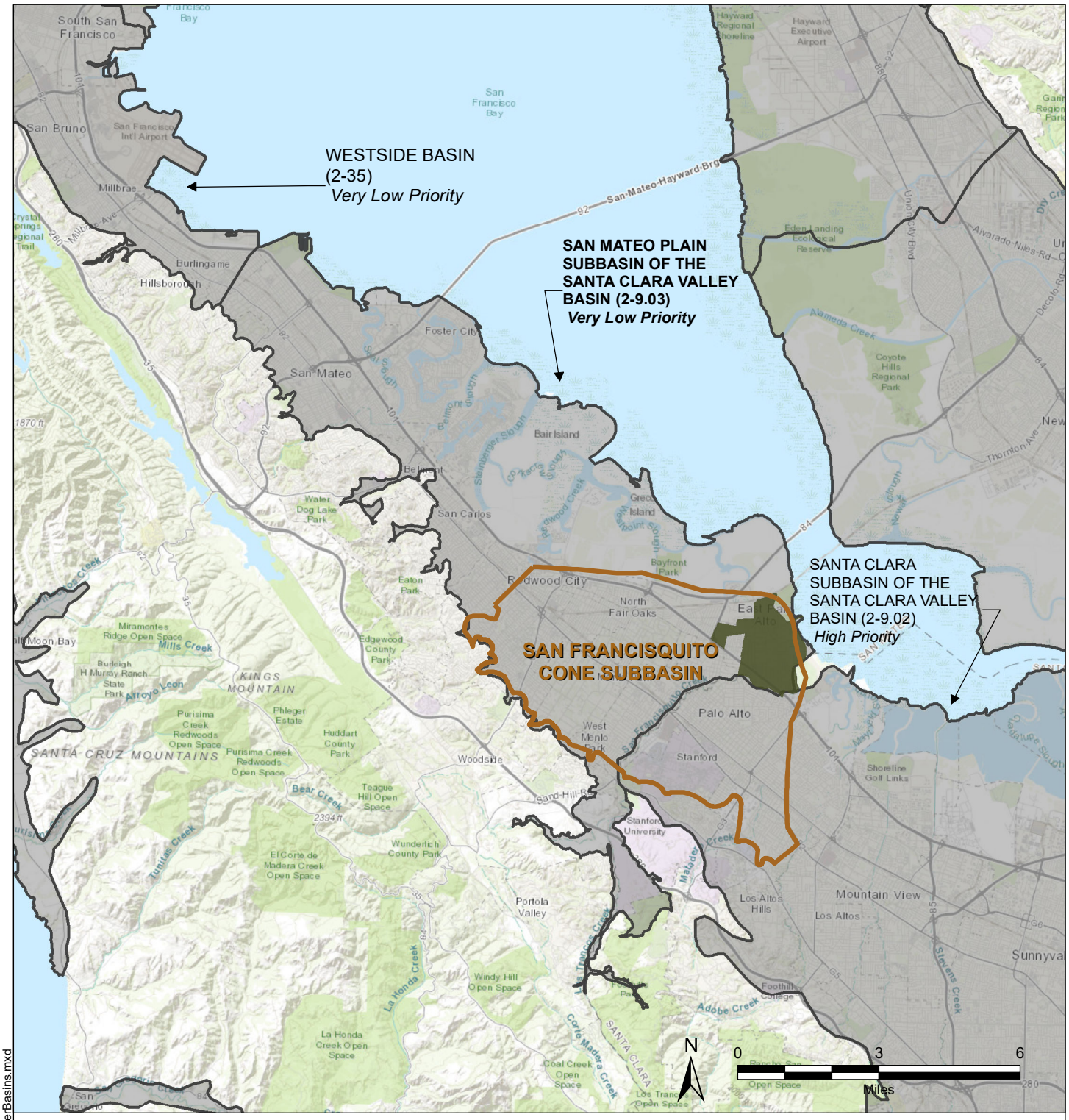
[16] Metzger, L.F., 2002, *Streamflow Gains and Losses along San Francisquito Creek and Characterization of Surface-Water and Ground-Water Quality, Southern San Mateo and Northern Santa Clara Counties, California, 1996-97*, U.S. Geological Survey Water-Resources Investigations Report 02-4078.

[17] The groundwater production value stated above excludes East Palo Alto which did not start pumping from its re-activated Gloria Way Well in 2018.



Legend

- East Palo Alto Service Area
- San Francisquito Cone Subbasin
- DWR Bulletin 118 Groundwater Basin

Sources

Topographic base map provided by ArcGIS Online

Abbreviations

CASGEM = California Statewide Groundwater Elevation Monitoring Program
DWR = Department of Water Resources

Notes

1. All locations are approximate.
2. Priority rankings from CASGEM groundwater basin priortization, May 2020

Groundwater Basins in the Vicinity of East Palo Alto Service Area

DRAFT

City of East Palo Alto
2020 Urban Water Management Plan
East Palo Alto, CA
February 2021
EKI C00118.00

Figure 6-2

eki environment & water

Path: X:\C00118\Maps\2021\02\Fig6-2_EastPaloAlto_GroundwaterBasins.mxd

6.2.2 Groundwater Management

As stated above, the subbasin is currently designated by the DWR as a "very low priority" basin and is exempt from complying with SGMA. However, multiple entities overlying the subbasin have expressed interests in maintaining groundwater sustainability and/or established a formal role in the subbasin management.

The San Mateo County conducted a comprehensive groundwater basin assessment in 2018 (EKI et al., 2018). The study provided a more complete understanding of the subbasin hydrogeologic framework and groundwater flow and quality conditions. It also identified potential groundwater management strategies for the subbasin.

Informed by this study, San Mateo County has begun to participate in the CASGEM program. CASGEM is a groundwater elevation monitoring program that was developed by DWR per the requirements of SBx7-6. The objective of CASGEM is to establish a permanent, locally managed program of regular groundwater monitoring to track seasonal and long-term trends in groundwater elevations. The County of San Mateo Office of Sustainability provided initial notification to DWR of its intent to become the CASGEM Monitoring Entity for the subbasin in 2019. A CASGEM Monitoring Plan, including a monitoring network of approximately ten wells throughout the subbasin, was submitted to and approved by DWR in 2020 and monitoring pursuant to the CASGEM Plan has been initiated. Compliance with CASGEM is an important first step in setting the subbasin up for long-term sustainable management and funding.

There has also been widespread agreement among the overlying cities, water suppliers and other interested parties that cooperative, sustainable groundwater management of the entire subbasin is needed. Several entities, including the City [18], have passed resolutions in support of sustainable groundwater management where they state their commitment to: (1) working with other agencies and organizations to better understand the hydrology and geology of the San Francisquito Creek area; and (2) the sustainable management of local groundwater, including conjunctive water management and aggressive conservation, to protect its quality and ensure its availability during droughts and emergency situations.

The subbasin is currently not managed pursuant to any groundwater management plan (GWMP). However, Santa Clara Valley Water District (SCVWD) and the City of East Palo Alto adopted their own GWMPs in 2012 and 2015, respectively. The SCVWD GWMP covers the small far southern portion of the subbasin within Santa Clara County, and was updated in 2016 (SCVWD, 2016) and submitted to DWR as an Alternative to a Groundwater Sustainability Plan (GSP). The East Palo Alto GWMP addresses groundwater conditions within the jurisdictional boundary of the City in the southeastern portion of the subbasin (Todd Engineers, 2015). The East Palo Alto GWMP was prepared in accordance with Assembly Bill (AB) 3030 and the amendments to AB 3030 provided by Senate Bill (SB) 1938 and AB 359.

In addition, BAWSCA initiated work with San Mateo County and its member agencies to form the Groundwater Reliability Partnership (GRP) in 2015. The main focus of the GRP was to provide information

[18] Resolution No. 4542, *Resolution in Support of Sustainable Groundwater Management in the San Francisquito Creek Area*, September 2, 2014.

regarding SGMA and other locally relevant groundwater management efforts to the BAWSCA member agencies and other interested parties. The GRP has not been active since 2018.

6.2.3 Historical Groundwater Use

As discussed above, the City has not used groundwater as a potable water source since 1989 (see Table 6-2). However, groundwater is anticipated to be part of the City's future water supply portfolio.

Table 6-2 Groundwater Volume Pumped (DWR Table 6-1)

	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
Alluvial Basin	San Mateo Plain Subbasin of the Santa Clara Valley Basin (DWR 2-9.03)	0	0	0	0	0
TOTAL						
NOTES: (a) Volumes are in units of MG.						

6.2.4 Projected Future Groundwater Use

The City plans to operate its Gloria Way well in the future at 150 gpm approximately seven hours per day, two days a week, for a total projected annual production of approximately 7 MG.

Currently the City plans to utilize the Pad D well (if constructed) as a standby source, pursuant to California Code of Regulations Title 22 Section 64414. However, as discussed in Chapter 7, significant shortages are currently being projected on the SFPUC RWS supplies. In the event that shortages of that magnitude occur, the City could update permitting of the Pad D well and system to use it as a standard potable water source to supplement dry year supplies.

6.3 Surface Water

Water that is self-supplied to agencies from streams, lakes and reservoirs is considered a surface water supply. Although East Palo Alto'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. East Palo Alto 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

East Palo Alto 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 vary for different uses (e.g., irrigation for food crops, landscape, and recreation).

East Palo Alto does not utilize recycled water, nor does it currently have plans to use recycled water within its service area. The sections below describe wastewater collection and treatment for the East Palo Alto service area.

6.5.1 Coordination

Wastewater within the City is collected by East Palo Alto Sanitary District (EPASD) and West Bay Sanitary District (WBSD). East Palo Alto's wastewater is treated at either the City of Palo Alto's Regional Water Quality Control Plant (RWQCP) or the Silicon Valley Clean Water (SVCW) treatment facility. Both treatment facilities treat a portion of their flow to tertiary-treated recycled water standards, with the remaining flow being discharged into the San Francisco Bay.

The City coordinates with these entities and adjacent municipalities on the potential options for recycled water within the City service area.

6.5.2 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 City's service area is collected by two wastewater agencies: EPASD and WBSD. The collection, treatment, and disposal of the City's wastewater is described for each of these agencies in the

following sections. The volume of wastewater collected from the East Palo Alto service area in 2020 was approximately 490 MG, see Table 6-3. No wastewater is treated or disposed of within the City's service area (see Table 6-4).

6.5.2.1 *East Palo Alto Sanitary District*

The EPASD serves portions of the City and the City of Menlo Park through a collection system comprised of approximately 35 miles of gravity sewer mains, ranging from 6-inch diameter to 24-inch diameter pipe. The EPASD discharges all collected wastewater to the City of Palo Alto's RWQCP. The EPASD has an annual average treatment capacity allotment from the RWQCP of 3.06 MGD, or 7.64% of the plant's total treatment capacity. The RWQCP has a dry-weather capacity of 39 MGD and a wet-weather capacity of 80 MGD. The EPASD collected approximately 438 MG of wastewater from the City's service area in 2020 (Table 6-3)

6.5.2.2 *West Bay Sanitary District*

The WBSD serves customers within the northern portion of the City, as well as other customers within the cities of Menlo Park, Atherton, Portola Valley, and Woodside, and unincorporated San Mateo and Santa Clara Counties. The WBSD collection system conveys wastewater to the Menlo Park Pumping Station, where it is then transported to the Silicon Valley Clean Water (SVCW) facilities in Redwood City for treatment and discharge to the San Francisco Bay. The WBSD collected approximately 52 MG of wastewater from the City's service area in 2020 (Table 6-3).

The SVCW wastewater treatment plant (WWTP) is jointly owned and operated by WBSD and the Cities of Redwood City, Belmont, and San Carlos as a joint powers authority. The treatment processes at the SVCW WWTP involve the following: primary sedimentation, dual secondary treatment with fixed film reactors and activated sludge, filtration, disinfection using sodium hypochlorite, and dechlorination with sodium bisulfide. Discharge of the advanced secondarily-treated effluent is permitted by the San Francisco Regional Water Quality Control Board (RWQCB).

Since 2000, the SVCW WWTP has produced tertiary-treated, unrestricted use recycled water under Title 22 for reuse in Redwood City. Approximately 856 acre-feet per year (AFY) was reused in Redwood City in 2020. Redwood City has completed construction on Phase I and Phase II of its recycled water distribution system, which will supply the initial phases of the recycled water project, up to 2,000 AFY, while providing the flexibility to deliver up to 3,238 AFY (or 907 MG per year) in the future to Redwood City as well as to neighboring communities (Redwood City, 2021).

Table 6-3 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 *(optional)*
	Percentage of 2020 service area population covered by wastewater collection system *(optional)*

Wastewater Collection			Recipient of Collected Wastewater			
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated?	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? *(optional)*
East Palo Alto Sanitary District	Estimated	438	City of Palo Alto	Regional Water Quality Control Plant	No	
West Bay Sanitary District	Estimated	52	Silicon Valley Clean Water	Silicon Valley Clean Water	No	
Total Wastewater Collected from Service Area in 2020:		490				

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

Table 6-4 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
						Total					
NOTES:											

6.5.3 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 within the City's service area and the City does not have any plans to use recycled water in the future (Table 6-5).

Table 6-5 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	
				Total:							
					2020 Internal Reuse						
NOTES:											

6.5.4 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.

The 2015 UWMP projected no use of recycled water. The City does not currently use recycled water and therefore, has met the previous projections (Table 6-6).

Table 6-6 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
Total		

NOTES:

6.5.5 Promoting Recycled Water Use

☑ ***CWC § 10633 (e-g)***

(e) The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.

(f) A description of actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.

(g) A plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.

Currently there are no financial or other incentives to the City's customers to encourage use of recycled water, as recycled water is not available within the City's service area (Table 6-7). If and when recycled water becomes available within the City's service area in the future, appropriate financial incentives would be considered to encourage recycled water use.

Table 6-7 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.		
	Provide page location of narrative in UWMP		
Name of Action	Description	Planned Implementation Year	Expected Increase in Recycled Water Use (MG)
		Total	
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 are being investigated by the 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 Program (see Section 7.1.3.5)

East Palo Alto does not anticipate opportunities for development of desalinated water supplies within the planning horizon of this UWMP and this water supply is not being considered.

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. As described in Section 6.1.2, the City purchased 1.0 MGD of ISG from the City of Mountain View in 2017 and the City of Palo Alto transferred 0.5 MGD their ISG to East Palo Alto in 2018, respectively. East Palo Alto

does not presently anticipate the need for additional water right transfers during normal year conditions. However, should that condition change in the future, it is possible that the City could purchase water from another agency or entity either within or outside of the SFPUC RWS. For example, as part of a recent agreement with the City of Mountain View, East Palo Alto agreed to assume 0.25 MGD of Minimum Purchase Obligation in return for receiving right of first refusal on any drought transfers pursued by the City of Mountain View.

Within the SFPUC RWS, it is possible to transfer water entitlements and/or banked water among agencies. For example, the Water Shortage Allocation Plan 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). Some BAWSCA agencies have the capacity to rely on groundwater or other sources during dry years and thus may be willing to transfer 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 Long Term Reliable Water Supply Strategy (see Section 7.1.3.5).

6.7.2 Emergency Interties

As discussed in Section 3.4, metered interties exist between three other water systems: two, one-way interties with Palo Alto Park Mutual Water Company and O'Connor Tract Co-operative Water Company, and one intertie with the City of Menlo Park[19]. The City previously had an intertie with the City of Palo Alto and is exploring the option of constructing an intertie in the future. Interties are not considered part of the City's normal supply portfolio.

[19] The City has seven additional interties with Menlo Park, however they are unmetered and currently valved off.

6.8 Potential Water Supply Projects and Programs

☑ ***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 lists the water supply projects that may be undertaken by both the wholesaler (i.e., SFPUC) and East Palo Alto.

6.8.3 SFPUC Water Supply Projects

East Palo Alto'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 Goals and Objective established in the WSIP and updated in February 2020. SFPUC has also developed an Alternative Water Supply Planning 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 .

6.8.4 Groundwater

East Palo Alto recently completed design documents for the Pad D well, which is currently planned as a standby source. However, the Pad D well, when constructed, could also be used as part of dry year supplies in the case of major restrictions on the SFPUC system. This would require permitting of the Pad D system as a standard potable water source; however, the City does not plan to use Pad D during normal year water supply conditions.

The City is also in the preliminary stages of evaluating the potential consolidation of the local O'Connor Tract Cooperative Water Company and Palo Alto Park Mutual Water Company Systems into the City's system, which are currently 100 percent dependent on local groundwater to meet demands. The impacts on the City's demand and supply portfolio are provided in Appendix E for City consideration.

Given the current uncertainties, as shown in Table 6-8, no projects have been identified that would be anticipated to result in a quantifiable increase to the City's water supply.

Table 6-8 Expected Future Water Supply Projects or Programs (DWR Table 6-7)

	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.
X	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.
Section 6.8	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.*

East Palo Alto's historical and current supply is presented in Table 6-9.

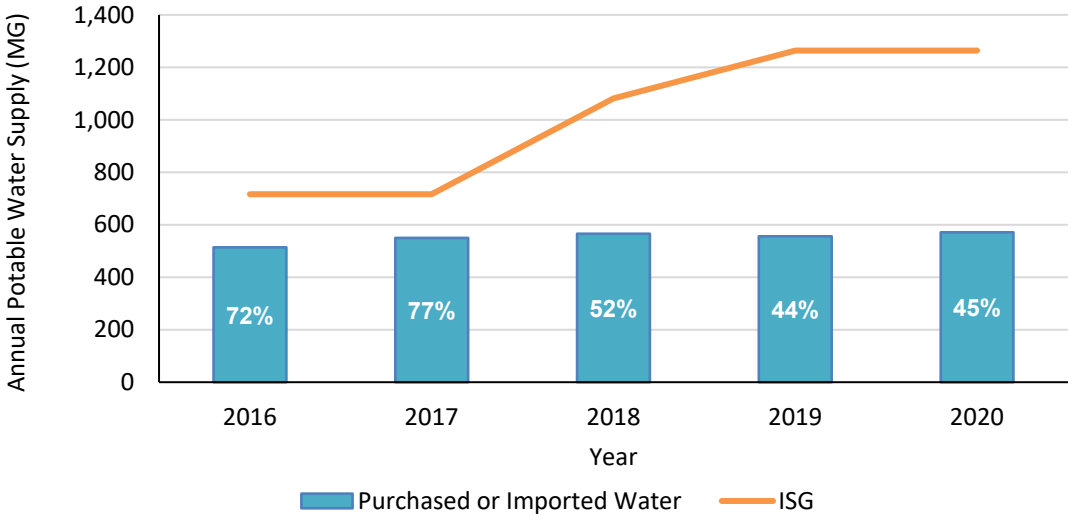
East Palo Alto historically and currently purchases potable water from the SFPUC RWS to meet potable water demands within the East Palo Alto service area. In FY 2019-2020, East Palo Alto purchased approximately 572 MG from the SFPUC RWS for use in the City's service area.

Table 6-9 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	514	550	566	556	572	Drinking Water	1,264
Groundwater (not desalinated)	Gloria Way Well	0	0	0	0	0	Drinking Water	--
Total		514	550	566	556	572		1,264

NOTES:
(a) Volumes are in units of MG.
(b) The annual water supply values for 2016 through 2020 are based on monthly wholesale water meter readings and prorated to align with the fiscal year. The values presented do not include water that was purchased from SFPUC and sold to another agency.
(c) The City of East Palo Alto has a current ISG of 3.46 MGD, or approximately 1,264 MG per year.

Chart 6-9 Current and Historical Potable Water Supply



East Palo Alto plans to continue to purchase wholesale water from the SFPUC RWS but will also begin using the Gloria Way Well to augment water supplies. Water supplies from the SFPUC RWS through 2045 are projected to be equivalent to the expected yield from the Gloria Way Well (7 MG per year) plus East Palo Alto's ISG of 1,264 MG, which is East Palo Alto's contractual entitlement to SFPUC wholesale water, which survives in perpetuity. East Palo Alto's total water supply projections are shown in Table 6-10 in five-year increments through 2045.

Table 6-10 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	1,264		1,264		1,264		1,264		1,264	
Groundwater (not desalinated)	Gloria Way well	7		7		7		7		7	
Total		1,271	0	1,271	0	1,271	0	1,271	0	1,271	0

NOTES:
(a) Volumes are in units of MG.
(b) Reasonably available volume from SFPUC is estimated from the City's Individual Supply Guarantee (ISG).
(c) Groundwater supply is estimated from current operation of Gloria Way well of 150 gpm for 7 hours per day and 2 days per week. The Pad D well is planned to be operational for emergency supply and potentially drought supply, so is not included in projected normal year water supplies.

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

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.

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

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

Vulnerability Areas	General Overview of Vulnerabilities
Water Quality	**Imported Water** – For sources derived from the Delta, sea-level rise could result in increases in chloride and bromide (a disinfection by-product (DBP) precursor that is also a component of sea water), potentially requiring changes in treatment for drinking water. Increased temperature could result in an increase in algal blooms, taste and odor events, and a general increase in DBP formation **Regional Surface Water** – Increased temperature could result in lower dissolved oxygen in streams and prolong thermocline stratification in lakes and reservoirs forming anoxic bottom conditions and algal blooms. Decrease in annual precipitation could result in higher concentrations of contaminants in streams during droughts or in association with flushing rain events. Increased wildfire risk and flashier or more intense storms could increase turbidity loads for water treatment. **Regional Groundwater** – Sea-level rise could result in increases in chlorides and bromide for some coastal groundwater basins in the Region. Water quality changes in imported water used for recharge could also impact groundwater quality.
Sea-Level Rise	Sea-level rise is additive to tidal range, storm surges, stream flows, and wind waves, which together will increase the potential for higher total water levels, overtopping, and erosion. Much of the bay shoreline is comprised of low-lying diked baylands which are already vulnerable to flooding. In addition to rising mean sea level, continued subsidence due to tectonic activity will increase the rate of relative sea-level rise. As sea-level rise increases, both the frequency and consequences of coastal storm events, and the cost of damage to the built and natural environment, will increase. Existing coastal armoring (including levees, breakwaters, and other structures) is likely to be insufficient to protect against projected sea-level rise. Crest elevations of structures will have to be raised or structures relocated to reduce hazards from higher total water levels and larger waves.
Flooding	Climate change projections are not sensitive enough to assess localized flooding, but the general expectation is that more intense storms would occur thereby leading to more frequent, longer and deeper flooding. Changes to precipitation regimes may increase flooding.

Vulnerability Areas	General Overview of Vulnerabilities
	Elevated Bay elevations due to sea-level rise will increase backwater effects exacerbating the effect of fluvial floods and storm drain backwater flooding.
Ecosystem and Habitat	Changes in the seasonal patterns of temperature, precipitation, and fire due to climate change can dramatically alter ecosystems that provide habitats for California's native species. These impacts can result in species loss, increased invasive species ranges, loss of ecosystem functions, and changes in vegetation growing ranges. Reduced rain and changes in the seasonal distribution of rainfall may alter timing of low flows in streams and rivers, which in turn would have consequences for aquatic ecosystems. Changes in rainfall patterns and air temperature may affect water temperatures, potentially affecting coldwater aquatic species. Bay Area ecosystems and habitat provide important ecosystem services, such as: carbon storage, enhanced water supply and quality, flood protection, food and fiber production. Climate change is expected to substantially change several of these services. The region provides substantial aquatic and habitat-related recreational opportunities, including: fishing, wildlife viewing, and wine industry tourism (a significant asset to the region) that may be at risk due to climate change effects.
Hydropower	Currently, several agencies in the Region produce or rely on hydropower produced outside of the Region for a portion of their power needs. As the hydropower is produced in the Sierra, there may be changes in the future in the timing and amount of energy produced due to changes in the timing and amount of runoff as a result of climate change. Some hydropower is also produced within the region and could also be affected by changes in the timing and amount of runoff.

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

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. East Palo Alto currently does not have any plans to develop new non-emergency supply sources. If East Palo Alto 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 SFPUC RWS supply is further discussed in Section 7.1. East Palo Alto does not have any current plans to develop new non-emergency supply sources. If East Palo Alto 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 Consumption

☑ ***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.

East Palo Alto used the "Total Utility Approach" defined by DWR in the UWMP Guidebook 2020 to report water-related energy consumption. Fiscal year 2019-2020 is selected as the one-year reporting period. During fiscal year 2019-2020, no energy was used to operate the City's distribution system because the City relies on system pressure from the SFPUC RWS to convey water throughout the City distribution system. The total volume of water entering the system was 572 MG, however energy intensity was not calculated (Table 6-11).

Table 6-11 Recommended Energy Intensity - Total Utility Approach (DWR Table O-1B)

Urban Water Supplier: *City of East Palo Alto*

Water Delivery Product
Retail Potable Deliveries

Enter Start Date for Reporting Period	7/1/2019	Urban Water Supplier Operational Control		
End Date	6/30/2020			
Is upstream embedded in the values reported?	No	Sum of All Water Management Processes	Non-Consequential Hydropower	
Water Volume Units Used	MG	Total Utility	Hydropower	Net Utility
Volume of Water Entering Process (volume unit)		*572*	*0*	*572*
Energy Consumed (kWh)		*0*	*0*	*0*
Energy Intensity (kWh/volume)		*0*	*0.0*	*0*

Quantity of Self-Generated Renewable Energy
0 kWh

Data Quality
Estimate

Data Quality Narrative:

Narrative:
No energy was used to operate the City's distribution system because the City relies on system pressure from the SFPUC RWS to convey water throughout the City 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 City of East Palo Alto's (City or East Palo Alto) 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 the City's supply during normal, single dry-year, and multiple dry-year hydrologic conditions.

East Palo Alto purchases most 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. East Palo Alto 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 East Palo Alto's supply risks under a severe drought period lasting for the next five consecutive years (i.e., through 2025).

The City also owns and operates one groundwater well that will be used to supplement the water supply from the SFPUC RWS. Groundwater is assumed to be 100% reliable and not subject to the reliability issues discussed herein.

7.1 Water Service Reliability Assessment

The following sections describe East Palo Alto's water service reliability assessment, which presents the City'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 described in Chapter 6, East Palo Alto projects to purchase most of its potable water supply from the SFPUC RWS. Several potential constraints have been identified on future supply availability, water quality, and climate change. These constraints, along with associated management strategies 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 the information is the common language provided by the SFPUC and the Bay Area Water Supply and Conservation Agency (BAWSCA) (see Appendix F and 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 – *meet customer water needs in non-drought and drought periods*	• Meet all state and federal regulations to support the proper operation of the water system and related power facilities. • Meet average annual water demand of 265 mgd from the SFPUC watersheds for retail and Wholesale Customers during non–drought years for system demands consistent with the 2009 Water Supply Agreement. • Meet dry-year delivery needs while limiting rationing to a maximum 20 percent system-wide reduction in water service during extended droughts. • Diversify water supply options during non-drought and drought periods. • Improve use of new water sources and drought management, including groundwater, recycled water, conservation, and transfers.

Bay-Delta Plan Impacts

Based on information provided by SFPUC and BAWSCA (Appendix F and Appendix G) 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"[20] 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

[20] "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.)

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 (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.[21]

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 though 2045, as shown in Appendix G. The Tier One Plan describes the method for allocating RWS water between Retail and Wholesale Customers during system-wide shortages of 20% 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 projects supply shortfalls are greater than 20%. SFPUC and BAWSCA assumed that Tier One allocations for system-wide shortfalls of 16% to 20% would apply for all shortfalls greater than 20%. BAWSCA also 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% 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.

[21] 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[22]) 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% 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%. SFPUC and BAWSCA assumed that Tier One allocations for System-Wide shortfalls of 16% to 20% would apply for all shortfalls greater than 20% 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%.

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

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

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.

Revised Drought Allocation Plan

As detailed by BAWSCA in multiple memos and workshops (Appendix G), the Tier Two Plan was not designed for RWS shortages greater than 20%.[23] In a memorandum dated March 1, 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%. 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 G. While this allocation methodology has been used herein, we note that, per its memoranda dated 18 February 2021 (Appendix G)

> "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%.

7.1.1.2 *Groundwater Supply Availability*

As documented in Chapter 6, the City plans to begin using groundwater which is projected to 100% reliable.

[23] The Tier One plan was also not designed for RWS shortages greater than 20%.

7.1.1.3 *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.

Impaired water quality also has the potential to affect water supply reliability. As discussed in Chapter 6, the majority of the water supply to the SFPUC RWS is 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.

Water from the City's Gloria Way well is treated to remove iron and manganese and blended with water from the SFPUC RWS to reduce TDS prior to entering the City's distribution system. Veolia North America (operators of East Palo Alto's water system) operate and monitor the well and treatment system. During system operation, water quality is continuously monitored with online instruments and grab samples are periodically collected to monitor treatment system performance.

Additionally, Veolia North America collects water quality samples and monitors water quality within the City's distribution system. A copy of the City's 2020 Water Quality Report, which contains water quality sampling data from 2019, is included as Appendix H. As can be seen in Appendix H, all of the analyzed constituents were detected at concentrations below the Maximum Contaminant Level (MCL).

The results of East Palo Alto's and SFPUC's water quality assessments show that SFPUC RWS watersheds have very low levels of contaminants, and that those contaminants that are found at low levels are associated with wildlife and, to a limited extent, human recreation. For the purposes of this UWMP, it is anticipated that this high-quality potable water source will continue to be available to East Palo Alto through the planning horizon ending in the year 2045. Water quality is not expected to impact the reliability of East Palo Alto's supplies.

7.1.1.4 *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 East Palo Alto's assessment of its supply reliability. East Palo Alto is actively working with SFPUC and BAWSCA to further quantify and consider future climate change impacts as part of its ongoing supply and operations planning.

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 2020, 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 F and Appendix G 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 (HHLSM) to estimate SFPUC RWS supply availability for water service reliability assessment and the DRA (Section 7.2). HHLSM 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 G 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 G, 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 million gallons per day (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, East Palo Alto'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% to 54% 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% of Wholesale projected purchases during all year types except during the fourth and fifth consecutive dry years for base year 2045 when 15% Wholesale supply shortages are projected.

7.1.2.2 *East Palo Alto's Year-Type Characterization*

As discussed in Section 6.1.2, in accordance with the SFPUC's perpetual obligation to East Palo Alto's Supply Assurance, East Palo Alto has an Individual Supply Guarantee (ISG) of 3.46 MGD, or 1,264 MG per year. SFPUC is obligated to provide East Palo Alto with up to 100% of East Palo Alto's ISG during normal years.

Using the SFPUC modeling results presented in 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 in 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%. 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 dated 1 April 2021 (Appendix G) and reproduced in Table 7-2, below, for base year 2025 through 2045. The percent reductions shown in Table 7-2 are applied to East Palo Alto's projected potable demands listed in Table 4-8 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 Based 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 East Palo Alto's ISG (3.46 MGD).
(b) Dry-year water supply availability is presented in terms of percentage of projected RWS demands for each base year (Table 4-8) 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.

East Palo Alto's projected water demands are compared to water supply projections in normal years, single dry years, and multiple dry year periods.

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 6-10 and Table 4-8, respectively. East Palo Alto 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 *From DWR Table 6-9*	1,271	1,271	1,271	1,271	1,271
Demand totals *From DWR Table 4-3*	692	692	721	779	1,078
Difference	578	578	549	492	193

NOTES:
(a) Volumes are in units of MG.
(b) Includes supply from the SFPUC RWS and the City's Gloria Way Well.

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 G, East Palo Alto 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	445	463	492	583	583
Demand totals	692	721	779	927	1,078
Difference	(248)	(258)	(287)	(344)	(495)

NOTES:
(a) Volumes are in units of MG.
(b) Includes supply from the SFPUC RWS and the City's Gloria Way Well.

7.1.3.3 *Water Service Reliability - Five Consecutive Dry Years*

Based on the supply reliability estimates and allocation structure provided by SFPUC and BAWSCA, Table 7-5 shows the City's 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	445	463	492	583	583
	Demand totals	692	721	779	927	1,078
	Difference	(248)	(258)	(287)	(344)	(495)
Second year	Supply totals	383	397	423	503	583
	Demand totals	692	721	779	927	1,078
	Difference	(310)	(324)	(356)	(424)	(495)
Third year	Supply totals	383	397	423	503	583
	Demand totals	692	721	779	927	1,078
	Difference	(310)	(324)	(356)	(424)	(495)
Fourth year	Supply totals	383	397	423	445	496
	Demand totals	692	721	779	927	1,078
	Difference	(310)	(324)	(356)	(482)	(582)
Fifth year	Supply totals	383	397	390	445	496
	Demand totals	692	721	779	927	1,078
	Difference	(310)	(324)	(389)	(482)	(582)

NOTES:
(a) Volumes are in units of MG.
(b) Includes supply from the SFPUC RWS and the City's Gloria Way Well.

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 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 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 East Palo Alto'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 G), 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% of projected RWS demands in all year types through 2045, except for the 4th and 5th consecutive dry year in 2045, during which 90% of projected RWS demands would be available. The large disparity in projected water supply reliability between these two scenarios demonstrate the current level 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 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 G, 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 may reduce the projected shortfalls (Appendix I).
- *SFPUC is considering modifications to its design drought methodology and rationing policy.* Shortening the 8.5-year design drought or modifying the rationing policy to increase rationing in the early years of a drought are anticipated to reduce projected RWS supply shortfalls (Appendix I).
- *Methodology for Wholesale Customer drought allocations have not been established for wholesale shortages greater than 20%.* As discussed in Section 7.1.1.1 an equal percent reduction has been applied across all agencies for the UWMP planning purposes per BAWSCA guidance. 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%.

- *Frequency and duration of cutbacks is not well understood.* 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 G), 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.
- *RWS demands are subject to change.* The RWS supply availability is dependent upon the system demands. As discussed in Section 7.1.1, 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.
- *City demands and supplies are subject to change.* The City is considering consolidating the Palo Alto Park Mutual Water Company and O'Connor Tract Co-operative Water Company systems into the City system. Those systems rely 100% on groundwater, which could change the City's supply portfolio and potentially augment its dry year supplies. A preliminary evaluation of the impacts on the City's project demand supply portfolio is included as Appendix E.

As such, East Palo Alto has placed high priority on working with BAWSCA and SFPUC in the upcoming years to better refine the estimates of its local and 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 the City to apply its Water Shortage Contingency Plan (WSCP) Stage 6 for water use restrictions above 50% (see Appendix K) and will affect East Palo Alto's short- and long-term water management decisions. As described further below (Section 7.1.3.5), East Palo Alto 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, East Palo Alto will need to implement additional demand management practices to invoke strict restrictions on potable water use and accelerate efforts to develop alternate supplies of water.

East Palo Alto recommends that users of its 2020 UWMP contact City 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, discussed above, the City of East Palo Alto, 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 Strategies and Actions

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 applicate here).

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

In addition to the Daly City Recycled Water Expansion project[24], 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, 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

[24] 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.

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)[25], 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.

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

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.

City of East Palo Alto Strategies and Actions

As described in Section 6.2.4, the City is currently working on installing the Pad D well for use as an emergency well. Considering the reliability issues of the SFPUC RWS described above, the City will work towards developing the Pad D Well as a drought year supply to offset impacts of cutbacks from the SFPUC RWS. As shown in Appendix E, the City is also considering incorporating the Palo Alto Park Mutual Water Company and the O'Connor Tract Co-operative Water Company into the City system, which will change its demand and supply portfolio.

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

Further, as part of this UWMP process, East Palo Alto submitted letters to both BAWSCA and SFPUC (see Appendix J) 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.

East Palo Alto's letter to BAWSCA further states that while it is applying BAWSCA's revised Tier Two allocation methodology for RWS shortages greater than 20% for preliminary planning purposes, East Palo Alto is not agreeing to, or adopting, the revised Tier Two methodology. Among other issues, East Palo Alto notes that the revised Tier Two methodology does not take minimum health and safety standards into account.

As described in Section 7.1.4, East Palo Alto is committed to developing a long-term supply reliability strategy, including continued commitment to East Palo Alto's comprehensive 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, East Palo Alto 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 Sections 7.1.3.5 .

East Palo Alto 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, East Palo Alto has developed a robust Water Shortage Contingency Plan (WSCP) that systematically identifies ways in which East Palo Alto can reduce water demands. The Water Shortage Contingency Plan is included in Appendix K.

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 the City'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 Appendix K and Chapter 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, East Palo Alto estimates 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 use is shown in Table 7-6 below, is based upon the Decision Support System (DSS) Model results discussed in Section 4.2.1

Table 7-6 Characteristic Five-Year Water Use

2021	2022	2023	2024	2025
614	637	662	687	692
NOTES: (a) Volumes are in units of MG.				

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 7.1.1) and relies on information provided by SFPUC and BAWSCA (Appendix G). 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 G). Details of how the City's available supplies are then estimated as part of the DRA are provided below.

7.2.2 DRA Individual Water Source Reliability

As described in Chapter 6, East Palo Alto purchases imported surface water from the SFPUC RWS to meet most of its potable water demands, with a small amount coming from groundwater during normal years.

The City's groundwater supplies during the five-consecutive-year drought are assumed to be 100% reliable. For this DRA, it is assumed that the Pad D well will be available as a drought supply starting in 2023.[26]

The City's available potable water supplies from the SFPUC RWS during the five-consecutive-year drought are based upon information provided by SFPUC and BAWSCA included in Appendix G, as indicated in Section 7.2.1. Specifically, based on the modeling results presented in the March 30, 2021 SFPUC letter, BAWSCA provided percent cutbacks for years 2021 through 2025 in Table F1 of the April 1, 2021 BAWSCA drought allocation tables, which are reproduced in Table 7-7, below, and serve as the basis for the RWS Reliability in the DRA.

[26] The City's WSCP states that once cutbacks reach levels of 40% or greater, additional groundwater will be used to meet demand. It is assumed that both Gloria Way Well and Pad D well will be used under these extreme shortage scenarios. Gloria Way operation is assumed to be up to 150 gpm for 7 hours per day for 104 days per year (i.e., up to 7 MG per year) and Pad D operation is assumed to up to 500 gpm for 12 hours per day for 365 days per year (i.e., up to 131 MG per year).

Table 7-7 East Palo Alto 2020 Base Year Multiple Dry Year Drought Allocations

	2021	2022	2023	2024	2025
East Palo Alto Drought Allocation	614	637	341	341	341

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 East Palo Alto'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 7-7, 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 7-7.[27]

7.2.3 Drought Risk Assessment Total Water Supply and Use Comparison

Table 7-8 provides a comparison of the water supply sources available to East Palo Alto with the total projected water use for an assumed drought period of 2021 through 2025. The City 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.

[27] Note that this DRA is based on the percentages shown in Table F1 of the April 1, 2021 BAWSCA letter assuming equal percent cutbacks between agencies instead of the volumes shown in Table F2. This DRA does not rely on the supply volumes shown in Table F2 because they are based on outdated RWS supply projections for the City of East Palo Alto. Specifically, the supply available to the City for years 3, 4 and 5 (i.e., 2023-2025 of the DRA) is estimated as 47% of the City's projected 2022 demand from the DSS Model that supported the demand projections presented herein.

East Palo Alto has developed a WSCP (Appendix K) 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 East Palo Alto will implement to reduce demands, augment supplies[28], and further ensure supply reliability at various levels of water shortage.

Given the current uncertainty discussed in Section 7.1.3.4 , East Palo Alto 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. East Palo Alto 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, East Palo Alto expects that SFPUC will provide more specific information and a refined estimate of the Bay-Delta Plan Amendment impacts to the SFPUC supply. 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.

The City of East Palo Alto recommends that users of its 2020 UWMP contact City staff for potential updates to the DRA presented in the 2020 UWMP for their planning projects.

Table 7-8 Five-Year Drought Risk Assessment Tables to Address Water Code 10635(b) (DWR Table 7-5)

2021	Total
Total Water Use	614
Total Supplies	614
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	0
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	0%

[28] The City's WSCP states at once cutbacks reach levels of 40% or great, additional groundwater will be used to meet demand. It is assumed that both Gloria Way Well and Pad D well will be used under these extreme shortage scenarios. Gloria Way operation is assumed to be up to 150 gpm for 7 hours per day for 104 days per year (i.e., up to 7 MG per year) and Pad D operation is assumed to up to 500 gpm for 12 hours per day for 365 days per year (i.e., up to 131 MG per year).

Table 7-8 Five-Year Drought Risk Assessment Tables to Address Water Code 10635(b) (DWR Table 7-5)

2022	Total
Total Water Use	637
Total Supplies	637
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	0
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	0%

2023	Total
Total Water Use	662
Total Supplies	341
Surplus/Shortfall w/o WSCP Action	(321)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	131.4
WSCP - use reduction savings benefit	190
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	49%

2024	Total
Total Water Use	687
Total Supplies	341
Surplus/Shortfall w/o WSCP Action	(346)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	131.4
WSCP - use reduction savings benefit	215
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	50%

Table 7-8 Five-Year Drought Risk Assessment Tables to Address Water Code 10635(b) (DWR Table 7-5)

2025	Total
Total Water Use	692
Total Supplies	341
Surplus/Shortfall w/o WSCP Action	(351)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	131.4
WSCP - use reduction savings benefit	220
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	51%

NOTES:
(a) Volumes are in units of MG.
(b) Assumes use of Pad D well at 500 gpm, 12 hrs/day, year round to augment supplies during the projected shortage of greater than 40%.

8. WATER SHORTAGE CONTINGENCY PLANNING

The City of East Palo Alto's (City's or East Palo Alto's) Water Shortage Contingency Plan (WSCP) is included as Appendix K. 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. The primary objective of the WSCP is to ensure that East Palo Alto 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% to greater than 50% shortage, identifies a suite of demand mitigation measures for East Palo Alto to implement at each level, and identifies procedures for East Palo Alto to annually assess whether or not a water shortage is likely to occur in the coming year, among other things.

Tables that are required by the Department of Water Resources (DWR) for the WSCP are provided below.

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

Shortage Level	Percent Shortage Range	Shortage Response Actions
1	Up to 10%	• In addition to mandatory prohibitions in force at all times, declaration by the Public Works Director or designee, as affirmed by the City Council in the form of a resolution, upon the determination that one of the following conditions exist: (1) SFPUC or another governing authority (e.g., the State Water Resources Control Board [SWRCB]) has required a voluntary or mandatory reduction in water use of up to 10% due to water supply shortages or an emergency, or (2) Local conditions impacting the quantity or quality of the City's water supply warrant the need for a reduction in water use of up to 10%. • Includes implementation of mandatory restrictions on end uses (see WSCP Table 6-1) as well as agency actions (see WSCP Table 6-2).

Shortage Level	Percent Shortage Range	Shortage Response Actions
2	Up to 20%	• Declaration by the Public Works Director or designee, as affirmed by the City Council in the form of a resolution, upon the determination that one of the following conditions exist: (1) The SFPUC or another governing authority (e.g., the SWRCB) has required a voluntary or mandatory reduction in water use of up to 20% due to water supply shortages or an emergency, or (2) Local conditions impacting the quantity or quality of the City's water supply warrant the need for a reduction in water use of up to 20%. • Includes implementation of mandatory restrictions on end uses (see WSCP Table 6-1) as well as agency actions (see WSCP Table 6-2).
3	Up to 30%	• Declaration by the Public Works Director or designee, as affirmed by the City Council in the form of a resolution, upon the determination that one of the following conditions exist: (1) The SFPUC or another governing authority (e.g., the SWRCB) has required a voluntary or mandatory reduction in water use of up to 30% due to water supply shortages or an emergency, or (2) Local conditions impacting the quantity or quality of the City's water supply warrant the need for a reduction in water use of up to 30%. • Includes implementation of mandatory restrictions on end uses (see WSCP Table 6-1) as well as agency actions (see WSCP Table 6-2).

Shortage Level	Percent Shortage Range	Shortage Response Actions
4	Up to 40%	• Declaration by the Public Works Director or designee, as affirmed by the City Council in the form of a resolution, upon the determination that one of the following conditions exist: (1) The SFPUC or another governing authority (e.g., the SWRCB) has required a voluntary or mandatory reduction in water use of up to 40% due to water supply shortages or an emergency, or (2) Local conditions impacting the quantity or quality of the City's water supply warrant the need for a reduction in water use of up to 40%. • Includes implementation of mandatory restrictions on end uses (see WSCP Table 6-1) as well as agency actions (see WSCP Table 6-2).
5	Up to 50%	• Declaration by the Public Works Director or designee, as affirmed by the City Council in the form of a resolution, upon the determination that one of the following conditions exist: (1) The SFPUC or another governing authority (e.g., the SWRCB) has required a voluntary or mandatory reduction in water use of up to 50% due to water supply shortages or an emergency, or (2) Local conditions impacting the quantity or quality of the City's water supply warrant the need for a reduction in water use of up to 50%. • Includes implementation of mandatory restrictions on end uses (see WSCP Table 6-1) as well as agency actions (see WSCP Table 6-2).

Shortage Level	Percent Shortage Range	Shortage Response Actions
6	>50%	• Declaration by the Public Works Director or designee, as affirmed by the City Council in the form of a resolution, upon the determination that one of the following conditions exist: (1) The SFPUC or another governing authority (e.g., the SWRCB) has required a voluntary or mandatory reduction in water use greater than 50% due to water supply shortages or an emergency, or (2) Local conditions impacting the quantity or quality of the City's water supply warrant the need for a reduction in water use greater than 50%. • Includes implementation of mandatory restrictions on end uses (see WSCP Table 6-1) as well as agency actions (see WSCP Table 6-2).
NOTES:		

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? (a)	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
1	Other	5%	1. Hoses must be equipped with a shut-off valve for washing vehicles, sidewalks, walkways, or buildings. 2. Broken or defective plumbing and irrigation systems must be repaired or replaced within 48 hours. 3. Recreational water features, including pools, spas, and jacuzzis, shall be covered when not in use. 4. Ornamental fountains shall use only re-circulated or recycled water. 5. Single-pass cooling systems on new construction shall not be allowed. 6. Potable water shall not be applied in any manner to any driveway, sidewalk, or other hard surface except when necessary to address immediate health or safety concerns. 7. Potable water shall not be used to water outdoor landscapes in a manner that causes runoff onto non-irrigated areas, walkways, roadways, parking lots, or other hard surfaces. 8. Potable water cannot be applied to outdoor landscapes during and up to 48 hours after measurable rainfall. 9. Potable water shall not be used to irrigate ornamental turf on public street medians. 10. Using potable water to irrigate outside of newly constructed homes and buildings in a manner that is inconsistent with regulations or other requirements established by the California Building Standards Commission and the Department of Housing and Community Development is prohibited. 11. Removing, replacing, altering, or damaging any water meter is prohibited. 12. Other measures as may be approved by Resolution of the City Council.	Yes

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? (a)	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
2	Other	15%	1. Continue with actions and measures from Stage 1 except where superseded by more stringent requirements. 2. All landscape irrigation is restricted to two days per week between 10:00 pm and 8:00 am, on a schedule established by the Public Works Director and posted on the City's website. There is no restriction on agricultural or commercial water use. There is no restriction on watering using recycled water. 3. Hotels and motels shall provide guests an option whether to launder towels and linens daily. Hotels and motels shall prominently display notice of this option in each bathroom using clear and easily understood language. 4. Restaurants and other food service operations shall serve water to customers only upon request. 5. Other measures as may be approved by resolution of the City Council.	Yes

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? (a)	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
3	Other	25%	1. Continue with actions and measures from Stage 2 except where superseded by more stringent requirements. 2. Agricultural and commercial nursery water use is limited to three days per week between 10:00 pm and 8:00 am, on a schedule established by the Public Works Director and posted on the City's website. There is no restriction on watering using recycled water. 3. All other landscape irrigation, except for agricultural and commercial nursery water use, is restricted to one day per week between 10:00 pm and 8:00 am, on a schedule established by the Public Works Director and posted on the City's website. There is no restriction on watering using recycled water. 4. Other measures as may be approved by resolution of the City Council.	Yes
4	Other	35%	1. Continue with actions and measures from Stage 3 except where superseded by more stringent requirements. 2. The Public Works Director may prohibit water uses not required for public health and safety and fire protection. 3. The Public Works Director may prohibit all outdoor water uses, with the exception of agricultural and commercial nursery water use, which may be limited to two days per week between 10:00 pm and 8:00 am, on a schedule established by the Public Works Director and posted on the City's website. 4. The Public Works Director may prohibit all recreational water uses. 5. Water use shall not exceed the water budget established for each customer. 6. Other measures as may be approved by resolution of the City Council.	Yes

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? (a)	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
5	Other	45%	1. Continue with actions and measures from Stage 4 except where superseded by more stringent requirements. 2. Water use shall not exceed established water budget for each customer. 3. Other measures as may be approved by resolution of the City Council.	Yes
6	Other	55%	1. Continue with actions and measures from Stage 5 except where superseded by more stringent requirements. 2. Other measures as may be approved by resolution of the City Council.	Yes
NOTES: (a) The percentages listed in this table are the cumulative savings for each shortage level with implementation of corresponding supply augmentation and other agency actions in Table 6-2. Detailed saving estimates based on end use, response action, and implementation rates can be found in WSCP Attachment 3.				

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? (a)	Additional Explanation or Reference
1	Other	5%	1. Increase public outreach, including publishing water conservation information on the City website and promoting conservation through social media. 2. Expand outreach for existing water conservation programs.

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? (a)	Additional Explanation or Reference
2	Other	15%	1. Continue with actions and measures from Stage 1. 2. Increase public outreach, including information regarding fines or penalties for non-compliance and distributing water bill inserts regarding landscape irrigation restrictions. 3. Expand outreach for existing water conservation programs. 4. Increase water waste patrols.
3	Other	25%	1. Continue with actions and measures from Stage 2. 2. Increase public outreach. 3. Consider implementation of a drought rate structure and/or rate surcharge. 4. No new potable water service shall be provided by the City, except under the following circumstances. a. A valid, unexpired building permit has been issued for the project; or b. The project is necessary to protect the public's health, safety, and welfare; or c. The applicant provides substantial evidence of an enforceable commitment that water demands for the project will be offset prior to the provision of a new water meter(s) to the satisfaction of the Director; or d. To provide continuation of water service or to restore service that has been interrupted for a period of one year or less.

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? (a)	Additional Explanation or Reference
4	Other	35%	1. Continue with actions and measures from Stage 3. 2. The Public Works Director may modify the operation of the City's water system to reduce water use, including reduction of water main flushing and reduction of distribution system pressures. 3. The Public Works Director may establish water budgets, such that no customer shall make, cause, use, or permit the use of water for any purpose in an amount in excess of a certain percentage of the amount of use on the customer's premises during the corresponding billing period during the prior calendar year. Waivers or reductions may be granted to individual customers as deemed appropriate by the City. No customer shall be required to reduce water consumption below the minimum amount required for health and safety, as determined by the City.
5	Other	45%	1. Continue with actions and measures from Stage 4. 2. Increase water budget reduction requirements. 3. Use emergency groundwater well.
6	Other	55%	1. Continue with actions and measures from Stage 5. 2. Implement other short-term emergency actions.
NOTES: (a) The percentages listed in this table are the cumulative savings for each shortage level with implementation of corresponding demand reduction actions in Table 6-1. Detailed saving estimates based on end use, response action, and implementation rates can be found in WSCP Attachment 3.			

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) For the supplement required of urban retail water suppliers by paragraph (2) of subdivision (f) of Section 10621, a narrative that describes the water demand management measures that the supplier plans to implement to achieve its urban water use objective by January 1, 2027, pursuant to Chapter 9 (commencing with Section 10609) of Part 2.55.

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

(i) Water waste prevention ordinances.

(ii) Metering.

(iii) Conservation pricing.

(iv) Public education and outreach.

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

(vi) Water conservation program coordination and staffing support.

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

This section provides an overview of the City of East Palo Alto's (City's or East Palo Alto'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. The City administers several of its DMMs through past participation in California Urban Water Conservation Council (CUWCC) Best Management Practices (BMPs) (succeeded by the California Water Efficiency Partnership [CalWEP]) and currently with the Bay Area Water Supply & 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 East Palo Alto.

9.1 Regional Water Conservation

East Palo Alto 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 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.

Although the program was designed and available at a regional level, most of the implementation of the individual programs within the East Palo Alto service area is done by City 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. As of October 2020, East Palo Alto participates in the following Subscription Programs:

- High-Efficiency Toilet (HET) Rebates
- High-Efficiency Residential Washing Machine Rebates
- Rainwater Container Incentive Rebates
- Landscape Education Program
- WaterWise School Education Program

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

The City implements all of the DMMs listed in CWC Section 10631(e), as described below.

9.2.1 DMM 1 – Water Waste Prevention Ordinances

Chapter 17.04 of the City's Municipal Code prohibits water waste within the City. The City has prohibited the unreasonable use of water, which is defined as the failure to take appropriate measures to minimize excess application and incidental losses of water. Examples of unreasonable use include allowing excess runoff from irrigation, failing to fix broken plumbing, and more. Specific water-wasting actions are prohibited in Chapter 17.04 of the City's Municipal Code, which is discussed in Appendix L. While Chapter 17.04 of the City's Municipal Code is enforced at all times, the City increases enforcement during periods of water shortage.

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.

The City requires meters on all connections to the water distribution system, including detector check meters on new private fire protection services. Currently, there are no known unmetered connections to the water distribution. All new commercial and industrial developments are required to have dedicated water meters for landscape irrigation.

9.2.3 DMM 3 – Conservation Pricing

The City charges a set price for all customers per unit of potable water, referred to as a uniform volume charge. The current uniform volume charge is $7.55 per 100 cubic feet of water delivered.[29] Although the City does not utilize an increasing block rate structure, the existing rate structure facilitates water conservation because the customer's water bill increases with the volume of water used.

9.2.4 DMM 4 – Public Education and Outreach

The City implements a number of public education and outreach initiatives with support from the BAWSCA Regional Water Conservation Program, including the following initiatives:

- Water efficient landscape education classes: The City coordinates with BAWSCA in the advertising of a series of Water-Efficient Landscape Education that are free to the public and are designed to introduce homeowners and landscape professionals to the concepts of sustainable landscape design. The classes focus on creating beautiful, water-efficient gardens as an alternative to lawns. Examples of specific class topics include "Lawn Replacement 101", "Drought Tolerant Plants", and "From Graywater to Green Garden", among others.
- *Water-Wise Gardening in the Bay Area* landscape educational tool: The City promotes the popular landscape educational tool *Water-Wise Gardening in the Bay Area*. Initially created as a CD-ROM in FY 2006-07, the educational tool is currently available on-line via BAWSCA's website so that it can be readily accessed by the public. The *Water-Wise Gardening in the Bay Area* tool contains information on how to create and maintain a beautiful, low-water-use garden and includes photographs of water-efficient gardens and provides links to the plants that compose the featured gardens. The featured gardens are primarily composed of sites in the Bay Area, specifically within the BAWSCA service area.

The full extent of public outreach that the City has conducted between 2015 and 2020 is discussed in Section 9.3.

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

The City tracks unaccounted-for-water within its system, which is calculated as the difference between metered water consumption and total water production. Unaccounted-for-water includes unmetered water consumption, such as water used for system flushing, leak repair flushing, hydrant leaks, and street sweeping, as well as water lost in the distribution system due to leaks and other water losses.

In an effort to minimize water system loss, Veolia North America (Veolia) conducts leak investigations on behalf of the City. The City estimates that each leak investigation saves approximately 3,000 gallons. The City's previous water system operator, American Water Enterprise, performed leak investigations during

[29] The City's current water rates are available at the following link: https://www.eastpaloaltowater.com/pages/customer-service/rates/.

the period between 2015 and May 2020, however the City does not have records of these investigations. The City's current water system operator, Veolia, did not perform any leak investigations in between June 1, 2020 and the end of the fiscal year on June 30, 2020.

To manage loss in the future, Veolia has procedures in place to initiate a leak investigation when an individual account has a higher than normal water use over a short period (e.g., daily).

9.2.6 DMM 6 – Water Conservation Program Coordination and Staffing Support

The City's water conservation program is administered by the City Engineer. Duties include program management, tracking, planning, responding to public requests, and completing any required reporting. The City Engineer is supported by one staff member. Contact information for the City Engineer is listed below:

Name: Humza Javed

Phone: 650-853-3130

Email: hjaved@cityofepa.org

9.2.7 DMM 7 – Other DMMs

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

- Rain Barrel Rebate: The City offers rain barrel rebates of up to $200 to its residential customers through the San Mateo Countywide Water Pollution Prevention Program. San Mateo County tracks the number of participants countywide, however they do not track by individual City.

In the past, the City has participated in other DMM programs through BAWSCA subscription programs, such as the high-efficiency toilet rebate and high-efficiency residential washing machine rebate programs, however, the City did not participate in these programs between 2015 and 2020. The City is planning to offer these programs to its residents in the future.

The full extent of the DMMs that the City has implemented between 2015 and 2020 is discussed in Section 9.3.

9.3 Implementation Over the Past Five Years

Table 9-1 summarizes the DMMs implemented by East Palo Alto and the extent of implementation (e.g., number of rebates) for each of the programs listed under Section 9.2 between 2015 and 2020.

9.4 Planned 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.

East Palo Alto 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, East Palo Alto's water use in 2020 was 60 gallons per capital per day (GPCD), which is substantially lower than its SB X7-7 water use target of 124 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.

East Palo Alto 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.
>
> - 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.[30]
- 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, East Palo Alto's 2021 Demand Management Decision Support System Model (DSS Model) estimates projected water demands and quantifies passive and active conservation water savings potential. As discussed in Section 4.7, the DSS Model projections demonstrate that per capita indoor residential potable water use within East Palo Alto is expected to be below the indoor use standards presented in the legislation.

[30] 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	SFR, MFR, CII And IRR	Chapter 17.04 of the City's Municipal Code prohibits water waste within the City. The City has prohibited the unreasonable use of water, which is defined as the failure to take appropriate measures to minimize excess application and incidental losses of water.	The requirements of Chapter 17.04 of the City's Municipal Code are enforced at all times.
2	Metering	SFR, MFR, CII And IRR	The City requires meters on all connections to the water distribution system, including detector check meters on new private fire protection services. Currently, there are no known unmetered connections to the water distribution. All new commercial and industrial developments are required to have dedicated water meters for landscape irrigation.	All accounts are metered and read on a monthly basis.
3	Conservation Pricing	SFR, MFR, CII And IRR	The current water rate structure includes a uniform charge based on volume of water usage: https://www.eastpaloaltowater.com/pages/customer-service/rates/.	
4	Water Efficient Landscape Education Classes	SFR, MFR	Free classes developed by BAWSCA provide information regarding water efficient landscaping. The classes focus on creating beautiful, water-efficient gardens as an alternative to lawns, and include "Lawn Replacement 101," "Drought Tolerant Plants," and "From Graywater to Green Garden," among others. The City participates through the BAWSCA Regional Water Conservation Program.	
5	Leak Investigations	UFW	In an effort to minimize water system loss, Veolia North America conducts leak investigations on behalf of the City. The City estimates that each leak investigation saves approximately 3,000 gallons	FY 2015-16 through FY 2019-20: unknown
6	Conservation Program Coordination and Staff	SFR, MFR, CII And IRR	The City employs coordination staff and funds the water conservation program.	The water conservation program is coordinated and administered by the City Engineer.

DMM Category	Program or Activity	Target Sector	Nature of Implementation	Extent of Implementation
7	Rain Barrel Rebate	SFR, MFR	The City offers rain barrel rebates of up to $200 to its residential customers through the San Mateo Countywide Water Pollution Prevention Program.	San Mateo County tracks the number of participants countywide, however they do not track by individual City

10. PLAN ADOPTION, SUBMITTAL, AND IMPLEMENTATION

Preparation of the Urban Water Management Plan (UWMP) and the Water Shortage Contingency Plan (WSCP) began in November 2020 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 February 4, 2021 and March 12, 2021, the City of East Palo Alto (City or East Palo Alto) sent a letter to 51 recipients from 26 agencies, 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 East Palo Alto was in the process of updating its UWMP and WSCP and soliciting their input in the update process. A listed of the entities contacted is provided in Table 2-4 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.

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 June 1, 2021, East Palo Alto sent a letter 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 City Hall and on the City's website. The letter also informed the agencies that the UWMP and WSCP public hearing would be occurring at City Hall on June 15, 2021. A sample copy of the notification letters is included in Appendix B.

10.2.2 Notice to the Public

On June 1, 2021 and June 8, 2021, East Palo Alto published a notice in the *San Mateo County Times* informing the public that the 2020 UWMP and the WSCP would be available for public review at City Hall and on the 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 City Hall on June 15, 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, East Palo Alto 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. All notifications were completed in compliance with the stipulations of Section 6066 of the Government Code.

As part of the public hearing, East Palo Alto 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. XXXX by the City Council during its June 15, 2021 City Council meeting. The WSCP included as Appendix K was adopted by Resolution No. XXXX during the same meeting. Copies of the resolutions are included in Appendix M.

10.4 Plan Submittal

☑ ***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.

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

(c) An urban water supplier regulated by the Public Utilities Commission shall include its most recent plan and water shortage contingency plan as part of the supplier's general rate case filings.

(d) The amendments to, or changes in, the plan shall be adopted and filed in the manner set forth in Article 3 (commencing with Section 10640).

(e) Each urban water supplier shall update and submit its 2015 plan to the department by July 1, 2016.

(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.

Copies of the adopted 2020 UWMP and WSCP will be provided to the Department of Water Resources (DWR), the California State Library, San Mateo County, and SFPUC 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. Appendix N includes plan submittal documentation.

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.

Copies 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 City's website within 30 days of filing the plan with DWR.

10.6 Amending an Adopted UWMP or Water Shortage Contingency Plan

☑ ***CWC § 10644 (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.

If the Plan is amended, each of the steps for notification, public hearing, adoption and submittal will also be followed for the amended document.

11. REFERENCES

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