Appendix Q

Water Supply Assessment

AUGUST 2023

AMENDED WATER SUPPLY ASSESSMENT

SEELY AVENUE MIXED USE PROJECT

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LIST OF ACRONYMS AND ABBREVIATIONS

Acronym	Meaning
AFY	acre-feet/year
CEQA	California Environmental Quality Act
CVP	Central Valley Project
DDW	California Water Resources Control Board, Division of Drinking Water
DWR	California Department of Water Resources
gpd	gallons per day
gmp	gallons per minute
IP	Industrial Park
MGD	million gallons per day
NSJ/Alviso	North San José/Alviso
Project	Seely Avenue Mixed-Use Project
RWF	San José/Santa Clara Regional Wastewater Facility
RWS	Regional Water System
SBWR	South Bay Water Recycling
SFPUC	San Francisco Public Utilities Commission
SJMWS	San José Municipal Water System
SWP	State Water Project
UWMP	Urban Water Management Plan
WSA	Water Supply Assessment
WSAP	Water Shortage Allocation Plan

SECTION 1. INTRODUCTION

1.1. Project Description

The proposed 22-acre Seely Avenue Mixed Use Project (Project) site is located north of Montague Expressway and east of Seely Avenue in the City of San José (**Figure 1**). The project will be constructed on two parcels (APN No. 097-15-034 and 097-15-033) that are approximately 11 acres each. Both parcels are currently zoned as Industrial Park (IP).

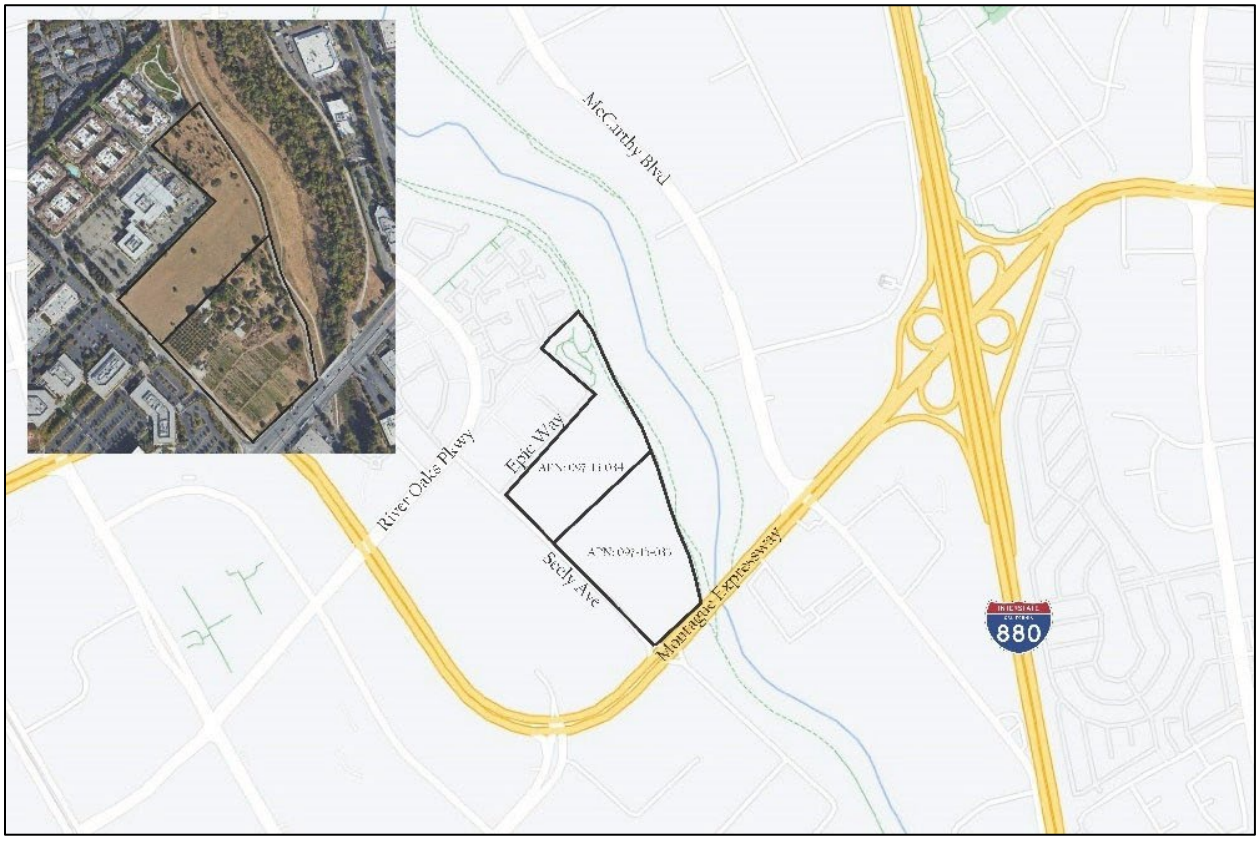

Figure 1. Project Location Map

The Project will include the development of approximately 1,475 residential units, consisting of three market rate apartment buildings, one affordable apartment building, and a for-sale townhome community. There will also be approximately 19,000 square feet of retail space. The project will also feature an approximately 2.50-acre public park. The project will also include the installation of a domestic water supply well to support the potable water demand of the Project.

1.2. Purpose of Water Supply Assessment

The purpose of a Water Supply Assessment (WSA) is to assess whether the total projected water supplies available for a project during normal, single dry, and multiple dry water years during a 20-year projection period will meet the projected water demand associated with the proposed project.

Under Senate Bill 610 (2001), a WSA is required for any "project" that meets the criteria of Water Code Sections 10910 and 10912. A WSA is required for the 618 E. Trimble Project because it is subject to the California Environmental Quality Act (CEQA) and will include the development of more than 500 dwelling units.

1.3. Preparation of Water Supply Assessment

This WSA was prepared using information developed for and contained in the City of San José 2020 Urban Water Management Plan (UWMP) and project planning and design documents supplied to LSCE by the Project applicant. The information, values, and projections contained herein are consistent with the City of San José 2020 UWMP.

A WSA for this project was initially completed and adopted by City Council on November 15, 2022; this Amended WSA replaces the prior version. Updates in this Amended WSA include corrections to the project's water demand estimates and additional information addressing the schedule of the well construction.

1.4. Public Water System Serving the Project

The Project will be served by the San José Municipal Water System (SJMWS). The SJMWS provides potable and non-potable water to four service areas: (1) North San José/Alviso (NSJ/Alviso), (2) Evergreen, (3) Coyote Valley, and (4) Edenvale (**Figure 2**).

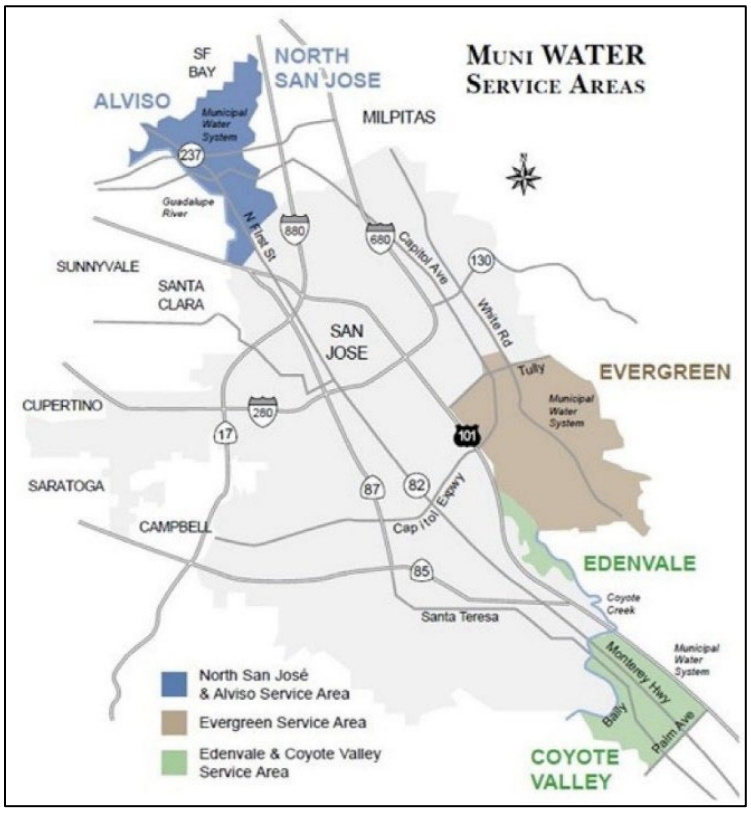

Figure 2. SJMWS Service Areas

The Project is located in SJMWS's (1) NSJ/Alviso service area (**Figure 2**). The NSJ/Alviso service area consists of 5,600 acres and extends from Trimble Road on the south to the Alviso Slough on the north. The area is bordered on the west by the Guadalupe River and on the east by Coyote Creek. Land use in the NSJ/Alviso service area is predominantly industrial, with some residential and commercial properties.

Potable and non-potable water is supplied to the SJMWS by the following:

- **San Francisco Public Utilities Commission (SFPUC)** – The SJMWS purchases potable water from the SFPUC. This supply is predominately from the Hetch Hetchy reservoir, with additional local surface water.
- **Valley Water** – The SJMWS purchases treated surface water from Valley Water (previously called the Santa Clara Valley Water District) under a treated water contract. This supply includes water from the Sacramento-San Joaquin Delta and local surface water.
- **Groundwater** – The SJMWS owns and operates four domestic supply wells in the NSJ/Alviso service area. Two of the wells are permitted by the California Water Resources Control Board, Department of Drinking Water (DDW), for normal use. Two of the wells are permitted by DDW for emergency use only.
- **Recycled Water** - The City of San José operates the South Bay Water Recycling (SBWR) system and distributes recycled water generated by the San José/Santa Clara Regional Wastewater Facility. The recycled water is used for non-potable purposes such as agriculture; industrial cooling and processing; and irrigation of golf courses, parks, and schools.

Potable and non-potable water demand for the NSJ/Alviso service area is met with purchased water from the City and County of San Francisco's Regional Water System (RWS), which is operated by the SFPUC, groundwater from the Santa Clara Subbasin-Santa Clara Plain, and recycled water from the South Bay Water Recycling (SBWR) Program.

Potable water purchased from Valley Water is not available in the NSJ/Alviso service area and is not considered a source of potable water for the purposes of this WSA.

SECTION 2. WATER DEMANDS

The Project includes approximately 1,474 dwellings and approximately 19,000 square feet of retail space. Annual project residential potable water demand was calculated by multiplying the number of dwellings by an average daily dwelling water usage of 245 gallons per day (gpd) and converting it to acre-feet per year (AFY). Project retail potable water demands were calculated by multiplying the square footage of the planned retail space by 0.240 gpd per square foot and converting it to AFY. Potable water will only be for indoor commercial/residential uses, and the daily project outdoor water demand of 11,500 gpd will be met with recycled water. Annual project water demands are summarized in **Table 1**.

Table 1. Project Water Demands		
Use	**Type**	**AFY**
Residential	Potable	404
Commercial	Potable	5
Outside	Recycled	13
	Total	**422**

SECTION 3. CURRENT AND FUTURE WATER SUPPLY

3.1. Sources of Supply

SJMWS relies on four sources of supply: surface water from SFPUC, local and imported surface water from Valley Water, groundwater from the Santa Clara groundwater basin, and recycled water from the SBWR Program. As mentioned above in Section 1.4, the City of San José has four separate service areas, and each service area has its own unique water sources. **Table 2** summarizes the water source(s) for each service area.

Table 2. Water Source by SJMWS Service Area				
Service Area	**SFPUC**	**Valley Water**	**Groundwater**	**Recycled Water**
North San José/Alviso	X		X	X
Evergreen		X	X	X
Edenvale			X	X
Coyote Valley			X	X

The water sources utilized by SJMWS (discussed below) are generally considered to be consistent sources, except during times of drought, during which supplies would be decreased based on the reduced availability of wholesale supplies, as discussed in this section. This section includes the amount of supply from each source that was purchased historically and is anticipated to be purchased in the future to supply the project's service area as determined by SJMWS.

3.2. Imported and Purchased Water

3.2.1. SFPUC – Wholesaler

The NSJ/Alviso service area receives water from the RWS, which is operated by the SFPUC. This supply is predominantly from the Sierra Nevada Mountain range delivered through the Hetch Hetchy aqueducts, but also includes treated water produced by the SFPUC from its local watersheds and facilities in Alameda and San Mateo counties. There are two turnout connections from SFPUC's Bay Division Pipelines No. 3 and No. 4 to the NSJ/Alviso service area.

The amount of imported water available to SFPUC's customers is constrained by hydrology, physical facilities, and the institutional parameters that allocate the water supply of the Tuolumne River. Due to these constraints, SFPUC is very dependent on reservoir storage to firm up its water supplies. The SFPUC serves its retail and wholesale water demands with an integrated operation of local Bay Area water production and imported water from Hetch Hetchy.

The business relationship between the SFPUC and its wholesale customers is largely defined by the Water Supply Agreement between the City and County of San Francisco and Wholesale Customers in Alameda, San Mateo, and Santa Clara Counties. The Water Supply Agreement was entered into in July 2009 and was amended and restated in 2018 and 2021. This 25-year Water Supply Agreement replaced the 1984 Settlement Agreement and Master Water Sales Contract and will expire on June 30, 2034, unless extended by two additional five-year option terms. The Water Supply Agreement addresses the rate-making methodology used by the SFPUC in setting wholesale water rates for its customers in addition to addressing water supply and water shortages for the RWS. The Water Supply Agreement serves as the master agreement and provides 184 million gallons per day (MGD) Supply Assurance to all the permanent SFPUC wholesale customers on an annual average basis. Under the Water Supply Agreement, the City of San José has a temporary interruptible supply. However, the SFPUC must provide ten years of notice to interrupt the supply and seek out additional sources of water .

The Water Supply Agreement is supplemented by an individual Water Sales Contract between SFPUC and each individual retailer, also entered into in July 2009. The individual Water Sales Contract indicates any specific conditions between SFPUC and the retailer. The contract currently held by the City of San José with SFPUC was most recently renewed in 2009 and continues to be a temporary and interruptible supply contract. The City of San José has no Individual Supply Guarantee but does have an Interim Supply Allocation of 4.5 MGD (5,041 AFY).

The Water Supply Agreement between SFPUC and its wholesale customers contains a Water Shortage Allocation Plan (WSAP), which describes the method for allocating water during supply shortages. The Tier 1 Plan allocates water from the RWS between San Francisco retail and wholesale customers during system-wide shortages of 20% or less. The Tier 1 Plan was amended in the 2018 Water Supply Agreement to ensure that retail customers also conserved during drought conditions. The Tier 2 Plan allocates the collective wholesale customer share among the wholesale customers.

3.2.2. Valley Water – Wholesaler

SJMWS purchases treated surface water from Valley Water under a treated water contract. Valley Water contracts with the US Bureau of Reclamation and the State to receive imported Central Valley Project (CVP) water and State Water Project (SWP) water. Valley Water also operates its conjunctive use system of surface water from local watersheds and groundwater. Valley Water's water supply system is comprised of local reservoirs, groundwater subbasins, groundwater recharge facilities, treatment plants, a treated water transmission system, imported supplies, and raw water conveyance facilities. Valley Water supplies water to local retail water agencies, which in turn provide it to their retail customers in Santa Clara County. Valley Water has an active conjunctive use water management program to optimize groundwater and surface water use and prevent groundwater overdraft and land subsidence. Both

groundwater and imported water are sold to retailers. While SJMWS purchases treated water supplies from Valley Water, this particular water supply source is not available or used in the project's service area.

3.3. Local Groundwater

The Santa Clara Subbasin-Santa Clara Plain is located in a structural trough that is bounded by the Santa Cruz Mountains to the west and the Diablo Range to the east. The subbasin, which is approximately 22 miles long, narrows from a width of 15 miles near the County's northern boundary to about half a mile wide at the Coyote Narrows. The plain underlies the northern portion of Santa Clara County and includes the majority of the streams and recharge facilities operated by Valley Water. The plain has a surface area of 225 square miles and is approximately 15 square miles smaller than the Santa Clara Subbasin since it does not include the Coyote Valley portion of the Santa Clara Subbasin. Although hydraulically connected, Valley Water refers to the Coyote Valley separately since it is in a different groundwater charge zone than the Santa Clara Plain and has fewer water supply options than the Santa Clara Plain.

The groundwater basin in Santa Clara County is not adjudicated and has not been identified or projected to be in overdraft by the California Department of Water Resources (DWR). The quality, supply, and management of the local groundwater basin is monitored and managed by Valley Water as the Groundwater Sustainability Agency for the Santa Clara basin. In 2016, Valley Water completed and submitted an Alternative plan to DWR in lieu of a Groundwater Sustainability Plan to meet the requirements of the Sustainable Groundwater Management Act of 2014. The Alternative Plan was approved by DWR in 2017.

Groundwater in the subbasin is managed by Valley Water using in-lieu recharge programs that maintain adequate storage to meet annual water supply needs and provide a buffer against drought or other shortages. According to Valley Water's Annual Groundwater Report for Calendar Year 2019, groundwater levels in the subbasin fully recovered from the 2012-2016 drought.

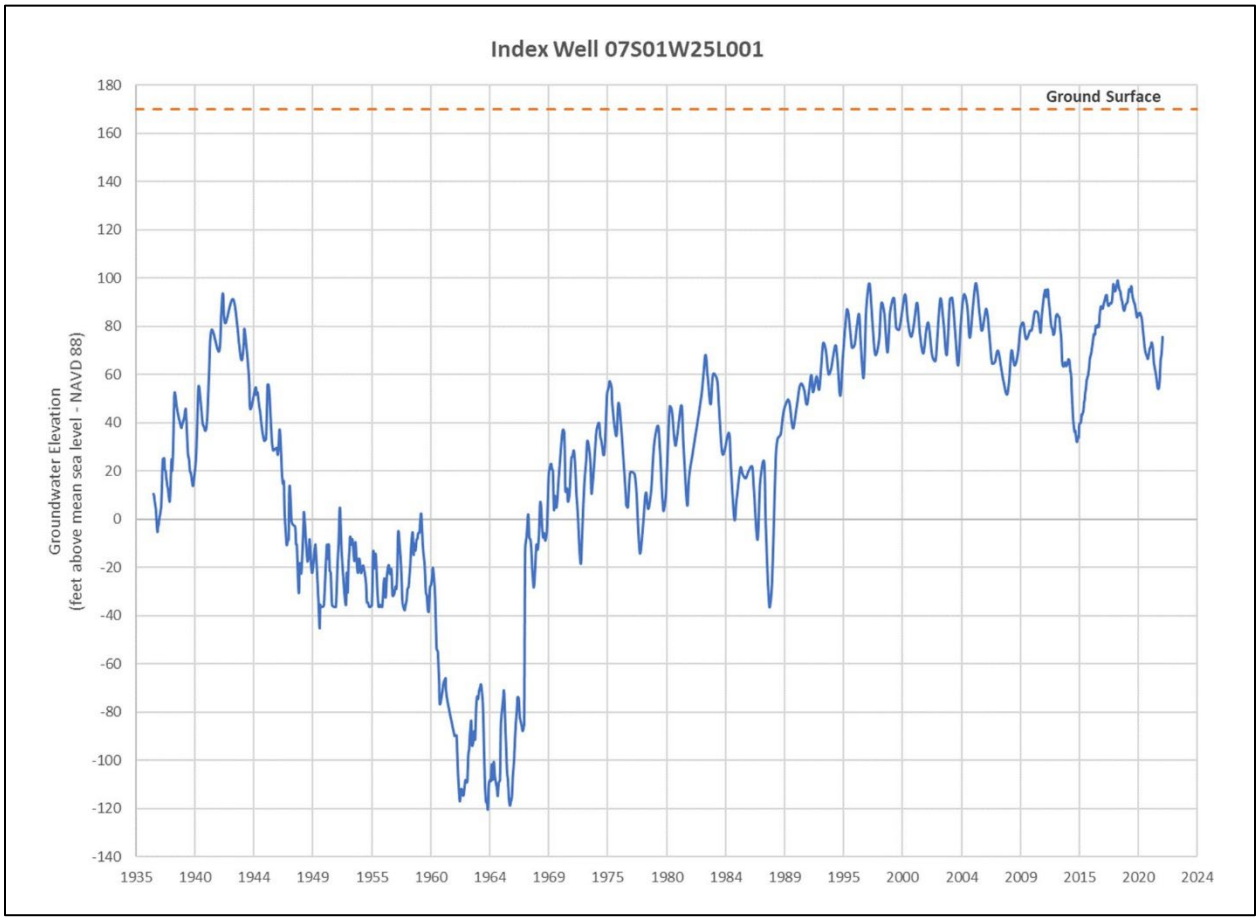

Figure 3. Santa Clara Plain (San José) Index Well 07S01W25L001 Hydrograph.

The estimated groundwater storage in the subbasin at the end of 2019 was 315,700 AF, which represents an increase in storage of 6,300 AF over 2018. Total groundwater use in the subbasin in 2019 was 57,700 AF which was 9% less than the previous year and well below the long-term average use of 95,000 AF due primarily to the increased use of treated surface water.

A water budget for the Santa Clara Plain for calendar years 2010 through 2019 is shown in **Table 3**. The water budget is based on Valley Water's groundwater flow model for the Santa Clara Plain and represents inflows and outflows for the principal aquifer. Although the water budget can vary significantly from year to year, on average, there was an average annual increase in storage by about 3,000 AFY for the Santa Clara Plain over this 10-year period.

Table 3. Santa Clara Plain Principal Aquifer Water Budget (2010-2019)	
Water Budget Component	**AFY**
Inflow	
Managed Recharge	53,000
Natural Recharge	25,500
Subsurface Inflow	7,500
Total Inflow	86,000
Outflow	
Groundwater Pumping	75,500
Subsurface Outflow	7,500
Total Outflow	83,000
Change in Storage	**3,000**

Valley Water expects groundwater demand to increase in the Llagas and Santa Clara subbasins from 306,000 AFY in 2020 to approximately 345,000 AFY in 2045 (2020 UWMP). Although projected 2045 demand is higher than present demand, this number is still down from a peak in the 1990s and 2000s because of significant conservation efforts from Valley Water and the State.

SJMWS owns and operates four groundwater wells in the NSJ/Alviso service area (**Figure 4**) with a combined pumping capacity of approximately 6,500 gpm. Two of the wells are currently permitted to be used under normal conditions to supply water, and the other two are available for emergency use purposes. The wells extract groundwater from the Santa Clara Subbasin – Santa Clara Plain.

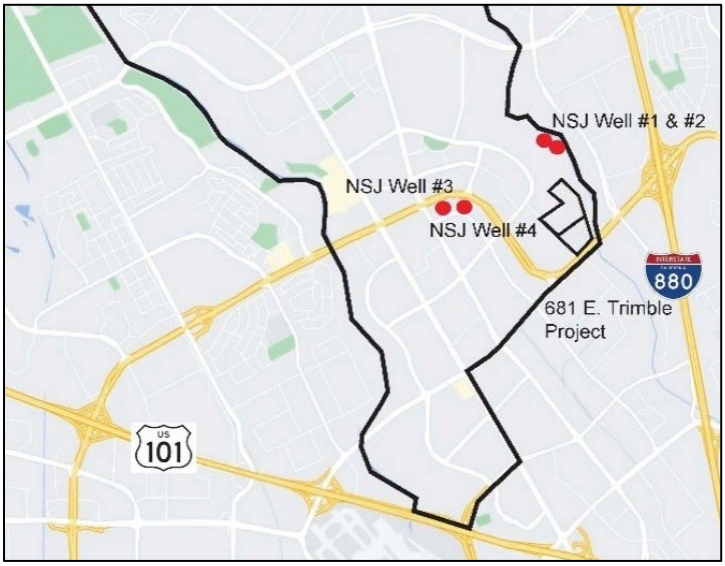

Figure 4. SJMWS Well Locations

3.4. Recycled Water

The City of San José operates the SBWR system and distributes recycled water generated by the San José/Santa Clara Regional Wastewater Facility (RWF). Some of this water is supplied to Valley Water's adjacent Silicon Valley Advanced Water Purification Center, which in turn purifies a small portion of the water with advanced technologies and blends it with tertiary treated water to create high-quality recycled water that can be used by a wider variety of customers. Since March 2014, the purification center has been demonstrating the effectiveness of the advanced treatment technologies (microfiltration, reverse osmosis, and advanced oxidation) and setting the stage for Valley Water to begin a potable reuse program.

The SBWR program delivers disinfected tertiary treated wastewater from the RWF through an extensive recycled water distribution system consisting of over 150 miles of pipeline. The recycled water is used for non-potable purposes such as agriculture; industrial cooling and processing; and irrigation of golf courses, parks, and schools. During the peak summer season, SBWR diverts between 15 and 20 MGD of recycled water for irrigation and industrial uses to over 900 customers throughout San José, Santa Clara, and Milpitas.

The SBWR Strategic Plan includes 15,000 AFY of retail recycled water deliveries. Although the SBWR retailer projections for recycled water exceed the amount projected in the strategic plan, total system capacity exists to meet projections.

SECTION 4. EXISTING WATER DEMANDS

4.1. Current & Future Demands

Table 4 provides the historical (actual) water use data for the SJMWS for various water use categories (e.g., single-family, multi-family, industrial, institutional, and others) for 2020.

Table 4. Demands for Potable and Non-Potable Water - Actual (2020)

Use Type	2020 (AFY)
Single-Family	7,920
Multi-Family	2,694
Commercial	1,040
Industrial	1,837
Institutional/Governmental	176
Landscape	2,873
Losses	1,006
Total Potable	**17,546**
Recycled	4,097
TOTAL	**21,643**

The projected water demand for SJMWS from the 2020 UWMP, as shown in **Table 5**, indicates that SJMWS anticipates significant growth in demand from 2020 to 2045.

Table 5. SJMWS Projected Potable and Non-Potable Water Demand

Use Type	Projected Water Use (AFY)				
	2025	2030	2035	2040	2045
Single-Family	9,107	10,293	10,917	12,338	12,621
Multi-Family	2,932	3,171	3,463	3,763	3,849
Commercial	1,642	1,920	2,436	3,376	3,446
Industrial	2,562	3,197	4,086	5,546	5,665
Institutional/Governmental	208	239	286	356	365
Landscape	3,401	3,930	4,586	5,584	5,712
Losses	1,228	1,406	1,569	1,852	1,894
Total Potable	**21,080**	**24,156**	**27,343**	**32,815**	**33,552**
Non-Potable (Recycled)	4,776	5,456	6,279	7,368	7,413
TOTAL	**25,856**	**29,612**	**33,622**	**40,183**	**40,965**

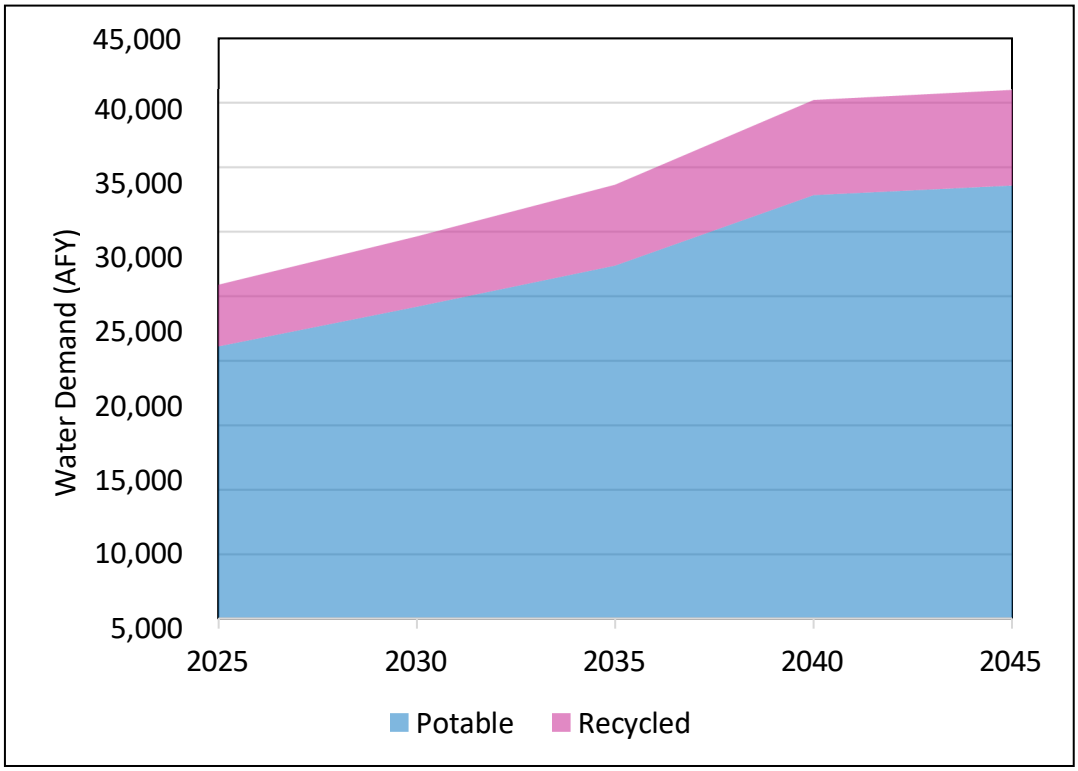

Figure 5. Projected SJMWS Water Demand

4.2. Single Dry Year Supplies and Demands

As described in Valley Water's draft 2020 UWMP, imported and groundwater supplies appear to be sufficient to meet demands during a single dry year through 2045. This assumes that reserves are at healthy levels at the beginning of the year and that the projects and programs identified in their Water Supply and Infrastructure Master Plan are implemented. If reserves are low at the beginning of a single dry year, Valley Water could call for water use reductions in combination with using reserves. Imported supplies from SFPUC during a single dry year are projected to be reduced based on their supply reliability analysis. The projected SFPUC supply available to San José in a single-dry year ranges from 54-64% through 2045. Accounting for total water supply management, this represents a total SJMWS potable supply shortage of under 10% in any given year, which will be managed utilizing conservation measures as identified in SJMWS' Water Shortage Contingency Plan.

Table 6 illustrates the reliability of water supplies to meet projected annual potable water demands for the SJMWS in a single-dry year.

Table 6. Single Dry Year Supply and Demand Comparison (Potable) (AFY)

	2025	2030	2035	2040	2045
Supply totals	19,265	22,330	25,505	30,977	31,257
Demand totals	21,080	24,156	27,342	32,814	33,553
Difference	(1,815)	(1,826)	(1,837)	(1,837)	(2,296)

Note: Table Excludes recycled water which is 100% available in all years

4.3. Multiple Dry Years Supply and Demand

The greatest challenge to water supply reliability is multiple dry years, such as those that occurred in 1987 through 1992 and 2012 through 2015. Multiple dry year periods have the potential to deplete supply reserves in, including local groundwater storage.

With existing and planned projects presented in 2020, their Water Supply Master Plan, and under current regulations, Valley Water has identified that their diverse water supplies are sufficient throughout the full five-year drought in all demand years (Valley Water, 2021).

Projected supplies available to San José from SFPUC during multi-dry years range from 46%-64% each year through 2045. Based on cumulative available water supplies, this represents a total SJMWS potable supply shortage between approximately 5-10% during a given multi-dry year, which will be managed utilizing conservation measures as identified in SJMWS' Water Shortage Contingency Plan. **Table 7** presents the projected multiple-dry-year potable water supply and demand assessment for the SJMWS.

Table 7. Multiple Dry Year Supply and Demand Comparison (Potable) (AFY)					
		2025	2030	2035	2040
First Year	Supply Totals	19,265	22,330	25,505	30,977
	Demand Totals	21,080	24,156	27,342	32,814
	Difference	(1,815)	(1,826)	(1,837)	(1,837)
Second Year	Supply Totals	19,421	22,508	26,140	30,666
	Demand Totals	21,695	24,793	28,437	32,962
	Difference	(2,274)	(2,285)	(2,297)	(2,296)
Third Year	Supply Totals	20,036	23,145	27,235	30,813
	Demand Totals	22,310	25,431	29,531	33,110
	Difference	(2,274)	(2,286)	(2,296)	(2,297)
Fourth Year	Supply Totals	20,652	23,783	28,329	30,636
	Demand totals	22,926	26,068	30,626	33,258
	Difference	(2,274)	(2,285)	(2,297)	(2,622)
Fifth Year	Supply Totals	21,267	24,420	29,200	30,784
	Demand Totals	23,541	26,705	31,720	33,405
	Difference	(2,274)	(2,285)	(2,520)	(2,621)

Notes: 1. Supply Totals include projected supplies available from SFPUC and Valley Water (which includes groundwater) during five-year shortages ranging from 2025-2030 through 2040-2045. 2. Table excludes recycled water which is 100% available in all years

SECTION 5. SUPPLY SUFFICIENCY ANALYSIS

The projected potable water demand of the Project is 409 AFY which represents 8% of the 5,041 AFY currently delivered to SJMWS by SFPUC in a normal water year per the Water Supply Agreement. The Project demand represents 2% of the total SJMWS potable water demand in 2020 and 1% of the projected potable water demand in 2045. The potable water demands of the project fall within the projected water demands for SJMWS through 2045; however, the project's rate of residential water demand increase through 2030 exceeds the assumed rate of residential demand increase for the North San José/Alviso service area within the City's UWMP. To ensure sufficient documentation of water supply available for this project, the analysis within this WSA will assume the project's demands are in addition to assumed growth documented within the City's UWMP.

Based on yield of other domestic supply wells in the vicinity of the Project, a well-constructed at the site would be expected to yield approximately 1,800 gpm. Based on a 50% annual use factor, the well would yield 1,452 AFY; therefore, this well will be more than sufficient to supply the project demands. As a condition of project approval, to meet the demands of the project, the permittee shall dedicate land to the City immediately upon permittee's acquisition of the property, and prior to any grading permit approval, to allow for construction of a domestic water supply well at the project site in order to ensure that the proposed well meets the water demands of the Project.

The new groundwater well at the project site is intended to be constructed such that it will be online before the project is complete. If the project has any phase(s) ready for occupancy before the Project well is operational, there is temporary, interruptible supply available under the City's Water Supply Agreement with the City and County of San Francisco and as depicted in the UWMP, and as shown in this WSA, which would be available for project phasing.

Figure 6 depicts the total projected SJMWS potable water supply, including the contribution from the Project Well, and Project demand.

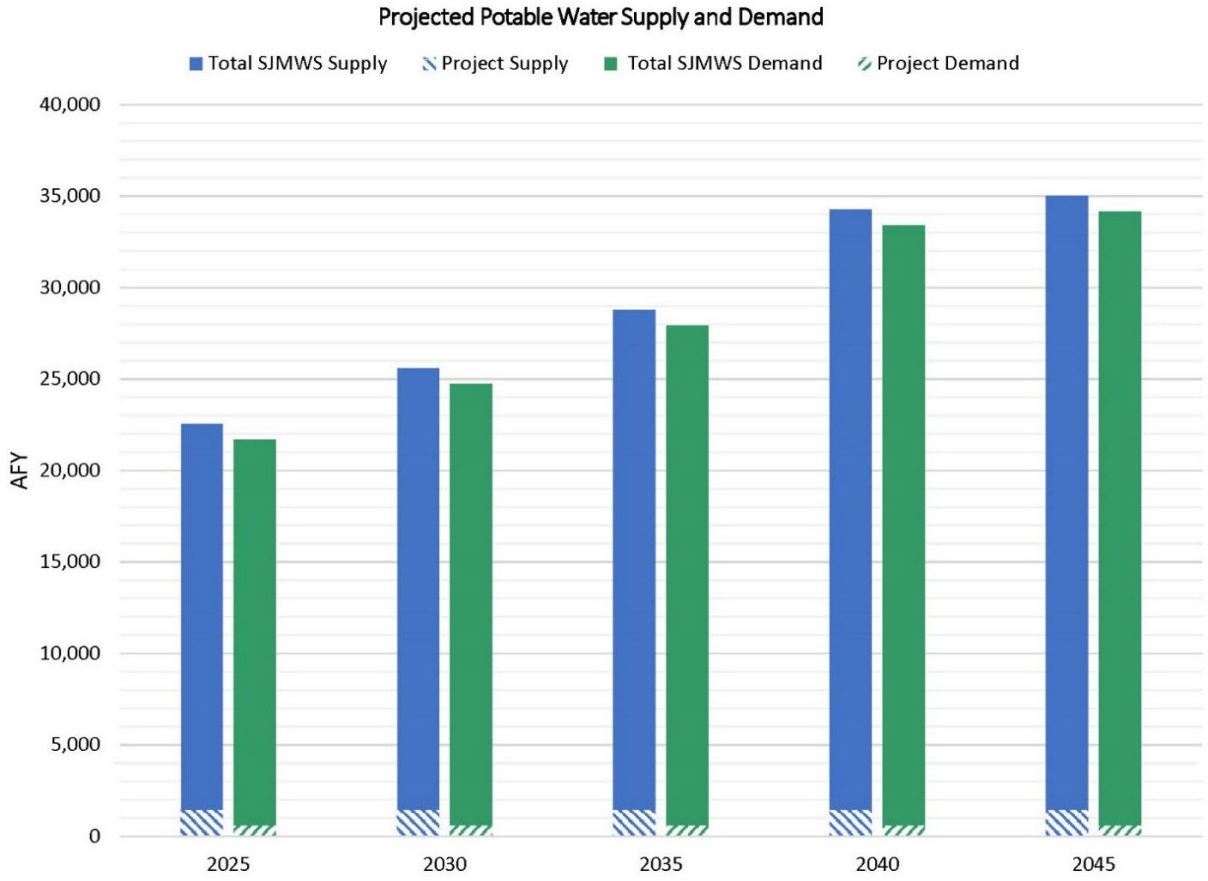

Figure 6. Projected SJMWS and Project Potable Water Supply and Demand

Table 8 summarizes projected SJMWS water supplies through 2045, the supply from the well to be constructed as part of the project, projected SJMWS and Project potable water demand, and the projected remaining potable water remaining for other uses during a normal water year.

Table 8. Projected SJMWS Potable Demand and Supply with Project Demand and Supply (AFY)					
	2025	2030	2035	2040	2045
Projected SJMWS Demand	21,080	24,156	27,343	32,815	33,552
Project Demand	409	409	409	409	409
Total Projected Demand	**21,489**	**24,565**	**27,752**	**33,224**	**34,961**
Projected SJMWS Supply	21,080	24,156	27,343	32,815	33,552
Projected Supply from Project Well	1,451	1,451	1,451	1,451	1451
Total Projected Supply	**22,531**	**25,607**	**28,794**	**34,266**	**35,003**
Available Remaining Potable Water (Normal Year)	1,042	1,042	1,042	1,042	1,042

Table 9 presents the projected normal, single, and multiple-dry year water supply and demand scenarios for the SJMWS, including the Project demand and supply from the Project Well. In a multi-year drought, Valley Water would likely implement a combination of countywide short-term water use reductions, use of reserves, and obtaining additional supplement supplies through transfers and/or exchanges to meet demands. Additional supply could also be developed with longer run times or higher pumping rates of the Project well and additional supplies from existing SJMWS wells and SJMWS wells currently in development to meet supply deficits.

Table 9. Normal, Single, and Multiple Dry Year Potable Water Supply and Demand Projections (AFY)					
	Normal Year (2040)	Single Dry Year	Multiple Dry Years		
			Year 1	Year 2	Year 3
Total Demand (Including Project)	33,224	33,224	33,224	33,371	33,519
Total Supply (Including Supply from Project Well)	34,266	32,428	32,428	32,117	32,264
Difference	1,042	-796	-796	-1,254	-1,255
Difference Made up with Conservation	0	796	796	1,254	1,255

The projected recycled water demand for the project is 13 AFY which represents 0.3% of the total projected recycled water supply for 2020 and 0.2% for 2045. Recycled water is assumed to be available in all years. The Project recycled water demand and projected available recycled water are summarized in **Table 10**. A condition of project approval will be that the project connect to and be served by the SBWR system.

Table 10. Normal Year Supply and Demand Comparison (Recycled) (AFY)					
	2025	2030	2035	2040	2045
Total Project Demand	13	13	13	13	13
Total Supply	4,776	5,456	6,279	7,368	7,413
Available Remaining Recycled Water	4,763	5,443	6,266	7,355	7,400

Appendix A

References

San José Municipal Water System 2020 Urban Water Management Plan, June 2021

Valley Water Groundwater Condition Report, Santa Clara County, March 2022

Valley Water 2020 Urban Water Management Plan, June 2021