Appendix H

Water Supply Assessment

Ravenswood/Four Corners Specific Plan Update SEIR

WATER SUPPLY ASSESSMENT

FOR THE

RAVENSWOOD BUSINESS DISTRICT PROJECT

Prepared by

CITY OF EAST PALO ALTO

and

Schaaf & Wheeler
CONSULTING CIVIL ENGINEERS

February 2024

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Prepared by

CITY OF EAST PALO ALTO

City Council

Antonio Lopez, Mayor
Martha Barragan, Vice Mayor
Lisa Gauthier
Ruben Abrica
Carlos Romero

and

Schaaf & Wheeler
CONSULTING CIVIL ENGINEERS
4699 OLD IRONSIDES DR, SUITE 350
SANTA CLARA, CA 95054

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Table i. Acronyms Used in this Report

Acronym	Description
AFY, ac-ft/yr	Acre-feet/year
ccf, hcf	Centum cubic feet, Hundred cubic feet
gpd	Gallons per day
gpcd	Gallons per capita day, or gallons per person per day
gsf	Gross square feet
MGD	Million gallons per day
sq-ft	Square feet
BAWSCA	Bay Area Water Supply and Conservation Agency
BMP	Best management practice
CCR	California Code of Regulations
C&I	Commercial and Institutional
CEQA	California Environmental Quality Act
CWC	California Water Code
DDW	SWRCB Division of Drinking Water (formerly CDPH)
DMM	Demand management measure
DWR	California Department of Water Resources
EIR	Environmental Impact Report
LAFCO	Local Agency Formation Commission
O'Connor Tract	O'Connor Tract Co Op Water Company
PAPMWC	Palo Alto Park Mutual Water Company
RBD	Ravenswood Business District
RWQCP	Regional Water Quality Control Plant
RWS	City and County of San Francisco's Regional Water System
SB	California Senate Bill
SFPUC	San Francisco Public Utilities Commission
SVCW	Silicon Valley Clean Water (formerly SBSA)
SWRCB	California State Water Resources Control Board
UDF	Unit Demand Factor
UWMP	Urban Water Management Plan
VW	Valley Water
WCIP	BAWSCA Water Conservation Implementation Plan
WSA	Water Supply Assessment
WSIP	SFPUC Water System Improvement Program
WVS	Written Verification of Supply

Table ii. Units of Measure Used in this Report

Unit	Equals
1 acre-foot	= 43,560 cubic feet = 325,851 gallons
1 cubic foot	= 7.48 gallons
1 ccf	= 100 cubic feet = 748 gallons
1 MGD	= 1,000,000 gallons/day = 1,120 acre-feet/year

Summary of Water Supply Assessment

Project: Ravenswood Business District Project; East Palo Alto, California

Pursuant to Section 10910 of the California Water Code (CWC), and based on the analysis detailed in this report and the representations by the Project's proponents, the City of East Palo Alto Public Works Department estimates that its currently projected water supplies will be sufficient to meet the projected annual water demands of existing and previously approved uses and the implementation of the Ravenswood Business District (RBD) Project during normal, single dry-, and multiple dry-years. The Project will increase water demand within the City by approximately 100 million gallons per year (MG), which was not accounted for in the 2020 Urban Water Management Plan (UWMP) and therefore represents an increase in the projected demand. Depending on the final outcome and implementation of the State Water Resources Control Board's *Bay Delta Water Quality Control Plan*, East Palo Alto's primary water supply from the San Francisco Public Utilities Commission may be reduced significantly during dry years (possibly up to 54 percent). Although the status of the Bay Delta Plan is still undetermined, East Palo Alto plans to utilize local groundwater wells as needed during dry years in order to limit cutbacks to 55 percent and implement the City's Water Shortage Contingency Plan to reduce water demand during droughts.

Section 1 - Introduction

1.1 Project Overview

The City of East Palo Alto in San Mateo County, California, (City) is reviewing the potential impacts of the Ravenswood Business District Project (RBD Project). The 350-acre project redevelops the area in the northeastern corner of the City generally bounded by University Avenue to the west, The City boundary and rail line at the north, the Bay at the east, and Weeks Street at the south. The proposed new development will have up to 1,600 multifamily residential dwelling units, 1,167,000 square feet of Industrial R&D, 112,473 square feet of retail, and 2,668,488 square feet of office, industrial, services. The net increase of development exceeds the total quantities studied in the Vista 2035 East Palo Alto General Plan (Raimi & Associates, March 2017) and the 2020 Urban Water Management Plan (EKI, June 2021) for various land use types.

This Water Supply Assessment analyzes the net increase of development above the quantities studied in the previous 2015 General Plan Update Water Supply Assessment (IRM, 2015) and is being prepared in accordance with SB 610 for the City's California Environmental Quality Act (CEQA) work in connection with the project. Potable water supply for the RBD Project is provided by the City of East Palo Alto. Further description of the RBD Project is given in Section 2.0.

1.2 Purpose of Water Supply Assessment

The California Water Code (§10910 et. seq.), based on Senate Bill 610 of 2001 (SB 610), requires a project proponent to assess the reliability of a project's water supply as part of the California Environmental Quality Act (CEQA) process. If the City or District providing potable water supply does not have sufficient existing water supply to meet the project demands of the project, the development of additional water supplies must be addressed in the WSA and in the project EIR.

Under the California Government Code (§66473.7), based on Senate Bill 221 of 2001, proposed subdivisions adding 500 dwelling units are also required to receive written verification of the available water supply from the project's water supplier. This project does not include the creation of a subdivision or a subdivision tract map, so a written verification of supply is not required.

This report is meant to serve as the Water Supply Assessment (WSA) for the Project to meet the California Water and Government Code requirements. This WSA documents the City's existing and future water supplies for the Project area and compares them to the City's total projected water demands for the next twenty (20) years.

SB 610 requires the following steps be taken to identify the need and scope of a project's WSA:

1. Determine whether the project is subject to CEQA.
2. Determine whether the project meets the definition of a "project" per SB 610.
3. Determine the public water agency that will serve the project.
4. Determine whether any current Urban Water Management Plan considers the projected water demand for the project area.
5. Determine whether groundwater is used by the public water agency to serve the project area.

1.3 Project Subject to CEQA

CEQA applies to projects for which a public agency is directly responsible, funds, and/or requires the issuance of a permit. The City of East Palo Alto determined that the Project is subject to the requirements of CEQA. The RBD Project is being developed following the 2035 General Plan and in accordance with previously adopted Environmental Impact Reports for the 2035 General Plan[1] and the RBD Specific Plan[2] and the Subsequent Environmental Impact Report for the RBD Specific Plan[3].

1.4 Project Requiring a Water Supply Assessment

CWC §10912(a) defines a Project for WSA purposes as including any of the following:

- a proposed residential development of more than 500 dwelling units;
- a proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space;
- a proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space;
- a proposed hotel or motel, or both, having more than 500 rooms;
- a proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area;
- a mixed-use project that includes one or more of the projects identified in this list; or
- a project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

The RBD Project will result in a net increase in water usage from the pre-project scenario due to the addition of 765 dwelling units, 991,000 additional square feet of research and development space, and 1,175,792 additional square feet of office, industrial, & service space (3,900 equivalent dwelling units). Therefore, the City has required a Water Supply Assessment for the RBD Project.

1.5 Public Water Agency Serving the Project

The City of East Palo Alto municipal water system serves the majority of the City of East Palo Alto including the RBD Project (see Figure 1-1). The public water system distribution, operation, and maintenance is managed by Veolia North America (Veolia) through a contract with the City's Department of Public Works. The City managed water system operates under Public Water System ID 4110024. The City is the water retailer for the area in which it serves and purchases water from the San Francisco Public Utilities Commission (SFPUC), which are water wholesalers. Other purveyors within City limits include the Palo Alto Park Mutual Water Company, which serves customers within the western portion of the City, and the O'Connor Tract Co-operative Water Company, which serves the southwestern portion of the City. The Proposed Project will be served by the City's water system.

The City managed water system draws all of its current domestic water supply through three turnouts off the SFPUC Bay Division Pipelines (BDPLs) 1 and 2 (See Figure 1-2). In addition, there are two one-way

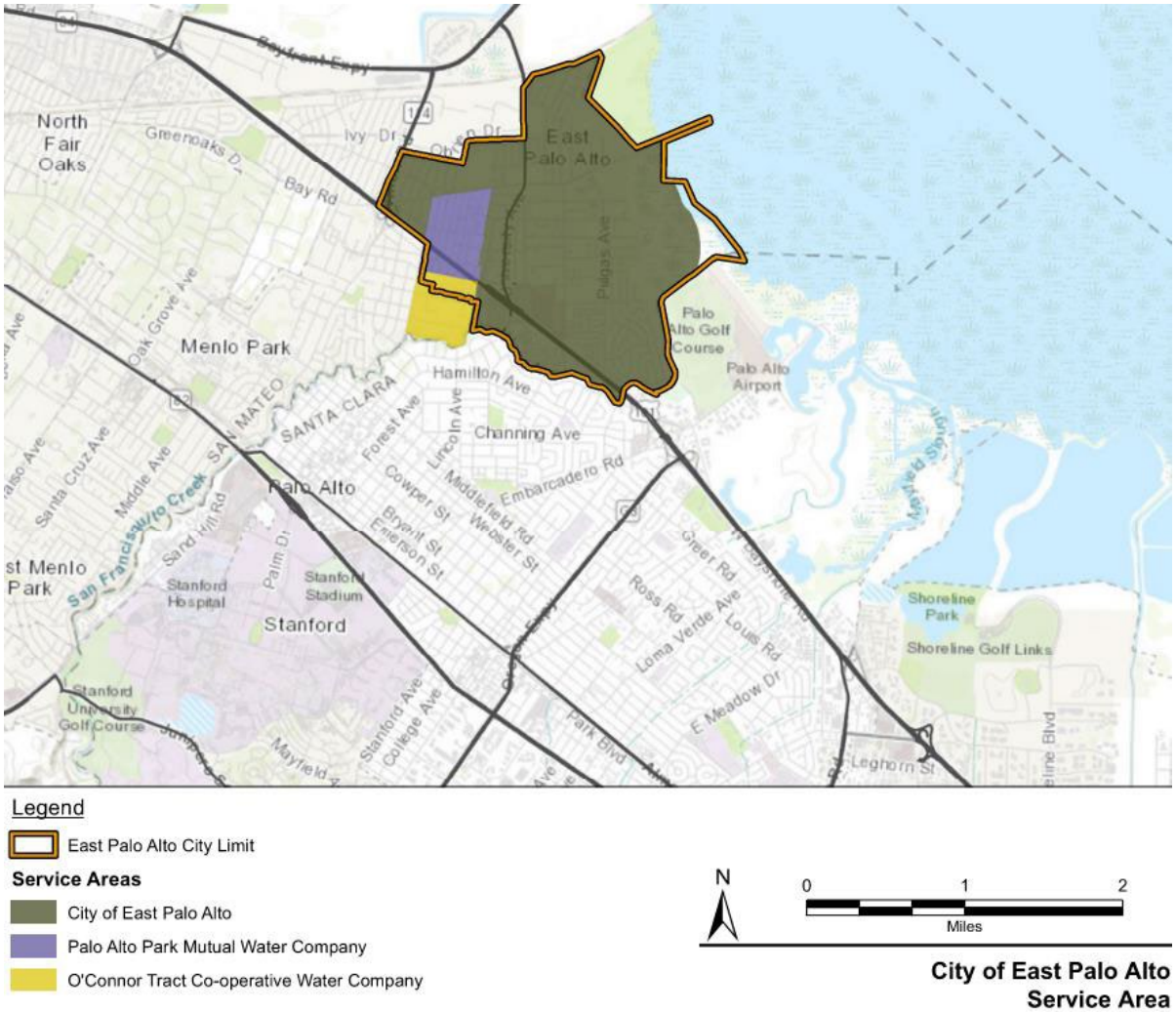
[1] Raimi & Associations, Vista 2035 East Palo Alto General Plan, 2016
[2] The Planning Center DC&E, Ravenswood/4 Corners TOD Specific Plan, 2013
[3] Circle Point, Final Environmental Impact Report City of East Palo Alto General Plan Update, 2016

interties that serve Palo Alto Park Mutual and O'Connor Tract Co-operative Water Company and one intertie with the City of Menlo Park.

Palo Alto Park Mutual and O'Connor Tract Co-operative Water Company are both non-profit entities that provide water to approximately 993 properties. Both systems are served by groundwater systems served via wells and tanks and the interties with the City are for emergency uses.

The City of East Palo Alto owns and operates one groundwater well located at the intersection of Gloria Way and Bay Road. There is currently no storage within the City of East Palo Alto's managed water system. The City managed water system relies solely on water from the SFPUC system for the storage necessary for equalization, fire flows, and emergency use.

Figure 1-1: City of East Palo Alto Service Areas



Source: City of East Palo Alto Master Plan

1.6 Relationship of WSA to the City of East Palo Alto Urban Water Management Plan

The California Urban Water Management Planning Act (§10610 et. seq. of the CWC) requires urban water suppliers providing over 3,000 acre-feet per year (AFY) of water or having a minimum of 3,000 service connections to prepare plans (Urban Water Management Plans or UWMPs) on a five-year, ongoing basis. An UWMP must demonstrate the continued ability of the provider to serve customers with water supplies that meet current and future expected demands under normal, single dry-, and multiple dry-year scenarios. These plans must also include the assessment of urban water conservation measures and wastewater recycling. Pursuant to Section 10632 of the CWC, the plans must also include a water shortage contingency plan outlining how the water provider will manage water shortages, including shortages of up to fifty percent (50%) of their normal supplies, and catastrophic interruptions of water supply. The City of East Palo Alto is required to prepare Urban Water Management Plans. The City's most recent Urban Water Management Plan (2020 UWMP) was adopted in June 2021. The 2020 UWMP projects demands for 25 years through the year 2045.

As provided for in the State law, this WSA incorporates by reference and relies upon many of the planning assumptions and projections of the 2020 UWMP in assessing the water demands of the proposed Project relative to the overall increase in water demands expected within the entire City service area. The 2020 UWMP projects a moderate increase in water demand within the City due to the projected infill development under the City 2035 General Plan. The 2020 UWMP projects overall total water demand within the City to increase from 572 MG in year 2020 to 1,078 MG in year 2045, a net increase of 506 MG (approximately 47 percent). This increase accounts for water use reduction due to plumbing code updates. Conservation measures[4] are not included and could result in an additional 2 percent reduction from the base-case scenario. Because the RBD Project increases land use beyond that projected in the Ravenswood Business District Specific Plan and corresponding Environmental Impact Report (SEIR)[5], the projections in the 2020 UWMP described above do not include all of the RBD Project demand.

[4] UWMP, Section 4.2.4 Table 4-6, 2020

[5] Ravenswood/4 Corners TOD Specific Plan Environmental Impact Report, 2012

Section 2 - Project Description and Water Demands

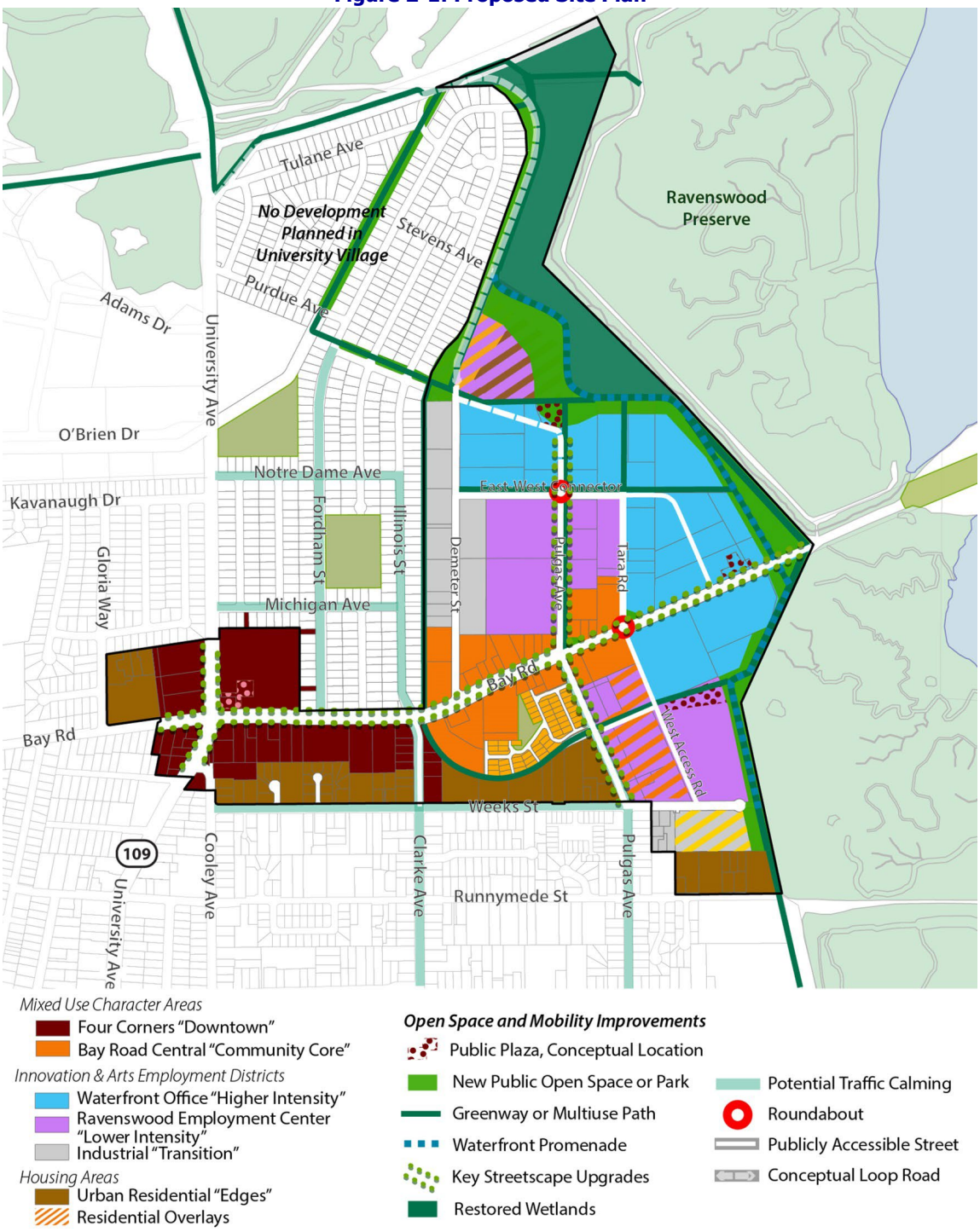
2.1 Project Description

The proposed Project would redevelop 350 acres, covering approximately 850 parcels bounded by University Avenue at the west, the City boundary and a rail line at the north, the Ravenswood Open Space Preserve and the Bay to the east, Weeks Street at the south. The Project area is currently developed primarily with single-family residential and light industrial uses.

The proposed new development will have up to 1,600 new multi-family residential dwelling units, 1,167,000 square feet of Industrial R&D, 112,473 square feet of retail, and 2,668,488 square feet of office, industrial, services. The net increase of development exceeds the total quantities studied in the Vista 2035 East Palo Alto General Plan (Raimi & Associates, March 2017) and the 2020 Urban Water Management Plan (EKI, June 2021) for various land use types. The project proposes to remove several existing office and industrial buildings. The 2013 RBD Specific Plan and subsequently the 2020 UWMP account for up to 835 new multifamily residential dwelling units, 176,000 square feet of Industrial R&D, 112,473 square feet of retail, and 1,492,696 square feet of office, industrial, services. Upon completion, the project would result in a total net increase of approximately 765 multi-family residential dwelling units, 991,000 square feet of Industrial R&D, and 1,175,792 square feet of office, industrial, services. The projects would also require installation of new utilities, landscaping, driveways, and other site improvements.

The project site is designated General Industrial, Industrial Buffer, and Mixed-Use Corridor in the City's 2035 General Plan and the project does not propose any modifications to the 2035 General Plan land use designation.

Figure 2-1: Proposed Site Plan



Source: Joint Council and Planning Commission Study Session Presentation, April 2023

2.2 RBD Project Land Use and Water Demands

The RBD Project is a mixed-use area and water demands can be estimated on a per-square foot basis or a per-dwelling unit basis using unit duty factors based on the land use type.

In this report, unit duty factors for the RBD Project and other approved projects are based on the 2022 Water Master Plan. The duty factors were approved by the City and include indoor and outdoor water use.

Table 2-1: Unit Duty Factors

Land Use	Unit	Duty Factor (gpd/unit) or (gpd/1000 sq ft)
Single-Family	Dwelling Units	260
Multi-Family	Dwelling Units	160
Office/Commercial	Square Feet	110
Research & Development	Square Feet	375
Retail/Restaurant	Square Feet	160
Industrial	Square Feet	110
Civic/Amenities	Square Feet	110

Source: City of East Palo Alto Water System Master Plan (EKI, March 2023)

2.3 Project Total Water Demands

The total water demand projected for the RBD Project at project build-out based on unit duty factors presented in Table 2-2 is 367 MG and includes the 2013 RBD Specific Plan demands and the estimated increase beyond the 2013 RBD Specific Plan, shown below. This is an increase of approximately 100 MG over demands assumed in the 2013 Specific Plan EIR and SEIR and subsequently considered in the 2020 UWMP. These estimates are conservative as they do not account for onsite water conservation efforts such as landscaping with low water use plants and low flow sanitary fixtures and technologies associated with LEED Platinum construction.

Table 2-2: Estimation of Existing and Future Water Demand Using UDFs (MG)

	Land Use Type	Unit Duty Factor (gpd/unit) or (gpd/1000 sf)	Area (sf)	Dwelling Units	Water Demand (gpd)	Total Demand (MG)
Total Ravenswood Business District Demands	Multi-Family	160		1,600	256,000	**367**
	R&D	375	1,167,000		437,625	
	Retail	160	112,473		17,996	
	Office, Industrial, & Service	110	2,668,488		293,534	
	Total				1,005,154	
Vista 2035 East Palo Alto General Plan Ravenswood Business District Demands[1]						**267**
Net Increase of Ravenswood Business District Demands[2]						**100**

Notes:

1. *Estimated demands for the 2013 Ravenswood TOD Specific Plan are outlined in the City's General Plan 2035.*
2. *Estimated Increase outlines the level of development proposed as a portion of the Update to the RBD Specific Plan above the level of development previously approved as a portion of the 2013 RBD Specific Plan, the City's General Plan 2035, and the 2020 UWMP.*

2.4 City Water Demands

2.4.1 City Population

Historical population data from 2020 and projected population growth through 2045 within the City's service are shown in Table 2-3. The City's population is generally considered to be built-out and anticipated population growth is attributed to redevelopment and infill projects.

Table 2-3: Historical and Project Population (MG)

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

Source: 2020 UWMP, Table 3-1

Project population growth based on the City's General Plan (City of East Palo Alto, 2016) and its associated WSA (IRM, 2015)

2.4.2 Historical and Current Water Demands

Table 2-4 shows the City's water use over the period 2016-2020 in AFY. The City's average use over that period was 552 MG, or 1.51 mgd. Water demand in 2020 was 11 percent higher than in 2016.

Table 2-4: Historical and Current Water Demands (MG)

Customer Type	Year				
	2016	2017	2018	2019	2020
Single Family	460	374	369	366	400
Commercial	51	89	96	157	98
Industrial	0	6	6	5	5
Institutional/Governmental	0	7	7	11	10
Losses	3	73	84	16	58
Other - Fire Service	0	1	0	0	1
Other - Portable	0	0	4	1	0
Total	***514***	***550***	***566***	***556***	***572***

Source: 2020 UWMP, Table 4-2

2.4.3 Future Demands

Table 2-5 shows projected water demands for the City through 2045, taken from the 2020 UWMP. The projections shown take into account plumbing code updates but do not include savings due to active water conservation measures. The City is projecting minor demand growth in the single-family residential sector and moderate growth in multi-family residential, commercial and institutional, industrial, and landscape irrigation sectors.

Table 2-5: 2020 UWMP Water Demand Projections (MG)

Customer Sector	Year				
	2025	2030	2035	2040	2045
Single Family	476	479	487	500	514
Commercial, Industrial, and Institutional	149	171	214	334	452
Industrial	8	9	11	16	22
Losses	59	62	66	77	90
Total Demand	***692***	***721***	***778***	***927***	***1,078***

Source: 2020 UWMP, Table 4-4

2.4.4 Dry-Year Demands

Section 10631 of the Water Code requires that water demands be estimated for an average water year, a single dry water year and multiple dry water years. As discussed in the City's 2020 Urban Water Management Plan, the East Palo Alto service area has a Mediterranean climate, with cool wet winters and warm dry summers. Rain typically occurs in November through April. Evapotranspiration (ETo) greatly exceeds annual rainfall, resulting in high water demands for landscape irrigation. During dry years, the irrigation demand for the RBD Project can be expected to increase by 5%[6], while the indoor demands remain constant. However, during dry years, landscape irrigation is considered a non-essential use and restriction is prioritized over indoor usage. The RBD Project will be subject to staged water use restrictions associated with the City's Water Shortage Contingency Plan.

2.4.5 Climate

The City of East Palo Alto is located within a region characterized by a Mediterranean climate with cool, wet winters and warm, dry summers. Table 2-6 outlines average monthly climate characteristics including temperatures, evapotranspiration (ETo), and rainfall.

Table 2-6: 2020 UWMP Water Demand Projections (MG)

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	**Annual**
Avg. Rainfall (in.)	3.15	2.89	2.29	1.02	0.37	0.09	0.02	0.05	0.17	0.73	1.73	2.7	**15.21**
Avg. ETo (in/mo)	1.42	2.00	3.37	4.45	5.46	6.03	6.21	5.54	4.37	3.04	1.69	1.3	**46.6**
Avg. Min Temp (°F)	38.5	41.3	43.1	44.7	48.5	52.5	54.9	54.8	52.6	48.0	42.6	38.2	**69.3**
Avg. Max Temp (°F)	57.4	61.1	64.2	68.4	72.9	77.4	78.4	78.4	78.3	73.0	64.3	57.8	**44.8**

Source: 2020 UWMP, Table 3-4

Temperature and precipitation data are from the Wester Regional Climate Center for Station #046646 Palo Alto from 9/1/53 to 6/4/2016. Evapotranspiration data from Union City station #171 from Department of Water Resources, Irrigation Management Information System.

[6] California Irrigation Management Information System, Station 171 - Union City

Section 3 - Water Supply

3.1 Current Supply

The City of East Palo Alto water supply is primarily obtained through imports from the San Francisco Public Utility Commission (SFPUC) totaling 100 percent of the supply currently and 99 percent of the supply in future years. This is supplemented with local groundwater wells comprising about 1 percent of the supply in future years.

Table 3-1: East Palo Alto Supply Sources

Supply	MG	Right	Contract	Ever Used
SFPUC	1,264		X	Yes
Groundwater	No Limit	X		Yes

3.1.1 SFPUC

The majority of the City's water supply comes from the City and County of San Francisco's Regional Water System (RWS), which is operated by San Francisco Public Utilities Commission (SFPUC). East Palo Alto is one of 26 wholesale customers that are supplied by the RWS, which also supplies the City and County of San Francisco. The "Water Supply Agreement between the City and County of San Francisco and Wholesale Customers in Alameda County, San Mateo County and Santa Clara County" (July 2009) and as amended in November of 2018 governs this relationship. The Regional Water System produces approximately 265 MGD (296,800 AFY), allocated as 81 MGD for retail customers and 184 MGD for wholesale customers. In May 2017, the City of Mountain View agreed to transfer 1.0 MGD (1,120 AFY) of its water supply rights from the SFPUC to East Palo Alto and in 2018, the City of Palo Alto transferred 0.5 MGD to East Palo Alto; the SFPUC now provides up to 3.46 MGD (1,264 MG) to the City.

3.1.2 Groundwater in East Palo Alto

East Palo Alto own one active potable groundwater well within the San Mateo Plain Subbasin (DWR Subbasin 2-009.03) of the Santa Clara Valley Basin. In 2018, the City completed a well reactivation project for Gloria Way Well that included a pump replacement and installation of a treatment and blending station to reduce over levels of TDS, iron, and manganese. The well has not been brought into production but is permitted for use by the City as a potable water source. The City is also working on constructing another well at the Pad D site. The subbasin is not adjudicated, nor has it been found by the Department of Water Resources (DWR) to be in a condition of overdraft. The subbasin is therefore not subject to the requirements of SGMA.

The San Mateo Plain Subbasin is 28,000 acres bounded by the Santa Cruz Mountains on the wets, San Fracisco 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. The southern and eastern edges of the subbasin are political boundaries rather than physical hydrogeologic formations. The major water bearing formations of the subbasin are the Quaternary alluvium and the Santa Clara Formation. Higher elevations in the subbasin are unconfined while lower elevations closer to the Bay are confined or semi-confined. Flows are generally from south-southwest to north-northeast.

The subbasin is currently not managed pursuant to any ground water management plan; however, Valley Water (VW) and the City of East Palo Alto adopted their own groundwater management plans.

East Palo Alto overlies a portion of the San Francisquito Cone Subbasin, an area that overlaps the San Mateo Plain and the Santa Clara Valley Groundwater Basin. The Cities of East Palo Alto and Menlo Park jointly commissioned a study on the San Francisquito Creek Groundwater subbasin. The study concluded groundwater recharge ranges from 1,300 to 2,600 MG per year. Additional supplemental wells could be installed and draw up to that quantity of water without depleting groundwater supplies.

Groundwater use in the subbasin has been relatively limited for the last several decades, as the primary source of water has been import from the SFPUC RWS. The City of East Palo Alto, Palo Alto Park Mutual Water Company and O'Connor Tract Co-operative Water Company are the only water suppliers that utilize the subbasin groundwater for their potable supply source. Ground water is also used by various entities for landscape or domestic irrigation proposes. Total Groundwater production for water supply within the subbasin is approximately 2,300 AFY (750 MG).

Based on the available information, the subbasin is currently relatively full and in stable condition. Historical data indicates that between 1850 and 1960 groundwater levels were significantly lower and negative impacts including seawater intrusion and land subsidence were observed due to high groundwater usage.

The City of East Palo Alto has not used groundwater as a potable water source since 1989. Historical ground water use in the City is zero between 2016 and 2020. The City plans to operate the Gloria Way well on a limited basis producing up to 7 MG per year. In addition, the City can update permitting for the Pad D well and utilize production there to offset some shortages that may occur during dry years.

3.2 Normal and Dry Year Supply

The RBD Project is located in an area of the City served primarily with SFPUC treated water. Future plans currently include expanding the recycled water system to serve more demands in this area.

The reliability of the San Francisco RWS is discussed in detail in the 2020 Urban Water Management Plan. In order to enhance the ability of the SFPUC water supply system to meet identified service goals for water quality, seismic reliability, delivery reliability, and water supply, the SFPUC has undertaken the Water System Improvement Program (WSIP). The WSIP will deliver capital improvements aimed at a total delivery reliability goal of 265 MGD of supply with no greater than 20 percent rationing in any one year of a drought – consistent with the SFPUC's adopted Level of Service Goal. This project is currently 99 percent complete and is anticipated to be completed in February of 2027.

In December 2018, the State Water Board adopted amendments to its Bay Delta Plan to establish water quality objectives to maintain the health of the Bay Delta ecosystem. A main goal of the Bay Delta Plan is to increase salmon populations in the Bay Delta and three San Joaquin River tributaries by requiring 30 percent to 50 percent unimpaired flow from February through June. The SFPUC has analyzed past system yields to identify periods with single and multiple dry-years. The SFPUC has translated these dry-year projections into reductions to the wholesale water supply available to the BAWSCA member agencies, including East Palo Alto. SFPUC projects that if the Bay Delta Plan is implemented as adopted, the dry year water supplies available to the BAWSCA agencies will be reduced between 36 and 54 percent (based

on projected wholesale demand of 162 MGD) or between 55 and 60 percent (based on a maximum wholesale demand of 184 MGD). To address potential future shortfalls, SFPUC is increasing and accelerating its efforts to acquire additional water supplies and explore other projects that would improve water resilience. Capital projects under consideration include surface water storage expansion, recycled water expansion, water transfers, desalination, and potable reuse. These projects are in the early feasibility or conceptual planning stages, and SFPUC completed the Draft Alternative Water Supply Plan June 2023.

In the event that East Palo Alto's wholesale water supply is reduced during dry years, the City plans to implement the temporary demand reduction measures as described in the City's Shortage Contingency Plan[7] to limit the cumulative supply reduction to 55 percent.

3.3 Regulatory Permits Necessary for Supply Delivery

The City of East Palo Alto operates a public water system, permitted by the California Department of Public Health, System No. CA4110024. The RBD Project is currently connected to the water distribution system, so no additional project permits are required. The City purchases wholesale water supply from the San Francisco Regional Water System, which is a public water system permitted by the California Department of Public Health, System No. 3810001 and from VW, System No. 4310027. All systems are required to comply with California Code of Regulations Title 22 per the State Water Resources Control Board Division of Drinking Water.

[7] EKI, Water Shortage Contingency Plan 2020 Update, 2021

Section 4 - Supply Sufficiency Analysis

4.1 Comparison of Project Demands to Projected Supply

With the addition of the RBD Project, the City's water supply contract with the San Francisco Public Utilities Commission (SFPUC) meets the projected water demands throughout the planning period, as shown in Table 4-1 below.

The 2020 UWMP potable demand is based on land use from the 2035 General Plan, including the 2013 RBD Specific Plan. Demand in the 2020 UWMP does not include the estimated incremental increase in demand from the RBD Project above the 2013 RBD Specific Plan EIR and SEIR and the subsequent WSA reports for the 2013 Specific Plan and the 2035 General plan. The RBD Project above the 2013 RBD Specific Plan EIR and SEIR results in between a 9.3 percent and 14.4 percent increase in demand over the UWMP projected demand for the study years.

Table 4-1: East Palo Alto Production vs. Demand, Normal Year (AFY)

Supply Source	Year				
	2025	2030	2035	2040	2045
SFPUC[1]	1,264	1,264	1,264	1,264	1,264
Groundwater[2]	7	7	7	7	7
Potable Supply Production	**1,271**	**1,271**	**1,271**	**1,271**	**1,271**
Potable Demand	692	721	778	927	1,078
Net RBD Demand	100	100	100	100	100
Total Potable Demand	**792**	**821**	**878**	**1,027**	**1,178**
Difference (MG)	***479***	***450***	***393***	***244***	***93***

Source: UWMP, 2020, Table 4-4 & Table 6-10

4.2 Reliability of Water Supply

The deficit between potable supply and demand during a single dry-year is estimated to be between 44 and 51 percent with the RBD Project. This is greater than the expected deficit without the project which ranges from 36 to 46 percent based on the 2020 UWMP. This deficit is primarily due to the adoption of the Bay Delta Plan and the associated curtailments of water supply from the SFPUC, which are projected to reduce supplies to the BAWSCA agencies (including East Palo Alto) up to 54 percent if the Bay Delta Plan is implemented as adopted. The SFPUC issued a letter March 30, 2021 that indicated the reductions in supply are lower than assumed in the 2020 UWMP. This indicates deficiencies in water supply may be lower than indicated in the tables presented in this report.

The shortage is anticipated to be met through temporary demand reduction measures according to the City's Water Shortage Contingency Plan and increased groundwater production. The maximum available groundwater is estimated in the 2020 UWMP to be 7 MG based on design capacities of wells and could be used to offset some of the deficient during dry years. Table 4-2 shows the reduction in the East Palo Alto supply during a single dry-year.

Table 4-2: East Palo Alto Production vs. Demand, Single Dry-Year (AFY)

Supply Source	Year				
	2025	2030	2035	2040	2045
SFPUC[1]	438	456	485	576	576
Groundwater	7	7	7	7	7
Potable Supply Production	**445**	**463**	**492**	**583**	**583**
Potable Demand	692	721	778	927	1,078
Net RBD Demand	100	100	100	100	100
Total Potable Demand	**792**	**821**	**878**	**1,027**	**1,178**
Difference (% demand)	***(347)***	***(358)***	***(386)***	***(444)***	***(595)***

Source: UWMP 2020, Table 7-4

Notes:

1. *SFPUC production is based on the single dry year maximum supply.*

Table 4-3 shows the reduction in the East Palo Alto water supply during multiple dry-years. The maximum deficit between demand and supply occurs in 2045 Year-5 drought scenario. In all future multiple dry years, projected water demands exceed the available potable supply by between 44 percent and 58 percent of the total City potable water demand. This is greater than the expected deficit without the project which ranges from 36 to 54 percent based on the 2020 UWMP. The SFPUC issued a letter March 30, 2021 that indicated the reductions in supply are lower than assumed in the 2020 UWMP. This indicates deficiencies in water supply may be lower than indicated in the tables presented in this report.

The City has a staged Water Shortage Contingency Plan, described in detail in the 2020 UWMP, which includes a mix of voluntary and mandatory rationing actions. Levels 1 through 5 of the Contingency Plan can mitigate shortfalls of up to 50%. Level 6 can mitigate shortfall above 50%.

Table 4-3: East Palo Alto Production vs. Demand, Multiple Dry-Years (AFY)

Supply Source	2025					2030					2035					2040					2045				
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5
SFPUC[1]	438	376	376	376	376	456	390	390	390	390	485	416	416	416	383	576	496	496	438	438	576	576	576	489	489
Groundwater	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Potable Supply	**445**	**383**	**383**	**383**	**383**	**463**	**397**	**397**	**397**	**397**	**492**	**423**	**423**	**423**	**390**	**583**	**503**	**503**	**445**	**445**	**583**	**583**	**583**	**496**	**496**
Potable Demand	692	692	692	692	692	721	721	721	721	721	778	778	778	778	778	927	927	927	927	927	1,078	1,078	1,078	1,078	1,078
RBD Demand	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Total Potable Demand	792	792	792	792	792	821	821	821	821	821	878	878	878	878	878	1,027	1,027	1,027	1,027	1,027	1,178	1,178	1,178	1,178	1,178
Difference	**(347)**	**(409)**	**(409)**	**(409)**	**(409)**	**(358)**	**(424)**	**(424)**	**(424)**	**(424)**	**(386)**	**(455)**	**(455)**	**(455)**	**(488)**	**(444)**	**(524)**	**(524)**	**(582)**	**(582)**	**(595)**	**(595)**	**(595)**	**(682)**	**(682)**

Source: UWMP Table 7-5

Notes:

1. *SFPUC production equivalent to those presented in the 2020 UWMP and are considered to be maximum due to the Bay Delta Plan.*

Section 5 - Conclusions

5.1 Sufficiency of Water Supply for the Project

The Ravenswood Business District Project (RBD Project) is projected to increase water demand to 1,027 MG at build-out with a net incremental increase of 100 MG. As the 2035 General Plan did not account for the incremental increase from the RBD Project above the 2013 RBD Specific Plan EIR and SEIR, the increase in water use at the Site has not been accounted for in the projected growth in water use shown in the 2020 UWMP.

The City of East Palo Alto water service has sufficient existing water supply to support the RBD Project under normal year conditions. Under normal conditions, the City is not projected to experience supply shortfalls. Shortfalls of up to 58% are projected for single dry-years and for multiple dry-years assuming the Bay Delta Plan is implemented. Under all conditions, the City may need to impose water conservation measures, per East Palo Alto Municipal Code, Section 13.24 Article III and Article VI and Section 17.04, to reduce demand. Action Stage 1 calls for a demand reduction of up to 5% through increased public education and outreach, mandatory shut-off valves, immediate repairs of broken and defective water systems, covering of recreational water, and reduction of water use for landscaping and cleaning to reduce water use. Action Stage 2 calls for a demand reduction of up to 15% through several mandatory water use restrictions and requirements, such as limiting landscape irrigation to two days a week at off-peak times, hotels including additional availability to not launder towels and linens daily, and restaurants only provide water upon request. Stage 3 calls for a demand reduction of up to 25% through enforcements of limiting agricultural and commercial nursery irrigation to three days per week during off-peak hours and limiting landscape irrigation to one day per week during off-peak hours. Stage 4 calls for a demand reduction of greater than 35% by restricting all outdoor irrigation and additional, prohibiting all recreational water use, and reducing water not required for public health and safety and fire protection. Stage 5 calls for a demand reduction of greater than 45% by restricting water use above an established water budget for each customer. Stage 6 calls for a demand reduction of greater than 55% by restricting water uses above and beyond the requirements outlined in the previous stages. The implementation of these measures would result in supply remaining sufficient for the projected future demand even in multiple dry-years.

5.2 Future Actions

Section 10911(b) of the Water Code states "The City or County shall include the water assessment provided pursuant to Section 10910, in any environmental document prepared for the Project pursuant to [CEQA]." The City of East Palo Alto will need to adopt this WSA as part of the CEQA environmental review for the proposed RBD Project, including the findings described above.

Appendix A: References

California Department of Water Resources:

20x2020 Water Conservation Plan, February 2010.

California Irrigation Management Information System (CIMIS) website, www.cimis.water.gov

Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001, October 8, 2003

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California Urban Water Conservation Council, Memorandum of Understanding Regarding Urban Water Conservation in California, As Amended June 9, 2010

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East Palo Alto:

2015 Urban Water Management Plan, https://www.cityofepa.org/sites/default/files/fileattachments/public_works/project/14661/east_palo_alto_2015_urban_water_management_plan.pdf, June 2016

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2015 General Plan Update Water Supply Assessment, 2015

Vista 2035 East Palo Alto General Plan Update, October 4, 2016

General Plan Update Final Environmental Impact Report, prepared by Circle Point, August 2016

Ravenswood/4 Corners TOD Specific Plan, 2013

Water System Master Plan Version 2, March 2023

San Francisco Public Utilities Commission:

2015 Urban Water Management Plan, https://sfwater.org/index.aspx?page=75, April 2016

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University of California Cooperative Extension, A Guide to Estimating Irrigation Water Needs for Landscape Plantings in California, August 2000

Valley Water:

2015 Groundwater Management Plan, http://www.valleywater.org/GroundwaterManagement/, November 2016
2015 Urban Water Management Plan, http://www.valleywater.org/Services/UWMP.aspx, May 2016

2021 Groundwater Management Plan, November 2021

2020 Urban Water Management Plan, http://www.valleywater.org/Services/UWMP.aspx, June 2021

Appendix B: City of East Palo Alto Council Resolution Approving the Water Supply Assessment for the Ravenswood Business District Project

PLACEHOLDER FOR ADOPTED WSA