FINAL REPORT | APRIL 2024

Parkline Water Supply Assessment

PREPARED FOR

Menlo Park Municipal Water

PREPARED BY

Parkline Water Supply Assessment

Prepared for

Menlo Park Municipal Water

Project No. 1070-60-22-01

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LIST OF ACRONYMS AND ABBREVIATIONS

AWSP	Alternative Water Supply Planning Program
BAWSCA	Bay Area Water Supply and Conservation Agency
CEQA	California Environmental Quality Act
City	City of Menlo Park
CWC	California Water Code
DWR	State of California Department of Water Resources
EIR	Environmental Impact Report
FERC	Federal Energy Regulatory Commission
gpm	Gallons Per Minute
HEU	Housing Element Update
ISG	Individual Supply Guarantee
MG	Million Gallons
MG/yr	Million Gallons Per Year
mgd	Million Gallons Per Day
MOU	Memorandum of Understanding
MPMW	Menlo Park Municipal Water
Project Site	The location of Parkline (333 Ravenswood Avenue)
Proposed Project	Parkline
R&D	Research and Development
RWS	San Francisco Public Utilities Commission Regional Water System
SB	Senate Bill
SFPUC	San Francisco Public Utilities Commission
SGMA	Sustainable Groundwater Management Act
SWRCB	State Water Resources Control Board
UWMP	Urban Water Management Plan
WBSD	West Bay Sanitary District
WSA	Water Supply Assessment
WSAP	Water Shortage Allocation Plan
WSCP	Water Shortage Contingency Plan
WSIP	Water System Improvement Program

EXECUTIVE SUMMARY

Overview

This Water Supply Assessment (WSA) has been prepared in accordance with California Water Code sections 10910 through 10915 in connection with Parkline (Proposed Project). The Project Site is located at 333 Ravenswood Avenue in the City of Menlo Park (City) within the Lower Zone of the Menlo Park Municipal Water (MPMW) existing service area (Project Site). It is currently occupied by SRI International's research campus. The Proposed Project would redevelop SRI International's existing research campus into the following:

- A new office/research and development (R&D) campus with no increase in office/ R&D square footage
- Up to 550 new rental dwelling units at a range of affordability levels (comprised of 450 multi-family units and townhomes, and a proposed land dedication to an affordable housing developer that could accommodate up to 100 affordable units)
- New bicycle and pedestrian connections
- Open space

The Proposed Project would demolish all buildings on SRI International's Campus, excluding Buildings P, S, and T, which would remain onsite and be operated by SRI International and its tenants. Because future commercial tenants in the Office/R&D District are not yet known, proposed commercial buildings in the Office/R&D District are designed to accommodate either office uses, R&D or life science uses, or a combination of both. Therefore, this WSA evaluates two buildout scenarios within the Office R&D District: a 100 percent office scenario (referred to hereafter as "Project Scenario 1") and a 100 percent R&D scenario (referred to hereafter as "Project Scenario 2"). This ensures the Proposed Project's maximum potential impact and any future commercial tenant mix is within the scope of the WSA analysis, as R&D uses are anticipated to utilize more water than office uses.

In addition, a project variant could reasonably be approved instead of the Proposed Project: the Increased Development Variant (Project Variant). The Project Variant is a variation of the Proposed Project at the same Project Site and generally has the same objectives, background, and development controls, but with several specific differences:

1. The Project Variant would include up to 250 additional residential rental dwelling units compared to the two project scenarios (an increase from 550 to 800 units);
2. The Project Variant would include a 2-million-gallon underground emergency water reservoir that would be built and operated by MPMW;
3. The Project Variant would reduce the underground parking footprint within the site, both by removing underground parking from the multifamily residential buildings and removing the underground parking connection between Buildings Office/R&D 1 and Office/R&D 2. As a result, the parking garages PG1 and PG2 increase in square footage and height as compared to the Proposed Project; and
4. The Project Variant would include an additional parcel located at 201 Ravenswood Avenue to create a continuous project frontage along Ravenswood Avenue.

This WSA evaluates both Project Scenario 2 and the Project Variant in detail to provide a conservative analysis. To provide a conservative estimate, the water demand for the Project Variant assumes a 100 percent R&D Scenario within the Office R&D District, similar to the Project Scenario 2.

Projected Water Demands

The projected water demands for buildout of the Proposed Project were estimated by PAE in a memo dated February 2024, which is included in Appendix A of this WSA. For the purposes of this WSA, only net new demand associated with the Proposed Project needs to be evaluated, since existing demand is already accounted for in MPMW's current water supply planning. Existing demands associated with SRI International's research campus, which currently occupies the Project Site, were subtracted from the projected water demands for the Proposed Project. The existing demand associated with the property at 201 Ravenswood Avenue was also subtracted for the Project Variant only. In addition, a WSA that was recently prepared for the City's Housing Element Update (HEU; ESA, 2022) included 400 dwelling units associated with Parkline. Since those 400 dwelling units are already specifically accounted for in the HEU WSA, that means the projected Parkline water demand that is associated with the HEU is accounted for separate and apart from the projected water demands for buildout of the Proposed Project. For the purposes of this WSA, the demand associated with the HEU is not included in the analysis, so it is not double counted.

Based on the above, the water demand for the Proposed Project considered in this WSA is as follows:

- 10 million gallons per year (MG/yr) for the Project Scenario 1
- 39 MG/yr for the Project Scenario 2
- 49 MG/yr for the Project Variant

In addition, a summary of the calculations leading to the estimated water demands shown above is presented in the body of this WSA within Table 2-1 *Projected Water Demand for the Proposed Project and Project Variant*. Of the two buildout scenarios for the Proposed Project, Project Scenario 2 would result in the greatest water demand; thus, Project Scenario 2 and the Project Variant are evaluated in detail in this WSA. Potable water is assumed to be used to meet the projected water demands. No recycled water infrastructure is currently in place nor planned for installation near the Project Site.

Note that when the MPMW 2020 UWMP was being prepared, the Proposed Project was not accounted for in the growth forecasts, so its water demand was not included. MPMW's 2020 UWMP also did not account for the demand associated with the City's latest HEU, as explained in the separate WSA for the HEU prepared by ESA in November 2022. To address this issue, consistent with CWC Section 10910(c)(3), this WSA provides an assessment of supply for MPMW during normal, single dry, and multiple dry water years for a 20-year projection and compares it to existing and planned future demands, including the demand associated with the City's HEU (which includes 400 dwelling units at Parkline) and the demand associated with the Proposed Project.

Water Supply Availability and Reliability

MPMW is a Wholesale Customer of the San Francisco Public Utilities Commission (SFPUC). MPMW purchases all its potable water supplies from the Regional Water System (RWS), which is operated by the SFPUC. The availability and reliability of MPMW's water supplies as described in this WSA are based primarily on information contained in the MPMW 2020 UWMP and the SFPUC 2020 UWMP. The MPMW 2020 UWMP is incorporated by reference into this WSA.

The reliability of the SFPUC RWS supply is highly dependent on the assumption of whether the 2018 Bay-Delta Plan Amendment is implemented. The Bay-Delta Plan Amendment was adopted in December 2018 by the State Water Resources Control Board (SWRCB) to establish water quality objectives to maintain the health of the Bay-Delta ecosystem. 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 40 percent of the "unimpaired flow" on the three tributaries from February through June in every year type, whether wet, normal, dry, or critically dry. The implementation of the Bay-Delta Plan Amendment significantly impacts the SFPUC RWS supply reliability in dry years; however, the actual implementation of the Bay-Delta Plan Amendment is uncertain. In November 2022, key stakeholders signed a Memorandum of Understanding (MOU) indicating a mutual agreement among the signatories to commit to collaborate with the state. While a Voluntary Agreement is still not finalized, the signing of a MOU signals that stakeholders are committed to reaching an agreement.

Due to the uncertainties surrounding the implementation of the Bay-Delta Plan Amendment, this WSA presents findings for two supply alternatives, one assuming the Bay-Delta Plan Amendment is implemented and one assuming that the Bay-Delta Plan Amendment is not implemented.

Under the scenario where it is assumed the Bay-Delta Plan Amendment is implemented, the following may occur:

- **Normal Years (Project Scenario 2)**: Under normal years, the total projected water supplies will meet the projected water demand associated with Project Scenario 2, in addition to demand associated with the HEU and MPMW's existing and planned future uses through 2040.
- **Dry Years (Project Scenario 2)**: For MPMW with Project Scenario 2 and the HEU demand, supply shortfalls are projected in single dry years (ranging from 34 to 38 percent) and in multiple dry years (ranging from 34 to 48 percent) through 2040. Although the MPMW 2020 UWMP only projected supplies and demands through 2040, similar supply shortfalls occur through 2045 based on SFPUC's analysis.
- **Normal Years (Project Variant)**: Under normal years, the total projected water supplies will meet the projected water demand associated with the Project Variant, in addition to demand associated with the HEU and MPMW's existing and planned future uses through 2040.
- **Dry Years (Project Variant)**: For MPMW with the Project Variant and the HEU demand, supply shortfalls are projected in single dry years (ranging from 34 to 39 percent) and in multiple dry years (ranging from 34 to 49 percent) through 2040. Although the MPMW 2020 UWMP only projected supplies and demands through 2040, similar supply shortfalls occur through 2045 based on SFPUC's analysis.

As further described in this WSA, with the implementation of the Bay-Delta Plan Amendment, significant supply shortfalls are projected in dry years for all agencies that receive water supplies from the SFPUC RWS, as well as other agencies whose water supplies would be affected by the Amendment. If supply shortfalls do occur under this scenario, MPMW expects to meet these supply shortfalls through water demand reductions and other shortage response actions by implementation of its Water Shortage Contingency Plan (WSCP). The projected single dry-year shortfalls for Project Scenario 2 or the Project Variant would require implementation of Stage 4 of the MPMW WSCP, and the projected multiple dry-year shortfalls would require implementation of Stage 4 or 5 of the MPMW WSCP.

Under the scenario where it is assumed the Bay-Delta Plan Amendment is not implemented, the following may occur:

- **Normal Years (Project Scenario 2)**: Under normal years, the total projected water supplies will meet the projected water demand associated with Project Scenario 2, in addition to demand associated with the HEU and MPMW's existing and planned future uses through 2040.
- **Dry Years (Project Scenario 2)**: For MPMW with Project Scenario 2 and the HEU demand, supply shortfalls are projected in single and multiple dry years (ranging from less than 1 to 5 percent) through 2040. Although the MPMW 2020 UWMP only projected supplies and demands through 2040, similar supply shortfalls occur through 2045 based on SFPUC's analysis. A 16.5 percent supply shortfall is projected during the fourth and fifth consecutive dry years for base year 2045 based on SFPUC's analysis. With the addition of the Proposed Project and HEU demands, this shortfall could be greater than 16.5 percent.
- **Normal Years (Project Variant)**: Under normal years, the total projected water supplies will meet the projected water demand associated with the Project Variant, in addition to demand associated with the HEU and MPMW's existing and planned future uses through 2040.
- **Dry Years (Project Variant)**: For MPMW with the Project Variant and the HEU demand, supply shortfalls are projected in single and multiple dry years (ranging from 1 to 6 percent) through 2040. Although the MPMW 2020 UWMP only projected supplies and demands through 2040, similar supply shortfalls occur through 2045 based on SFPUC's analysis. A 16.5 percent supply shortfall is projected during the fourth and fifth consecutive dry years for base year 2045 based on SFPUC's analysis. With the addition of the Proposed Project and HEU demands, this shortfall could be greater than 16.5 percent.

These projected supply shortfalls are significantly less than the projected supply shortfalls if the Bay-Delta Plan Amendment is implemented. If supply shortfalls do occur under this scenario, MPMW expects to meet these supply shortfalls through water demand reductions and other shortage response actions by implementation of its WSCP. The projected single and multiple dry year shortfalls would require implementation of Stage 1 of the MPMW WSCP for both Project Scenario 2 and the Project Variant, except for a multiple dry year shortfall in 2045, which would require implementation of Stage 2 or 3[1] of the MPMW WSCP. Under all scenarios, the Proposed Project and the Project Variant would be subject to the same water conservation and water use restrictions as other water users within the MPMW system.

As described in this WSA, the SFPUC is implementing an Alternative Water Supply Planning Program to investigate and plan for new water supplies to address future long-term water supply reliability challenges and vulnerabilities on the RWS. Also, MPMW is implementing an Emergency Water Storage/Supply Project to provide a backup water supply to MPMW's Lower Zone, where the Project Site is located.

[1] Assumes the 16.5 percent shortfall from the SFPUC analysis is added to any of the shortfalls predicted for MPMW between 2025 and 2040, which range from 1 to 6 percent.

1.0 INTRODUCTION

Parkline (Proposed Project) would include a new office/research and development (R&D) campus with no increase in office/R&D square footage; up to 550 new rental dwelling units at a range of affordability levels (comprised of 450 multi-family units and townhomes, and a proposed land dedication to an affordable housing developer that could accommodate up to 100 affordable units); new bicycle and pedestrian connections; approximately 26 acres of the Project Site to be available as open space; removal and planting of trees resulting in a net increase in total trees on the Project Site; and decommissioning of a 6-megawatt natural gas cogeneration plant. The Proposed Project would demolish all buildings on the Project Site, which is SRI International's existing campus, excluding Buildings P, S, and T, which would remain onsite and be operated by SRI International and its tenants.

In addition, the City of Menlo Park (City) is also evaluating a project variant, which could reasonably be approved instead of the Proposed Project, which is referred to as the Increased Development Variant (Project Variant). The Project Variant would include up to 250 additional residential rental dwelling units compared to the two project scenarios (an increase from 550 to 800 units); a 2-million-gallon underground emergency water reservoir that would be built and operated by Menlo Park Municipal Water (MPMW); and inclusion of an additional parcel located at 201 Ravenswood Avenue as part of the Project Site to create a continuous project frontage along Ravenswood Avenue.

The purpose of this Water Supply Assessment (WSA) is to support the Environmental Impact Report (EIR) prepared by the City for the Proposed Project.

1.1 Legal Requirement for a Water Supply Assessment

California Senate Bill 610 (SB 610) and Senate Bill 221 (SB 221) amended state law, effective January 1, 2002, to improve the link between information on water supply availability and certain land use decisions made by cities and counties. SB 610 and SB 221 were companion measures which sought to promote more collaborative planning between local water suppliers and cities and counties. Both statutes require detailed information regarding water availability to be provided to the city and county decision-makers prior to approval of specified large development projects. The purpose of this coordination is to ensure that prudent water supply planning has been conducted, and that planned water supplies are adequate to meet existing demands, anticipated demands from approved projects and tentative maps, and the demands of proposed projects.

SB 610 amended California Water Code Sections 10910 through 10915 (inclusive) to require lead agencies conducting environmental review under CEQA for a proposed development project[2] that meets specified criteria to:

- Identify any public water purveyor that may supply water for the proposed development project
- Request a WSA from the identified water purveyor

[2] The definition of a "project" subject to the requirement to prepare a WSA is provided in Water Code Section 10912(a) and is discussed further in Section 3.1 of this WSA.

The purpose of a WSA is to demonstrate the sufficiency of the purveyor's water supplies to satisfy the water demands of the proposed project, while still meeting the water purveyor's existing and planned future uses. Water Code Sections 10910 through 10915 set forth the specific information that must be included in a WSA.

SB 221 amended State law (California Government Code Section 66473.7) to require that approval by a city or county of certain residential subdivisions[3] requires an affirmative written verification of sufficient water supply. SB 221 was intended as a failsafe mechanism to ensure that collaboration on finding the needed water supplies to serve a new large residential subdivision occurs before construction begins.

1.2 Need for and Purpose of Water Supply Assessment

The purpose of this WSA is to perform the evaluation required by SB 610 (Water Code Sections 10910 through 10915) in connection with the Proposed Project, located within the MPMW service area. This WSA does not reserve water, or function as a "will serve" letter or any other form of commitment to supply water (see Water Code Section 10914). The provision of water service will continue to be undertaken in a manner consistent with applicable policies and procedures, consistent with existing law.

1.3 Water Supply Assessment Preparation, Format, and Organization

The format of this WSA is intended to follow Water Code Sections 10910 through 10915 to clearly delineate compliance with the specific requirements for a WSA. This WSA includes the following sections:

Section 1: Introduction
Section 2: Description of the Proposed Project
Section 3: Required Determinations
Section 4: Menlo Park Municipal Water System
Section 5: Menlo Park Municipal Water Demands
Section 6: Menlo Park Municipal Water Supplies
Section 7: Water Supply Reliability
Section 8: Determination of Water Supply Sufficiency Based on the Requirements of SB 610
Section 9: Verification of Water Supply Sufficiency Based on the Requirements of SB 221
Section 10: Water Supply Assessment Approval Process
Section 11: References

Relevant citations of Water Code sections 10910 through 10915 are included throughout this WSA in *italics* to demonstrate compliance with the specific requirements of SB 610.

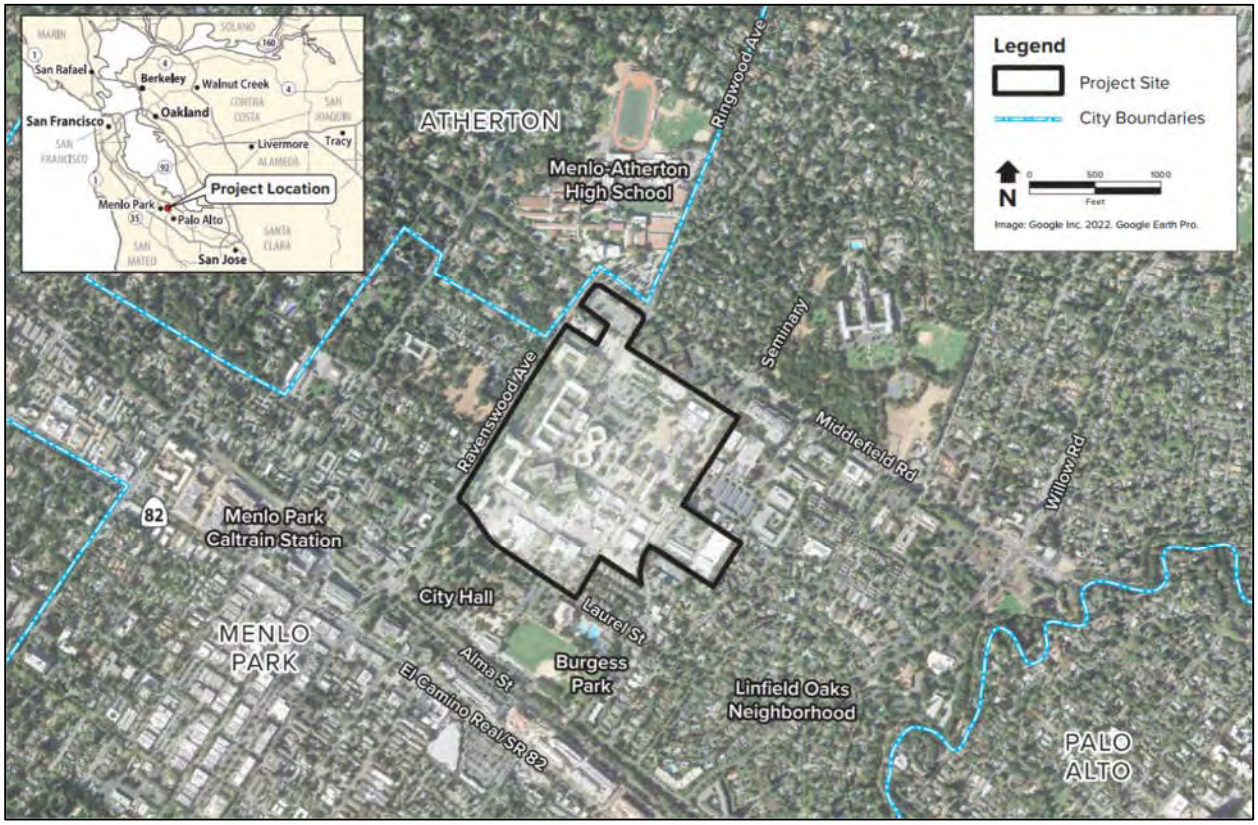
[3] Per Government Code Section 66473.7(a)(1) subdivision means a proposed residential development of more than 500 dwelling units.

2.0 DESCRIPTION OF THE PROPOSED PROJECT

The following sections describe the Project, including its location, proposed land uses, and projected water demand.

2.1 Proposed Project Location, Project Overview, Project Variant Overview

The 63.2-acre Project Site is located at 333 Ravenswood Avenue[4] in the City of Menlo Park within the MPMW existing service area. The Project Site includes SRI International's research campus, which consists of 38 buildings with approximately 1.38 million square feet of mostly R&D space and areas for supporting uses. The Project Site is between El Camino Real and Middlefield Road, near the downtown area and Menlo Park Caltrain station. The Project Site consists of five parcels (Assessor's Parcel Numbers 062-390-660, 062-390-670, 062-390-730, 062-390-760, and 062-390-780). The location of the Project Site is shown on Figure 2-1. As described below, the Project Variant would be expanded to also include the parcel located at 201 Ravenswood Avenue.



Source: ICF, 2023

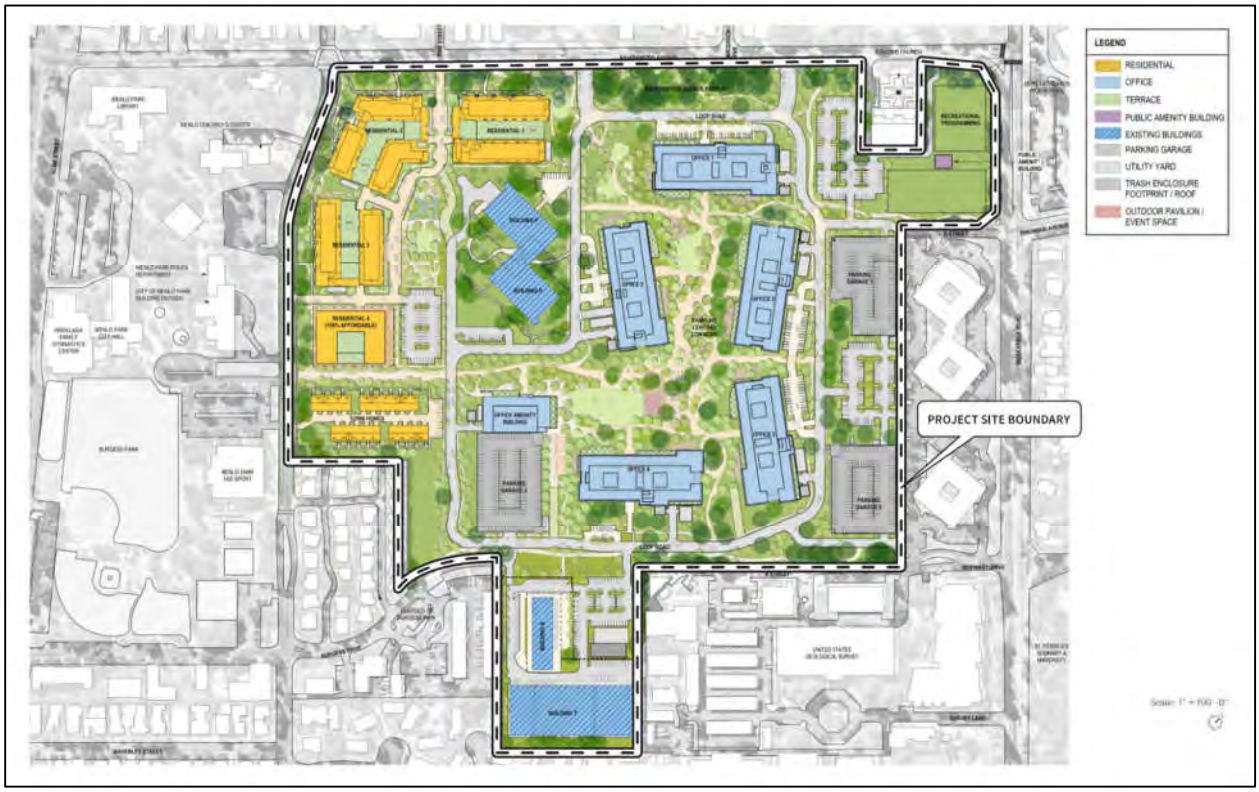
Figure 2-1. Project Site Location

[4] The Project Site also includes the addresses 301 Ravenswood Avenue and 555 and 565 Middlefield Road.

The Proposed Project would redevelop the SRI International Campus by creating a new office/R&D campus with no increase in office/R&D square footage; up to 550 new rental dwelling units at a range of affordability levels; new bicycle and pedestrian connections; and open space. The Proposed Project would demolish 35 of the 38 existing buildings on the Project Site; existing Buildings P, S, and T would remain onsite and be operated by SRI International and its tenants,[5] and a 6-megawatt natural gas cogeneration plant would be decommissioned. In total, the Proposed Project would result in approximately 1,768,802 square feet of mixed-use development, with approximately 1,093,602 square feet of office/R&D uses and approximately 675,200 square feet of residential uses. Approximately 26 acres of open space areas and supporting amenities would be developed at the Project Site, including a network of publicly-accessible bicycle and pedestrian trails, open spaces, and active/passive recreational areas that would be available to the public. In addition, the Proposed Project would include community-oriented facilities, such as a community playing field, a children's playground area, and a community amenity building that would accommodate retail uses.

The Proposed Project would organize land uses generally within two land use districts on the Project Site, consisting of (1) an approximately 10-acre Residential District in the southwestern portion of the Project Site, and (2) an approximately 53.2-acre Office/R&D District in the remainder of the Project Site. Because future commercial tenants in the Office/R&D District are not yet known, proposed commercial buildings in the Office/R&D District are designed to accommodate either office uses, R&D or life science uses, or a combination of both. Therefore, this WSA evaluates two buildout scenarios within the Office R&D District: a 100 percent office scenario (referred to hereafter as "Project Scenario 1") and a 100 percent R&D scenario (referred to hereafter as "Project Scenario 2"). This ensures the Proposed Project's maximum potential impact and any future commercial tenant mix is within the scope of the WSA analysis. The scenario that results in the greatest water demand (i.e., Project Scenario 2) is evaluated in this WSA, to be conservative. The conceptual site plan for the Proposed Project (Project Scenarios 1 and 2) is shown on Figure 2-2.

[5] SRI International is proposing to construct tenant improvements at Buildings P, S, and T, as well as related site utility work, to modernize the buildings for SRI International's near-term and ongoing operations. The proposed tenant improvements in Buildings P, S, and T are not part of the Proposed Project.



Source: Studios Architecture, OJB, Kier+Wright, 2023

Figure 2-2. Proposed Project (Scenarios 1 and 2) Conceptual Site Plan

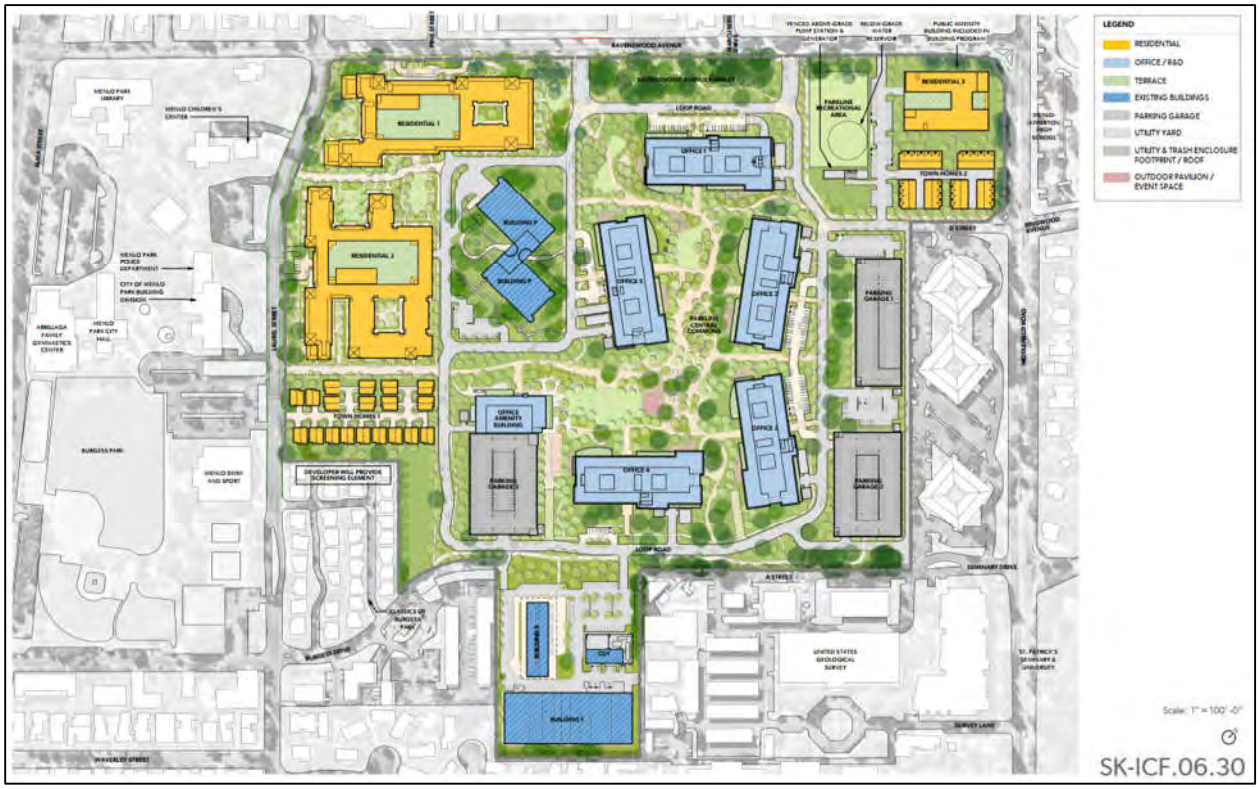
In addition, a project variant could reasonably be approved instead of the Proposed Project: the Increased Development Variant (Project Variant). The Project Variant is a variation of the Proposed Project at the same Project Site and generally has the same objectives, background, and development controls, but with several specific differences:

1. The Project Variant would include up to 250 additional residential rental dwelling units compared to the two Project Scenarios (an increase from 550 to 800 units);
2. The Project Variant would include a two-million-gallon underground emergency water reservoir that would be built and operated by MPMW;
3. The Project Variant would reduce the underground parking footprint within the site, both by removing underground parking from the multifamily residential buildings and removing the underground parking connection between Buildings Office/R&D 1 and Office/R&D 2. As a result, the parking garages PG1 and PG2 increase in square footage and height as compared to the Proposed Project; and
4. The Project Variant site plan would expand to include an additional parcel located at 201 Ravenswood Avenue to create a continuous project frontage along Ravenswood Avenue. The existing First Church of Christ, Scientist currently located on that parcel would be demolished.

The Project Variant also includes two residential swimming pools to be located within the multifamily residential buildings. Besides the items discussed above, the Project Variant would not change many of the other basic characteristics of the Proposed Project. For example, the total office/R&D development in the Office/R&D District would remain the same as the Proposed Project.

The Project Variant would be available for selection by the Project Sponsor (Lane Partners) and decision-makers as part of an approval action. The City could approve a modified version of the Project Variant with some or all of the above components. For the purposes of the WSA, the Project Variant includes all three components to ensure a complete analysis.

Under the Project Variant, the same existing buildings would be demolished (approximately 1,093,602 square feet) and the same existing buildings would be retained (Buildings P, S, and T, totaling approximately 286,730 square feet). The emergency water reservoir would have a recreational open space area above it, and would include a pump station building, surge tank, and a well head. The conceptual site plan for the Project Variant is shown on Figure 2-3.



Source: Studios Architecture, OJB, Kier+Wright, 2024

Figure 2-3. Project Variant Conceptual Site Plan

2.2 Projected Water Demand for the Proposed Project and Project Variant

As discussed above, this WSA evaluates two buildout scenarios within the Office R&D District (Project Scenario 1 and Project Scenario 2) as well as the Project Variant. Water demand was projected for the two buildout scenarios and the Project Variant by PAE in a memo dated February 2024, which is included in Appendix A of this WSA. The sources and methodology used to estimate water consumption for the Proposed Project and the Project Variant are described in detail in Appendix A and the results are presented within the first part of Table 2-1.

The projected water demand for the Proposed Project and the Project Variant are included in Table 2-1. The projected new water demand varies from 66.5 million gallons per year (MG/yr) for Project Scenario 1, to 95.7 MG/yr for Project Scenario 2, to 105.5 MG/yr for the Project Variant[6]. With Buildings P, S, and T, which would remain onsite and be operated by SRI International and its tenants, the total projected water demand varies from 76.1 MG/yr for Project Scenario 1, to 105.3 MG/yr for Project Scenario 2, to 115.1 MG/yr for the Project Variant.

Only the net new water demand associated with the Proposed Project is evaluated for the purposes of this WSA because the existing water demand is already accounted for in MPMW's current water supply planning. Thus, the water demand associated with SRI International's existing research campus, which consists of 38 buildings, is subtracted from the total demand associated with the Proposed Project. In addition, since the Project Variant plans to replace the existing church located at 201 Ravenswood Avenue, the existing demand associated with that property is subtracted from the total demand for the Project Variant only.

The Project Site's existing water demand was estimated by Kier and Wright in a table dated February 2024, which is included in Appendix B of this WSA. As shown in Appendix B, three years of historical data were evaluated for the existing SRI International research campus (2014, 2019, and 2022) and average historical data from 2022 to 2024 was evaluated for the existing property located at 201 Ravenswood Avenue. To capture recent trends in water use on SRI International's research campus while accounting for temporary decreases in demand associated with the COVID-19 pandemic, the water demands from 2019 were chosen to be representative of existing conditions. This results in 46.9 MG/yr (128,486 gallons per day, gpd) of existing demand for SRI International's research campus and 47.1 MG/yr (129,052 gpd) when the demand associated with the property at 201 Ravenswood Avenue is included.

As described above, the existing property located at 201 Ravenswood Avenue and its associated demand will only be included under the Project Variant. Therefore, for Scenarios 1 and 2, the water demand associated with 201 Ravenswood Avenue was not included in the estimate for existing water use at the Project Site. When the existing water demand is subtracted from the projected water demand for the Proposed Project, the total net new water demand varies from 29.2 MG/yr for Project Scenario 1, to 58.4 MG/yr for Project Scenario 2 to 68 MG/yr for the Project Variant, as shown in Table 2-1.

[6] In order to provide a conservative estimate, the water demand calculations for the Project Variant assume a 100 percent R&D Scenario within the Office R&D District, similar to Project Scenario 2.

Of this water demand, only the portion that has not already been evaluated in a previous WSA needs to be evaluated in this WSA. As discussed in Section 3, a WSA was recently prepared for the City's Housing Element Update (HEU; ESA, 2022) that assumed 400 dwelling units for Parkline. Therefore, so that the water demand associated with these 400 dwelling units is not double counted, the water demand associated with those dwelling units has not been evaluated in this WSA.[7] When the water demand associated with the 400 dwelling units (which was evaluated in a previous WSA) is subtracted from the projected water demand for the Proposed Project and the Project Variant, the resulting demand to be evaluated in this WSA is 10 MG/yr for Project Scenario 1, 39 MG/yr for Project Scenario 2, and 49 MG/yr for the Project Variant. Of the two buildout scenarios for the Proposed Project, Project Scenario 2 would result in the greatest water demand; thus, Project Scenario 2 and the Project Variant are evaluated in detail in this WSA. In addition, to provide for a conservative analysis, the Project Variant assumes 100 percent R&D uses for the commercial buildings, which would use comparatively more water than assuming 100 percent office use buildout.

The water demand projections shown in Table 2-1 assume that potable water will be used to meet the projected water demands. The Proposed Project is not expected to use recycled water, since no existing recycled water infrastructure is currently in place near the Project Site, as further described in Section 6.4.

[7] The City has noted that the number of housing units in the Housing Element Update was conceptual by site and may change depending on actual development proposals.

Table 2-1. Projected Water Demand for the Proposed Project and Project Variant

Building Type	Proposed Project Buildout Scenarios		Project Variant
	Project Scenario 1: 100% Office and 550 Residential Units, MG/yr	Project Scenario 2: 100% R&D and 550 Residential Units, MG/yr	100% R&D with 800 Residential Units and/or Emergency Reservoir, MG/yr
Proposed Project and Project Variant			
Office/R&D - New[(a)]	15.4	44.6	44.6
Multi-Family[(a)]	26.7	26.7	38.8
Multi-Family Pool[(a)]	--	--	0.5
Amenities[(a)]	2.2	2.2	2.2
Landscaping[(a)]	22.3	22.3	19.4
Total Projected Water Demand	**66.5**	**95.7**	**105.5**
Office/R&D - Existing to Remain[(b)]	9.6	9.6	9.6
Total Projected Water Demand + Existing Buildings P, S & T	**76.1**	**105.3**	**115.1**
Increase in Water Demand from Existing Conditions			
Existing Water Use at Project Site[(b)]	46.9	46.9	47.1
Net New Proposed Project Water Demand	**29.2**	**58.4**	**68.0**
Water Demand Not Already Evaluated in a Previous WSA			
Project Residential Demand Included in Housing Element Update WSA (400 Units)[(c)]	19.4	19.4	19.4
Proposed Project Water Demand to be Evaluated in this WSA(d)	**10**	**39**	**49**

(a) Source: PAE, 2024. Preliminary Building Energy Estimate [Update], Parkline Project. February 20, 2024.

(b) Source: Kier & Wright, 2024. SRI-Parkline Existing Water Demand Summary Table. February, 2024. For the SRI Campus, 2019 data is assumed to be most representative of existing conditions. For the property located at 201 Ravenswood Avenue, the existing demand is only included for the Project Variant, since that is the only scenario where that property is considered part of the Project Site.

(c) Source: Menlo Park HEU (ESA, 2022). Refer to Table 2-1 for the 400 new units attributed to Parkline and refer to Table 5-1 for the demand factor assumed (133 gallons per day per dwelling unit). The City has noted that the number of housing units in the Housing Element Update was conceptual by site and may change depending on actual development proposals.

(d) Demand totals are rounded to the nearest million gallon, for use throughout the remainder of this WSA.
MG/yr = million gallons per year; R&D = research and development; WSA = Water Supply Assessment.

Note: Totals shown may not be exact due to rounding.

3.0 REQUIRED DETERMINATIONS

The following sections describe the required determinations for a WSA.

3.1 Does SB 610 Apply to the Proposed Project?

10910 (a) Any city or county that determines that a project, as defined in Section 10912, is subject to the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) under Section 21080 of the Public Resources Code shall comply with this part.

10912 (a) "Project" means any of the following:

(1) A proposed residential development of more than 500 dwelling units.

(2) A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.

(3) A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.

(4) A proposed hotel or motel, or both, having more than 500 rooms.

(5) 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.

(6) A mixed-use project that includes one or more of the projects specified in this subdivision.

(7) 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.

In a recently approved WSA that was prepared for the City of Menlo Park HEU (ESA, 2022), 400 dwelling units were included that were identified as part of the pending Proposed Project. Therefore, those 400 dwelling units and their associated water demands are not evaluated in this WSA. In addition, there are three existing buildings (Buildings P, S, and T) that would remain at the Project Site to be operated by SRI International. The demand associated with Buildings P, S and T is not new, and is therefore not evaluated in this WSA. The remainder of the Proposed Project is new and has not been the subject of a previously adopted WSA and therefore, according to Water Code Section 10910(a), that Proposed Project requires a WSA.

As shown in Table 3-1, the Proposed Project and the Project Variant meet the definition of a "Project" as specified in Water Code Section 10912(a), because both contain over 500 dwelling units and include non-residential development that cumulatively requires a quantity of water equivalent to or greater than the amount of water required by a 500-dwelling unit project.

The City has also determined that the Proposed Project is subject to the California Environmental Quality Act (CEQA) and that an EIR is required. The EIR for the Proposed Project will utilize the findings of this WSA as appropriate.

Table 3-1. Do the Proposed Project and Project Variant Meet the SB 610 Definition of a "Project"?		
SB 610 Project Definition Components	Proposed Project and Project Variant Quantity	Do the Proposed Project and Project Variant Meet the SB 610 Definition of a "Project"?
Residential > 500 dwelling units	550 units for Proposed Project / 800 units for the Project Variant	YES / YES
Retail > 1,000 employees or > 500,000 square feet	N/A	NO
Commercial Office Building > 1,000 employees or > 250,000 square feet	No net increase	NO
Hotel/Motel > 500 rooms	N/A	NO
Industrial Plant/Park > 1,000 employees or > 40 acres or > 650,000 square feet	N/A	NO
Mixed Use Project that includes one or more of the above	YES	YES
A Project that would demand the amount of water required by a 500-dwelling unit project	YES	YES
SB 610 Required?	**--**	**YES**

3.2 Does SB 221 Apply to the Proposed Project?

In 2001, SB 221 amended State law to require that approval by a city or county of certain residential subdivisions requires an affirmative written verification of sufficient water supply. Per California Government Code Section 66473.7(a)(1), a subdivision means a proposed residential development of more than 500 dwelling units. The Proposed Project, with 550 to 800 new residential dwelling units (depending on whether the Proposed Project or the Project Variant is selected) in MPMW's water service area, is subject to the requirements of SB 221.

3.3 Who is the Identified Public Water System?

> *10910(b) The city or county, at the time that it determines whether an environmental impact report, a negative declaration, or a mitigated negative declaration is required for any project subject to the California Environmental Quality Act pursuant to Section 21080.1 of the Public Resources Code, shall identify any water system that is, or may become as a result of supplying water to the project identified pursuant to this subdivision, a public water system, as defined by Section 10912, that may supply water for the project…*
>
> *10912 (c) "Public water system" means a system for the provision of piped water to the public for human consumption that has 3,000 or more service connections…*

The Project Site is located in the City within MPMW's service area. MPMW's service area consists of three zones:

- Lower Zone: located north and east of El Camino Real and serves residential, small commercial, and light industrial land uses;
- High Pressure Zone: located in northern Menlo Park between Highway 101 and Bayfront Expressway, north of Chilco Street, and serves multi-family residential, commercial and light industrial, and a mobile home park outside the City's northern-most boundary; and
- Upper Zone: located in the southwest portion of Menlo Park near Interstate 280 and geographically and hydraulically disconnected from the other pressure zones.

The Project Site is located in MPMW's Lower Zone. Therefore, MPMW is the identified public water system for the Proposed Project.

3.4 Does the Identified Public Water Supplier have an adopted UWMP and does the UWMP include the projected water demand for the Proposed Project?

10910(c)(1) The city or county, at the time it makes the determination required under Section 21080.1 of the Public Resources Code, shall request each public water system identified pursuant to subdivision (b) to determine whether the projected water demand associated with a proposed project was included as part of the most recently adopted urban water management plan adopted pursuant to Part 2.6 (commencing with Section 10610).

According to California Water Code (CWC) Section 10617, an urban water supplier is defined as a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water per year. MPMW meets the definition of an urban water supplier and is therefore required to prepare an Urban Water Management Plan (UWMP). MPMW's most recently adopted UWMP is the 2020 UWMP, which was adopted in May 2021. The MPMW 2020 UWMP is incorporated by reference into this WSA.

The MPMW 2020 UWMP incorporated the future population, employment and water demand projections for buildout of the City's General Plan, including the additional allowable development associated with major development projects within the MPMW service area. However, implementation of the Proposed Project was not accounted for in the growth forecasts when MPMW was preparing its 2020 UWMP. Therefore, consistent with CWC Section 10910(c)(3), this WSA provides an assessment of supply for MPMW during normal, single dry, and multiple dry water years for a 20-year projection and compares it to existing and planned future demands, including: (1) the demand forecasts from MPMW's 2020 UWMP; (2) new demand associated with implementation of the Proposed Project; and (3) the demand associated with the City's HEU. The demand associated with the City's HEU was already addressed as part of a separate WSA, but still must be considered since it was not included in the demand forecasts in MPMW's 2020 UWMP.

4.0 MENLO PARK MUNICIPAL WATER SYSTEM

The following sections describe the MPMW existing water service area, including existing and projected population.

4.1 Water Service Area

MPMW is located within the City, along the San Francisco Peninsula in San Mateo County, between the cities of Palo Alto, East Palo Alto, and Redwood City. MPMW provides water service to approximately half of the City, serving an area of approximately 9 square miles. The remainder of the City is served by California Water Service, O'Connor Tract Co-operative Water Company, and Palo Alto Park Mutual Water Company.

MPMW provides water service to approximately 4,300 service connections as of 2023. Land uses throughout the water service area consist primarily of residential, commercial, and industrial land uses. Customer service connections include residential users, industrial connections, commercial service connections, irrigation accounts, and 'Other' connections (including temporary services and sales, private fire services, and hydrant services).

4.2 Population

The MPMW service area is largely built-out, with future growth trends principally due to redevelopment within the Bayfront Area. As shown in Table 4-1, MPMW's 2020 UWMP indicates that the total population within the MPMW service area is projected to increase to 30,184 people by 2040, a 65 percent increase from the current 2020 population of 18,276 people. The City's Planning Division expects more than 40 percent of the projected population increase to occur by 2025, based on approved and pending projects in the Bayfront Area (driven primarily by the ConnectMenlo General Plan).

Table 4-1. MPMW Service Area Existing and Projected Population

Year	2020	2025	2030	2035	2040
Population Served	18,276	23,383	25,166	27,675	30,184

Source: MPMW 2020 UWMP, Table 3-1.

5.0 MENLO PARK MUNICIPAL WATER DEMANDS

10910(c)(2) If the projected water demand associated with the proposed project was accounted for in the most recently adopted urban water management plan, the public water system may incorporate the requested information from the urban water management plan in preparing the elements of the assessment required to comply with subdivisions (d), (e), (f) and (g).

10910(c)(3) If the projected water demand associated with the proposed project was not accounted for in the most recently adopted urban water management plan, or the public water system has no urban water management plan, the water supply assessment for the project shall include a discussion with regard to whether the public water system's total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses.

The descriptions provided below for MPMW's water demands are based on the MPMW 2020 UWMP (adopted in May 2021) and incorporate the new demand associated with Proposed Project (and the Project Variant) and the City's HEU, where needed.

5.1 Historical and Existing Water Demand

Table 5-1 shows the MPMW water demand (based on water production) for 2010 through 2020. According to MPMW's 2020 UWMP, from 2010 through 2020, the service area population had grown by about 24 percent, while the total volume of water sold increased by just 1.6 percent. The decrease in water demand from 2013 to 2016 can be attributed to mandatory statewide restrictions issued by the State Water Resources Control Board (SWRCB) during the drought and water conservation efforts by the City's residents and businesses. Since 2016, there has been a rebound in demand.

Table 5-1. MPMW Service Area Historical Water Demand

Year	Potable Water Demand, MG
2010	1,052
2011	1,033
2012	1,079
2013	1,189
2014	1,030
2015	883
2016	898
2017	1,003
2018	1,108
2019	1,028
2020	1,069

Source: MPMW 2020 UWMP, Table 4-2.

5.2 Future Water Demand

Table 5-2 and Table 5-2V show MPMW's projected normal year water demands through 2040 for Project Scenario 2 and the Project Variant, respectively. Both tables show the demand associated with MPMW's 2020 UWMP with the addition of the demand associated with the City's HEU, as well as the demand associated with the Proposed Project. The 2020 UWMP projections are based on anticipated future water demands corresponding to buildout of the City's current General Plan, including development of ConnectMenlo and other planned projects within MPMW's service area. The projected increase in the 2020 UWMP demand over time reflects a rebound in water use following the end of the suppressed demands due to the 2015-2016 drought and an accelerated growth in employment due to planned development projects.

The water demand associated with the HEU reflects the addition of 1,790 new residential units that will be served by MPMW, as described in the City's HEU WSA (ESA, 2022). Project Scenario 2 and the Project Variant demands reflect the net increase in demand associated with the Project Site that is not already accounted for in the HEU WSA, as previously presented in Table 2-1.

Table 5-2. Projected Future Water Demand - Normal Years (Project Scenario 2)

Description	Projected Water Demand after Passive and Active Conservation, MG			
	2025	2030	2035	2040
2020 UWMP Demand[(a)]	1,296	1,345	1,410	1,483
HEU WSA Demand[(b)]	87	87	87	87
Demand Subtotal Before the Proposed Project	1,383	1,432	1,497	1,570
Project Scenario 2 Demand[(c)]	39	39	39	39
Updated Normal Year Demand	1,422	1,471	1,536	1,609

(a) Source: MPMW 2020 UWMP, Tables 4-5 and 4-7.
(b) Source: Menlo Park HEU WSA. Refer to Table 5-2 for the quantity of HEU residential unit demand attributed to MPMW (267 AFY).
(c) Refer to Table 2-1 of this WSA. To be conservative, all Proposed Project demands are assumed to be in place by 2025.

Table 5-2V. Projected Future Water Demand - Normal Years (Project Variant)

Description	Projected Water Demand after Passive and Active Conservation, MG			
	2025	2030	2035	2040
2020 UWMP Demand[(a)]	1,296	1,345	1,410	1,483
HEU WSA Demand[(b)]	87	87	87	87
Demand Subtotal Before the Project Variant	1,383	1,432	1,497	1,570
Project Variant Demand[(c)]	49	49	49	49
Updated Normal Year Demand	1,432	1,481	1,546	1,619

(a) Source: MPMW 2020 UWMP, Tables 4-5 and 4-7.
(b) Source: Menlo Park HEU WSA. Refer to Table 5-2 for the quantity of HEU residential unit demand attributed to MPMW (267 AFY).
(c) Refer to Table 2-1 of this WSA. To be conservative, all Project Variant demand is assumed to be in place by 2025.

5.3 Dry Year Water Demand

As shown in Table 5-1, MPMW's 2015 and 2016 demands were significantly lower than the demand in previous years. This reduction in demand occurred in response to the drought and mandated statewide reductions in urban potable water usage.

Following the drought, MPMW updated the stages of action to be taken in response to water supply shortages. The updated stages of action are reflected in MPMW's Water Shortage Contingency Plan (WSCP) and are included in Chapter 8 of the MPMW 2020 UWMP. MPMW has also implemented a demand management program with mandatory prohibitions that are in force at all times, as described in Chapter 8 of the MPMW 2020 UWMP. The projected future water demands presented in Table 5-2 and Table 5-2V include continued implementation of the existing demand management program and is based on future normal hydrologic years.

Under dry water year conditions, MPMW anticipates implementing the demand reduction measures outlined in the WSCP as appropriate to reduce water demands to match the reduction in supply. However, to be conservative, the MPMW 2020 UWMP and this WSA do not assume additional water conservation will occur in single dry or multiple dry years, even though additional water conservation is likely to occur during dry years or other water supply shortages as a result of MPMW implementing additional water conservation measures.

Table 5-3 and Table 5-3V present the projected future single and multiple dry year water demand with Project Scenario 2 and the Project Variant, respectively. Similar to the future normal year analysis, the projected water demand from MPMW's 2020 UWMP is added to the demand associated with the portion of the City's HEU that will be served by MPMW, as well as the net increase in Proposed Project demand not previously accounted for, as presented in Table 2-1.

Table 5-3. Projected Future Water Demand - Dry Years (Project Scenario 2)

Hydrologic Condition	Demand Reduction[a]	Projected Water Demand, MG			
		2025	2030	2035	2040
Single Dry Year					
2020 UWMP Demand[b]	0%	1,296	1,345	1,410	1,483
HEU WSA Demand[c]	0%	87	87	87	87
Demand Subtotal Before the Proposed Project	--	*1,383*	*1,432*	*1,497*	*1,570*
Project Scenario 2 Demand[d]	0%	39	39	39	39
Updated Single Dry Year Demand	**--**	**1,422**	**1,471**	**1,536**	**1,609**
Multiple Dry Years					
2020 UWMP Demand[e,f]	0%	1,296	1,345	1,410	1,483
HEU WSA Demand[c]	0%	87	87	87	87
Demand Subtotal Before the Proposed Project	--	*1,383*	*1,432*	*1,497*	*1,570*
Project Scenario 2 Demand[d]	0%	39	39	39	39
Updated Multiple Dry Year Demand	**--**	**1,422**	**1,471**	**1,536**	**1,609**

(a) Conservatively assumes no demand reduction in dry years. Demands may be reduced in dry years as a result of MPMW's implementation of its Water Shortage Contingency Plan; however, such a demand reduction is not assumed or relied upon for the purposes of the Single Dry Year and Multiple Dry Year evaluations for this WSA.

(b) Source: MPMW 2020 UWMP, Table 7-5.

(c) Source: Menlo Park HEU WSA. Refer to Table 5-2 for the quantity of HEU residential unit demand attributed to MPMW (267 AFY).

(d) Refer to Table 2-1 of this WSA. To be conservative, it is assumed that all Proposed Project demand is in place by 2025.

(e) Source: MPMW 2020 UWMP, Table 7-6.

(f) Represents demands for each year of the 5-year multiple dry year period.

MG = million gallons; UWMP = urban water management plan; HEU WSA = housing element update water supply assessment.

Table 5-3V. Projected Future Water Demand - Dry Years (Project Variant)

Hydrologic Condition	Demand Reduction[a]	Projected Water Demand, MG			
		2025	2030	2035	2040
Single Dry Year					
2020 UWMP Demand[b]	0%	1,296	1,345	1,410	1,483
HEU WSA Demand[c]	0%	87	87	87	87
Demand Subtotal Before the Project Variant	--	*1,383*	*1,432*	*1,497*	*1,570*
Project Variant Demand[d]	0%	49	49	49	49
Updated Single Dry Year Demand	**--**	**1,432**	**1,481**	**1,546**	**1,619**
Multiple Dry Years					
2020 UWMP Demand[e,f]	0%	1,296	1,345	1,410	1,483
HEU WSA Demand[c]	0%	87	87	87	87
Demand Subtotal Before the Project Variant	--	*1,383*	*1,432*	*1,497*	*1,570*
Project Variant Demand[d]	0%	49	49	49	49
Updated Multiple Dry Year Demand	**--**	**1,432**	**1,481**	**1,546**	**1,619**

(a) Conservatively assumes no demand reduction in dry years. Demands may be reduced in dry years as a result of MPMW's implementation of its Water Shortage Contingency Plan; however, such a demand reduction is not assumed or relied upon for the purposes of the Single Dry Year and Multiple Dry Year evaluations for this WSA.

(b) Source: MPMW 2020 UWMP, Table 7-5.

(c) Source: Menlo Park HEU WSA. Refer to Table 5-2 for the quantity of HEU residential unit demand attributed to MPMW (267 AFY).

(d) Refer to Table 2-1 of this WSA. To be conservative, it is assumed that all Project Variant demand is in place by 2025.

(e) Source: MPMW 2020 UWMP, Table 7-6.

(f) Represents demands for each year of the 5-year multiple dry year period.

MG = million gallons; UWMP = urban water management plan; HEU WSA = housing element update water supply assessment.

6.0 MENLO PARK MUNICIPAL WATER SUPPLIES

10910(d)(1) The assessment required by this section shall include an identification of any existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project, and a description of the quantities of water received in prior years by the public water system…under the existing water supply entitlements, water rights, or water service contracts.

10910(e) If no water has been received in prior years by the public water system…under the existing water supply entitlements, water rights, or water service contracts, the public water system…shall also include in its water supply assessment…an identification of the other public water systems or water service contract holders that receive a water supply or have existing water supply entitlements, water rights, or water service contracts, to the same source of water as the public water system.

10910(f) If a water supply for a proposed project includes groundwater, the following additional information shall be included in the water supply assessment.

(1) A review of any information contained in the urban water management plan relevant to the identified water supply for the proposed project.

(2) A description of any groundwater basin or basins from which the proposed project will be supplied. For those basins for which 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 public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), 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 or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current bulletin of the department that characterizes the condition of the groundwater basin, and a detailed description by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), of the efforts being undertaken in the basin or basins to eliminate the long-term overdraft condition.

(3) A detailed description and analysis of the amount and location of groundwater pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), for the past five years from any groundwater basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historical use records.

(4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), from any basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historical use records.

(5) An analysis of the sufficiency of the groundwater from the basin or basins from which the proposed project will be supplied to meet the projected water demand associated with the proposed project. A water assessment shall not be required to include the information required by this paragraph if the public water system determines, as part of the review required by paragraph (1), that the sufficiency of groundwater necessary to meet the initial and projected water demand associated with the project was addressed in the description and analysis required by paragraph (4) of subdivision (b) of Section 10631.

The descriptions provided below for MPMW's water supplies are based on the MPMW 2020 UWMP (adopted in May 2021) and the SFPUC 2020 UWMP (adopted in June 2021), as well as information provided by City staff. As described in Section 3.4 of this WSA, implementation of the Proposed Project was not accounted for in the growth forecasts when MPMW was preparing its 2020 UWMP. Therefore, consistent with CWC Section 10910(c)(3), this WSA provides an assessment of supply for MPMW, which will build from the supply summary presented below. That supply assessment will be presented in Section 7.

6.1 Water Supply Overview

MPMW currently purchases all its potable water supplies from the SFPUC RWS. MPMW has reservoirs in its Upper Zone to provide for emergency supply and an emergency groundwater well has been constructed at MPMW's Corporation Yard. Additional groundwater wells and reservoirs for emergency supply are in the planning stages for the Lower Zone and the High Pressure Zone.

Recycled water supplied by West Bay Sanitary District (WBSD) is currently utilized within the MPMW service area for irrigation at the Sharon Heights Golf & Country Club and is under development for the Bayfront Area. According to the MPMW 2020 UWMP, MPMW plans to utilize up to 120 MG/yr of recycled water from WBSD for landscape and golf course irrigation and commercial non-potable applications at Sharon Heights and in the Bayfront Area. Currently no recycled water infrastructure is in place nor planned for installation in the area near the Project Site. Thus, potable water is assumed to meet all of the Project's water demands.

6.2 Water Supply from the SFPUC RWS

The SFPUC RWS supplies water to both retail and wholesale customers. Retail customers include residents, businesses, and industries located within the City and County of San Francisco's boundaries. Wholesale customers include 26 cities and water supply agencies in Alameda, San Mateo and Santa Clara counties, including MPMW.

MPMW is a member agency of Bay Area Water Supply and Conservation Agency (BAWSCA) and purchases treated water from the SFPUC RWS in accordance with the November 2018 Amended and Restated Water Supply Agreement between the City and County of San Francisco and Wholesale Customers in Alameda, San Mateo and Santa Clara Counties, which was adopted in 2019. The term of the agreement is 25 years, with a beginning date of July 1, 2009 and an expiration date of June 30, 2034. Per the agreement, MPMW has an Individual Supply Guarantee (ISG) of 4.456 million gallons per day (mgd), or 1,630 million gallons per year, supplied by the SFPUC RWS. From 2019 to 2023, MPMW has purchased between 52 percent and 66 percent of its ISG.

Additional discussion of the SFPUC RWS water supplies is provided in MPMW's 2020 UWMP and SFPUC's 2020 UWMP.

6.3 Groundwater Supply

MPMW does not rely upon groundwater supplies for its potable water supply since the entirety of the MPMW supply is purchased from the SFPUC RWS. However, MPMW has undertaken a multi-year Emergency Water Storage/Supply Project to construct emergency groundwater wells. As such, this WSA evaluates groundwater basin conditions pursuant to Section 10910(f).

6.3.1 Groundwater Basin Description

The MPMW service area overlies the southern end of the Santa Clara Valley Groundwater Basin's San Mateo Plain Groundwater Subbasin (DWR basin number 2-9.03; DWR, 2004; or "subbasin"). The subbasin is not adjudicated, nor has it been found by the 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 California Statewide Groundwater Elevation Monitoring basin prioritization process. As such, the basin is not subject to the requirements of SGMA.

Located within the 45-square mile San Francisquito Creek Watershed, the MPMW service area contains both mountainous bedrock terrain and comparatively flat alluvial deposits. Coarse- and fine-grained alluvial deposits from the San Francisquito Creek can be found in the MPMW service area. A shallow aquifer and a deep aquifer that has an upper and a lower zone underlies the MPMW service area. Both aquifers lie beneath a laterally extensive confining layer. The shallow aquifer is unconfined while the deep aquifer is semi-confined. Pump tests and empirical transmissivity data show the feasibility of developing a municipal supply from the groundwater subbasin. The groundwater subbasin is estimated to be as thick as 1,000 feet in some locations.

Groundwater in the Santa Clara Valley Groundwater Basin naturally flows toward the San Francisco Bay from the uplands in the southwest. Reverse groundwater gradients, from the San Francisco Bay toward the uplands, have been seen when pumping has exceeded the rate of recharge. The estimated annual recharge rate of the San Francisquito Creek watershed ranges from 4,000 to 8,000 acre-feet per year, equivalent to 3.6 to 7.2 mgd.

Additional discussion of the groundwater conditions and groundwater management is provided in MPMW's 2020 UWMP.

6.3.2 MPMW Emergency Water Storage/Supply Project

The MPMW Emergency Water Storage/Supply Project intends to provide a backup water supply to the portion of MPMW's service area located east of El Camino Real, which lacks sufficient emergency storage and supply, in the event water from the SFPUC RWS is reduced or unavailable. The MPMW Emergency Water Storage/Supply Project will provide a total capacity of up to 3,000 gallons per minute (gpm), or approximately 4.32 mgd, between two to three wells. MPMW initiated the project in 2010 and completed site screening, site ranking, and detailed engineering and hydrologic evaluation in 2013, including extensive community engagement. MPMW selected the Corporation Yard at 333 Burgess Drive for the first well, drilled the well in 2017, and completed construction of the wellhead facilities in 2020. In early 2023, MPMW received approval from the SWRCB to operate the Corporation Yard Well as a standby well for use during emergencies up to a limited number of days per year. MPMW plans to perform final testing of the well in 2024. It should be noted that the Corporation Yard Well is located adjacent to the Parkline Project Site to the southeast of the Project Site.

In addition, MPMW drilled at three sites: (1) Fire Station No. 1 located at 300 Middlefield Road; (2) Willow Oaks school field located at 620 Willow Road; and (3) the SRI International parking lot located at 333 Ravenswood Avenue. MPMW is currently evaluating the three sites to determine well yields, develop cost estimates, and provide necessary information for staff to recommend next steps to City Council. MPMW also installed a monitoring well in the SRI parking lot to measure the groundwater level over a 12-month period to determine the feasibility of a future underground reservoir to increase supply reliability. The 2 MG storage facility proposed as part of the Project Variant is related to that effort. The SWRCB would need to amend MPMW's drinking water permit once any new wells and/or reservoir are constructed.

6.4 Recycled Water Supply

WBSD provides wastewater collection services to the MPMW service area. WBSD also acts as the recycled water purveyor in MPMW's Upper Zone and WBSD is developing a recycled water system to serve the Lower Zone and High Pressure Zone.

Currently, recycled water is only used at the Sharon Heights Golf & Country Club, which is a 170-acre property located in the Upper Zone of MPMW's service area. The recycled water system consists of the Sharon Heights Recycled Water Facility, a pump station, recycled water distribution pipelines to the golf course irrigation system, and a solids disposal pipeline. In 2020, the Sharon Heights Recycled Water Facility provided 20 MG of recycled water to the Sharon Heights Golf & Country Club, offsetting demand in potable water purchased from SFPUC. A second phase of the project, in the very early planning stages, could supply approximately 28 MG of recycled water over seven months a year to the Stanford Linear Accelerator Center for irrigation and industrial uses such as for cooling towers.

WBSB anticipates developing a similar recycled water facility in the Bayfront Area. WBSD has completed a feasibility study exploring the viability of a Resource Recovery Center at WBSD's former treatment plant behind Bedwell Bayfront Park, which could produce approximately 500,000 gallons per day of recycled water for reuse (the MPMW 2020 UWMP projects an annual recycled water supply of 72 MG/yr from this new facility). The feasibility study concluded that the project is feasible.

In the southwest portion of MPMW's Lower Zone (where the Project Site is located), no existing recycled water infrastructure is in place. WBSB does not currently have any plans to extend the existing recycled water system to this region. Therefore, the Proposed Project is assumed to be supplied by potable water only.

6.5 Summary of Existing and Additional Planned Future Water Supplies

Table 6-1 provides a summary of MPMW's current and projected future normal year supplies as presented in MPMW's 2020 UWMP. The availability and reliability of MPMW's water supplies in dry years is discussed in Section 7 of this WSA.

Table 6-1. MPMW Current and Projected Future Water Supplies – Normal Years

Water Source	Water Supply, MG				
	2020 Actual[a,b]	2025[c]	2030[c]	2035[c]	2040[c]
Potable Water - Purchased from SFPUC RWS	1,069	1,630	1,630	1,630	1,630
Recycled Water - Sharon Heights Recycled Water Facility	20	48	48	48	48
Recycled Water - Bayfront Recycled Water Facility	--	0	72	72	72
Total	**1,089**	**1,678**	**1,750**	**1,750**	**1,750**

(a) 1,069 MG represents only 65.5% of the ISG to MPMW.
(b) Source: MPMW 2020 UWMP, Table 4-7.
(c) Source: MPMW 2020 UWMP, Table 6-9.

7.0 WATER SUPPLY RELIABILITY

10910(c)(4) If the city or county is required to comply with this part pursuant to subdivision (b), the water supply assessment for the project shall include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and planned future uses, including agricultural and manufacturing uses.

10911(a) If, as a result of its assessment, the public water system concludes that its water supplies are, or will be, insufficient, the public water system shall provide to the city or county its plans for acquiring additional water supplies, setting forth the measures that are being undertaken to acquire and develop those water supplies. If the city or county, if either is required to comply with this part pursuant to subdivision (b), concludes as a result of its assessment, that water supplies are, or will be, insufficient, the city or county shall include in its water supply assessment its plans for acquiring additional water supplies, setting forth the measures that are being undertaken to acquire and develop those water supplies. Those plans may include, but are not limited to, information concerning all of the following:

(1) The estimated total costs, and the proposed method of financing the costs, associated with acquiring the additional water supplies.

(2) All federal, state, and local permits, approvals, or entitlements that are anticipated to be required in order to acquire and develop the additional water supplies.

(3) Based on the consideration set forth in paragraphs (1) and (2), the estimated timeframes within which the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), expects to able to acquire additional water supplies.

The current reliability of MPMW's water supply is largely dependent upon its water supply contract with SFPUC and SFPUC's water supply reliability. The reliability discussion provided below is based on the MPMW 2020 UWMP (adopted in May 2021) and the SFPUC 2020 UWMP (adopted in June 2021) and includes more recent updates where information was available. It should be noted that SFPUC's 2020 UWMP extends to a 2045 horizon year, which is beyond the statutorily required horizon year of 2040 presented in the MPMW 2020 UWMP.

7.1 SFPUC RWS Reliability

Information regarding the reliability of the SFPUC RWS was provided to MPMW by BAWSCA, in coordination with SFPUC, during the preparation of the MPMW 2020 UWMP. The following sections describe the potential impacts of the 2018 Bay-Delta Plan Amendment on SFPUC RWS reliability, allocation of RWS supplies during supply shortages, as well as SFPUC's Alternative Water Supply Planning Program designed to investigate and plan for new water supplies to address future long-term water supply reliability challenges and vulnerabilities on the RWS.

7.1.1 Potential Impacts of the 2018 Bay-Delta Plan Amendment on SFPUC RWS Reliability

In December 2018, the 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 40 percent of the "unimpaired flow" on the three tributaries from February through June in every year type, whether wet, normal, dry, or critically dry.

As of the time of this WSA, implementation of the Bay-Delta Plan Amendment remains uncertain for several reasons, as summarized below:

- Since adoption of the Bay-Delta Plan Amendment, over a dozen lawsuits have been filed in both state and federal court, challenging the SWRCB's adoption of the Bay-Delta Plan Amendment, including two legal challenges filed by the federal government, at the request of the U.S. Department of Interior, Bureau of Reclamation in state and federal courts.
- The Bay-Delta Plan Amendment is not self-implementing and does not allocate responsibility for meeting its new flow requirements to the SFPUC or any other water rights holders. Rather, the 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, the 401 certification process in the Federal Energy Regulatory Commission's (FERC) relicensing proceeding for Don Pedro Dam. This process and the other regulatory and/or adjudicatory proceedings would likely face legal challenges and have lengthy timelines, and quite possibly could result in a different assignment of flow responsibility (and therefore a different water supply impact on the SFPUC).
- In recognition of the obstacles to implementation of the Bay-Delta Plan Amendment, 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 SFPUC's participation in the Voluntary Agreement negotiation process. Then, in November 2022, key stakeholders signed a Memorandum of Understanding (MOU) indicating a mutual agreement among the signatories to advance the Voluntary Agreement Program for consideration by their respective decisional bodies, as needed. While a Voluntary Agreement is still not finalized, the signing of a MOU signals that stakeholders are committed to collaborating with the state to finalize an agreement.

Because of the uncertainties surrounding the implementation of the Bay-Delta Plan Amendment, the SFPUC 2020 UWMP analyzed two supply scenarios, one with the Bay-Delta Plan Amendment assuming implementation starting in 2023, and one without the Bay-Delta Plan Amendment. Results of these analyses are summarized as follows[8]:

- If the Bay-Delta Plan Amendment is implemented, SFPUC will be able to meet its contractual obligations to its wholesale customers as presented in the SFPUC 2020 UWMP in normal years but would experience significant supply shortages in dry years. In single dry years,

[8] BAWSCA Drought Allocation Tables by Agency (Table E: Percent Cutback to the Wholesale Customers with Bay-Delta Plan and Table N: Percent Cutback to the Wholesale Customers Without Bay-Delta Plan), dated April 1, 2021.

supply shortages would range from 36 to 46 percent. In multiple dry years, supply shortages would range from 36 to 54 percent. Implementation of the Bay-Delta Plan Amendment will require rationing in all single dry and multiple dry years through 2045.

- If the Bay-Delta Plan Amendment is not implemented, SFPUC would be able to meet 100 percent of the projected purchases of its wholesale customers during all year types through 2045 except during the fourth and fifth consecutive dry years for base year 2045 when 15 percent wholesale supply shortages are projected.

In June 2021, in response to various comments from wholesale customers regarding the reliability of the RWS as described in SFPUC's 2020 UWMP, the SFPUC provided a memorandum describing SFPUC's efforts to remedy the potential effects of the Bay-Delta Plan Amendment. As described in the memorandum (included in Appendix C of this WSA), SFPUC's efforts include the following:

- Pursuing a Tuolumne River Voluntary Agreement
- Evaluating the drought planning scenario in light of climate change
- Pursuing alternative water supplies
- In litigation with the State over the Bay-Delta Plan Amendment
- In litigation with the State over the proposed Don Pedro FERC Water Quality Certification

7.1.2 Allocation of RWS Supplies During Supply Shortages

The wholesale customers and SFPUC adopted the November 2018 Amended and Restated Water Supply Agreement in 2019. The agreement includes a Water Shortage Allocation Plan (WSAP) to allocate water from the RWS to retail and wholesale customers during system-wide shortages of 20 percent or less, and during water shortage events occurring as a result of implementation of the Bay-Delta Plan Amendment. The WSAP has two tiers which are described below.

- The Tier One Plan allocates water between SFPUC and the wholesale customers collectively based on the level of the shortage (up to 20 percent). This plan applies only when SFPUC determines that a system-wide water shortage exists and issues a declaration of a water shortage emergency under California Water Code Section 350. The SFPUC may also opt to request voluntary cutbacks from San Francisco and the wholesale customers to achieve necessary water use reductions during drought periods. The allocations outlined in the Tier One Plan are provided in Table 7-1.

Table 7-1. Tier One Plan Water Shortage Allocations

System-Wide Reduction Required, percent	Share of Available Water, percent	
	SFPUC	Wholesale Customers
≤ 5	35.5	64.5
6 to 10	36.0	64.0
11 to 15	37.0	63.0
16 to 20	37.5	62.5

- The Tier Two Plan allocates the collective wholesale customer share among the wholesale customers based on a formula that accounts for each wholesale customer's ISG, seasonal use of all available water supplies, and residential per capita use. BAWSCA calculates each wholesale customer's Allocation Factors annually in preparation for a potential water shortage emergency.

BAWSCA recognizes that the Tier Two Plan was not designed for RWS shortages greater than 20 percent, and 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 supply shortfalls are greater than 20 percent for the purposes of the BAWSCA member agencies' 2020 UWMPs. The revised methodology developed by BAWSCA allocates the wholesale supplies as follows:

- 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 requirements in a Tier Two application scenario.
- When average Wholesale Customers' shortages are between 10 and 20 percent, the Tier Two Plan will be applied.
- When the average Wholesale Customers' RWS shortages are greater than 20 percent, an equal percent reduction will be applied across all agencies.

In another memorandum dated February 18, 2021, BAWSCA explains that in actual RWS shortages greater than 20 percent, BAWSCA Member Agencies would have the opportunity to negotiate and agree upon a more nuanced and equitable approach. This would likely consider basic health and safety needs, the water needs to support critical institutions, and minimizing economic impacts on individual communities and the region. As such, the allocation method described in the MPMW 2020 UWMP is only intended to serve as the preliminary basis for the 2020 UWMP supply reliability analysis. The analysis provided in the SFPUC 2020 UWMP and the MPMW 2020 UWMP does not in any way imply an agreement by BAWSCA member agencies as to the exact allocation methodology.

7.1.3 Alternative Water Supply Program

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 of the RWS particularly in light of the possible implementation of the Bay-Delta Plan Amendment.

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 $131.5 million over the next ten years to fund water supply projects. 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 SFPUC's Water System Improvement Plan (WSIP)[9]; (3) San Francisco's perpetual obligation to supply

[9] The Water System Improvement Program (WSIP) is a $4.8 billion dollar, multi-year capital program to upgrade the SFPUC's regional and local water systems. The program repairs, replaces, and seismically upgrades crucial portions of the Hetch Hetchy Regional Water System. The program consists of 87 projects (35 local projects

184 mgd to the Wholesale Customers; (4) adopted Level of Service Goals to limit rationing to no more than 20 percent system-wide during droughts; and, (5) the potential need to identify water supplies that would be required to offer permanent status to interruptible customers.

The SFPUC is considering several water supply options and opportunities to meet all foreseeable water supply needs, including surface water storage expansion, recycled water expansion, water transfers, desalination, and potable reuse. Some of these efforts and their expected benefit to supply reliability are listed below, and described in further detail in the MPMW 2020 UWMP and SFPUC 2020 UWMP:

- Daly City Recycled Water Expansion (Regional; Normal and Dry-Year Supply)
- Alameda County Water District – Union Sanitary District Purified Water Partnership (Regional; Normal and Dry-Year Supply)
- Crystal Springs Purified Water (Regional; Normal and Dry-Year Supply)
- Los Vaqueros Reservoir Expansion (Regional; Dry Year Supply)
- Bay Area Brackish Water Desalination (Regional; Normal and Dry-Year Supply)
- Calaveras Reservoir Expansion (Regional; Dry Year Supply)
- Groundwater Banking (Dry Year Supply)
- Inter-Basin Collaborations

Capital projects under consideration would be costly and are still in the early feasibility and conceptual planning stages. The exact yields from these projects are not quantified at this time, as these supply projects would take 10 to 30 years to implement and the exact amount of water that can be reasonably developed is currently unknown.

As with traditional infrastructure projects, these alternative water supply projects will need to progress systematically from planning to environmental review, and then on to detailed design, permitting and construction. Given the complexity and inherent challenges, these projects will require a long lead time to develop and implement.

Additional information on the AWSP is provided in Chapter 7 of MPMW's 2020 UWMP.

located within San Francisco and 52 regional projects) spread over seven counties from the Sierra foothills to San Francisco. The San Francisco portion of the program was 100 percent complete as of October 2020. The Regional portion was scheduled to be complete in May 2023. Additional information on the WSIP is provided in Chapter 7 of MPMW's 2020 UWMP.

7.2 MPMW Water Supply Reliability

In the MPMW 2020 UWMP, projected normal year supplies are shown to be adequate to satisfy MPMW's projected normal year demands. But under dry year scenarios, MPMW's purchased supplies from the SFPUC RWS are reduced as a result of implementation of the Bay-Delta Plan Amendment, which significantly reduces dry year allocations for SFPUC wholesale customers. As further discussed in Section 8, that trend holds true in this WSA, even with the addition of the Proposed Project and HEU demands to MPMW's existing and projected demands from the 2020 UWMP.

Table 7-2 shows MPMW's projected supplies during normal, single dry and multiple dry years through 2040 based on the assumptions in the MPMW 2020 UWMP which assumes implementation of the Bay-Delta Plan Amendment. Based on the SFPUC's analysis, similar water supply quantities would be available to MPMW in 2045 under the various hydrologic conditions.[10] Recycled water is estimated to be available during all hydrologic years at a volume that meets MPMW's projected recycled water demands.

Table 7-2. Projected MPMW Water Supplies with Bay-Delta Plan Amendment

Hydrologic Condition	Projected Water Supply, MG[(a)]			
	2025	2030	2035	2040
Normal Year[(b)]	1,678	1,750	1,750	1,750
Single Dry Year[(c)]	877	978	1,018	1,062
Multiple Dry Years – Year 1[(d)]	877	978	1,018	1,062
Multiple Dry Years – Year 2[(d)]	760	854	887	927
Multiple Dry Years – Year 3[(d)]	760	854	887	927
Multiple Dry Years – Year 4[(d)]	760	854	887	832
Multiple Dry Years – Year 5[(d)]	760	854	824	832

(a) Includes projected potable water supply from the SFPUC RWS and projected recycled water supply (48 MG/yr in 2025 and 120 MG/yr for 2030 to 2040) (see Table 6-1).
(b) Source: MPMW 2020 UWMP, Table 7-4.
(c) Source: MPMW 2020 UWMP, Table 7-5.
(d) Source: MPMW 2020 UWMP, Table 7-6

[10] BAWSCA Drought Allocation Tables by Agency (Table K: Individual Agency Drought Allocations, Base Year 2045, With Bay-Delta Plan), dated April 1, 2021.

The water supply estimates provided in Table 7-2 use the best available data at the time of the MPMW 2020 UWMP, but do not account for the following factors:

- Potential changes to the implementation of the Bay-Delta Plan Amendment as discussed in Section 7.1.1 of this WSA
- Climate change impacts on the SFPUC RWS
- Potential delays in completion of the WSIP[11]

For comparison purposes, the SFPUC 2020 UWMP also evaluated a scenario without implementation of the Bay-Delta Plan Amendment. Table 7-3 shows MPMW's projected supplies during normal, single dry and multiple dry years for 2025 through 2040 assuming that the Bay-Delta Plan Amendment is not implemented. SFPUC's analysis indicated that it would be able to meet 100 percent of the wholesale projected purchases (analysis was conducted before the Proposed Project was included) during all year types through 2045 except during the fourth and fifth consecutive dry years for base year 2045 when a 16.5 percent supply shortfall is projected for MPMW (note that 2045 supplies are not shown in Table 7-3 as they were not shown in MPMW's 2020 UWMP). With the addition of the Proposed Project and HEU demand, the supply shortfall during these years is expected to be greater than 16.5 percent.

As required under SB 610, in light of these identified water supply shortages, Section 8 of this WSA describes MPMW's proposals for reducing water demands and developing additional water supplies, including measures that are being undertaken to acquire and develop those water supplies.

Table 7-3. Projected MPMW Water Supplies without Bay-Delta Plan Amendment

Hydrologic Condition	Projected Water Supply, MG[(a)]			
	2025	2030	2035	2040
Normal Year[(b)]	1,678	1,750	1,750	1,750
Single Dry Year[(c)]	1,344	1,465	1,530	1,603
Multiple Dry Years – Year 1[(c)]	1,344	1,465	1,530	1,603
Multiple Dry Years – Year 2[(c)]	1,344	1,465	1,530	1,603
Multiple Dry Years – Year 3[(c)]	1,344	1,465	1,530	1,603
Multiple Dry Years – Year 4[(c,d)]	1,344	1,465	1,530	1,603
Multiple Dry Years – Year 5[(c,d)]	1,344	1,465	1,530	1,603

(a) Includes projected potable water supply from the SFPUC RWS (based on projected purchases) and projected recycled water supply (48 MG/yr in 2025 and 120 MG/yr for 2030 to 2040) (see Table 6-1).

(b) Source: MPMW 2020 UWMP, Table 7-4.

(c) Source: BAWSCA Drought Allocation Tables by Agency (Table A: Wholesale RWS Actual Purchases in 2020 and Projected Purchases for 2025, 2030, 2035, 2040 and 2045), dated April 1, 2021. Totals include projected recycled water supply.

(d) A 16.5 percent reduction in supply from the SFPUC RWS is projected for MPMW in the fourth and fifth years of a multiple dry year drought, but not until 2045 (BAWSCA Drought Allocation Tables by Agency (Table O2: Individual Agency Drought Allocations, Base Year 2045, Without Bay-Delta Plan), dated April 1, 2021.

[11] The San Francisco portion of the WSIP was 100 percent complete as of October 2020. The Regional portion of the WSIP was scheduled to be complete in May 2023.

8.0 DETERMINATION OF WATER SUPPLY SUFFICIENCY BASED ON THE REQUIREMENTS OF SB 610

> *10910(c)(4) If the city or county is required to comply with this part pursuant to subdivision (b), the water supply assessment for the project shall include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and planned future uses, including agricultural and manufacturing uses.*
>
> *10911 (a) If, as a result of its assessment, the public water system concludes that its water supplies are, or will be, insufficient, the public water system shall provide to the city or county its plans for acquiring additional water supplies, setting forth the measures that are being undertaken to acquire and develop those water supplies.*

Due to the uncertainties surrounding the implementation of the Bay-Delta Plan Amendment, this WSA presents findings for two scenarios, one assuming the Bay-Delta Plan Amendment is implemented and one assuming that the Bay-Delta Plan Amendment is not implemented.

Table 8-1 and Table 8-1V summarize the scenario where the Bay-Delta Plan Amendment is assumed to be implemented for Project Scenario 2 and the Project Variant, respectively. As shown in Table 8-1, the total projected water supplies determined to be available in normal years will meet MPMW's existing and planned future uses, as well as the demand associated with the City's HEU, and the projected water demand associated with Project Scenario 2, through 2040. However, supply shortfalls are projected to occur in single dry years (ranging from 34 to 38 percent) and multiple dry years (ranging from 34 to 48 percent) through 2040. As shown in Table 8-1V, the results are similar for the Project Variant, with supply shortfalls projected to occur in single dry years (ranging from 34 to 39 percent) and multiple dry years (ranging from 34 to 49 percent) through 2040.

The supply shortfalls under implementation of the Bay-Delta Plan Amendment are not unique to MPMW. Under this scenario, significant supply shortfalls are projected to occur in dry years for all agencies that receive water from the SFPUC RWS, as well as other agencies whose water supplies would also be affected by the Amendment.

If supply shortfalls do occur under this scenario, MPMW expects to meet these supply shortfalls through water demand reductions and other shortage response actions by implementation of its WSCP.[12] The projected single dry year shortfalls would require implementation of Stage 4 of the MPMW WSCP for both Project Scenario 2 and the Project Variant. The projected multiple dry year shortfalls would require implementation of Stage 4 or 5 of the MPMW WSCP for both Project Scenario 2 and the Project Variant. The Proposed Project would be subject to the same water conservation and water use restrictions as other water users within the MPMW system.

[12] A main focus of MPMW's planned demand reduction measures is to increase public outreach and keep customers informed of the water shortage emergency and actions they can take to reduce consumption. The City will utilize its emergency supply well(s) as supply augmentation during WSCP Stages 5 and 6. Other actions that the City will take will include coordination with other agencies, implementing drought surcharge, increasing water waste patrols, etc. Additional information on MPMW's WSCP is provided in Chapter 8 of MPMW's 2020 UWMP.

As described in Section 7.1.3 of this WSA, the SFPUC is implementing an Alternative Water Supply Planning Program to investigate and plan for new water supplies to address future long-term water supply reliability challenges and vulnerabilities on the RWS. Also, as described in Section 6.3.2 of this WSA, MPMW is implementing an Emergency Water Storage/Supply Project to provide a backup water supply to MPMW's Lower Zone. However, because these potential additional supplies are still being developed, they are not included in Table 8-1 or Table 8-1V.

Table 8-2 and Table 8-2V summarize the scenario where it is assumed the Bay-Delta Plan Amendment is not implemented for Project Scenario 2 and the Project Variant, respectively. As shown in Table 8-2, the total projected water supplies determined to be available in normal years will meet MPMW's existing and planned future uses, as well as the demand associated with the City's HEU, and the projected water demand associated with Project Scenario 2, through 2040. However, supply shortfalls are projected to occur in single dry years (ranging from less than 1 percent to 5 percent) and multiple dry years (also ranging from less than 1 percent to 5 percent) through 2040. As shown in Table 8-2V, the results are similar for the Project Variant, with supply shortfalls projected to occur in single dry years (ranging from 1 to 6 percent) and multiple dry years (also ranging from 1 to 6 percent) through 2040.

As described in Section 7.2 of this WSA, based on SFPUC's analysis, a 16.5 percent supply shortfall is projected during the fourth and fifth consecutive dry years for base year 2045 (note that 2045 supplies and demands are not shown in Table 8-2 and Table 8-2V as they were not shown in MPMW's 2020 UWMP). With the addition of the Proposed Project and HEU demand, the supply shortfall during these years is expected to be greater than 16.5 percent. These projected supply shortfalls, as well as the shortfalls shown in Table 8-2 and Table 8-2V, are significantly less than the projected supply shortfalls if the Bay-Delta Plan Amendment is implemented.

If supply shortfalls do occur under this scenario, MPMW expects to meet these supply shortfalls through water demand reductions and other shortage response actions by implementation of its WSCP.[13] The projected single dry year shortfalls would require implementation of Stage 1 of the MPMW WSCP for both Project Scenario 2 and the Project Variant. The projected multiple dry year shortfalls would also require implementation of Stage 1 of the MPMW WSCP for both Project Scenario 2 and the Project Variant, except for a multiple dry year shortfall in 2045 (not shown in Table 8-2 or Table 8-2V), which would require implementation of Stage 2 or 3[14] of the MPMW WSCP. The Proposed Project would be subject to the same water conservation and water use restrictions as other water users within the MPMW system.

As discussed above, potential additional supplies that are still being developed are described in Section 7.1.3 and Section 6.3.2 of this WSA. Those supplies were not included in Table 8-2 and Table 8-2V because they are still being investigated and planned for.

[13] A main focus of MPMW's planned demand reduction measures is to increase public outreach and keep customers informed of the water shortage emergency and actions they can take to reduce consumption. The City will utilize its emergency supply well(s) as supply augmentation during WSCP Stages 5 and 6. Other actions that the City will take will include coordination with other agencies, implementing drought surcharge, increasing water waste patrols, etc. Additional information on MPMW's WSCP is provided in Chapter 8 of MPMW's 2020 UWMP.

[14] Assumes the 16.5 percent shortfall from the SFPUC analysis is added to any of the shortfalls predicted for MPMW between 2025 and 2040, which range from 1 to 6 percent.

Table 8-1. MPMW Summary of Water Demand Versus Supply with Bay-Delta Plan Amendment During Hydrologic Normal, Single Dry, and Multiple Dry Years (Project Scenario 2)

Hydrologic Condition		Supply and Demand Comparison, MG			
		2025	2030	2035	2040
Normal Year					
Available Water Supply[a]		1,678	1,750	1,750	1,750
2020 UWMP Demand[b]		1,296	1,345	1,410	1,483
HEU WSA Demand[b]		87	87	87	87
Project Scenario 2 Demand[b]		39	39	39	39
Updated Water Demand		*1,422*	*1,471*	*1,536*	*1,609*
Potential Surplus (Deficit)		**256**	**279**	**214**	**141**
Percent Shortfall of Demand		**-**	**-**	**-**	**-**
Single Dry Year					
Available Water Supply[a]		877	978	1,018	1,062
2020 UWMP Demand[c]		1,296	1,345	1,410	1,483
HEU WSA Demand[c]		87	87	87	87
Project Scenario 2 Demand[c]		39	39	39	39
Updated Water Demand		*1,422*	*1,471*	*1,536*	*1,609*
Potential Surplus (Deficit)		**(545)**	**(493)**	**(518)**	**(547)**
Percent Shortfall of Demand		**38%**	**34%**	**34%**	**34%**
Multiple Dry Years					
Multiple-Dry Year 1	Available Water Supply[a]	877	978	1,018	1,062
	2020 UWMP Demand[c]	1,296	1,345	1,410	1,483
	HEU WSA Demand[c]	87	87	87	87
	Project Scenario 2 Demand[c]	39	39	39	39
	Updated Water Demand	*1,422*	*1,471*	*1,536*	*1,609*
	Potential Surplus (Deficit)	**(545)**	**(493)**	**(518)**	**(547)**
	Percent Shortfall of Demand	**38%**	**34%**	**34%**	**34%**
Multiple-Dry Year 2	Available Water Supply[a]	760	854	887	927
	2020 UWMP Demand[c]	1,296	1,345	1,410	1,483
	HEU WSA Demand[c]	87	87	87	87
	Project Scenario 2 Demand[c]	39	39	39	39
	Updated Water Demand	*1,422*	*1,471*	*1,536*	*1,609*
	Potential Surplus (Deficit)	**(662)**	**(617)**	**(649)**	**(682)**
	Percent Shortfall of Demand	**47%**	**42%**	**42%**	**42%**
Multiple-Dry Year 3	Available Water Supply[a]	760	854	887	927
	2020 UWMP Demand[c]	1,296	1,345	1,410	1,483
	HEU WSA Demand[c]	87	87	87	87
	Project Scenario 2 Demand[c]	39	39	39	39
	Updated Water Demand	*1,422*	*1,471*	*1,536*	*1,609*
	Potential Surplus (Deficit)	**(662)**	**(617)**	**(649)**	**(682)**
	Percent Shortfall of Demand	**47%**	**42%**	**42%**	**42%**
Multiple-Dry Year 4	Available Water Supply[a]	760	854	887	832
	2020 UWMP Demand[c]	1,296	1,345	1,410	1,483
	HEU WSA Demand[c]	87	87	87	87
	Project Scenario 2 Demand[c]	39	39	39	39
	Updated Water Demand	*1,422*	*1,471*	*1,536*	*1,609*
	Potential Surplus (Deficit)	**(662)**	**(617)**	**(649)**	**(777)**
	Percent Shortfall of Demand	**47%**	**42%**	**42%**	**48%**
Multiple-Dry Year 5	Available Water Supply[a]	760	854	824	832
	2020 UWMP Demand[c]	1,296	1,345	1,410	1,483
	HEU WSA Demand[c]	87	87	87	87
	Project Scenario 2 Demand[c]	39	39	39	39
	Updated Water Demand	*1,422*	*1,471*	*1,536*	*1,609*
	Potential Surplus (Deficit)	**(662)**	**(617)**	**(712)**	**(777)**
	Percent Shortfall of Demand	**47%**	**42%**	**46%**	**48%**

(a) From Table 7-2 of this WSA.
(b) From Table 5-2 of this WSA.
(c) From Table 5-3 of this WSA.

Table 8-1V. MPMW Summary of Water Demand Versus Supply with Bay-Delta Plan Amendment During Hydrologic Normal, Single Dry, and Multiple Dry Years (Project Variant)

Hydrologic Condition		Supply and Demand Comparison, MG			
		2025	2030	2035	2040
Normal Year					
Available Water Supply[a]		1,678	1,750	1,750	1,750
2020 UWMP Demand[b]		1,296	1,345	1,410	1,483
HEU WSA Demand[b]		87	87	87	87
Project Variant Demand[b]		49	49	49	49
Updated Water Demand		*1,432*	*1,481*	*1,546*	*1,619*
Potential Surplus (Deficit)		**246**	**269**	**204**	**131**
Percent Shortfall of Demand		**-**	**-**	**-**	**-**
Single Dry Year					
Available Water Supply[a]		877	978	1,018	1,062
2020 UWMP Demand[c]		1,296	1,345	1,410	1,483
HEU WSA Demand[c]		87	87	87	87
Project Variant Demand[c]		49	49	49	49
Updated Water Demand		*1,432*	*1,481*	*1,546*	*1,619*
Potential Surplus (Deficit)		**(555)**	**(503)**	**(528)**	**(557)**
Percent Shortfall of Demand		**39%**	**34%**	**34%**	**34%**
Multiple Dry Years					
Multiple-Dry Year 1	Available Water Supply[a]	877	978	1,018	1,062
	2020 UWMP Demand[c]	1,296	1,345	1,410	1,483
	HEU WSA Demand[c]	87	87	87	87
	Project Variant Demand[c]	49	49	49	49
	Updated Water Demand	*1,432*	*1,481*	*1,546*	*1,619*
	Potential Surplus (Deficit)	**(555)**	**(503)**	**(528)**	**(557)**
	Percent Shortfall of Demand	**39%**	**34%**	**34%**	**34%**
Multiple-Dry Year 2	Available Water Supply[a]	760	854	887	927
	2020 UWMP Demand[c]	1,296	1,345	1,410	1,483
	HEU WSA Demand[c]	87	87	87	87
	Project Variant Demand[c]	49	49	49	49
	Updated Water Demand	*1,432*	*1,481*	*1,546*	*1,619*
	Potential Surplus (Deficit)	**(672)**	**(627)**	**(659)**	**(692)**
	Percent Shortfall of Demand	**47%**	**42%**	**43%**	**43%**
Multiple-Dry Year 3	Available Water Supply[a]	760	854	887	927
	2020 UWMP Demand[c]	1,296	1,345	1,410	1,483
	HEU WSA Demand[c]	87	87	87	87
	Project Variant Demand[c]	49	49	49	49
	Updated Water Demand	*1,432*	*1,481*	*1,546*	*1,619*
	Potential Surplus (Deficit)	**(672)**	**(627)**	**(659)**	**(692)**
	Percent Shortfall of Demand	**47%**	**42%**	**43%**	**43%**
Multiple-Dry Year 4	Available Water Supply[a]	760	854	887	832
	2020 UWMP Demand[c]	1,296	1,345	1,410	1,483
	HEU WSA Demand[c]	87	87	87	87
	Project Variant Demand[c]	49	49	49	49
	Updated Water Demand	*1,432*	*1,481*	*1,546*	*1,619*
	Potential Surplus (Deficit)	**(672)**	**(627)**	**(659)**	**(787)**
	Percent Shortfall of Demand	**47%**	**42%**	**43%**	**49%**
Multiple-Dry Year 5	Available Water Supply[a]	760	854	824	832
	2020 UWMP Demand[c]	1,296	1,345	1,410	1,483
	HEU WSA Demand[c]	87	87	87	87
	Project Variant Demand[c]	49	49	49	49
	Updated Water Demand	*1,432*	*1,481*	*1,546*	*1,619*
	Potential Surplus (Deficit)	**(672)**	**(627)**	**(722)**	**(787)**
	Percent Shortfall of Demand	**47%**	**42%**	**47%**	**49%**

(a) From Table 7-2 of this WSA.
(b) From Table 5-2V of this WSA.
(c) From Table 5-3V of this WSA.

Table 8-2. MPMW Summary of Water Demand Versus Supply without Bay-Delta Plan Amendment During Hydrologic Normal, Single Dry, and Multiple Dry Years (Project Scenario 2)

Hydrologic Condition		Supply and Demand Comparison, MG			
		2025	2030	2035	2040
Normal Year					
Available Water Supply[a]		1,678	1,750	1,750	1,750
2020 UWMP Demand[b]		1,296	1,345	1,410	1,483
HEU WSA Demand[b]		87	87	87	87
Project Scenario 2 Demand[b]		39	39	39	39
Updated Water Demand		*1,422*	*1,471*	*1,536*	*1,609*
Potential Surplus (Deficit)		**256**	**279**	**214**	**141**
Percent Shortfall of Demand		**-**	**-**	**-**	**-**
Single Dry Year					
Available Water Supply[a]		1,344	1,465	1,530	1,603
2020 UWMP Demand[c]		1,296	1,345	1,410	1,483
HEU WSA Demand[c]		87	87	87	87
Project Scenario 2 Demand[c]		39	39	39	39
Updated Water Demand		*1,422*	*1,471*	*1,536*	*1,609*
Potential Surplus (Deficit)		**(78)**	**(6)**	**(6)**	**(6)**
Percent Shortfall of Demand		**5%**	**< 1%**	**< 1%**	**< 1%**
Multiple Dry Years					
Multiple-Dry Year 1	Available Water Supply[a]	1,344	1,465	1,530	1,603
	2020 UWMP Demand[c]	1,296	1,345	1,410	1,483
	HEU WSA Demand[c]	87	87	87	87
	Project Scenario 2 Demand[c]	39	39	39	39
	Updated Water Demand	*1,422*	*1,471*	*1,536*	*1,609*
	Potential Surplus (Deficit)	**(78)**	**(6)**	**(6)**	**(6)**
	Percent Shortfall of Demand	**5%**	**< 1%**	**< 1%**	**< 1%**
Multiple-Dry Year 2	Available Water Supply[a]	1,344	1,465	1,530	1,603
	2020 UWMP Demand[c]	1,296	1,345	1,410	1,483
	HEU WSA Demand[c]	87	87	87	87
	Project Scenario 2 Demand[c]	39	39	39	39
	Updated Water Demand	*1,422*	*1,471*	*1,536*	*1,609*
	Potential Surplus (Deficit)	**(78)**	**(6)**	**(6)**	**(6)**
	Percent Shortfall of Demand	**5%**	**< 1%**	**< 1%**	**< 1%**
Multiple-Dry Year 3	Available Water Supply[a]	1,344	1,465	1,530	1,603
	2020 UWMP Demand[c]	1,296	1,345	1,410	1,483
	HEU WSA Demand[c]	87	87	87	87
	Project Scenario 2 Demand[c]	39	39	39	39
	Updated Water Demand	*1,422*	*1,471*	*1,536*	*1,609*
	Potential Surplus (Deficit)	**(78)**	**(6)**	**(6)**	**(6)**
	Percent Shortfall of Demand	**5%**	**< 1%**	**< 1%**	**< 1%**
Multiple-Dry Year 4	Available Water Supply[a]	1,344	1,465	1,530	1,603
	2020 UWMP Demand[c]	1,296	1,345	1,410	1,483
	HEU WSA Demand[c]	87	87	87	87
	Project Scenario 2 Demand[c]	39	39	39	39
	Updated Water Demand	*1,422*	*1,471*	*1,536*	*1,609*
	Potential Surplus (Deficit)	**(78)**	**(6)**	**(6)**	**(6)**
	Percent Shortfall of Demand	**5%**	**< 1%**	**< 1%**	**< 1%**
Multiple-Dry Year 5	Available Water Supply[a]	1,344	1,465	1,530	1,603
	2020 UWMP Demand[c]	1,296	1,345	1,410	1,483
	HEU WSA Demand[c]	87	87	87	87
	Project Scenario 2 Demand[c]	39	39	39	39
	Updated Water Demand	*1,422*	*1,471*	*1,536*	*1,609*
	Potential Surplus (Deficit)	**(78)**	**(6)**	**(6)**	**(6)**
	Percent Shortfall of Demand	**5%**	**< 1%**	**< 1%**	**< 1%**

(a) From Table 7-3 of this WSA.
(b) From Table 5-2 of this WSA.
(c) From Table 5-3 of this WSA.

Table 8-2V. MPMW Summary of Water Demand Versus Supply without Bay-Delta Plan Amendment During Hydrologic Normal, Single Dry, and Multiple Dry Years (Project Variant)

Hydrologic Condition		Supply and Demand Comparison, MG			
		2025	2030	2035	2040
Normal Year					
Available Water Supply[a]		1,678	1,750	1,750	1,750
2020 UWMP Demand[b]		1,296	1,345	1,410	1,483
HEU WSA Demand[b]		87	87	87	87
Project Variant Demand[b]		49	49	49	49
Updated Water Demand		*1,432*	*1,481*	*1,546*	*1,619*
Potential Surplus (Deficit)		**246**	**269**	**204**	**131**
Percent Shortfall of Demand		**-**	**-**	**-**	**-**
Single Dry Year					
Available Water Supply[a]		1,344	1,465	1,530	1,603
2020 UWMP Demand[c]		1,296	1,345	1,410	1,483
HEU WSA Demand[c]		87	87	87	87
Project Variant Demand[c]		49	49	49	49
Updated Water Demand		*1,432*	*1,481*	*1,546*	*1,619*
Potential Surplus (Deficit)		**(88)**	**(16)**	**(16)**	**(16)**
Percent Shortfall of Demand		**6%**	**1%**	**1%**	**1%**
Multiple Dry Years					
Multiple-Dry Year 1	Available Water Supply[a]	1,344	1,465	1,530	1,603
	2020 UWMP Demand[c]	1,296	1,345	1,410	1,483
	HEU WSA Demand[c]	87	87	87	87
	Project Variant Demand[c]	49	49	49	49
	Updated Water Demand	*1,432*	*1,481*	*1,546*	*1,619*
	Potential Surplus (Deficit)	**(88)**	**(16)**	**(16)**	**(16)**
	Percent Shortfall of Demand	**6%**	**1%**	**1%**	**1%**
Multiple-Dry Year 2	Available Water Supply[a]	1,344	1,465	1,530	1,603
	2020 UWMP Demand[c]	1,296	1,345	1,410	1,483
	HEU WSA Demand[c]	87	87	87	87
	Project Variant Demand[c]	49	49	49	49
	Updated Water Demand	*1,432*	*1,481*	*1,546*	*1,619*
	Potential Surplus (Deficit)	**(88)**	**(16)**	**(16)**	**(16)**
	Percent Shortfall of Demand	**6%**	**1%**	**1%**	**1%**
Multiple-Dry Year 3	Available Water Supply[a]	1,344	1,465	1,530	1,603
	2020 UWMP Demand[c]	1,296	1,345	1,410	1,483
	HEU WSA Demand[c]	87	87	87	87
	Project Variant Demand[c]	49	49	49	49
	Updated Water Demand	*1,432*	*1,481*	*1,546*	*1,619*
	Potential Surplus (Deficit)	**(88)**	**(16)**	**(16)**	**(16)**
	Percent Shortfall of Demand	**6%**	**1%**	**1%**	**1%**
Multiple-Dry Year 4	Available Water Supply[a]	1,344	1,465	1,530	1,603
	2020 UWMP Demand[c]	1,296	1,345	1,410	1,483
	HEU WSA Demand[c]	87	87	87	87
	Project Variant Demand[c]	49	49	49	49
	Updated Water Demand	*1,432*	*1,481*	*1,546*	*1,619*
	Potential Surplus (Deficit)	**(88)**	**(16)**	**(16)**	**(16)**
	Percent Shortfall of Demand	**6%**	**1%**	**1%**	**1%**
Multiple-Dry Year 5	Available Water Supply[a]	1,344	1,465	1,530	1,603
	2020 UWMP Demand[c]	1,296	1,345	1,410	1,483
	HEU WSA Demand[c]	87	87	87	87
	Project Variant Demand[c]	49	49	49	49
	Updated Water Demand	*1,432*	*1,481*	*1,546*	*1,619*
	Potential Surplus (Deficit)	**(88)**	**(16)**	**(16)**	**(16)**
	Percent Shortfall of Demand	**6%**	**1%**	**1%**	**1%**

(a) From Table 7-3 of this WSA.
(b) From Table 5-2V of this WSA.
(c) From Table 5-3V of this WSA.

9.0 VERIFICATION OF WATER SUPPLY SUFFICIENCY BASED ON THE REQUIREMENTS OF SB 221

The Proposed Project may also be subject to the requirements of SB 221 (Government Code section 66473.7). SB 221 applies to residential development projects of more than 500 dwelling units and requires that the water supplier (MPMW) provide a written verification that the water supply for the Project is sufficient. As previously discussed, the Proposed Project may include up to 550 dwelling units and the Project Variant may include up to 800 dwelling units.

Verification must demonstrate supply sufficiency by showing that water supplies available during normal, single dry and multiple dry years within a projected 20-year period will meet the projected demand associated with the Proposed Project and the Project Variant, in addition to existing and planned future uses, including, but not limited to, agriculture and industrial uses. Per the requirements of SB 221, the following must be considered:

- Historical water deliveries for the previous 20 years
- Urban water shortage contingency analysis prepared for the UWMP
- Supply reduction for specific water use sectors
- Amount of water expected from specified supply projects

The specific considerations to be evaluated for the SB 221 verification are described below and reference applicable sections of the MPMW 2020 UWMP and this WSA.

9.1 Historical Water Deliveries

MPMW's water supplies are described in Section 6 of this WSA and Chapter 6 of the MPMW 2020 UWMP. Table 9-1 presents MPMW's historical use of these supplies over the past 20 years. The use of these supplies will continue into the future with increasing recycled water usage, as described in Section 6 of this WSA.

Table 9-1. MPMW Historical Water Supplies

Water Source	Historical Water Supply, MG				
	2000	2005	2010	2015	2020
Potable Water Purchased Water from the SFPUC RWS	1,354[(a)]	1,268[(b)]	1,052[(c)]	883[(c)]	1,069[(c)]
Recycled Water Purchased from WBSD	--	--	--	--	20[(d)]
Total	**1,354**	**1,268**	**1,052**	**883**	**1,089**

(a) MPMW 2015 UWMP, Appendix E, Table 4
(b) MPMW 2015 UWMP, Table 3-1.
(c) MPMW 2020 UWMP, Table 4-2.
(d) MPMW 2020 UWMP, Table 4-7.

Water supply availability and reliability during normal, single dry, and multiple dry years is described in Section 7 of this WSA.

9.2 Projected Water Demand by Customer Sector

Projected potable and recycled water demands in the MPMW service area are described in Section 5.2 of this WSA and is largely based on information provided in Chapter 4 of MPMW's 2020 UWMP. Projected potable water demand by customer sector within MPMW's service area is documented in the MPMW's 2020 UWMP (Chapter 4). That demand is summarized in Table 9-2 and Table 9-2V below, which includes the City's HEU Demand, as well as the demand associated with Project Scenario 2 and the Project Variant, respectively.

Table 9-2. Actual and Projected Potable Water Demands (Project Scenario 2)

Water Use Type	Water Demand, MG				
	2020 (Actual)[a]	2025[b]	2030[b]	2035[b]	2040[b]
Single Family	361	306	299	293	288
Multi-Family	113	158	176	203	230
Commercial	203	346	345	373	401
Industrial	140	134	122	112	102
Institutional/ Governmental	98	98	105	115	126
Landscape	139	95	61	71	85
Losses	12	110	116	122	128
Other Potable	3	1	1	1	2
2020 UWMP Demand Subtotal	*1,069*	*1,248*	*1,225*	*1,290*	*1,362*
HEU WSA Demand[c]	87	87	87	87	87
Project Scenario 2 Demand[c]	39	39	39	39	39
Updated Water Demand	**1,195**	**1,374**	**1,351**	**1,416**	**1,488**

(a) MPMW 2020 UWMP, Table 4-1.
(b) MPMW 2020 UWMP, Table 4-6.
(c) From Table 5-2 of this WSA.

Table 9-2V. Actual and Projected Potable Water Demands (Project Variant)

Water Use Type	Water Demand, MG				
	2020 (Actual)[a]	2025[b]	2030[b]	2035[b]	2040[b]
Single Family	361	306	299	293	288
Multi-Family	113	158	176	203	230
Commercial	203	346	345	373	401
Industrial	140	134	122	112	102
Institutional/ Governmental	98	98	105	115	126
Landscape	139	95	61	71	85
Losses	12	110	116	122	128
Other Potable	3	1	1	1	2
2020 UWMP Demand Subtotal	*1,069*	*1,248*	*1,225*	*1,290*	*1,362*
HEU WSA Demand[c]	87	87	87	87	87
Project Variant Demand[c]	49	49	49	49	49
Updated Water Demand	**1,205**	**1,384**	**1,361**	**1,426**	**1,498**

(a) MPMW 2020 UWMP, Table 4-1.
(b) MPMW 2020 UWMP, Table 4-6.
(c) From Table 5-2V of this WSA.

9.3 Water Shortage Contingency Analysis

Chapter 8 and Appendix J of the MPMW 2020 UWMP provide a Water Shortage Contingency Plan to address situations when catastrophic water supply interruptions occur due to regional power outage, earthquake, or other disasters; and when drought occurs. The primary objective of the WSCP is to ensure that MPMW has adequate resources and management responses needed to protect health and human safety, minimize economic disruption, and preserve environmental and community assets during a water supply shortage or interruption. The plan is based on Menlo Park Municipal Code Section 7.35, requiring water rationing and conservation and granting MPMW the authority to enforce penalties.

The MPMW 2020 WSCP builds upon the WSCP established in 2015, including additional provisions required by California Water Code. On an annual basis, MPMW in coordination with BAWSCA will evaluate water supply information provided by SFPUC or BAWSCA to determine if a water shortage exists, as well as the severity of a particular water shortage. In response to water use reductions required by SFPUC or another governing body, the City Council may declare a water shortage. The MPMW 2020 WSCP defines six water shortage stages ranging from 10 percent to greater than 50 percent water shortage, in addition to water waste prohibitions that are always in effect. MPMW monitors water use in its service area through monthly meter readings, which allows high water use to be identified and resolved during a water shortage. In addition, MPMW plans to install advanced metering infrastructure over the next two fiscal years to provide automated real-time water use data and allow MPMW to aggressively target leaks and high water use.

If an emergency or drought condition were to occur that requires MPMW to implement its WSCP, all MPMW customers, including those within the Proposed Project and the Project Variant, would be subject to the same water conservation and water use restrictions included in the 2020 WSCP.

9.4 Verification of Sufficient Water Supply

As described in Section 8 of this WSA, the sufficiency of supplies to meet the Proposed Project demands depends on the assumed reliability of the SFPUC RWS supplies, which depends on the assumed implementation of the Bay-Delta Plan Amendment. If the Bay-Delta Plan Amendment is assumed to be implemented, projected supplies during normal years are sufficient to meet the Proposed Project demands, but significant supply shortfalls are projected in dry years for agencies that receive water supplies from the SFPUC RWS, as well as other agencies whose water supplies would be affected by the Amendment. For MPMW with Project Scenario 2, supply shortfalls are projected in single dry years (ranging from 34 to 38 percent) and in multiple dry years (ranging from 34 to 48 percent) through 2040. For MPMW with the Project Variant, supply shortfalls are projected in single dry years (ranging from 34 to 39 percent) and in multiple dry years (ranging from 34 to 49 percent) through 2040. Based on SFPUC's analysis, there would be similar findings through 2045.

If the Bay-Delta Plan Amendment is assumed not to be implemented, projected supplies during normal years are sufficient to meet the Proposed Project demands, but supply shortfalls are projected in dry years. For MPMW with Project Scenario 2, supply shortfalls are projected in single dry years (ranging from less than 1 to 5 percent) and in multiple dry years (also ranging from less than 1 to 5 percent) through 2040. For MPMW with the Project Variant, supply shortfalls are projected in single dry years (ranging from 1 to 6 percent) and in multiple dry years (also ranging from 1 to 6 percent) through 2040. In addition, a 16.5 percent supply shortfall or greater is projected during the fourth and fifth consecutive dry years for base year 2045 based on SFPUC's analysis.

As described in Section 8 of this WSA, if supply shortfalls occur, MPMW expects to meet these supply shortfalls through water demand reductions and other shortage response actions by implementation of its WSCP. Under the scenario which assumes the Bay-Delta Plan Amendment is implemented, the projected single dry year and multiple dry year shortfalls would require implementation of Stages 4 or 5 of the MPMW WSCP. Under the scenario which assumes the Bay-Delta Plan Amendment is not implemented, the projected single dry year and multiple dry year shortfalls would require implementation of Stages 1, 2 or 3[15] of the MPMW WSCP. The Proposed Project and the Project Variant would be subject to the same water conservation and water use restrictions as other water users within the MPMW system.

[15] For 2045, assumes the 16.5 percent shortfall from the SFPUC analysis is added to any of the shortfalls predicted for MPMW between 2025 and 2040, which range from 1 to 6 percent.

10.0 WATER SUPPLY ASSESSMENT APPROVAL PROCESS

> *10910 (g)(1) Subject to paragraph (2), the governing body of each public water system shall submit the assessment to the city or county not later than 90 days from the date on which the request was received. The governing body of each public water system, or the city or county if either is required to comply with this act pursuant to subdivision (b), shall approve the assessment prepared pursuant to this section at a regular or special meeting.*

The Menlo Park City Council must approve this WSA at a regular or special meeting. This WSA will be included in the Draft EIR being prepared for Parkline.

11.0 REFERENCES

Bay Area Water Supply and Conservation Agency, 2021. *Drought Allocation Tables by Agency.* April 1, 2021.

Erler & Kalinowski, Inc. 2016b. *2015 Urban Water Management Plan for Menlo Park Municipal Water District*. June 2016.

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Kier & Wright, 2024. *SRI-Parkline Existing Water Demand Summary Table.* February, 2024.

PAE, 2024. *Parkline Project Preliminary Building Energy Estimate [Update].* February 20, 2024.

San Francisco Public Utilities Commission. 2019. *Water Supply Reliability Information for BAWSCA Member Agencies' Water Supply Assessments*. July 2019.

San Francisco Public Utilities Commission. 2021. *2020 Urban Water Management Plan for the City and County of San Francisco*. June 2021.

San Francisco Public Utilities Commission. 2021. *Memorandum regarding Regional Water System Supply Reliability and UWMP 2020*. June 2, 2021.

Appendix A

Parkline Project Preliminary Building Energy Estimate (February 2024)

Memo

Date:	February 20th, 2024
Project:	Parkline Project
Project Number:	21-1438
To:	Lane Partners
From:	Matt Hyder (PAE)
Subject:	Preliminary Building Energy Estimate [Update]

Preliminary Building Energy Estimate

This memo provides a preliminary estimate for the building energy usage for the Parkline project (SRI project). It is intended to provide information necessary to complete the annual carbon emissions calculation for the project as part of SB7 certification and to provide information to the City and its consultants in connection with environmental review for the Project pursuant to the California Environmental Quality Act (CEQA).

The estimated annual electricity, natural gas, and water consumption is summarized in Table 2 and Table 3 below. To clarify how these values were generated, PAE has provided Table 10 and Table 11, which contains information on the calculations and assumptions used in our analysis.

PROJECT DESCRIPTION

The Project site is currently SRI International's research and development (R&D) campus, consisting of 38 buildings totaling approximately 1.4 million gross square feet of office, R&D, amenity, and support land uses. Support facilities for the existing project site include a natural gas cogeneration power plant facility and the accessory back-up boiler, emergency diesel generator, and other support equipment.

The project would redevelop the project site with a mixed-use, transit-oriented development organized into two land use districts within the Project site, including an approximately 10-acre Residential District in the southwestern portion of the Project site and an approximately 53-acre Office/R&D District that would comprise the remainder of the Project site. In addition, the Project would also include approximately 25 acres of publicly accessible open space areas and supporting amenities, including a network of pedestrian and bicycle trails, open spaces and active/passive recreational areas.

The Office/R&D District would include five new office/R&D buildings totaling approximately 1.1 million square feet, a commercial amenity building of approximately 40,000 square feet, and a community amenity building of approximately 2,000 square feet. Approximately 2,800 parking spaces would be provided within three above-grade parking structures, surface parking areas, and underground parking areas.

The Residential District would include 450 new rental housing units of approximately 519,750 square feet on site, in a mix of multifamily buildings between three and six stories tall and two-story townhomes. The Residential District would include up to 469 parking spaces for the units within podium parking structures and surface parking areas. In addition, the Project includes up to an additional 100 units that would be developed in the future by an affordable housing developer. This affordable housing building would contain an additional 50 parking spaces for the units within podium parking structures.

Existing Buildings P, S, and T would remain on site and occupied by SRI International and its tenants. The Project would demolish the remaining 35 existing structures and decommission the existing natural gas cogeneration power plant facility.

PROJECT VARIANTS

The CEQA analysis for the project will evaluate an additional project variant. Project variant is a variation of the project at the same project site, with the same project objectives, background, and development controls, but with additions and changes to the project, the inclusion of which may or may not change environmental impacts.

> Increased Development Variant: This variant would increase the number of on-site residential units from 550 units up to 800 units (up to 154 of which would be affordable and developed by an affordable housing developer) subject to final confirmation by the City. This variant also includes two residential swimming pools, one on the R1 roof deck and another on R2 roof deck. Building heights along Laurel remain unchanged at two stories for the townhomes and three to four-stories for R1 and R2, while heights are increased along Ravenswood. One level of underground parking is proposed below office/R&D buildings O1 and O5. This variant would also add an approximately 2-million-gallon underground water reservoir and associated aboveground facilities to be implemented by the City at a later date if the site is selected by the City for that use. The emergency reservoir would be located in the northeastern corner of the Project site below the proposed recreational field and would be leased to the City for construction and operation. A generator may be required at the pump station to serve the emergency reservoir, to be determined by the City.

EXECUTIVE SUMMARY & METHODOLOGY

A summary of the estimated building energy and water consumption values are provided in Table 2 and Table 3 below. An energy modeling analysis has not currently been completed at this stage. This detailed building level energy modeling analysis is not typical for a project at this early entitlement phase. Therefore, these values were calculated using energy benchmarking data based on a large project portfolio of comparable projects.

SCENARIOS ANALYZED

For Office/R&D Buildings 1 through 5, this analysis evaluates two potential buildout schemes: (1) Buildout Scheme 1 (S1) analyzes the commercial buildings as programmed for 100% office, which represents a smaller energy and water usage consumption as compared to 100% R&D and (2) Buildout Scheme 2 (S2) analyzes the commercials buildings as R&D programming, which represents higher energy and water use consumption compared to 100% office.

Additionally, this analysis includes evaluation of the Increased Development Variant without the emergency water reservoir because the energy use associated with the reservoir (to be used only for preventative maintenance and emergencies) would be negligible.

Lastly, the estimated energy usage for the parking garages and commercial surface parking includes the Menlo Park code required electric vehicle charging at 10% of the total 2,800 commercial spaces for initial project operation. Residential uses are required per code to include 1 EV charger per residential unit. Campus site lighting (street lighting, landscape lighting, exterior signage, etc.) was not included in our estimate as additional energy demand for those uses are minimal.

Table 1 below details the schemes and variants analyzed in this memorandum.

Table 1. Schemes and Variants

Scheme / Variant	Alteration
Buildout Scheme 1 (S1)	All office for O1 through 5
Buildout Scheme 2 (S2)	R&D programming for O1 through 5 (60% lab and 40% office)
Base Scheme	550 total residential units
Increased Development Variant	800 total residential units and Emergency Water Reservoir [1]

Notes:

1: Energy and water use estimates for Energy Water Reservoir are assumed to be negligible based on equipment being used only during emergencies and preventative system testing.

METHODOLOGY

To calculate energy consumption, we multiplied the anticipated energy use intensity (EUI) for each program type by their respective building areas. For interior water consumption, we multiplied the anticipated water use intensity (WUI) for each program type by the respective building areas. Landscape water consumption is based on estimated values provided by OJB using the maximum applied water allowance for the site. Pool heating energy and water consumption has been estimated based on pool area and volume.

Where feasible, PAE sourced energy and water benchmarking data from our own project portfolio rather than generic public databases. PAE's inventory of projects contains new, higher-performing buildings located in California than the general energy databases available online. This project portfolio data is representative of efficient and modern new construction design and engineering in compliance with California building and energy standards, including CALGreen and Title 24 requirements. As such, data from PAE projects represent comparable energy consumption data that are indicative of the anticipated energy at the project.

For building water consumption estimates, PAE sourced WUIs from multiple sources. The EIA Commercial Buildings Energy Consumption Survey (CBECS) was used to determine water usage for office amenity buildings. For R&D buildings, the Labs 21 Laboratory Benchmarking Tool was used to estimate building water consumption. This water consumption estimation for R&D is similar to consumption estimates from the 1350 Adams Court and 777 Airport Boulevard EIR Water Supply Assessments. Residential building water consumption was estimated from HUD benchmarking data and matches the same consumption estimates from the Menlo Park Housing Element EIR Water Supply Assessment.

The benchmarked estimated values below include only the new proposed buildings included in the project proposal. All new buildings are anticipated to be all electric designs. There are three existing buildings set to remain, Buildings P, S, and T. Therefore, these existing buildings are excluded from these estimates and are assumed to continue the same energy and water usage.

Table 2. Summary of Annual Building Energy Usage Estimate Totals by Scheme and Variant

Building Type	Scheme 1: 100% Office and 550 Residential Units (kWh/year)	Scheme 2: R&D and 550 Residential Units (kWh/year)	Increased Development Variant: R&D and 800 Residential Units (kWh/year)
Office / R&D	14,639,200	46,229,053	46,229,053
Multifamily	5,540,687	5,540,687	8,993,769
Multifamily Pools	-	-	358,028
Amenities	984,878	984,878	984,878
Parking (surface and garage)	1,732,197	1,732,197	1,887,093
EV Charging (Transportation Energy)	2,188,310	2,188,310	2,427,484
Total	25,085,273	56,675,125	60,880,304

Table 3. Summary of Annual Water Usage Estimate Totals by Scheme and Variant

Building Type	Scheme 1: 100% Office and 550 Residential Units (gal/year)	Scheme 2: 100% R&D and 550 Residential Units (gal/year)	Increased Development Variant: 100% R&D and 800 Residential Units (gal/year)
Office / R&D	15,353,360	44,587,840	44,587,840
Multifamily	26,699,750	26,699,750	38,836,000
Multifamily Pools	-	-	479,878
Amenities	2,151,040	2,151,040	2,151,040
Landscaping[2]	22,259,730	22,259,730	19,433,440
Total	66,463,880	95,698,360	105,488,198

Notes:

1: Parking structures and lots assumed to have no water use and are not included in this table.

2: Landscaping water use estimation provided by OJB.

ANTICIPATED ENERGY AND WATER DEMAND FOR PROPOSED PROJECT

The energy and water calculations are detailed in Table 4 through Table 9 below. These calculations make use of gross floor area for each building on the campus as well as program-based EUIs and WUIs. Information on the EUIs and WUIs is provided in the following Assumptions section. For these calculations, PAE assumed all new buildings to be all-electric. As such, only kWh values have been provided for these buildings.

Table 4. 100% Office vs. R&D Building Energy and Water Estimate Calculation

Office / R&D Building		Annual Electricity Consumption (kWh)		Annual Water Consumption (gal)	
	Gross Floor Area (ft^2)	S1: Office	S2: R&D	S1: Office	S2: R&D
O1	184,000	2,561,442	8,088,765	2,686,400	7,801,600
O2	227,300	3,164,217	9,992,263	3,318,580	9,637,520
O3	227,300	3,164,217	9,992,263	3,318,580	9,637,520
O4	229,000	3,187,882	10,066,996	3,343,400	9,709,600
O5	184,000	2,561,442	8,088,765	2,686,400	7,801,600
Total	1,051,600	14,639,200	46,229,053	15,353,360	44,587,840

Table 5. Multifamily Building Energy and Water Estimate Calculation for the Base Scheme vs. Increased Development Variant

Multifamily Building		# of Units		Gross Floor Area (ft^2)		Annual Electricity Consumption (kWh)		Annual Water Consumption (gal)	
Base	Variant	Base	Variant	Base	Variant	Base	Variant	Base	Variant
R1	R1	150	300	180,000	398,000	1,477,079	3,265,986	7,281,750	14,563,500
R2	R2	150	300	180,000	393,000	1,477,079	3,224,956	7,281,750	14,563,500
R3	R3-Aff.	131	154	157,200	178,000	1,289,982	1,460,667	6,359,395	7,475,930
R4-Aff.	TH1	100	19	120,000	55,000	984,719	451,330	4,854,500	922,355
TH	TH2	19	27	38,000	72,000	311,828	590,832	922,355	1,310,715
Total		550	800	675,200	1,096,000	5,540,687	8,993,769	26,699,750	38,836,000

Table 6. Pool Energy and Water Estimate Calculation for Increased Development Variant

Pools	Gross Pool Area (ft^2) [1]		Annual Electricity Consumption (kWh)		Annual Water Consumption (gal/year)	
	Base	Variant	Base	Variant	Base	Variant
R1 Pool	-	1,500	-	179,014	-	239,939
R2 Pool	-	1,500	-	179,014	-	239,939
Total	-	3,000	-	358,028	-	479,878

Notes:

1. Pool dimensions are 60'W x 25'L x 4.5'D average. Base residential includes no pools.

Table 7. Amenities Building Energy and Water Estimate Calculation

Amenity Building	Gross Floor Area (ft^2)	Annual Electricity Consumption (kWh/year)	Annual Water Consumption (gal/year)
Commercial Amenity	40,000	937,934	2,048,512
Public Amenity [1]	2,002	46,944	102,528
Total	42,002	984,878	2,151,040

Notes:

1. Public Amenity space to be located in ground level of R3 building.

Table 8. Landscaping/ Irrigation Water Estimate Calculation

Landscaping	Gross Landscaped Area (ft^2)		Annual Water Consumption (gal/year)	
	Base	Variant	Base	Variant
Landscaped Area	1,150,671	1,060,309	22,259,730	19,433,440
Total	1,150,671	1,060,309	22,259,730	19,433,440

Table 9. Parking Energy Estimate[1] Calculation

Parking Structure		Gross Floor Area (ft^2)		Annual Electricity Consumption, (kWh/year)		Annual Electricity Consumption, EV Charging (kWh/year) [1]	
Base	Variant	Base	Variant	Base	Variant	Base	Variant
PG1	PG1	239,700	264,200	351,246	387,147	139,917	154,218
PG2	PG2	242,700	326,500	355,642	478,439	141,669	190,584
PG3	PG3	218,400	210,800	320,034	308,897	127,484	123,048
Office Basement parking	Office Basement parking	104,400	88,900	152,983	130,270	60,940	51,893
R1 Parking	R1 Parking	72,000	139,893	105,506	204,993	426,669	829,000
R2 Parking	R2 Parking	78,000	120,255	114,298	176,216	462,225	712,626
R3 Parking	R3 Parking	64,000	26,697	93,783	39,121	379,261	158,205
R4 Parking	TH1 Parking	24,000	9,460	35,169	13,862	142,223	56,060
R5 Parking	TH2 Parking	9,000	10,800	13,188	15,826	53,334	64,000
Residential Surface Parking	Residential Surface Parking	24,000	-	21,101	-	142,223	-
Commercial Surface Parking	Commercial Surface Parking	192,500	150,500	169,249	132,322	112,366	87,850
Total		1,268,700	1,348,005	1,732,197	1,887,093	2,188,310	2,427,484

Notes:

1: Electric vehicle (EV) charging is based on 10% of commercial parking spaces (2,800 total parking spaces) and 1 charging station per residential unit for residential uses (550 for the base scheme and 800 for variant).

ASSUMPTIONS

The calculations for estimating the energy and water demand as described in Table 4 through Table 9 above are based on the following data sources and assumptions as shown in Table 10 and Table 11.

Table 10. Energy Use Intensity (EUI) Assumptions Summary

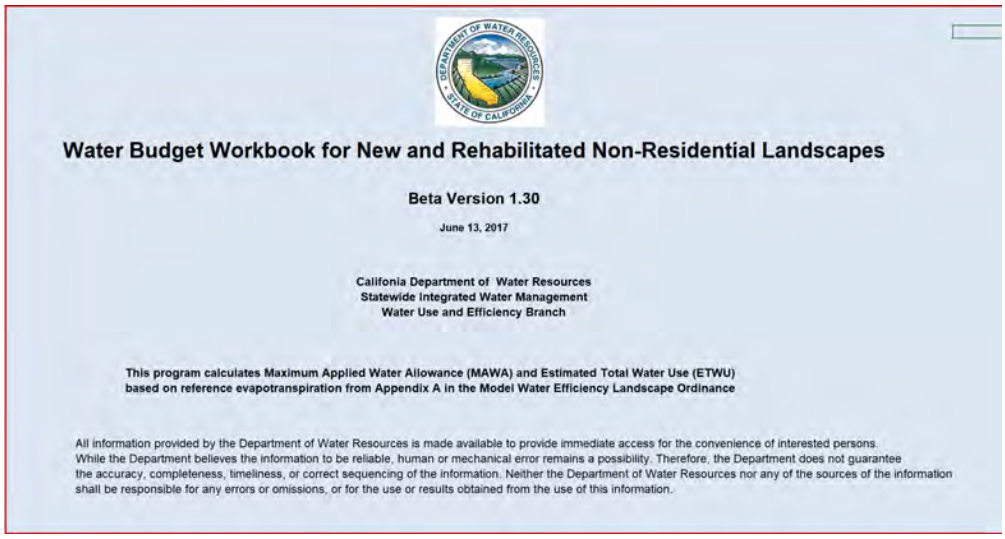
Building Type	EUI (kBtu/ft^2/year)	Source
R&D (Office / Lab)	150	PAE Project Portfolio representing highest energy use scenario of R&D program with 60% laboratory, 40% office
Office	47.5	PAE Project Portfolio representing typical office use building
Multifamily	28	PAE Project Portfolio
Pools	407	PAE Pool calculations, pool heating to 80F with air-source heat pump
Amenities	80	Combination between Office, Fitness, and Restaurant EUIs • Program Split: 57% Office, 24% Fitness, 19% Restaurant Split (per Project Amenity Floor Plans issued on 08/01/22) • Office EUI: 47.5 kBtu/ft^2/yr (PAE Project Portfolio) • Fitness EUI: 47 kBtu/ft^2/yr (Building Performance Database filtering for data on recreation buildings built between 2000 and 2020 in the Bay Area – median value) • Restaurant EUI: 220 kBtu/ft^2/yr (PAE Project Portfolio)
Parking Garage	5	PAE Project Portfolio
Surface Parking	3	EnergyStar Portfolio Manager
Commercial EV charging	1.9	PAE Project Portfolio (based on 10% of spaces per Menlo Park code)
Residential EV charging	20.2	PAE Project Portfolio (based on 1 charger per residential unit per Menlo Park code)

Table 11. Water Use Intensity (WUI) and Gallons Per Day (GPD) Assumptions Summary

Building Type	WUI ($gal/ft^2/yr$)	GPD ($gal/day/ft^2$)	# of days	Source
R&D (Office / Lab)	42.4	0.162	261	Labs 21 Laboratory Benchmarking Tool for R&D lab, 777 Airport Blvd EIR Water Supply Assessment
All Office	14.6	0.056	261	US Energy Information Administration (EIA) Commercial Buildings Energy Consumption Survey (CBECS) for office
Multifamily	40.0	0.110 (133 GPD/unit)	365	HUD benchmarking data, Menlo Park 2022 Housing Element EIR Water Supply Assessment
Pools	160.0	0.44	365	PAE Pool calculations, includes make-up water from evaporation and annual drain and re-fill of entire pool.
Commercial Amenities	51.2	0.196	261	Combination between Office, Fitness, and Restaurant WUIs • Program Split: 57% Office, 24% Fitness, 19% Restaurant Split (per SRI Office Amenity Floor Plans issued on 08/01/22) • Office WUI: 14.6 $gal/ft^2/yr$ (0.056 GPD/ft^2) (EIA CBECS data) • Fitness WUI: 21.0 $gal/ft^2/yr$ (0.08 GPD/ft^2) (Based on water use from Willow Village Water Supply Assessment) • Cafeteria/Kitchen WUI: 200 $gal/ft^2/yr$ (0.77 GPD/ft^2) (Based on water use from Willow Village Water Supply Assessment)
Landscaping / Irrigation	19.6	0.053	365	Data provided from OJB calculations
Parking and EV charging	-	-	-	No water usage assumed at parking garages or surface parking lots

ATTACHMENT A: LANDSCAPING IRRIGATION WATER DEMAND DATA

Note: Data in this Attachment A has been prepared by OJB Landscape Architecture for both the Project Buildout Schemes 1/2 and the Increased Development Variant by utilizing "Water budget Workbook for New and Rehabilitated Non-Residential Landscapes" developed by the California Department of Water Resources (Version 1.30; June 12, 2017).



Water Budget Workbook for New and Rehabilitated Non-Residential Landscapes

Beta Version 1.30

June 13, 2017

Califonia Department of Water Resources
Statewide Integrated Water Management
Water Use and Efficiency Branch

This program calculates Maximum Applied Water Allowance (MAWA) and Estimated Total Water Use (ETWU) based on reference evapotranspiration from Appendix A in the Model Water Efficiency Landscape Ordinance

1. PROJECT BUILDOUT SCHEMES 1/2

Maximum Applied Water Allowance Calculations for New and Rehabilitated Non-Residential Landscapes

Enter value in Pale Blue Cells

Tan Cells Show Results

Messages and Warnings

Click on the blue cell on right to Pick City Name	**Redwood City**	**Name of City**
ET_o of City from Appendix A	**42.80**	**ET_o** (inches/year)
	63885	Overhead Landscape Area (ft^2)
	1,086,786	Drip Landscape Area (ft^2)
	0	SLA (ft^2)
Total Landscape Area	**1,150,671**	

Hydrozone	Select System From the Dropdown List click on cell below	Plant Water Use Type (s) (low, medium, high)	Plant Factor (PF)	Hydrozone Area (HA) (ft^2) Without SLA	Irrigation Efficiency (IE)	(PF x HA (ft^2))/IE
Zone 1	**Overhead Spray**	**High**	0.90	63,885	0.75	**76,662**
Zone 2	**Drip**	**Medium**	0.57	1,086,786	0.81	**762,062**
						838,724
	SLA			0		**0**
		Sum		1,150,671		

Total Landscape Area including Special Landscape Area

ETWU =	**22,259,730 Gallons**
	2,975,703 Cubic Feet
	29,757.03 HCF
	68.31 Acre-feet
	22.26 Millions of Gallons

2. INCREASED DEVELOPMENT VARIANT [UPDATED 2024]

Maximum Applied Water Allowance Calculations for New and Rehabilitated Non-Residential Landscapes

Enter value in Pale Blue Cells

Tan Cells Show Results

Messages and Warnings

Click on the blue cell on right to Pick City Name	**Redwood City**	**Name of City**
ET_o of City from Appendix A	**42.80**	**ET_o** (inches/year)
	61133	Overhead Landscape Area (ft^2)
	999,176	Drip Landscape Area (ft^2)
	0	SLA (ft^2)
Total Landscape Area	**1,060,309**	

Hydrozone	Select System From the Dropdown List click on cell below	Plant Water Use Type (s) (low, medium, high)	Plant Factor (PF)	Hydrozone Area (HA) (ft^2) Without SLA	Irrigation Efficiency (IE)	(PF x HA (ft^2))/IE
Zone 1	**Overhead Spray**	**High**	0.90	61,133	0.75	**73,360**
Zone 2	**Drip**	**Medium**	0.57	866,422	0.81	**609,704**
Zone 3	**Drip**	**Medium**	0.40	-	0.81	**0**
Zone 4	**Drip**	**Low**	0.30	132,754	0.81	**49,168**
						732,232
	SLA			0		**0**
		Sum		1,060,309		

Total Landscape Area including Special Landscape Area

ETWU =	**19,433,440 Gallons**
	2,597,882 Cubic Feet
	25,978.82 HCF
	59.64 Acre-feet
	19.43 Millions of Gallons

Appendix B

SRI-Parkline Existing Water Demand Summary Table (February 2024)

EXISTING WATER DEMAND SUMMARY TABLE										
ENTITY	YEAR	DEMAND (GPD)	DEMAND REDUCTION FROM 2014	PROJECT SIZE (AC)	OCCUPANTS[4]	OCCUPANT REDUCTION FROM 2014	EX. BLDG AREA (SF)	DEMAND LOAD GPD/SF	EX. BLDG P, S & T PRORATED GPD BASED ON 283,826 SF[4]	COMMENTS
BKF Engineers	2014	201,994[1]	-	63.2	1,786	-	1,380,332[2]	0.15	41,534	Estimated demand based on 2010 SBSA Waste Discharge Permit Application
City of Menlo Park	2019	128,486[3]	36%	63.2	1,382	23%	1,380,332[2]	0.09	26,419	Existing occupant load based on SRI Campus Population 2003-2022
City of Menlo Park	2022	101,672[3]	50%	63.2	1,100	38%	1,380,332[2]	0.07	20,906	Existing occupant load based on SRI Campus Population 2003-2022
Cal Water	2022-2024	567[4]	N/A	1.0	N/A	N/A	12,700	0.04	N/A	Estimated demand based on Cal Water Service meter readings 2022-2024

[1]Water usages based on: meter readings for the Laurel Meter 64139858 as shown in Attachment A - Application for Wastewater Discharge Permit

[2]Existing building square footage based on: SRI – Explanation of Updates to Water Demand Memorandum by BKF Engineers dated March 12, 2014 and 201 Ravenswood Avenue Permit PLN2018-00113

[3]Demand based on City of Menlo Park monthly water statements

[4]Water usages based on: Cal Water Service meter readings for First Church of Christ located at 201 Ravenswood Avenue (Meter 62323191)

Table 1: Existing Domestic Water Demands

Site Area: 64.2 AC
Occupants: 1,786
Building Area: 1,393,032 SF

Use	Water Use (gpd)
SRI Indoor Water Demand (Sanitary)	**42,930**
Other Water Demands	
Process	20,430
Wash/Rinse	2,580
Boiler	44,002
Cooling	48,392
SRI Total Other Water Demands	**115,404**
SRI Irrigation Water Demand	**43,660**
Church Indoor Water Demand	**567**
Total Water Demand	**202,561**

Note:
1. Estimate demands based on the 2010 SBSA Waste Discharge Permit Application, see attached.

Appendix C

Regional Water System Supply Reliability and UWMP 2020 Memorandum (June 2021)

San Francisco
Water Power Sewer
Services of the San Francisco Public Utilities Commission

525 Golden Gate Avenue, 13th Floor
San Francisco, CA 94102
T 415.554.3155
F 415.554.3161
TTY 415.554.3488

TO: SFPUC Wholesale Customers

FROM: Steven R. Ritchie, Assistant General Manager, Water

DATE: June 2, 2021

RE: Regional Water System Supply Reliability and UWMP 2020

This memo is in response to various comments from Wholesale Customers we have received regarding the reliability of the Regional Water System supply and San Francisco's 2020 Urban Water Management Plan (UWMP).

As you are all aware, the UWMP makes clear the potential effect of the amendments to the Bay-Delta Water Quality Control Plan adopted by the State Water Resources Control Board on December 12, 2018 should it be implemented. Regional Water System-wide water supply shortages of 40-50% could occur until alternative water supplies are developed to replace those shortfalls. Those shortages could increase dramatically if the State Water Board's proposed Water Quality Certification of the Don Pedro Federal Energy Regulatory Commission (FERC) relicensing were implemented.

We are pursuing several courses of action to remedy this situation as detailed below.

Pursuing a Tuolumne River Voluntary Agreement

The State Water Board included in its action of December 12, 2018 a provision allowing for the development of Voluntary Agreements as an alternative to the adopted Plan. Together with the Modesto and Turlock Irrigation Districts, we have been actively pursuing a Tuolumne River Voluntary Agreement (TRVA) since January 2017. We believe the TRVA is a superior approach to producing benefits for fish with a much more modest effect on our water supply. Unfortunately, it has been a challenge to work with the State on this, but we continue to persist, and of course we are still interested in early implementation of the TRVA.

Evaluating our Drought Planning Scenario in light of climate change

Ever since the drought of 1987-92, we have been using a Drought Planning Scenario with a duration of 8.5 years as a stress test of our Regional Water System supplies. Some stakeholders have criticized this methodology as being too conservative. This fall we anticipate our Commission convening a workshop

regarding our use of the 8.5-year Drought Planning Scenario, particularly in light of climate change resilience assessment work that we have funded through the Water Research Foundation. We look forward to a valuable discussion with our various stakeholders and the Commission.

Pursuing Alternative Water Supplies

The SFPUC continues to aggressively pursue Alternative Water Supplies to address whatever shortfall may ultimately occur pending the outcome of negotiation and/or litigation. The most extreme degree of Regional Water System supply shortfall is modeled to be 93 million gallons per day under implementation of the Bay-Delta Plan amendments. We are actively pursuing more than a dozen projects, including recycled water for irrigation, purified water for potable use, increased reservoir storage and conveyance, brackish water desalination, and partnerships with other agencies, particularly the Turlock and Modesto Irrigation Districts. Our goal is to have a suite of alternative water supply projects ready for CEQA review by July 1, 2023.

In litigation with the State over the Bay-Delta Plan Amendments

On January 10, 2019, we joined in litigation against the State over the adoption of the Bay-Delta Water Quality Control Plan Amendments on substantive and procedural grounds. The lawsuit was necessary because there is a statute of limitations on CEQA cases of 30 days, and we needed to preserve our legal options in the event that we are unsuccessful in reaching a voluntary agreement for the Tuolumne River. Even then, potential settlement of this litigation is a possibility in the future.

In litigation with the State over the proposed Don Pedro FERC Water Quality Certification

The State Water Board staff raised the stakes on these matters by issuing a Water Quality Certification for the Don Pedro FERC relicensing on January 15, 2021 that goes well beyond the Bay-Delta Plan amendments. The potential impact of the conditions included in the Certification appear to virtually double the water supply impact on our Regional Water System of the Bay-Delta Plan amendments. We requested that the State Water Board reconsider the Certification, including conducting hearings on it, but the State Water Board took no action. As a result, we were left with no choice but to once again file suit against the State. Again, the Certification includes a clause that it could be replaced by a Voluntary Agreement, but that is far from a certainty.

I hope this makes it clear that we are actively pursuing all options to resolve this difficult situation. We remain committed to creating benefits for the Tuolumne River while meeting our Water Supply Level of Service Goals and Objectives for our retail and wholesale customers.

cc.: SFPUC Commissioners
Nicole Sandkulla, CEO/General Manager, BAWSCA