Appendix H:
Water Supply Assessment

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City of Pleasanton Water Supply Assessment (WSA) for 2023-2031 Housing Element Update

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List of Abbreviations and Acronyms

Acronym/Abbreviation	Full Form
ADU	Accessory Dwelling Unit
AF	Acre-Feet
AFY	Acre-Feet Per Year
BART	Bay Area Rapid Transit
CEQA	California Environmental Quality Act
DSRSD	Dublin San Ramon Services District
EIR	Environmental Impact Report
GPCD	Gallons Per Capita Per Day
HDR	High Density Residential
LDR	Low-Density Residential
LMDR	Low/Medium-Density Residential

Acronym/Abbreviation	Full Form
MDR	Medium-Density Residential
PFAS	Per and Polyfluoroalkyl Substances
PFOA	Perfluorooctanoic Acid
PFOS	Perfluorooctane-Sulfonic Acid
PPH	Persons Per Household
PUSD	Pleasanton Unified School District
RHNA	Regional Housing Need Allocation
SB 221	Senate Bill 221
SB 610	Senate Bill 610
SOI	Scope of Influence
SWRCB	State Water Resources Control Board
TAF	Thousand Acre-Feet
UGB	Urban Growth Boundary
UWMP	Urban Water Management Plan
WSA	Water Supply Assessment
Zone 7	Zone 7 Water Agency

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Executive Summary

The City of Pleasanton 2023-2031 (6th Cycle) Housing Element Update (Housing Element Update) includes sites that could potentially be zoned for residential use (referred to as the "potential sites for rezoning" or "rezoning sites") to accommodate the City's Regional Housing Need Allocation (RHNA). The estimated duration for development of residential units consistent with the Housing Element Update is from 2023 through 2031. The year 2023 is the baseline year and 2031 is the horizon year for the Housing Element Update. The potential sites for rezoning were chosen based on several criteria including: location, size, existing land use, and the ability to accommodate future residential development. There are 25 sites identified as potential sites for rezoning, which are provided in **Table 1**. One additional property, identified as the Bay Area Rapid Transit (BART) site, is included in this analysis. This site is a carryover site from the 2015-2023 (5th Cycle) and 2007-2014 (4th Cycle) Housing Element Update. Pursuant to Assembly Bill (AB) 2923, this site is required to allow at least 75 dwelling units/acre; this density represents an increase of 306 dwelling units from the density that was initially established by the City in the previous Housing Element Update.

Independent of specific rezoning sites, accessory dwelling units (ADUs) are also included in this analysis. ADUs are smaller dwelling units that provide housing stock for lower-income households and are smaller infill units constructed on properties with an existing single-family home. There are 93 ADUs[1] with an assumed high-density housing type (see list below) included in this analysis. All project components, including the BART property and ADUs, are shown in **Table 1**. Each of the rezoning sites' anticipated housing type, which relates to the assumed household size per unit, and resultant maximum number of potential dwelling units are included.

The four housing types are:

1. Low-density residential (LDR) dwelling units consisting of single-family detached homes and duplexes[2];
2. Low/medium-density residential (LMDR) dwelling units consisting of small-lot single-family homes and townhomes;
3. Medium-density residential (MDR) dwelling units consisting of small-scale apartment buildings and attached apartment buildings with street parking; and
4. High-density residential (HDR) dwelling units consisting of large-scale attached apartments with structured parking, condominiums. ADUs are also placed in this category, since assumed household size is similar to that of high density residential units.

The existing land uses of the rezoning sites encompass various uses, including commercial development, industrial development, storage yards, and vacant land, for the majority of the sites. A limited number of residential units are located on Sites 1, 11, and 22. The Housing Element Update would allow for residential development on all the sites for rezoning. In addition, Site 18, Valley Plaza, is being considered for mixed-use. This is the only proposed site for rezoning that would require mixed use (residential and commercial use, combined).

Table 1:Housing Element Update Potential Sites for Rezoning

Site Number	Site Name	Density Class	Maximum Dwelling Units Per Site
1	Lester	Low	31

[1] This WSA assumes 11.5 ADUs would be built per year, over the course of the eight-year planning period. The ADU estimate is based on the average past 5 years of actual production within Pleasanton, which is consistent with HCD guidance. Given this WSA considers the maximum number of units on the potential sites for rezoning, should any of the Housing Element Update policies facilitate the production of ADUs, any additional units over the 93 units would be accounted for within the evaluation because it is unlikely that all of the sites will develop at maximum density.

[2] Duplexes are included in the low-density residential designation as the City has decided this as a conservative measure for the purposes of this WSA.

Site Number	Site Name	Density Class	Maximum Dwelling Units Per Site
2	Stoneridge Shopping Center (Mall)	High	1,440
3	PUSD - Donlon	Low	28
4	Owens (Motel 6 and Tommy T)	High	94
5	Laborers Council	High	54
6	Signature Center	High	440
7	Hacienda Terrace	High	80
8	Muslim Community Center	Medium	125
9	Metro 580	High	375
11	Old Santa Rita Area	High	1,311
12	Pimlico Area (North Side)	High	85
14	St. Elizabeth Seton	Medium	51
15	Rheem Drive Area (Southwest Side)	Low/Medium	137
16	Tri-Valley Inn	Medium	62
18	Valley Plaza	High	220
19	Black Avenue	Medium	65
20	Boulder Court	High	378
21a	Kiewit	High	200
21b	Kiewit	Low/Medium	560
22	Merritt	Low	91
23	Sunol Boulevard Properties	High	956

Site Number	Site Name	Density Class	Maximum Dwelling Units Per Site
24	Sonoma Drive Area	Medium	163
25	PUSD – District	Medium	163
26	St. Augustine	Low	29
27	PUSD – Vineyard	Low	25
29	Oracle	High	225
N/A	BART	High	306[3]
N/A	ADUs	High	93
Total	**-**	**-**	**7,787**

In addition to the Housing Element Update, additional growth is expected throughout the City of Pleasanton. Additional growth is expected due to carryover sites from the 5th Cycle, approved or entitled projects that are currently under construction or soon will be under construction, and existing zoning where additional dwelling units are probable based on the characteristics of those sites. Additional ADUs will be added to one of these categories. Additional growth is outlined in the Draft Housing Element. There are a total of 2,486 additional dwelling units being analyzed. The dwelling units are expected to serve all income levels including lower income, moderate income, and above moderate income. The dwelling units are broken up as follows:

1. 1,337 dwelling units are carryover from the 5th Cycle;
2. 416 dwelling units are approved or entitled projects under construction or soon to be under construction;
3. 640 dwelling units may be constructed in parcels where existing zoning already exists; and
4. 93 ADUs.

Much of the growth is expected to occur in conjunction with the Housing Element Update by 2031. This includes all approved or entitled projects, approximately 50% of 5th Cycle carryover projects, approximately 50% of existing zoning locations, and approximately 50% of the ADUs. The remaining 50% of 5th Cycle carryover projects, the remaining 50% of existing zoning, and remaining 50% of ADUs is expected to be developed by 2045, which lines up with water use projections from the City's *2020 Urban Water Management Plan* (UWMP). All additional growth has a defined density class to be consistent with the Housing Element Update. Additional growth is shown in **Table 2**.

Table 2: Sites With Additional Growth

Site Type	Density Class	Expected No. Dwelling Units	Horizon Year
5th Cycle Carryover	High	1,203	50% 2031 and 50% 2045

[3] This site is required to allow at least 75 dwelling units/acre; this density represents an increase of 306 dwelling units from the density that was initially established by the City in the previous Housing Element Updates.

Site Type	Density Class	Expected No. Dwelling Units	Horizon Year
5th Cycle Carryover	Low	134	50% 2031 and 50% 2045
Approved or Entitled Projects	High	327	2031
Approved or Entitled Projects	Low	89	2031
Growth From Existing Zoning	High	128	50% 2031 and 50% 2045
Growth From Existing Zoning	Medium	210	50% 2031 and 50% 2045
Growth From Existing Zoning	Low	302	50% 2031 and 50% 2045
ADUs	High	93	50% 2031 and 50% 2045
Total	-	**2,486**	-

The purpose of the Water Supply Assessment (WSA) is to support the Program Environmental Impact Report (EIR) being prepared for the Housing Element Update and to perform a water demand evaluation required by California Water Code Sections 10910 through 10915. According to Water Code Section 10910, a city or county that determines a new development project, as defined in Section 10912, is subject to the California Environmental Quality Act (CEQA) must prepare a WSA for the project.

This WSA includes a discussion of the projected potable and recycled water demands attributed to the Housing Element Update and additional growth, the City's projected potable and recycled water demands, the City's water service area, and the City's projected water supply sources and capacity. The WSA also serves as documentation that shows whether the City's projected water supply is sufficient to serve residential development consistent with the Housing Element Update and additional growth through the 2031 horizon year. The WSA also analyzes whether water supply is sufficient through 2045 to line up with projections provided in the UWMP. The projected potable and recycled water demand and supply are based on the UWMP. The analysis described in this WSA discusses the City's projected water supply during a normal year, single dry year, and multiple dry years.

Additional Information

The final section of this WSA is an addendum to this analysis that discusses the City's groundwater supply and elevated pollutants of concern associated with the groundwater which affect or make less certain the conclusion of the UWMP that there would be adequate water supply to serve future demand. In March of 2019, the California State Water Resources Control Board (SWRCB) launched a statewide investigation that required Zone 7 Water Agency (Zone 7), the City's sole wholesale water supplier, and the City to test drinking water supply sources for per- and polyfluoroalkyl substances (PFAS). PFAS include the well-known and studied chemicals perfluorooctane-sulfonic acid (PFOS) and perfluorooctanoic acid (PFOA). In September of 2020, SWRCB extended the duration of testing, and it was found that PFOS and PFOA were detected in the City's groundwater. The City has three groundwater supply wells, Wells 5, 6, and 8 (Chapter 3 of **Appendix A**), and PFOS were detected higher than response levels in Well 8. Upon receipt of these results, Well 8 was taken out of commission as of June 2019, and

the well has not operated since. In addition to the elevated PFOS levels in Well 8, additional PFAS were detected in the City's groundwater.

It has since been determined that all groundwater supply wells for the City of Pleasanton will be taken out of commission no later than the first quarter of 2023. Currently, groundwater makes up approximately 20% of the total water supply for the City, and with the existing groundwater supply wells being taken out of commission, this 20% will not be available to the City without treatment or additional supply sources. This reduction in available groundwater is particularly important as it affects water supply availability for the proposed Housing Element Update and any planned additional growth. The City will need to obtain alternative water sources to provide for sufficient water supply to accommodate the proposed redevelopment. The City is actively studying several options to account for the loss of water supply, but no alternative supply source has been formalized as of the date of this WSA. The elevated pollutants of concern, how it affects proposed development, and options being considered for additional water supply sources are explained in greater detail in the Addendum at the end of the report.

1.0 Introduction

The potential sites for rezoning and the BART property comprise approximately 585 acres **(Appendix C)**. Of the 585 acres, approximately 300 acres can be redeveloped, as stated in the *Housing Element Update (6th Cycle) Final Sites Summary and Ranking Report*. The area for redevelopment represents where new residential development can occur as part of the Housing Element Update. The proposed rezonings would allow for a variety of housing types and densities, with a maximum of 7,787 units allowable across all the sites. Additional growth includes 2,486 units from 5th Cycle carryover projects, approved or entitled projects, existing zoning with additional capacity, and additional ADUs. Housing Element Update, approved or entitled projects, 50% of 5th Cycle carryover projects, 50% of existing zoning units, and 50% of ADUs are expected to be fully developed by 2031. The remaining 5th Cycle projects, existing zoning units, and ADUs are expected to be fully developed by 2045.

Projected water demand for the potential sites for rezoning is calculated by multiplying the persons per household (PPH) associated with each density class by the maximum number of units allowable for each site. This calculation methodology was calculated for each of the potential sites for rezoning. These values represent the total projected water demand associated with the Housing Element Update and additional growth sites in the horizon years of 2031 and 2045. The projected water demand is compared to the water service area projected water supply and demand reported in the UWMP through 2045.

1.1 Legal Requirements for the Water Supply Assessment

California Senate Bill 610 (SB 610) and Senate Bill 221 (SB 221) improve the connection between water supply available to a jurisdiction and specific land use decisions made by that jurisdiction. In addition, these bills promote planning between the local water suppliers and local jurisdictions. As a result, detailed information regarding water supply and demand must be provided to the jurisdiction before the approval of proposed large developments. This requirement ensures that enough water supply will be available for a project's projected future water demands during the project and after completion.

SB 610, codified as California Water Code Sections 10910 through 10915, requires agencies responsible for land use decisions to identify water supply that will supply water for a proposed project and to request a WSA detailing the water supply and future demand.

SB 221 requires a jurisdiction's approval for specific residential subdivisions that verify sufficient water supply for a proposed project. This requirement ensures that the water supply is sufficient, or sufficient water supply is identified before the construction of a project.

1.1.1 Does SB 610 Apply?

California Water Code Section 10910 states that any city or county is responsible for determining whether a project, as defined by Water Code Section 10912, is subject to CEQA of the Public Resources Code. Water Code Section 10912 defines a project in several ways, including "a proposed residential development of more than 500 dwelling units." The Housing Element Update could facilitate the development of more than 500 dwelling units; however, the Housing Element Update is a planning document, not a specific development project, and it therefore does not directly trigger the need for a WSA as defined by California Water Code. Nonetheless, a WSA was prepared for the Housing Element Update to provide a well-informed analysis of potential impacts to water supply availability and reliability.

1.1.2 Does SB 221 Apply

SB 221 requires that a development agreement for a subdivision of property of more than 500 residential units cannot be approved unless sufficient and reliable water supply is available to satisfy the project's needs. The Housing Element Update could facilitate a subdivision of property for more than 500 residential units. SB 221 requires the provision of written verification from the water service provider indicating that sufficient water supply is available to serve a proposed subdivision or a finding by the local agency that sufficient water supplies are or will be available prior to completion of a project. SB 221 specifically applies to residential subdivisions of 500 units or more. Government Code Section 66473.7(i) exempts "any residential project proposed for a site that is within an urbanized area and has been previously developed for urban uses, or where the immediate contiguous properties surrounding the residential project site are, or previously have been, developed for urban uses, or housing projects that are exclusively for very low and low income households."

The Housing Element Update is a planning level document does not involve any specific development application. As such, it does not propose development of 500 or more dwelling units in a nonurban area and is not subject to SB 221. Individual development projects consistent with the Housing Element Update would be required to comply with SB 221.

1.1.3 Who is the Identified Public Water System?

According to the UWMP, the public water system's name is "City of Pleasanton." Zone 7 is the wholesaler of approximately 80% of the City's provided water. There are 22,369 connections reported to be part of the public water system, and 14,779 AFY of potable water was supplied by the system in 2020.

California Water Code Sections 10910 and 10912 of SB 610 state that a project requiring CEQA or an EIR has to identify a public water system capable of supplying water to a project. Additionally, Water Code Section 10912 defines a public water system as "a system for the provision of piped water to the public for human consumption that has 3,000 or more service connections," The City of Pleasanton public water system meets these criteria.

1.1.4 Does the City Have an Adopted Urban Water Management Plan?

California Water Code Section 10910 states that a UWMP must include the service area of a proposed project. The UWMP, therefore, assists in the analysis of whether the City of Pleasanton public water system can cover the projected water demand associated with the Housing Element Update when combined with additional growth.

The potential sites for rezoning, the BART property, and sites with additional growth fall within the service area of the City of Pleasanton public water system. This water system is described in detail in the UWMP which contains existing and projected water demands for 2025 and every 5 years after that through 2045. The horizon year for the Housing Element Update and much of the additional growth is 2031 and is therefore evaluated in the UWMP. The City's ability to meet projected water demand is discussed in the following sections.

1.2 Need for and Purpose of Water Supply Assessment

The purpose of a WSA is to evaluate the projected water supply and demand for the proposed Housing Element Update when combined with additional anticipated growth. The WSA is required by the California Water Code Sections 10910 through 10915 and is not intended to serve as a commitment to a specific water supply. The WSA only serves to analyze the existing water supply and demand, and whether that supply would meet the projected demand associated with residential development through the horizon year of the proposed project.

1.3 Water Supply Assessment Preparation, Format, and Organization

The format of this WSA is compliant with specific Water Code Sections 10910 through 10915 and specific requirements of SB 610. The WSA contains the following sections:

1. Introduction;
2. Description of Project;
3. City Water Service Area;
4. City Water Demands;
5. City Water Supply;
6. Determination of Water Supply Sufficiency Based on the Requirements of SB 610;
7. Water Supply Assessment Approval Process; and
8. References.

2.0 Description of Housing Element Update and Additional Growth

A general description of the Housing Element Update area, including sites with expected growth, existing and proposed land uses, projected water demand, and projected water supply, are discussed in this section.

2.1 Housing Element Update and Additional Growth Locations

The city of Pleasanton is in Alameda County, California. The county borders the San Francisco Bay to the east. Pleasanton is bordered on the west by mountains, on the north by Interstate 580 and the city of Dublin, on the east by unincorporated land and the city of Livermore, and on the south by San Francisco Water Department lands and more mountains. This is shown in **Exhibit 1**.

The potential sites for rezoning, the BART property, and all existing zoning are in Alameda County and the city of Pleasanton. All these sites, aside from Sites 1 and 22, are located within the existing incorporated area. Site 22 is just outside of the city limits, but within Pleasanton's Sphere of Influence (SOI) and Urban Growth Boundary (UGB). Site 1 is also located just outside of the city of Pleasanton's city limit lines; however, the western half of Site 1 is located just outside the UGB. Both Sites 1 and 22 will be served by the City's water service area infrastructure. The potential sites for rezoning and the BART property, associated with the Housing Element Update, comprise approximately 585 acres, and the proposed residential development would be built on approximately 300 of those acres. The potential sites for rezoning and BART property are located primarily in urban areas; some are in the more rural outskirts of the city, and, as described above, Sites 1 and 22 lie outside city limits. Existing uses on the sites include commercial development, industrial development, storage yards, residential development, a limited number of residential units, and vacant land without existing development. Sites with additional growth fall throughout the city in 5th Cycle carryover project locations, approved and entitled project locations, and sites with existing zoning already in place. The additional ADUs will fall within one of these additional growth categories. Land use for these sites also includes commercial development, residential development, and vacant land.

2.2 Proposed Land Uses

The Housing Element Update and anticipated additional growth would allow for residential development within the potential sites for rezoning as well as existing zoning. The proposed density classes for the Housing Element Update are shown in **Exhibit 2**. In addition, Site 18, Valley Plaza, is proposed for mixed-use development (residential and commercial use) and contains commercial development with surface parking, as shown in **Exhibit 3**. Some or all this commercial development would be removed and replaced with new commercial and residential development.

Table 3 below shows each proposed Housing Element Update redevelopment site and the expected development plans. For the purposes of this WSA, all proposed residential development sites are considered to be integrated into the existing land use, with the exception of Site 18. Predicting the removal of existing land use, and redevelopment would be difficult and outside the scope of this WSA. This method will provide a conservative projection of water demand for the Housing Element Update. All sites with expected additional growth associated with 5th Cycle carryover projects, approved or entitled projects, and existing zoning with additional capacity are shown in **Appendix E**.

Table 3: Housing Element Update Proposed Redevelopment

Site Number	Site Name	Density Class	Anticipated Changes on Site
1	Lester	Low	Construction of new single-family residential units, including demolition and replacement of two existing homes; construction of a new East Bay Regional Park District staging area, grading, and site improvements.

Site Number	Site Name	Density Class	Anticipated Changes on Site
2	Stoneridge Shopping Center (Mall)	High	Construction of new residential dwelling units and structured parking on existing surface parking areas. Extent of any potential demolition currently unknown.
3	PUSD - Donlon	Low	Construction of new single-family homes on vacant lot.
4	Owens (Motel 6 and Tommy T)	High	Construction of new residential units. Existing restaurant expected to be demolished; unknown if existing hotel building would remain.
5	Laborers Council	High	Demolition of existing office building and replacement with new residential units.
6	Signature Center	High	Construction of new residential units (housing to replace two existing parking structures); existing office buildings to remain.
7	Hacienda Terrace	High	Construction of new residential units on a 2-acre portion of existing parking area, at north part of site.
8	Muslim Community Center	Medium	Construction of new residential units; existing office building likely to be demolished.
9	Metro 580	High	Construction of new residential units on 5-acre portion of existing site that includes parking and three existing commercial buildings, potentially to be demolished.
11	Old Santa Rita Area	High	Construction of new residential units on various parcels; extent of existing development to be demolished unknown and would vary from parcel to parcel.
12	Pimlico Area (North Side)	High	Construction of new residential units; extent of existing development to be demolished unknown and would vary from parcel to parcel.
14	St. Elizabeth Seton	Medium	Construction of new residential units on vacant portion of church-owned property.
15	Rheem Drive Area (Southwest Side)	Low/Medium	Construction of new residential units; extent of existing development to be demolished unknown and would vary from parcel to parcel.
16	Tri-Valley Inn	Medium	Construction of new residential units, likely requiring demolition of existing motel units and restaurant.
18	Valley Plaza	High	Construction of new residential units and some replacement commercial space on approximately 5.5 acres, within which most existing buildings expected to be demolished.
19	Black Avenue	Medium	Construction of new residential units; existing office building expected to be demolished.

Site Number	Site Name	Density Class	Anticipated Changes on Site
20	Boulder Court	High	Construction of new residential units; some or all existing structures on site expected to be demolished.
21a	Kiewit	High	Construction of new residential units on vacant site.
21b	Kiewit	Low/Medium	Construction of new residential units on vacant site.
22	Merritt	Low	Construction of new residential units on vacant site. It is anticipated that the existing single-family home will remain.
23	Sunol Boulevard Properties	High	Construction of new residential units; extent of existing development to be demolished unknown and would vary from parcel to parcel.
24	Sonoma Drive Area	Medium	Construction of new residential units; extent of existing development to be demolished unknown and would vary from parcel to parcel.
25	PUSD – District	Medium	Construction of new residential units; existing development on site expected to be demolished.
26	St. Augustine	Low	Construction of new residential units on vacant portion of church-owned property.
27	PUSD – Vineyard	Low	Construction of new residential units on vacant site.
29	Oracle	High	Construction of new residential units on vacant portion of property.

The Housing Element Update's primary goal is to accommodate the RHNA by identifying high, medium, and low-density residential development areas to meet outstanding housing needs, including lower-income, moderate income, and above-moderate income housing needs. The proposed density classes are shown in **Table 4**. All sites with expected additional growth are shown in **Appendix E**.

Table 4: Housing Element Update Proposed Density Classes

Proposed Density Class	Total Area (acres)	Area of Redevelopment (acres)	Maximum Dwelling Units
LDR	210	75	204
MLDR	60	50	697
MDR	30	30	629
HDR	250	110	6,257
Total	**550**	**265**	**7,787**

2.3 Overall Water Use Assumptions

As shown in Appendix A, water use assumptions include an average daily water demand per capita provided in the UWMP of 159 gallons per capita per day (GPCD). This daily water demand value will be used for all housing type density classes because it provides a conservative water demand value. The average daily water demand per capita in this assessment of 159 GPCD is based on total water used in 2020, which includes residential, commercial, industrial, and landscape consumption combined. The residential portion makes up approximately 62% of all water used. The remaining 38% of all water used is used to account for the additional commercial, industrial, and landscape growth associated with the Housing Element Update and additional growth population increase. This analysis utilizes the assumptions provided in the UWMP; in particular the UWMP assumes water demand decreases for indoor water use to account for water conservation and outdoor water use increases because of climate change.

It is assumed that only Housing Element Update Sites 6, 7, 8, and 29 have the potential to use recycled water for irrigation, as these sites have recycled water infrastructure available. According to the UWMP, approximately 7.67% of all water used in the city in 2020 was recycled water. This recycled water percentage is used in the water demand calculations for these four sites. Water use is assumed to increase in a linear manner from 2023 to 2031 for Housing Element Update sites, approved or entitled projects, 50% of 5th Cycle carryover projects, 50% of all existing zoning with additional capacity, and 50% of additional ADUs. For this part of the analysis, water use is assumed to increase by 12.5% each year, starting with zero in the baseline year of 2023 to 100% in 2031. For the remaining 5th Cycle carryover projects, additional growth associated with existing zoning, and additional ADUs, water use will increase linearly by 4.5% from the years 2023 through 2045. These sites were selected arbitrarily; however, the final population due to the additional growth are close to the same value for both halves of the 5th Cycle carryover projects, existing zoning, and additional ADUs. This water demand calculation accounts for a gradual increase in population as residential developments are built and occupied. For the years 2032 through 2045, water use associated with the Housing Element Update, approved or entitled projects, and 50% of 5th Cycle carryover projects, existing zoning, and additional ADUs will be projected using the same 100% water use value while also including the water demand variations that account for water conservation and climate change. Water demand is projected through 2045 to allow comparison to UWMP projections.

Persons per household (PPH) data was obtained from the Census Bureau's 2019 ACS Population per Household Tables. Census data for population and population per household type are shown in **Appendix B**. The different household types in the Census data include single-family residential, multi-family 2 to 4 units, multi-family 5+ units, and mobile home/boat/RV/Van[4]. Three different PPH values were generated for low (single-family residential), medium (multi-family 2 to 4 units), and high-density (multi-family 5+units) types. ADUs are included within the high-density housing type/classification since smaller households typically occupy them. **Table 5** shows each density classification with their corresponding PPH value.

Table 5: Housing Element Update and Additional Growth Persons Per Household

Proposed Density Class	PPH Value
LDR	2.99
MLDR	2.99
MDR	2.48
HDR	2.20

For each site, the maximum allowable density is used as the basis for water use projections to provide a conservative projection. Redevelopment associated with the Housing Element Update and additional growth is expected in the baseline year of 2023 and units are expected to be occupied starting in 2024. All units are expected to be built and

[4] The mobile home/boat/RV/van portion of the data was removed from this WSA because the proposed residential development would not include these housing types.

fully occupied by 2031 for many sites and 2045 for the remaining sites. The year 2031 is the horizon year for the Housing Element Update, approved and entitled projects, and half the 5th Cycle carryover sites, existing zoning, and additional ADUs; however, water use projections are provided through 2045 to ensure adequate water supply following the new development and to compare to the UWMP projected values. The majority of the water use associated with the new development occurs in 2031 and from there is projected to increase gradually with additional growth through 2045. The potential sites for rezoning are discussed in the City of Pleasanton's Housing Element Update 6th Cycle (2023-2031), Preliminary Sites Inventory provided in **Appendix C,** as well as sites with additional growth in **Appendix E**. Detailed water use calculations are included in **Appendix D**.

2.4 Average Water Use Per Capita

The water demand per capita value for proposed residential development, 159 GPCD, is derived from values provided in the UWMP and is the basis of the water demand for this analysis.

Conservation and climate change measures were applied to the 159 GPCD value. According to the UWMP, the State of California Legislature mandates indoor water use standards of 55 GPCD through 2024, 52.5 GPCD from 2025 through 2029, and 50 GPCD in 2030 and thereafter. Additionally, it is anticipated that outdoor water use will increase by 5% by 2040 to account for climate change. The trends of increasing temperatures and decreasing precipitation will require additional water use for irrigation and landscaping. Specific water conservation measures are discussed further in Chapter 9 of the UWMP in **Appendix A**.

Using the water conservation and climate change data from the UWMP, projected water demand values were calculated starting in 2020 and extrapolated to 2031, the horizon year for the Housing Element Update and other additional growth. Projected water demand values were further extrapolated through 2045 to compare to water use projections stated in the UWMP after the horizon year. The projected water demand identified for 2023 is used as the baseline year. The estimated indoor water use portion of the projected water demand value, 55 GPCD, is subtracted from 159 GPCD to determine the estimated outdoor water use, which equals 104 GPCD. The indoor, outdoor, and total projected water demand values begin in 2020 and change with the applied conservation and climate change measures in all years through 2045. The years 2023, 2025, 2030, 2031, 2035, 2040, and 2045 as shown in **Table 6**. The years shown in **Table 6** represent the baseline year, horizon year, and all years in which water demand projections for the Housing Element Update and additional growth can be compared to projections provided in the UWMP. The years 2023 and 2031 are included as these are the Housing Element Update's baseline and horizon years.

Table 6: Average Daily Water Demand Per Capita

Year	Indoor Water Demand (GPCD)	Outdoor Water Demand (GPCD)	Combined Water Demand (GPCD)
2020	55	104	159
2023	55	105	160
2025	53	105	158
2030	50	107	157
2031	50	108	157
2035	50	108	158
2040	50	109	159
2045	50	111	161

2.5 Projected Water Demand for the Housing Element Update

The projected water demand in acre-feet per year (AFY) for each site (including the BART property) was calculated by multiplying daily average water demand per capita by the projected maximum population for each site. The population is calculated by multiplying the PPH values by the maximum number of dwelling units for each site. These calculations are provided in **Appendix D**. The total annual water demand in 2023, 2025, 2030, 2031, 2035, 2040, and 2045 are shown for each site in **Table 7**. 2023 and 2031 are included as the estimated baseline and horizon years.

Water utilized by the residential development is assumed to be potable, except for a small percentage of recycled water used for landscape irrigation at Sites 6, 7, 8, and 29, as shown in **Table 7**. All projected water demand values for each year from 2023 through 2045 are included in **Appendix D**. The proposed dwelling units are anticipated to be constructed and occupied starting in 2024, and it is assumed that 2024 is the first year any of the units would require water. Redevelopment, construction, and occupancy of the sites are not known at this time and may vary depending on development. Therefore, projected water demand starts at zero for 2023 and increases, in a linear manner, by 12.5% each year to 100% of demand in the horizon year of 2031. From 2032 through 2045, only the average daily water demand per capita changes due to water conservation and climate change. It is assumed that all residential units developed consistent with the Housing Element Update would be constructed and operational by 2031.

Table 7: Housing Element Update Estimated Annual Potable and Recycled Water Demand

Site #	Site Name	2023 Water Demand (AFY)	2025 Water Demand (AFY)	2030 Water Demand (AFY)	2031 Water Demand (AFY)	2035 Water Demand (AFY)	2040 Water Demand (AFY)	2045 Water Demand (AFY)
1	Lester	0.00	4.11	14.27	16.34	16.45	16.58	16.72
2	Stoneridge Shopping Center	0.00	139.99	486.25	556.64	560.33	564.94	569.55
3	PUSD-Donlon	0.00	3.71	12.89	14.76	14.86	14.98	15.10
4	Owens	0.00	9.15	31.77	36.37	36.61	36.91	37.22
5	Laborers Council	0.00	5.26	18.27	20.91	21.05	21.22	21.39
6	Signature Center	0.00	42.78	148.58	170.08	171.21	172.62	174.03
7	Hacienda Terrace	0.00	7.78	27.01	30.92	31.13	31.39	31.64
8	Muslim Community Center	0.00	13.70	47.58	54.47	54.83	55.28	55.73
9	Metro 580	0.00	36.46	126.63	144.96	145.92	147.12	148.32

Site #	Site Name	2023 Water Demand (AFY)	2025 Water Demand (AFY)	2030 Water Demand (AFY)	2031 Water Demand (AFY)	2035 Water Demand (AFY)	2040 Water Demand (AFY)	2045 Water Demand (AFY)
11	Old Santa Rita Area	0.00	127.49	442.81	506.91	510.27	514.47	518.67
12	Pimlico Area	0.00	8.26	28.70	32.86	33.07	33.35	33.62
14	St. Elizabeth Seton	0.00	5.61	19.49	22.31	22.46	22.65	22.83
15	Rheem Drive Area	0.00	18.12	62.93	72.04	72.52	73.11	73.71
16	Tri-Valley Inn	0.00	6.81	23.64	27.06	27.24	27.46	27.69
18	Valley Plaza	0.00	21.39	74.29	85.04	85.61	86.31	87.02
19	Black Avenue	0.00	7.16	24.87	28.46	28.65	28.89	29.12
20	Boulder Court	0.00	36.77	127.70	146.19	147.16	148.37	149.58
21a	Kiewit	0.00	19.44	67.53	77.31	77.82	78.46	79.10
21b	Kiewit	0.00	74.02	257.09	294.31	296.26	298.70	301.14
22	Merritt	0.00	12.06	41.90	47.97	48.29	48.68	49.08
23	Sunol Blvd. Properties	0.00	92.98	322.94	369.69	372.14	375.20	378.26
24	Sonoma Drive Area	0.00	17.90	62.16	71.16	71.63	72.22	72.81
25	PUSD-District	0.00	17.90	62.16	71.16	71.63	72.22	72.81
26	St. Augustine	0.00	3.84	13.35	15.29	15.39	15.51	15.64

Site #	Site Name	2023 Water Demand (AFY)	2025 Water Demand (AFY)	2030 Water Demand (AFY)	2031 Water Demand (AFY)	2035 Water Demand (AFY)	2040 Water Demand (AFY)	2045 Water Demand (AFY)
27	PUSD-Vineyard	0.00	3.31	11.51	13.18	13.27	13.37	13.48
29	Oracle	0.00	21.87	75.98	86.97	87.55	88.27	88.99
N/A	BART	0.00	29.78	103.45	118.43	119.21	120.19	121.17
N/A	ADUs	0.00	9.06	31.47	36.02	36.26	36.56	36.86
Total		**0.00**	**796.70**	**2,767.23**	**3,167.80**	**3,188.80**	**3,215.06**	**3,241.31**

Sites 6, 7, 8, and 29 have the potential to use recycled water as the City's recycled water infrastructure is already available in these locations. Based on the UWMP, the City's total recycled water use in 2020 was 1,228 acre-feet (AF), and approximately 7.67% of all water used in the city was from recycled water. This recycled water percentage is used to estimate the recycled water usage for Sites 6, 7, 8, and 29. These sites are proposed to be HDR and MDR development, so recycled water is anticipated to be used for irrigation of community green spaces, landscaping, and other uses. **Table 8** provides the projected recycled water demand.

Table 8: Housing Element Update Estimated Recycled Water Demand

Site #	Site Name	2023 Recycled Water Demand (AFY)	2025 Recycled Water Demand (AFY)	2030 Recycled Water Demand (AFY)	2031 Recycled Water Demand (AFY)	2035 Recycled Water Demand (AFY)	2040 Recycled Water Demand (AFY)	2045 Recycled Water Demand (AFY)
6	Signature Center	0.00	3.28	11.40	13.05	13.13	13.24	13.35
7	Hacienda Terrace	0.00	0.60	2.07	2.37	2.39	2.41	2.43
8	Muslim Community Center	0.00	1.05	3.65	4.18	4.21	4.24	4.27
29	Oracle	0.00	1.68	5.83	6.67	6.72	6.77	6.83
Total		**0.00**	**6.61**	**22.94**	**26.27**	**26.44**	**26.66**	**26.88**

From the data in **Table 6**, water demand was consolidated to show water demand for each housing type. **Table 9** shows the total annual projected water demand for each housing type.

Table 9: Housing Element Update Annual Potable and Recycled Water Demand by Housing Type

Density Class	Maximum Dwelling Units	2023 Total Water Demand (AFY)	2025 Total Water Demand (AFY)	2030 Total Water Demand (AFY)	2031 Total Water Demand (AFY)	2035 Total Water Demand (AFY)	2040 Total Water Demand (AFY)	2045 Total Water Demand (AFY)
LDR	204	0.00	27.04	93.93	107.53	108.24	109.14	110.03
LMDR	697	0.00	92.14	320.02	366.35	368.78	371.81	374.85
MDR	629	0.00	69.07	239.90	274.63	276.45	278.73	281.00
HDR	6,257	0.00	609.20	2,115.98	2,422.28	2,438.34	2,458.42	2,478.49
Total	**7,787**	**0.00**	**796.70**	**2,767.23**	**3,167.80**	**3,188.80**	**3,215.06**	**3,241.31**

All projected potable, recycled, and total water demands are summarized in **Table 10**.

Table 10: Total Housing Element Update Projected Water Demand

Water Type	2023 Water Demand (AFY)	2025 Water Demand (AFY)	2030 Water Demand (AFY)	2031 Water Demand (AFY)	2035 Water Demand (AFY)	2040 Water Demand (AFY)	2045 Water Demand (AFY)
Potable Water	0.00	790.09	2,744.29	3,141.53	3,162.36	3,188.40	3,214.43
Recycled Water	0.00	6.61	22.94	26.27	26.44	26.66	26.88
Total Water	**0.00**	**796.70**	**2,767.23**	**3,167.80**	**3,188.80**	**3,215.06**	**3,241.31**

2.6 Projected Water Demand for Additional Growth

The projected water demand was calculated, in AFY, for the sites expecting additional growth in a comparable way to the Housing Element Update. For all approved or entitled projects, projected water demand was calculated using the same baseline and horizon years of 2023 and 2031, respectively. Water demand for the years 2032 through 2045 will remain relatively constant while also considering water conservation and climate change. However, water demand for 5th Cycle carryover projects, existing zoning locations with additional capacity, and additional ADUs are calculated differently. Approximately 50% of these sites will be calculated with the same 2023 and 2031 baseline and horizon years, but the other 50% will have a baseline year of 2023 and a horizon year of 2045. The sites with a horizon year of 2045 will increase linearly by 4.5% to 100% capacity from 2023 through 2045. A complete breakdown of each sites' projected water demand and horizon year is shown in **Appendix D**. Additionally,

Table 11 below shows projected water demand by additional growth site type, density class and expected number of dwelling units for the years 2023, 2025, 2030, 2031, 2035, 2040, and 2045.

Table 11: Additional Growth Annual Water Demand by Housing Type

Site Type	Density Class	Expected No. Dwelling Units	2023 Total Water Demand (AFY)	2025 Total Water Demand (AFY)	2030 Total Water Demand (AFY)	2031 Total Water Demand (AFY)	2035 Total Water Demand (AFY)	2040 Total Water Demand (AFY)	2045 Total Water Demand (AFY)
5th Cycle Carryover	High	1,203	0.00	82.71	287.27	328.86	370.27	422.76	476.07
5th Cycle Carryover	Low	134	0.00	13.46	46.76	53.53	58.80	65.49	72.27
Approved or Entitled Projects	High	327	0.00	31.82	110.51	126.51	127.35	128.40	129.44
Approved or Entitled Projects	Low	89	0.00	11.80	40.98	46.91	47.22	47.61	48.00
Growth From Existing Zoning	High	128	0.00	12.51	43.44	49.72	50.05	50.47	50.88
Growth From Existing Zoning	Medium	210	0.00	19.87	69.00	78.99	83.63	89.50	95.46
Growth From Existing Zoning	Low	302	0.00	19.54	67.86	77.68	101.64	132.02	162.88
ADUs	High	93	0.00	6.23	21.66	24.79	28.24	32.60	37.04
Total		**2,486**	**0.00**	**197.93**	**687.47**	**786.99**	**867.20**	**968.85**	**1,072.05**

2.7 Total Projected Water Demand Housing Element Update and Additional Growth

Table 12 shows the combined total projected water demand associated with the Housing Element Update and the additional growth in the city of Pleasanton for the years 2023, 2025, 2030, 2031, 2035, 2040, and 2045. All Housing Element Update sites, approved or entitled project sites, 50% of 5th Cycle carryover project sites, 50% of existing zoning sites, and 50% of additional ADUs are assumed to have a baseline year of 2023 and a horizon year of 2031. All remaining sites are assumed to have a baseline year of 2023 and a horizon year of 2045. Complete calculations for all sites are provided in **Appendix D**.

Table 12: Total Projected Water Demand

Site Type	Maximum or Expected No. Dwelling Units	2023 Total Water Demand (AFY)	2025 Total Water Demand (AFY)	2030 Total Water Demand (AFY)	2031 Total Water Demand (AFY)	2035 Total Water Demand (AFY)	2040 Total Water Demand (AFY)	2045 Total Water Demand (AFY)
Housing Element Update	7,787	0.00	796.70	2,767.23	3,167.80	3,188.80	3,215.06	3,241.31
Additional Growth	2,486	0.00	197.93	687.47	786.99	867.20	968.85	1,072.05
Total	**10,273**	**0.00**	**994.63**	**3,454.70**	**3,954.79**	**4,056.00**	**4,183.91**	**4,313.36**

2.8 Projected Water Supply for the Housing Element Update and Additional Growth

The projected water demands would be supplied using the City's existing potable and recycled water infrastructure. In addition, the projected water demand would be supplied using the City's existing and future portfolio of potable and recycled water supplies. The Housing Element Update and additional growth proposed redevelopment water demand projections are compared to existing and projected water supply values in Section 6 of this WSA.

3.0 City Water Service Area

This section describes the City of Pleasanton's existing water service area along with projected growth in population for the water service area through the year 2045.

3.1 General Description

The majority of land within the city lies on flat land formed by alluvial deposits from prehistoric streams flowing through the Livermore, Amador, and San Ramon Valleys to the San Francisco Bay area. Various deposits of sand and gravel make up a substantial portion of the area. These deposits once supported the cultivation of crops and livestock. However, the city is now largely urbanized, except for the southeastern portion containing vineyards and livestock grazing areas, and the Pleasanton Ridgelands in the far west portion of the city. The majority of the city sits on the valley floor that ranges from 320 to 400 feet above sea level. Elevated areas lie to the south and west, with the west including several seismically active faults.

The City of Pleasanton supplies water to areas within the city limit lines with additional service areas to the southwest into the foothills as shown in Figure 3-1 of the UWMP in **Appendix A**. This existing water service area lies within the Alameda Creek Watershed Area and covers approximately 25 square miles.

3.2 City Growth Rates

As of 2020, the estimated population for the existing water service area was 82,977[5] per the UWMP, which cited Census Bureau data. Using prior data from the California Department of Finance (DOF), a population increase was reported of approximately 5% between 2015 and 2020. According to the UWMP, which cited Zone 7's 2020 Tri-Valley Municipal and Industrial Water Demand Study[6], the residential population for the water service area is projected to increase by 4%, from 82,977 to 86,326, between 2020 and 2025. Over the next 25 years, to 2045, the UWMP projects the population within the water service area to increase by 22%, from 82,977 to 100,913. The actual DOF recorded population increase is similar to the projected population increases stated in the UWMP.

In comparison, the proposed Housing Element Update redevelopment plus additional growth suggests a population increase greater than what is shown in the UWMP. **Table 13:** shows each redevelopment density class, maximum number of dwelling units, and population associated with each density class. The total increase in population due to the proposed redevelopment is 23,992. This is the population that would occupy the proposed redevelopment in the horizon years of 2031 and 2045, assuming 100% occupancy. This population added to the current water service area population is equal to 106,969. This exceeds the project population values stated in the UWMP.

Table 13: Housing Element Update and Additional Growth Maximum Population Increase

Proposed Density Class	Maximum Dwelling Units	Population Increase
LDR (Housing Element Update)	204	612
MLDR (Housing Element Update)	697	2,085
MDR (Housing Element Update)	629	1,563
HDR (Housing Element Update)	6,257	13,769

[5] The water service area extends outside the boundary of the city of Pleasanton city limits. The decennial 2020 Census Bureau population for the city (within the city limits) is 79,871.
[6] The 2020 Tri-Valley Municipal and Industrial Water Demand Study can be found at the following link: https://www.zone7water.com/sites/main/files/file-attachments/2020_tri-valley_demand_study.pdf?1627595774.

Proposed Density Class	Maximum Dwelling Units	Population Increase
Housing Element Update Total	**7,787**	**18,029**
LDR (Additional Growth)	525	1,575
MDR (Additional Growth)	210	531
HDR (Additional Growth)	1,658	3,857
Additional Growth Total	**2,486**	**5,963**
Combined Total	**10,273**	**23,992**

4.0 City Water Supply

This section discusses the city's water supply sources.

4.1 Regulatory Background

California Water Code Section 10910 states the following:

1. If a project's projected water demand is accounted for in the most recent UWMP, the public water system may incorporate information from the UWMP in order to comply with the water code.
2. The WSA required by this section must include identification of any water supply entitlements, water rights, or water service contracts relevant to the identified water supply for a proposed project. A description of the quantities of water received by the public water system must be provided to comply with the water code.
3. Written contracts or other proof of entitlement to an identified water supply; copies of a capital outlay program for financing the delivery of water supply; federal, state, and local permits for construction of necessary infrastructure associated with delivering water supply; and any necessary approvals that are required in order to be able to convey or deliver water supply must be provided in order to comply with the water code.
4. If no water has been received by the public water system, other water sources must be identified in order to comply with the water code.

The City's potable water supply comes primarily from Zone 7, and the rest traditionally provided by City owned groundwater wells (see addendum for updates). In addition, Dublin San Ramon Services District (DSRSD) provides recycled water to the City. The Housing Element Update and additional growth would utilize water from these sources, as they are within the City's water service area.

4.2 Existing and Projected Potable Water Supply

Zone 7 is the city's sole wholesale treated water supplier. The City purchases all needed potable water within the service area from Zone 7, except for groundwater extracted from three groundwater well locations (see addendum for updates). The amount extracted is managed and controlled by Zone 7. The City has a maximum groundwater pumping quota (GPQ) of 3,500 AF from the Livermore Valley Main Groundwater Basin (Main Basin) in any calendar year. The City must also pay a groundwater recharge fee to Zone 7 to replenish the Main Basin. The City may carry over up to 700 AF of unused pumping quota from one year to another. Note that recent discussion between Zone 7 and the City of Pleasanton has taken place in order to evaluate the feasibility of Zone 7 providing all of the City's water, rather than the City pumping groundwater up to its 3,500 AF per year limit. Zone 7 and the City work together to determine water uses yearly and future water demand projections.

Approximately 80% of the City's potable water is purchased from Zone 7. Therefore, Zone 7 serves two critical factors in water supply to the City: incoming water supply through contracts, and rights and accumulated water supply in storage from previous years. Zone 7 has incoming supply primarily from imported surface water and local surface runoff water. In addition, accumulated water supplies are available in local and non-local storage locations.

The remaining 20% of potable water supplied to the City is provided by groundwater pumping of the Main Basin. As discussed earlier, there are limits to how much water the City can pump from the Main Basin and Zone 7 controls these pumping limits. Zone 7 water supply sources are detailed in Chapter 6 of the UWMP in **Appendix A.**

Table 14 shows the total potable water supplied to the City via Zone 7 and controlled City groundwater pumping (GPQ is subject to change or be removed entirely based on recent discussion between Zone 7 and the City).

Table 14: Potable Water Supply Sources

Water Supply	Water Supply Description	Projected Water Supply (AFY)					
Year		**2020**	**2025**	**2030**	**2035**	**2040**	**2045**
Purchased Water	Zone 7	11,752	13,240	13,739	14,237	14,736	14,736
Groundwater	Main Basin	3,027	3,500	3,500	3,500	3,500	3,500
Total		**14,779**	**16,740**	**17,239**	**17,737**	**18,236**	**18,236**

4.2.1 Groundwater Supply Reliability

Zone 7 manages and replenishes the Main Basin, which is the sole groundwater supply for the City. The Main Basin comprises four subbasins and it has a total storage capacity of 254 thousand acre-feet (TAF) consisting of 126 TAF of aggregate operational storage and 128 TAF of aggregate emergency storage from all four subbains. Zone 7 only pumps artificially recharged groundwater from particular subbasins that it has sustainably managed over the years. The City can pump up to its GPQ from the Main Basin, which is the City's allocation of the long-term average natural recharge to the Main Basin.

Since 1974, Zone 7 has artificially recharged over 67 TAF more water than it has pumped. Zone 7 also plans to install additional groundwater wells to manage groundwater levels within the Main Basin. The local groundwater storage in the Main Basin provides strong reliability of future water supply.

4.2.2 Planned Future Potable Water Supply

The City is not currently planning to engage in future water supply projects. All currently planned water supply would be obtained by Zone 7 and from groundwater pumping. Currently, water supplied to Zone 7 is provided by the State Water Project (SWP), groundwater, and surface water. The SWP provides approximately 80% of Zone 7's water supply.

Zone 7 is engaging in future water supply projects to account for rising population and increases in climate impacts to the water supply. Potential Zone 7 projects include Bay Area Regional Desalination Project, Delta Conveyance Project, Potable Water Reuse, and the Proposed Sites Reservoir. The Bay Area Desalination Project will consist of desalinating Bay Area water for potable water sources and could provide an additional water supply of 5,600 AFY. The Delta Conveyance Project will continue to allow water to be obtained from the Delta, rather than being lost due to environmental impact caused by sea level rise. Increased water quality measures may be needed to make this project feasible. The Potable Water Reuse Project will involve wastewater purification to re-supply potable water that could add an additional water supply of 5,500 to 10,000 AFY. The Sites Reservoir Project is a proposed 1,500,00 AF storage reservoir in northern California. Water from the Sacramento River will be diverted to the reservoir and used during drier periods.

4.2.3 Additional Potable Water Supply Opportunities

The projects discussed above are meant to increase water availability which will influence long-term water supply reliability for the City. The City's immediate future potable water supply relies heavily on Zone 7's restricted groundwater pumping and Zone 7's water supply. Additional alternative water supplies for Zone 7 include a Reliability Intertie and Chain of Lakes Pipeline. The Intertie will allow Zone 7 to construct a connection with another regional water supply system to mitigate future water supply deficiencies. The Chain of Lakes Pipeline option will bring stormwater releases from Lake De Valle, southwest of Pleasanton, to the Chain of Lakes for storage.

Zone 7 has conducted studies to determine water supply during a normal, single dry year, and five consecutive year droughts. The UWMP states that Zone 7 can supply 100% of the water demand for the City during all conditions. Therefore, overall water supply reliability from Zone 7 purchases and groundwater pumping from the Main Basin is sufficient.

Additionally, Zone 7 conducted a meeting in April of 2022, and it was noted that planned water conservation from the City of Pleasanton and surrounding areas will increase Zone 7's excess water supply. A mandated water conservation level of 15%, relative to 2020 conservation, for the years 2022 and 2023 is expected to create an excess of 26,300 AF of water supply that can go directly to storage by 2024. If hydrologic conditions are assumed to be average for the years 2025 and 2026, the excess water supply to storage will increase more. This helps solidify reliable water supply for the City. Documents from this April 2022 meeting are provided in **Appendix F**.

4.3 Existing and Projected Recycled Water Supply

The Dublin San Ramon Services District (DSRSD) is responsible for treating and discharging wastewater to the City. The City does not produce any recycled water, and all recycled water is provided by DSRSD. The existing recycled water system within the city was constructed in 2015 to serve landscapes, which were previously irrigated with potable water, and reduced potable water usage. Recycled water use also reduced wastewater discharge and increased overall water supply reliability.

All recycled water in the city is being used for landscape irrigation and is projected to continue to be utilized for this use. In 2020, total recycled water usage 1,228 AFY. **Table 15** shows projected recycled water supply from 2020 through 2045. Recycled water reliability is based on overall wastewater generation and is vital for future water demands.

Table 15: City Projected Recycled Water Supply

Water Supply	Water Supply Description	Projected Water Supply (AFY)					
Year		**2020**	**2025**	**2030**	**2035**	**2040**	**2045**
Recycled Water	DSRSD	1,228	1,500	1,650	1,650	1,800	1,800

5.0 City Water Demands

The existing and projected water demand for the water service area and projected dry year water demands are discussed in this section. California Water Code Section 10910 states that if a project's projected water demand is accounted for in the most recent UWMP, the project planning team may use the UWMP to show that water supply is adequate for the proposed project.

5.1 Existing and Projected Water Demand

The existing water service area demand is from residential, commercial, industrial, and institutional (government) development, agricultural needs, and landscaping. Additional water demand is from groundwater (intentional replenishment of groundwater), saline water intrusion barriers, distribution system losses, and other water demand sources.

Historically, potable water demand within Pleasanton's water service area has fluctuated. Between 2005 and 2015, water demand decreased from 18,060 AFY to 11,355 AFY, which is a 37% decrease mostly associated with the residential sector. However, between 2015 and 2020, water demand rose from 11,355 AFY to 14,779 AFY, a 30% increase also associated with the residential sector.

According to the UWMP, future projected potable water demand is expected to increase by approximately 23% between 2020 and 2045, to 18,236 AFY. **Table 16** shows the 2020 potable water demand and the projected water demand by sector every 5 years through 2045, as reflected in the UWMP. The future projected water demands reported in the UWMP were developed for Zone 7's Regional Demand Study

Table 16: Existing and Projected Potable Water Demand

Water Demand Sector	Projected Water Demand (AFY)					
Year	**2020**	**2025**	**2030**	**2035**	**2040**	**2045**
Single Family Residential	7,904	8,952	9,219	9,485	9,752	9,752
Multi-Family Residential	1,299	1,472	1,515	1,559	1,603	1,603
Commercial	1,215	1,376	1,417	1,458	1,499	1,499
Industrial	58	66	68	70	72	72
Landscape	2,996	3,393	3,494	3,595	3,696	3,696
Losses	1,308	1,482	1,526	1,570	1,614	1,614
Total	**14,779**	**16,740**	**17,239**	**17,737**	**18,236**	**18,236**

Recycled water demand is also projected for every 5 years through 2045. All recycled water use from 2020 is from landscape irrigation, except for 1 AFY that was assumed for dual plumbing use. The total recycled water use in 2020 was 1,227 AFY. It is assumed that recycled water associated with the Housing Element Update would be utilized for landscape irrigation, as described above. **Table 17** shows projected recycled water demand and combined total projected water demand for the water service area, including potable water starting with 2020, with projections every 5 years after that through 2045.

Table 17: Projected Potable and Recycled Water Demand Combined

Water Type	Projected Water Demand (AFY)					
Year	**2020**	**2025**	**2030**	**2035**	**2040**	**2045**
Potable Water Demand	14,779	16,740	17,239	17,737	18,236	18,236
Recycled Water Demand	1,228	1,500	1,650	1,650	1,800	1,800
Total Water Demand	**16,007**	**18,240**	**18,889**	**19,387**	**20,036**	**20,036**

Water utilized by the residential development associated with the Housing Element Update and additional growth is assumed to be potable, except for a small percentage of recycled water used for landscape irrigation at Sites 6, 7, 8, and 29. Those sites are the only proposed Housing Element Update sites near existing recycled water infrastructure and the City currently has no plans to expand the existing recycled water system. As previously stated, the existing proportion of recycled water use in 2020, amounting to 7.67% of total use, was used to estimate total projected recycled water demand for Sites 6, 7, 8, and 29. All water utilized by additional growth outside of the Housing Element Update is not differentiated between potable and recycled for the purposes of this WSA.

5.2 Dry Year Water Supply and Demand

According to the UWMP, local water supply and reliability is directly related to seasonal and climatic changes. In addition, the water supply is directly related to the hydrologic conditions. Consequently, water demand versus supply must be accounted for in dry year conditions. Historical data was reviewed, and projected water supply was determined for a normal year, a single dry year, and a five consecutive year drought. A normal year is where runoff levels most closely represent the average values for the city and a single dry year is where the runoff values are the lowest. Finally, a five consecutive year drought is where the lowest runoff occurs for a 5-year sequence. Single dry year, multi-dry year, and normal year water supply projections are detailed in **Appendix A**.

5.2.1 Single Dry Year and Multi-Dy Year Supply and Demand Conditions

The UWMP utilizes 1965 as the normal water supply year, and 2014 as the single dry year. The UWMP states that Zone 7 water supply will decrease; however, Zone 7 will still be able to provide the projected water demand from 2020 through 2045. Therefore, per the UWMP, water supply is adequate to meet the City's projected water demands during a single dry year.

The five consecutive year drought year supply projection is based on the1987 through 1991 period. These years contain the lowest runoff values for a five consecutive year period. The UWMP states that Zone 7 water supply will decrease; however, Zone 7 will still be able to provide the projected water demand from 2020 through 2045. Therefore, the water supply will be adequate for the City's projected water demand during consecutive multiple dry years.

Table 18 shows total change in projected water demands for the water service area during single dry years and five consecutive year droughts every five years from 2020 through 2045.

Table 18: Single Dry Year and Five Consecutive Year Drought Water Demand

Dry Year Classification	Water Demand % Change	Projected Water Demand (AFY)					
Year		**2020**	**2025**	**2030**	**2035**	**2040**	**2045**
Single Dry Year	0%	16,007	18,240	18,889	19,387	20,036	20,036

Dry Year Classification	Water Demand % Change	Projected Water Demand (AFY)					
Year		**2020**	**2025**	**2030**	**2035**	**2040**	**2045**
Five Consecutive Year Drought	0%	16,007	18,240	18,889	19,387	20,036	20,036

As shown in the table, the UWMP does not project that water demand will change during either a single dry year or multiple consecutive years. However, the City of Pleasanton may still implement additional measures to conserve water. Existing water conservation measures are in place, as discussed in the UWMP. The following are definitions of water waste from the UWMP:

1. Use of potable water between the hours of 9:00 AM and 6:00 PM to irrigate grass, lawns, groundcover, shrubbery, crops, vegetation, and trees.
2. The application of potable water that produces runoff that flows onto adjacent properties, non-irrigated area, private and public walkways, roadways, or parking lots or structures.
3. Use of potable water to irrigate outdoor landscaping during and/or after rainfall events.
4. Use of potable water to wash sidewalks, walkways, driveways, parking lots, or open ground or other hard surfaces.
5. Use of potable water in non-circulatory ponds, fountains, and other water features.
6. Allowing water to escape from breaks within a consumer's plumbing system for more than 8-hours.

To protect water resources, the following City regulations are in place even during normal supply conditions:

1. The use of potable water for washing vehicles or machinery from a hose equipped with a shutoff nozzle is permitted as long as water does not enter storm drain systems.
2. Reduce the interior and exterior water use that produces excessive runoff.
3. Restaurants shall serve water to customers only when requested.
4. Operators of hotels and motels shall offer customers the option to not have linens and towels laundered daily. Notice should be displayed to all customers.
5. The use of water for construction activities should utilize recycled water rather than potable water. Excessive runoff should not occur.
6. Commercial power washing should use recycled water in a way that does not allow detergents to enter the storm drain system.
7. Pools should remain covered when not in use to prevent evaporation. The pools should be equipped with a recirculating pump.
8. The use of potable water in non-circulatory ponds, fountains, and other water features is prohibited.

6.0 Determination of Water Supply Sufficiency Based on the Requirements of SB 610

California Water Code Section 10910 states that water supply must be sufficient for a proposed project during a normal water supply year, single dry year, and multiple dry years during a 20-year water demand projection.

Table 19 provides the total City water usage for 2020, projected water demands for 2025, 2030, 2035, 2040, and 2045, and the yearly demand projection from 2020 to 2025. Note that projected recycled water demands are not provided for the years 2021 through 2024, so the value of 1,500 AFY (same as projected recycled water demand from 2025) is used for these years as an assumption.

Table 19: Projected Water Demand from 2020 through 2045

Water Source	Projected Water Demand (AFY)									
Year	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2030**	**2035**	**2040**	**2045**
Potable Water	14,779	15,246	16,240	16,410	16,570	16,740	17,239	17,737	18,236	18,236
Recycled Water	1,228	1,500	1,500	1,500	1,500	1,500	1,650	1,650	1,800	1,800
Total	16,007	16,746	17,740	17,910	18,070	18,240	18,889	19,387	20,036	20,036

The projections provided by the UWMP include the projected eight-year period of the Housing Element Update combined with additional growth, 2023 through 2031. Therefore, the total projected water demand associated with the Housing Element Update for the years 2023, 2024, 2025, 2030, and 2035 plus existing demand (based on 2020 actual usage) were compared to the total water demand projections for the City stated in the UWMP.

The Housing Element Update and additional growth-related water demands would continue after 2031 as it is assumed the proposed residential developments would continue to be occupied. Water demand projections are extended through 2045 to compare to UWMP projections. Water demand projections after 2031 are assumed at 100% of water demand associated with the Housing Element Update, approved or entitled projects, and approximately 50% of 5th Cycle carryover projects, 50% of existing zoning with additional capacity, and approximately 50% of additional ADUs because the residential developments are assumed to be 100% occupied from 2031, the horizon year, to 2045. The remaining water demand associated with 50% of 5th Cycle carryover projects, 50% of existing zoning locations, and 50% of additional ADUs increase linearly from 2023 (baseline) through 2045.

Much of the projected water demand is associated with the years 2023 through 2031. Smaller increases in projected water demand exist due to additional growth and climate change which are mitigated due to the water conservation measures as discussed previously. If the projected water demand values associated with the Housing Element Update and additional growth are added to the 2020 actual water use value of 16,007 AFY, it can be determined whether the projected water demand associated with the Housing Element Update plus additional growth falls within the City's total water demand projections.

Table 20 shows the comparison of the 2020 water use value, plus the projected demand associated with the implementation of the Housing Element Update and additional growth, against the City's total water demand projections for each of the above-referenced years between 2023 and 2045. Also, as stated prior it has been

determined that the water supply will be sufficient to supply the City's projected water demands during single year and multi-year droughts, so the comparison shown below would be unchanged in the event of drought conditions.

Table 20: Housing Element Update Plus Additional Growth Water Demands Vs. City's Total Water Demand Projections

Water Supply	Projected Water Demand (AFY)						
Year	**2023**	**2024**	**2025**	**2030**	**2035**	**2040**	**2045**
2020 Actual Water Use	16,007	16,007	16,007	16,007	16,007	16,007	16,007
Water Demand Associated with Housing Element Update	0	404	797	2,767	3,189	3,215	3,241
Water Demand Associated with Additional Growth	0	100	198	687	867	969	1,072
City's Total Projected Water Demand per UWMP	17,910	18,070	18,240	18,889	19,387	20,036	20,036
Surplus/ Deficiency	**1,903**	**1,559**	**1,238**	**(572)**	**(676)**	**(155)**	**(284)**

As shown in the table, the water demand projections associated with the Housing Element Update and additional growth fall within the City's total water demand projections for the years 2023 through 2025. However, the City's total water demand projections exceed anticipated supply for the years following 2025 with the largest exceedances occurring in 2030 and 2035.

It should be noted that the water demand projections for the Housing Element Update are conservative. The average daily water demand per capita in this assessment of 159 GPCD is based on total water used in 2020, which includes residential, commercial, industrial, and landscape consumption combined. The residential portion makes up approximately 62% of all water used. Additional water uses within residential developments like community green spaces, trees, landscaping, and shrubbery require additional water use. Therefore, the conservative value of 159 GPCD was used to account for these additional demands. In addition, more water conservation measures may take effect in the coming years that could decrease water use per capita.

This WSA conservatively analyzes impacts of the development of all the potential sites for rezoning listed above, at their maximum allowable density for the proposed Housing Element Update as well as sites with additional growth, which generates significantly more residential units than are needed to strictly meet the Regional Housing Need Allocation assigned to the City for the forthcoming 8-year Housing Element Update cycle. The City of Pleasanton has discretion to identify the appropriate housing sites to meet Housing Element Update objectives, while also considering additional growth, provided that such sites are determined to have sufficient realistic development capacity to accommodate the RHNA. As such, it is possible that not all the sites analyzed in this WSA would be subject to rezoning, nor that every site will develop at their maximum density. Therefore, this approach provides a conservative analysis with respect to water supply/demand impacts. Overall, projected water demand associated

with the Housing Element Update and additional growth is within 5% of the City's overall demand projections for all years between 2023 and 2045.

7.0 Water Supply Assessment Approval Process

The Housing Element Update could facilitate the development of more than 500 dwelling units; however, the Housing Element Update is a planning document, not a specific development project, and it therefore does not directly trigger the need for a WSA as defined by California Water Code. Nonetheless, a WSA was prepared for the Housing Element Update to provide a well-informed analysis of potential impacts to water supply availability and reliability. A summary of the water supply available and whether it is sufficient to supply the Housing Element Update is provided below.

For Normal year water supply, single dry year water supply, and multi-dry year water supply Zone 7 is able to provide enough water supply to account for the City's water demand projections from 2020 through 2045. The Main Basin's current storage remains significantly above historical lows, and additional projects and water conservation measures are underway for Zone 7 to meet future demands. Zone 7 is working to increase water supply sources to the City and surrounding areas to account for increasing population and climate changes. The Housing Element Update combined with additional growth has a projected water demand of 3,955 AFY in the horizon year of 2031 and a projected water demand of 4,313 AFY in 2045. These values, combined with the total water use from 2020, falls within the water demand projections reported in the UWMP for the years 2023 through 2025, but exceed projections reported in the UWMP for the years 2030 through 2045. There are exceedances of approximately 3.5% and 1.5% for the horizon years of 2031 and 2045, respectively. All exceedances for the years 2030 through 2045 fall within 5% of UWMP projections, and combined with this very conservative analysis, these exceedances can be found to be less than significant. However, additional water supply sources may be necessary to accommodate the Housing Element Update combined with additional growth. Based on projected Zone 7 water supplies, Zone 7 has the capacity to account for the exceedances. See addendum following this section for additional groundwater discussion.

8.0 Addendum

This section describes the City's current elevated PFAS levels in the groundwater and how it relates to the proposed Housing Element Update and additional growth. Due to the elevated pollutants of concern in the groundwater supply, all groundwater supply may not be available to the City, which would affect or make less certain the aforementioned conclusion that there would be adequate water supply to meet future needs. Alternative solutions to water supply deficiencies are discussed in this section as well, however, a solution has not yet to be determined.

8.1 City of Pleasanton Groundwater Elevated Pollutants of Concern

The SWRCB issued a Zone 7 and City groundwater testing PFAS investigation in March of 2019. Furthermore, the investigation duration was extended in September of 2020 for continued testing. The groundwater investigation revealed PFAS detection in the City's groundwater. PFAS are a group of thousands of chemicals that have been used since the 1940s in common consumer products that have potential health impacts and a tendency to accumulate in groundwater. The City currently manages three groundwater supply wells, Wells 5, 6, and 8, that supply water to the City. Specifically, PFOS were detected above response levels in Well 8, and therefore Well 8 has been taken out of commission and has not been operated since June of 2019. In addition to the elevated PFOS levels detected in Well 8, additional PFAS including PFOA and PFOS have been detected in all City's groundwater supply wells. It has since been determined that Wells 5 and 6 will be taken out of commission no later than the first quarter of 2023. This means all groundwater supply will cease during the first quarter of 2023. Groundwater well elevated PFAS levels are shown in **Appendix G** for 2019 through 2020.

Approximately 20% of all City water supply comes from the groundwater supply wells discussed above. The remaining 80% of the City's water supply comes from Zone 7, the City's sole wholesale water supplier. Zone 7 has not indicated any impacts to water supply for Pleasanton as a result of the elevated pollutants of concern in groundwater. The elevated pollutant levels in the groundwater supply directly affects water supply available to account for the proposed Housing Element Update and additional growth. Without its own groundwater supply available to the City, the projected water supply is not enough to account for the projected water demand associated with the proposed redevelopment, absent replacement or restored sources.

8.2 Water Supply Deficiency and the Proposed Redevelopment

As shown in **Table 20** from section 6, projected water demand associated with Housing Element Update and additional growth for the years 2023, 2024, 2025, 2030, 2035, 2040, and 2045 have been added to the actual water use value from 2020 (UWMP) to determine the total projected water demand for the City. These values were compared to the UWMP's reported water supply projections for the same set of years to determine whether there are expected water supply deficiencies associated with the proposed redevelopment. It was determined that projected water supply was within 5% of projected water demand for all years in the analysis; however, this analysis includes the City's expected use of groundwater supply.

With all City groundwater supply wells being taken out of commission, and unless the supply is either replaced or restored, there will be a significant projected water supply deficiency for all years reported in the analysis. The City's total projected water supply minus the approximate 20% groundwater supply is shown in **Table 21** for the years 2023, 2024, 2025, 2030, 2035, 2040, and 2045. These updated values represent the projected water supply to be available for the City after groundwater supply decommission.

Table 21:City Projected Water Supply/Demand Minus Groundwater Supply

Water Supply	Projected Water Demand (AFY)						
Year	**2023**	**2024**	**2025**	**2030**	**2035**	**2040**	**2045**
City's Projected Water	17,910	18,070	18,240	18,889	19,387	20,036	20,036

Water Supply	Projected Water Demand (AFY)						
Year	**2023**	**2024**	**2025**	**2030**	**2035**	**2040**	**2045**
Supply/Demand per UWMP							
City's Total Projected Water Supply Minus 20% From Groundwater	14,328	14,456	14,592	15,111	15,510	16,029	16,029

Without the groundwater supply to the City, there will not be enough water available to account for the projected water demand for the City's proposed Housing Element Update and additional growth. The water supply deficiency associated with the proposed redevelopment is shown in **Table 22**.

Table 22: Water Supply Deficiency Associated with Proposed Redevelopment

Water Supply	Projected Water Demand (AFY)						
Year	**2023**	**2024**	**2025**	**2030**	**2035**	**2040**	**2045**
2020 Actual Water Use	16,007	16,007	16,007	16,007	16,007	16,007	16,007
Water Demand Associated with Housing Element Update	0	404	797	2,767	3,189	3,215	3,241
Water Demand Associated with Additional Growth	0	100	198	687	867	969	1,072
City's Total Projected Water Supply/Demand Minus 20% From Groundwater	14,328	14,456	14,592	15,111	15,510	16,029	16,029
Deficiency	**(1,679)**	**(2,055)**	**(2,410)**	**(4,350)**	**(4,553)**	**(4,162)**	**(4,291)**

As shown in the table, the proposed redevelopment combined with existing City water demands results in a water supply deficiency for all years reported in the WSA analysis. The deficiency ranges from approximately 12% to 30% with the largest deficiencies occurring in the years 2030 and 2035. The resulting water supply deficiency is considered to be significant, and water supply will not be sufficient to account for the proposed redevelopment. Alternative water supply to the City may be necessary to account the project's projected water demand. Additionally, based on UWMP reported City water supply and demand values, the decommissioning of all City groundwater wells will create a projected water supply deficiency in the City even without the proposed development.

8.3 City Water Supply Alternative Options

The City of Pleasanton is actively exploring alternative water supply options to account for the loss of groundwater supply. As a result of the 2019 and 2020 PFAS groundwater investigation, the City began consideration of a PFAS and groundwater well rehabilitation project, and proceeded with work to implement this project including preparation of designs, and CEQA review. This project is intended to extend the life of the existing groundwater supply wells as safe, reliable, and locally controlled sources of groundwater, by approximately 30 years. The project will include the following components:

1. Rehabilitate the existing Well 8 facility (out of commission since 2019) and restore its original pumping capacity;
2. Construct a new Well 9 facility to replace existing Well 5 facility;
3. Rehabilitate existing Well 6 facility (to be renamed Well 10) including construction of a new well casing. The existing pumping capacity will be maintained;
4. Construct a centralized treatment facility (CTF) for disinfection, fluoridation, and PFAS treatment of the City's groundwater prior to distribution;
5. Install pipeline to convey raw groundwater from the well facilities to the CTF; and
6. Replace and upsize 1,600 feet of treated water distribution main to allow the treated groundwater to be distributed from a centralized location.

The estimated cost of the project is $46 million and is being updated to reflect the current state of the economy. All environmental applications have been submitted; however financial applications have not been submitted. Although this project will remediate the elevated PFAS levels, the City has recommended that work to pursue this project be paused for the following reasons:

1. The project cost may rise as much as 30% due to economic conditions and inflation;
2. The City does not currently own or operate a water treatment plant, and the proposed PFAS treatment facility will require additional staff and significant operational costs;
3. A changing regulatory environment will continue to add uncertainty and potential liability to the City; and
4. Acceptable contaminant levels are declining and may require continual changes in treatment techniques and technologies required.

With the suspension of the groundwater well rehabilitation project described above, more alternative water supply options are being considered by the City to replace the deficiency associated with the loss of groundwater supply. The additional options being considered include the following:

1. Drilling and implementation of new City wells with or without PFAS treatment, depending on the location of the wells. This option will require test drilling and groundwater sampling;
2. Discussion between Zone 7 and the City has taken place to discuss the option of Zone 7 providing 100% of all water supply, both in the near term and in the future; and
3. Consideration of purchasing water supply from outside Zone 7.

The City could also opt to re-start work on the well rehabilitation and treatment project that was put on hold, and on which substantial progress has been made to date.

Several options have been explored by the City to accommodate water supply deficiencies. Further, as noted above, the analysis of projected demand associated with the project was made on an extremely conservative basis, and it is likely that the margin of undersupply will be substantially less than that enumerated above, and possibly even within the range of available supply with or without the replacement of groundwater supply that will be taken off-line in 2023.

However, supply replacement options have not been confirmed and a final decision has not been made to replace the lost water supply, nor has it been determined whether any of the alternative options discussed above will replace the entire water supply deficiency. Given this uncertainty, this WSA reaches the most conservative conclusion regarding adequacy of supply.

8.4 Conclusions and Recommendations

Although the WSA analysis of proposed redevelopment is very conservative, decommissioning of all City groundwater supply wells results in projected water supply that will not be sufficient to accommodate the Housing Element Update and additional growth if no replacement supply or ability to restore local wells is found.

The City's current projected water demand combined with the proposed redevelopment results in a 12% to 30% water supply deficiency during the years 2023 through 2045 reported in the WSA analysis. In addition, there will be an overall water supply deficiency to the City based on UWMP water supply and demand projections, even without the proposed redevelopment as allowed by the Housing Element. The City is actively exploring ways to replace the groundwater supply loss (approximately 20% of all water supplied to the City) with alternative options including Zone 7 providing 100% of the City's water supply, additional groundwater wells, and outside purchase of water supply, and possible resumption of efforts to rehabilitate existing City wells and offer local water treatment; however, a solution has not yet been determined. It is also recommended that the City explore new water supply interconnects, investigate water recycling, evaluate stormwater capture possibilities, and implement greater water conservation measures to balance water supply and demand.

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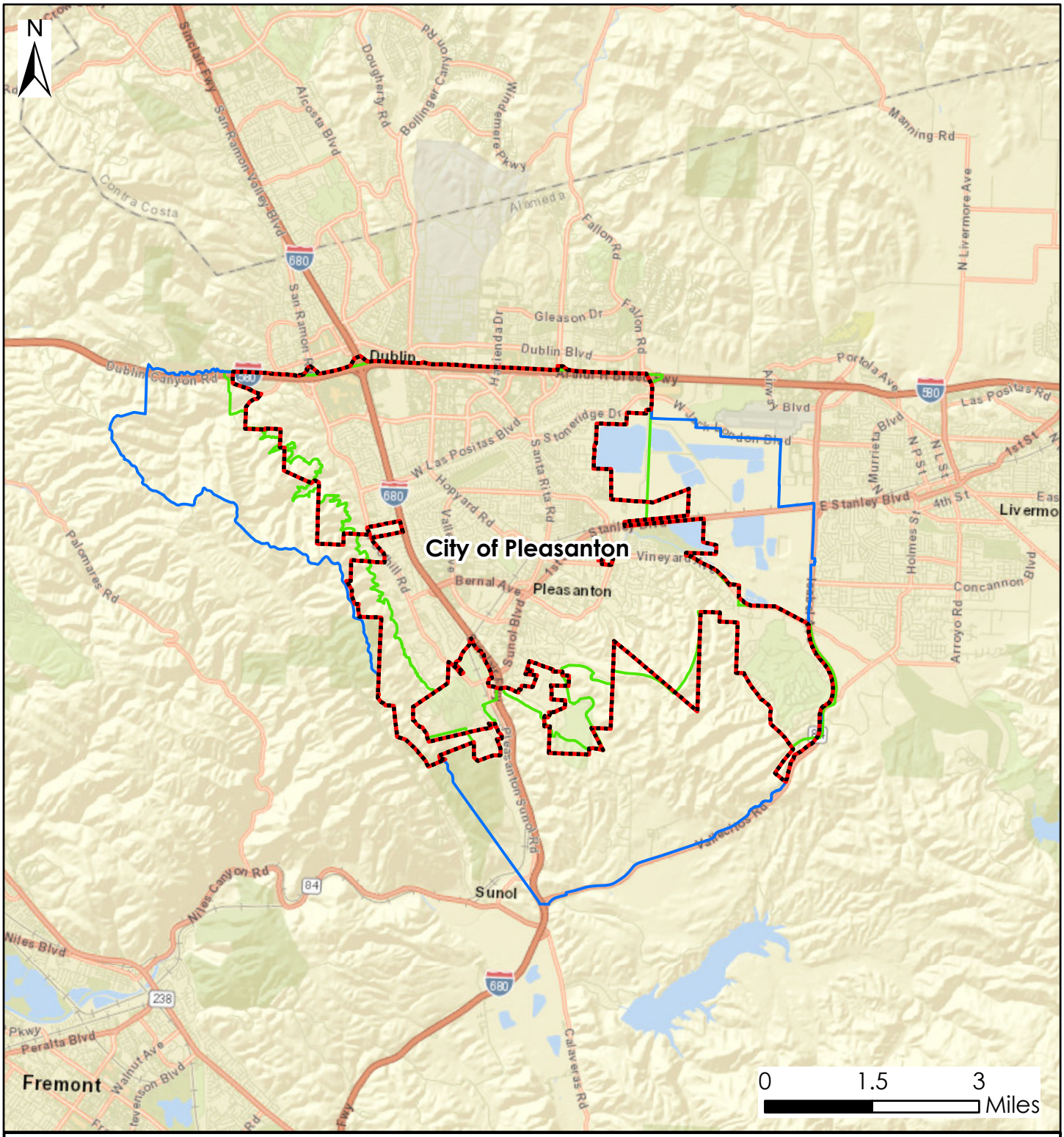
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Exhibits



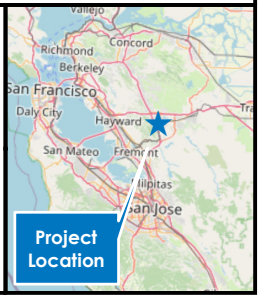
City of Pleasanton Water Supply Assessment

Exhibit 1 - Site Vicintiy Map

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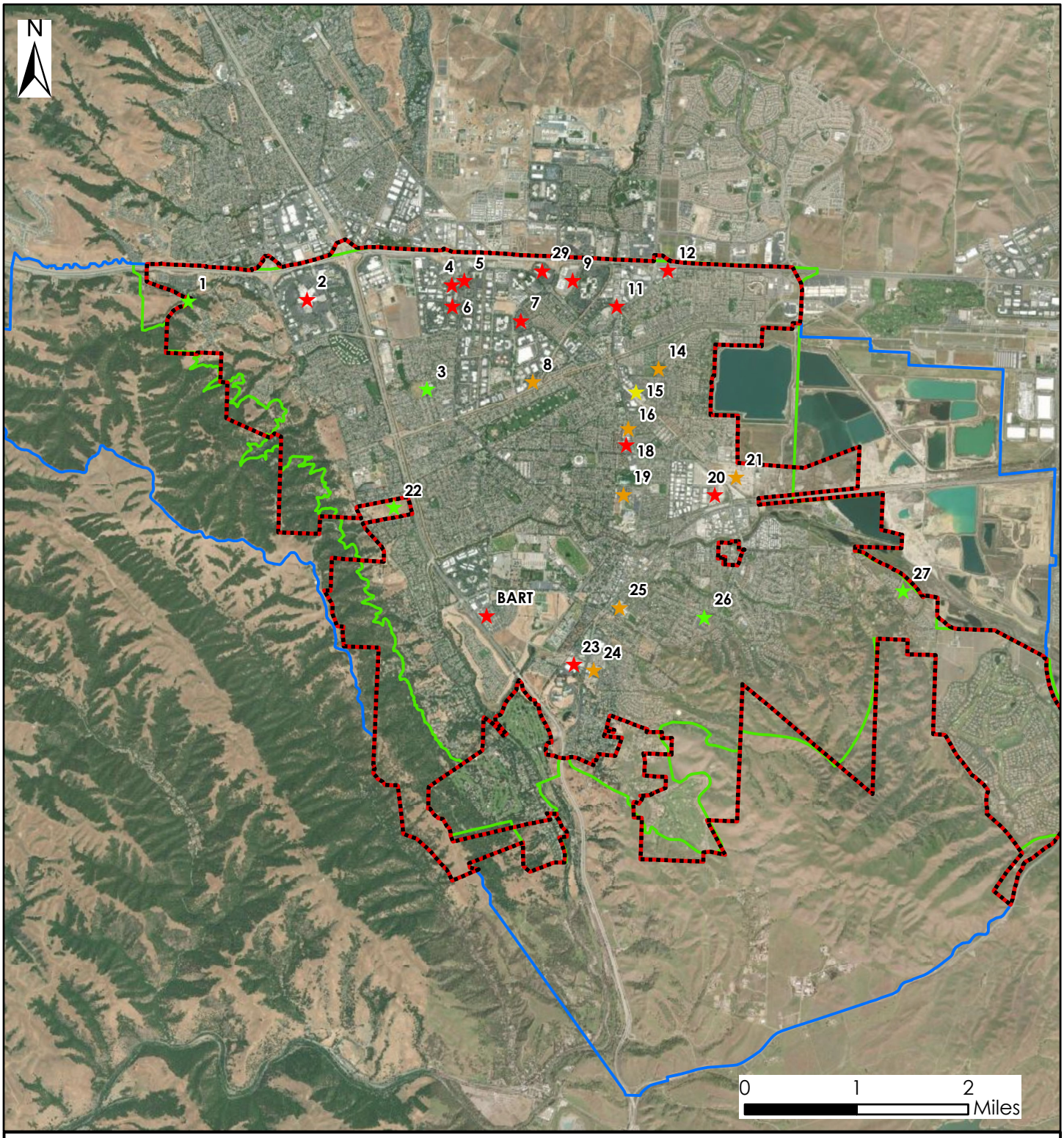
Legend

- City of Pleasanton City Limits
- Sphere of Influence
- Urban Growth Boundary



21-071.0
J. Liby - March 14, 2022

Datum: NAD83, Units: US Feet
Sources: Google Earth, City of Pleasanton



City of Pleasanton Water Supply Assessment

Exhibit 2 - City of Pleasanton Project Sites

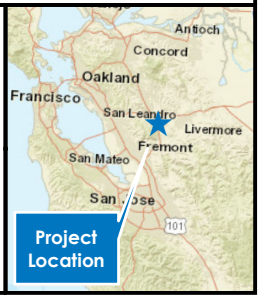
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Project Site Density Class

- Low
- Low/Medium
- Medium
- High

- City of Pleasanton City Limits
- Sphere of Influence
- Urban Growth Boundary



21-071.0
J. Liby - March 14, 2022

Datum: NAD83, Units: US Feet
Sources: Google Earth, City of Pleasanton



City of Pleasanton Water Supply Assessment

Exhibit 3 - City of Pleasanton Site 18 - Valley Plaza

Watearth

Legend

- Project Sites
- Site 18 (Valley Plaza) Boundary



21-071.0
J. Liby - March 14, 2022

Datum: NAD83, Units: US Feet
Sources: Google Earth, City of Pleasanton

Appendix A

City of Pleasanton 2020 UWMP

FINAL REPORT | JUNE 2021

2020 Urban Water Management Plan



PREPARED FOR

THE CITY OF PLEASANTON

PREPARED BY

WEST YOST
Water. Engineered.

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2020 Urban Water Management Plan

Prepared for

City of Pleasanton

Project No. 680-60-20-04



Project Manager: Elizabeth T. Drayer, PE — June 1, 2021 (Date)



QA/QC Review: Jim Connell, PE — June 1, 2021 (Date)

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FINAL REPORT | JUNE 2021

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LIST OF ACRONYMS AND ABBREVIATIONS

2019 DCR	Final 2019 State Water Project Delivery Capability Report
AB	Assembly Bill
ABAG	Association of Bay Area Governments
ACS	American Community Survey
Act	Urban Water Management Planning Act
ACWD	Alameda County Water District
AF	Acre-Feet
AFY	Acre-Feet of Water Annually
AMI	Advanced Metering Infrastructure
AWIA	America's Water Infrastructure Act
BARDP	Bay Area Regional Desalination Project
BARR	Bay Area Regional Reliability
BART	Bay Area Rapid Transit
BAWSCA	Bay Area Water Supply and Conservation Agency
CASGEM	California Statewide Groundwater Elevation Monitoring
CCWD	Contra Costa Water District
cfs	Cubic Feet Per Second
CII	Commercial, Industrial, and Institutional
CIMIS	California Irrigation Management Information System

CIP	Capital Improvement Program
City	City of Pleasanton
COA	Coordinated Operations Agreement
CPI	Consumer Price Index
Cr(VI)	Hexavalent Chromium
CVP	Central Valley Project
CWC	California Water Code
DBPs	Disinfectant Byproducts
DCP	Delta Conveyance Project
DERWA	DSRSD-EBMUD Recycled Water Authority
DMMs	Demand Management Measures
DOC	Dissolved Organic Carbon
DOF	Department of Finance
DRA	Drought Risk Assessment
DSRSD	Dublin San Ramon Services District
DWR	Department of Water Resources
DWR Guidebook	2020 Urban Water Management Plans Guidebook for Urban Water Suppliers
EBDA	East Bay Dischargers Authority
EBMUD	East Bay Municipal Utility District
EIR	Environmental Impact Report
ESD	Environmental Services Division
ESS	Environmental Services Specialist
ET_o	Evapotranspiration
FEMA	Federal Emergency Management Agency
GHG	Greenhouse Gas
GIS	Geographic Information System
GPCD	Gallons Per Capita Per Day
gpm	Gallons Per Minute
GPQ	Groundwater Pumping Quota
GSA	Groundwater Sustainability Agency
HCD	California State Department of Housing and Community Development
IPR	Indirect Potable Reuse
kWh	Kilowatt-hours
LAVWMA	Livermore Amador Valley Water Management Agency
LF	Linear Feet
LHMP	Local Hazard Mitigation Plan
LWRP	Livermore Water Reclamation Plant
M&I	Municipal and Industrial
MCL	Maximum Contaminant Level

MFUV	Microfiltration Filtration and Ultraviolet Disinfection Facilities
MG	Million Gallon
MGD	Million Gallons Per Day
MGDP	Mocho Groundwater Demineralization Plant
MMWD	Marin Municipal Water District
MTC	Metropolitan Transportation Commission
NAICS	North American Industry Classification System
NMP	Nutrient Management Plan
NOP	Notice of Preparation
PFAS	Polyfluoroalkyl Substances
PG&E	Pacific Gas and Electric
PMC	Pleasanton Municipal Code
RHNA	Regional Housing Needs Allocation
RRA	Risk and Resilience Assessment
RUWMP	Regional Urban Water Management Plan
RW Project	Recycled Water Project
RWQCB	Regional Water Quality Control Board
RWTF	Regional Wastewater Treatment Facility
SB	Senate Bill
SB X7-7	Water Conservation Act of 2009
SBA	South Bay Aqueduct
SCADA	Supervisory Control and Data Acquisition
SFPUC	San Francisco Public Utilities Commission
SFUV	Sand Filtration and Ultraviolet Disinfection Facilities
SGMA	Sustainable Groundwater Management Act
SMP	Salt Management Plan
SRVRWP	San Ramon Valley Recycled Water Program
SWP	State Water Project
SWRCB	State Water Resources Control Board
T&O	Taste and Odor
TAF	Thousand Acre-Feet
TDS	Total Dissolved Solids
TOC	Total Organic Carbon
TOD	Transit-Oriented Development
TRE	TRE Altamira
USGS	United States Geological Survey
UV	Ultraviolet Light
UWMP	Urban Water Management Plan
WSCP	Water Shortage Contingency Plan

WSE	Water Supply Evaluation
WTP	Water Treatment Plant
WUE	Water Use Efficiency
Zone 7	Zone 7 Water Agency

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EXECUTIVE SUMMARY

An Urban Water Management Plan (UWMP) helps water suppliers assess the availability and reliability of their water supplies and current and projected water use to help ensure reliable water service under different conditions. This water supply planning is especially critical for California currently, as climate change alters rainfall and snowfall (impacting water supply availability) and development occurs statewide (increasing the need for reliable water supplies). The Urban Water Management Planning Act (Act) requires larger water suppliers that provide water to urban users (whether directly or indirectly) to develop UWMPs every five years. UWMPs evaluate conditions for the next 20 years, so these regular updates ensure continued, long-term planning.

The City of Pleasanton (City) is a water retailer (also referred to as a retail water agency), meaning it sells water directly to individual water users (e.g., residents and businesses). The City purchases most of its water supplies from Zone 7 Water Agency (Zone 7). Besides the City, Zone 7's retailers consist of the California Water Service (Cal Water), the City of Livermore (Livermore), and the Dublin San Ramon Services District (DSRSD). Because the City provides water to more than 3,000 users, it is required to prepare a UWMP.

This Executive Summary serves as a Lay Description of the City's UWMP, as required by California Water Code §10630.5.

CALIFORNIA WATER CODE REQUIREMENTS

The California Water Code documents specific requirements for California water suppliers. The Act is included in the California Water Code and specifies the required elements of a UWMP, including discussing an agency's water system and facilities, calculating how much water its customers use (i.e., water demand) and how much it can supply, and detailing how it would respond during a drought or other water supply shortage. Also, a UWMP must describe what specific coordination steps were taken to prepare, review, and adopt the plan.

The Act has been revised over the years. The Water Conservation Act of 2009 (also known as SB X7-7) required retail water agencies to establish water use targets for 2015 and 2020 that would result in statewide water savings of 20 percent by 2020. In 2020, retail water agencies are required to report on their compliance with SB X7-7.

The 2012 to 2016 drought led to further revisions to the Act to improve water supply planning for long-term reliability and resilience to drought and climate change. These revisions were formalized in the 2018 Water Conservation Legislation and include:

- Five Consecutive Dry-Year Water Reliability Assessment: Analyze water supply reliability for five consecutive dry years over the planning period of this UWMP (see Chapter 7).
- Drought Risk Assessment: Assess water supply reliability from 2021 to 2025 assuming that the next five years are dry years (see Chapter 7).
- Seismic Risk: Identify the seismic risk to the agency's water facilities and have a plan to address identified risks; the region's Local Hazard Mitigation Plan may address this requirement (see Chapter 8).
- Energy Use Information: If data are available, include reporting on the amount of electricity used to obtain, treat, and distribute water (see Chapter 6).

- Water Shortage Contingency Plan (WSCP): Update the City's plan to include an annual process for assessing potential gaps between planned water supply and demands; conform with the State's standard water shortage levels (including a shortage level greater than 50 percent) for consistent messaging and reporting; and provide water shortage responses that are locally appropriate (see Chapter 8).
- Lay Description: Provide a lay description of the findings of the UWMP; this Executive Summary serves as the "Lay Description" for this 2020 UWMP.

Major components and findings of the City's 2020 UWMP are summarized below.

CITY WATER SYSTEM

The City's water facilities produce, treat, store, and deliver drinking (i.e., potable) water to its customers, which include City residents and commercial customers, as well as approximately 250 customers in unincorporated Alameda County.

The City produces water by pumping it from City-owned wells (groundwater) and purchasing treated water from Zone 7. Groundwater is treated before it enters the distribution system. The City also owns and operates an extensive network of pipelines and pumping facilities to deliver drinking water to its customers.

Besides drinking water, the City delivers recycled water to a portion of customers within its service area, mainly for landscape irrigation. Recycled water is highly treated wastewater that can be used for non-potable purposes like landscape irrigation, toilet flushing, and cooling. The City owns and operates a separate storage and pipeline system for recycled water.

WATER USE BY CITY CUSTOMERS

The City anticipates growth in the next 20 years, which would increase its demand for water. Thorough and accurate accounting of current and future water demands is critical for the City's planning efforts. To continue delivering safe and reliable drinking water, the City must know how much water its customers currently use and how much they expect to use in the future.

The City coordinated closely with Zone 7 to estimate water demands through the year 2045. This process involved reviewing the City's development and planning documents. The City's potable and recycled water demand is expected to increase approximately 23 and 47 percent (from 2020 levels), respectively, by 2045. Most of that growth is expected in the next ten years.

CITY WATER SUPPLIES

The City's water supplies consist of purchases from Zone 7 (approximately 80 percent of supply in 2020) and groundwater pumped by the City (approximately 20 percent of supply in 2020). Of Zone 7's supplies, imported water from the State Water Project makes up approximately 80 percent, with the remainder coming from groundwater and local surface water.

The future reliability of Zone 7's imported water is a concern. Drought, sea level rise, and natural disasters threaten the Sacramento-San Joaquin Delta (Delta), a critical component of the delivery system bringing water to Zone 7. As a result, Zone 7 is participating in various projects that would provide alternate water supplies or protect the existing delivery system against threats. These projects include installing a pipeline system beneath the Delta, desalinating brackish water (water with high salt content), reusing highly treated wastewater, and participating in the construction of a new reservoir to store surplus water in wet years.

Based on Zone 7's efforts and the City's continued use of groundwater, the City's future water supplies are expected to keep pace with its water demands.

CONSERVATION TARGET COMPLIANCE

In its 2015 UWMP, the City achieved its interim water use target and confirmed its 2020 water use target based on 2010 Census data. In 2020, the City achieved its 20 percent reduction target in accordance with SB X7-7. This achievement was the result of continued water conservation by its customers following the recent drought, in addition to the conversion of potable water use for irrigation to recycled water along the recently constructed recycled water distribution system.

CITY WATER SERVICE RELIABILITY

The California Water Code asks agencies to evaluate their water service reliability by examining the impact of drought on their water supplies and comparing those reduced supplies to water demands. Specifically, agencies should calculate their water supplies during a single dry year and five consecutive dry years using historical records. For example, the City can estimate its groundwater supply during a single dry year by looking at how much it pumped during the driest year on record. If that historical "dry year" amount was reduced by 10 percent, then the City can conservatively assume a similar 10 percent reduction in groundwater supplies in a future dry year.

The City is well-positioned to withstand the effects of a single dry year and a five-year drought. The City's drought risk was specifically assessed between 2021 and 2025, assuming that the next five years are dry years. Based on Zone 7's ability to meet all its water demands during dry conditions, the City is expected to have enough water supplies to meet water demands for a five-year drought beginning in 2021. This remains true for five-year droughts beginning in 2025, 2030, 2035, 2040, and 2045.

WATER SHORTAGE CONTINGENCY PLAN

A WSCP describes an agency's plan for preparing for and responding to water shortages. The City updated its WSCP to include its process for assessing potential gaps between planned water supply and demands for the current year and the next potentially dry year. The City aligned its water shortage levels with the State for consistent messaging and planned for locally appropriate water shortage responses. The WSCP may be used for foreseeable and unforeseeable events and is adopted concurrently with this UWMP by separate resolution to allow for updates as conditions change.

UWMP PREPARATION, REVIEW, AND ADOPTION

The City developed this 2020 UWMP in coordination with Zone 7 and the public. While preparing its UWMP, the City notified other stakeholders (e.g., Alameda County, Cal Water, Livermore, DSRSD) of its preparation, its availability for review, and the public hearing prior to adoption. The City encouraged community participation in the development of the 2020 UWMP using newspaper advertisements and web-based communication. These public notices included the time and place of the public hearing, as well as where the plan would be available for public inspection.

The public hearing provided an opportunity for the City's water users and the general public to become familiar with the 2020 UWMP and ask questions about the City's water supply, its continuing plans for providing a reliable, safe, high-quality water supply, and its plans to address potential water shortages. Following the public hearing, the City Council adopted the 2020 UWMP on June 1, 2021. A copy of the adopted UWMP was submitted to the Department of Water Resources and is available on the City's website (www.cityofpleasantonca.gov).

CHAPTER 1
Introduction

This chapter provides an introduction and overview of the City of Pleasanton's (City) 2020 Urban Water Management Plan (UWMP) including the importance and extent of the City's water management planning efforts, changes since the preparation of the City's 2015 UWMP, and the organization of the City's 2020 UWMP. This 2020 UWMP has been prepared jointly by City staff and West Yost.

1.1 INTRODUCTION

The Urban Water Management Planning Act (Act) was originally established by Assembly Bill (AB) 797 on September 21, 1983. Passage of the Act was recognition by state legislators that water is a limited resource and a declaration that efficient water use and conservation would be actively pursued throughout the state. The primary objective of the Act is to direct "urban water suppliers" to develop a UWMP that provides a framework for long-term water supply planning and documents how urban water suppliers are carrying out their long-term resource planning responsibilities to ensure adequate water supplies are available to meet existing and future water demands. A copy of the current version of the Act, as incorporated in Sections 10610 through 10657 of the California Water Code, is provided in Appendix A of this plan.

1.2 IMPORTANCE AND EXTENT OF CITY'S WATER MANAGEMENT PLANNING EFFORTS

The purpose of the UWMP is to provide a planning tool for the City for developing and delivering municipal water supplies to the City's water service area. This UWMP provides the City with a water management action plan for guidance as water supply and demand conditions change.

The City has had a long history of providing clean and reliable water to its customers. The City's UWMP is a comprehensive guide for planning for a safe and adequate water supply.

1.3 CHANGES FROM 2015 UWMP

The Act has been modified over the years in response to the State's water shortages, droughts, and other factors. A significant amendment was made in 2009, after the 2007 to 2009 drought, and as a result of the Governor's call for a statewide 20 percent reduction in urban water use by the year 2020. This was the Water Conservation Act of 2009, also known as Senate Bill Seven of the Senate's Seventh Extraordinary Session of 2009 (SB X7-7). This act required agencies to establish water use targets for 2015 and 2020 that would result in statewide water savings of 20 percent by 2020. The 2012 to 2016 drought led to further amendments to the CWC to improve water supply planning for long-term reliability and resilience to drought and climate change.

Summarized below are the major additions and changes to the CWC since the City's 2015 UWMP was prepared.

- **Five Consecutive Dry-Year Water Reliability Assessment** [CWC §10635(a)]. The Legislature modified the dry-year water reliability planning from a "multi-year" time period to a "drought lasting five consecutive water years" designation. This statutory change requires the urban water supplier to analyze the reliability of its water supplies to meet its water use over an extended drought period. This requirement is addressed in the water use assessment presented in Chapter 4; the water supply analysis presented in Chapter 6; and the water reliability determinations in Chapter 7 of this plan.
- **Drought Risk Assessment** [CWC §10635(b)]. The California Legislature created a new UWMP requirement for drought planning because of the significant duration of recent California droughts and the predictions about hydrological variability attributable to climate change. The Drought Risk Assessment (DRA) requires the urban water supplier to assess water supply reliability over a five-year period from 2021 to 2025. The assessment must examine water supplies, water uses, and the resulting water supply reliability under a reasonable prediction for five consecutive dry years. The DRA is discussed in Chapter 7 based on the water use information in Chapter 4; the water supply analysis in Chapter 6; and the water reliability determinations in Chapter 7 of this plan.
- **Seismic Risk** [CWC §10632.5]. The CWC now requires urban water suppliers to specifically address seismic risk to various water system facilities and to have a mitigation plan. Water supply infrastructure planning is correlated with the regional hazard mitigation plan associated with the urban water supplier. The City's seismic risk is discussed in Chapter 8 of this plan.
- **Energy Use Information** [CWC §10631.2]. The CWC now requires urban water suppliers to include readily obtainable information on estimated amounts of energy for their water supply extraction, treatment, distribution, storage, conveyance, and other water uses. The reporting of this information was voluntary in 2015. The City's energy use information is provided in Chapter 6 of this plan.
- **Water Loss Reporting for Five Years** [CWC §10608.34]. The CWC added the requirement to include the past five years of water loss audit reports as part of this UWMP. The City's water loss reporting is provided in Chapter 4 of this plan.
- **Water Shortage Contingency Plan [**CWC §10632]. In 2018, the Legislature modified the UWMP laws to require a Water Shortage Contingency Plan (WSCP) with specific elements. The WSCP is a document that provides the urban water supplier with an action plan for a drought or catastrophic water supply shortage. Although the new requirements are more prescriptive than previous versions, many of these elements have long been included in WSCPs, other sections of UWMPs, or as part of the urban water supplier's standard procedures and response actions. Many of these actions were implemented by the urban water suppliers during the last drought to successfully meet changing local water supply challenges. The WSCP is used by DWR, the State Water Resources Control Board (SWRCB), and the Legislature in addressing extreme drought conditions or statewide calamities that impact water supply availability. The City's WSCP is presented in Chapter 8 and Appendix K of this plan.

- **Groundwater Supplies Coordination** [CWC §10631(b)(4)]. In 2014, the Legislature enacted the Sustainable Groundwater Management Act to address groundwater conditions throughout California. The CWC now requires 2020 UWMPs to be consistent with Groundwater Sustainability Plans in areas where those plans have been completed by Groundwater Sustainability Agencies. This requirement is addressed in Chapter 6 of this plan.
- **Lay Description** [CWC §10630.5]. The Legislature included a new statutory requirement for the urban water supplier to include a lay description of the fundamental determinations of the UWMP, especially regarding water service reliability, challenges ahead, and strategies for managing reliability risks. This section of the UWMP could be viewed as a go-to synopsis for new staff, new governing members, customers, and the media, and it can ensure a consistent representation of the urban water supplier's detailed analysis. This requirement is addressed in the Executive Summary of this plan.
- **Water Loss Management** [CWC §10608.34(a) (1)]. The Legislature included a requirement for urban water suppliers to report on their plan to meet the water loss performance standards in their 2020 UWMPs. This requirement is addressed in the Demand Management Measures presented in Chapter 9 of this plan.

1.4 DEMONSTRATION OF CONSISTENCY WITH THE DELTA PLAN FOR PARTICIPANTS IN COVERED ACTION

Urban water suppliers that anticipate participating in or receiving water from a proposed project (covered action), such as a multiyear water transfer, conveyance facility, or new diversion that involves transferring water through, exporting water from, or using water in the Sacramento-San Joaquin Delta (Delta) should provide information in their 2015 and 2020 UWMPs that can then be used in the certification of consistency process to demonstrate consistency with Delta Plan Policy WR P1, Reduce Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code Reg., tit. 23, § 5003). To demonstrate reduced reliance on the Delta and improve regional self-reliance, urban water suppliers are to:

1. Complete an Urban Water Management Plan;
2. Identify, evaluate, and commence implementation of programs and projects included in the UWMP that are locally cost effective and technically feasible in reducing reliance on the Delta; and
3. Include expected outcome for measurable reduction in Delta reliance and improvement in regional self-reliance in their UWMPs, commencing in their 2015 UWMPs and continuing in their subsequent UWMPs. Programs and projects identified above should reduce the amount or percentage of water used from the Delta watershed. For the purposes of reporting, water efficiency is considered a new source of water supply.

The City's wholesale water supplier is Zone 7 Water Agency (Zone 7), who is a contractor of the State Water Project (SWP). Through Zone 7, the City anticipates participating in a covered action and is therefore required to demonstrate reduced Delta reliance. Appendix B of this UWMP demonstrates the City's consistency with Delta Plan Policy WR P1.

The City completed and adopted its 2015 UWMP in June 2016. This 2020 UWMP was completed and presented for adoption to the City Council on June 1, 2021. Chapter 6 (Water Supply) of the City's 2015 and 2020 UWMPs describes and evaluates existing and future projects whose implementation improves

regional self-reliance. Chapter 9 (Demand Management Measures) of the City's 2015 and 2020 UWMPs describes demand management measures that the City has implemented as part of its Water Conservation Program.

1.5 PLAN ORGANIZATION

This 2020 UWMP contains the appropriate sections and tables required per CWC Division 6, Part 2.6 (Urban Water Management Planning Act), included in Appendix A of this 2020 UWMP, and has been prepared based on guidance provided by the California Department of Water Resources (DWR) in their "2020 Urban Water Management Plans Guidebook for Urban Water Suppliers" (DWR Guidebook).

This 2020 UWMP is organized into the following chapters:

- Chapter 1: Introduction
- Chapter 2: Plan Preparation
- Chapter 3: System Description
- Chapter 4: Water Use Characterization
- Chapter 5: SBX7-7 Baselines, Targets, and 2020 Compliance
- Chapter 6: Water Supply Characterization
- Chapter 7: Water Service Reliability and Drought Risk Assessment
- Chapter 8: Water Shortage Contingency Plan
- Chapter 9: Demand Management Measures
- Chapter 10: Plan Adoption, Submittal, and Implementation

This 2020 UWMP also contains the following appendices of supplemental information and data related to the City's 2020 UWMP:

- Appendix A: Legislative Requirements
- Appendix B: Demonstration of Reduced Delta Reliance
- Appendix C: DWR 2020 Urban Water Management Plan Tables
- Appendix D: DWR 2020 Urban Water Management Plan Checklist
- Appendix E: Agency and Public Notices
- Appendix F: 2019 Distribution System Water Loss Audit
- Appendix G: SB X7-7 Compliance Form
- Appendix H: Zone 7 Annual Report for the Sustainable Groundwater Management Program 2019 Water Year (Executive Summary)
- Appendix I: Zone 7 Water Supply Reliability Policy (Resolution No. 13-4230)
- Appendix J: DERWA Resolution No. 19-3
- Appendix K: Water Shortage Contingency Plan
- Appendix L: UWMP and WSCP Adoption Resolutions

Furthermore, this 2020 UWMP contains all the tables recommended in the DWR Guidebook, both embedded into the UWMP chapters where appropriate and included in Appendix C.

DWR's Urban Water Management Plan Checklist, as provided in the DWR Guidebook, has been completed by West Yost to demonstrate the plan's compliance with applicable requirements. A copy of the completed checklist is included in Appendix D.

CHAPTER 2
Plan Preparation

This chapter describes the preparation of the City's 2020 UWMP and WSCP, including the basis for the preparation of the plan, individual or regional planning, fiscal or calendar year reporting, units of measure, and plan coordination and outreach.

2.1 BASIS FOR PREPARING A PLAN

The Act requires every "urban water supplier" to prepare and adopt a UWMP, to periodically (at least once every five years) review its UWMP, and make any amendments or changes that are indicated by the review. 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 annually (AFY).

The City is a water retailer and manages Water System CA0110008. As shown in Table 2-1, in 2020, the City provided water to 22,369 customer connections and supplied 14,779 acre-feet (AF) of water. Therefore, the City is required to prepare a UWMP. The City's last UWMP, the 2015 UWMP, was adopted by the City Council on June 7, 2016.

Table 2-1. Public Water Systems (DWR Table 2-1 Retail)

Public Water System Number	Public Water System Name	Number of Municipal Connections 2020	Volume of Water Supplied 2020 *
CA0110008	City of Pleasanton	22,369	14,779
	TOTAL	22,369	14,779
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*			
NOTES: Volumes are in acre-feet (AF); number of connections and volume of water supplied is for potable water system only.			

2.2 REGIONAL PLANNING

As described in Section 2.3 below, the City has prepared this 2020 UWMP on an individual reporting basis, not part of a regional planning process. However, the City regularly coordinates with its water wholesaler, Zone 7, to ensure that a safe and reliable water supply is delivered to its existing customers and that plans for serving future customers are implemented as efficiently as possible. The City also routinely coordinates with the region's other water retailers—DSRSD, Livermore, and Cal Water—on water supply and water conservation matters, including preparation of Zone 7's 2019 Water Supply Evaluation (WSE), 2020 UWMP, and WSCP update. Additionally, the City coordinates with the San Francisco Public Utilities Commission, which supplies water to the unincorporated Castlewood area and the Town of Sunol, which are adjacent to the City. Zone 7 also assisted the City in the preparation of this UWMP.

2.3 INDIVIDUAL OR REGIONAL PLANNING AND COMPLIANCE

This 2020 UWMP has been prepared on an individual reporting basis covering only the City's service area, see Table 2-2. The City does not participate in a regional alliance, and it has not prepared a Regional Urban Water Management Plan (RUWMP). As described below in Section 2.5, the City has notified and coordinated planning and compliance with appropriate regional agencies and constituents, including Zone 7, DSRSD, Livermore, and Cal Water.

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

Select Only One	Type of Plan		Name of RUWMP or Regional Alliance *if applicable* (select from drop down list)
☑	**Individual UWMP**		
	☐	Water Supplier is also a member of a RUWMP	
	☐	Water Supplier is also a member of a Regional Alliance	

2.4 FISCAL OR CALENDAR YEAR AND UNITS OF MEASURE

The City is a water retailer.

The City's 2020 UWMP has been prepared on a calendar year basis, with the calendar year starting on January 1 and ending on December 31 of each year. Water use and planning data for the entire calendar year of 2020 has been included.

The water volumes in this 2020 UWMP are reported in units of acre-feet (AF).

The City's reporting methods for this 2020 UWMP are summarized in Table 2-3.

Table 2-3. Agency Identification (DWR Table 2-3)

Type of Supplier (select one or both)	
☐	Supplier is a wholesaler
☑	Supplier is a retailer
Fiscal or Calendar Year (select one)	
☑	UWMP Tables are in calendar years
☐	UWMP Tables are in fiscal years
Units of measure used in UWMP * (select from drop down)	
Unit	AF
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*	

2.5 COORDINATION AND OUTREACH

This section includes a discussion of the City's inter-agency coordination and coordination with the general public. The UWMP Act requires the City to coordinate the preparation of its UWMP and updates to its WSCP with other appropriate agencies and all departments within the City, including other water suppliers that share a common source, water management agencies, and relevant public agencies. The City coordinated the preparation of its plan with Zone 7 (the region's water wholesaler) and DSRSD, Livermore, and Cal Water (the region's other water retailers). These agencies, as well as the public, participated in the coordination and preparation of this 2020 UWMP, including the WSCP update, and are summarized below.

2.5.1 Wholesale and Retail Coordination

The City is one of four water retailers that purchase water on a wholesale basis from Zone 7. As noted in Table 2-4, the City notified Zone 7 of the development of its 2020 UWMP and provided Zone 7 with a copy of the draft plan. In addition, the City has participated in the development of Zone 7's 2020 UWMP by providing the City's water demand projections and commenting on Zone 7's Draft UWMP. The City, in turn, received information from Zone 7 on its existing and planned sources of water.

Table 2-4. Water Supplier Information Exchange (DWR Table 2-4 Retail)

The retail Supplier has informed the following wholesale supplier(s) of projected water use in accordance with Water Code Section 10631.
Wholesale Water Supplier Name
Zone 7 Water Agency (Zone 7)

2.5.2 Coordination with Other Agencies and the Community

The City actively encourages community participation in water management activities and specific water-related projects. The City's public participation program includes both active and passive means of obtaining input from the community, such as mailings, public meetings, and web-based communication. The City's website describes on-going projects and posts announcements of planned rate increases to fund these water projects.

As part of the 2020 UWMP and WSCP update, the City facilitated a public review period. Public noticing, pursuant to Section 6066 of the Government Code, was conducted prior to commencement of a public comment period. Public hearing notices are included in Appendix E of this plan. During the public comment period, the Draft UWMP, which includes an updated WSCP, was made available at the City's Operations Service Center, the Pleasanton Public Library, and on the City's website (www.cityofpleasantonca.gov). The City also held a duly noticed Council Water Subcommittee meeting on May 20, 2021.

The City coordinated the preparation of this 2020 UWMP and WSCP with several agencies, including relevant public agencies that utilize the same water supplies. These agencies include the following:

- County of Alameda
- Zone 7 Water Agency
- Dublin San Ramon Services District
- City of Livermore
- California Water Service - Livermore District

The public hearings provided an opportunity for all City water users and the general public to become familiar with the UWMP and ask questions about the City's water supply, in addition to the City's plans for continuing to provide a reliable, safe, high-quality water supply.

2.5.3 Notice to Cities and Counties

CWC Section 10621 (b) requires agencies to notify the cities and counties to which they serve water at least 60 days in advance of the public hearing that the plan is being updated and reviewed. In December 2020, a notice of preparation was sent to the cities and counties and other stakeholders to inform them of the UWMP and WSCP update process and schedule, and to solicit input for the 2020 UWMP and updated WSCP. In addition to the agencies listed in Section 2.5.2, these include:

- San Francisco Public Utilities Commission
- Pleasanton Unified School District
- Pleasanton Chamber of Commerce
- Pleasanton Downtown Association
- Sunol Citizen's Advisory Council
- Hacienda Business Park Owners Association

A notice also included information on the amendment of the City's 2015 UWMP to incorporate demonstration of consistency with Delta Plan Policy WR P1. Copies of the notifications are included in Appendix E. The notifications to cities and counties, the public hearing notifications, and the public hearing and adoption are discussed in Chapter 10.

CHAPTER 3
System Description

This chapter describes the City's water system facilities and service area. In addition, this chapter discusses the climate, population, demographics, and land use within the City's service area.

3.1 GENERAL DESCRIPTION

Pleasanton's inception can be traced back to the 1850's as a stagecoach stop along the main route to the gold fields. The City was incorporated in 1894, and in the twentieth century it grew into a thriving agricultural center with the production of grain, hay, and hops. The City is approximately 22 square miles and is located in southeastern Alameda County at the junction of Interstate 580 and Interstate 680. Water service is currently provided to all City residents and commercial customers, as well as portions of unincorporated Alameda County (i.e., Remen Tract, Happy Valley, and the area west of Foothill/Sunol).

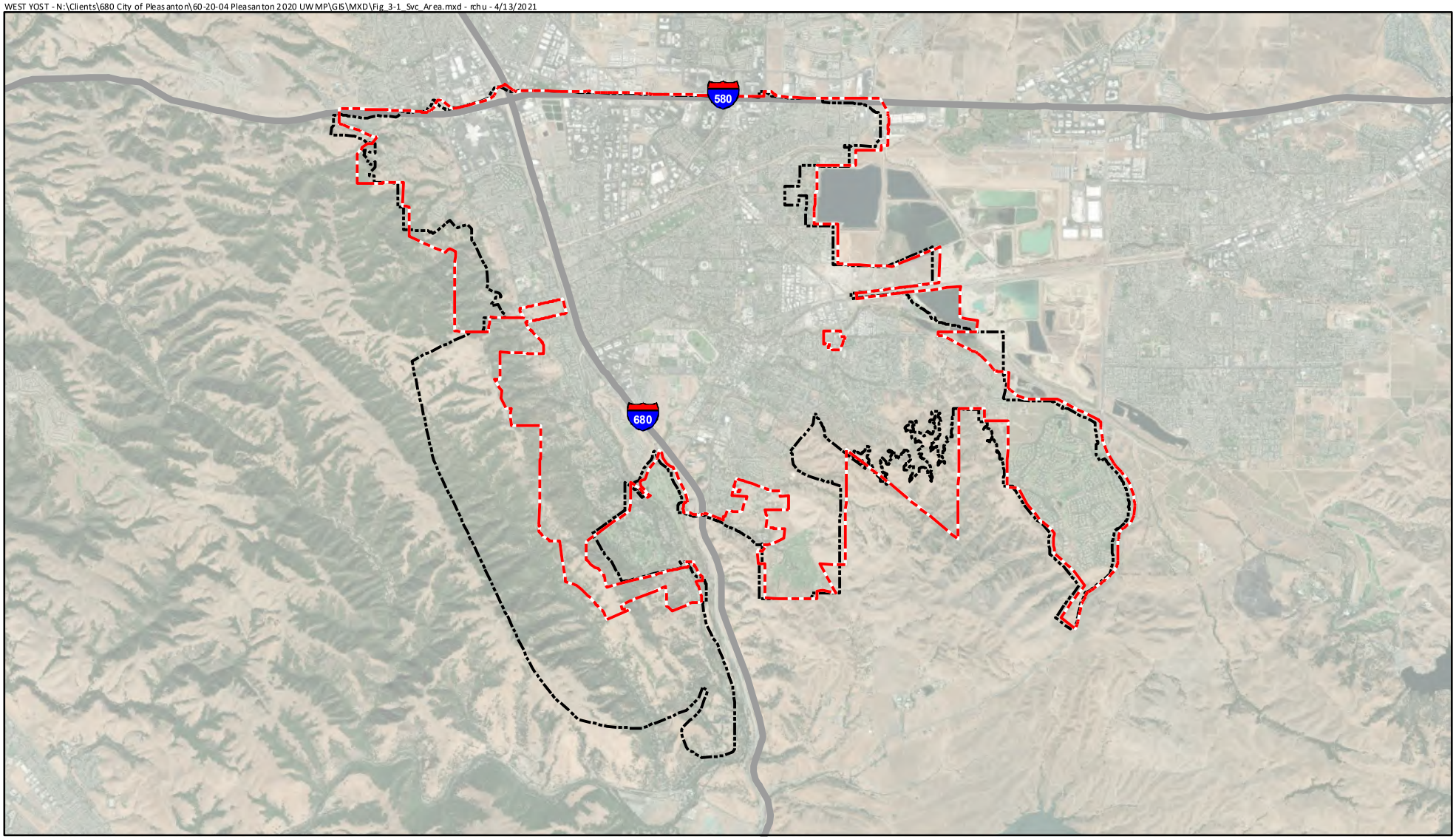
3.2 SERVICE AREA BOUNDARY

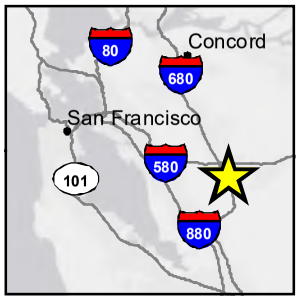
The City's water service area includes the City, as well as customers in unincorporated Alameda County in Remen Tract, along Happy Valley Road and Kilkare Canyon Road (just north of the Town of Sunol), and west of Foothill Road. Pleasanton's service area lies within the Alameda Creek watershed, a drainage basin covering about 675 square miles between Mount Hamilton and Mount Diablo. Figure 3-1 shows the City's limits and its current water service area.

The City lies predominantly on flat land formed by alluvial deposits from prehistoric streams flowing through the Livermore, Amador, and San Ramon Valleys to the San Francisco Bay. Geologic activity in the area has resulted in varying deposits of sand and gravel in the northeastern portion of the City, and once supported the cultivation of crops and livestock. Modernly, Pleasanton has predominately been urbanized, with the exception of several vineyards at the eastern edge of the City and livestock grazing on Pleasanton Ridge and in the Southeastern Hills.

The majority of Pleasanton occupies the Valley floor, which ranges in elevation from approximately 320 to 400 feet. Pleasanton is enclosed by hills on the west and southeast. The Pleasanton and Main Ridges to the west rise sharply above Foothill Road to peaks of 1,500 feet. These two ridges remain seismically active and feature complex terrain, densely wooded vegetation, and landslide prone soils. A series of gentle to steeply sloping hills extend south from Pleasanton into a valley containing the San Antonio Reservoir.

WEST YOST - N:\Clients\680 City of Pleasanton\60-20-04 Pleasanton 2020 UWMP\GIS\MXD\Fig_3-1_Svc_Area.mxd - rchu - 4/13/2021





City Limits

Water Service Area

N

0 4,000 8,000

Scale in Feet

THE CITY OF PLEASANTON

WEST YOST

Figure 3-1

City of Pleasanton Limits and Current Water Service Area

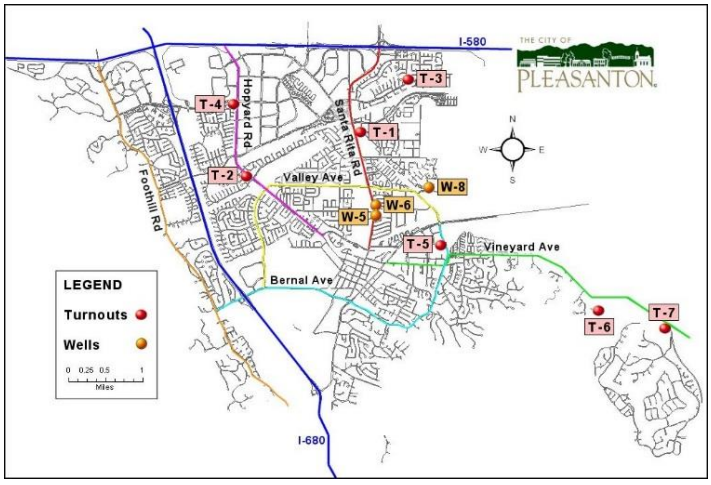
City of Pleasanton
2020 Urban Water Management Plan

3.3 WATER SYSTEM DESCRIPTION

3.3.1 Zone 7 Supply Turnouts

Water from Zone 7 enters the City's water system at seven different turnout locations, as follows:

- Turnout 1 is located on Santa Rita Road near Stoneridge Drive
- Turnout 2 is located on Hopyard Road near Valley Trails Drive
- Turnout 3 is located at the east end of West Las Positas Boulevard near Gulfstream Street
- Turnout 4 is located on Hopyard Road at Stoneridge Drive
- Turnout 5 is located on Bernal Avenue at Nevada Street
- Turnout 6 is located on Machado Drive at Vineyard Avenue
- Turnout 7 is located on Vineyard Avenue at Ruby Hills Boulevard



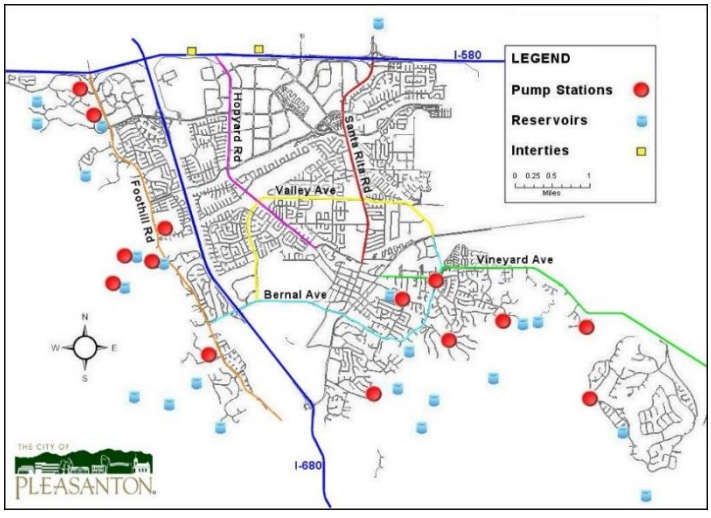
All turnouts are equipped with facilities to fluoridate the water provided by Zone 7 prior to entering the City system. Turnouts 1, 2, 3, 4, and 5 directly connect to the City system, while turnouts 6 and 7 supply water pump stations that pump into the City water system.

3.3.2 Groundwater Wells

The City owns and operates three groundwater wells. Water from the City's wells is treated with chlorine, ammonia, and fluoride at the well sites prior to entering into the water distribution system.

3.3.3 City Potable Water Distribution System

The City's distribution system currently consists of approximately 327 miles of pipelines and 22,369 water service connections. There are 14 pump stations, 22 water storage reservoirs, and one hydropneumatic tank in the distribution system. The City service area has 14 different pressure zones.



3.3.4 Emergency Interties

The City currently has two existing pipeline interties with DSRSD and one pipeline intertie with the City of Livermore for rapid emergency response. These interties are strictly for emergency conditions, such as a major pipeline break, supply contamination, or interruption of deliveries due to earthquake, flood, or other disaster.

3.3.5 Recycled Water Facilities

In June 2015, construction began on the City's Recycled Water Project (RW Project), which included the construction of approximately 51,500 lineal feet (LF) of new recycled water pipeline, ranging in diameter from 6 inches to 20 inches, and repurposing approximately 22,400 LF of existing potable pipeline into the recycled water system. The RW Project was funded through a Clean Water State Revolving Fund Program loan and Proposition 1 Program Grant Agreement with the SWRCB, with the goal of largely replacing existing potable irrigation demands along the distribution system with recycled water; thereby reducing potable water demands.

Construction of the RW Project was substantially completed by September 2016. Currently, the City has connected 92 out of 98 projected sites (144 out of 161 metered connections).

3.4 SERVICE AREA CLIMATE

The City's climate is characteristically Mediterranean, with hot, dry summers and cool, moist winters. This section discusses historical climate in City's water service area and potential effects of climate change.

3.4.1 Historical Climate

The historical climate characteristics affecting water management in the City's water service area, including average evapotranspiration (ET_o), rainfall, and temperature, are shown in Table 3-1. The average annual precipitation is approximately 17.2 inches, while the total evapotranspiration is approximately 51.5 inches, and average monthly temperatures vary from 47 to 70 degrees Fahrenheit throughout the year.

Table 3-1. Monthly Average Climate Data Summary			
Month	Standard Monthly Average ET_o[(a)], inches	Average Total Rainfall[(b)], inches	Average Temperature[(b)], degrees Fahrenheit
January	1.51	2.83	47.4
February	2.17	2.70	50.6
March	3.63	2.95	53.8
April	4.94	1.47	56.9
May	6.16	0.57	61.1
June	7.10	0.23	67.0
July	7.53	0.09	70.2
August	6.61	0.09	69.3
September	4.98	0.12	67.2
October	3.50	1.09	61.0
November	1.93	1.66	52.6
December	1.41	3.36	47.1
Total	**51.5**	**17.2**	**--**

(a) Source: California Irrigation Management Information System (CIMIS) data for Station #191: Pleasanton (downloaded November 11, 2020).
(b) Source: CIMIS data for Station #191: Pleasanton (data from October 2004 through October 2020).

3.4.2 Potential Effects of Climate Change

California Water Code now requires water suppliers to account for the impacts of climate change on water supplies and supply reliability. A discussion of the effects of climate change on water demands, supplies, and reliability can be found in Chapter 4, Chapter 6, and Chapter 7 of this UWMP. This section summarizes those discussions.

In general, climate change is expected to increase water demand for irrigation and the year-to-year variability of demands. This is the result of increased temperatures (which increases evapotranspiration) and more variability in precipitation (which impacts supply availability and reliability). Also, natural disasters such as wildfires, droughts, and floods are expected to increase in both frequency and intensity.

Responding to climate change generally takes two forms: mitigation and adaptation. Mitigation is taking steps to reduce the contribution to the causes of climate change by reducing greenhouse gas (GHG) emissions. Adaptation is the process of responding to the effects of climate change by modifying systems and behaviors to function in a warmer climate.

In the water sector, climate change mitigation is generally achieved by reducing energy use, increasing energy efficiency, and/or substituting fossil fuel-based energy sources for renewable energy sources. Because water requires energy to move, treat, use, and discharge, water conservation results in energy conservation. Adaptation initiatives include diversification of the City's water supply portfolio and expanding recycled water use.

3.5 SERVICE AREA POPULATION AND DEMOGRAPHICS

During the past two decades, the City has experienced a diverse pattern of growth including substantial new residential, commercial, office, and industrial development. As a small suburban city, the City has developed a reputation as a desirable place in which to live and work, with an excellent school system, fine parks and recreational facilities, a traditional downtown area, and a low crime rate. Land use planning within the City's service area is guided by the City's *General Plan (2005-2025)* and *Housing Element (2015-2023).*

Single family residential remains the largest water customer sector in Pleasanton (59 percent of all potable demands in 2020).

3.5.1 Service Area Population

Based on Census data[1] and persons-per-connection adjustments, the City's 2020 service area population was estimated to be 82,977. Future population estimates for the City's service area are based on Zone 7's *2020 Tri-Valley Municipal and Industrial Water Demand Study*[2] (Regional Demand Study). By 2045, Pleasanton's population is projected to grow by approximately 22 percent to 100,913.

The current and projected populations in the City's service area are presented in Table 3-2.

Table 3-2. Population – Current and Projected (DWR Table 3-1 Retail)

Population Served	2020	2025	2030	2035	2040	2045*(opt)*
	82,977	86,326	91,430	96,171	100,913	100,913

3.5.2 Other Social, Economic, and Demographic Factors

The State now requires the inclusion of service area socioeconomic information as part of the system description in UWMPs. However, differences in household water use across sociodemographic groups in the City have not been studied, nor does the City differentiate water management by sociodemographic factors. To comply with the new regulation, the following social, economic, and demographic information from the U.S. Census Bureau[3] is provided. Information is for the five-year period from 2015 to 2019.

- The average number of people per household was 2.8
- The median household income was $156,400
- The owner-occupied housing unit rate was 69.9 percent, with a median owner-occupied home value of $986,800
- The median age was 42.4 years

[1] United States Census Bureau. American Community Survey, 2019: ACS 1-Year Estimates Data Profiles for Pleasanton, CA.

[2] Woodard & Curran, January 2021 Draft. *2020 Tri-Valley Municipal and Industrial Water Demand Study*. www.zone7water.com/library/reports-planning-documents.com

[3] United States Census Bureau. American Community Survey, 2015-2019 ACS 5-Year Data Profile for Pleasanton, CA.

- Of persons 25 years or older, 96.1 percent had earned at least a high school diploma or equivalent, and 64.9 percent had earned a bachelor's degree or higher
- By race/ethnicity, 50.1 percent of people were White, 1.8 percent were Black, 0.3 percent were American Indian or Alaska Native, 34.1 percent were Asian, 0.5 percent were Hawaiian Native or Pacific Islander, 3.6 percent were two or more races, and 9.5 percent were Hispanic or Latino (of any race)
- 32.0 percent of residents were foreign born

3.6 LAND USES WITHIN SERVICE AREA

3.6.1 Current and Projected Land Uses

This section describes the City's current and projected land uses in its service area. Land use information is based on the City's current General Plan[4], as well as Zone 7's Regional Demand Study. Adopted in 2009, the City's General Plan guides land development and resource conservation efforts through 2025. The Land Use Element of the General Plan provides policies and maps that guide the use of public and open-space lands and specify the location, amount, and potential density and intensity for development of residential, commercial, and industrial lands.

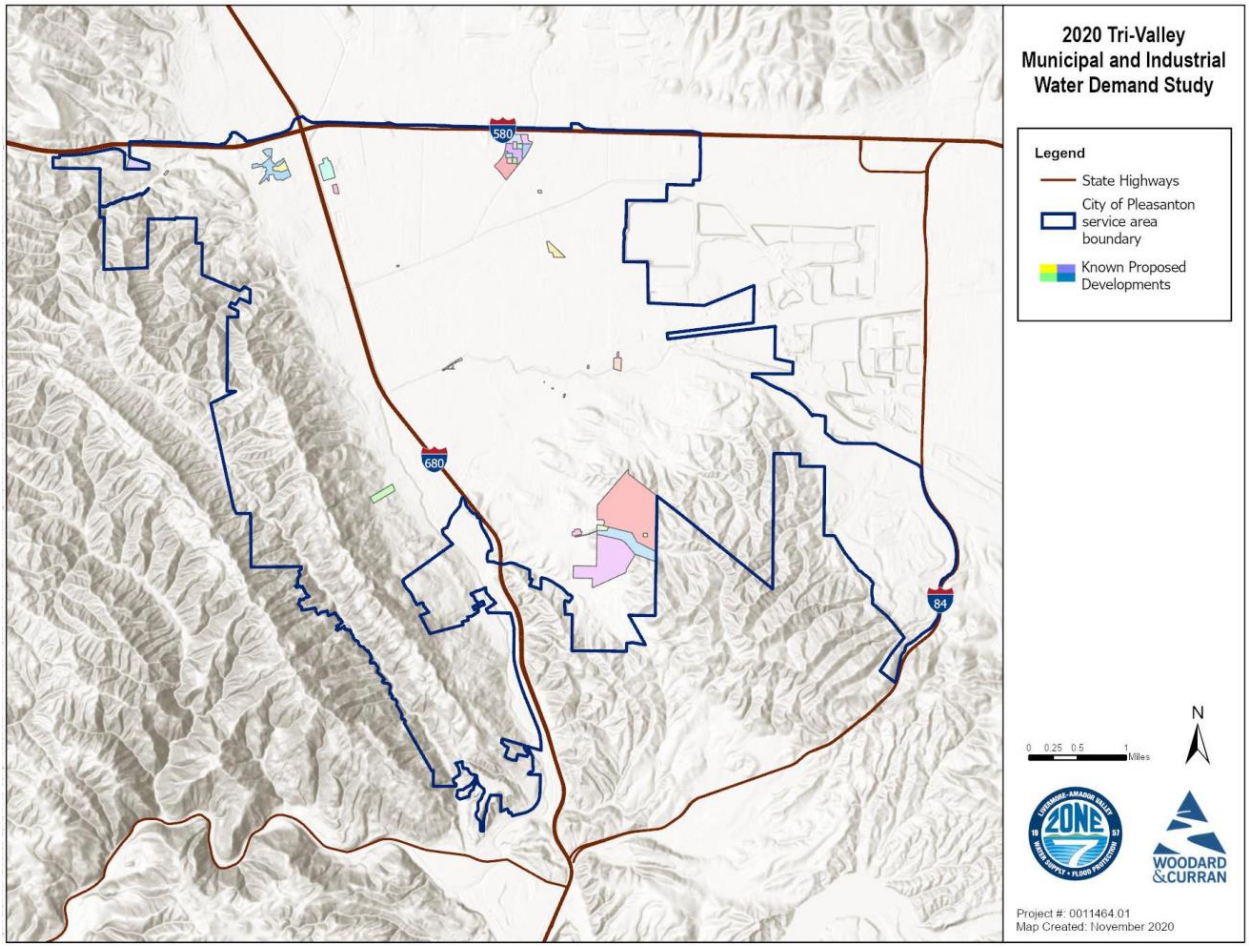
Existing land use within the City generally consists of distinct residential neighborhoods typically separated from non-residential land uses to minimize the potential incompatibility of non-residential and residential uses. The City was predominantly a residential community until 1980, when it saw increased development of industrial, commercial, and office uses. This non-residential development includes the Stoneridge Mall, seven major business parks, five major hotels, and a variety of service centers. Abundant open space surrounds the developed areas of the City.

The City's current General Plan encourages mixed land uses and transit-oriented development (TOD), particularly near the Bay Area Rapid Transit (BART) stations, for future growth. Mixed use development combines office, commercial, hotel, institutional, and residential land uses on a single site or adjacent, interrelated sites. TOD provides walkable, mixed use communities designed around transit stations. Mixed use developments (including TODs) would provide people the opportunity to use alternative modes of transportation to automobiles since residential and non-residential land uses would be combined or integrated on a single or nearby site.

To identify future growth in the City's service area for Zone 7's Regional Demand Study, the City's Community Development Department provided a list of known proposed development projects. These proposed projects include mixed use, single family residential, and multi-family residential developments and are shown on Figure 3-2 (which is adapted from Figure 2-2 of the Regional Demand Study). As detailed in Chapter 4 of this plan, single family and multi-family residential water use accounts for approximately 45 and 31 percent, respectively, of additional demand compared to 2020[5].

[4] City of Pleasanton, 2005. *Pleasanton General Plan 2005-2025*. https://www.cityofpleasantonca.gov/gov/depts/cd/planning/general.asp

[5] These percentages are based on 2020 demand as presented in Zone 7's Regional Demand Study, which differs from the City's actual 2020 billed consumption. Since customer classes in City billing data differ from the customer sectors used in the Regional Demand Study, it is difficult to directly compare demand projections and actual 2020 demands.



Source: Zone 7 Regional Demand Study, Figure 2-2

Figure 3-2. Known Proposed Developments

3.6.2 Long-Range Land Use Planning

This section discusses long-range land use planning that may affect water management. Long-range planning includes years beyond the planning horizon of this UWMP but should be noted for consideration in future UWMP updates.

The Association of Bay Area Governments (ABAG) and Metropolitan Transportation Commission (MTC) are preparing Plan Bay Area 2050, which provides long-range plans to guide the growth of the nine-county region. Plan Bay Area 2050 is expected to be completed in 2021 and integrates strategies for transportation, housing, the environment, and the economy. The City is also planning to begin updating the Housing Element of the General Plan in spring of 2021. The objective of the Housing Element update is to plan for the number of housing units allocated to the City by ABAG,[6] known as the Regional Housing Needs Allocation (RHNA).

[6] ABAG receives its regional housing needs determination from the California State Department of Housing and Community Development (HCD). The nine-county San Francisco Bay Area has been allocated a total of 441,176 units, which reflects a 2.3-fold increase over the previous Housing Element cycle.

Though both Plan Bay Area and RHNA address the amount and location of new housing development in the region, they are different types of planning processes. Plan Bay Area is a policy-driven land use and transportation framework that results in various projections of growth for different areas (i.e., a "ground up" model). RHNA, on the other hand, is a process whereby a pre-determined number of housing units is distributed among local jurisdictions, based on factors intended to result in an equitable distribution of those units. Another key difference between the two is that Plan Bay Area covers an approximately 30-year planning horizon (2020-2050), whereas RHNA covers an 8-year period from 2022-2030. Despite these differences, by law, the RHNA must be "consistent" with Plan Bay Area. ABAG has determined RHNA and Plan Bay Area to be consistent because the amount of housing growth from the 8-year RHNA would not exceed the 30-year growth level at the county and sub-county geographies used in Plan Bay Area.

ABAG published the *Draft RHNA Methodology Release* in December 2020 to support Plan Bay Area 2050; this methodology has been used to develop "illustrative" RHNA allocations for each city and county in the region. Allocations will be finalized in 2021 through the remaining steps of the RHNA process. The proposed allocation for the City, which may be subject to revision and refinement, is 5,965[7], which is below the City's projected household projections. Although the City's RHNA allocation may not affect its long-term water demand projections, it may accelerate the rate at which demand increases in the near term.

ABAG will approve a Final Methodology and issue Draft Allocations in spring 2021. This will be followed by an appeal period, with ABAG issuing Final Allocations by the end of 2021.

[7] Association of Bay Area Governments, December 2020, *Release of ABAG Draft RHNA Methodology and Final Subregional Shares*, Appendix 3.

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CHAPTER 4
Water Use Characterization

This chapter describes and quantifies the City's historical, current, and projected water uses. Water use projections are provided in five-year increments to the year 2045, as well as on a yearly basis for the next five years (2021-2025). This chapter also presents the City's water losses for the previous five years, projects future water use for lower income households, and discusses the impact of climate change on water use.

4.1 NON-POTABLE VERSUS POTABLE WATER USE

The City currently provides both potable water and recycled water to customers within its service area. Potable water is water that is safe to drink and typically has had various levels of treatment and disinfection. The City receives its potable water supply from two sources: purchases from Zone 7 and groundwater pumped from City wells.

Non-potable water is not intended for consumption and includes both recycled water and raw water. Raw water is untreated water that is used in its natural state or with minimal treatment. However, the City does not deliver raw water to any customers in its service area. Recycled water is municipal wastewater that has been treated to a specified quality that allows for re-use.

The City receives recycled water from Livermore and through the San Ramon Valley Recycled Water Program (SRVRWP), which is operated by a joint powers authority between DSRSD and the East Bay Municipal Utility District (EBMUD) called the DSRSD-EBMUD Recycled Water Authority (DERWA). Both the SRVRWP and the Livermore Water Reclamation Plant (LWRP) provide recycled water to landscape irrigation customers that meets Title 22 disinfected tertiary recycled water requirements.

The City's water supplies are described further in Chapter 6.

4.2 WATER USE BY SECTOR

This section describes the City's past, current, and projected water use by sector through the year 2045 in five-year increments. Water demand projections are based on Zone 7's Regional Demand Study and retailer delivery requests and provide the basis for sizing and staging future water facilities to ensure adequate supply. This section identifies the water usage among water use sectors including single family residential, multi-family residential, commercial, industrial, institutional/governmental, landscape irrigation, agricultural, and others. These classifications were used to analyze current consumption patterns among various types of customers. The City uses the same definitions for each sector as outlined in the DWR Guidebook:

- **Single-Family Residential**: A single-family dwelling unit. A lot with a free-standing building containing one dwelling unit that may include an attached or detached secondary dwelling.
- **Multi-Family Residential**: Multiple dwelling units contained within one building or several buildings within one complex.
- **Commercial**: A water user that provides or distributes a product or service (CWC 10608.12(d)).
- **Industrial**: A water user that is primarily a manufacturer or processor of materials as defined by the North American Industry Classification System (NAICS) code sectors 31 to 33, inclusive, or an entity that is a water user primarily engaged in research and development (CWC 10608.12(h)).

- **Institutional (and Governmental)**: A water user dedicated to public service. This type of user includes, among other users, higher education institutions, schools, courts, churches, hospitals, government facilities, and nonprofit research institutions (CWC 10608.12(i)).
- **Landscape**: Water connections supplying water solely for landscape irrigation. Such landscapes may be associated with multi-family, commercial, industrial, or institutional/governmental sites but are considered a separate water use sector if the connection is solely for landscape irrigation.
- **Sales to Other Agencies**[8]: Water sales made to another agency. Projected sales may be based on projected water demand provided by the receiving agency. There is inherent uncertainty in future demand projections, therefore, any projected sales reported in the UWMP are for planning purposes only and are not considered a commitment on the part of the seller.
- **Groundwater Recharge**: The managed and intentional replenishment of natural groundwater supplies using man-made conveyances such as filtration basins or injection wells. This includes water used for groundwater banking or storage.
- **Saline Water Intrusion Barriers**: Injection of water into a freshwater aquifer to prevent the intrusion of saltwater.
- **Agricultural**: Water used for commercial agricultural irrigation.
- **Other**: Any other water demand that is not adequately described by the water sectors defined above.
- **Distribution System Losses**: The difference between the actual volume of water treated and delivered into the distribution system and the actual metered consumption.

4.2.1 Historical Water Use

The City's past water use among water use sectors is reported in Table 4-1. These are the same values reported in the City's 2015 UWMP.

Table 4-1. Historical Water Use by Sector

Water Use Sector	Actual Volume, AFY		
	2005	2010	2015
Single Family	9,035	8,326	5,264
Multi-Family	744	842	943
Industrial	64	57	40
Landscape	4,678	4,015	2,357
Commercial and Institutional	1,977	1,809	1,392
Losses[(a)]	1,562	1,082	1,359
Total	**18,060**	**16,131**	**11,355**

(a) Also includes system flushing, known leaks, and unbilled unmetered use.

[8] The City has not sold water to other agencies in the past and does not plan to do so in the future.

4.2.2 Current Water Use

The City's actual potable water demands for the 2020 calendar year are reported in Table 4-2.

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

Use Type	2020 Actual[1]		
	Additional Description (as needed)	Level of Treatment When Delivered Drop down list	Volume[2]
Single Family		Drinking Water	7,904
Multi-Family		Drinking Water	1,299
Commercial		Drinking Water	1,215
Industrial		Drinking Water	58
Landscape		Drinking Water	2,996
Losses		Drinking Water	1,308
		TOTAL	14,779

[1] *Recycled water demands are NOT reported in this table. Recycled water demands are reported in Table 6-4.*
[2] *Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.*

NOTES: Volumes are in AF; losses are estimated based on supply and billing data.

Existing recycled water demands are discussed in Chapter 6.

4.2.3 Projected Water Use

This section presents water demand projections for the City's service area. Water demand projections in this 2020 UWMP are based on projections developed for Zone 7's Regional Demand Study. This section details water demand projections on a 25-year planning horizon and, for the Drought Risk Assessment (DRA), a characteristic five-year basis.

4.2.3.1 25-Year Planning Horizon

The City's projected water demands through the year 2045 are presented in Table 4-3. Demands in 2040 and 2045 are from the Regional Demand Study, with demands for the interim period (2025-2035) developed in coordination with Zone 7 based on linear interpolation of near-term retailer delivery requests and the 2040 projection from the Regional Demand Study. There are no existing or projected uses for saline barriers, groundwater recharge, conjunctive use, or raw water use within the City's service area.

The City projects 1,500 AFY of recycled water demand in 2025, increasing to 1,800 AFY by 2040 and remaining at 1,800 AFY in 2045. Approximately 500 AF of the projected recycled water demand in 2040 is assumed to be new landscape and construction water demands. The remaining 1,300 AF of projected recycled water demand will offset existing landscape demands currently met with potable water and is therefore not included in Table 4-3.

Table 4-3. Use for Potable and Non-Potable Water – Projected (DWR Table 4-2 Retail)

Use Type	Additional Description (as needed)	Projected Water Use[1,2] *Report To the Extent that Records are Available*				
		2025	2030	2035	2040	2045 (opt)
Single Family		8,952	9,219	9,485	9,752	9,752
Multi-Family		1,472	1,515	1,559	1,603	1,603
Commercial		1,376	1,417	1,458	1,499	1,499
Industrial		66	68	70	72	72
Landscape		3,393	3,494	3,595	3,696	3,696
Losses		1,482	1,526	1,570	1,614	1,614
TOTAL		16,740	17,239	17,737	18,236	18,236

NOTES:
[1]Recycled water demands are NOT reported in this table. Recycled water demands are reported in UWMP Table 6-5 (DWR Table 6-4).
[2]Volumes are in AF.

Table 4-4 summarizes the City's actual demands and projected water use, along with recycled water demands reported in Chapter 6.

Table 4-4. Total Gross Water Use (Potable and Non-Potable) (DWR Table 4-3 Retail)

	2020	2025	2030	2035	2040	2045 (opt)
Potable Water, Raw, Other Non-potable *From Tables 4-1R and 4-2 R*[1]	14,779	16,740	17,239	17,737	18,236	18,236
Recycled Water Demand *From Table 6-4*[1]	1,228	1,500	1,650	1,650	1,800	1,800
Optional Deduction of Recycled Water Put Into Long-Term Storage	0	0	0	0	0	0
TOTAL WATER USE	16,007	18,240	18,889	19,387	20,036	20,036

NOTES: [1]Volumes are in AF. Table references refer to DWR table numbers.

4.2.3.2 Characteristic Five-Year Water Use

Water Code Section 10635(b) requires urban suppliers to include a five-year DRA in their UWMP. A key component of the DRA is estimating demands for the next five years (2021-2025) without drought conditions (i.e., unconstrained demand). Chapter 7 details the DRA, but the five-year demand projections are summarized in Table 4-5. Demand projections for 2021-2024 were developed in coordination with Zone 7 based on the City's near-term delivery requests.

Table 4-5. Projected Water Demands for Drought Risk Assessment

	2021	2022	2023	2024	2025
Potable Water Demand[(a)], AFY	15,246	16,240	16,410	16,570	16,740

(a) Demand projections developed in coordination with Zone 7 based on the City's near-term delivery requests.

4.3 DISTRIBUTION SYSTEM WATER LOSSES

System losses are the difference between the actual volume of water treated and delivered into the distribution system and the actual metered consumption. Such apparent losses are always present in a water system due to pipe leaks, unauthorized connections or use, faulty meters, unmetered services such as fire protection and training, and system flushing.

The City uses the American Water Works Association (AWWA) method to annually evaluate its distribution system losses. Since the City is currently working on its water audit for the 2020 calendar year, water losses for the 2020 calendar year were estimated based on supply and billing data. In 2020, the City's water losses were estimated to be approximately 1,308 AF, or 8.8 percent of total water production—comparable with the other Tri-Valley water service providers. A copy of the City's 2019 Water Loss Audit worksheet is provided in Appendix F.

New regulations require retail water suppliers to include potable distribution system water losses for the preceding five years (to the extent records are available). Table 4-6 summarizes system losses for the previous five calendar years (2016 through 2020). At the time of preparation of this UWMP, DWR and the SWRCB are in the process of adopting water loss standards. This is discussed further in Chapter 9.

Table 4-6. Last Five Years of Water Loss Audit Reporting (DWR Table 4-4 Retail)

Reporting Period Start Date (mm/yyyy)	Volume of Water Loss [1,2]
01/2016	2,332
01/2017	1,504
01/2018	722
01/2019	923
01/2020	1,308
[1] Taken from the field "Water Losses" (a combination of apparent losses and real losses) from the AWWA worksheet. *[2] **Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*	
NOTES: Volumes are in AF; 2020 Water Audit is in progress, so 2020 loss is an estimate based on supply and billing data. A copy of the City's 2019 Water Audit is provided in Appendix F.	

4.4 ESTIMATING FUTURE WATER SAVINGS

Water savings from codes, standards, ordinances, or transportation and land use plans can decrease the water use for new and future customers. As indicated in Table 4-7, to be conservative, these "passive" water savings have not been included in the City's projected future water demands.

Table 4-7 indicates that lower income residential demands are included in the City's water demand projections, as is detailed in Section 4.5.

Table 4-7. Inclusion in Water Use Projections (DWR Table 4-5 Retail)

Are Future Water Savings Included in Projections? (Refer to Appendix K of UWMP Guidebook)	No
If "Yes" to above, state the section or page number, in the cell to the right, where citations of the codes, ordinances, or otherwise are utilized in demand projections are found.	
Are Lower Income Residential Demands Included In Projections?	Yes

4.5 WATER USE FOR LOWER INCOME HOUSEHOLDS

SB 1087 (2006) requires that water providers develop written policies that give priority to development that includes affordable housing to low income households. The projections shown in Table 4-3 include water use for single family and multi-family residential housing needed for low income households, as identified in the City's Housing Element. A lower income household is defined as a household that has an income below 80 percent of the Area Median Income, adjusted for family size. According to the American Census Bureau, 2018 American Community Survey 5-year Estimate, approximately 18.35 percent of City households are low income.

Therefore, approximately 18.35 percent of the City's residential water demands are attributed to low income households, assuming an average household size of four. This proportion is assumed to remain constant in the future, and apply equally for both single family and multi-family residential water use sectors. In other words, 18.35 percent of single family residential demands are assumed to be for low income single family households, and 18.35 percent of multi-family residential demands are assumed to be for low income multi-family households. The water demand projections for low income households are summarized in Table 4-8.

Table 4-8. Projected Water Demands for Lower Income Households

Water Use Sector	Water Demands for Low Income Households[(a)], AFY				
	2025	2030	2035	2040	2045
Single Family	1,643	1,692	1,741	1,790	1,790
Multi-Family	270	278	286	294	294
Total	**1,913**	**1,970**	**2,027**	**2,084**	**2,084**

(a) Based on data from the American Census Bureau, 2018 American Community Survey 5-year Estimate.

4.6 CLIMATE CHANGE CONSIDERATIONS

The City's future water demand and use patterns may be impacted by climate change. Warmer temperatures are expected to increase landscaping and irrigation demand and lengthen the growing season. In addition, climate change may increase the frequency and intensity of wildfires, which would increase the fire industry's water demands. Expanded use of recycled water could mitigate the effects of climate change on water demands.

Zone 7's Regional Demand Study, which serves as the basis for the City's demand projections, accounts for climate change by increasing outdoor water demands 5 percent by 2040. This demand multiplier starts at 0 percent in 2020, increases linearly to 5 percent in 2040, and remains at 5 percent through 2045. As the actual impact of climate change on water use becomes clearer, this value can easily be updated in the model that informs the Regional Demand Study.

The potential impacts of climate change on the City's water supplies are described in Chapter 6.

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CHAPTER 5
SB X7-7 Baselines, Targets, and 2020 Compliance

In November 2009, the Water Conservation Act of 2009 was signed into law as part of a comprehensive water legislation package. Also known as Senate Bill X7-7 (SB X7-7), the Water Conservation Act of 2009 addressed both urban and agricultural water conservation and set a goal of achieving a 20 percent statewide reduction in urban per capita water use by December 31, 2020 (i.e., "20 by 2020").

This chapter demonstrates that the City has achieved its 2020 target reduction by reviewing the City's population and recent water use.

5.1 OVERVIEW AND BACKGROUND

To meet the urban water use target required by SB X7-7, each retail supplier was required to determine its baseline water use, as well as its target water use for the year 2020. Water use is measured in gallons per capita per day (GPCD).

This chapter provides a review of the methodology the City used to calculate its baseline and its 2020 Urban Water Use Target (target). The City calculated baselines and targets on an individual reporting basis in accordance with SB X7-7 legislation requirements and DWR's *Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use* (2016) (DWR's Methodologies).

The City's compliance with SB X7-7 was first addressed in its 2010 UWMP, in which the City determined its baseline per capita water use and established and adopted its urban water use targets for 2015 and 2020. SB X7-7 included a provision that an urban water supplier may update its 2020 urban water use target in its 2015 UWMP and may use a different target method than was used in 2010. Also, the SB X7-7 methodologies developed by DWR in 2011 noted that water suppliers may revise population estimates for baseline years when the 2010 Census information became available. The 2010 Census data was not finalized until 2012. In its 2015 UWMP, the City updated its population, baselines, and targets to reflect 2010 Census data. The City demonstrated that it successfully achieved its 2015 interim target and confirmed its 2020 target.

The 2020 Census results were not available for inclusion in this UWMP update. Thus, a population estimate (based on Census data and persons-per-connection adjustments) was used with actual water use data to calculate GPCD water use. Using this population estimate, the City verifies that it achieved its 2020 target per capita water use. The potential difference between population estimates herein and the eventual final 2020 Census results is not believed to impact the fundamental conclusions of meeting SB X7-7 requirements.

Compliance with the urban water use target requirement is provided in the SB X7-7 2020 Compliance Form, which is included in this plan as Appendix G.

5.2 GENERAL REQUIREMENTS FOR BASELINE AND TARGETS

SB X7-7 required each urban water retailer to determine its baseline daily per capita water use over a 10-year or 15-year baseline period. The 10-year baseline period is defined as a continuous 10-year period ending no earlier than December 31, 2004 and no later than December 31, 2010. SB X7-7 also defined that for those urban water retailers that met at least 10 percent of their 2008 water demand using recycled water, the urban water retailers can extend the baseline GPCD calculation for a maximum of a continuous 15-year baseline period, ending no earlier than December 31, 2004 and no later than

December 31, 2010. In 2008, the City delivered no recycled water; therefore, the City's baseline GPCD was calculated over a 10-year period. In its 2015 UWMP, the City selected a 10-year baseline period from 1996 through 2005. This is the same 10-year baseline period reported in the City's 2010 UWMP.

SB X7-7 and DWR provided four different methods for calculation of an urban water retailer's 2020 target. Three of these methods are defined in Water Code Section 10608.20(a)(1), and the fourth method was developed by DWR. The 2020 water use target may be calculated using one of the following four methods:

- **Method 1**: 80 percent of the City's base daily per capita water use;
- **Method 2**: Per capita daily water use estimated using the sum of performance standards applied to indoor residential use; landscaped area water use; and commercial, industrial, and institutional uses;
- **Method 3**: 95 percent of the applicable State hydrologic region target as stated in the State's April 30, 2009, draft 20x2020 Water Conservation Plan; or
- **Method 4**: An approach that considers the water conservation potential from: 1) indoor residential savings, 2) metering savings, 3) commercial, industrial and institutional savings, and 4) landscape and water loss savings.

The City selected Method 1 to calculate its 2020 target in its 2015 UWMP.

Daily average water use is divided by the service area population to obtain baseline and target GPCD. In 2015, the City adjusted its baseline and target GPCD to reflect its updated population estimates based on 2010 Census data results. To calculate the City's compliance year GPCD and compare it to the 2020 target, the population is updated to reflect population estimates for 2020. Details of determining the 2020 service area population are provided in Section 5.3.

The City's baselines and targets are summarized in Section 5.5. The City's 2020 compliance water use is provided in Section 5.6.

5.3 SERVICE AREA POPULATION

To calculate its compliance year GPCD, the City must determine the population that it served in 2020. At the time of preparation of this UWMP, the 2020 Census results were unavailable; thus the City's 2020 population must be estimated.

The City is a "Category 2" water supplier, meaning its distribution area overlaps with less than 95 percent of city boundaries, and it has an electronic geographic information system (GIS) map of its distribution area. DWR's Methodologies states that Category 2 water suppliers can estimate their service area populations using information from a water wholesaler, provided the information was developed using a per-connection methodology that uses population data from the CA Department of Finance (DOF) or the US Census Bureau.

To estimate its 2020 service area population, the City started with US Census Bureau estimates for 2019 (the most recent year available) and adjusted it on a persons-per-connection basis. Specifically, the City used the US Census Bureau's American Community Survey (ACS) 1-Year Data Profiles as a starting point. Since this population estimate is for 2019 and within City limits, it required updating for growth in 2020 and water service areas outside City limits (i.e., Remen Tract, Happy Valley, and the area west of

Foothill/Sunol). The City provided the number of residential connections added in 2020 and the number located outside City limits, which were converted to population assuming 3.65 persons-per-connection (an estimate from DWR's Population Tool for the City in 2020).

This methodology is summarized in Table 5-1 and estimates the City's 2020 service area population at 82,977, as shown in Table 5-2.

Table 5-1. Method for Population Estimates (SB X7-7 Table 2)

Method Used to Determine 2020 Population (may check more than one)	
☑	**1. Department of Finance** (DOF) or **American Community Survey** (ACS)
☑	**2. Persons-per-Connection Method**
☐	**3. DWR Population Tool**
☐	**4. Other** DWR recommends pre-review
NOTES: ACS 1-Year estimate for City in 2019, adjusted using persons-per-connection for new connections in 2020 and any connections located outside City limits still served by the City.	

Table 5-2. 2020 Service Area Population (SB X7-7 Table 3)

2020 Compliance Year Population	
2020	82,977

5.4 GROSS WATER USE

Annual gross water use, as defined in CWC §10608.12 (h), is the water that enters the City's distribution system over a 12-month period (calendar year) with certain exclusions. As presented in Chapter 4 of this plan, the City's calendar year 2020 gross water use is 14,779 AF and is determined in accordance with DWR's Methodologies.

5.5 BASELINES AND TARGETS SUMMARY

Daily per capita water use is reported in GPCD. Annual gross water use is divided by annual service area population to calculate the annual per capita water use for each year in the baseline periods. As discussed in Section 5.1, the City updated its population data, adjusted its baseline, and confirmed its 2020 target in its 2015 UWMP. The City's 10-year base daily per capita water use is 246 GPCD. Using Method 1 for 2020 water use target calculation as described in Section 5.2, the City's confirmed 2020 compliance target is 197 GPCD. The City's baseline and target are summarized in Table 5-3.

Table 5-3. Baseline and Targets Summary (DWR Table 5-1 Retail)

Baseline Period	Start Year *	End Year *	Average Baseline GPCD*	Confirmed 2020 Target*
10-15 year	1996	2005	246	197
5 Year	2004	2008	245	
**All cells in this table should be populated manually from the supplier's SBX7-7 Verification Form and reported in Gallons per Capita per Day (GPCD)*				

5.6 2020 COMPLIANCE DAILY PER CAPITA WATER USE

The City's 2020 population and gross water use are presented in Sections 0 and 5.4, respectively. The City calculated its actual daily per capita water use for the 2020 calendar year in accordance with DWR's Methodologies. As shown in Table 5-4, urban per capita water use in 2020 was 159 GPCD, which is well below the confirmed 2020 water use target of 197 GPCD. Therefore, the City has met its 2020 final water use target. The complete set of SB X7-7 tables used to document this compliance is included in Appendix G.

Table 5-4. 2020 Compliance (SB X7-7 Table 9, DWR Table 5-2 Retail)

2020 GPCD			2020 Confirmed Target GPCD*	Did Supplier Achieve Targeted Reduction for 2020? Y/N
Actual 2020 GPCD*	2020 TOTAL Adjustments*	Adjusted 2020 GPCD* *(Adjusted if applicable)*		
159	0	159	197	Yes
**Reported in Gallons per Capita per Day (GPCD)*				
NOTES: The City has elected not to make the allowable optional adjustments.				

As detailed in DWR's Methodologies, adjustments are allowed that can be made to an agency's gross water use in 2020 for unusual weather, land use changes, or extraordinary institutional water use.

The City has elected not to make the adjustments allowed by Water Code Section 10608.24, because these exceptions are not needed to demonstrate compliance with SB X7-7 for 2020. Water use in 2020 in the City's service area was significantly reduced as compared to baseline years as a result of increased water conservation efforts by the City and its customers.

5.7 REGIONAL ALLIANCE

The City has chosen to comply with the requirements of SB X7-7 on an individual basis. The City has elected not to participate in a regional alliance.

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CHAPTER 6
Water Supply Characterization

This chapter describes the City's existing water supply portfolio, which consists of potable water purchased from Zone 7, recycled water produced by DSRSD and Livermore, and groundwater pumped by the City. These existing supplies, along with the other projected future supplies, and the potential for desalinated water, indirect or direct potable reuse, and exchanges or transfers are described in this chapter.

6.1 WATER SUPPLY ANALYSIS OVERVIEW

The City's primary water supply source is purchased potable water from Zone 7, supplemented by groundwater pumped from the Main Basin. The City's groundwater pumping is limited by its groundwater pumping quota (GPQ) as managed by Zone 7, the local groundwater basin manager. The City augments its potable water supply with recycled water from DSRSD and Livermore.

The management of each of the City's supply sources in correlation with each other are provided in this chapter. Because a significant portion of the City's potable water supply is from Zone 7, the region's water wholesaler, Zone 7's water supplies, storage operations, and future supply projects are discussed. Management and anticipated availability of the City's water supplies is discussed under normal water years. The availability of the City's water supplies under a single dry year and a drought lasting five years, as well as more frequent and severe periods of drought, are detailed in Chapter 7 of this UWMP.

6.2 WATER SUPPLY CHARACTERIZATION

This section describes the water supplies currently available to the City, as well as future anticipated water supplies. The City currently utilizes water from the following sources:

- Potable water supplies (including imported and local surface water supplies and local groundwater supplies) purchased from Zone 7
- Local groundwater supplies pumped from City wells
- Recycled water supplies produced at DSRSD's Regional Wastewater Treatment Facility (RWTF) and the Livermore Water Reclamation Plant (LWRP)

These existing supplies, along with the other projected future supplies, and the potential for desalinated water, indirect or direct potable reuse, and exchanges or transfers are described in this section.

6.2.1 Purchased or Imported Water

The City currently receives most of its potable water supply from Zone 7, a multi-purpose agency that oversees water-related issues in the Livermore Amador Valley. Zone 7 is a State Water Project (SWP) contractor that wholesales treated water to four retail water agencies: the City, DSRSD, Livermore, and Cal Water. In addition, Zone 7 retails non-potable water supplies for irrigated agricultural use, retails treated water to several direct customers, provides and maintains flood control facilities, and manages groundwater and surface water supplies in its service area. Under its current agreement with Zone 7, the City is limited in developing other water supply sources.

6.2.1.1 City Water Supply from Zone 7

Zone 7 is the City's sole wholesale treated water supplier. The City purchases all potable water required for use within the City's service area from Zone 7, with the exception that the City may extract groundwater per the agreement provisions. The treated water delivered by Zone 7 complies with the Requirements for Drinking Water of the California Department of Health Services and the US Environmental Protection Agency, or their successor regulatory agencies.

Zone 7 is also the groundwater manager of the local groundwater basin described in Section 6.2.2. The City has a GPQ of 3,500 AF from the Livermore Valley Main Groundwater Basin (Main Basin) in any calendar year. The City pays Zone 7 a recharge fee for recharging the Main Basin. The City may carry over up to 700 AF of unused pumping quota from one year to another.

The City coordinates with Zone 7 on an ongoing basis to track water use and develop future water use projections.

6.2.1.2 Zone 7 Water Supply Sources

This section details Zone 7's water supplies and their management in relation with each other. Zone 7's water supply has two major components: 1) incoming water supplies available through contracts and water rights each year, and 2) accumulated water supplies in storage derived from previous years. Incoming water supplies typically consist of annually allocated imported surface water supply and local surface water runoff. Accumulated or "banked" water supplies are available in local and non-local storage locations.

To optimize use of its local resources, Zone 7 practices conjunctive use of the Livermore Valley Groundwater Basin. Zone 7 also stores local runoff from the Arroyo Valle watershed in the local reservoir (Lake Del Valle), which is owned and operated by DWR. Two long-term water storage ("banking") agreements with agencies south of Zone 7's service area in Kern County (Semitropic Water Storage District and Cawelo Water District) provide additional flexibility in managing annual fluctuations in supplies.

To mitigate the risk associated with significant reliance on imported water supply, Zone 7 continues to develop local sources of water and to diversify its water supply portfolio. In April 2019, Zone 7 completed its 2019 Water Supply Evaluation Update (2019 WSE Update), a follow-up to its 2016 Water Supply Evaluation Update that documents Zone 7's current water supplies based on new information and experience gained since the 2014-2016 drought. The 2019 WSE Update also evaluates various future water supply projects, some of which are discussed in Section 6.2.8.

6.2.1.2.1 Imported Water from the State Water Project

Imported water from the SWP, which is owned and operated by DWR, is by far Zone 7's largest water source, providing over 80 percent of the treated water supplied to its customers on an annual average basis.

SWP water originates within the Feather River watershed, is captured in and released from Lake Oroville, and flows through the Delta before it is conveyed by the South Bay Aqueduct (SBA) to Zone 7 and two other water agencies: Valley Water (formerly known as Santa Clara Valley Water District) and Alameda County Water District (ACWD). Much of the SWP water continues to southern California via the California Aqueduct. Lake Del Valle is part of the SWP's SBA system and is used for storage of SWP water, as well as local runoff.

At Zone 7, SWP water is directly used to meet treated water demands from municipal and industrial customers—primarily wholesale to water retailers and some direct retail customers—and untreated water demands from agricultural customers. It is also used to recharge the local groundwater basin, as discussed in Section 6.2.2, and fill non-local groundwater storage in Kern County.

The following sections describe Zone 7's contract with DWR for SWP water and the types of water Zone 7 receives under this contract.

6.2.1.2.1.1 Contract with DWR

DWR provides water supply from the SWP to 29 SWP contractors, including Zone 7, in exchange for contractor payment of all costs associated with providing that supply. DWR and each of the contractors entered into substantially uniform long-term water supply SWP contracts in the 1960s with 75-year terms. The first set of contracts originally terminated in 2035, and most of the remaining contracts terminated within three years after that. Zone 7's original contract was executed in 1961 and was set to expire in 2036. Over the last few years, there have been several key amendments to the SWP contracts, including reaching an agreement in principle to extend SWP contracts, improve water management tools for SWP contractors, and participation in the Delta Conveyance Project. Details regarding Zone 7's contract with DWR are provided in Zone 7's 2020 UWMP.

6.2.1.2.1.2 Table A Allocation

Each SWP contractor is limited to a maximum annual contract amount as specified in Article 6(c) and Table A of the SWP Contract; this amount is therefore commonly referred to as "Table A." As noted above, Zone 7 first entered into the SWP Contract in November 1961; as the SWP was expanded and as Zone 7 demands increased over the years, Zone 7's Table A amount was increased, reaching the amount of 46,000 AFY in 1997. Since then, Zone 7 has increased its supply from the SWP through a series of five permanent transfers. In December 1999, Zone 7 secured Table A SWP allocations from Lost Hills Water District of 15,000 AFY and Berrenda Mesa Water District of 7,000 AFY. In December 2000, 10,000 AFY of SWP allocation from Belridge Water Storage District was acquired. An additional 2,219 AFY was obtained from the same source in October 2003. Finally, 400 AFY of water was acquired from the Tulare Lake Basin Water Storage District in 2003. Together, these transfers have raised Zone 7's current Table A allocation to 80,619 AFY.

In practice, the actual amount of SWP water available to Zone 7 under the Table A allocation process (presented as percent of Table A) varies from year to year due to hydrologic conditions, water demands of other contractors, existing SWP stored water, SWP facility capacity, and environmental/regulatory requirements. The Table A allocation is typically less than 100 percent of the Table A amount. SWP reliability is defined based on the long-term average Table A allocation. DWR prepares a biennial report to assist SWP contractors and local planners in assessing the availability of supplies from the SWP. DWR issued its most recent update, the Final 2019 State Water Project Delivery Capability Report (2019 DCR)[9], in August 2020. In this update, DWR provides SWP supply estimates for SWP contractors to use in planning efforts, including the 2020 UWMP. The 2019 DCR includes DWR's estimates of SWP water supply availability under both existing (2020) and future conditions (2040).

[9] Department of Water Resources, 2020. State Water Project Delivery Capability Report 2019. https://data.cnra.ca.gov/dataset/state-water-project-delivery-capability-report-dcr-2019/resource/119da5c5-1c47-4142-8896-334628ca61cd?inner_span=True

DWR's estimates of SWP deliveries are based on a computer model that simulates monthly operations of the SWP and Central Valley Project (CVP) systems. Key inputs to the model include system facilities, hydrologic inflows to the system, regulatory and operational constraints on system operations, and contractor demands for SWP water. In conducting its model studies, DWR must make assumptions regarding each of these key inputs.

In the 2019 DCR model for existing (2020) conditions, DWR assumed: existing facilities, hydrologic inflows to the model based on 82 years of historical inflows (1922 through 2003), current regulatory and operational constraints, and contractor demands at maximum Table A amounts. Note that the regulatory and operational constraints include the 2018 Coordinated Operations Agreement (COA) Amendment, 2019 Biological Opinions, and 2020 Incidental Take Permit. The 2018 COA Amendment lays out the terms under which the CVP operates with the SWP. The 2019 Biological Opinions for the Long-Term Operation of the CVP and SWP reflect the federal government's (U.S. Fish and Wildlife Service's) opinion as to whether or not the operation of the CVP and SWP is likely to jeopardize the continued existence of threatened and endangered species or result in the destruction or adverse modification of critical habitat. Finally, the 2020 Incidental Take Permit is a requirement for the SWP's California Endangered Species Act compliance with regards to state-protected longfin smelt and state- and federally-protected delta smelt, winter-run Chinook, and spring-run Chinook.

To evaluate SWP supply availability under future conditions, the 2019 DCR included a model study representing hydrologic and sea level rise conditions at 2040. The future condition study used all of the same model assumptions as the study under existing conditions but reflected changes expected to occur from climate change, specifically, projected temperature and precipitation changes centered around 2035 (2020 to 2049) and a 45 cm sea level rise.

For Zone 7's Table A supply, the 2019 DCR's existing condition was assumed to represent 2020 (59 percent of Table A reliability, 47,600 AFY)[10], and the future condition (54 percent of Table A reliability, 43,500 AFY)[10] was applied to 2040; the years in between were interpolated between these two bookends[11]. Note that the effect of the proposed Delta Conveyance Project on SWP water supply yield is still being analyzed and has not been included.

As a SWP contractor, Zone 7 has the option to store unused Table A water from one year to the next in the SWP's San Luis Reservoir, when there is storage capacity available. This "carryover" water is also called Article 12e or 56c water, in reference to the relevant contract terms. Article 12e water must be taken by March 31 of the following year, but Article 56c water may remain as carryover as long as San Luis Reservoir storage is available. The analysis in Zone 7's UWMP assumes Zone 7 carries over 10,000 AF of water each year on average.

6.2.1.2.1.3 Article 21 Water (Interruptible or Surplus Water)

Under Article 21 of Zone 7's SWP contract, Zone 7 also has access to excess water supply from the SWP that is available only if: 1) it does not interfere with SWP operations or Table A allocations, 2) excess water is available in the Delta, and 3) it will not be stored in the SWP system. As described in the 2019 DCR, Article 21 water deliveries are highly variable. This water becomes available during short time windows in

[10] Existing condition: Table A-4 of the Technical Addendum to the 2019 DCR. Future condition: Table B-6.

[11] For comparison, the Zone 7's 2015 UWMP assumed 62 percent of Table A reliability (50,000 AFY). The 2019 WSE Update assumed 49 percent of Table A reliability (39,500 AF). Table A allocations over the last ten years have ranged between 5 percent and 85 percent, with an average of 48 percent.

the wet season when there is excess water in the system (due to storms) that DWR cannot store in San Luis Reservoir. When Article 21 water becomes available, SWP contractors can request delivery, and the available water is distributed generally in proportion to the Table A contract amounts of those contractors requesting delivery. Delivery of Article 21 water requires accessible storage during very wet conditions and/or the ability to use the water directly without impacting Table A deliveries to Zone 7. Historically, these conditions have been difficult to meet for Zone 7 and have resulted in infrequent and low yields. Therefore, Zone 7 is not assuming any water supply yield from Article 21 at this time. As Zone 7 increases its local storage and ability to capture Article 21 water (e.g., via the Chain of Lakes project), Zone 7 will re-evaluate the potential increase in Article 21 yield.

6.2.1.2.1.4 Article 56d Water (Turnback Pool Water)

Article 56d is a contract provision that allows SWP contractors with unused Table A water to sell that water to other SWP contractors via a "turnback pool" administered by DWR on an annual basis. Historically, only a few SWP contractors have been able to make turnback pool water available for purchase, particularly in normal or dry years.

With the enhanced ability to directly transfer or exchange SWP water from one SWP contractor to another under the Water Management Tools contract amendment, it is expected that there will not be much water available under Article 56d in the future. Zone 7 is therefore assuming no supplies are available from this source under normal conditions.

6.2.1.2.1.5 Yuba Accord

In 2008, Zone 7 entered into a contract with DWR to purchase additional water under the Lower Yuba River Accord (Yuba Accord). The original contract expires in 2025, and several amendments have been made to the original agreement over the years, including a new pricing agreement executed in 2020.

There are four different types ("Components") of Yuba Accord water made available as a water purchase or transfer; Zone 7 has the option to purchase Components 1, 2, and 3 water during drought conditions, and Component 4 water when the Yuba County Water Agency has determined that it has water supply available to sell.

Water is primarily available during dry years under the Yuba Accord, and the amount is highly variable: 400 AF in 2014, approximately 300 AF in 2015, and 3,000 AF in 2020. For planning purposes, Zone 7 currently does not assume any water supply yield specifically from the Yuba Accord, although water transfers obtained by Zone 7 (see Section 6.2.7) could potentially include supplies from the Yuba Accord.

6.2.1.2.2 Local Surface Water Runoff

Zone 7, along with ACWD, has a water right (Permit 11319 [Application 17002]) to divert flows from Arroyo Valle. Runoff from the Arroyo Valle watershed above Lake Del Valle is stored in the lake, which is managed by DWR as part of the SWP. Lake Del Valle also stores imported surface water deliveries from the SWP and serves both a flood control function, as well as a recreational one. In late fall, DWR typically lowers lake levels in anticipation of runoff from winter storm events. Water supply in Lake Del Valle is made available to Zone 7 via the SBA through operating agreements with DWR. Inflows to Lake Del Valle, after accounting for permit conditions, are equally divided between ACWD and Zone 7 under their respective permits.

Zone 7's latest modeling forecasts future average yields from Arroyo Valle to Zone 7 at approximately 5,500 AFY, using historical hydrology adjusted for climate change impacts. Previous planning documents, including Zone 7's 2015 UWMP, assumed an average yield of 7,300 AFY, and the ten-year calendar year average (2011-2020) has been 3,500 AFY; local climate change effects on the watershed—specifically a net average reduction in precipitation—are expected to reduce the yield over time. Construction of the Chain of Lakes Arroyo Valle diversion structure and pipeline will allow Zone 7 to capture more of the storm releases from Lake Del Valle and likely increase the yield from this water supply in the future. The conservative average yield estimate of 5,500 AFY is consistent with the 2019 WSE Update; it will be re-evaluated as more climate change downscaled information is developed and as the Chain of Lakes projects progress.

6.2.1.2.3 Local Storage

Zone 7 has two existing local storage options: Lake Del Valle and the Main Basin. Lake Del Valle stores both runoff from the Arroyo Valle watershed and imported surface water deliveries from the SWP. Zone 7 can store up to about 7,500 AF of its share of Arroyo Valle runoff in the lake; runoff collected in any given year is required to be delivered to Zone 7 by the end of the following year. The Main Basin is used conjunctively and is artificially recharged with SWP water. Zone 7 relies on the operational storage capacity of 126,000 AF in the Main Basin. Section 6.2.2.1 provides additional information on the Main Basin.

6.2.1.2.4 Non-Local Storage

In addition to local storage, Zone 7 also participates in the two non-local (also called "out-of-basin") groundwater banking programs described below; both banks are located in Kern County. Note that while these banking programs provide a water source during drought years, they represent water previously stored from Zone 7's surface water supplies during wet years. Therefore, they do not have a net contribution to Zone 7's water supply over the long-term and in fact result in some operational losses as described below. While the out-of-basin groundwater banks significantly enhance system reliability, this banked water supply requires Banks Pumping Plant in the Delta and the SBA to be operational; low SWP Table A allocations (and generally low levels of water movement in the SWP system) can limit the delivery of these banked supplies via exchange. Figure 6-1 shows the historical operation of the Kern County banks—note the successful use of the groundwater banks to augment water supplies during the recent drought, and the recovery in the following years.

Point of Delivery Agreements with DWR and Kern County Water Agency, a SWP contractor, allow Zone 7 to store SWP water in and recover water from Semitropic Water Storage District (Semitropic) and Cawelo Water District (Cawelo). Semitropic and Cawelo are member units of Kern County Water Agency, which manages water deliveries to these agencies. Zone 7 has been storing water in the water banks operated by Semitropic since 1998 and by Cawelo since 2006. In November 2020, the Zone 7 Board of Directors (Zone 7 Board) authorized the execution of amendments to existing Point of Delivery Agreements that would extend water delivery terms for storage in Semitropic and Cawelo through 2030 and recovery of banked water through 2035.

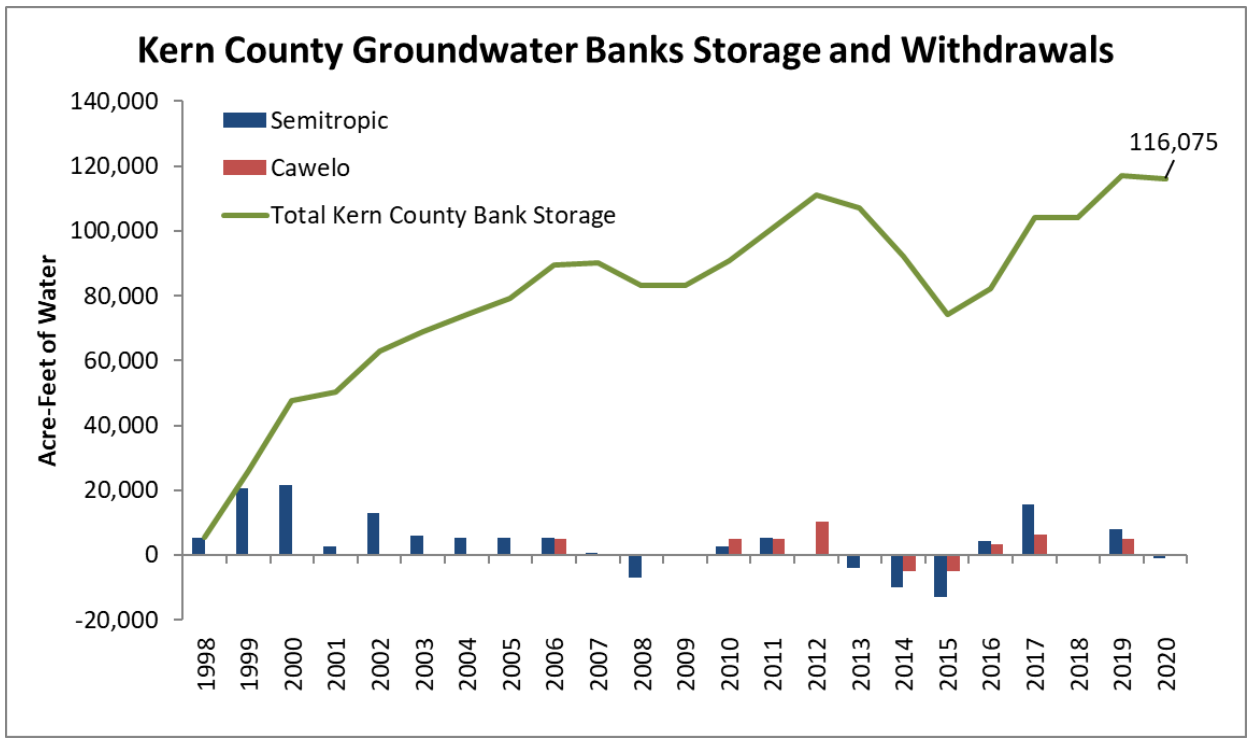


Figure 6-1. Kern County Groundwater Banks Operations

6.2.1.2.4.1 Semitropic Water Storage District

Zone 7 originally acquired a storage capacity of 65,000 AF in the Semitropic groundwater banking program in 1998. Subsequently, Zone 7 agreed to participate in Semitropic's Stored Water Recovery Unit, which increased pumpback capacity and allowed Zone 7 to contractually store an additional 13,000 AF. Zone 7 currently has a total of 78,000 AF of groundwater banking storage capacity available to augment water supplies during drought and emergency conditions and as needed. Zone 7 can store up to 5,883 AFY in the Semitropic groundwater bank. Note that a 10 percent loss is associated with water stored in Semitropic.

Under the contract terms, Zone 7 can request up to 9,100 AF of pumpback and up to 8,645 AF of exchange water. Pumpback is water that is pumped out of the Semitropic aquifer and into the SWP system. Exchange water is water that is transferred between Zone 7 and Semitropic by adjusting the amounts of Table A water delivered to Zone 7 and Semitropic; the availability of this type of water depends on the SWP allocation. During the recent drought, Zone 7 was able to recover 9,900 AF in 2014 and about 12,800 AF in 2015. Zone 7 has largely been storing water in Semitropic over the past few years but did recover 324 AF in 2016 and 1,000 AF in 2020.

6.2.1.2.4.2 Cawelo Water District

Similar to the arrangements with Semitropic, Zone 7 has 120,000 AF of groundwater banking storage capacity available with Cawelo, as executed in a 2006 agreement. Zone 7 can store up to 5,000 AFY in the bank and can request up to 10,000 AFY of pumpback (or SWP exchange water) from Cawelo. During the recent drought, Zone 7 was able to recover 10,000 AF, delivered evenly over 2014 and 2015. Most of this water was used directly, while the rest was stored in San Luis Reservoir for use the following year. Zone 7 only accumulates 50 percent of the water sent to storage in Cawelo; the other 50 percent goes towards water loss and compensation to Cawelo.

6.2.2 Groundwater

This section describes the Livermore Valley Groundwater Basin and Zone 7's Groundwater Management Plan[12], which is used to manage the basin. Each year, Zone 7 prepares an Annual Report for the Groundwater Management Program. A copy of the Executive Summary of the 2019 Water Year Annual Report is provided in Appendix H.

The City owns and operates three active groundwater wells in the Main Basin, which is a portion of the Livermore Valley Groundwater Basin. The City's groundwater resource is described below.

6.2.2.1 Groundwater Basin Description

Zone 7 has managed local surface water and groundwater resources for beneficial uses in the Livermore Valley Groundwater Basin (Basin) for more than 50 years. Consistent with its management responsibilities, duties, and powers, Zone 7 is designated in the 2014 Sustainable Groundwater Management Act (SGMA) as the exclusive Groundwater Sustainability Agency (GSA) within its jurisdictional boundaries.

As defined in DWR Bulletin 118 Update 2003 (California's Groundwater), the Basin (DWR Basin 2-10, shown on Figure 6-2) covers 69,600 acres (109 square miles), extending from the Pleasanton Ridge east to the Altamont Hills and from the Livermore Uplands north to the Tassajara Uplands. The Basin is not adjudicated, and DWR has identified it as medium priority; Basin 2-10 is not identified as either in overdraft or expected to be in overdraft. Surface drainage features include Arroyo Valle, Arroyo Mocho, and Arroyo Las Positas as principal streams, with Alamo Creek, South San Ramon Creek and Tassajara Creek as minor streams. All streams converge on the west side of the basin to form Arroyo de la Laguna, which flows south and joins Alameda Creek in Sunol Valley and ultimately drains to the San Francisco Bay. Some geologic structures restrict the lateral movement of groundwater, but the general groundwater gradient is from east to west, towards Arroyo de la Laguna, and from north to south along South San Ramon Creek and Arroyo de la Laguna.

The entire floor of the Livermore Valley and portions of the upland areas on all sides of the valley overlie groundwater-bearing materials. The materials are mostly continental deposits from alluvial fans, outwash plains, and lakes. They include valley-fill materials, the Livermore Formation, and the Tassajara Formation. Under most conditions, the valley-fill and Livermore Formation yield adequate to large quantities of groundwater to all types of wells, with the larger supply wells being in the Main Basin. The Main Basin is composed of the Castle, Bernal, Amador, and Mocho II sub-basins, with an estimated total storage capacity of 254,000 AF.

[12] Jones & Stokes, 2005. Groundwater Management Plan for Livermore-Amador Valley Groundwater Basin. http://www.zone7water.com/index.php/36-public/content/79-groundwater-management-plan

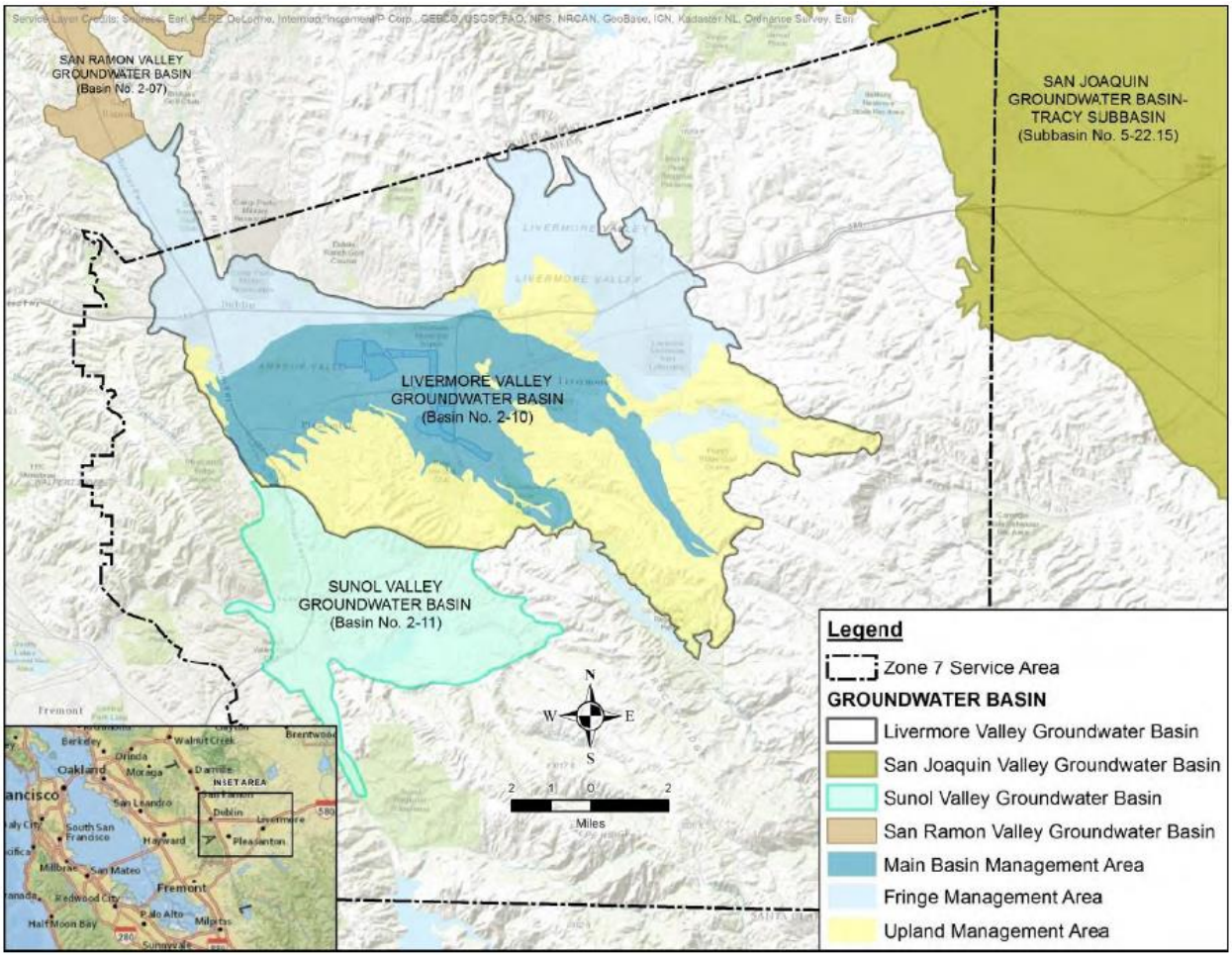


Figure 6-2. Livermore Valley Groundwater Basin and Subbasins

6.2.2.2 Groundwater Management

Zone 7's GMP documented all of Zone 7's then-current groundwater management policies and programs and was developed to satisfy the requirements set forth in the California Groundwater Management Planning Act (Water Code Sections 10750, *et seq*.). More recently, a Salt and Nutrient Management Plan has been incorporated into the GMP. Zone 7 prepares annual reports that summarize the results of the groundwater monitoring, evaluation, and management efforts by water year; the most recent version of the annual report is for the 2019 water year (October 1, 2018 through September 30, 2019). In addition to the annual reports completed over the years, Zone 7 completed the Alternative Groundwater Sustainability Plan for the Livermore Valley Groundwater Basin (Alternative GSP) in 2016 as required under SGMA.

For Zone 7's operations, the Main Basin is considered a storage facility and not a long-term water supply, because Zone 7 does not have access to naturally recharged water ("sustainable yield"). Zone 7 only pumps groundwater that has been artificially recharged with surface water supplies. As part of this conjunctive use program, Zone 7's policy is to maintain groundwater levels above historic lows in the Main Basin to minimize the risk of inducing land subsidence. Currently, this is accomplished by releasing SWP water to the arroyos for percolation and replenishment of the aquifers and by managing pumping activities.

Zone 7 established historic lows based on the lowest measured groundwater elevations in various wells in the Main Basin. The difference between water surface elevations when the Main Basin is full and water surface elevations when the Main Basin is at historic lows defines Zone 7's operational storage. Of the estimated total storage capacity of 254,000 AF, operational storage is about 126,000 AF based on Zone 7's experience operating the Main Basin, with the remaining 128,000 AF considered emergency reserve storage.

6.2.2.2.1 Groundwater Level Monitoring and Storage Estimates

Zone 7 routinely monitors groundwater levels within the Main Basin. Some of the data collected is submitted to DWR under the California Statewide Groundwater Elevation Monitoring (CASGEM) program. All the data is reflected in the annual reporting on the Groundwater Management Program.

Two independent methods are used to estimate groundwater storage: 1) Hydrologic Inventory, and 2) Nodal Groundwater Elevation. The Hydrologic Inventory method computes storage change each quarter from basin supply and demand data; this method can also be used to forecast future water storage conditions. The Nodal Groundwater Elevation method computes storage from hundreds of water level measurements. Zone 7 continues to refine the calculation methods; the average of the two results is generally used as the estimate of total groundwater storage volume.

Figure 6-3 depicts Main Basin storage levels calculated using the average of these two methods in thousand acre-feet (TAF). Note the declines in storage due to drought, particularly between 1987 and 1992 and more recently between 2012 and 2015. Stored groundwater at the end of the 2020 water year (October 1, 2019 through September 30, 2020) was approximately 240,000 AF, with 112,000 AF of groundwater available as operational storage.

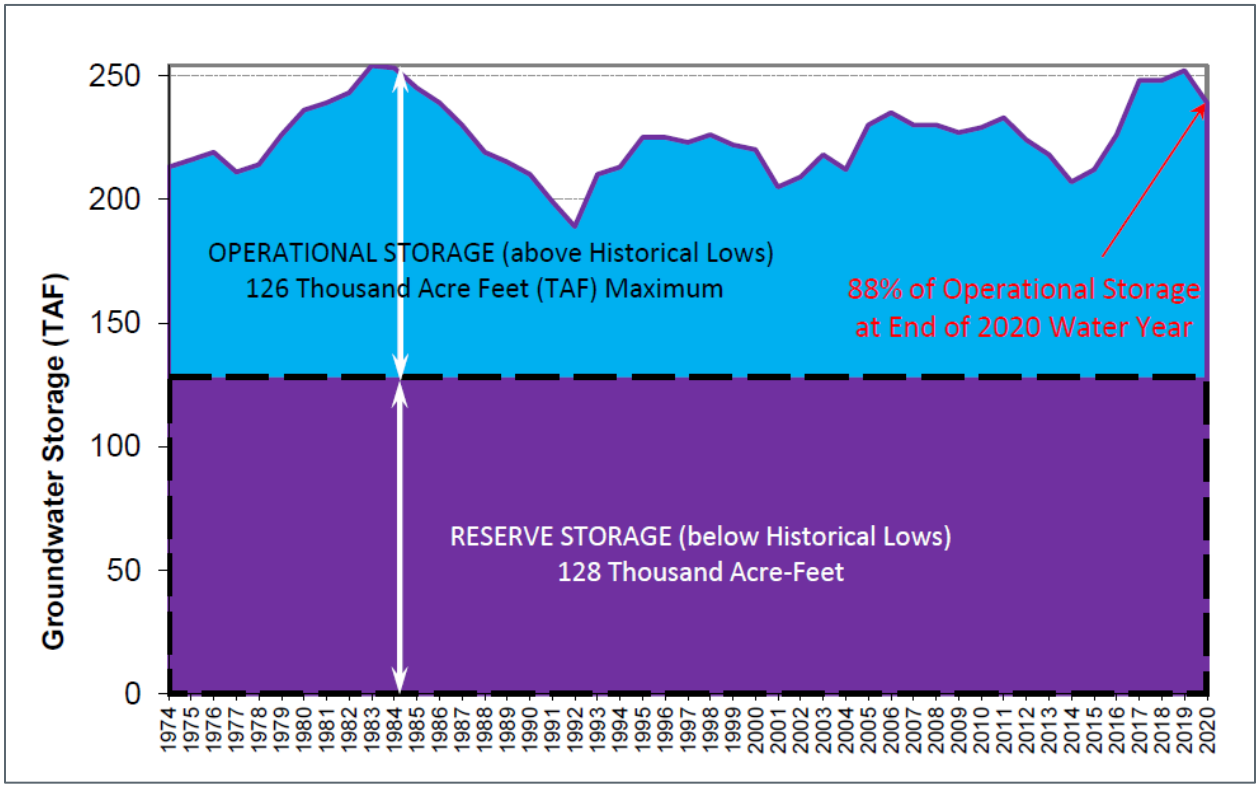


Figure 6-3. Main Basin Groundwater Storage

6.2.2.2.2 Current Sustainable Yield and Groundwater Pumping Quotas

Long-term natural sustainable yield is contractually defined as the average amount of groundwater annually replenished by natural recharge in the Main Basin—through percolation of rainfall, natural stream flow, and irrigation waters, and inflow of subsurface waters—and which can therefore be pumped without lowering the long-term average groundwater volume in storage. In contrast, "artificial recharge" is the aquifer replenishment that occurs from artificially induced or enhanced stream flow. With artificial recharge, more groundwater can be sustainably extracted from the Main Basin each year. Zone 7 only uses groundwater that has been artificially recharged by Zone 7.

The natural sustainable yield of the Main Basin has been determined to be about 13,400 AFY, which is about 11 percent of the operational storage. This long-term natural sustainable yield is based on over a century of hydrologic records and projections of future recharge conditions.

Each Zone 7 retailer has an established GPQ, formerly referred to as the "Independent Quota" in the original Municipal and Industrial water supply contract between Zone 7 and each retailer. GPQs are 3,069 AFY for Cal Water, 645 AFY for DSRSD, and 3,500 AFY for the City. The City and Cal Water pump their own GPQ, while Zone 7 pumps DSRSD's GPQ. Livermore has not had any groundwater pumping capability for many years and has therefore not been using their GPQ. Averages are maintained by allowance of "carryover"—limited to 20 percent of the GPQ (i.e., 700 AFY for the City)—when less than the GPQ is used in a given year. A retailer must pay a "recharge fee" for all groundwater pumped exceeding their GPQ and any carryover. This practice helps avoid a repeat of historical over-drafting of the basin by the larger municipal users. The fee covers the cost of importing and recharging additional water into the Main Basin. The balance of the natural sustainable yield is pumped for other municipal, agricultural, and gravel mining uses.

Zone 7's groundwater extraction for its treated water system does not use the natural sustainable yield from the Main Basin; instead, Zone 7 pumps only water that has been recharged as part of its artificial recharge program using its available surface water supplies. During high demand periods, groundwater is used to supplement surface water supply delivered via the SBA. Groundwater is also used when the SBA is out of service due to maintenance and improvements or when Zone 7's surface water treatment plants are operating under reduced capacity due to construction, repairs, etc. Finally, Zone 7 taps into its stored groundwater under emergency or drought conditions, when there may be insufficient surface water supply available.

Zone 7 also pumps groundwater out of the Main Basin during normal water years to help reduce the salt loading in the Main Basin in accordance with the Salt Management Plan. The Mocho Groundwater Demineralization Plant (MGDP) has been in operation since 2009 to achieve additional salt removal. During emergency or drought conditions, MGDP operations may be reduced to maximize available water supply and avoid water loss due to brine disposal from the MGDP.

On average, Zone 7 plans to recharge about 9,200 AFY in the future, which means that Zone 7 can pump an equivalent 9,200 AFY from the Main Basin on average.

6.2.2.2.3 Artificial Recharge and Groundwater Extraction by Zone 7

Before the construction of the SWP in the early 1960s, groundwater was the sole water source for the Livermore-Amador Valley. This resource has gone through several periods of extended withdrawal and subsequent recovery. The Main Basin was over drafted in the 1960s when approximately 110,000 AF of groundwater was extracted. The Main Basin was allowed to recover from 1962 to 1983. It was during this era that Zone 7 first conducted a program of groundwater replenishment by recharging imported surface

water via its streams or arroyos ("in-stream recharge" or "artificial recharge") for storage in the Main Basin, began supplying treated surface water to customers to augment groundwater supplies, and regulating municipal pumping by other users.

Figure 6-4 shows Zone 7's total annual artificial recharge amounts, pumping amounts, and their cumulative net impacts to operational storage from the 1974 water year to the 2020 water year. Zone 7's operational policy is to maintain the balance between the combination of natural and artificial recharge and withdrawal or pumping to maintain groundwater levels above the emergency reserve storage. Zone 7 has generally been able to pump as much groundwater as it has needed to over the last five years; however, during the recent drought, decreases in groundwater elevation did noticeably affect the production of certain wells. Zone 7 is continuing to study the groundwater basin and developing new tools (such as an improved groundwater model) to better understand the levels of groundwater extraction possible under various conditions and contributing factors such as groundwater connectivity, spatial distribution of groundwater in the Main Basin, and others.

Since 1974, Zone 7 has artificially recharged over 67,000 AF more water than it has pumped, helping to offset demands and keeping the Main Basin's groundwater levels above the historical lows. Between 1974 and 2007 Zone 7 had artificially recharged approximately 70,000 AF more than it had pumped during that same time; however, since 2007, Zone 7 has artificially recharged about 3,000 AF less than it has pumped, primarily due to construction work on the SBA, recent drought conditions, and lower-than-average SWP allocations over that same time period. Overall net groundwater storage remains significantly above historical lows, as shown on Figure 6-3.

Zone 7 plans to augment its current groundwater in-stream recharge capacity with off-stream recharge using the future Chain of Lakes.

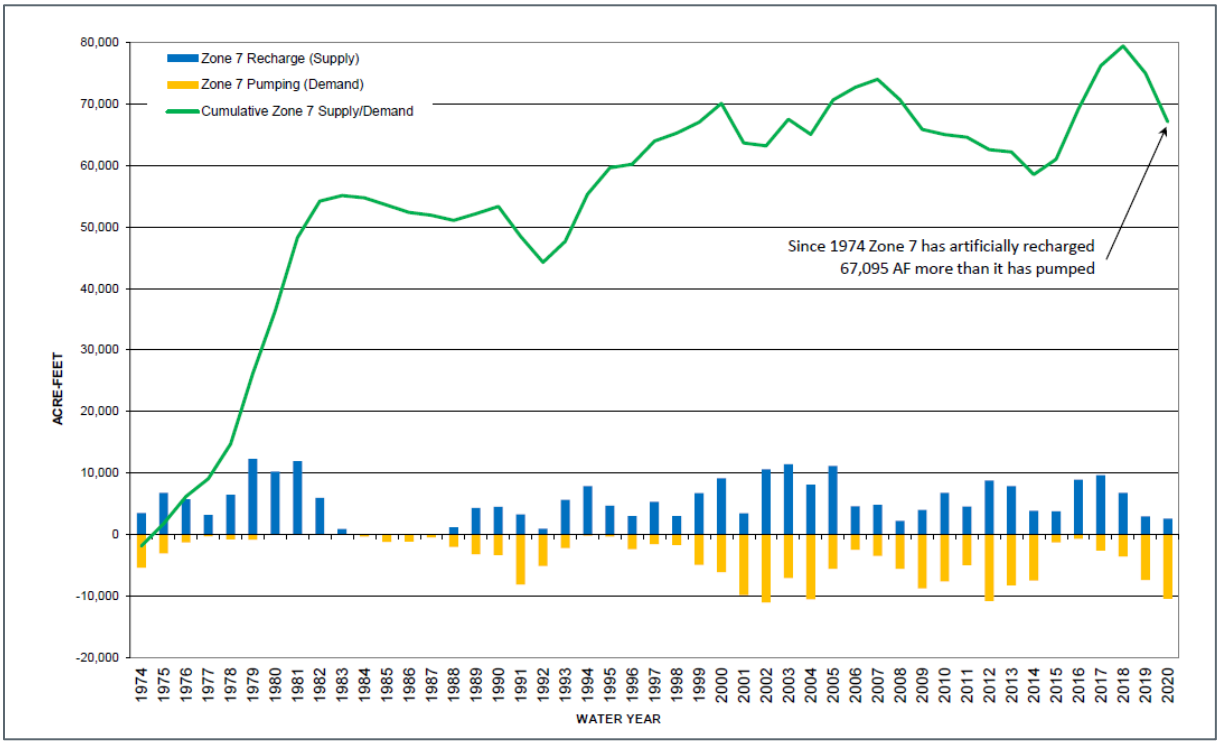


Figure 6-4. Artificial Recharge, Pumping, and Net Cumulative Impacts to Operational Storage

6.2.2.2.4 Groundwater Quality Monitoring and Protection

In general, the Main Basin contains good-quality groundwater that meets all state and federal drinking water standards; groundwater is chloraminated to match the disinfectant residual in the transmission system. Zone 7 has several groundwater wells with naturally-occurring hexavalent chromium (Cr(VI)) concentrations near the Maximum Contaminant Level (MCL) and polyfluoroalkyl substances (PFAS) above the notification limit. In response, Zone 7 is actively managing flows from the affected wells. For example, Cr(VI) levels at the Stoneridge well is being managed through system blending and/or blending with other wells. Also, the PFAS levels in the Mocho 2 well currently require blending with the other wells in that wellfield and/or being sent through the MGDP. These conditions are being monitored and may change in the future.

Over the last few decades, there has been a slow degradation of groundwater quality as evidenced by rising total dissolved solids (TDS) and hardness levels. To address this problem, Zone 7 developed a Salt Management Plan[13] (SMP), which was approved by the Regional Water Quality Control Board (RWQCB) in 2004, satisfying a condition of the Master Water Recycling Permit. The SMP was incorporated into Zone 7's GMP in 2005. Salinity levels are being addressed primarily through groundwater pumping and demineralization[14]. Zone 7 completed construction of the 6.1-MGD MGDP in 2009 in the Mocho wellfield. The facility simultaneously allows for the removal and export of concentrated minerals or salts from the Main Basin and the delivery of treated water with reduced TDS and hardness levels to Zone 7's customers. Table 6-1 lists the average TDS and hardness for each year from 2016 through 2020.

Table 6-1. Groundwater Quality: TDS and Hardness (2016-2020)

Year	Total Dissolved Solids (TDS), mg/L	Hardness, mg/L
2016	685	416
2017	673	395
2018	673	409
2019	687	417
2020	683	433

Zone 7 implements a wastewater and recycled water monitoring program as part of the GMP. In the 2020 water year, about 14 percent (1,036 AF) of the recycled water produced in the Tri-Valley area was applied to landscapes over the Main Basin; the remainder was applied on areas outside of the Main Basin, primarily on areas overlying the Dublin and Camp fringe basins and the Tassajara uplands. There is also a small amount of untreated wastewater (681 AF in the 2020 water year) that is discharged to the Main Basin as leachate from wastewater treatment ponds located in southern Livermore, from onsite domestic wastewater systems (septic systems), and from leaking wastewater and recycled water pipelines that run throughout the Basin.

[13] Zone 7 Water Agency, 2004. Salt Management Plan. http://www.zone7water.com/publications-reports/reports-planning-documents/158-salt-management-plan-2004

[14] The brine concentrate resulting from the treatment system is exported to the San Francisco Bay via a regional wastewater export pipeline.

Nitrates and salinity have historically been the primary water quality constituents-of-concern in wastewater and recycled water, but nitrates have become less of a concern since 1995, when the LWRP and DSRSD's RWTF, two wastewater treatment facilities in the area feeding into recycled water facilities, reduced nitrates in their effluent. Salinity is addressed by the SMP, as discussed above. In 2015, Zone 7 completed a Nutrient Management Plan (NMP)[15], which provides an assessment of the existing and future groundwater nutrient concentrations relative to the current and planned expansion of recycled water projects and future development in the Livermore Valley. The NMP also presents planned actions for addressing positive nutrient loads and high groundwater nitrate concentrations in localized Areas of Concern where the use of septic systems is the predominant method for sewage disposal. The NMP was prepared as a supplement to the SMP; together, they are a Salt and Nutrient Management Plan, which has been incorporated into the GMP and Alternative GSP.

Under the Toxic Sites Surveillance Program, Zone 7 documents and tracks polluted sites across the groundwater basin that pose a potential threat to drinking water and interfaces with lead agencies to ensure that the Main Basin is protected. Information is gathered from state, county, and local agencies, as well as from Zone 7's well permitting program and the SWRCB's GeoTracker website and compiled in a GIS database. In general, there are two types of spills potentially threatening the Livermore Valley Groundwater Basin: petroleum-based fuel products and industrial chemical contaminants. In the 2020 water year, Zone 7 tracked the progress of 56 active sites where contamination has been detected in groundwater or is threatening groundwater. More details on the affected sites and their remediation can be found in the annual report.[16]

6.2.2.2.5 Land Surface Elevation Monitoring Program

Previously, Zone 7's Land Surface Elevation Monitoring Program involved contracting with a licensed land surveyor to measure land surface elevations within the Main Basin boundary twice per year. The program included a network of approximately 40 elevation benchmarks encompassing Zone 7's production wellfields and spanning the Bernal and Amador Subareas within the Main Basin.

In the 2016 water year, Zone 7 contracted with TRE Altamira (TRE) to evaluate Interferometric Synthetic Aperture Radar (InSAR) as an alternative to land surveying for subsidence monitoring. TRE analyzed InSAR data from three different satellites over a 24-year period (from 1992 to 2016) which included approximately 120 satellite images with between 415 and 1,202 measuring points per square mile. Each measuring point contains a deformation time series, including cumulative displacement, average deformation rate, acceleration, and seasonal amplitude. The study results correlated well with topographic surface measurements taken by land surveys within the same time period. An added benefit of the InSAR dataset was that it included a larger area (i.e., the entire Main Basin) than the land surveying.

Starting in the 2019 water year, Zone 7 retired the land surveying program and transitioned to InSAR for monitoring land subsidence. In general, observed land surface elevation changes between September 2018

[15] Zone 7 Water Agency, 2015. Nutrient Management Plan – Livermore Valley Groundwater Basin.
http://www.zone7water.com/images/pdf_docs/groundwater/nmp-2015_final.pdf

[16] Zone 7 Water Agency, 2020. Annual Report for the Sustainable Groundwater Management Program, 2019 Water Year (October 2018-2019), Livermore Valley Groundwater Basin.
https://www.zone7water.com/36-public/content/76-groundwater-management-program-annual-report

to September 2019 near Zone 7's municipal wells were within the range Zone 7 considers to be "elastic deformation" (i.e., rebound to their original location when groundwater levels return to previous levels).

6.2.2.3 Historical and Projected Groundwater Use

As described above, the City has a GPQ of 3,500 AFY in the Main Basin. Historical groundwater pumpage from 2016 through 2020 is shown in Table 6-2. The City expects to pump 3,500 AFY on average in the future.

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

☐	Supplier does not pump groundwater. The supplier will not complete the table below.
☐	All or part of the groundwater described below is desalinated.

Groundwater Type ***Drop Down List*** *May use each category multiple times*	Location or Basin Name	2016*	2017*	2018*	2019*	2020*
Alluvial Basin	Livermore Valley Groundwater Basin	3,426	4,541	3,499	3,549	3,027
	TOTAL	3,426	4,541	3,499	3,549	3,027

**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*

NOTES: Volumes are in AF.

6.2.3 Surface Water

As described in Section 6.2.1, the City receives treated surface water from Zone 7, whose supplies include imported surface water from the SWP and local surface water captured in the Del Valle Reservoir.

6.2.4 Stormwater

Stormwater can be beneficially reused as a water supply source to meet local water supply demands. Beneficial reuses include blending with other water supplies for groundwater recharge, redirecting it into constructed wetlands or landscaping, and diverting it to a treatment facility for subsequent reuse. Currently, the City does not implement any stormwater recovery systems.

6.2.5 Wastewater and Recycled Water

DSRSD is responsible for treating and discharging treated wastewater for the Cities of Dublin, South San Ramon, and the City. In addition, DSRSD owns and operates a water recycling plant at the RWTF and participates with EBMUD in a joint powers authority (DSRSD-EBMUD Recycled Water Authority, or DERWA) that operates the San Ramon Valley Recycled Water Program (SRVRWP). The SRVRWP provides recycled water that meets Title 22 disinfected tertiary recycled water requirements to landscape irrigation customers of DSRSD and EBMUD (including the City of San Ramon, City of Dublin, Dougherty Valley, Town of Danville, and Town of Blackhawk areas of Alameda and Contra Costa counties). The City began using recycled water from DERWA facilities in 2014 and will continue to expand use in the future.

Wastewater produced from the City's Ruby Hills housing development is sent to the LWRP. The City receives recycled water from Livermore for landscape irrigation servicing new development in the eastern portion of the City, referred to as the Staples Ranch region, which terminates at El Charro Road.

6.2.5.1 Recycled Water Coordination

In the early 1990s, DSRSD, Livermore, and Zone 7 undertook a Tri-Valley recycled water study and conducted a series of public workshops as a part of that process. As a result of that effort, the SWRCB issued a Master Water Recycling Permit (Order No. 93-159) to the three agencies in December 1993. The permit established the requirements for recycled water irrigation, groundwater recharge, and other Title 22-approved projects.

Zone 7 reviews DSRSD's recycled water plans from two perspectives—water supply management and groundwater protection. Recycled water is tertiary treated wastewater and is a very reliable supply; however, the use of recycled water was discouraged in the past due to the potential of salt buildup in the Main Basin. Developed in 2004, Zone 7's SMP identified demineralization with export of the brine stream as the best means of mitigating salt loading in the Main Basin. The SWRCB's 2009 Recycled Water Policy required the development of a Nutrient Management Plan, which Zone 7 completed in 2015. Zone 7 has incorporated a Salt and Nutrient Management Plan into the Groundwater Management Plan originally developed in September 2005.

The City does not produce recycled water. It purchases tertiary, disinfected recycled water produced at DSRSD's RWTF and the LWRP. These two recycled water sources are described below.

6.2.5.1.1 DSRSD-EBMUD Recycled Water Authority (DERWA)

Currently, wastewater from Dublin, the City, and the southern portion of San Ramon are treated at DSRSD's RWTF. A portion of the secondary effluent is routed to DSRSD's water recycling plant for tertiary treatment and distribution through DERWA facilities. DSRSD coordinates with the planning departments in the cities of Dublin and San Ramon, Alameda and Contra Costa counties, and the U.S. Army Reserve to ensure that recycled water is used where it is available. DSRSD and EBMUD work together to manage recycled water supply demands.

The City and DSRSD each own 8.5 million gallons per day (MGD) of secondary treatment capacity at the DSRSD RWTF. The City maintains the first right to use the secondary effluent produced from wastewater originating from the City's wastewater collection system for recycling. DSRSD maintains the first right to use secondary effluent produced from the DSRSD collection system for recycling. According to the 2003 DERWA Water Sales Agreement, all recycled water produced by DSRSD is delivered to DERWA for subsequent wheeling to the EBMUD and DSRSD water service areas. DSRSD's tertiary treatment capacity is 16.2 MGD. Recycled water is delivered by DERWA on a first come first serve basis.

DSRSD monitors recycled water uses and files reports with the SWRCB Division of Drinking Water and the San Francisco Bay RWQCB, in conformance with DSRSD's General Water Reuse Order No. WQ 2016-0068-DDW (General Order 2016).

The DERWA recycled water system has three components owned by three different agencies:

- DERWA owns the Pump Stations R1 (at the RWTF), R200B, and R200A, as well as Reservoirs R100 and R200.

- EBMUD owns and operates the recycled water distribution pipeline system contained within its service area and will have two pump stations and a reservoir (future facilities).
- DSRSD owns and operates the recycled water treatment facilities at its wastewater treatment plant that treat wastewater from Dublin, South San Ramon and the City, and the recycled water distribution pipeline system within its service area, along with three pump stations, R300A, R300B, and R20, and two reservoirs, R20 and R300.

The City connects to the DERWA system near the corner of the DSRSD Dedicated Land Disposal site, adjacent to Stoneridge Drive near the DSRSD RWTF.

6.2.5.1.2 Livermore Water Reclamation Plant

The LWRP can produce up to 6.0 MGD, or approximately 18 AF per day of recycled water. In 2020, the LWRP produced approximately 2,470 AF of recycled water, with 2,180 AF used within the Livermore Municipal Service Area.

6.2.5.2 Wastewater Collection, Treatment, and Disposal

DSRSD's RWTF and the LWRP both provide wastewater collection and treatment services for the City's service area. Treated wastewater from both facilities are sent through the Livermore Amador Valley Water Management Agency (LAVWMA) pipeline for ultimate disposal by the East Bay Dischargers Authority (EBDA) in the San Francisco Bay.

The wastewater collection and treatment systems at DSRSD's RWTF and the LWRP are described below.

6.2.5.2.1 DSRSD's Regional Wastewater Treatment Facility (RWTF)

DSRSD owns and operates the RWTF, which treats wastewater from Dublin, South San Ramon, and the City. The RWTF includes conventional secondary treatment facilities, as well as tertiary and advanced recycled water treatment facilities. Conventional secondary wastewater treatment facilities include primary sedimentation, activated sludge secondary treatment, secondary sedimentation, chlorine disinfection, and effluent pumping. The secondary treatment facilities currently have an ADWF capacity of 17.0 MGD. At projected buildout, the secondary facilities will have an ADWF capacity of 20.7 MGD; 10.4 MGD of this influent is projected to originate from the DSRSD service area. The remaining 10.3 MGD of influent is projected to originate from the City. DSRSD treats City influent by contract.

At DSRSD's RWTF, a portion of the secondary effluent is treated further to produce Title 22 disinfected tertiary recycled water. During the dry season when recycled water demands are high, recycled water is produced using sand filtration and ultraviolet disinfection facilities (SFUV), which have a treatment capacity of 16.2 MGD.

DSRSD's RWTF also includes microfiltration and ultraviolet disinfection facilities (MFUV) with a treatment capacity of 3.0 MGD. These facilities currently act as backup facilities for the SFUV facilities and are used during times of low and high demands. The SFUV facilities have less flexible startup and shutdown requirements, whereas the MFUV facilities have a wide turndown range; therefore, they are used during low flow periods. During high demand periods, the SFUV facilities are used, with the MFUV facilities serving as backup when units in the SFUV facilities are undergoing maintenance, repair, or replacement.

DSRSD's MFUV facilities were designed to produce recycled water suitable for both non-potable reuse and groundwater recharge, a potential future use that would replenish and improve local groundwater

quality. MFUV construction was completed in 1999. The MFUV project is currently producing recycled water that meets California Title 22 requirements for unrestricted reuse and received approval for groundwater recharge from the California Department of Public Health, which has transitioned to the SWRCB Division of Drinking Water, and RWQCB. As described further in Section 6.2.8, potable reuse projects remain a potential option for the Tri-Valley. Zone 7 and the other retailers will be studying this option. The City has currently elected not to participate in studying potable reuse.

Wastewater that is not recycled is discharged into the San Francisco Bay through a pipeline owned by LAVWMA, a joint powers agency created in 1974 by DSRSD, Livermore, and the City. Operations began in September 1979, with an expansion in 2005, for a current design capacity of 41.2 MGD. The wastewater is conveyed via a 16-mile pipeline from the City to San Leandro and enters the EBDA system for dechlorination and discharge through a deepwater outfall to the San Francisco Bay.

6.2.5.2.2 Livermore Water Reclamation Plant

Livermore owns and operates the LWRP, which treats wastewater collected from Livermore, Lawrence Livermore National Laboratory, and the City's Ruby Hills housing development. From 2018 to 2020, the LWRP received an average daily dry weather flow of approximately 5.4 MGD. Wastewater is treated using conventional primary and secondary wastewater treatment processes, as well as tertiary treatment to produce recycled water.

The conventional wastewater treatment processes at the LWRP consist of the following:

- Primary sedimentation where heavy organic solids are removed from the raw sewage and sent to solids stabilization and dewatering facilities
- Secondary treatment utilizing the activated sludge process, which removes 85 to 95 percent of the remaining organic material after primary sedimentation
- Disinfection using sodium hypochlorite to reduce the bacteria levels in the secondary effluent prior to disposal
- Disposal of secondary effluent through the LAVWMA pipeline
- Solids stabilization using anaerobic digestion followed by belt pressing for dewatering prior to beneficial reuse as alternate daily cover or land application

Tertiary treatment for water reclamation consists of the following:

- Mono-media filters, where 95 to 99 percent of suspended material is removed from secondary effluent
- Disinfection using ultraviolet light (UV) prior to disposal

The tertiary treated effluent that satisfies California Title 22 requirements for unrestricted water reuse is recycled through landscape irrigation. From 2018 to 2020, 2.0 MGD was recycled on average. While the tertiary filtration capacity of the LWRP is approximately 10 MGD, the overall recycled water production capacity is limited by the UV disinfection capacity to 6 MGD.

6.2.5.2.3 Wastewater Treatment and Discharge Within Service Area

Table 6-3 summarizes wastewater collected within the City's service area in 2020. This includes wastewater sent to the RWTF and the LWRP.

Table 6-3. Wastewater Collected Within Area in 2020 (DWR Table 6-2 Retail)

☐	There is no wastewater collection system. The supplier will not complete the table below.
	Percentage of 2020 service area covered by wastewater collection system *(optional)*
	Percentage of 2020 service area population covered by wastewater collection system *(optional)*

Wastewater Collection			Recipient of Collected Wastewater			
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated? *Drop Down List*	Volume of Wastewater Collected from UWMP Service Area 2020 *	Name of Wastewater Treatment Agency Receiving Collected Wastewater	Treatment Plant Name	Is WWTP Located Within UWMP Area? *Drop Down List*	Is WWTP Operation Contracted to a Third Party? *(optional)* *Drop Down List*
City of Pleasanton	Metered	7,061	DSRSD	DSRSD RWTF	Yes	No
City of Pleasanton (Ruby Hills Development)	Estimated	280	City of Livermore	LWRP	No	No
Total Wastewater Collected from Service Area in 2020:		7,341				

**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3* **.**

NOTES: Volumes are in AF.

DSRSD's RWTF is located in the City's water service area. Therefore, the wastewater treated within the City's service area in 2020 includes wastewater that originated in the City of Dublin, South San Ramon, and the City. Table 6-4 identifies these volumes, as well as the recycled water from DSRSD's RWTF used within the City's service area. This includes recycled water delivered to the City's distribution system and recycled water used for landscape irrigation at DSRSD's RWTF, which is in the City's service area. The LWRP is not located within the City's service area and is therefore not included in Table 6-4. However, the City received approximately 98 AF of recycled water supplies from the LWRP in 2020.

Table 6-4. Wastewater Treatment and Discharge Within Service Area in 2020 (DWR Table 6-3 Retail)

☐	**No wastewater is treated or disposed of within the UWMP service area.** The supplier will not complete the table below.

Wastewater Treatment Plant Name	Discharge Location Name or Identifier	Discharge Location Description	Wastewater Discharge ID Number *(optional)* [2]	Method of Disposal *Drop down list*	Does This Plant Treat Wastewater Generated Outside the Service Area? *Drop down list*	Treatment Level *Drop down list*	2020 volumes [1]				
							Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area	Recycled Outside of Service Area	Instream Flow Permit Requirement
DSRSD RWTF	LAVWMA and EBDA	Deepwater outfall to San Francisco Bay		Bay or estuary outfall	Yes	Tertiary	11,555	6,423	1,130	4,002	0
						Total	11,555	6,423	1,130	4,002	0

[1] **Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.
[2] If the **Wastewater Discharge ID Number** is not available to the UWMP preparer, access the SWRCB CIWQS regulated facility website at https://ciwqs.waterboards.ca.gov/ciwqs/readOnly/CiwqsReportServlet?inCommand=reset&reportName=RegulatedFacility

NOTES: Volumes are in AF. Discharged treated wastewater equals the wastewater treated (i.e., RWTF influent) minus the total volume recycled (i.e., within service area and outside service area). The volume recycled within the service area includes landscape irrigation at the DSRSD RWTF. The Livermore Water Reclamation Plant (LWRP) is not located within the City's service area and therefore not included in this table. However, approximately 98 AF of the City's 2020 recycled water supplies came from the LWRP.

6.2.5.3 Recycled Water System Description

The City began constructing its recycled water system in June 2015 to serve landscapes irrigated with potable water.

The City's recycled water system includes approximately 51,500 LF of new recycled water pipeline, ranging in diameter from 6 inches to 20 inches, and approximately 22,400 LF of existing potable water pipelines repurposed into the recycled water system. This recycled water infrastructure is shown on Figure 6-5 and connects to DSRSD's RWTF and the City's existing 8 million gallon (MG) recycled water reservoir (Tassajara Reservoir), which was converted from a potable water storage facility in 2017.

The City's recycled water system is projected to serve a total of 99 permitted recycled water irrigation use sites (158 metered connections) once all customers have been connected to the system. An estimated 1,800 AFY of recycled water will be supplied to current and future irrigation customers, including City parks, schools, commercial property landscaping, streetscapes, and multi-family residential common areas. This supply will offset both potable water purchased from Zone 7 and local groundwater supplies.

The City's certified cross-connection specialist continues to work with the future customers along existing infrastructure in preparation for conversion to the recycled water system.

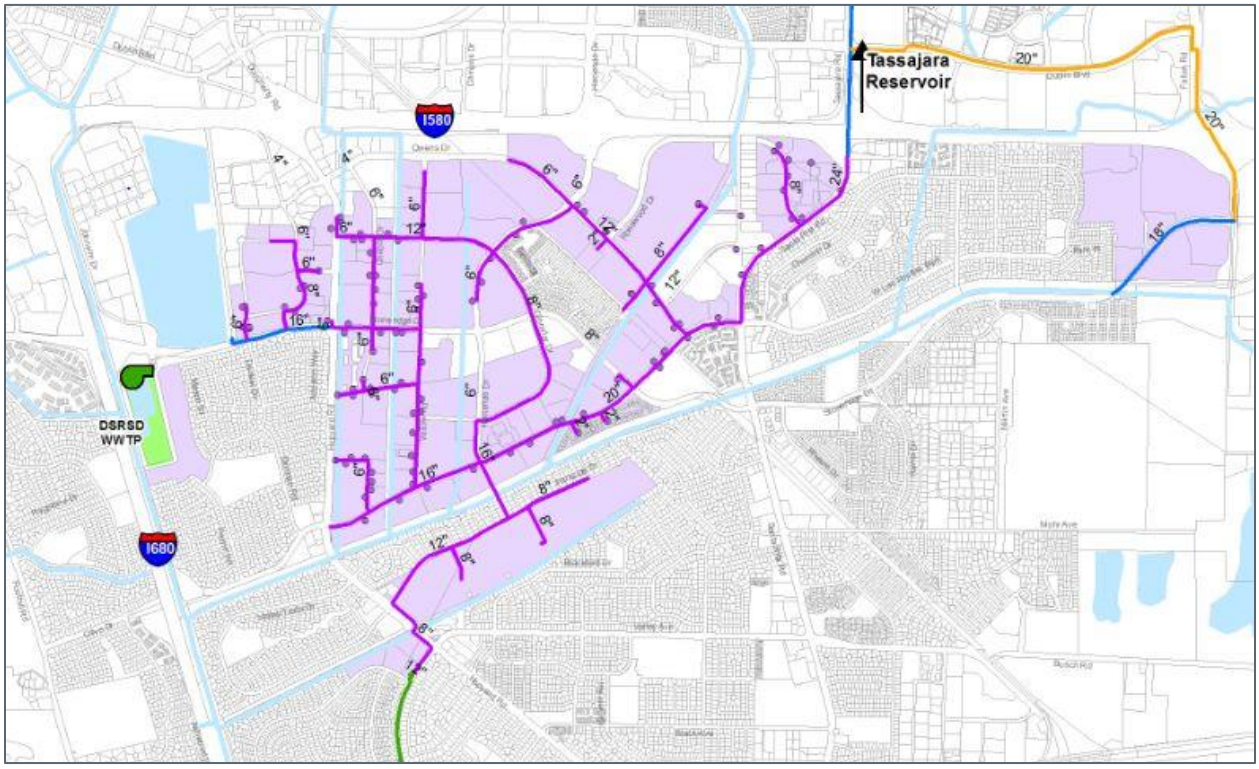


Figure 6-5. City of Pleasanton Recycled Water System

6.2.5.4 Potential, Current, and Projected Recycled Water Uses

Recycled water improves water supply reliability, preserves potable water supplies, and reduces wastewater discharges. The City's recycled water users were originally serviced under the authority of DSRSD or Livermore's General Order 96-011. In April 2020, the City, Livermore, and DSRSD transitioned from Regional Water Quality Control Board (San Francisco Bay Region) General Order 96-011 to SWRCB General Order 2016. The City currently permits the following recycled water uses:

- Landscape irrigation to designated irrigation meters
- Construction water, dust control, and surface washing
- Dual plumbing

In 2020, the City had a total of 89 permitted recycled water irrigation sites, one permitted dual plumbing site, and one site permitted for construction use (dust control/soil compaction). No permits have been issued that include impoundments. Five new recycled water users received permits in 2020; all were for landscape irrigation. In 2020, these customers used approximately 1,224 AF of recycled water combined, with nearly all consisting of landscape irrigation. Approximately 1.2 AF of recycled water was used for dual plumbing, and none was used for dust control or soil compaction.

Table 6-5 summarizes the amount of recycled water being used in 2020 for each direct beneficial use, as well as projected future volumes and uses. Approximately 1,300 AF of projected recycled water demands are estimated to replace current potable landscape demands. The actual and projected recycled water uses do not include recycled water system losses.

The 2020 projected estimates of recycled water use from the City's 2015 UWMP is compared to the actual 2020 recycled water use in Table 6-6.

Optimizing the use of recycled water is an important part of a reliable long-term irrigation supply for the City, which has the political support from City Council and City Management for implementing a robust recycled water program. Chapter 14.20 of the Pleasanton Municipal Code established a policy requiring irrigation customers directly along the recycled water distribution system to convert/connect to recycled water service consistent with all applicable legal requirements, except for specific defined exemptions. The major obstacle for the remaining identified customers that have yet to convert to recycled water is the cost to upgrade existing irrigation systems to pass required regulations.

The City has utilized incentives to assist customers with converting to recycled water, including setting its recycled water rate at 90 percent of its potable water rate (see Chapter 9). This financial incentive will likely provide adequate stimulus to encourage irrigation customers within the recycled water service area to use recycled water over potable water. Additionally, the connection fee to service new irrigation accounts is lower for recycled water than potable water. All irrigation meters (i.e., meters that service strictly landscape irrigation) servicing City-owned properties within the recycled water distribution area have been converted to recycled water.

The City's ongoing actions to encourage the use of recycled water are summarized in Table 6-7.

Table 6-5. Recycled Water Direct Beneficial Uses Within Service Area (DWR Table 6-4 Retail)

Beneficial Use Type *Insert additional rows if needed.*	**Potential** Beneficial Uses of Recycled Water (Describe)	Amount of **Potential** Uses of Recycled Water (Quantity) *Include volume units* [1]	General Description of 2020 Uses	Level of Treatment *Drop down list*	2020 [1]	2025 [1]	2030 [1]	2035 [1]	2040 [1]	2045 [1] (opt)
Agricultural irrigation										
Landscape irrigation (exc golf courses)				Tertiary	1,227	1,500	1,650	1,650	1,800	1,800
Golf course irrigation										
Commercial use										
Industrial use										
Geothermal and other energy production										
Seawater intrusion barrier										
Recreational impoundment										
Wetlands or wildlife habitat										
Groundwater recharge (IPR)										
Reservoir water augmentation (IPR)										
Direct potable reuse										
Other (Description Required)			Dual Plumbing	Tertiary	1					
				Total:	1,228	1,500	1,650	1,650	1,800	1,800
				2020 Internal Reuse	153					

NOTES: [1]Volumes are in AF. Recycled water system losses are not included. 2020 Internal Use is process water use at DSRSD RWTF. Landscape irrigation includes approximately 3 AF of use at the DSRSD RWTF.

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

☐	Recycled water was not used in 2015 nor projected for use in 2020. The supplier will not complete the table below. If recycled water was not used in 2020, and was not predicted to be in 2015, then check the box and do not complete the table.	
Beneficial Use Type	**2015 Projection for 2020 [1]**	**2020 Actual Use [1]**
Agricultural irrigation		
Landscape irrigation (exc golf courses)	1,679	1,227
Golf course irrigation		
Commercial use		
Industrial use		
Geothermal and other energy production		
Seawater intrusion barrier		
Recreational impoundment		
Wetlands or wildlife habitat		
Groundwater recharge (IPR)		
Reservoir water augmentation (IPR)		
Direct potable reuse		
Other (Construction)	121	0
Other (Dual Plumbing)	0	1
Total	1,800	1,228
[1] **Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.		
NOTE: Volumes are in AF. 2020 landscape irrigation includes approximately 3 AF of use at the DSRSD RWTF.		

Table 6-7. Methods to Expand Future Recycled Water Use (DWR Table 6-6 Retail)

☐	Supplier does not plan to expand recycled water use in the future. Supplier will not complete the table below but will provide narrative explanation.		
	Provide page location of narrative in UWMP		
Name of Action	Description	Planned Implementation Year	Expected Increase in Recycled Water Use *
Financial incentives	Price recycled water at reduced potable rates; Reduced connection fees for new recycled water meters	(see Note)	573
Conditional Requirements for Development Projects	All landscape irrigation meters will be converted to recycled water along recycled water distribution system	(see Note)	0
		Total	573
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*			
NOTES: Volumes are in AF. Actions were first implemented in 2015 and continue to be implemented. The expected increase in recycled water for all actions is included in the "Financial incentives" total.			

6.2.6 Desalinated Water

Due to infeasibility, the City does not independently consider the development of a desalinated water system as a source of water within the planning horizon. This includes ocean water, brackish water, and groundwater desalination (though Zone 7 desalinates a portion of its groundwater). However, desalination has been identified as a potentially viable water source for several Bay Area water suppliers, including Zone 7. The Bay Area Regional Desalination Project (BARDP) is detailed in Section 6.2.8.1.

6.2.7 Water Exchanges and Transfers

The City currently does not have any potable water transfer agreements, nor does the City anticipate participating directly in any such transfer opportunities in the future.

Zone 7 periodically supplements existing supplies with short-term transfers when needed and intends to more regularly acquire water transfers over the coming decade until major supply reliability project(s) come online starting around 2030. A transfer agreement with another SWP contractor using the SWP system—which Zone 7 is already invested in—is likely the most expedient and cost-effective transfer option. Transfer water would be conveyed to Zone 7 through the Delta and the SBA; the transfer amount could vary from year-to-year depending on hydrology but could average between 5,000 to 10,000 AFY. For the 2020 UWMP, Zone 7 is assuming 5,000 AFY in water transfers through 2030.

Zone 7 will continue to pursue and evaluate transfer opportunities in the Bay Area and statewide. Through the Bay Area Regional Reliability Partnership, Zone 7 is participating in a reclamation grant-funded project to develop a "Regional Water Market Program," which will identify transfer types and opportunities and develop a road map to facilitate transfers and exchanges in the Bay Area. Zone 7's existing water transfer supply sources and non-local storage options are detailed in Chapter 6 of Zone 7's 2020 UWMP.

6.2.8 Future Water Projects

The City obtains its potable water supply from Zone 7 and supports its efforts to pursue opportunities of future water supply projects. The City itself does not have any plans for new water supply projects, as shown in Table 6-8.

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

☑	No expected future water supply projects or programs that provide a quantifiable increase to the agency's water supply. Supplier will not complete the table below.
☐	Some or all of the supplier's future water supply projects or programs are not compatible with this table and are described in a narrative format.
	Provide page location of narrative in the UWMP
NOTES: The City does not plan to pursue opportunities for development of future water supply projects; rather, it supports Zone 7's efforts.	

However, Zone 7 is pursuing several water supply projects to address potential future supply deficits as SWP reliability declines and Zone 7's service area population grows. These projects include reliability improvements for existing supplies and new supplies. Zone 7's "new supply" projects are described below. A complete list of potential programs and projects, along with additional detail, is available in Zone 7's 2019 WSE Update and 2020 UWMP.

6.2.8.1 Bay Area Regional Desalination Project

Brackish water desalination for Zone 7 would be accomplished through a joint venture among Bay Area water agencies—Contra Costa Water District (CCWD) and potentially EBMUD, the San Francisco Public Utilities Commission (SFPUC), Zone 7, and Valley Water—together known as the BARDP. This project is shown on Figure 6-6 and would involve constructing a regional brackish water treatment plant in eastern Contra Costa County producing 10-20 MGD. Water would be diverted using CCWD's Mallard Slough Pump Station. Using an existing water right license and permit, both held by CCWD, and/or a new water right, Zone 7 could potentially receive up to 5,600 AFY. Zone 7 could take delivery of this new water supply through a reliability intertie with EBMUD or through the Delta/SBA by exchanging water with CCWD. Furthermore, this project could potentially provide a new water supply component for the Los Vaqueros Reservoir Expansion project, which will expand the existing reservoir and connect it to the SBA and the California Aqueduct.

There has been recent renewed interest in desalination as part of the Bay Area Regional Reliability Partnership, and there may be new developments in the near-term. The water yield of the project is being re-evaluated, and the participating agencies may change. The BARDP is still in the planning phase, and there is no formally approved project at this time. If a project is approved over the next few years, it could be in service by 2030.

In Zone 7's 2020 UWMP, 5,000 AFY was assumed as the total potential yield from BARDP and/or potable reuse (described in Section 6.2.8.3) with either or both systems operational by 2030. As noted above, BARDP water could potentially be conveyed through a new intertie supplying the west side of Zone 7's transmission system. This mode of delivery provides an alternative conveyance not subject to Delta outages.

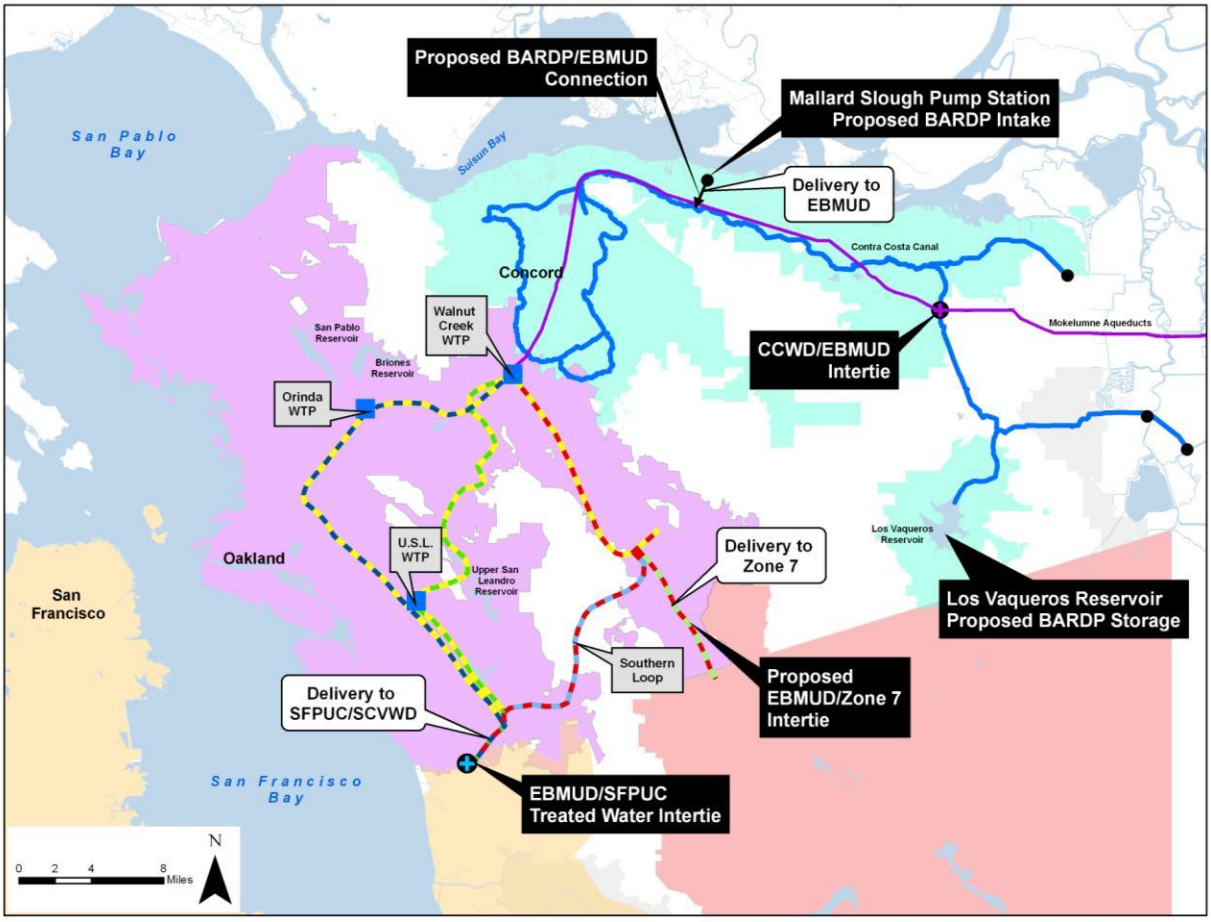


Figure 6-6. Bay Area Regional Desalination Project: Diversion and Conveyance Facilities

6.2.8.2 Delta Conveyance Project

Accounting for imported and local surface water, the retailers' GPQs, and recycled water, the Tri-Valley area receives approximately 70 percent of its incoming water supplies through the Delta as delivered by DWR. For Zone 7, the Delta conveys about 90 percent of its existing incoming supplies under normal conditions. SWP water, carryover water, water banked in Kern County and transfer water all come through the Delta.

This key conveyance component of the SWP is increasingly threatened by ecosystem considerations, seismic risk, and climate change/sea level rise, reducing the reliability of the SWP system. DWR's proposed Delta Conveyance Project DCP) would install a new tunnel to convey freshwater from north of the Delta to a point south of the Delta. The DCP will likely increase SWP reliability and improve water quality, but an alternate conveyance system for the majority of Zone 7's water is the significant benefit as follows:

- A major Northern California earthquake could take out levees in the Delta. Experts suggest that fresh water supply through the Delta could be lost for months, if not a year or two. The DCP would provide an alternative conveyance of freshwater from north of the Delta (near Sacramento) to a point south of the Delta (near Byron) while levee repairs and other work are being completed.

- The South Delta is currently about 3 feet above sea level, while the North Delta is about 15 feet above sea level. Climate change projections call for sea level rise of 5 to 10 feet. This could render the South Delta unusable for portions of the year due to saltwater intrusion. The DCP would provide an alternative conveyance of freshwater from north of the Delta to a point south of the Delta when the Delta is too saline.

In July 2017, DWR approved the California WaterFix Project, which was a dual conveyance project that involved two new diversion points and two tunnels moving water from the Sacramento River north of the Delta under the Delta to SWP and Central Valley Project water pumping facilities in the South Delta. In the State of the State address in January 2019, Governor Newsom announced that he did not support WaterFix as configured but that he did support a single-tunnel conveyance project.

In January 2020, DWR released a Notice of Preparation (NOP) of an Environmental Impact Report (EIR) pursuant to CEQA for the DCP. Note that the DCP is part of Governor Newsom's portfolio approach to water management. While the proposed project in the DCP is a single tunnel up to 6,000 cubic feet per second (cfs), DWR is considering alternatives including capacities ranging from 3,000 to 7,500 cfs. Anticipated benefits include: 1) water supply reliability and SWP resiliency (climate change adaptation/stormwater capture, sea-level rise adaptation, seismic resilience), 2) South Delta flow pattern improvements for fisheries, 3) water transfer capacity and carriage water savings, and 4) water quality improvements for SWP deliveries. Potential DCP facilities are shown on Figure 6-7.

As described in Section 6.2.1.2.1.1, Zone 7 has a long-term contract with DWR for a Table A amount of 80,619 AFY from the SWP, but SWP reliability has decreased significantly over the years. Estimates of SWP reliability (i.e., projected long-term average of Table A allocations) have been adjusted over the years as they account for changing regulatory and operational conditions, among other factors. The 2019 DCR estimates SWP reliability will decrease from an average Table A allocation of 59 percent in 2020 to 54 percent Table A in 2040. The potential increase in SWP reliability from the DCP has not been incorporated in the 2019 DCR and will be evaluated once the project and its operational and permitting terms are better defined.

As described above, the DCP will protect the reliability of SWP supplies from the effects of climate change and seismic events, among other risks. DWR's current schedule for the DCP environmental planning and permitting extends through the end of 2024. The DCP will potentially be operational in 2040 following extensive planning, permitting, and construction. Since the DCP is not anticipated to be in service until the end of the 2020 UWMP planning period, its impacts on supply have not been incorporated in DWR's 2019 Delivery Capability Report and have not been included in Zone 7's 2020 UWMP to be conservative. With permitting efforts over the next few years, quantitative information on the reliability associated with the DCP will be included in Zone 7's 2025 UWMP.

Through mid-2024, DWR will be completing environmental planning efforts on the DCP. In November 2020, the Zone 7 Board approved continued participation in the DCP at a 2.2 percent participation level based on Zone 7's Table A amount of 80,619 AF. The Board also approved Zone 7 funding of these efforts up to $2,800,000 for calendar years 2021 and 2022. A separate future request for Zone 7 Board action would address participation and funding beyond 2022.

Continued participation by Zone 7 in the planning efforts will allow Zone 7 to elect to participate in the DCP implementation in the future based on information developed in the planning process, allow access by Zone 7 to information related to benefits and costs, and provide Zone 7 influence throughout the process. The work over the next two to four years will inform the Zone 7 Board's decision-making as the DCP continues to advance.

As a contractor of the SWP, Zone 7 is working very closely with DWR and other water agencies, environmental groups, regulatory agencies, and natural resource agencies to address the declining reliability of the SWP through the DCP and other efforts.

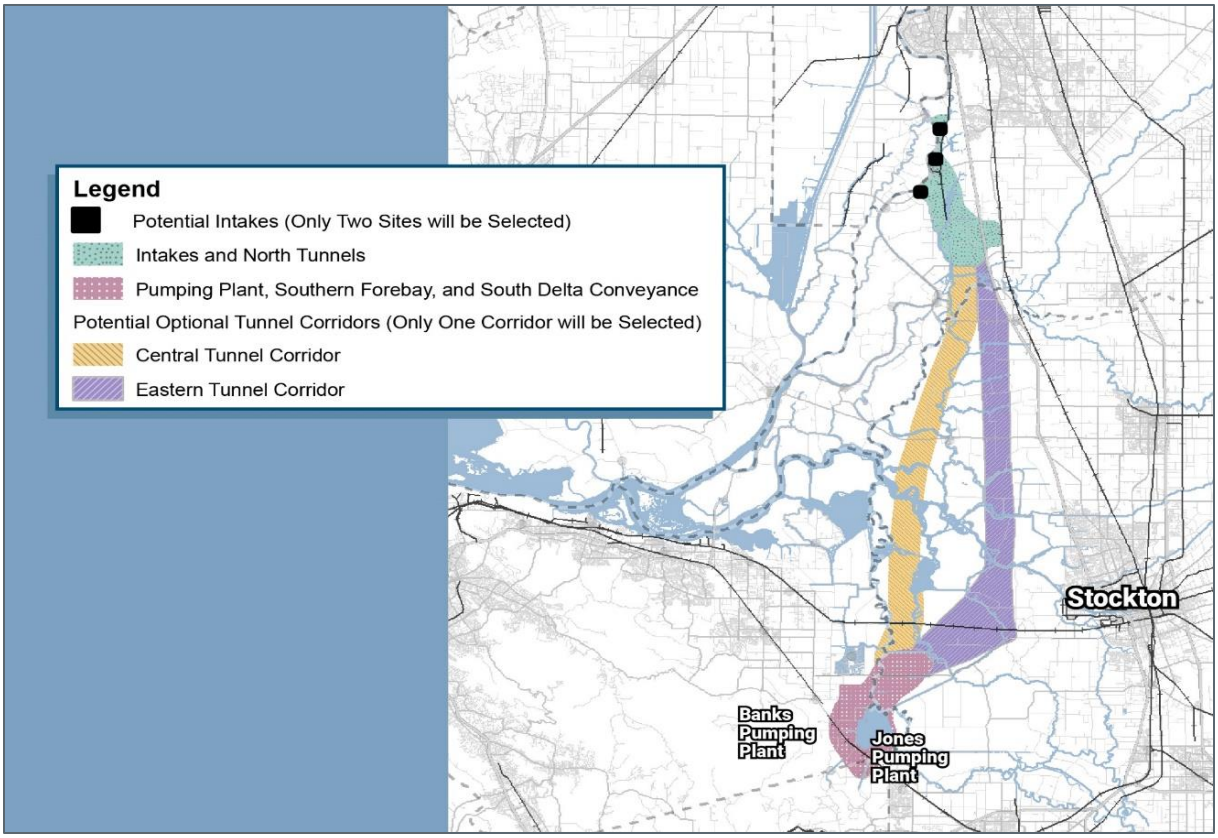


Figure 6-7. Delta Conveyance Project: Potential Facilities

6.2.8.3 Potable Reuse

Potable reuse is the use of purified water derived from wastewater effluent to supplement potable water supplies. While recycled water, the use of treated wastewater for non-potable uses such as irrigation, has been available for many years in the Tri-Valley, potable reuse would be a new use of local wastewater resources collected by DSRSD and Livermore. Its main benefits include local production and control, drought resistance, and use of an existing water resource.

Potable reuse consists of indirect potable reuse (IPR) and direct potable reuse (DPR). IPR, which has been practiced in the State since the 1930s, uses an environmental buffer (e.g., groundwater aquifer or lake) to provide public health protection benefits, including contaminant dilution and time to detect and respond to failures before treatment and distribution. DPR bypasses the environmental buffer and delivers purified water either directly into the raw water supply immediately upstream of a treatment plant ("raw water

augmentation") or directly into the water distribution system ("treated drinking water augmentation"). The State is currently developing standard criteria for DPR. Specifically, AB 574 requires the SWRCB to adopt uniform water recycling criteria for raw water augmentation on or before December 31, 2023.

In 2018, the Tri-Valley Water Agencies completed the Joint Tri-Valley Potable Reuse Technical Feasibility Study[17] (Potable Reuse Study) with these goals: 1) to evaluate the feasibility of a wide range of potable reuse options for the Tri-Valley based on technical, financial, and regulatory considerations, and 2) assuming that potable reuse is found to be technically feasible, to recommend next steps for the agencies. The Potable Reuse Study also refined cost estimates for potable reuse.

The Potable Reuse Study investigated three potential end uses for purified water in detail: 1) groundwater augmentation or recharge via injection wells, 2) groundwater recharge via Chain of Lakes surficial recharge, and 3) raw water augmentation to Zone 7's Del Valle Water Treatment Plant. Looking at annual yields ranging from 5,500 to 10,000 AFY, the Potable Reuse Study concluded that potable reuse is technically feasible for the Tri-Valley, with benefits to reliability and water quality. The lower yield would use only Livermore wastewater supply with year-round operations, while the higher yield would be achieved with seasonal availability of DSRSD wastewater supply. Water availability would increase over time as development occurs in the Tri-Valley and more wastewater is generated and collected. In other words, the maximum yield is expected to only be available after a certain point in the future; only a fraction of the maximum yield is available before buildout.

In the 2019 WSE Update, raw water augmentation was modeled with the option for a two-phased project that initially produces a lower yield but increases to the maximum yield in 2035 (following a growth in available wastewater). Reflecting a more conservative estimate of future wastewater availability, the 2019 WSE Update used a reduced yield of 4,000 AFY starting in 2027 and 7,000 AFY after 2035. Conservation regulations have set low indoor water use targets for California, which are expected to reduce future wastewater flows. The estimates in the Potable Reuse Study had not incorporated the recently set statewide indoor water use targets. Future analyses will adjust estimates as necessary based on actual indoor water use trends and updated projections of wastewater availability for potable reuse.

Zone 7 is completing a number of technical studies over the next few years that will support continued evaluation of potable reuse options and their costs and benefits. For planning purposes, the Zone 7's 2020 UWMP assumes 5,000 AFY of future supply from BARDP (discussed in Section 6.2.8.1) and/or potable reuse, with either or both systems online by 2030.[18]

[17]Tri-Valley Agencies and Carollo Engineers, 2018. Joint Tri-Valley Potable Reuse Technical Feasibility Study, http://www.zone7water.com/library/reports-planning-documents.

[18] Pleasanton City Council voted not to participate in a regional potable reuse project at its February 21, 2021 City Council Meeting.

6.2.8.4 Sites Reservoir

Sites Reservoir is a proposed new 1,500,000 AF off-stream storage reservoir in northern California near Maxwell. Sacramento River flows will be diverted during excess flow periods and stored in the off-stream reservoir and released for use in the drier periods. Shown on Figure 6-8, Sites Reservoir aims to supplement and optimize use of the State's existing storage and conveyance systems such as the CVP's Shasta Reservoir and the SWP's Oroville Reservoir, which collects much of the water for the SWP system.

The participants in the Sites Reservoir project include 31 entities, including Zone 7 and several other SWP contractors. Sites Reservoir is currently undergoing environmental planning and permitting and is expected to provide approximately 240 TAF per year[19] of additional deliveries on average to participating agencies under existing conditions. Operations modeling will continue to be refined over the next few years to reflect a range of permit and operational conditions, which will define the ultimate yield. For example, it is uncertain at this time whether the delivery of Sites Reservoir releases using SWP facilities in the Delta could result in a "carriage loss," which would reduce the net yield to Zone 7 and other SWP contractors. Full operation of the Sites Reservoir is estimated to start by 2029 following environmental planning, permitting, and construction.

Sites Reservoir is expected to provide water supply, environmental, flood, and recreational benefits. Consequently, Sites Reservoir was conditionally awarded $816 million from the California Water Commission for ecosystem, recreation, and flood control benefits under Proposition 1. The US Bureau of Reclamation (Reclamation) may also invest in Sites Reservoir under the Water Infrastructure Improvements for the Nation Act and recently transmitted a final Federal Feasibility Report to Congress for the project.

The Sites Project Authority (Authority) was formed on August 26, 2010 as a joint powers authority to pursue the development and construction of Sites Reservoir. The Authority is governed by a 12-member Board of Directors representing Sacramento Valley leadership in government and water management. Water agencies across California—including Zone 7—that are investing in the project are members of the Sites Reservoir Project Committee, which oversees the planning efforts and provides recommendations to the Authority.

[19] Sites Project Management Team, 2020. Sites Project Value Planning Alternatives Appraisal Report. https://3hm5en24txyp2e4cxyxaklbs-wpengine.netdna-ssl.com/wp-content/uploads/2020/04/INT-REP-Value-Planning-Appraisal-Report-FinalV2Compressed.pdf

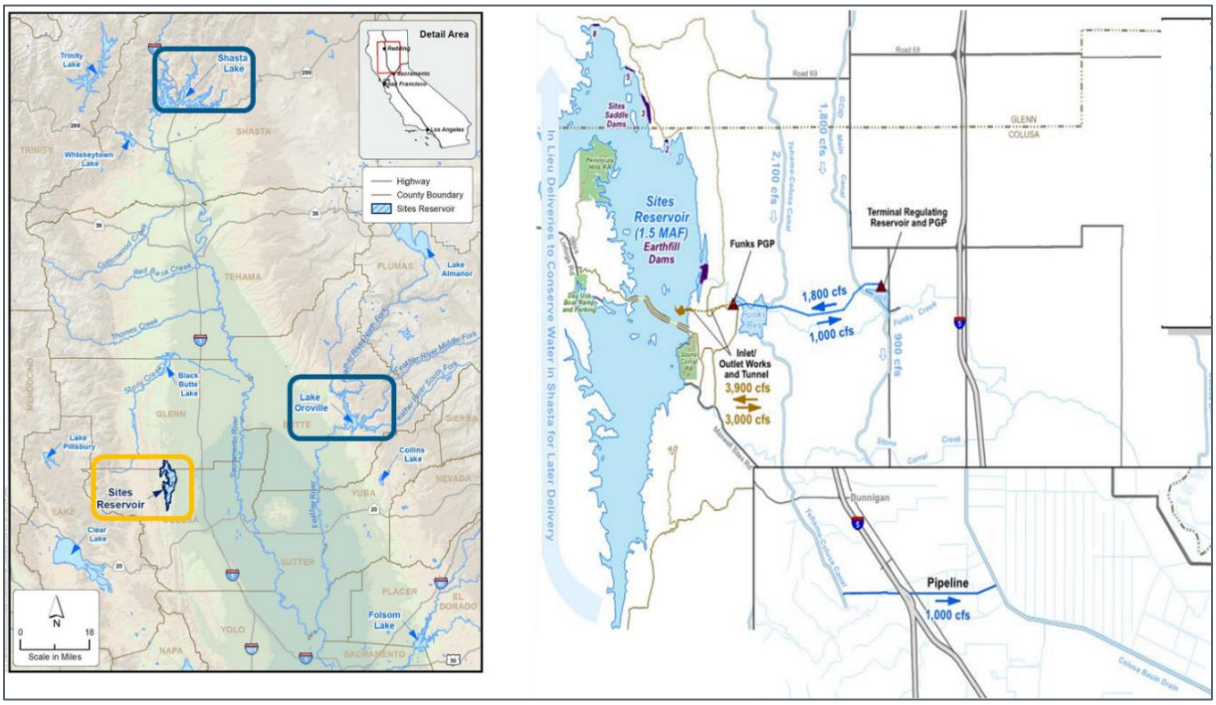


Figure 6-8. Sites Reservoir Project: Location and Facilities

Sites Reservoir could provide both water supply and storage for Zone 7. In December 2016, the Zone 7 Board authorized participation in Phase 1 at a cost of $850,000. In December 2019, the Zone 7 Board authorized participation in Phase 2 (2019 Sites Reservoir Project Agreement) at a cost of $600,000. The Zone 7 Board then approved continued participation in Phase 2 through December 2021 at an amount not-to-exceed $1,000,000 in July 2020. Key work under these two phases include planning, design, financial analysis, and environmental review and permitting.

In the 2019 WSE Update, Zone 7 considered 5,000 to 10,000 AFY of average yield from Sites Reservoir, in combination with other water supply options. The availability of this supply was varied based on hydrology, with more water delivered to Zone 7 during dry years. At Zone 7's request, water would be released from Sites Reservoir annually to the Sacramento River, then conveyed by the SWP system through the Delta and to the SBA. Based on model results, Sites Reservoir's key benefit is the availability of water during dry years when the shortage risk is greatest. Sites Reservoir is a good complement to the DCP, which could potentially increase SWP yield during wet years. Because Sites Reservoir provides both storage and new supply, it adds flexibility to Zone 7's water supply system; for example, the timing of deliveries from Sites Reservoir could be modified to maximize yields from other water supplies and/or to accommodate delivery timing restrictions of other supplies. For Zone 7, water could be released from Sites Reservoir annually to the Sacramento River, generally during dry and critical years, then conveyed by the SWP system through the Delta and to the SBA.

Recently, the Zone 7 Board re-affirmed continued participation in Sites Reservoir at a 10,000 AFY share. Zone 7's 2020 UWMP therefore assumes an average water supply of 10,000 AFY to Zone 7 from Sites Reservoir.

6.2.9 Summary of Existing and Planned Sources of Water

Table 6-9 summarizes actual water supplies for the City in 2020, while Table 6-10 summarizes projected water supplies for the City through 2045.

Table 6-9. Water Supplies – Actual (DWR Table 6-8 Retail)

Water Supply	Additional Detail on Water Supply	2020		
Drop down list		Actual Volume*	Water Quality Drop Down List	Total Right or Safe Yield* (optional)
Purchased or Imported Water	Zone 7	11,752	Drinking Water	
Groundwater (not desalinated)	Livermore Valley Basin	3,027	Drinking Water	
Recycled Water	DSRSD RWTF and City of Livermore WRP	1,228	Recycled Water	
	Total	16,006		0
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*				
NOTES: Volumes are in AF. Recycled water use includes approximately 3 AF of use at the DSRSD RWTF.				

Table 6-10. Water Supplies – Projected (DWR Table 6-9 Retail)

Water Supply	Additional Detail on Water Supply	Projected Water Supply * Report To the Extent Practicable									
		2025		2030		2035		2040		2045 (opt)	
Drop down list		Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)
Purchased or Imported Water	Zone 7	13,240		13,739		14,237		14,736		14,736	
Groundwater (not desalinated)	Livermore Valley Basin	3,500		3,500		3,500		3,500		3,500	
Recycled Water	DSRSD RWTF and City of Livermore WRP	1,500		1,650		1,650		1,800		1,800	
Total		18,240	0	18,889	0	19,387	0	20,036	0	20,036	0
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*											
NOTES: Volumes are in AF. The City's Groundwater Pumping Quota (GPQ) is 3,500 AFY.											

6.2.10 Climate Change Impacts

There are concerns that a warming trend that occurred during the latter part of the 20th century will likely continue through the 21st century. Numerous studies have been conducted to evaluate the potential impacts of these changes to water resources. Based on these studies, climate change could impact California's water resources in the following ways:

- Reductions in the average annual snowpack due to a rise in the snowline and a shallower snowpack at low and medium elevations and a shift in snowmelt runoff to earlier in the year

- Changes in the timing, intensity, and variability of precipitation, and an increased amount of precipitation falling as rain instead of as snow
- Long-term changes in watershed vegetation and increased incidence of wildfires that could affect water quality
- Sea level rise and an increase in saltwater intrusion
- Increased water temperatures with accompanying potential adverse effects on some fisheries and water quality
- Increased evaporation and concomitant increased irrigation need
- Changes in urban and agricultural water demand

As described above, the SWP has been and will continue to be the largest source of Zone 7's, and hence the City's, water supplies. In 2045, the supplies derived from the SWP (existing SWP supplies, groundwater (stored SWP supplies), and SWP carryover) are projected to represent about 75 percent of Zone 7's supplies.

The following summarizes the potential impacts of climate change to water supply operations in the Delta, as they relate to water supply reliability, water quality, and flood control:

- Water Supply Reliability
  - The operation of storage reservoirs could be impacted by shifting runoff and snowmelt patterns, requiring a greater volume of flood control storage, and making it more difficult to refill reservoir flood control storage during late spring or early summer, and potentially reducing the volume of surface water available for use during the summer/fall season.
  - Levee breaks, either as a result of the impacts of rising sea levels, lack of maintenance, earthquake, or some combination, could have adverse effects on Delta water quality (due to the intrusion of salt water into these potable water supplies) and water system operations. Major levee breaks could take months or years to repair and will impact the availability of water supplies from the Delta.
- Water Quality
  - More intense storms and increased runoff could impact Delta water quality in two ways: 1) Increased sediment load, and 2) Increased contaminants from increased urban and agricultural runoff.
  - Sea level rise could push salt water from the Bay into the Delta, impacting overall water quality and potentially impacting Delta operations.
  - Levee breaks, either as a result of the impacts of climate change or an earthquake, could cause large amounts of salt water from the Bay to enter the Delta and would have adverse effects on Delta water quality and water system operations. The saltwater intrusion could take months to dissipate depending on the severity of the levee break and the magnitude of saltwater intrusion.
- Flood Control
  - Reservoir operations, including the need for more flood storage reservoir space, could be impacted by snowpack changes, shifts in snowmelt patterns, and changes in rainfall intensity.

- Deteriorating levees could fail as a result of increased runoff, more intense storms, sea level rise, or lack of maintenance. Failure of the levees would have catastrophic impacts on the Delta, including its islands, and have huge impacts on water supply operations.

Climate change may also impact Zone 7's other operations. With respect to groundwater management, the SMP, groundwater recharge operations, and Chain of Lakes operations may be impacted by changes in precipitation patterns and intensities. Similarly, operation of Lake Del Valle could be impacted by the need to maintain more flood control storage capacity to deal with more intense rainfall events. Lastly, flood control operations in general may be impacted by more intense and more frequent flooding events.

The scenarios in the 2019 DCR account for climate change impacts based on 2035 emissions levels and 45-centimeter sea level rise; therefore, these impacts have been incorporated into Zone 7's water supply planning efforts. Zone 7 has also evaluated the impacts of climate change to local water supplies and documented those evaluations in the 2019 WSE Update.

6.3 ENERGY INTENSITY

In accordance with CWC §10631.2(a), the energy intensity to provide water service to the City's customers over a one-year period is presented in this section to the extent that the information is available. The amount of energy to divert, pump, treat, and distribute the City's water supply within the system it owns and operates is included. The amount of energy that Zone 7 requires to treat raw water and deliver potable water to the City is excluded.

Water energy intensity is the total amount of energy, calculated on a whole-system basis, used to deliver water to the City's customers for use. Energy intensity is the total amount of energy in kilowatt-hours (kWh) expended per AF of water taken from the City's source to its point of delivery. Understanding the whole-system energy intensity would allow the City to develop the following water supply management and system operation strategies:

- Identifying energy saving opportunities, as energy consumption is often a large portion of the cost of delivering water
- Calculating energy savings and greenhouse gas emissions reductions associated with water conservation programs
- Identifying potential opportunities for receiving energy efficiency funding for water conservation programs
- Informing climate change mitigation strategies
- Benchmarking energy use at each water acquisition and delivery step and comparing energy use among similar agencies

In Table 6-11, the energy intensity of the City's water service is calculated for 2019, as it provides a typical year's energy use. In 2020, shelter-in-place orders and business restrictions related to the COVID-19 pandemic may have altered water use by the City's customers. The total energy intensity for the City's water service is approximately 203 kWh/AF. Note, 2019 energy consumption information is from billing statements received in 2019, which may not exactly reflect energy use from January 1 through December 31.

Table 6-11. Recommended Energy Intensity (DWR Table O-1B)

Enter Start Date for Reporting Period	1/1/2019	**Urban Water Supplier Operational Control**		
End Date	12/31/2019			
☐ Is upstream embedded in the values reported?		**Sum of All Water Management Processes**	**Non-Consequential Hydropower**	
Water Volume Units Used	*AF*	Total Utility	Hydropower	Net Utility
Volume of Water Entering Process (volume unit)		*13,878*	*0*	*13878*
Energy Consumed (kWh)		*2,817,999*	*0*	*2817999*
Energy Intensity (kWh/volume)		*203.1*	*0.0*	*203.1*

Quantity of Self-Generated Renewable Energy

0 kWh

Data Quality *(Estimate, Metered Data, Combination of Estimates and Metered Data)*

Metered Data

Data Quality Narrative:

Data is provided by the City from flow meters in the water distribution system and electric meters at its water facilities.

Narrative:

Water management processes consuming energy include distribution/pumping, storage tank operations, and groundwater pumping and treatment.

As discussed in Section 6.2.5, the City collects and transports wastewater to be treated by DSRSD and Livermore. The energy intensity associated with the City's wastewater services (i.e., collection/ conveyance only) for 2019 is provided in Table 6-12. The total energy intensity for the City's wastewater services is approximately 40.8 kWh/AF.

The City's recycled water system does not consume significant amounts of energy. DSRSD and Livermore's wastewater and recycled water systems are outside of the City's operational control; thus, energy required for DSRSD to treat wastewater from the City, and energy for DSRSD and Livermore to produce and deliver recycled water to the City, are excluded. Since the City's recycled water distribution system currently consists of only pipelines, the total energy intensity for the City's recycled water services is 0 kWh/AF.[20]

[20] The City has constructed a recycled water booster pump station at the Ken Mercer Sports Park, but it was not put into service until 2021.

Table 6-12. Recommended Energy Intensity – Wastewater & Recycled Water (DWR Table O-2)

Enter Start Date for Reporting Period 1/1/2019 End Date 12/31/2019		Urban Water Supplier Operational Control			
		Water Management Process			
☐ Is upstream embedded in the values reported?		Collection / Conveyance	Treatment	Discharge / Distribution	Total
Volume of Water Units Used	AF				
Volume of Wastewater Entering Process (volume units selected above)		*7,279*	*0*	*0*	*7,279*
Wastewater Energy Consumed (kWh)		*297,198*	*0*	*0*	*297,198*
Wastewater Energy Intensity (kWh/volume)		*40.8*	*0.0*	*0.0*	*40.8*
Volume of Recycled Water Entering Process (volume units selected above)		*0*	*0*	*873*	*873*
Recycled Water Energy Consumed (kWh)		*0*	*0*	*0*	*0*
Recycled Water Energy Intensity (kWh/volume)		*0.0*	*0.0*	*0.0*	*0.0*

Quantity of Self-Generated Renewable Energy related to recycled water and wastewater operations

0 kWh

Data Quality *(Estimate, Metered Data, Combination of Estimates and Metered Data)*

Combination of Estimates and Metered Data

Data Quality Narrative:

Wastewater data is provided by the City from flow meters in its collection system and electric meters at its sewer pump stations. The City's wastewater flows to DSRSD's RWTF are metered, while its flows to the City of Livermore's LWRP are estimated at 280 AF based on typical domestic water use. Recycled water flows are from DERWA meters.

Narrative:

Wastewater is collected in the City and sent to DSRSD's RWTF for treatment. Therefore, collection and conveyance are the City's only wastewater management processes in which energy is consumed. Since the City's recycled water system currently consists of only pipelines, the City does not consume any energy distributing recycled water to its customers. DSRSD and the CIty of Livermore produce and pump recycled water to the City's distribution system.

CHAPTER 7
Water Service Reliability and Drought Risk Assessment

This chapter describes the City's water service reliability under various hydrologic conditions, including a severe drought for the next five years. The City's existing and planned water management tools for increasing water supply reliability are also addressed. Responses to actual water shortage conditions are detailed in Chapter 8 of this plan.

The reliability of the City's potable water supply is largely dependent upon its water supply from Zone 7 and Zone 7's water supply reliability policy. On October 17, 2012, the Zone 7 Board approved a revised Water Supply Reliability Policy (Resolution No. 13-4230, included as Appendix I), which adopts the following level of service goals to guide the management of Zone 7's treated water (also referred to as municipal and industrial or (M&I) supplies and its Capital Improvement Program (CIP):

- **Goal 1**: Zone 7 will meet its treated water customers' water supply needs, in accordance with Zone 7's most current Contracts for M&I Water Supply, including existing and projected demands as specified in Zone 7's most recent UWMP, during normal, average, and drought conditions, as follows:
  - At least 85 percent of M&I water demands 99 percent of the time
  - 100 percent of M&I water demands 90 percent of the time
- **Goal 2**: Provide sufficient treated water production capacity and infrastructure to meet at least 80 percent of the maximum month M&I contractual demands should any one of Zone 7's major supply, production, or transmission facilities experience an extended unplanned outage of at least one week.

7.1 WATER SERVICE RELIABILITY ASSESSMENT

Approximately 80 percent of the City's water is purchased from Zone 7, which is comprised of treated surface water blended with some local groundwater. The remaining 20 percent comes from local groundwater pumped from wells owned and operated by the City. As discussed in Chapter 6, the groundwater basin is managed by Zone 7, and the City has a GPQ. Additionally, the City receives recycled water from the DSRSD RWTF (through an agreement with DERWA) and the LWRP.

As the City's exclusive potable water wholesaler, Zone 7's water supply reliability greatly affects the City's water supply reliability. Therefore, a significant portion of this section presents the constraints on Zone 7's existing and planned water sources and summarizes the historical basis for projecting available supplies in various hydrologic conditions (i.e., normal year, single dry year, and five consecutive dry years).

The City's water service reliability is then presented in five-year increments through 2045 based on earlier analysis of water use (Chapter 4 of this plan) and water supply (Chapter 6 of this plan). Finally, this section discusses the City's water management tools and options to promote regional supply reliability and minimize the need to import water from other regions.

7.1.1 Constraints on Water Sources

This section discusses the constraints on Zone 7's water supply sources that affect their reliability and Zone 7's strategies for managing the risks associated with each supply. Constraints on groundwater and recycled water are also discussed.

7.1.1.1 Potable Water from Zone 7

One of the main limitations of Zone 7's water system is the lack of interties. All of Zone 7's imported water supplies are conveyed through the Delta and the SBA; Arroyo Valle water is also conveyed through the SBA. Zone 7 has been working closely with DWR, VW, and ACWD to improve the reliability of the SBA. Between 2003 and 2012, DWR made improvements to the SBA within Zone 7's service area to increase capacity and improve reliability. The work included a new pump station (180 cubic feet per second (cfs)), inline reservoir (500 AF) and increased the canal carrying capacity to 380 cfs. As part of this project, Zone 7 had an emergency slide gate installed to maintain service in the event of a pipeline rupture downstream. Zone 7 will continue coordinating with DWR and South Bay Contractors to improve the reliability of the entire SBA system

In addition, Zone 7 is pursuing the following projects to diversify its conveyance options:

- **Reliability Intertie** – Zone 7 is also planning for the construction of a reliability intertie with another major water agency that would provide an alternative means of conveying water to Zone 7's service area when the Delta and/or the SBA undergo an outage. For example, an intertie with EBMUD could convey treated water supply to the western portion of Zone 7's service area.
- **Chain of Lakes Pipeline** – This pipeline would allow for access to water stored in the Chain of Lakes as an alternative local water supply; water would be accessible to the Del Valle Water Treatment Plant (WTP) via one of the SBA turnouts.

Specific constraints for each of Zone 7's supplies are discussed below.

7.1.1.1.1 Imported Water: State Water Project

Two key constraints on imported water from the SWP are Delta conveyance and water quality. Each constraint is detailed below.

7.1.1.1.1.1 Delta Conveyance

Zone 7's long-term contract with DWR for SWP water provides Zone 7 access to Table A water (and Article 56c water or carryover), Article 21 water, Article 56d water, and Yuba Accord water. As an SWP contractor, Zone 7 is also able to use SWP facilities for conveying water transfers or exchanges of SWP water (from another contractor) or from another water agency outside of the SWP system. SWP water moves through the Delta before it is conveyed by the California Aqueduct and the SBA to Zone 7's water facilities.

The instability of the aging levees in the Delta (including their vulnerability to seismic events and climate change), regulatory uncertainty, water quality issues including saltwater intrusion, and the declining health of the Delta ecosystem all challenge the long-term reliability of the SWP and, more generally, the water conveyance capability of the Delta. These issues directly challenge the Tri-Valley's long-term water supply reliability since a majority of Zone 7's water supply is and will continue to be tied to the Delta and SWP system.

In 2018, DWR published their Delta Flood Emergency Management Plan, which provides strategies for responding to Delta levee failures. This plan includes a strategy to establish an emergency freshwater pathway from the central Delta along Middle River and Victoria Canal to the export pumps in the south Delta. The plan also includes the pre-positioning of emergency construction materials at existing and new stockpile and warehouse sites in the Delta. The plan has found that using pre-positioned stockpiles of rock, sheet pile and other materials, multiple earthquake-generated levee breaches and levee slumping along the freshwater pathway can be repaired in less than six months.

The DWR Delta Levees Subventions and Special Projects Programs have prioritized, funded, and implemented levee improvements along the emergency freshwater pathway and other water supply corridors in the central and south Delta. These efforts are complementary to the Delta Flood Emergency Management Plan, which, along with pre-positioned emergency flood fighting materials, ensures reasonable seismic performance of levees and timely pathway restoration after a severe earthquake.

Furthermore, Zone 7 and other SWP contractors are currently working with DWR and other key stakeholders to address the many complex issues undermining the Delta through the proposed DCP. The proposed new diversion structure in the northern Delta provides alternative intakes in case the Delta is affected by an earthquake, levee failure, or some other catastrophic event that impacts water quality and prevents pumping from the Delta. The DCP would also provide alternative intakes that could be used to minimize harm to endangered and threatened species in the Delta. DWR is working closely with regulatory and natural resource agencies to address regulatory uncertainty and protect the Delta ecosystem under an adaptive management framework based on the best available science. With these benefits, the DCP is expected to significantly alleviate constraints on SWP operation and provide more water supply reliability.

Zone 7 is also participating in the Los Vaqueros Reservoir Expansion project, which includes construction of the Transfer-Bethany Pipeline. This pipeline would provide an alternative means of conveying water supply to Zone 7 when the Delta is inaccessible. More details can be found in Chapter 6 of Zone 7's 2020 UWMP.

7.1.1.1.1.2 Water Quality

There are water quality concerns associated with transport through the Delta. In 1982, DWR formed the Interagency Delta Health Aspects Monitoring Program to monitor water quality in the Delta and protect human health. The program was renamed the Municipal Water Quality Investigations Program in 1990. From a municipal water supply perspective, water quality issues in the Delta are associated with salinity from seawater intrusion, wastewater effluent discharges, agricultural drainage from the islands, and recreational activities. Water quality issues of specific concern to Zone 7 are:

- *Algal byproducts* – Parameters of concern include compounds that cause taste and odor (T&O) and algal toxins. T&O is primarily a problem in the warmer months when algal blooms may be present. It can affect supplies from the Delta and from Lake Del Valle (which stores SWP water). Algae produce geosmin and 2-methylisoborneol, which are key T&O-causing compounds in surface water supply. Algal toxins derived from blue-green algae can also be a concern. Zone 7's new ozonation facilities (recently installed at the Del Valle WTP and scheduled for completion at the Patterson Pass WTP in 2022) effectively treat algal byproducts. Without ozonation, high levels of algal byproducts in both Delta and Lake Del Valle supplies may necessitate temporarily switching to groundwater supplies; blending of sources is also an option depending on the source of algal byproducts and severity.

- *Total and dissolved organic carbon (TOC/DOC)* – Zone 7 treats organic carbon with coagulant and disinfectant chemicals, and therefore higher levels of organic carbon increase costs. In addition, TOC/DOC help form disinfectant byproducts (DBPs), which are regulated compounds in drinking water. Historically, Zone 7's WTPs have managed high TOC/DOC by increasing coagulant dosages. However, this operational change results in greater sludge production and limits plant production. The use of ozone reduces coagulant and chlorine demands, thus reducing typical chlorination DBPs; however, formation of ozonation DBPs such as bromate will need to be controlled.
- *Turbidity* – like TOC/DOC, turbidity affects the amount of chemicals used in treatment and Zone 7's ability to meet drinking water standards. It also can reduce the production capacities of Zone 7's WTPs, requiring increased groundwater production under high demands. Coagulant dosages can be adjusted to address high turbidity (which can happen after big storms), but if filters require more frequent backwashing, then production may be decreased.
- *Salinity or TDS* – salinity has significant impacts on SWP operations and the availability of water. To meet the salinity objectives in the Delta, water exports from the Delta may be restricted, reducing the amount of water supply available during certain times of the year. Salinity intrusion can be a problem during dry years, when there is insufficient freshwater to repel salinity. Sea level rise due to climate change is also expected to increase salinity in Delta. Finally, levee breaks—due to earthquakes and other factors—would result in significant saltwater intrusion from the Bay as water floods affected islands in the Delta that are below sea level.
- *Algal blooms* – in addition to T&O and the threat of algal toxins, algal blooms can significantly degrade filter performance through clogging. This reduces plant production capacities and could require supplemental groundwater use.

As noted above, Zone 7 will have state-of-the-art ozonation facilities at both of its WTPs in 2022, improving treatment of T&O, TOC/DOC, turbidity, and algal blooms and significantly increasing the surface water system's reliability.

In 2008, the SBA contractors (ACWD, Valley Water, and Zone 7) developed the SBA Watershed Protection Program to protect water quality once the water from the Delta reaches the SBA. The primary objectives of the SBA Watershed Protection Program include developing a Watershed Management Program for the SBA system, including Lake Del Valle and Bethany Reservoir, and protecting local drinking water and water resources from identified contaminant sources (e.g., septic tanks) for urban, agricultural, recreational, and environmental uses.

7.1.1.1.2 Arroyo Valle and Lake Del Valle

ACWD and Zone 7 both have water rights to divert water from the Arroyo Valle. This water is captured and stored in Lake Del Valle, which is owned and operated by DWR. Since Lake Del Valle is used for water supply storage, flood control, and recreation, access to water from the lake needs to be coordinated with the lake's other uses. Typically, DWR lowers the lake elevation after Labor Day for flood control purposes, allowing Zone 7 and ACWD to put runoff from the Arroyo Valle to beneficial use. In the summer months, lake elevations are raised for recreational purposes. Historically, access to Zone 7's stored water in Lake Del Valle has not been problematic, unless there is an outage on the Del Valle Branch pipeline. Zone 7 closely coordinates use of Arroyo Valle water with both ACWD and DWR.

Water collected from the local watershed is protected under the SBA Watershed Protection Program Plan. In general, the water quality of Arroyo Valle runoff is good and does not affect the reliability of this water supply; however, as noted above, T&O can also affect supplies from Lake Del Valle. Zone 7 treats T&O using ozonation, although a switch to groundwater supplies is sometimes necessary under excessive levels of T&O compounds. Algal blooms in the lake can also reduce production capacities, though new ozonation facilities at the Del Valle WTP has significantly reduced the impact.

7.1.1.1.3 Chain of Lakes

The future Chain of Lakes will provide significant local storage, but uncertainty surrounds its complete transfer to Zone 7. Favorable economic conditions could extend gravel mining operations, and even after mining ceases, reclamation must occur. This could delay a full transition of the Chain of Lakes to Zone 7 to about 2060. Zone 7 continues to work closely with the mining companies and quarry operators so planning efforts can be coordinated.

With future completion of the Chain of Lakes Pipeline around 2025, Zone 7 can begin to use the available lakes to store imported or local surface water. This will also enhance groundwater recharge in the Main Basin.

7.1.1.1.4 Non-Local Storage

Access to banked water in Semitropic and Cawelo—both located downstream of Zone 7—requires exchange(s) with other SWP contractors located south of Kern County (e.g., Metropolitan Water District). There must be sufficient water flowing through the Delta and California Aqueduct system to facilitate these exchanges, which could be challenging during a drought. Furthermore, the banked water must be conveyed through the Delta, rendering this supply susceptible to the Delta disruptions described in Section 7.1.1.1.

During the recent drought, access to banked water became uncertain because of the historically low Table A allocation (leading to minimal amounts of water moving through the SWP) and the potential cessation of pumping in the Delta to control salinity intrusion. DWR was able to manage salinity so that Delta pumping could continue, and, with coordination among stakeholders including Zone 7, DWR prioritized the delivery of banked water to Zone 7 and other SBA contractors. Ultimately, even during the serious drought conditions in 2014 and the minimal 5 percent SWP allocation, Zone 7 was able to successfully recover almost 15,000 AF, or approximately 78 percent of the maximum recovery requested by Zone 7. In 2015, Zone 7 recovered approximately 18,000 AF from non-local storage.

Zone 7 will continue to coordinate closely with DWR, other SWP contractors, Semitropic, and Cawelo to ensure the future reliability of the banked water supplies.

Some of Semitropic's wells are affected by arsenic. This contaminant is currently being managed through treatment before the affected groundwater water is pumped into the California Aqueduct. Arsenic criteria have been established for this "pump-in" by the DWR Facilitation Group to mitigate any impacts to the downstream SWP contractors. Semitropic and the banking partners have developed a coordination process for discussing arsenic treatment. While the presence of arsenic in the Semitropic groundwater bank is likely to increase the cost of this water storage option, it is not likely to affect its overall reliability.

7.1.1.2 Groundwater

Chapter 6 of this plan details the issues affecting the City and Zone 7's use of the Main Basin, specifically water quality management and prevention of overdraft.

Zone 7 is actively implementing its Salt and Nutrient Management Plan. Salinity levels are being addressed primarily through groundwater pumping and demineralization using the MGDP in the Mocho wellfield. The facility simultaneously allows for the export of concentrated minerals or salts from the Main Basin while improving the water quality of treated water.

Zone 7 has several groundwater wells with naturally-occurring Cr(VI) concentrations near the MCL and PFAS above the notification limit. In response, Zone 7 is actively managing flows from the affected wells. Conditions are regularly monitored, and management actions may change in the future. A PFAS treatment facility is under consideration for construction based on pending regulations.

Zone 7 continues to study the groundwater basin and develop new tools (e.g., an improved groundwater model) to better understand the levels of groundwater extraction possible under various conditions while maintaining levels above the historical levels that have been reached in certain portions of the Main Basin ("historic lows"). Zone 7 also plans to augment its ability to recharge the Main Basin (e.g., through the Chain of Lakes) to increase local storage and allow for more pumping when necessary, which will improve both water supply reliability and salt management. Zone 7 plans to build an additional demineralization facility to continue to decrease the salt content of the Main Basin.

Finally, Zone 7 plans to build additional wells to allow for improved management of groundwater levels and to increase groundwater production capacity during droughts and surface water-related outages. A new booster pump station will improve Zone 7's ability to convey groundwater throughout Zone 7's service area and increase production capacity.

The City has a GPQ of 3,500 AFY from the Main Basin, which comprises approximately 20 percent of its water supply. The City may also carry over any unused portion of its annual GPQ up to a total of 700 AF. GPQ's for the Main Basin were determined based on the natural sustainable yield of the Main Basin. As such, the City's groundwater supply from its GPQ is considered reliable under all hydrologic conditions.

7.1.1.3 Recycled Water

The recycled water that the City receives comes from DSRSD's RWTF and the LWRP, which are described in Section 6.2.5.2. Both facilities produce Title 22 disinfected tertiary recycled water. The City anticipates no significant changes to the land uses in either DSRSD's or Livermore's wastewater service area; therefore, it does not anticipate any changes to the quality of the wastewater effluent used to produce recycled water. The City does not expect recycled water quality issues to impact its ability to reliably deliver recycled water to its customers.

On March 25, 2019, DERWA found that it cannot meet the combined peak demands and projected demands of its member agencies (DSRSD and EBMUD) and its retailer, the City. DERWA approved Resolution No. 19-3 (Appendix J) requesting that its member agencies take action to reduce recycled water demands and implement a connection moratorium. As discussed in Section 6.2.5.1.1, the City maintains the first right to use the secondary effluent produced from wastewater originating from the City's wastewater collection system for recycling. While the City's recycled water supply is limited by the secondary wastewater effluent from its service area, this supply is expected to meet the City's current and projected recycled water demands.

7.1.2 Year Type Characterization

The City's potable water supply reliability and vulnerability are directly related to seasonal and climatic shortages that impact Zone 7's water supplies. The quantity available from different supply sources varies annually depending on hydrologic conditions. Consequently, Zone 7 reviewed historical data and developed a projected yield for each water supply source (including the Main Basin) under three conditions: (1) normal water year, (2) single dry year, and (3) five-consecutive-year drought. Each condition is defined as follows:

- *Normal Water Year*: The year in the historical sequence most closely representing average runoff or allocation levels and patterns.
- *Single Dry Year*: The year in the historical sequence with the lowest annual runoff or allocation.
- *Five-Consecutive-Year Drought*: The driest five-year historical sequence.

Zone 7's water supply reliability is used to represent the City's available supplies during the above hydrologic conditions. The projected yield of Zone 7's water sources under these three scenarios, as detailed in Zone 7's 2020 UWMP, are summarized below.

In its 2020 UWMP, Zone 7 provides a basis of water year data table (DWR Table 7-1) for each of its water supply sources. For simplicity, this plan leaves DWR Table 7-1 blank and summarizes Zone 7's base year information and water supply availability in Table 7-2 and Table 7-3, respectively.

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

☑	Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location: Tables 7-2 and 7-3

Table 7-2. Basis of Water Year Data for Zone 7 Supplies

Water Source	Normal Year	Single Dry Year	Five-Year Drought				
			Year 1	Year 2	Year 3	Year 4	Year 5
SWP – Table A	1965	2014	1987	1988	1989	1990	1991
SWP – Carryover	1965	2014	1987	1988	1989	1990	1991
Water Transfers	1965	2014	1987	1988	1989	1990	1991
Arroyo Valle	1919	1977	1987	1988	1989	1990	1991
Sites Reservoir	1965	2014	1987	1988	1989	1990	1991
BARDP and/or Potable Reuse	1965	2014	1987	1988	1989	1990	1991
From Storage							
Main Basin	1965	2014	1987	1988	1989	1990	1991
Semitropic	1965	2014	1987	1988	1989	1990	1991
Cawelo	1965	2014	1987	1988	1989	1990	1991
Chain of Lakes	1965	2014	1987	1988	1989	1990	1991

Source: Zone 7 2020 UWMP, Table 7-1 through Table 7-9

Table 7-3. Zone 7's Water Supply Volume Available[a]

Water Source	Normal Year	Single Dry Year	Five-Year Drought				
			Year 1	Year 2	Year 3	Year 4	Year 5
SWP – Table A[b]	43,500	4,000	16,900	8,100	54,000	10,500	16,100
SWP – Carryover[c]	10,000	15,500	15,500	2,800	1,800	1,800	1,800
Water Transfers[d]	5,000	5,000	5,000	5,000	5,000	5,000	5,000
Arroyo Valle	5,500	0	1,700	1,500	1,500	1,500	1,500
Sites Reservoir[e]	10,000	15,300	16,800	17,700	16,300	15,900	15,800
BARDP and/or Potable Reuse[f]	5,000	5,000	5,000	5,000	5,000	5,000	5,000
From Storage							
Main Basin[g]	29,200	27,600	27,600	25,100	20,600	15,100	9,700
Semitropic[h]	13,000	6,500	10,000	10,000	10,000	10,100	10,100
Cawelo[h]	9,700	7,100	9,700	9,700	9,700	9,700	9,700
Chain of Lakes[i]	10,100	8,300	8,800	7,900	6,900	6,000	5,200
Total	**141,000**	**94,300**	**117,000**	**92,800**	**130,800**	**80,600**	**79,900**
Percent of Normal	**100%**	**66.9%**	**83.0%**	**65.8%**	**92.8%**	**57.2%**	**56.7%**

Source: Zone 7 2020 UWMP, Table 7-1 through Table 7-9

(a) Yields are shown in AFY.
(b) Based on 2040 future SWP reliability Table A allocations.
(c) Zone 7's operational target is typically 10,000 AF for normal years.
(d) Zone 7 is pursuing water transfer agreements for the period through 2030. Amounts may vary from year-to-year, but variability has not been quantified.
(e) Supplies from Sites Reservoir are assumed to be available by 2030.
(f) Supplies from these sources are assumed to be available by 2030.
(g) These are estimated available supplies, not necessarily what would be pumped. Zone 7's typical operational target is around 9,200 AF for normal years.
(h) Semitropic and Cawelo available supplies are typically not used during normal years.
(i) The Chain of Lakes Pipeline, which provides access to water stored in the Chain of Lakes, is assumed to be completed around 2025. Water stored in the Chain of Lakes is assumed to be available by 2030 and would not be used during normal years.

7.1.3 Water Service Reliability

This section presents comparisons of projected water supplies and demands from 2025 through 2045 under the following hydrologic conditions: normal year, single dry year, and five consecutive dry years. The City's projected demands are presented in Chapter 4, while supply sources are described in Chapter 6. Unless otherwise noted, it is assumed demand projections will not change with hydrologic conditions. In other words, demands are assumed to be unconstrained unless they are limited by available supplies.

7.1.3.1 Water Service Reliability – Normal Year

The City's normal year supplies include:

- Purchased supplies from Zone 7
- 3,500 AFY of groundwater pumped by the City from the Main Basin
- Between 1,500 and 1,800 AFY of recycled water

Table 7-4 shows that in normal years, the City's supplies are adequate to meet projected demands.

Table 7-4. Normal Year Supply and Demand Comparison (DWR Table 7-2 Retail)

	2025	2030	2035	2040	2045 *(Opt)*
Supply totals *(autofill from Table 6-9)*	18,240	18,889	19,387	20,036	20,036
Demand totals *(autofill from Table 4-3)*	18,240	18,889	19,387	20,036	20,036
Difference	0	0	0	0	0
NOTES: Volumes are in AF. Table references refer to DWR table numbers.					

7.1.3.2 Water Service Reliability – Single Dry Year

In Chapter 7 of its 2020 UWMP, Zone 7 has indicated it can meet retailer demands during single dry years through 2045. Therefore, Zone 7 supplies to the City are assumed to equal the City's projected potable water demands after accounting for the City's GPQ. Recycled water supply is assumed to be unaffected by the dry condition. Table 7-5 shows that the City's supplies are adequate to meet projected demands during single dry years.

Table 7-5. Single Dry Year Supply and Demand Comparison (DWR Table 7-3 Retail)

	2025	2030	2035	2040	2045 (Opt)
Supplies					
Zone 7	13,240	13,739	14,237	14,736	14,736
Groundwater	3,500	3,500	3,500	3,500	3,500
Recycled Water	1,500	1,650	1,650	1,800	1,800
Supply totals	18,240	18,889	19,387	20,036	20,036
Demands					
Potable Water	16,740	17,239	17,737	18,236	18,236
Recycled Water	1,500	1,650	1,650	1,800	1,800
Demand totals	18,240	18,889	19,387	20,036	20,036
Difference	0	0	0	0	0
NOTES: Volumes are in AF.					

7.1.3.3 Water Service Reliability – Five Consecutive Dry Years

In Chapter 7 of its 2020 UWMP, Zone 7 has indicated it can meet retailer demands during five-year droughts beginning in 2025, 2030, 2035, 2040 and 2045. Therefore, Zone 7 supplies to the City are assumed to equal the City's projected potable water demands after accounting for the City's GPQ, which is expected to remain at 3,500 AFY in each year of a five-year drought. Recycled water supplies are also assumed to be unaffected by dry conditions.

Table 7-6 shows that the City's supplies are adequate to meet projected demands during five-year droughts through the planning period. For interim years (e.g., 2021-2024, 2026-2029), potable and recycled water demands are linearly interpolated between the values shown in Table 7-5.

Table 7-6. Multiple Dry Years Supply and Demand Comparison (DWR Table 7-4 Retail)

		2025*	2030*	2035*	2040*	2045* (Opt)
First year	Supply totals	18,240	18,889	19,387	20,036	20,036
	Demand totals	18,240	18,889	19,387	20,036	20,036
	Difference	0	0	0	0	0
Second year	Supply totals	18,370	18,988	19,517	20,036	20,036
	Demand totals	18,370	18,988	19,517	20,036	20,036
	Difference	0	0	0	0	0
Third year	Supply totals	18,499	19,088	19,647	20,036	20,036
	Demand totals	18,499	19,088	19,647	20,036	20,036
	Difference	0	0	0	0	0
Fourth year	Supply totals	18,629	19,188	19,776	20,036	20,036
	Demand totals	18,629	19,188	19,776	20,036	20,036
	Difference	0	0	0	0	0
Fifth year	Supply totals	18,759	19,287	19,906	20,036	20,036
	Demand totals	18,759	19,287	19,906	20,036	20,036
	Difference	0	0	0	0	0
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*						
NOTES: Volumes are in AF and include both recycled and potable water.						

7.1.4 Water Management Tools and Options

The City and Zone 7 coordinate to increase regional supply reliability and reduce reliance on water imports. The City focuses on demand reduction, specifically prioritizing water conservation and encouraging recycled water use. Zone 7 supports these efforts by the City while also evaluating new supply options (including potable reuse and brackish water desalination) and optimizing and expanding local storage.

In addition, Zone 7 is a member of the Bay Area Regional Reliability (BARR) partnership, which brings together eight Bay Area water agencies to improve regional water supply reliability. Besides Zone 7, these agencies include ACWD, SFPUC, the Bay Area Water Supply and Conservation Agency (BAWSCA), CCWD, EBMUD, Marin Municipal Water District (MMWD), and VW. The BARR partners have agreed to work cooperatively to address water supply reliability concerns and drought preparedness on a mutually beneficial and regionally focused basis. Near- and long-term joint water supply reliability projects may be evaluated through BARR, such as use of the capacity of existing facilities, changes to infrastructure (including new interties, recycled water, water conservation, expanded treatment, regional desalination, and water transfers and exchanges), and other projects or institutional arrangements that encourage a regional approach to achieving water supply reliability in the Bay Area.

As part of its existing CIP, Zone 7 is planning to construct a reliability intertie with another major water agency (e.g., EBMUD or SFPUC) to help mitigate some of the risk during a major water supply interruption from the Delta and to create opportunities for transfers/exchanges. This intertie could allow Zone 7 to acquire emergency water supplies to help meet minimum health and safety water supply needs during a major Delta outage, assuming the partnering agency has available supply and the transmission capacity available during the emergency period. A conceptual 24- to 30-inch diameter intertie with EBMUD could connect to the west side of Zone 7's transmission system and convey up to 10 to 15 MGD of supply. Additional wells would also increase access to local groundwater and improve its management, while a new booster pump station would improve conveyance of groundwater across the Tri-Valley. The new Chain of Lakes Pipeline would allow for access to water stored locally in the Chain of Lakes.

7.2 DROUGHT RISK ASSESSMENT

In accordance with CWC Section 10612, urban water suppliers must conduct a DRA, which evaluates the risk of a severe drought occurring for the next five consecutive years (2021-2025). Supply conditions for the DRA are based on the five driest consecutive years on record, with adjustments to consider plausible changes in climate, regulations, and other locally applicable criteria.

This section reviews the data and methods used to define the DRA water shortage condition and evaluates each water source's reliability under the proposed drought condition. Finally, total water supplies during the five-year drought are compared to projected demands, accounting for any applicable supply augmentation or demand reduction measures available to the City.

7.2.1 Data, Methods, and Basis for Water Shortage Condition

The water shortage condition for the DRA is the same as the five-year drought presented in Section 7.1.2. Since the DRA can be updated outside of the five-year UWMP cycle, a summary of the data and basis for the water shortage condition is provided in this section.

As presented in Chapter 7 of Zone 7's 2020 UWMP, the DRA assumes 5, 11, 60, 13, and 25 percent Table A allocations for 2021-2025, respectively. Data for 2021 reflect current projected available supplies, while the last four years reflect the last four years of the multiple-dry year scenario previously discussed. Zone 7's supply projections are based on existing facilities and the expected availability of supplies from various sources given the constraints previously described.

7.2.2 DRA Water Source Reliability

Table 7-7 summarizes Zone 7's available supplies for each year of the DRA. In addition to potable water supplies from Zone 7, the City is expected to produce 3,500 AFY of groundwater in each year of the drought. For the DRA, recycled water supplies are assumed to be sufficient to meet recycled water demands.

Table 7-7. Projected Zone 7 Supplies for Drought Risk Assessment

Supply Source	Available Supply, AFY				
	2021	2022	2023	2024	2025
SWP Table A[(a)]	4,000	8,900	48,400	10,500	20,200
SWP Carryover	8,900	10,300	9,600	12,800	9,900
Water Transfers[(b)]	10,000	6,000	5,000	6,000	8,000
Arroyo Valle[(c)]	700	700	6,900	6,900	2,700
Main Basin	13,200	13,200	11,000	10,000	11,000
Semitropic	9,100	9,100	0	9,100	9,100
Cawelo	10,000	10,000	0	5,000	1,900
Total	**55,900**	**58,200**	**80,900**	**60,300**	**62,800**

(a) Assumes 5, 11, 60, 13, and 25 percent Table A allocations from 2021 through 2025, respectively. 2021 reflects current projected available supplies, while 2022 through 2025 reflect the last four years of a multiple-dry year scenario.
(b) Includes Yuba Accord transfers.
(c) Includes carryover and current year's yield.

7.2.3 Total Water Supply and Use Comparison

In Chapter 7 of its 2020 UWMP, Zone 7 has indicated it can meet retailer demands during a five-year drought beginning in 2021. Therefore, Zone 7 supplies are assumed to equal the City's projected potable water demands after accounting for the City's GPQ (3,500 AFY). Recycled water demands were estimated by linearly interpolating between actual 2020 use and projected demands for 2025.

As shown in Table 7-8, during a five-year drought beginning in 2021, the City's supplies are adequate to meet projected demands through 2025, even without water conservation. However, the City may still prioritize water conservation under such drought conditions to reduce demand and conserve supply for potentially future dry years.

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

2021	Total
Total Water Use	16,528
Total Supplies	16,528
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	0%

2022	Total
Total Water Use	17,577
Total Supplies	17,577
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	0%

2023	Total
Total Water Use	17,801
Total Supplies	17,801
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	0%

2024	Total
Total Water Use	18,016
Total Supplies	18,016
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	0%

2025	Total
Total Water Use	18,240
Total Supplies	18,240
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	0%

CHAPTER 8
Water Shortage Contingency Plan

This chapter summarizes the City's WSCP, seismic risk to City facilities, and WSCP adoption procedures. To allow for WSCP updates to be made outside of the UWMP preparation process, the City's WSCP is included in this plan as Appendix K.

8.1 WATER SHORTAGE CONTINGENCY PLANNING BACKGROUND

Water shortages occur whenever the available water supply cannot meet the normally expected customer water use. This can be due to several reasons, including significant population growth, climate change, drought, and catastrophic events. Drought, regulatory actions, and natural and manmade disasters may occur at any time. A WSCP presents how an urban water supplier plans to respond to a water shortage condition and helps prevent catastrophic service disruptions.

The 2018 Water Conservation Legislation set new requirements for water shortage contingency planning; the City's WSCP has been updated to be consistent with these requirements.

8.2 CITY WATER SHORTAGE CONTINGENCY PLAN

The City's WSCP describes its strategic plan for preparing and responding to water shortages. The WSCP includes water shortage stages and associated shortage response actions, as well as the City's legal authorities, communication protocols, compliance and enforcement, and monitoring and reporting.

The City's WSCP is included in this plan as Appendix K to allow for updates outside of the UWMP preparation process. The City intends for its WSCP to be dynamic, so that it may assess response action effectiveness and adapt to foreseeable and unforeseeable events. When an update to the WSCP is proposed, the revised WSCP will undergo the process described in Section 8.4.

8.3 SEISMIC RISK ASSESSMENT AND MITIGATION PLAN

CWC §10632.5(a) requires that UWMPs include a seismic risk assessment and mitigation plan to assess and mitigate a water system's seismic vulnerabilities. A Local Hazard Mitigation Plan (LHMP) may be incorporated in this UWMP to meet this requirement if they address seismic risk. In coordination with Livermore and the City of Dublin (Dublin), the City developed a regional LHMP, which, among other hazards, addresses seismic risks for water infrastructure. The *2018 Tri-Valley Local Hazard Mitigation Plan* (2018 LHMP) was adopted by Livermore, Dublin, and the City during the summer of 2018. It is available on the City's website[21], and is incorporated into this UWMP by reference. The Federal Emergency Management Agency (FEMA) found the 2018 LHMP in conformance with Title 44 Code of Federal Regulations Part 201.6 Local Mitigation Plans.

[21] Tetra Tech, 2018. *Tri-Valley Local Hazard Mitigation Plan*. http://www.cityofpleasantonca.gov/gov/depts/cd/planning/plans_n_programs/tri_valley_hazard_mitigation_plan.asp

Earthquakes are common, relatively well-tracked, and studied in California. While California experiences hundreds of earthquakes each year, most are below 3.0 on the Richter Scale (i.e., magnitude 3.0) and cause minimal damage. The United States Geological Survey (USGS) roughly defines strong earthquakes (which can cause moderate damage to structures) as measuring greater than 5.0 on the Richter Scale, while major earthquakes measure more than 7.0 on the Richter Scale. In California, strong earthquakes occur every two to three years, and major earthquakes occur once a decade.

The Calaveras, Greenville, Hayward, and Mt. Diablo faults are in the vicinity of the Tri-Valley region. A 2016 report[22] by the USGS estimated the probabilities for magnitude-6.7 (or larger) earthquakes on major fault lines in the San Francisco Bay Area by the year 2043. The Hayward Fault has a 33 percent chance of one or more earthquakes of magnitude-6.7 or larger by 2043, while the Calaveras Fault has a 26 percent chance of one or more such earthquakes in that timeframe. The Greenville and Mt. Diablo faults each have a 16 percent chance of one or more earthquakes of magnitude-6.7 or larger by 2043.

The 2018 LHMP evaluated the impact of earthquakes on critical facilities and infrastructure using a Hazus analysis. Results for utilities infrastructure (including water system facilities) are presented in terms of level of damage and time to return to functionality. There are five damage levels (no damage, slight damage, moderate damage, extensive damage, and complete damage) and six time increments (1, 3, 7, 14, 30, and 90 days). Results are categorized by earthquake location; there are separate scenarios for earthquakes on each of the Calaveras, Greenville, Hayward, Mt. Diablo, and San Andreas faults.

According to the 2018 LHMP, earthquakes on the Hayward and Calaveras faults would be most significant. In its earthquake analysis, the 2018 LHMP identified 120 critical utility facilities (i.e., providing water, electricity, and communications service) in the Tri-Valley region. Over 80 percent of utility facilities would experience at least moderate damage for an earthquake on the Hayward Fault, while approximately 44 percent would be at least moderately damaged by a Calaveras Fault earthquake. For earthquakes on the other faults analyzed (Greenville, Mt. Diablo, San Andreas), this number is below 15 percent. Seven days after an earthquake on the Hayward Fault, one of these facilities has an approximately 52 percent chance of being fully functional. This increases to approximately 84 percent for an earthquake on the Calaveras Fault and above 92 percent for earthquakes on the Greenville, Mt. Diablo, and San Andreas faults.

Table 18-3 of the 2018 LHMP summarizes alternatives for mitigating the earthquake hazard on personal, corporate, and government scales. Mitigation options potentially applicable to the City include the following:

- Locate critical facilities outside hazard area where possible
- Harden infrastructure
- Provide redundancy for critical functions
- Include retrofitting and replacement of critical system elements in capital improvement plan
- Warehouse critical infrastructure components such as pipe materials
- Develop and adopt a continuity of operations plan

[22] U.S. Geological Survey (USGS), 2016. *Earthquake Outlook for the San Francisco Bay Region 2014-2043*. https://pubs.usgs.gov/fs/2016/3020/fs20163020.pdf

The City has implemented efforts in addressing its facilities' seismic vulnerabilities. In accordance with America's Water Infrastructure Act (AWIA), the City completed a Risk and Resilience Assessment (RRA) of its water system in December 2020. The RRA systematically evaluated the City's assets, threats, and risks, as well as countermeasures that might be implemented to minimize overall risk to the system. To ensure the security of the City's water system, the RRA is retained by the City as a confidential document.

8.4 WATER SHORTAGE CONTINGENCY PLAN ADOPTION, SUBMITTAL, AND AVAILABILITY

This WSCP (Appendix K) is adopted concurrently with the City's 2020 UWMP, by separate resolution. A copy of the resolution is included in Appendix L. Prior to adoption, a duly noticed public hearing was conducted. A copy of the WSCP will be submitted to DWR within 30 days of adoption.

No later than 30 days after submittal to DWR, copies of this WSCP will be available at the City's Operations Service Center and the Pleasanton Public Library. Copies will also be provided to Alameda County and Zone 7. An electronic copy of the WSCP will also be available for public review and download on the City's website.

The City's WSCP is an adaptive management plan and is subject to refinements as needed to ensure that the City's shortage response actions and mitigation strategies are effective and produce the desired results. When a revised WSCP is proposed, the revised WSCP will undergo the process described in this section for adoption by the City Council and distribution to Alameda County, Zone 7, and the general public.

CHAPTER 9
Demand Management Measures

The City implements demand management measures (DMMs) to sustainably manage its water resources. If not mitigated, an increase in water demand and/or changes in water supplies due to climate change and other factors reduce water reliability. Implementing DMMs can help improve water service reliability and help meet City and State water conservation goals. This chapter describes the City's historical and existing water conservation program, status of DMMs, and projected future implementation of water conservation measures.

In previous UWMPs, a substantial amount of data was required to document a water supplier's progress in implementing fourteen specific DMMs. In 2014, Assembly Bill 2067 simplified, clarified, and updated reporting requirements for DMMs. Focus turned away from detailed descriptions of each of the fourteen DMMs and turned to key water conservation measures that are being implemented to achieve SB X7-7 water use targets. For retail agencies like the City, the number of DMMs was reduced from fourteen to six (plus an "other" category). A narrative description of the status of the DMMs and how the DMMs help the water supplier achieve its water efficiency goals are required. Detailed data are not required.

9.1 WATER CONSERVATION PROGRAM OVERVIEW

The City has long been committed to reducing the demand for potable water through conservation and has recently implemented a recycled water program to offset potable water demands. The City's customers have responded positively to these conservation programs. In this chapter, narrative descriptions addressing the nature and extent of each DMM implemented over the past five years (2016-2020) are provided. Planned or continued implementation of each of the DMMs are also discussed.

The City's SB X7-7 per capita water use target for 2020 was confirmed to be 197 GPCD in its 2015 UWMP. The DMMs that the City has implemented have allowed it to meet its target. As shown in Chapter 5, the City's overall per capita water use in 2020 was 159 GPCD.

9.2 EXISTING DEMAND MANAGEMENT MEASURES FOR RETAIL SUPPLIERS

The City is required to provide a description of the DMM's associated with the following:

- Water waste prevention ordinances
- Metering
- Conservation pricing
- Public education and outreach
- Programs to assess and manage distribution system real loss
- Water conservation program coordination and staffing support

The City is also required to describe any other DMMs it has implemented that have had significant impact on water use.

This section describes existing water conservation programs and those planned to be implemented in the future. For each DMM, the current program is described, followed by a description of how the DMM was implemented over the previous five years and future implementation plans.

The City anticipates continuing and possible expansion of its water conservation program to meet the upcoming new legislative regulatory requirements under the *Making Water Conservation a California Way of Life* plan currently under development.

9.2.1 Water Waste Prevention Ordinances

9.2.1.1 DMM Description

The City prohibits water waste within its service area, as defined by PMC §14.04.060 with permanent wasteful water use violations of water service. In 1991, the City approved Ordinance No. 1508, which added Chapter 9.30 of the PMC and established water conservation stages and prohibitions to prevent water waste. In March 2014, City Council approved a significant update to PMC Chapter 9.30, which updated the definitions of water shortage stages with associated levels of water rationing, the expected water conservation measures under each stage, and prohibitions of wasteful water use when the chapter is in effect.

A water shortage emergency can be declared by either the City Manager or by resolution of the City Council. As described in Chapter 8, a water shortage can expand the City's water use restrictions, depending on the shortage stage as defined in the City's Water Management Plan.

9.2.1.2 Implementation over the Past Five Years to Achieve Water Use Targets

To protect and preserve the community water supply, eliminating water waste is always essential, regardless of the water supply level. Therefore, PMC Chapter 14.04 defines wasteful water use as violations of water service. To incorporate the importance of recycled water as an alternative to landscape irrigation service within the City's recycled water distribution system, PMC Section 14.04.060 was updated in February 2018 to include a new definition of water waste: use of potable water for outdoor landscaping through a dedicated irrigation meter within the City's recycled water use area. The City's current definitions of water waste include:

1. Use of potable water between 9:00 a.m. and 6:00 p.m. to irrigate grass, lawns, groundcover, shrubbery, crops, vegetation, and trees, with the exception of hand watering and drip irrigation.
2. The application of potable water to outdoor landscaping in a manner that causes runoff such that water flows onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots or structures.
3. Use of potable water to irrigate outdoor landscaping during and within 48 hours after measurable rainfall.
4. Use of potable water to wash down sidewalks, walkways, driveways, parking lots, open ground or other hard surface areas by the direct application of water thereto, unless needed for health or safety reasons.
5. Use of potable water in non-recirculating decorative ponds, fountains and other water features, with the exception of child water-play features.
6. Allowing potable water to escape from breaks within the person or consumer's plumbing system for more than eight hours after the person or consumer is notified or discovers the break.

7. Use of potable water for outdoor landscaping through a dedicated irrigation meter within the City's recycled water use area unless exempted by the director of operations and water utilities for existing water customers, or City Engineer for new development.

In addition to the above water waste prohibitions, the City expanded water conservation regulations in a June 2016 update to PMC Chapter 9.30 (Water Management Plan). To protect water resources, these additional regulations apply even during normal supply conditions and include:

8. The use of potable water for washing vehicles and/or machinery from a hose equipped with a shutoff nozzle is permitted as long as water does not enter the storm drain system.
9. Reduce other interior or exterior uses of water to minimize or eliminate excessive runoff or waste.
10. Restaurants shall serve water to their customers only when specifically requested.
11. Operators of hotels and motels shall provide guests with the option of choosing not to have towels and linens laundered daily. The hotel or motel shall prominently display notice of this option in each guestroom using clear and easily understood language.
12. The use of water for construction activities should utilize recycled water, rather than potable water. Such use shall occur in a manner that does not result in runoff or illicit discharge into the storm drain system.
13. Commercial power washing should utilize recycled water, in a manner that does not result in water discharging into the storm drain system.
14. Pools should remain covered when not in use to prevent evaporation, and should be equipped with recirculating pump(s).
15. The use of potable water in non-recirculatory ponds, fountains, and other decorative water features is prohibited.

9.2.1.3 Plans for Continued Implementation

Implementation of this DMM is ongoing and expected to help the City achieve its water use targets by minimizing nonessential water uses so that water is available for human consumption, sanitation, and fire protection.

9.2.2 Metering

9.2.2.1 DMM Description

All known water connections within the City's service area are metered, and all customer sectors are billed by volume of use, as discussed in Section 9.2.3.

Between 2016 and 2017, the City implemented an Advanced Metering Infrastructure (AMI) project, which included replacing most small and large water meters. To date, the AMI project converted 96.8 percent of the City's 22,369 meters to an Aclara AMI system. Following installation, the City performed an audit investigation to verify meter read validity from the new AMI system. The AMI project increased meter accuracy due to the replacement of older meters that naturally decline in performance over time.

The City plans to convert the approximately 700 remaining non-AMI meters to AMI over the next 5 years. The final conversion poses some challenges because most of the non-AMI meters are located in areas difficult to reach with a fixed base radio data collection system. Also, as funding allows, meters are replaced within the system based on their service length, with the oldest meters receiving replacement priority.

The City continues to monitor water meters for accuracy through unusual consumption trends in the billing software and AMI reporting. Meters that are stuck or are showing high degrees of variability are flagged for inspection and/or replacement.

9.2.2.2 Implementation over the Past Five Years to Achieve Water Use Targets

In 2017, following the citywide meter replacement and the implementation of the AMI system, the City launched a customer water portal that allows customers to view their hourly water usage in near real time, as well as sign up to receive automated potential leakage notifications when the system detects continuous consumption over a specific threshold of time. For customers not receiving potential leakage notifications (including those not registered on the portal), water conservation staff reviews AMI reports on a weekly basis to identify meters showing constant consumption. Customers with meters exceeding a specific threshold are sent notification by email, phone, or regular mail.

9.2.2.3 Plans for Continued Implementation

Implementation of this DMM is ongoing and expected to help the City achieve its water use targets by providing accurate and timely water use information to the customer and the City. It also helps customers make informed decisions about their water consumption. Future plans include continued customer outreach on the availability of the customer water portal to receive automatic alerts of potential leaks, as well as continued customer education on how to use the water portal to view and keep track of customer water use.

9.2.3 Conservation Pricing

9.2.3.1 DMM Description

The City's water rate structure encourages conservation by incorporating a volumetric charge in addition to the fixed meter charge. Consequently, water usage reductions directly reduce cost to the metered customer, while excessive water use results in increased costs. Lastly, to encourage recycled water use, the City's recycled water rate is set at 90 percent of the potable water irrigation rate.

9.2.3.2 Implementation over the Past Five Years to Achieve Water Use Targets

9.2.3.2.1 Potable Water Rates

The City's potable water rates include a fixed meter charge based on the size of the water meter and a consumption charge based on the quantity of water used. The City has billed single-family residential customers based on an inclining block rate structure since 1980. Potable water rates include the following components: Zone 7 water costs, distribution costs, a recycled water surcharge, and capacity expansion costs. The City's current water rates are available on the City's website: www.cityofpleasantonca.gov, under Government/Operations Services/Customer Service/Utility Billing.

The Zone 7 water rate is provided to the City and is a direct pass through to the City's customers. The City does not determine this rate, which is subject to change at least each January 1. The fixed meter charge and the distribution charges are subject to annual consumer price index changes effective January 1, and the Zone 7 rate is subject to changes by the Zone 7 Board.

9.2.3.2.2 Recycled Water Rates

As described in previous chapters of this 2020 UWMP, the City purchases and delivers recycled irrigation water to commercial customers in various areas within its service area. The City is in the process of expanding its recycled water system to expand irrigation service. Recycled water rates are available on the City's website (www.cityofpleasantonca.gov) and are based on the costs associated with providing recycled water service, purchases from DERWA and Livermore, and delivering water through its distribution system.

The City's recycled water rate is set at 90 percent of the potable irrigation rate. As potable water rates are adjusted based on changes in the annual Consumer Price Index (CPI) and in Zone 7's wholesale water rates, the recycled water rate will adjust to remain at 90 percent of the potable irrigation water rate. Each December, customers will be notified of the rate that will be effective January 1 of the following year.

9.2.3.3 Plans for Continued Implementation

Implementation of this DMM is ongoing and expected to help the City achieve its water use targets by ensuring water customers pay the true cost of water and to adequately fund water system operations and maintenance, including repair and replacement programs and water conservation programs.

9.2.4 Public Education and Outreach

9.2.4.1 DMM Description

The City has been actively involved in providing the community with information and education on the value of water and water conservation for many years. This includes participating at local events, such as green fairs, corporate fairs, school events and farmers markets, hosting and co-hosting water-wise workshops, and meeting with business leaders and corporate green teams to discuss and answer questions on water efficiency. Brochures, handouts, model displays, and general discussion are offered during events to the general public.

The City is part of the Tri-Valley Water Conservation Task Force, which promotes the WaterSense program's "Fix a Leak Week" campaign each year to raise awareness of water leaks inside the home and the amount of water wasted from such leaks each year. During Fix a Leak Week, Zone 7 and the local water retailers encourage customers to fix common leaks (faucets, toilets and showerheads) and educate the public on the value of water efficiency and the meaning of the WaterSense label.

The City's Water Conservation Program provides guidance to internal staff to ensure effective communication with the public on matters of water conservation and programs that are available to the public to increase water efficiency. Water conservation programs include high-efficiency washer rebates, water efficient landscape rebates, weather-based irrigation controller rebates, water-efficient irrigation rebates for irrigation customers, and controller assistance program service visits. These programs are discussed in more detail in Section 9.2.7.

9.2.4.2 Implementation over the Past Five Years to Achieve Water Use Targets

As detailed in Section 9.2.2.1, between 2016 and 2017 the City prioritized the implementation of AMI with interconnection to a customer water portal. Since these systems were implemented, an important part of the City's Water Conservation outreach efforts has included educating customers on how to use the customer water portal to monitor their water use and sign up for automatic leak notifications. This allows customers to investigate for potential leaks quickly, greatly reducing their water use through unknown leaks.

In addition, Water Conservation staff works with the City's Public Information Officer to post seasonal water efficiency messaging on social media platforms and the City's website. The City's main water conservation website (PleasantonWaterConservation.com) provides water customers with water efficiency information and upcoming events and learning opportunities on water efficiency.

In response to the COVID-19 pandemic in 2020, in-person outreach events were canceled. Some events transitioned to virtual platforms, including Gardening with Natives, a joint-hosted event between Zone 7 and other Zone 7 retailers, and water-efficiency trainings conducted by the Bay Area Water Supply and Conservation Agency.

9.2.4.3 Plans for Continued Implementation

Implementation of this DMM is ongoing and expected to help the City achieve its water use targets by educating water users about the importance of improving water use efficiency and avoiding water waste.

9.2.5 Programs to Assess and Manage Distribution System Real Loss

9.2.5.1 DMM Description

The City measures water pressure at entry points (i.e., turnouts and groundwater wells) and booster stations within its distribution system. Tank levels are also measured within the distribution system. All measurements are continuously monitored by the City's Supervisory Control and Data Acquisition (SCADA) system to indicate any unusual activity or trends that could indicate water loss. Identified distribution system leaks are repaired by trained staff who are available 24 hours a day.

9.2.5.2 Implementation over the Past Five Years to Achieve Water Use Targets

As described in Chapter 4 of this plan, the City conducts an annual audit of production versus consumption to determine water losses (see Appendix F). The City's calendar year 2020 audit is in progress, but water loss estimated from production and billing data was approximately 8.8 percent.

9.2.5.3 Plans for Continued Implementation

The City will continue to perform water system audits, the accounting of water losses vs. system input, and leak detection programs. Water system audits and leak detection activities are performed on an ongoing, year-round basis.

Implementation of this DMM is expected to help the City achieve its water use targets and comply with future water loss standards by quickly identifying sources of water loss so repairs can be made and losses minimized.

9.2.6 Water Conservation Program Coordination and Staffing Support

9.2.6.1 DMM Description

Since the 1990s, the City has staffed one to two temporary, 1,000-hour and/or 1,500-hour water conservation interns or assistants. This position devotes 100 percent of their time to water conservation. In 2011, the City hired a half-time Water Conservation Manager. Duties performed by the Water Conservation Manager include:

- Coordination and oversight of conservation programs
- Coordination of joint programs with Zone 7, the retailers, and outside agencies
- Communication of water conservation issues to management
- Preparation and submittal of reports to various parties
- Preparation and updates of water conservation plan

In 2015, a full-time Water Conservation Technician was also added to assist with the above activities, as well as provide irrigation surveys to customers. The Water Conservation Technician is also a certified cross-connection specialist and provides coverage testing and cross connection testing assistance to irrigation customers converting to recycled water. Recently, to reflect the incorporation of the water conservation and recycled water programs under the Environmental Services Division, a new position classification was developed and approved, Environmental Services Specialist (ESS), which assumes the same responsibilities as the Water Conservation Technician classification, as well as additional environmental compliance functions. Two ESS positions will now provide support to the City's water conservation and recycled water programs to address the transition of the Water Conservation Manager to the Environmental Services Manager, following the recent Environmental Services Division reorganization.

Additional City staff are also responsible for DMM program implementation. Customer Service Center staff provide general water conservation program information to customers and refers customers to Water Conservation Program staff for further assistance with water rebates and other water conservation programs. The Managing Director of Utilities and Environmental Services is responsible for the managing oversight of the following: system water audits, leak detection, and repair; metering with commodity rates for all new connections and retrofit of existing connections; and participates in conservation pricing.

9.2.6.2 Implementation over the Past Five Years to Achieve Water Use Targets

Following departmental strategic planning, in 2018 the Environmental Services Division (ESD) was formed within the City's Operations Services Department. Staff supporting Water Conservation, Recycled Water regulations, and Environmental Compliance all fall under the ESD. The Environmental Services Manager directly oversees each of these areas. The integration between these programmatic areas helps to ensure recycled water inclusion into the City's overall water conservation strategy, as well as the integration of public outreach education interconnection between the conservation of water and clean water program.

9.2.6.3 Plans for Continued Implementation

Implementation of this DMM is ongoing and is expected to help the City achieve its water use targets by making water conservation and implementation of the City's water conservation program a priority among City employees.

9.2.7 Other Demand Management Measures

In addition to the six DMMs described above, the City also implements the following programs:

- Water-Efficient Landscape Program
- Controller Assistance Program
- Free indoor Water-efficient Device Program
- Free water Conservation Lavatory Signs
- Rebate Programs
- Recycled Water Program

These programs have all been active within the last five years and help the City achieve its water use targets by incentivizing customers to increase water efficiency. Each program is described below.

9.2.7.1 Water-Efficient Landscape Program

The City offers $0.25 per square foot to residential customers and $0.50 per square foot to irrigation customers who replace existing front lawns or sidewalk visible lawns with water-efficient, drought tolerant landscaping. This rebate program can be combined with Zone 7's Water-Efficient Lawn Conversion Rebate, such that customers can get up to $1,000 (Residential) or $5,500 (Commercial/ Irrigation) by participating in both programs.

Irrigation meter customers participating in the City's Water-Efficient Landscape Program are eligible for rebates towards qualifying water efficient irrigation equipment utilized on the converted landscape area. Refer to Section 9.2.7.5.2 for details.

9.2.7.2 Controller Assistance Program

The City offers free controller assistance visits to residential and non-residential water customers. This service includes a walkthrough site/irrigation system evaluation of the customer's property and irrigation controller programming assistance. The Controller Assistance Program is open to all water customers with landscaping that are responsible for the property water bill.

In response to the COVID-19 crisis, in 2020 the Controller Assistance Program transitioned into "virtual service visits." Utilizing video calling, water conservation staff continue to provide this service to City water customers upon request.

9.2.7.3 Free Indoor Water-Efficient Device Program

Homes built prior to 1992 may not have water-efficient indoor plumbing, such as low flow showerheads, low flush toilets, or faucet aerators. The U.S. Energy Policy Act of 1992 required 1.6 gallon-per-flush toilets, 2.5 gallon-per-minute (gpm) showerheads, and 2.5 gpm faucets to be used after January 1994. In 2002, to promote indoor water conservation, the City piloted a free water-efficient showerhead program to residential customers; however, the showerheads were not well received, likely due to poor aesthetic appeal, and the program has been discontinued for a number of years.

In 2008, the City began running the current Free Indoor Water-Efficient Device Program, with more aesthetically appealing equipment, to help residents meet their water conservation goals. This program continues to offer all City water customers low flow showerheads (limit 3 per water account), kitchen aerators (limit 1 per water account), and bathroom aerators (limit 3 per water account). Additionally, the City provides free toilet dye strips for toilet leak detection. These items are provided by request and offered by water staff to customers. A display at the City's Customer Service Center counter displays the offer of this program. The program was also advertised during local events where a City water conservation table is present.

9.2.7.4 Free Water Conservation Lavatory Signs

The City provides commercial customers with easy-to-use water conservation clings that can be posted on lavatory mirrors. These signs remind customers and employees to be mindful of water waste.

9.2.7.5 Rebate Programs

The following rebate programs reimburse the City's customers for upgrading existing equipment and appliances with more water-efficient models.

9.2.7.5.1 Weather-Based Irrigation Controllers

The City also partners with Zone 7 to provide a Weather-Based Irrigation Controller Rebate Program, which is available to single- and multi-family residences and non-residential customers. Installing weather-based irrigation controllers qualifies customers for a rebate of up to 50 percent of associated costs, up to a maximum of $75 for single-family residences, $100 for multi-family residences, or $3,000 for non-residential properties.

9.2.7.5.2 Water-Efficient Irrigation Equipment

Irrigation customers participating in the City's Water-Efficient Landscape Program are eligible for rebates towards qualifying water-efficient irrigation equipment utilized on the converted landscape area. Qualifying equipment includes rain sensors, pressure regulating devices, and rotary nozzles. The maximum rebate is $200 per site.

9.2.7.5.3 Water-Efficient Washing Machines

Since 1998, Zone 7 has had a Residential Clothes Washer Rebate Program available to Livermore-Amador Valley water customers. The rebate is for the purchase of qualifying high efficiency clothes washing machines. In 2008, Zone 7 partnered with Pacific Gas and Electric (PG&E) and other San Francisco Bay Area water agencies on a regional strategy to increase water and energy efficiency. The current program offers a rebate of up to $75 for installation of an "Energy Star Most Efficient" clothes washer. Though PG&E terminated their joint participation in the rebate program in 2018, Zone 7, the City, and the other Zone 7 retailers agreed to support the continuation of this rebate to the City's water customers.

High-efficiency washing machines use about 50 percent less water than conventional, top-loading models; using only 20 to 30 gallons of water per load compared to 40 to 45 gallons. The estimated savings for a typical household is about 5,100 gallons per year. This program has been very successful in the City's service area, and the City plans to continue to support this program through Zone 7 as an effective regional program to further reduce future water demand in the City's service area.

9.3 WATER USE OBJECTIVES (FUTURE REQUIREMENTS)

In 2018, the State Legislature enacted two policy bills, (SB 606 (Hertzberg) and AB 1668 (Friedman)), to establish long-term water conservation and drought planning to adapt to climate change and the associated longer and more intense droughts in California. These two policy bills build on SB X7-7 and set authorities and requirements for urban water use efficiency. The legislation sets standards for indoor residential use and requires the SWRCB, in coordination with DWR, to adopt efficiency standards for outdoor residential use, water losses, and commercial, institutional, and industrial (CII) outdoor landscape areas with dedicated irrigation meters. At the time of preparation of this UWMP, DWR and the SWRCB are in the process of developing new standards for water loss and indoor and outdoor residential water use. These standards will require urban water retailers to develop agency-wide water use objectives, provide annual reports, and update their UWMP.

The State Legislature established indoor residential water use standards as 55 GPCD until January 2025, 52.5 GPCD from 2025 to 2029, and 50 GPCD in January 2030, or a greater standard recommended by DWR and the SWRCB. By June 30, 2022, the SWRCB is anticipated to adopt an outdoor residential use standard, a standard for CII outdoor landscape areas with dedicated irrigation meters, and performance measures for CII water uses. At that time, the SWRCB will adopt guidelines and methodologies for calculating the water use objectives. In accordance with CWC §10609.20(c), the water use objective for urban water retailers will be based on the estimated efficient indoor and outdoor residential water use, efficient outdoor irrigation of CII landscaped areas, estimated water losses, and estimated water use for variances approved by the SWRCB aggregated across the population in its water service area.

By November 1, 2023, and November 1 of every year thereafter, the City will calculate its urban water use objective and actual water use and provide an annual report to the State. By January 1, 2024, the City will prepare a UWMP supplemental incorporating DMMs and other water efficiency standards that it plans to implement to achieve its water use objective by January 1, 2027.

CHAPTER 10
Plan Adoption, Submittal, and Implementation

This chapter provides information regarding the notification, public hearing, adoption, and submittal of the City's 2020 UWMP and updated WSCP. It also includes discussion on plan implementation and the process of amending the UWMP and the WSCP.

10.1 INCLUSION OF ALL 2020 DATA

Because 2020 is the final compliance year for SB X7-7, the 2020 UWMPs must contain data through the end of 2020. If a water supplier bases its accounting on a fiscal year (July through June) the data must be through the end of the 2020 fiscal year (June 2020). If the water supplier bases its accounting on a calendar year, the data must be through the end of the 2020 calendar year (December 2020).

As indicated in Section 2.4 of this plan, the City uses a calendar year for water supply and demand accounting; therefore, this 2020 UWMP includes data through December 2020.

10.2 NOTICE OF PUBLIC HEARING

In accordance with the Act, the City must provide an opportunity for the public to provide input on this 2020 UWMP and the WSCP. The City must consider all public input prior to its adoption. There are two audiences to be notified for the public hearing: cities and counties, and the public.

10.2.1 Notices to Cities and Counties

The City provided greater than a 60-day notice regarding the preparation of its 2020 UWMP and WSCP to cities and counties in its service area as discussed in Section 2.5 of this plan. In addition, the City provided notices to the following agencies:

- Zone 7 Water Agency
- Dublin San Ramon Services District
- California Water Service - Livermore District
- City of Livermore
- DERWA

The City coordinated the preparation of its UWMP and WSCP update internally, with Alameda County, and with the above listed agencies. The notice of preparation is included as Appendix E. Upon substantial completion of this 2020 UWMP, the City provided the agencies listed above, including internally within the City and Alameda County, notice of public hearing (Appendix E).

Notifications to cities and counties, in accordance with the Act, are summarized in Table 10-1.

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

City Name	60 Day Notice	Notice of Public Hearing
City of Pleasanton	Yes	Yes
County Name	**60 Day Notice**	**Notice of Public Hearing**
Alameda County	Yes	Yes
NOTES: This table lists only the cities and counties that the City is required to notify. See text for list of other cities, agencies, and stakeholders notified.		

10.2.2 Notice to the Public

The City issued a Notice of Public Hearing to the public and provided a public review period following the notice, and prior to adoption, to allow ample time for public comments to be prepared and received.

A Notice of Public Hearing was issued in accordance with Government Code Section 6066 and was published twice in the local newspaper (Valley Times) to notify all customers and local governments of the public hearing. In addition, the notice was posted on the City's website, www.cityofpleasantonca.gov. A copy of the published Notice of Public Hearing is included in Appendix E.

10.3 PUBLIC HEARING AND ADOPTION

The City encouraged community participation in the development of this 2020 UWMP, including its WSCP, using public notices and web-based communication. Public notices included the time and place of the public hearing, as well as the location where the plan is available for public inspection.

The public hearing provided an opportunity for City water users and the general public to become familiar with the 2020 UWMP and ask questions about the City's water supply, its continuing plans for providing a reliable, safe, high-quality water supply, and its plans to mitigate various potential water shortage conditions. Copies of the draft UWMP, including the WSCP, were made available for public inspection at the City's Operations Service Center, the Pleasanton Public Library, and on the City website.

10.3.1 Public Hearing

A public hearing was held on June 1, 2021, during which the City received and considered input from the public before adopting the 2020 UWMP and updated WSCP. As part of the public hearing, the City also provided a report on the City's compliance with the Water Conservation Act of 2009. The report included information on the City's baseline, water use targets, compliance, and implementation, as discussed previously in Chapter 5 of this plan.

10.3.2 Adoption

Subsequent to the public hearing, this 2020 UWMP was adopted by the City Council on June 1, 2021. The City adopted the updated WSCP separately so that it may be updated as necessary. Copies of the adopted resolutions are included in Appendix L.

10.4 PLAN SUBMITTAL

This 2020 UWMP will be submitted to DWR within 30 days of adoption and by July 1, 2021. The adopted 2020 UWMP will be submitted electronically to DWR using the Water Use Efficiency (WUE) data submittal tool. A CD or hardcopy of the adopted 2020 UWMP will also be submitted to the California State Library.

No later than 30 days after adoption, a copy of the adopted 2020 UWMP, including the WSCP, will be provided to the City (City of Pleasanton) and County (Alameda County) to which the City provides water.

10.5 PUBLIC AVAILABILITY

No later than 30 days after submittal to DWR, copies of this Plan, including the WSCP, will be available at the City's Operations Service Center (3333 Busch Road, Pleasanton) and Pleasanton Public Library (400 Old Bernal Avenue, Pleasanton) for public review during normal business hours. An electronic copy of this 2020 UWMP will also be available for review and download on the City's website: www.cityofpleasantonca.gov.

10.6 AMENDING AN ADOPTED UWMP OR WATER SHORTAGE CONTINGENCY PLAN

The City may amend its 2020 UWMP and WSCP jointly or separately. If the City amends one or both documents, the City will follow the notification, public hearing, adoption, and submittal process described in Sections 10.2 through 10.4 above. In addition to submitting amendments to DWR through the WUE data portal, copies of amendments or changes to the plans will be submitted to the California State Library and any city or county within which the supplier provides water supplies within 30 days after adoption.

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Appendix B

2019 Census Data

Watearth, Inc.
21-071.0 City of Pleasanton Water Supply Assessment
2019 Census Data
March 28, 2022

A. Population by Unit Type

Unit Type	Population	# Occupied Housing Units	Persons/Unit	Notes
SFR	65,965	22,079	2.99	LDR/LMDR
2-4	4,090	1,648	2.48	MDR
5+	10,675	4,859	2.20	HDR
Other	669	425	1.57	Not Used (Mobile Homes/Vans/RVs)
	81,399	29,011	2.81	Average PPH

B. Household Size Derived Population/Unit Type

Household Size by Unit Type

Unit Type	1Per	2Per	3 Pers	4 Pers	5+Pers	
SFR	2502	7539	4403	5520	2115	22079
2-4	458	460	272	443	15	1648
5+	1921	1262	828	687	161	4859
Other	262	113	37	13	0	425

Population Based on HH Size

Unit Type	1Per	2Per	3 Pers	4 Pers	5+Pers	Total
SFR	2502	15078	13209	22080	10,575	63,444
2-4	458	920	816	1772	75	4,041
5+	1921	2524	2484	2748	805	10,482
Other	262	226	111	52	-	651
						78,618

HH/Size Unit Type

Unit Type	Total HH/Occupied Units	Pop'n	HH Size
SFR	22,079	63,444	2.87
2-4	1,648	4,041	2.45
5+	4,859	10,482	2.16
Other	425	651	1.53
	29,011	78618	2.71

Appendix C

Housing Element Update (6th Cycle) Potential Sites for Rezoning

Housing Element Update 6th Cycle (2023-2031)

Preliminary Sites Inventory

Data Summaries and Ranking for Sites Under Consideration

THE CITY OF PLEASANTON

Version 4 – February 9, 2022
Adopted by City Council for CEQA Consideration February 8, 2022

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Sites Under Consideration

Work is proceeding on the 6th Cycle (2023-2031) Housing Element Update which, among other components, will include an updated inventory of sites that can accommodate the City's Regional Housing Need Allocation (RHNA). Based on a preliminary evaluation of the capacity of existing sites zoned for residential development, there is a need to identify additional locations for future re-zoning to allow for residential use, including sites suitable for both lower-income and market-rate housing to address the shortfall between the RHNA and the existing capacity. The table below identifies the expected shortfall based on various income categories.

Table 1: Existing Residential Capacity and "Gap"

	Income Category				
	Very Low	**Low**	**Moderate**	**Above Moderate**	**Total**
RHNA	**1,750**	**1,008**	**894**	**2,313**	**5,965**
Existing Residential Zoning					
Carryover from prior Housing Element	1,146		372	0	1,417
Capacity from existing residential zoning	256		185	387	929
Pipeline Projects *Entitled/Approved Projects*	23		-	371	394
ADUs	24[1]	25	25	8	82
Projected Shortfall [2]	**(1,284)**		**(312)**	**(1,547)**	**(3,143)**

[1] The 24 ADU units are split evenly between the "Extremely Low" and "Very Low" income categories.

[2] Although the analysis of existing capacity generally identifies production in more detail across affordability categories, HCD's guidance treats planning for "lower-income" housing in a manner that conceptually aggregates Extremely-Low, Very-Low and Low-Income categories, and therefore the table similarly aggregates them.

In September 2021, City staff began to compile a list of prospective sites from various sources, including developer- and property owner- nominated sites, sites that have known interest in housing development, and sites that may have redevelopment capacity based on their characteristics (such as location, size, and existing utilization or underutilization) and other analysis. After initial review and consideration, staff has identified 29 properties or areas to be considered for rezoning to allow residential development. Unlike the 4th Cycle Housing Element update where only high-density sites were rezoned, staff has identified sites for consideration at high-, medium-, and low- densities to meet not only the City's outstanding lower income housing needs but also the remaining moderate or above moderate income housing needs. On February 8, 2022, the City Council narrowed down the initial list of sites to 25 sites to be considered for future rezoning to allow residential development and for inclusion in the environmental analysis and as part of the Sites Inventory for the 2023-2031 (6th Cycle) Housing Element Update.

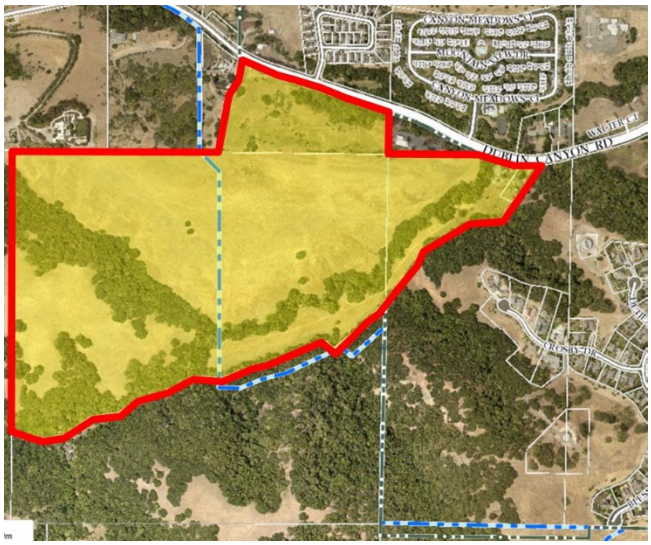
Table 2 and the accompanying map shows the 25 sites. To facilitate discussion, these sites have then been numbered based on geographic location within the city but are otherwise in no particular order.

Site summaries for each site or areas under consideration including the lot or area size, existing uses, current zoning, current general plan designation, and other background information are included in this document. Site scoring, based on approved criteria as described in the next section, is also included in each summary.

Table 2: List of Initial Sites/Areas for Consideration			
Site Number and Name			
1	Lester	**16**	Tri-Valley Inn
2	Stoneridge Shopping Center (Mall)	**18**	Valley Plaza
3	PUSD – Donlon	**19**	Black Avenue
4	Owens (Motel 6 and Tommy T)	**20**	Boulder Court
5	Laborer Council	**21**	Kiewit
6	Signature Center	**22**	Merritt
7	Hacienda Terrace	**23**	Sunol Boulevard Area
8	Muslim Community Center	**24**	Sonoma Drive Area
9	Metro 580	**25**	PUSD – District
11	Old Santa Rita Area	**26**	St. Augustine
12	Pimlico Area (North side)	**27**	PUSD – Vineyard
14	St. Elizabeth Seton	**29**	Oracle
15	Rheem Drive Area (southwest side)		

Place Holder For Updated Map Page

Site 1 - Lester



Location: 10807 and 11033 Dublin Canyon Road

APN: 941 250000200, 941 250000300, 941 260000206, 941 270000200, 941 130800700

General Plan Designation: Low Density Residential, Open Space-Public Health and Safety, and Open Space-Agriculture and Grazing

Current Zoning Designation: Unincorporated - Prezoned-Agriculture (A) District

Lot Size (or portion of property proposed for development: 12.9 acres

Estimated Potential Number of Housing Units: 31 units based on submittal of application PUD-130

Background and Description:

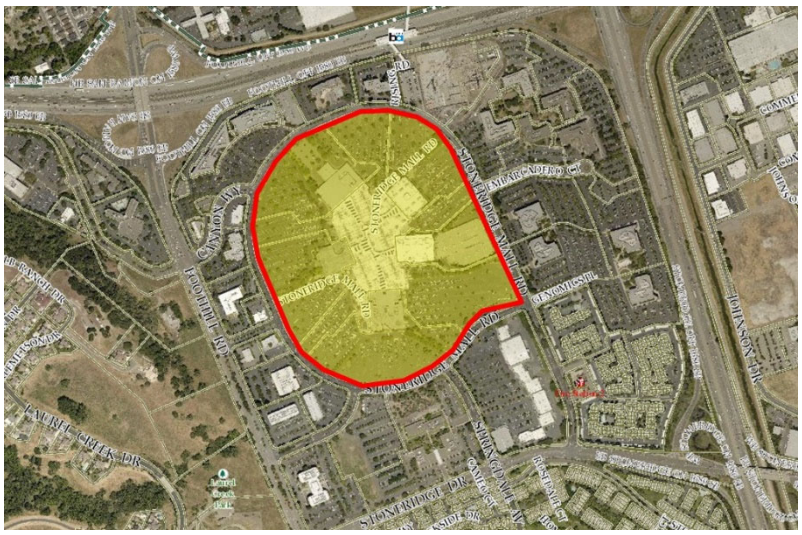
The City has received and is currently processing an application for Planned Unit Development (PUD) rezoning and development plan (and accompanying environmental review) to demolish two homes and construct 31 single-family detached homes with related on-and-off-site improvements and public land dedication and improvements. The project also entails annexation and subdivision of the 128.5-acre site, 115.6 acres of which would be preserved as open space.

Key Considerations and Feasibility for Site Development:

The property is in unincorporated Alameda County and is currently not located within City boundaries. However, an application is currently under review, therefore feasibility of development is high if the development application is approved.

Site 2 - Stoneridge Shopping Center

Location: 1008, 1300, 1400, 1500, 1600, & 1700 Stoneridge Mall Road



APN: 941 120109200, 941 120109500, 941 120109403 & 941 120102800, 941 120102900, & 941 120103106

General Plan Designation:
Retail/Highway/Service Commercial Business and Professional Offices

Current Zoning Designation:
Regional Commercial District [C-R(m)] and Planned Unit Development – Mixed Use (PUD-MU)

Lot Size (or portion of property proposed for development): 18.00 acres

Estimated Potential Number of Housing Units:
Between 900 units (50 DUA) and 1,440 units (80 DUA)

Background and Description:

The area within the loop created by Stoneridge Mall Road contains the Stoneridge Shopping Center. The shopping center comprises a number of two-story retail buildings with one parking garage (adjacent to the formerly Sears store); the remainder of the site is surface parking. It includes the smaller-scale tenant spaces (managed by Simon Properties) and five anchor department stores: JCPenney, two Macy's stores, and two vacant tenants (formerly Sears and Nordstrom). Several different owners control the land within the Shopping Center, with Simon Property Group the largest single owner. The previous Housing Element designated two areas of the shopping center for high density housing, in the southeast quadrant and northwest quadrant of the mall site. In year 2019, Simon Property Group received Design Review approval for a significant commercial expansion on the site of the former Sears retail space and parking structure, although construction of the project is currently on hold.

Key Considerations and Feasibility for Site Development:

The site is within ¼ mile of the West Dublin/Pleasanton BART station, and a ¼ mile from the freeway on ramp as well as within close proximity to a high concentration of office/employment uses.

The Stoneridge Shopping Center has approximately 40 acres of surface parking, not including the area already designed for housing. Staff has identified 18 of those acres as available and suitable for high density residential development. Several of the current owners at the Shopping Center have identified interest in the creation of a newly envisioned center creating a dynamic new neighborhood to complement the existing and future mall uses. Simon, the largest property owner, has participated in several other similar residential projects at their malls nationwide. Considerations for future projects would include the requirement to relocate any eliminated surface parking within new parking structures.

Site 3 – PUSD Donlon

Location: 4150 Dorman Road

APN: 941 130800700

General Plan Designation: Elementary School, Public and Institutional

Current Zoning Designation: One-family Residential District (R-1-6,500)

Lot Size (or portion of property proposed for development): 5.5 acres



Estimated Potential Number of Housing Units: 28 units at 5 DUA

Background and Description:

The subject property is owned by the Pleasanton Unified School District (PUSD), with the campus of Donlon Elementary School occupying the eastern portion of the property and the remainder vacant. The site has a General Plan Land Use Designation of Public Intuitional (School) and is zoned R-1-6,500. The Donlon site is surrounded by a single-family residential neighborhood, also zoned R-1-6,500.

Key Considerations and Feasibility for Site Development:

The Pleasanton Unified School District has identified approximately 5.5 acres of this existing approximately 19-acre school site in which it has interest in zoning for residential development, and potentially disposing of.

Since the property currently has a residential land use designation, only a General Plan amendment would be required to allow for future development. There is no interest in intensifying the current Zoning designation of R-1-6500; the single-family zoning that is contemplated would be consistent with the adjacent single-family neighborhood surrounding the school.

Site 4 – Owens Drive (Tommy T's and Motel 6)

Location: 5102 and 5104 Hopyard Road

APN: 941 130101303 and 941 130104701



General Plan Designation:
Retail/Highway/Service Commercial
Business and Professional Offices

Current Zoning Designation:
Freeway Interchange Commercial District (C-F)

Lot Size (or portion of property proposed for development): 2.36 acres

Estimated Potential Number of Housing Units:
Between 71 units (30 DUA) and 94 units (40 DUA)

Background and Description:

The Owens Drive area comprises two adjacent sites that are currently developed with a two-story motel and a single-story comedy club/restaurant. Each site has a large proportion of surface parking and is considered underutilized.

Key Considerations and Feasibility for Site Development:

Each of the two sites were constructed in 1975 and are considerably outdated without any major improvements completed in recent years. The site is within ½ mile of the Dublin/Pleasanton BART station, and a ¼ mile from the freeway on ramp as well as within close proximity to a high concentration of office employment off of Owens Drive and within Hacienda Business Park.

Site 5 – Laborers Council (Northern California District Council of Laborers)



Location: 4780 Chabot Drive

APN: 941 277103300

General Plan Designation: Mixed Use/Business Park

Current Zoning Designation: Planned Unit Development – Industrial/Commercial-Office (PUD-I/C-O)

Lot Size (or portion of property proposed for development: 1.39 acres

Estimated Potential Number of Housing Units: Between 41 units (30 DUA) and 54 units (40 DUA)

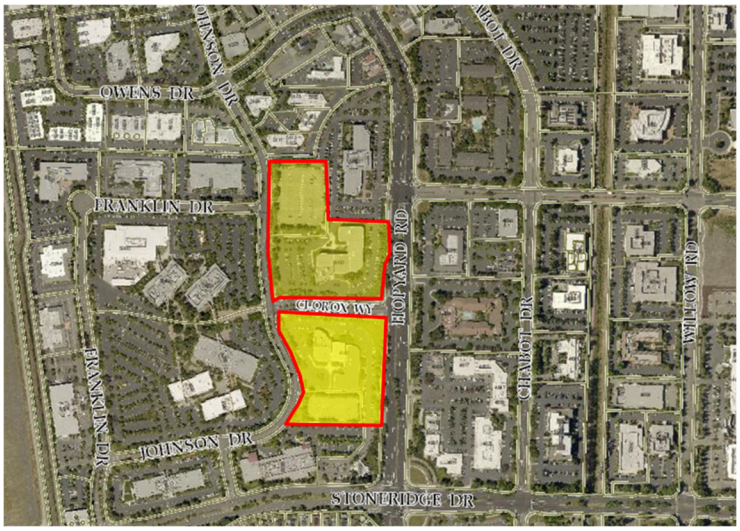
Background and Description:

The site is currently developed with a two-story office building with surface parking.

Key Considerations and Feasibility for Site Development:

The subject site contains a two-story office constructed in 1999. Recently, staff has received inquiries from the property owner interested in converting the property to a residential use. The site is located on a major arterial and is within ⅓ mile of the East Dublin/Pleasanton BART station and I-580 freeway access. In addition, the site is located within Hacienda Business Park with a high concentration of office and employment uses in the area.

Site 6 – Signature Center



Location: 4900 & 5000 Hopyard Road

APN: 941 130105700, -800, -900, & 941 130106001

General Plan Designation: Business Park

Current Zoning Designation: Planned Unit Development – Industrial/Commercial-Office (PUD-I/C-O)

Lot Size (or portion of property proposed for development): 11.00 acres

Estimated Potential Number of Housing Units: Between 330 units (30 DUA) and 440 units (DUA)

Background and Description:

The area consists of four parcels, two on the north side of Clorox Way and two on the south side of Clorox Way. Three of the parcels are each developed with a four-story office building, and one has a two-story parking structure; all four sites have surface parking.

Key Considerations and Feasibility for Site Development:

The Signature Center sites consist of two four-story office buildings built in 1985 and 1986. The property owners have identified approximately 14 acres as available and suitable for high-density residential development to be integrated within the existing site (i.e., the existing office buildings to remain). The property owner has developed building plans showing up to 278 units in a six-story building (approximately 25 du/ac.), although have indicated their willingness to provide more density.

All future projects would be required to ensure there is adequate parking for all existing office uses in addition to any new residential units.

The site is located on a major arterial and within ½ mile of the East Dublin/Pleasanton BART station and I-580 freeway access. In addition, the site is located near a high concentration of office and employment uses in the area.

Site 7 – Hacienda Terrace

Location: 4309 Hacienda Drive

APN: 941 276100403

General Plan Designation:
Mixed Use/Business Park

Current Zoning Designation:
Planned Unit Development – Industrial/Commercial-Office (PUD-I/C-O)

Lot Size (or portion of property proposed for development):
2.00 acres



Estimated Potential Number of Housing Units: Between 60 units (30 DUA) and 80 units (40 DUA)

Background and Description:

The site is currently developed with three five-story office buildings with surface parking.

Key Considerations and Feasibility for Site Development:

The Hacienda Terrace site consists of three five-story office buildings built in 1985. The property owners have indicated they are interested in evaluating the future development of their property and have identified approximately two acres at the corner of Hacienda Drive and Gibraltar Drive as available and suitable for high-density residential development, which would be integrated into the existing office buildings as a mixed-use development. Preliminary analysis indicates that the site currently maintains excess office parking so the parking that is removed to accommodate future residential development may not need to be replaced, although this would be verified with a project proposal. The site is located within Hacienda Business Park with a high concentration of office employment and tall, large buildings in the area. A residential neighborhood consisting of three developments (Siena at Hacienda, Valencia at Hacienda, and Avila at Hacienda) is located to the east across Gibraltar Drive and consists of detached single-family and townhome residential uses.

Site 8 – Muslim Community Center (MCC)

Location: 5724 W Las Positas Blvd.

APN: 941 276201301

General Plan Designation: Mixed Use/Business Park

Current Zoning Designation: Planned Unit Development – Industrial/Commercial-Office (PUD-I/C-O)

Lot Size (or portion of property proposed for development): 5.00 acres



Estimated Potential Number of Housing Units: Between 75 units (15 DUA) and 125 units (25 DUA)

Background and Description:

The site is currently developed with a single-story office building that is occupied by the Muslim Community Center (MCC) and preschool. The site is developed with a large playground and surface parking. The property is adjacent to the Arroyo Mocho Canal (located to the south) and the Tassajara Creek (located to the east).

Key Considerations and Feasibility for Site Development:

The MCC site consists of a large one-story office building built in 1984. The property owners have indicated that they are interested in rezoning their properties to allow for future residential development. The site is located within Hacienda Business Park with a high concentration of office employment and tall, large buildings in the area. A project with density of 12.5 DUA was approved and constructed on the nearby site to the west at 5850 West Las Positas.

Site 9 – Metro 580

Location: 4515 Rosewood Drive

APN: 941 277900900

General Plan Designation: Mixed Use/Business Park

Current Zoning Designation: Planned Unit Development – Industrial/Commercial-Office (PUD-I/C-O)



Lot Size (or portion of property proposed for development): 5.00 acres

Estimated Potential Number of Housing Units: Between 225 units (45 DUA), 300 units (60 DUA), and 375 units (75 DUA)

Background and Description:

The site is currently developed with three commercial buildings; one building has an anchor tenant, one building consists of smaller tenant spaces, and a third building contains multiple smaller inline spaces. The center is served by a large, shared parking lot.

Key Considerations and Feasibility for Site Development:

The Metro 580 shopping center consists of three commercial buildings constructed in 1986. The department store Kohls has been a long-standing anchor tenant. The adjacent building which was designed to maintain secondary anchor tenants has generally been vacant and has experienced high turn turnover with tenants in recent years. Currently one space in this building is occupied and the other space is vacant. The property owners have indicated they are interested in evaluating the future development of the northern portion of their property that currently maintains the secondary anchor building and have identified approximately five acres as available and suitable for high-density residential development to be integrated into the center as a mixed-use development. The site is located served by two major arterials and lies within ½ mile of freeway on-ramps and is within Hacienda Business Park with a high concentration of office employment and tall, large buildings in the area. The East Dublin/Pleasanton BART station is located approximately 0.8 miles from the site.

Site 11 – Old Santa Rita Area

Location: 3534-3956 Old Santa Rita Road



APN: 941 283000200, 941 283000300, 941 283000400, 941 283000500, 941 283000600, 941 283000700, 941 283000800, 941 283002800, 941 283002900, 946 110000203, 946 110000300, 946 110000500, 946 110000600, 946 110000800, 946 110000900, 946 110001100, 946 110001200, 946 110001402, 946 110001701, 946 110002900, 946 110003000, 946 110003103, 946 320000205

General Plan Designation:
Retail/Highway/Service
Commercial Business and Professional Offices

Current Zoning Designation: Service Commercial District (C-S), Planned Unit Development – Commercial-Office (PUD-C-O), Planned Unit Development – Office (PUD-O), Planned Unit Development – Service Commercial (PUD-C-S), Planned Unit Development – Commercial (PUD-C), Planned Unit Development – Central Commercial (PUD-C-C)

Area Size: 21.85 acres total

Estimated Potential Number of Housing Units:
Between 655 units (30 DUA) and 1,296 units (60 DUA)

Background and Description:

This area is comprised of multiple parcels that are currently developed with a variety of uses including: various light industrial uses such as vehicle service and repair shops, mini-storage facilities, contractors' yards, vehicle inventory storage for a nearby car dealership, as well as auto salvage, dismantling, and recycling facilities, and assorted light commercial uses such as a restaurant and car stereo shop. There is one property along Old Santa Rita Road that is currently developed with residential units; these units are legal non-conforming.

Key Considerations and Feasibility for Site Development:

There over 20 parcels with a number of properties are under common ownership. Most sites have a single owner, although one property includes commercial condominiums

under separate ownerships. Along Old Santa Rita Road, nine of the parcels are considered vacant or highly underutilized (e.g., very low intensity outdoor uses, with small outbuildings). The majority of the buildings along Old Santa Rita Road were constructed in the 1970's and early 1980's. Many of the buildings are considerably outdated without any major improvements done in recent years. The site is also located within ½ of freeway on ramps.

Site 12 – Pimlico Area (North Side)

Location: 4003-4011 Pimlico Drive

APN: 946 110103102, 946 11010200, 946 11010604

General Plan Designation: Retail/Highway/Service Commercial Business and Professional Offices

Current Zoning Designation: Planned Unit Development – Commercial (PUD-C) and Freeway Interchange Commercial District (C-F)



Area Size: 2.12 acres total

Estimated Potential Number of Housing Units: Between 64 units (30 DUA) and 85 units (40 DUA)

Background and Description:

This area consists of three sites is currently developed with a variety of uses including a used auto dealership, a carwash, and rental car business. The subject sites include large areas improved only with surface parking and have limited buildings and other improvements.

Key Considerations and Feasibility for Site Development:

Each of the properties within this area are underutilized, with low intensity commercial uses and large areas of surface parking, most buildings are outdated without any major improvements in recent years. The area is a ¼ mile from the I-580 freeway on ramp and abuts the eastbound freeway on-ramp that parallels I-580. Adjacent uses include multifamily residential uses to the east and a childcare center (KinderCare) and low-profile commercial shopping center are located to the south (the shopping center to the south is also a site for purposes of this inventory, “Pimlico Area (South Side)”). A fast-food restaurant, McDonalds, is located to the west and as mentioned, I-580 is located to the north of the subject sites.

Site 14 – St. Elizabeth Seton

Location: Vacant, adjacent to 4001 Stoneridge Drive

APN: 946 455001704

General Plan Designation:
Medium Density Residential

Current Zoning Designation:
Agriculture (A) District

Lot Size (or portion of property proposed for development):
2.85 acres



Estimated Potential Number of Housing Units:
Between 34 units (12 DUA) and 51 units (18 DUA)

Background and Description:

This subject area is a vacant parcel located adjacent to the existing St. Elizabeth Seton Church; also owned by the church.

Key Considerations and Feasibility for Site Development:

The subject site is currently vacant and located near the intersection of two major arterial streets, Stoneridge Drive and Santa Rita Road. The site currently has a General Plan Designation of Medium Density Residential which would allow for a density between 2-8 DUA. The subject zoning is Agriculture which would allow for one dwelling per five acres, thus a change to the zoning designation would be required to bring it into alignment with the land use designation identified in the General Plan. The site is generally flat and has no improvements. Nielson Park is located to the east, medium density residential uses are located to the south, St. Elizabeth Seton Church is located to the west, and the iMT Apartments are located across Stoneridge Drive to the north.

Site 15 - Rheem Drive Area: Southwest Side

Location: 2110, 2118, 2126, 2134, 2142, 2150, 2158, 2166, 2174, 2178, 2186, and 2182 Rheem Drive



APN: 946-455000700, 946-455000800, 946-455001001, 946-455001100, 946-455001200, 946-455001300, 946-455001400, 946-455002700, 946-455002800, 946-455002900, 946-455003000, 946-455003100

General Plan Designation:
General and Limited Industrial

Current Zoning Designation: Planned Unit Development–Industrial (PUD-I)

Area Size: 9.77 acres total

Estimated Potential Number of Housing Units:
Between 78 units (8 DUA) and 137 units (14 DUA)

Background and Description:

This area is made up of 11 parcels developed with one-story light industrial/service commercial buildings and surface parking. The sites back up to the Iron Horse Trail and front onto Rheem Drive, directly across from attached single family units and townhomes.

Key Considerations and Feasibility for Site Development:

The buildings within this area were constructed in the early 1980's and are developed with light industrial warehouse buildings. Many of the buildings are considerably outdated without any major improvements done in recent years.

Site 16 – Tri-Valley Inn

Location: 2025 Santa Rita Road

APN: 946 329500104

General Plan Designation:
Retail/Highway/Service Commercial
Business and Professional Offices

Current Zoning Designation:
Freeway Interchange Commercial District (C-F)

Lot Size (or portion of property proposed for development): 2.47 acres



Estimated Potential Number of Housing Units:
Between 37 units (15 DUA) and 62 units (25 DUA)

Background and Description:

The site is currently developed with a 34-unit motel with surface parking. A restaurant is also located on the site and has frontage on Santa Rita Road.

Key Considerations and Feasibility for Site Development:

The Tri-Valley Inn was constructed in 1954. Staff has received inquiries from the property owner interested in converting the property to a residential use and being considered as part of the Housing Element update. The site is located along a major arterial; adjacent uses include Mission Plaza across Lockhart Lane to the south, single-family residential uses to the north, west, and across Santa Rita Road to the east. A small proportion of the subject site is adjacent to 154-unit multi-family residential development that consists of apartment units and townhomes.

Site 18 - Valley Plaza

Location: 1801, 1803, 1807, 1809, 1811 Santa Rita Road & 4295, 4285, 4303, 4305 Valley Avenue

APN: 946 329500900, 946 32950202, 946 32950306, 946 32950600, 946 32950700, and 946 329501000, 946 32950100, 946 32950200, 946 32950300



General Plan Designation:
Retail/Highway/Service Commercial
Business and Professional Offices

Current Zoning Designation:
Planned Unit Development – Commercial (PUD-C)

Lot Size (or portion of property proposed for development): 5.5 acres

Estimated Potential Number of Housing Units:
Between 165 units (30 DUA) and 220 units (40 DUA)

Background and Description:

Valley Plaza shopping center is developed across eight parcels with six property owners. The shopping center includes five multi-tenant commercial buildings, two fast-food drive-thru restaurants and one restaurant in a standalone building. All parking within the center is surface parking.

Key Considerations and Feasibility for Site Development:

Valley Plaza was constructed in the 1970's and consists of eight commercial and office buildings. There are a total of six property owners for the center. Staff currently received interest from two of the six property owners who maintain ownership of approximately 80 percent of the center (four of the eight parcels). The property owners have indicated that they are interested in rezoning their properties to allow for future residential development. Staff is recommending a mixed-use project to retain important neighbor retail uses within the center. A service station is located to the southeast of the site. Other adjacent uses include apartments and townhomes to the west, a two-story office building to the north (and Mission Plaza further north), and medium density residential uses consisting of townhome and single-family development across Santa Rita Road to the east.

Site 19 – Black Avenue

Location: 4400 Black Avenue

APN: 946 338000600

General Plan Designation: Public and Institutional

Current Zoning Designation: Public and Institutional District (P)

Lot Size (or portion of property proposed for development): 2.59 acres



Estimated Potential Number of Housing Units:
Between 39 units (15 DUA) and 65 units (25 DUA)

Background and Description:

The site is currently developed with a vacant office building with a significant amount of surface parking, formerly occupied by AT&T.

Key Considerations and Feasibility for Site Development:

The building was constructed in 1973. The building is currently unoccupied, and the property owner has stated interest in converting the property to a residential use and being considered as part of the Housing Element update process. Adjacent uses include education uses to the west and south (Quarry Lane School and Amador Valley High School, respectively), Amador Valley Community Park and Dolores Bengtson Aquatic Center across Black Avenue to the north, and single-story office buildings that have medical uses as tenants to the east.

Site 20 - Boulder Court



Location: 3400 & 3500 Boulder Street

APN: 946 125101300, 946 12510000

General Plan Designation: General and Limited Industrial

Current Zoning Designation: General Industrial District (I-G-40)

Lot Size (or portion of property proposed for development): 9.45 acres

Estimated Potential Number of Housing Units:
Between 284 units (30 DUA) and 378 units (40 DUA)

Background and Description:

The two sites are currently occupied by a construction equipment contractor and a concrete mix supplier. There are very few buildings on-site with each site relatively underutilized and/or vacant.

Key Considerations and Feasibility for Site Development:

The sites are considered underutilized with very low intensity uses and minimal site improvements. Adjacent uses include Oldcastle Infrastructure across Boulder Street to the north, light industrial uses to the west, a self-storage facility to the south and to the east. The site lies within a much wider area of service commercial and light industrial uses. Stanley Boulevard and the railroad tracks lie to the south of the area.

Site 21(a) and (b) - Kiewit

Location: 3300 Busch Road

APN: 946 125100704

General Plan Designation: General and Limited Industrial

Current Zoning Designation: General Industrial District (I-G-40)

Lot Size (or portion of property proposed for development): 50.40 acres



Estimated Potential Number of Housing Units:
150 units at 30 DUA, and between 320 units (8 DUA) and 560 units (14 DUA)

Background and Description:

The subject site is considered vacant and underutilized with only small outbuildings currently on-site. It is currently occupied by a construction equipment storage company.

Key Considerations and Feasibility for Site Development:

The subject site has long been considered for residential development with the property being considered as part of the 4th Cycle Housing Element update as well as the East Pleasanton Specific Plan, although no decision to allow residential uses on these specific sites has been made. There is interest in developing the site with an affordable high density residential development up to 150 units on approximately five acres of the site with the remainder of the site developed with a mix of between 300-375 single-family detached and attached units as well as a dedicated park/open space area.

The site is located within the City limits and Urban Growth Boundary.

Site 22 – Merritt Property

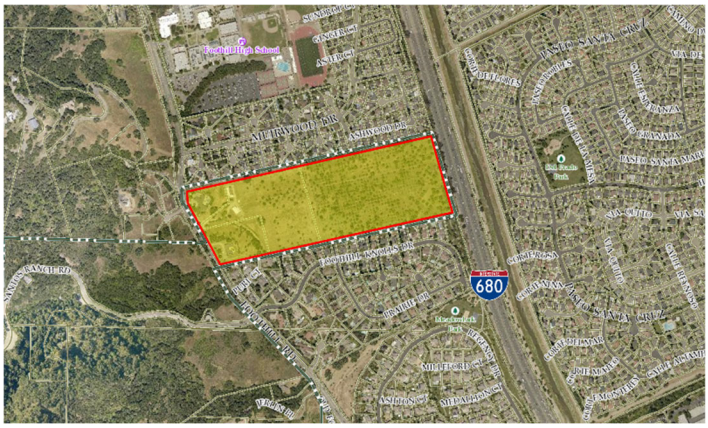
Location: 4131 & 4141 Foothill Road

APN: 941 095000301, 941 09500303, 941 09500311, 941 09500312

General Plan Designation: Low Density Residential

Current Zoning Designation: Unincorporated Alameda County

Lot Size (or portion of property proposed for development): 45.59 acres



Estimated Potential Number of Housing Units: 91 units (2 DUA)

Background and Description:

The subject property is an unincorporated parcel located west of Foothill Boulevard.

Key Considerations and Feasibility for Site Development:

Over the past 20 years, the owners of these properties have showed continued interest in annexing the property into Pleasanton and developing it as a residential development. Staff has recently received a preliminary application to construct a 111-unit age-qualified community, consisting of 89 single-family detached homes (including one existing home), 22 affordable courtyard detached and duet homes for seniors. Although the property is currently unincorporated, it has Pleasanton General Plan land use designation of Low Density Residential which allows for a maximum density of 2 dwelling units per acre (91 units total based on the property size). Adjacent and nearby uses are residential; Foothill High School is located farther to the north.

Site 23 – Sunol Boulevard Properties



Location: 5505, 5675 Sunol Boulevard

APN: 947 000400105, 947 00040107, 947 00040214, 947 00040304, 947 00040501

General Plan Designation: General and Limited Industrial

Current Zoning Designation: Industrial Park District (I-P)

Lot Size (or portion of property proposed for development): 23.89 acres

Estimated Potential Number of Housing Units: Between 717 units (30 DUA) and 956 units (40 DUA)

Background and Description:

This area is composed of five parcels owned by four owners. Uses include a hardware store and lumber yard, a public storage facility and a warehouse distribution center. All of the parcels include large areas of surface parking.

Key Considerations and Feasibility for Site Development:

The sites are considered underutilized with very low intensity uses and very little site improvements in relationship to the lot sizes. In addition, the sites are located within ½ mile of freeway on ramps. Adjacent uses include Thermo Fisher Scientific to the south, residential uses to the west and north, and St. Augustine Cemetery and light-industrial buildings and office buildings across Sunol Boulevard to the east.

Site 24 - Sonoma Drive Area

Location: 5674-5791 Sonoma Drive and 5600 Sunol Blvd



APN: 948 000900100, 948 000900200, 948 000900300, 948 000900401, 948 000900600, 948 00090900, 948 000901000, 948 000901100, 948 000901200, 948 000901300, 948 000901600, 948 000901700

General Plan Designation: General and Limited Industrial

Current Zoning Designation: Industrial Park District (I-P)

Lot Size (or portion of property proposed for development): 6.51 acres

Estimated Potential Number of Housing Units:
Between 98 units (15 DUA) and 163 units (25 DUA)

Background and Description:

This subject area is currently developed with a number of single-story small light industrial buildings. There are total of 12 parcels, two of which are vacant. This area serves as an entry that leads into a residential neighborhood to the east of Sunol Boulevard.

Key Considerations and Feasibility for Site Development:

There is a total of 12 properties however a number of adjacent properties are under common ownership including the two vacant parcels northeast of the intersection of Sunol Boulevard and Sonoma Drive.

With the exception of one building built in 1999, the remainder of the buildings were built in the mid 1980's. Many of the buildings are considerably outdated without any major improvements done in recent years. The sites are also located within ½ mile of freeway on ramps. Adjacent uses include St. Augustine's Cemetery to the south, residential uses to the north and east, and a hardware store and lumber yard, a public storage facility and a warehouse distribution center across Sunol Boulevard to the west.

Site 25 – PUSD District

Location: 4750 First Street

APN: 094 000100103

General Plan Designation: Public Institutional

Current Zoning Designation: Public and Institutional District (P)

Lot Size (or portion of property proposed for development): 10.7 acres



Estimated Potential Number of Housing Units:
Between 81 units (8 DUA) and 163 units (16 DUA)

Background and Description:

The subject property is the current location of the Pleasanton Unified School District offices, Village High School, Horizons Early Education Center, District Maintenance yard, and STEAM preschool.

Key Considerations and Feasibility for Site Development:

Many of the buildings onsite were constructed in the 1970's and are considered outdated. Based on the PUSD's growing needs, it is seeking opportunities to relocate its existing facilities from this site to another location, and making the site available for residential development, although the school district would need to identify and obtain a new location for all current operations on the site prior to any future development.

The site does not include the adjacent ballfield and park along Bernal Avenue (Pleasanton Upper Playfields) which would remain a City facility. The PUSD property lies outside of the boundaries of the Downtown Specific Plan. Bernal Avenue and First Street, both major arterials, border the site. Nearby uses include a commercial building and parking lot immediately opposite the site, single family residential uses across Abbie Street to the north, and the playfields to the east.

Site 26 – St. Augustine

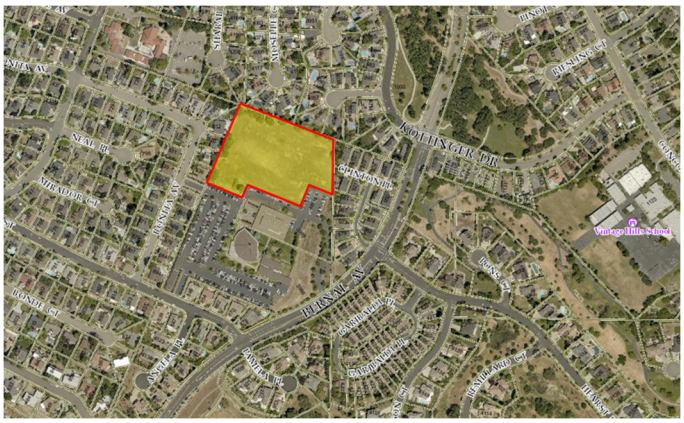
Location: 3949 Bernal Avenue

APN: 946 255001401

General Plan Designation: Public and Institutional

Current Zoning Designation: Agriculture District (A)

Lot Size (or portion of property proposed for development): 4.15 acres



Estimated Potential Number of Housing Units: Between 8 units (2 DUA) and 29 units (7 DUA)

Background and Description:

This subject area is a vacant portion of property adjacent to the existing St. Augustine Catholic Church.

Key Considerations and Feasibility for Site Development:

The subject site is currently a vacant portion of the St. Augustine Church parcel. The site is generally flat and unimproved. Surrounding uses are all medium density residential.

Site 27 – PUSD Vineyard



Location: Vineyard Avenue, between Thiessen Street and Manoir Lane

APN: 946 461900100

General Plan Designation: Public and Institutional

Current Zoning Designation: Planned Unit Development – Elementary School (PUD – Elementary School)

Lot Size (or portion of property proposed for development): 10-acre lot with 5 acres proposed to be used for housing

Estimated Potential Number of Housing Units:
Between 15 units (3 DUA) and 25 units (5 DUA)

Background and Description:

The subject property is currently vacant and is zoned PUD-Elementary School. It is part of the Vineyard Avenue Corridor Specific Plan, and is surrounded by rural density, large single-family residential homes.

Key Considerations and Feasibility for Site Development:

The subject site was dedicated to the Pleasanton Unified School District as part of the development of the Vineyard Avenue Specific Plan, as a prospective location for a future school site. Based on the location, PUSD has determined that the location would not be suitable for a new school and has indicated an interest in identifying the site for future residential development. The site is currently part of the Vineyard Avenue Specific Plan and would require a Specific Plan Amendment to allow for residential development.

Site 29 - Oracle



Location: 5805 Owens

APN: 941 277800305

General Plan Designation: Mixed Use/Business Park

Current Zoning Designation: Planned Unit Development – Industrial/Commercial-Office (PUD-I/C-O)

Lot Size (or portion of property proposed for development): 3 acres

Estimated Potential Number of Housing Units: Between 135 units (45 DUA), 210 units (60 DUA), and 262 units (75 DUA)

Background and Description:

The site is currently developed with two five-story office buildings and a four-level parking structure on the eastern portion of the property with an approximately 3 acre portion of the site along the western side of the property vacant.

Key Considerations and Feasibility for Site Development:

The Oracle site consists of with two five-story office buildings and a four-level parking structure built in 2009. The property owners have indicated they are interested in evaluating the future development of their property and have identified a vacant approximately 3.5 acres portion of the property along the western side directly adjacent to the BART parking lot (another high-density site) as available and suitable for high-density residential development. The site is located within Hacienda Business Park with a high concentration of office employment and tall, large buildings in the area. The site is directly adjacent to the BART and the 580-freeway.

Site Selection Criteria and Initial Sites Ranking



On September 21, 2021, the City Council approved final sites selection criteria to be used to aid in initial sites selection evaluation for potential sites, with the goal of creating a refined list of sites that will be analyzed as part of the environmental review phase of the project. The sites criteria and overall sites selection process is proposed to follow a similar framework as was used in the 4th Cycle Housing Element, taking the criteria used in this previous cycle as a starting point, and updating and refining it as needed for the 6th Cycle process.

Scoring Framework and Selection Methodology

The scoring criteria are intended to be scored by answering "Yes" or "No" for each question. One point is awarded for each "Yes" answer, with the projects with the most points ranked highest. To minimize the complexity of the evaluation, responses are weighted equally, as a relatively simple metric for side-by-side comparison. It is important to reiterate, this process is intended to provide an initial screening evaluation of sites against each other, based on criteria as objective as possible.

The following outlines the seven topic areas for the site selection criteria for the 6th Cycle Housing Element Update:

Section 1: Site Size and Infill Criteria

These criteria incorporate parameters assigned in state law for the suitability of sites for higher-density housing (minimum of 0.5 acres and maximum of 10 acres); to provide a more precise definition of "infill" development in alignment with state law; and to reflect the availability of both wet infrastructure (water and sewer) as well as dry infrastructure (electricity, telecommunications), which is also a requirement of state law.

Section 2: Proximity to Modes of Transportation

These criteria carry forward parameters included in the prior Housing Element, including proximity to BART or transit stops with frequent headways, proximity to bicycle facilities, and convenient freeway access.

Section 3: Proximity to Services and Amenities

These criteria reflect both the general planning principle that residential uses should be convenient to schools, parks, and other amenities, and also respond to criteria in the TCAC program that prioritize proximity to these sorts of community amenities in its scoring for affordable housing funding.

Section 4: Environmental Impacts/Hazards

These criteria reflect key categories of natural hazard, and of potential exposure to negative environmental elements such as noise, air pollution, or odors as well as proximity to the Livermore Airport Influence Area.

Section 5: Impacts on Sensitive Resources

These criteria reflect the protection of sensitive resources such as trees, biological or historic resources.

Section 6: Height and Mass Compatibility

These criteria reflect create parameters to gauge consistency and compatibility with adjacent neighboring residential uses.

Section 7: Interest in Site:

These criteria gauge property owner interest for high-density housing and whether the site is vacant or underutilized. Although, per HCD guidance, jurisdictions with a RHNA over 5,000 units are not required to provide evidence of property-owner agreement, it is beneficial to do so since sites (and particularly non-vacant sites) assigned to lower-income housing come under greater scrutiny from HCD.

The Final Sites Selection Criteria is included in Table 3.

Table 3: Sites Selection Criteria	
Yes=1 Point, No=0 Points	
1. Site Size and Infill Criteria (per Housing and Community Development Criteria)	
	a. (For sites intended to accommodate housing at a density of 30 DUA or more) The site, or the portion of a site to be rezoned, is larger than 0.5 acres in size, and less than 10 acres in size. (If not applicable[1]=1)
	b. (For sites intended to accommodate housing at a density of 30 DUA or more) The site is 1 acre or more in size allowing for more State/Federal financing opportunities (If not applicable=1)
	c. Site is an infill site (Site is located within the Urban Growth Boundary and adjoins urbanized land use for at least 75% of its perimeter (adjoins means adjacent to, or only separated by an improved public right-of-way.)
	d. Site is not anticipated to require off-site sewer, water, or dry utilities infrastructure improvements.
	e. Site is adjacent to Recycled Water infrastructure.
2. Proximity to Modes of Transportation[2]	
	a. Site is within ⅓ mile of a BART station.
	b. Site is within ½ mile of a BART station.
	c. Site is within ⅓ mile of transit stop with 15-minute headway to a BART station.
	d. Site is within ⅓ mile of transit stop with 30-minute headway.
	e. Site is adjacent to an existing bike facility. (Class I shared use path, Class II bicycle lane or buffered bicycle lane, Class III bicycle route or Class IV separated bikeway)
	f. Site is within 1 mile of freeway on-ramp.
3. Proximity to Services and Amenities	
	a. Site is within ½ mile of an existing or approved grocery store selling staples, fresh meat, and fresh produce, including a multipurpose store with a grocery section selling these products.
	b. Site is within ½ mile of an existing elementary school.
	c. Site is within ½ mile of an existing middle school.
	d. Site is within 1 mile of an existing high school.
	e. Site is not within the enrollment area of a school with insufficient current or projected capacity, as determined by Pleasanton Unified School District based on current demographic and other studies.
	f. Site is within ½ mile of an existing public park or open space area as identified in the General Plan or a planned improvement in the City's Capital Improvement Program.

[1] Only applicable to sites intended for high-density housing, all other sites receive "1" score. This note also applies to criteria 1b, 6a, 6b and 7.

[2] Distances measured "as the crow flies"

4. Environmental Impacts/Impact on Future Residents	
	a. Site would not expose future residents to odor impacts from any existing or known future source.
	b. The project is anticipated to meet noise standards with no or with reasonable mitigation measures. (If adjacent to or across the street from freeway or rail line = 0)
	c. Site is not within BAAQMD's air quality screening distance for new sensitive receptors.
	d. Site is within the standard response time for emergency services as identified by the General Plan.
	e. The site is outside of the following natural hazard areas (0 or 1 point for each)
	• *Site is not within Alquist Priolo zone or fault zone as identified in the General Plan.*
	• *Site is not within earthquake induced landslide zone as identified in the General Plan.*
	• *Site is not within a Special Fire Protection Area as identified in the General Plan.*
	• *Site is not within a 100-year Flood Zone.*
	f. Site is located outside of the Airport Influence Area as identified in the Livermore Municipal Airport Land Use Compatibility Plan.
5. Impact on Trees, Biological or Historic Resources	
	a. Site will not likely require significant tree removal or mitigation.
	b. Site will not likely require an environmental analysis related to loss of suitable habitat for, or the taking of, sensitive or special status species, or is unlikely to be significantly constrained by the potential presence of sensitive habitat or species.
	c. Site will not likely require an analysis related to impacts on historic resources.
6. Height and Mass Compatibility	
	a. The project (for higher-density housing sites, assuming three stories are proposed) will be no more than one story higher than the average number of stories of all adjacent residential development including residential development across a residential collector or local street. (If not applicable=1)
	b. The Floor Area Ratio (FAR) of the proposed project (for higher-density housing sites, assuming an FAR of 80%) will be less than twice of the allowed midpoint density FAR for development on all adjacent sites and sites across a residential collector or local street (not including parks/designated open space.) (If not applicable=1)
	c. Site is not adjacent to or across (a residential collector or local street) from one or more existing single-family detached residential homes.
7. Interest in Site	
	a. (For sites intended to accommodate housing at a density of 30 DUA or more) Property owner/developer has expressed interest in the site for high density residential development. (If not applicable=1)
	b. Site or portion of site to be developed is vacant or underutilized.

Site Scoring

Scores in the ranking ranged from a minimum of 12 points, to a maximum of 27 points (out of a total of 34 points available). Of note, many sites had "tied" scores, and the majority scored over 20 points. The following summarizes the scores and ranking:

All Sites: Overall Scores/Ranking

One site score 27 points (Site #29: Oracle) with eight sites tied for second that scored 26 points (Site #3: PUSD Donlon, Site #7: Hacienda Terrace, Site #15: Rheem Drive Area, Site #16: Tri-Valley Inn, Site #18: Valley Plaza, Site #19: Black Avenue, Site #24: Sonoma Drive, and Site #25: PUSD – District Office.)

Another five sites, including the remaining sites in Hacienda (Site #9: Metro580, Site #8: Muslim Community Center, Site #6: Signature Center, and Site #23: Sunol Blvd Area,) as well as the two church sites (Site #14: St. Elizabeth Seton, and Site #26: St. Augustine), scored 24 or 25 points.

Stoneridge Shopping Center (Site #22) scored just below the top tier of sites, with 22 points. Its lower score was principally because it lacks close access to grocery stores, parks, and schools). Stoneridge ranked similarly with some of the sites proposed on existing light-industrial parcels such as Site #20: Boulder Court, and Site #11: Old Santa Rita Area, as well as with Site #21: Kiewitt.

The lowest-ranked sites, based on the scoring criteria, were those in the most peripheral areas, including Site #22: Merritt, and Site #1: Lester, who scored 14 and 15 points respectively. However, some infill sites also scored relatively poorly, including Sites #12: Pimlico North, and Site #4: Owens Area, each of which scored less than 20 points.

Table 4: Summary of Scoring and Ranking for All Site

Site No.	Site Name	Score	Rank
29	Oracle	27	1
3	PUSD – Donlon	26	2
7	Hacienda Terrace	26	
15	Rheem Drive Area (southwest side)	26	
16	Tri-Valley Inn	26	
18	Valley Plaza	26	
19	Black Avenue	26	
24	Sonoma Drive Area	26	

Table 4: Summary of Scoring and Ranking for All Site			
Site No.	**Site Name**	**Score**	**Rank**
25	PUSD – District	26	
9	Metro 580	25	3
14	St. Elizabeth Seton	25	
6	Signature Center	25	
8	Muslim Community Center	24	4
23	Sunol Boulevard Area	24	
5	Laborer Council	24	
26	St. Augustine	23	5
2	Stoneridge Shopping Center (Mall)	23	
20	Boulder Court	22	6
21	Kiewit	21	7
11	Old Santa Rita Area	21	
27	PUSD – Vineyard	20	8
4	Owens (Motel 6 and Tommy T)	19	10
12	Pimlico Area (North side)	18	11
22	Merritt	17	12
1	Lester	15	13

High Density Housing Sites: Scores and Ranking

Among the high-density sites, the highest score was Site #29: Oracle with 27 points. There were two sites (tied for second) with scores of 26, Site #26: Hacienda Terrace and Site #18: Valley Plaza, with other sites ranked/scored as noted above. The lowest ranked site (Site #28: SteelWave) scored 12 points.

Table 5: Summary of Scoring and Ranking for High Density Sites

Site No.	Site Name	Score	Rank
29	Oracle	27	1
7	Hacienda Terrace	26	2
18	Valley Plaza	26	
9	Metro 580	25	3
6	Signature Center	24	4
23	Sunol Boulevard Area	24	
5	Laborer Council	23	5
2	Stoneridge Shopping Center (Mall)	22	6
20	Boulder Court	21	7
21	Kiewit	21	
11	Old Santa Rita Area	20	8
4	Owens (Motel 6 and Tommy T)	18	9
12	Pimlico Area (North side)	17	10

Low- and Medium-Density Sites: Scores and Ranking

Six sites were top-ranked with 26 points, including Site #3: PUSD-Donlon, Site #15: Rheem Drive, Site #16: Tri-Valley Inn, Site #19: Black Avenue, Site #24: Sonoma Drive Area, and Site #25: PUSD-District. Again, Lester and Merritt scored the lowest, along with the PUSD-Vineyard site.

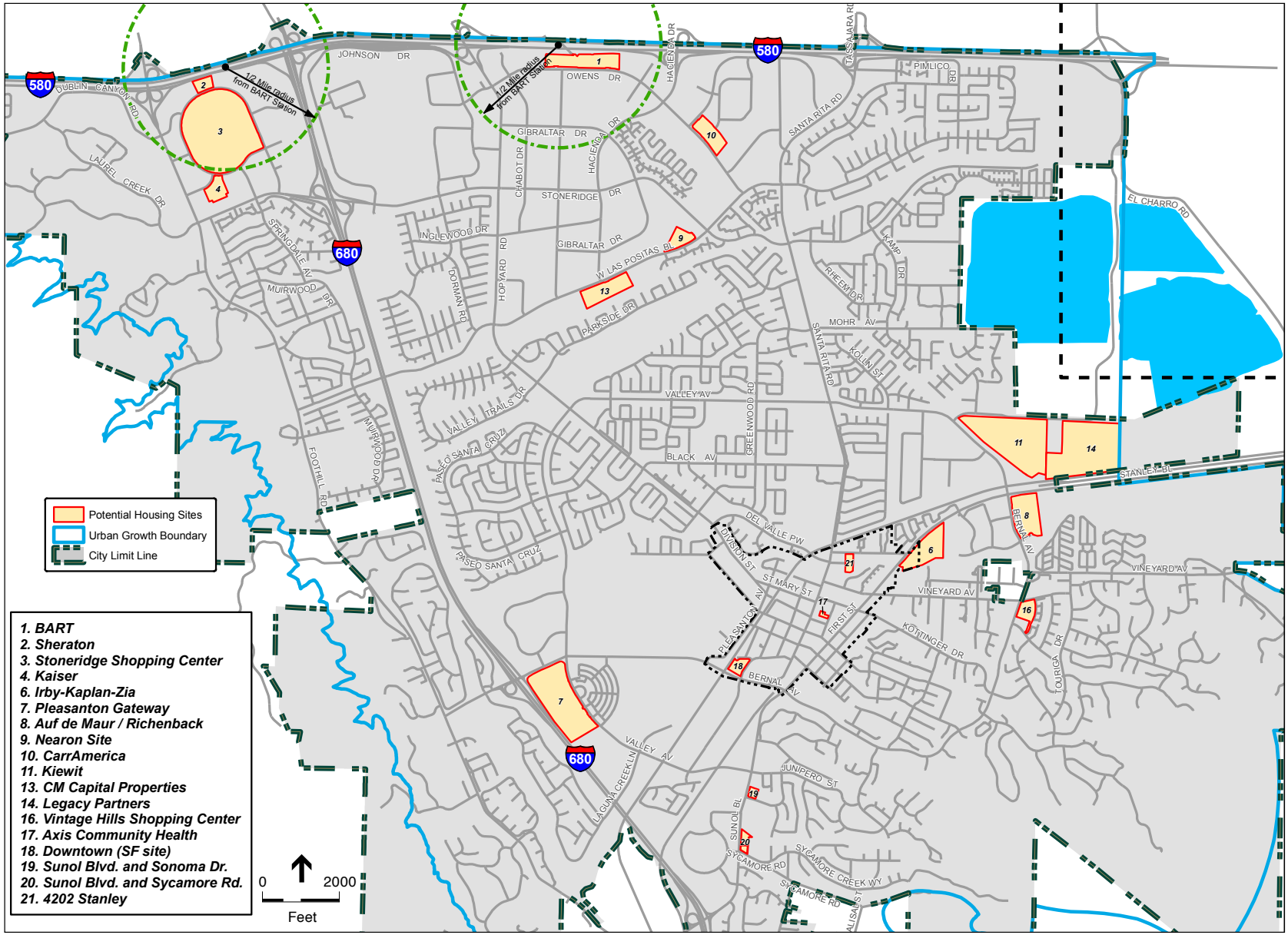
Table 6: Summary of Scoring and Ranking for Low/Medium Density Sites

Site No.	Site Name	Score	Rank
3	PUSD – Donlon	26	1
15	Rheem Drive Area (southwest side)	26	
16	Tri-Valley Inn	26	
19	Black Avenue	26	
24	Sonoma Drive Area	26	
25	PUSD – District	26	
14	St. Elizabeth Seton	25	2
8	Muslim Community Center	24	3
26	St. Augustine	23	4
27	PUSD – Vineyard	19	5
22	Merritt	15	6
1	Lester	14	7

Sites Scoring Summary

As can be seen from the rankings, there is not a particularly clear geographic pattern to the ranking, and sites in all quadrants of the city scored relatively well – this is helpful in the goal to select sites that reflect a relatively even distribution throughout Pleasanton.

In terms of which sites scored relatively better or worse, sites in more central portions of the City (which tend to be more conveniently located to community amenities and services), generally scored more highly, as did sites in Hacienda, which benefit from transit proximity and some strategically located commercial centers. The lowest-scoring sites were greenfield sites on the edges of the city, although, somewhat surprisingly, some infill locations (like the Pimlico and Owens Drive sites) did relatively poorly. Complete scoring for all sites under each category can be found in the following table.



SOURCE: The City of Pleasanton

General Plan Amendment and Rezonings . 210016

Figure 3-4

Potential Sites for Rezoning

Appendix D

Project Water Demand Calculation Tables

Project Phase	Horizon Year	Site Density Class	Density Range (DU/A)	Site Total Acres	Buildable Acres	Maximum or Expected Capacity (units)	Persons Per Household	Water Demand Factor (GPCD)	Future Total Population (Horizon Year 2031 and 2045)
Housing Element Update 6th Cycle	2031	Low	2	128.50	12.90	31	2.99	159	93
Housing Element Update 6th Cycle	2031	High	50-80	64.82	18.00	1,440	2.20	159	3,168
Housing Element Update 6th Cycle	2031	Low	5	19.00	5.50	28	2.99	159	84
Housing Element Update 6th Cycle	2031	High	30-40	2.36	2.36	94	2.20	159	207
Housing Element Update 6th Cycle	2031	High	30-40	1.39	1.36	54	2.20	159	119
Housing Element Update 6th Cycle	2031	High	30-40	14.38	11.00	440	2.20	159	968
Housing Element Update 6th Cycle	2031	High	30-40	16.37	2.00	80	2.20	159	176
Housing Element Update 6th Cycle	2031	Medium	15-25	5.00	5.00	125	2.48	159	310
Housing Element Update 6th Cycle	2031	High	45-75	15.52	5.00	375	2.20	159	825
Housing Element Update 6th Cycle	2031	High	30-60	21.85	21.85	1,311	2.20	159	2,885
Housing Element Update 6th Cycle	2031	High	30-40	2.12	2.12	85	2.20	159	187
Housing Element Update 6th Cycle	2031	Medium	12 to 18	2.85	2.85	51	2.48	159	127
Housing Element Update 6th Cycle	2031	Low/Medium	8 to 14	9.77	9.77	137	2.99	159	410
Housing Element Update 6th Cycle	2031	Medium	15-25	2.47	2.47	62	2.48	159	154
Housing Element Update 6th Cycle	2031	High	30-40	7.33	5.50	220	2.20	159	484
Housing Element Update 6th Cycle	2031	Medium	15-25	2.59	2.59	65	2.48	159	162
Housing Element Update 6th Cycle	2031	High	30-40	9.45	9.45	378	2.20	159	832
Housing Element Update 6th Cycle	2031	High	30-40	50.40	5.00	200	2.20	159	440
Housing Element Update 6th Cycle	2031	Low/Medium	8 to 14	50.40	40.00	560	2.99	159	1,675
Housing Element Update 6th Cycle	2031	Low	2	45.59	45.59	91	2.99	159	273
Housing Element Update 6th Cycle	2031	High	30-40	23.89	23.89	956	2.20	159	2,104
Housing Element Update 6th Cycle	2031	Medium	15-25	6.51	6.51	163	2.48	159	405
Housing Element Update 6th Cycle	2031	Medium	8 to 16	10.17	10.17	163	2.48	159	405
Housing Element Update 6th Cycle	2031	Low	2 to 7	6.31	4.15	29	2.99	159	87
Housing Element Update 6th Cycle	2031	Low	3 to 5	10.30	5.00	25	2.99	159	75
Housing Element Update 6th Cycle	2031	High	45-75	20.44	3.00	225	2.20	159	495
Housing Element Update 6th Cycle	2031	High	75	7.97	7.97	306	2.20	159	674
Housing Element Update 6th Cycle	2031	High	N/A	N/A	N/A	93	2.20	159	205
Approved or Entitled Projects	2031	Low	N/A	N/A	N/A	43	2.99	159	129
Approved or Entitled Projects	2031	Low	N/A	N/A	N/A	22	2.99	159	66
Approved or Entitled Projects	2031	High	N/A	N/A	N/A	22	2.20	159	49
Approved or Entitled Projects	2031	Low	N/A	N/A	N/A	7	2.99	159	21
Approved or Entitled Projects	2031	Low	N/A	N/A	N/A	3	2.99	159	9
Approved or Entitled Projects	2031	High	N/A	N/A	N/A	305	2.20	159	671
Approved or Entitled Projects	2031	Low	N/A	N/A	N/A	1	2.99	159	3
Approved or Entitled Projects	2031	Low	N/A	N/A	N/A	1	2.99	159	3
Approved or Entitled Projects	2031	Low	N/A	N/A	N/A	1	2.99	159	3
Approved or Entitled Projects	2031	Low	N/A	N/A	N/A	1	2.99	159	3
Approved or Entitled Projects	2031	Low	N/A	N/A	N/A	1	2.99	159	3
Approved or Entitled Projects	2031	Low	N/A	N/A	N/A	1	2.99	159	3
Approved or Entitled Projects	2031	Low	N/A	N/A	N/A	1	2.99	159	3
Approved or Entitled Projects	2031	Low	N/A	N/A	N/A	1	2.99	159	3
Approved or Entitled Projects	2031	Low	N/A	N/A	N/A	3	2.99	159	9
Approved or Entitled Projects	2031	Low	N/A	N/A	N/A	3	2.99	159	9
Housing Element Update Carryover 5th Cycle	2031	High	40	28.63	10.00	400	2.20	159	880
Housing Element Update Carryover 5th Cycle	2031	High	75	6.93	6.93	249	2.20	159	548
Housing Element Update Carryover 5th Cycle	2031	Low	13	6.61	6.61	83	2.99	159	249
Housing Element Update Carryover 5th Cycle	2045	High	30	33.37	33.37	372	2.20	159	819
Housing Element Update Carryover 5th Cycle	2045	High	30	6.06	6.06	182	2.20	159	401
Housing Element Update Carryover 5th Cycle	2045	Low	16	0.26	0.26	4	2.99	159	12
Housing Element Update Carryover 5th Cycle	2045	Low	1	10.78	10.78	1	2.99	159	3
Housing Element Update Carryover 5th Cycle	2045	Low	1	1.67	1.67	1	2.99	159	3
Housing Element Update Carryover 5th Cycle	2045	Low	1	1.66	1.66	1	2.99	159	3
Housing Element Update Carryover 5th Cycle	2045	Low	1	1.01	1.01	1	2.99	159	3

Project Phase	Horizon Year	Site Density Class	Density Range (DU/A)	Site Total Acres	Buildable Acres	Maximum or Expected Capacity (units)	Persons Per Household	Water Demand Factor (GPCD)	Future Total Population (Horizon Year 2031 and 2045)
Housing Element Update Carryover 5th Cycle	2045	Low	3	10.25	10.25	30	2.99	159	90
Housing Element Update Carryover 5th Cycle	2045	Low	1	7.83	7.83	1	2.99	159	3
Housing Element Update Carryover 5th Cycle	2045	Low	1	560.34	560.34	10	2.99	159	30
Housing Element Update Carryover 5th Cycle	2045	Low	1	1.11	1.11	1	2.99	159	3
Housing Element Update Carryover 5th Cycle	2045	Low	1	1.61	1.61	1	2.99	159	3
ADUs (Additional Growth)	2045	High	N/A	N/A	N/A	46	2.20	159	102
ADUs (Additional Growth)	2031	High	N/A	N/A	N/A	47	2.20	159	104
Growth From Existing Zoning	2031	Medium	23	0.13	0.13	3	2.48	159	8
Growth From Existing Zoning	2031	Medium	8	0.28	0.28	2	2.48	159	5
Growth From Existing Zoning	2031	Medium	18	0.87	0.87	15	2.48	159	38
Growth From Existing Zoning	2031	Medium	19	0.16	0.16	3	2.48	159	8
Growth From Existing Zoning	2031	Medium	16	0.57	0.57	9	2.48	159	23
Growth From Existing Zoning	2031	Medium	11	0.19	0.19	2	2.48	159	5
Growth From Existing Zoning	2031	Medium	17	0.74	0.74	12	2.48	159	30
Growth From Existing Zoning	2031	Medium	4	0.28	0.28	1	2.48	159	3
Growth From Existing Zoning	2031	Medium	6	0.35	0.35	2	2.48	159	5
Growth From Existing Zoning	2031	Medium	13	0.32	0.32	4	2.48	159	10
Growth From Existing Zoning	2031	Medium	8	0.64	0.64	5	2.48	159	13
Growth From Existing Zoning	2031	Medium	13	0.55	0.55	7	2.48	159	18
Growth From Existing Zoning	2031	Medium	12	0.63	0.63	7	2.48	159	18
Growth From Existing Zoning	2031	Medium	26	0.70	0.70	18	2.48	159	45
Growth From Existing Zoning	2031	Medium	18	0.79	0.79	14	2.48	159	35
Growth From Existing Zoning	2031	High	27	0.99	0.99	26	2.20	159	58
Growth From Existing Zoning	2031	Medium	13	1.05	1.05	13	2.48	159	33
Growth From Existing Zoning	2031	Low	5	1.05	1.05	5	2.99	159	15
Growth From Existing Zoning	2031	Medium	10	1.11	1.11	10	2.48	159	25
Growth From Existing Zoning	2031	Low	5	1.24	1.24	5	2.99	159	15
Growth From Existing Zoning	2031	High	27	1.52	1.52	40	2.20	159	88
Growth From Existing Zoning	2031	High	18	3.62	3.62	62	2.20	159	137
Growth From Existing Zoning	2031	Low	19	0.16	0.16	3	2.99	159	9
Growth From Existing Zoning	2031	Low	13	0.17	0.17	2	2.99	159	6
Growth From Existing Zoning	2031	Low	30	0.17	0.17	5	2.99	159	15
Growth From Existing Zoning	2031	Medium	27	0.26	0.26	7	2.48	159	18
Growth From Existing Zoning	2031	Low	16	0.27	0.27	4	2.99	159	12
Growth From Existing Zoning	2031	Low	15	0.28	0.28	4	2.99	159	12
Growth From Existing Zoning	2031	Low	11	0.29	0.29	3	2.99	159	9
Growth From Existing Zoning	2031	Medium	26	0.31	0.31	8	2.48	159	20
Growth From Existing Zoning	2031	Low	13	0.31	0.31	4	2.99	159	12
Growth From Existing Zoning	2031	Low	12	0.34	0.34	4	2.99	159	12
Growth From Existing Zoning	2031	Low	15	0.34	0.34	5	2.99	159	15
Growth From Existing Zoning	2031	Low	15	0.35	0.35	5	2.99	159	15
Growth From Existing Zoning	2031	Medium	15	0.35	0.35	5	2.48	159	13
Growth From Existing Zoning	2031	Medium	26	0.39	0.39	10	2.48	159	25
Growth From Existing Zoning	2031	Medium	5	0.41	0.41	2	2.48	159	5
Growth From Existing Zoning	2031	Low	8	0.42	0.42	3	2.99	159	9
Growth From Existing Zoning	2031	Low	16	0.44	0.44	7	2.99	159	21
Growth From Existing Zoning	2045	Low	15	0.47	0.47	7	2.99	159	21
Growth From Existing Zoning	2045	Medium	15	0.48	0.48	7	2.48	159	18
Growth From Existing Zoning	2045	Low	13	0.31	0.31	4	2.99	159	12
Growth From Existing Zoning	2045	Low	14	0.36	0.36	5	2.99	159	15
Growth From Existing Zoning	2045	Low	12	0.27	0.27	3	2.99	159	9
Growth From Existing Zoning	2045	Low	11	0.28	0.28	3	2.99	159	9
Growth From Existing Zoning	2045	Low	14	0.31	0.31	4	2.99	159	12
Growth From Existing Zoning	2045	Low	12	0.34	0.34	4	2.99	159	12

Project Phase	Horizon Year	Site Density Class	Density Range (DU/A)	Site Total Acres	Buildable Acres	Maximum or Expected Capacity (units)	Persons Per Household	Water Demand Factor (GPCD)	Future Total Population (Horizon Year 2031 and 2045)
Growth From Existing Zoning	2045	Low	11	0.37	0.37	4	2.99	159	12
Growth From Existing Zoning	2045	Low	13	0.39	0.39	5	2.99	159	15
Growth From Existing Zoning	2045	Low	13	0.41	0.41	5	2.99	159	15
Growth From Existing Zoning	2045	Medium	15	2.98	2.98	44	2.48	159	110
Growth From Existing Zoning	2045	Low	1	2.94	2.94	1	2.99	159	3
Growth From Existing Zoning	2045	Low	31	0.10	0.10	3	2.99	159	9
Growth From Existing Zoning	2045	Low	11	0.10	0.10	1	2.99	159	3
Growth From Existing Zoning	2045	Low	8	0.13	0.13	1	2.99	159	3
Growth From Existing Zoning	2045	Low	8	0.13	0.13	1	2.99	159	3
Growth From Existing Zoning	2045	Low	13	0.16	0.16	2	2.99	159	6
Growth From Existing Zoning	2045	Low	13	0.16	0.16	2	2.99	159	6
Growth From Existing Zoning	2045	Low	13	0.16	0.16	2	2.99	159	6
Growth From Existing Zoning	2045	Low	12	0.17	0.17	2	2.99	159	6
Growth From Existing Zoning	2045	Low	6	0.17	0.17	1	2.99	159	3
Growth From Existing Zoning	2045	Low	6	0.18	0.18	1	2.99	159	3
Growth From Existing Zoning	2045	Low	5	0.20	0.20	1	2.99	159	3
Growth From Existing Zoning	2045	Low	15	0.20	0.20	3	2.99	159	9
Growth From Existing Zoning	2045	Low	5	0.21	0.21	1	2.99	159	3
Growth From Existing Zoning	2045	Low	15	0.21	0.21	3	2.99	159	9
Growth From Existing Zoning	2045	Low	14	0.22	0.22	3	2.99	159	9
Growth From Existing Zoning	2045	Low	5	0.23	0.23	1	2.99	159	3
Growth From Existing Zoning	2045	Low	5	0.23	0.23	1	2.99	159	3
Growth From Existing Zoning	2045	Low	13	0.24	0.24	3	2.99	159	9
Growth From Existing Zoning	2045	Low	1	1.18	1.18	1	2.99	159	3
Growth From Existing Zoning	2045	Low	28	0.04	0.04	1	2.99	159	3
Growth From Existing Zoning	2045	Low	28	0.04	0.04	1	2.99	159	3
Growth From Existing Zoning	2045	Low	11	0.10	0.10	1	2.99	159	3
Growth From Existing Zoning	2045	Low	10	0.10	0.10	1	2.99	159	3
Growth From Existing Zoning	2045	Low	9	0.12	0.12	1	2.99	159	3
Growth From Existing Zoning	2045	Low	14	0.14	0.14	2	2.99	159	6
Growth From Existing Zoning	2045	Low	12	0.18	0.18	2	2.99	159	6
Growth From Existing Zoning	2045	Low	12	0.18	0.18	2	2.99	159	6
Growth From Existing Zoning	2045	Low	15	0.21	0.21	3	2.99	159	9
Growth From Existing Zoning	2045	Low	1	1.84	1.84	1	2.99	159	3
Growth From Existing Zoning	2045	Low	2	0.55	0.55	1	2.99	159	3
Growth From Existing Zoning	2045	Low	2	0.79	0.79	1	2.99	159	3
Growth From Existing Zoning	2045	Low	2	0.75	0.75	1	2.99	159	3
Growth From Existing Zoning	2045	Low	1	1.27	1.27	1	2.99	159	3
Growth From Existing Zoning	2045	Low	1	2.42	2.42	1	2.99	159	3
Growth From Existing Zoning	2045	Low	1	2.42	2.42	1	2.99	159	3
Growth From Existing Zoning	2045	Low	3	0.48	0.48	1	2.99	159	3
Growth From Existing Zoning	2045	Low	2	3.15	3.15	5	2.99	159	15
Growth From Existing Zoning	2045	Low	2	0.52	0.52	1	2.99	159	3
Growth From Existing Zoning	2045	Low	3	0.37	0.37	1	2.99	159	3
Growth From Existing Zoning	2045	Low	2	0.57	0.57	1	2.99	159	3
Growth From Existing Zoning	2045	Low	3	0.49	0.49	1	2.99	159	3
Growth From Existing Zoning	2045	Low	3	0.48	0.48	1	2.99	159	3
Growth From Existing Zoning	2045	Low	2	0.53	0.53	1	2.99	159	3
Growth From Existing Zoning	2045	Low	3	0.34	0.34	1	2.99	159	3
Growth From Existing Zoning	2045	Low	2	0.60	0.60	1	2.99	159	3
Growth From Existing Zoning	2045	Low	3	0.36	0.36	1	2.99	159	3
Growth From Existing Zoning	2045	Low	2	0.59	0.59	1	2.99	159	3
Growth From Existing Zoning	2045	Low	3	0.49	0.49	1	2.99	159	3
Growth From Existing Zoning	2045	Low	2	0.65	0.65	1	2.99	159	3

Project Phase	Horizon Year	Site Density Class	Density Range (DU/A)	Site Total Acres	Buildable Acres	Maximum or Expected Capacity (units)	Persons Per Household	Water Demand Factor (GPCD)	Future Total Population (Horizon Year 2031 and 2045)
Growth From Existing Zoning	2045	Low	2	0.57	0.57	1	2.99	159	3
Growth From Existing Zoning	2045	Low	1	1.07	1.07	1	2.99	159	3
Growth From Existing Zoning	2045	Low	2	0.56	0.56	1	2.99	159	3
Growth From Existing Zoning	2045	Low	3	0.46	0.46	1	2.99	159	3
Growth From Existing Zoning	2045	Low	2	0.56	0.56	1	2.99	159	3
Growth From Existing Zoning	2045	Low	3	0.37	0.37	1	2.99	159	3
Growth From Existing Zoning	2045	Low	2	0.76	0.76	1	2.99	159	3
Growth From Existing Zoning	2045	Low	2	0.87	0.87	1	2.99	159	3
Growth From Existing Zoning	2045	Low	2	0.87	0.87	1	2.99	159	3
Growth From Existing Zoning	2045	Low	2	0.86	0.86	1	2.99	159	3
Growth From Existing Zoning	2045	Low	3	0.46	0.46	1	2.99	159	3
Growth From Existing Zoning	2045	Low	2	0.92	0.92	1	2.99	159	3
Growth From Existing Zoning	2045	Low	3	0.46	0.46	1	2.99	159	3
Growth From Existing Zoning	2045	Low	3	0.41	0.41	1	2.99	159	3
Growth From Existing Zoning	2045	Low	2	0.92	0.92	1	2.99	159	3
Growth From Existing Zoning	2045	Low	2	0.53	0.53	1	2.99	159	3
Growth From Existing Zoning	2045	Low	2	1.30	1.30	2	2.99	159	6
Growth From Existing Zoning	2045	Low	2	4.97	4.97	5	2.99	159	15
Growth From Existing Zoning	2045	Low	2	0.79	0.79	1	2.99	159	3
Growth From Existing Zoning	2045	Low	2	0.82	0.82	1	2.99	159	3
Growth From Existing Zoning	2045	Low	2	2.53	2.53	3	2.99	159	9
Growth From Existing Zoning	2045	Low	2	7.17	7.17	9	2.99	159	27
Growth From Existing Zoning	2045	Low	2	0.53	0.53	1	2.99	159	3
Growth From Existing Zoning	2045	Low	3	0.48	0.48	1	2.99	159	3
Growth From Existing Zoning	2045	Low	2	0.57	0.57	1	2.99	159	3
Growth From Existing Zoning	2045	Low	2	0.69	0.69	1	2.99	159	3
Growth From Existing Zoning	2045	Low	2	0.52	0.52	1	2.99	159	3
Growth From Existing Zoning	2045	Low	1	1.05	1.05	1	2.99	159	3
Growth From Existing Zoning	2045	Low	2	0.56	0.56	1	2.99	159	3
Growth From Existing Zoning	2045	Low	3	0.44	0.44	1	2.99	159	3
Growth From Existing Zoning	2045	Low	2	0.55	0.55	1	2.99	159	3
Growth From Existing Zoning	2045	Low	1	2.24	2.24	1	2.99	159	3
Growth From Existing Zoning	2045	Low	1	7.30	7.30	1	2.99	159	3
Growth From Existing Zoning	2045	Low	1	7.95	7.95	1	2.99	159	3
Growth From Existing Zoning	2045	Low	1	20.00	20.00	3	2.99	159	9
Growth From Existing Zoning	2045	Low	2	0.56	0.56	1	2.99	159	3
Growth From Existing Zoning	2045	Low	2	0.73	0.73	1	2.99	159	3
Growth From Existing Zoning	2045	Low	1	1.08	1.08	1	2.99	159	3
Growth From Existing Zoning	2045	Low	1	10.23	10.23	5	2.99	159	15
Growth From Existing Zoning	2045	Low	2	0.85	0.85	1	2.99	159	3
Growth From Existing Zoning	2045	Low	2	0.86	0.86	1	2.99	159	3
Growth From Existing Zoning	2045	Low	3	0.82	0.82	2	2.99	159	6
Growth From Existing Zoning	2045	Low	2	0.87	0.87	1	2.99	159	3
Growth From Existing Zoning	2045	Low	1	2.09	2.09	2	2.99	159	6
Growth From Existing Zoning	2045	Low	1	4.66	4.66	1	2.99	159	3
Growth From Existing Zoning	2045	Low	7	0.16	0.16	1	2.99	159	3
Growth From Existing Zoning	2045	Low	4	0.26	0.26	1	2.99	159	3
Growth From Existing Zoning	2045	Low	3	0.49	0.49	1	2.99	159	3
Growth From Existing Zoning	2045	Low	3	0.49	0.49	1	2.99	159	3
Growth From Existing Zoning	2045	Low	4	0.51	0.51	2	2.99	159	6
Growth From Existing Zoning	2045	Low	4	0.53	0.53	2	2.99	159	6
Growth From Existing Zoning	2045	Low	4	0.54	0.54	2	2.99	159	6
Growth From Existing Zoning	2045	Low	4	0.55	0.55	2	2.99	159	6
Growth From Existing Zoning	2045	Low	4	0.56	0.56	2	2.99	159	6

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Growth From Existing Zoning	2045	Low	4	0.57	0.57	2	2.99	159	6
Growth From Existing Zoning	2045	Low	4	0.61	0.61	2	2.99	159	6
Growth From Existing Zoning	2045	Low	3	0.69	0.69	2	2.99	159	6
Growth From Existing Zoning	2045	Low	4	0.87	0.87	3	2.99	159	9
Growth From Existing Zoning	2045	Low	9	0.11	0.11	1	2.99	159	3
Growth From Existing Zoning	2045	Low	8	0.14	0.14	1	2.99	159	3
Growth From Existing Zoning	2045	Low	12	0.17	0.17	2	2.99	159	6
Growth From Existing Zoning	2045	Low	12	0.17	0.17	2	2.99	159	6
Growth From Existing Zoning	2045	Low	12	0.17	0.17	2	2.99	159	6
Growth From Existing Zoning	2045	Low	12	0.17	0.17	2	2.99	159	6
Growth From Existing Zoning	2045	Low	18	0.18	0.18	3	2.99	159	9
Growth From Existing Zoning	2045	Low	11	0.19	0.19	2	2.99	159	6
Growth From Existing Zoning	2045	Low	11	0.20	0.20	2	2.99	159	6
Growth From Existing Zoning	2045	Low	10	0.20	0.20	2	2.99	159	6
Growth From Existing Zoning	2045	Low	9	0.23	0.23	2	2.99	159	6
Growth From Existing Zoning	2045	Low	13	0.25	0.25	3	2.99	159	9
Growth From Existing Zoning	2045	Low	18	0.06	0.06	1	2.99	159	3
Growth From Existing Zoning	2045	Low	14	0.30	0.30	4	2.99	159	12
Growth From Existing Zoning	2045	Low	13	0.25	0.25	3	2.99	159	9
Growth From Existing Zoning	2045	Low	6	0.58	0.58	3	2.99	159	9
		-	-	**1398.00**	**1092.62**	**10,273**	-	-	**23,992**

					Project Water Demand (GPD)						
No	Name	Housing Type	Project Phase	Horizon Year	2023	2025	2030	2031	2035	2040	2045
1	Lester	Single family detached	Housing Element Update 6th Cycle	2031	0	3,669	12,743	14,588	14,685	14,806	14,927
2	Stoneridge Shopping Center	Attached Appartment	Housing Element Update 6th Cycle	2031	0	124,978	434,095	496,932	500,227	504,346	508,464
3	PUSD-Donlon	Single family detached	Housing Element Update 6th Cycle	2031	0	3,314	11,510	13,176	13,264	13,373	13,482
4	Owens (Motel 6 and Tommy T)	Attached Appartment	Housing Element Update 6th Cycle	2031	0	8,166	28,364	32,470	32,685	32,954	33,224
5	Laborers Council	Attached Appartment	Housing Element Update 6th Cycle	2031	0	4,695	16,306	18,666	18,790	18,945	19,100
6	Signature Center	Attached Appartment	Housing Element Update 6th Cycle	2031	0	38,188	132,640	151,840	152,847	154,106	155,364
7	Hacienda Terrace	Attached Appartment	Housing Element Update 6th Cycle	2031	0	6,943	24,116	27,607	27,790	28,019	28,248
8	Muslim Community Center	Single-family attached or apartments	Housing Element Update 6th Cycle	2031	0	12,230	42,478	48,627	48,949	49,352	49,755
9	Metro 580	Attached Appartment	Housing Element Update 6th Cycle	2031	0	32,546	113,046	129,410	130,268	131,340	132,413
11	Old Santa Rita Area	Attached Appartment	Housing Element Update 6th Cycle	2031	0	113,813	395,317	452,541	455,542	459,292	463,043
12	Pimilco Area (North)	Attached Appartment	Housing Element Update 6th Cycle	2031	0	7,377	25,624	29,333	29,527	29,770	30,014
14	St. Elizabeth Seton	single-family attached or apartments	Housing Element Update 6th Cycle	2031	0	5,010	17,402	19,921	20,053	20,218	20,384
15	Rheem Drive Area (Southwest Side)	Single family detached or attached	Housing Element Update 6th Cycle	2031	0	16,175	56,180	64,313	64,739	65,272	65,805
16	Tri-Valley Inn	single-family attached or apartments	Housing Element Update 6th Cycle	2031	0	6,075	21,102	24,156	24,317	24,517	24,717
18	Valley Plaza	Attached Appartment	Housing Element Update 6th Cycle	2031	0	19,094	66,320	75,920	76,424	77,053	77,682
19	Black Avenue	single-family attached or apartments	Housing Element Update 6th Cycle	2031	0	6,391	22,198	25,411	25,580	25,790	26,001
20	Boulder Court	Attached Appartment	Housing Element Update 6th Cycle	2031	0	32,822	114,005	130,508	131,373	132,454	133,536
21.a	Kiewit	Attached Appartment	Housing Element Update 6th Cycle	2031	0	17,358	60,291	69,018	69,476	70,048	70,620
21.b	Kiewit	Single family detached or attached	Housing Element Update 6th Cycle	2031	0	66,079	229,517	262,741	264,483	266,660	268,838
22	Merritt	Single family	Housing Element Update 6th Cycle	2031	0	10,770	37,408	42,823	43,107	43,462	43,817
23	Sunol Boulevard Properties	Attached Appartment	Housing Element Update 6th Cycle	2031	0	83,003	288,301	330,033	332,222	334,957	337,692
24	Sonoma Drive area	single-family attached or apartments	Housing Element Update 6th Cycle	2031	0	15,977	55,495	63,528	63,950	64,476	65,003
25	PUSD-District	single-family attached or apartments	Housing Element Update 6th Cycle	2031	0	15,977	55,495	63,528	63,950	64,476	65,003
26	St. Augustine	Single family detached	Housing Element Update 6th Cycle	2031	0	3,432	11,921	13,647	13,737	13,850	13,964
27	PUSD-Vineyard	Single family detached	Housing Element Update 6th Cycle	2031	0	2,959	10,277	11,765	11,843	11,940	12,038
29	Oracle	Attached Appartment	Housing Element Update 6th Cycle	2031	0	19,528	67,827	77,646	78,161	78,804	79,448
N/A	BART Surface Parking Lot	Attached Appartment	Housing Element Update 6th Cycle	2031	0	26,589	92,355	105,724	106,425	107,301	108,177
N/A	ADUs	Accessory Dwelling Units (ADU)	Housing Element Update 6th Cycle	2031	0	8,087	28,090	32,156	32,370	32,636	32,903
N/A	1500 Lund Ranch Rd.	Single family	Approved or Entitled Projects	2031	0	5,089	17,676	20,235	20,369	20,537	20,705
N/A	1000 Minnie St.	Single family	Approved or Entitled Projects	2031	0	2,604	9,044	10,353	10,421	10,507	10,593
N/A	1000 Minnie St.	Attached Appartment	Approved or Entitled Projects	2031	0	1,933	6,714	7,686	7,737	7,801	7,865
N/A	2188 Foothill Rd.	Single family	Approved or Entitled Projects	2031	0	828	2,878	3,294	3,316	3,343	3,371
N/A	990 Sycamore Rd.	Single family	Approved or Entitled Projects	2031	0	355	1,233	1,412	1,421	1,433	1,445
N/A	N/A (The Residence at California Center)	Attached Appartment	Approved or Entitled Projects	2031	0	26,471	91,944	105,253	105,951	106,823	107,696
N/A	8026 Kingbird Ct.	Single family	Approved or Entitled Projects	2031	0	118	411	471	474	478	482
N/A	8032 Kingbird Ct.	Single family	Approved or Entitled Projects	2031	0	118	411	471	474	478	482
N/A	8020 Kingbird Ct.	Single family	Approved or Entitled Projects	2031	0	118	411	471	474	478	482
N/A	8008 Kingbird Ct.	Single family	Approved or Entitled Projects	2031	0	118	411	471	474	478	482
N/A	8014 Kingbird Ct.	Single family	Approved or Entitled Projects	2031	0	118	411	471	474	478	482
N/A	8025 Kingbird Ct.	Single family	Approved or Entitled Projects	2031	0	118	411	471	474	478	482
N/A	8019 Kingbird Ct.	Single family	Approved or Entitled Projects	2031	0	118	411	471	474	478	482
N/A	8013 Kingbird Ct.	Single family	Approved or Entitled Projects	2031	0	118	411	471	474	478	482
N/A	2500 Vineyard Ave.	Single family	Approved or Entitled Projects	2031	0	355	1,233	1,412	1,421	1,433	1,445
N/A	375 Sycamore Rd.	Single family	Approved or Entitled Projects	2031	0	355	1,233	1,412	1,421	1,433	1,445
N/A	Stoneridge Shopping Center surface parking lots	Attached Appartment	Housing Element Update Carryover 5th Cycle	2031	0	34,716	120,582	138,037	138,952	140,096	141,240
N/A	BART Surface Parking Lot	Attached Appartment	Housing Element Update Carryover 5th Cycle	2031	0	21,619	75,090	85,959	86,529	87,242	87,954
N/A	Office buildings, surface parking	Single family	Housing Element Update Carryover 5th Cycle	2031	0	9,823	34,119	39,058	39,317	39,641	39,965
N/A	Industrial complex, surface parking	Attached Appartment	Housing Element Update Carryover 5th Cycle	2045	0	11,749	40,809	46,716	70,538	100,752	131,450
N/A	Parking lot	Attached Appartment	Housing Element Update Carryover 5th Cycle	2045	0	5,753	19,981	22,873	34,537	49,330	64,361
N/A	Vacant	Single family	Housing Element Update Carryover 5th Cycle	2045	0	172	598	684	1,034	1,476	1,926
N/A	Vacant	Single family	Housing Element Update Carryover 5th Cycle	2045	0	43	149	171	258	369	482
N/A	Single-Family Residence w. pool	Single family	Housing Element Update Carryover 5th Cycle	2045	0	43	149	171	258	369	482
N/A	Single-Family Residence w. pool	Single family	Housing Element Update Carryover 5th Cycle	2045	0	43	149	171	258	369	482
N/A	Single-Family Residence	Single family	Housing Element Update Carryover 5th Cycle	2045	0	43	149	171	258	369	482
N/A	Single-family residence	Single family	Housing Element Update Carryover 5th Cycle	2045	0	1,291	4,484	5,134	7,751	11,072	14,445
N/A	Vacant	Single family	Housing Element Update Carryover 5th Cycle	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Housing Element Update Carryover 5th Cycle	2045	0	430	1,495	1,711	2,584	3,691	4,815
N/A	Vacant	Single family	Housing Element Update Carryover 5th Cycle	2045	0	43	149	171	258	369	482
N/A	Single-Family Residence	Single family	Housing Element Update Carryover 5th Cycle	2045	0	43	149	171	258	369	482
N/A	ADUs (Additional Growth)	Accessory Dwelling Units (ADU)	ADUs (Additional Growth)	2045	0	1,463	5,082	5,818	8,785	12,548	16,371
N/A	ADUs (Additional Growth)	Accessory Dwelling Units (ADU)	ADUs (Additional Growth)	2031	0	4,103	14,251	16,313	16,422	16,557	16,692
N/A	Vacant	single-family attached or apartments	Growth From Existing Zoning	2031	0	316	1,096	1,255	1,263	1,274	1,284
N/A	Commercial building, surface parking	single-family attached or apartments	Growth From Existing Zoning	2031	0	197	685	784	790	796	803
N/A	Commercial building, surface parking	single-family attached or apartments	Growth From Existing Zoning	2031	0	1,499	5,207	5,961	6,000	6,050	6,099
N/A	Parking lot	single-family attached or apartments	Growth From Existing Zoning	2031	0	316	1,096	1,255	1,263	1,274	1,284
N/A	Bank, surface parking	single-family attached or apartments	Growth From Existing Zoning	2031	0	907	3,152	3,608	3,632	3,662	3,692
N/A	Commercial buildings, surface parking lot	single-family attached or apartments	Growth From Existing Zoning	2031	0	197	685	784	790	796	803
N/A	Commercial building, surface parking	single-family attached or apartments	Growth From Existing Zoning	2031	0	1,184	4,111	4,706	4,737	4,776	4,815

No	Name	Housing Type	Project Phase	Horizon Year	2023	2025	2030	2031	2035	2040	2045
N/A	Commercial building, surface parking	single-family attached or apartments	Growth From Existing Zoning	2031	0	118	411	471	474	478	482
N/A	Commercial buildings/offices, surface parking lot	single-family attached or apartments	Growth From Existing Zoning	2031	0	197	685	784	790	796	803
N/A	Commercial building w. interior parking	single-family attached or apartments	Growth From Existing Zoning	2031	0	395	1,370	1,569	1,579	1,592	1,605
N/A	Offices, surface parking	single-family attached or apartments	Growth From Existing Zoning	2031	0	513	1,781	2,039	2,053	2,070	2,087
N/A	Auto dealership, surface parking	single-family attached or apartments	Growth From Existing Zoning	2031	0	710	2,466	2,823	2,842	2,866	2,889
N/A	Commercial building, surface parking	single-family attached or apartments	Growth From Existing Zoning	2031	0	710	2,466	2,823	2,842	2,866	2,889
N/A	Vacant	single-family attached or apartments	Growth From Existing Zoning	2031	0	1,775	6,166	7,059	7,106	7,164	7,223
N/A	Funeral home, surface parking	single-family attached or apartments	Growth From Existing Zoning	2031	0	1,381	4,796	5,490	5,527	5,572	5,618
N/A	Vacant	Attached Appartment	Growth From Existing Zoning	2031	0	2,288	7,947	9,098	9,158	9,234	9,309
N/A	Commercial buildings, surface parking	single-family attached or apartments	Growth From Existing Zoning	2031	0	1,302	4,522	5,176	5,211	5,254	5,297
N/A	Restaurant	Single family	Growth From Existing Zoning	2031	0	592	2,055	2,353	2,369	2,388	2,408
N/A	Commercial building, surface parking	single-family attached or apartments	Growth From Existing Zoning	2031	0	986	3,426	3,922	3,948	3,980	4,013
N/A	Single-family residences (2 units), surface parking lot	Single family	Growth From Existing Zoning	2031	0	592	2,055	2,353	2,369	2,388	2,408
N/A	Vacant	Attached Appartment	Growth From Existing Zoning	2031	0	3,472	12,058	13,804	13,895	14,010	14,124
N/A	Commercial building, surface parking	Attached Appartment	Growth From Existing Zoning	2031	0	5,405	18,772	21,490	21,632	21,810	21,989
N/A	Commercial parking lot	Single family	Growth From Existing Zoning	2031	0	355	1,233	1,412	1,421	1,433	1,445
N/A	Commercial/Restaurant/Bar	Single family	Growth From Existing Zoning	2031	0	237	822	941	947	955	963
N/A	Vacant	Single family	Growth From Existing Zoning	2031	0	592	2,055	2,353	2,369	2,388	2,408
N/A	Vacant	single-family attached or apartments	Growth From Existing Zoning	2031	0	710	2,466	2,823	2,842	2,866	2,889
N/A	Offices, surface parking	Single family	Growth From Existing Zoning	2031	0	473	1,644	1,882	1,895	1,910	1,926
N/A	Commercial buildings, surface parking	Single family	Growth From Existing Zoning	2031	0	473	1,644	1,882	1,895	1,910	1,926
N/A	Commercial/industrial property	Single family	Growth From Existing Zoning	2031	0	355	1,233	1,412	1,421	1,433	1,445
N/A	Vacant	single-family attached or apartments	Growth From Existing Zoning	2031	0	789	2,741	3,137	3,158	3,184	3,210
N/A	Restaurant, surface parking	Single family	Growth From Existing Zoning	2031	0	473	1,644	1,882	1,895	1,910	1,926
N/A	Local Market and surface parking	Single family	Growth From Existing Zoning	2031	0	473	1,644	1,882	1,895	1,910	1,926
N/A	Commercial building, surface parking	Single family	Growth From Existing Zoning	2031	0	592	2,055	2,353	2,369	2,388	2,408
N/A	Bank, surface parking	Single family	Growth From Existing Zoning	2031	0	592	2,055	2,353	2,369	2,388	2,408
N/A	Restaurant/Bar and surface parking	single-family attached or apartments	Growth From Existing Zoning	2031	0	513	1,781	2,039	2,053	2,070	2,087
N/A	Vacant	single-family attached or apartments	Growth From Existing Zoning	2031	0	986	3,426	3,922	3,948	3,980	4,013
N/A	Commercial buildings, surface parking lot	single-family attached or apartments	Growth From Existing Zoning	2031	0	197	685	784	790	796	803
N/A	Multi-family housing (4 units) and surface parking	Single family	Growth From Existing Zoning	2031	0	355	1,233	1,412	1,421	1,433	1,445
N/A	Single-family residence	Single family	Growth From Existing Zoning	2031	0	828	2,878	3,294	3,316	3,343	3,371
N/A	Offices, surface parking lot	Single family	Growth From Existing Zoning	2045	0	301	1,046	1,198	1,809	2,583	3,371
N/A	Bank, surface parking	single-family attached or apartments	Growth From Existing Zoning	2045	0	258	897	1,027	1,550	2,214	2,889
N/A	Single-family residence	Single family	Growth From Existing Zoning	2045	0	172	598	684	1,034	1,476	1,926
N/A	Single-family residence	Single family	Growth From Existing Zoning	2045	0	215	747	856	1,292	1,845	2,408
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	129	448	513	775	1,107	1,445
N/A	Single-Family Residence w. pool	Single family	Growth From Existing Zoning	2045	0	129	448	513	775	1,107	1,445
N/A	Single-family residence	Single family	Growth From Existing Zoning	2045	0	172	598	684	1,034	1,476	1,926
N/A	Single-family residence	Single family	Growth From Existing Zoning	2045	0	172	598	684	1,034	1,476	1,926
N/A	Single-family residence	Single family	Growth From Existing Zoning	2045	0	172	598	684	1,034	1,476	1,926
N/A	Single-family homes	Single family	Growth From Existing Zoning	2045	0	215	747	856	1,292	1,845	2,408
N/A	Single-family residence	Single family	Growth From Existing Zoning	2045	0	215	747	856	1,292	1,845	2,408
N/A	Church, preschool, surface parking	single-family attached or apartments	Growth From Existing Zoning	2045	0	1,578	5,481	6,274	9,474	13,532	17,655
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	129	448	513	775	1,107	1,445
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Offices	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Restaurant, surface parking	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	86	299	342	517	738	963
N/A	Restaurant/Bar	Single family	Growth From Existing Zoning	2045	0	86	299	342	517	738	963
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	86	299	342	517	738	963
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	86	299	342	517	738	963
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Office, surface parking	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Single-family residence	Single family	Growth From Existing Zoning	2045	0	129	448	513	775	1,107	1,445
N/A	Office, surface parking	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Single-Family Residence, surface parking	Single family	Growth From Existing Zoning	2045	0	129	448	513	775	1,107	1,445
N/A	Commercial building, surface parking	Single family	Growth From Existing Zoning	2045	0	129	448	513	775	1,107	1,445
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Multi-family residence (3 units), surface parking	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	129	448	513	775	1,107	1,445
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Office, surface parking	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482

No	Name	Housing Type	Project Phase	Horizon Year	2023	2025	2030	2031	2035	2040	2045
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	86	299	342	517	738	963
N/A	Single-family homes	Single family	Growth From Existing Zoning	2045	0	86	299	342	517	738	963
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	86	299	342	517	738	963
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	129	448	513	775	1,107	1,445
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Single-Family Residence w. pool	Single family	Growth From Existing Zoning	2045	0	215	747	856	1,292	1,845	2,408
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
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N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	86	299	342	517	738	963
N/A	Single-family residence	Single family	Growth From Existing Zoning	2045	0	215	747	856	1,292	1,845	2,408
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Board and care home on large otherwise undeveloped lot	Single family	Growth From Existing Zoning	2045	0	129	448	513	775	1,107	1,445
N/A	Nursery	Single family	Growth From Existing Zoning	2045	0	387	1,345	1,540	2,325	3,321	4,334
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Single-Family Residence, rural	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Single-Family Residence w. pool	Single family	Growth From Existing Zoning	2045	0	129	448	513	775	1,107	1,445
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Single-family residence	Single family	Growth From Existing Zoning	2045	0	215	747	856	1,292	1,845	2,408
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	86	299	342	517	738	963
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	86	299	342	517	738	963

No	Name	Housing Type	Project Phase	Horizon Year	2023	2025	2030	2031	2035	2040	2045
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Driveway for church property	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Single-Family Residence w. pool	Single family	Growth From Existing Zoning	2045	0	86	299	342	517	738	963
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	86	299	342	517	738	963
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	86	299	342	517	738	963
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	86	299	342	517	738	963
N/A	Single-Family Residence w. pool	Single family	Growth From Existing Zoning	2045	0	86	299	342	517	738	963
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	86	299	342	517	738	963
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	86	299	342	517	738	963
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	86	299	342	517	738	963
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	129	448	513	775	1,107	1,445
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	86	299	342	517	738	963
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	86	299	342	517	738	963
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	86	299	342	517	738	963
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	86	299	342	517	738	963
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	129	448	513	775	1,107	1,445
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	86	299	342	517	738	963
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	86	299	342	517	738	963
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	86	299	342	517	738	963
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	86	299	342	517	738	963
N/A	Single-Family Residence w. pool	Single family	Growth From Existing Zoning	2045	0	129	448	513	775	1,107	1,445
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	43	149	171	258	369	482
N/A	Single-family residence	Single family	Growth From Existing Zoning	2045	0	172	598	684	1,034	1,476	1,926
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	129	448	513	775	1,107	1,445
N/A	Single-Family Residence w. pool	Single family	Growth From Existing Zoning	2045	0	129	448	513	775	1,107	1,445
		Totals			**0**	**887,941**	**3,084,159**	**3,530,605**	**3,620,963**	**3,735,150**	**3,850,716**

Watearth, Inc.
21-071.0 City of Pleasanton Water Supply Assessment
2019 Census Data
July 29, 2022

					Annual Water Demand (Millions of Gallons)						
No	Name	Housing Type	Project Phase	Horizon Year	2023	2025	2030	2031	2035	2040	2045
1	Lester	Single family detached	Housing Element Update 6th Cycle	2031	0	1	5	5	5	5	5
2	Stoneridge Shopping Center	Attached Appartment	Housing Element Update 6th Cycle	2031	0	46	158	181	183	184	186
3	PUSD-Donion	Single family detached	Housing Element Update 6th Cycle	2031	0	1	4	5	5	5	5
4	Owens (Motel 6 and Tommy T)	Attached Appartment	Housing Element Update 6th Cycle	2031	0	3	10	12	12	12	12
5	Laborers Council	Attached Appartment	Housing Element Update 6th Cycle	2031	0	2	6	7	7	7	7
6	Signature Center	Attached Appartment	Housing Element Update 6th Cycle	2031	0	14	48	55	56	56	57
7	Hacienda Terrace	Attached Appartment	Housing Element Update 6th Cycle	2031	0	3	9	10	10	10	10
8	Muslim Community Center	Single-family attached or apartments	Housing Element Update 6th Cycle	2031	0	4	16	18	18	18	18
9	Metro 580	Attached Appartment	Housing Element Update 6th Cycle	2031	0	12	41	47	48	48	48
11	Old Santa Rita Area	Attached Appartment	Housing Element Update 6th Cycle	2031	0	42	144	165	166	168	169
12	Pimlico Area (North)	Attached Appartment	Housing Element Update 6th Cycle	2031	0	3	9	11	11	11	11
14	St. Elizabeth Seton	single-family attached or apartments	Housing Element Update 6th Cycle	2031	0	2	6	7	7	7	7
15	Rheem Drive Area (Southwest Side)	Single family detached or attached	Housing Element Update 6th Cycle	2031	0	6	21	23	24	24	24
16	Tri-Valley Inn	single-family attached or apartments	Housing Element Update 6th Cycle	2031	0	2	8	9	9	9	9
18	Valley Plaza	Attached Appartment	Housing Element Update 6th Cycle	2031	0	7	24	28	28	28	28
19	Black Avenue	single-family attached or apartments	Housing Element Update 6th Cycle	2031	0	2	8	9	9	9	9
20	Boulder Court	Attached Appartment	Housing Element Update 6th Cycle	2031	0	12	42	48	48	48	49
21.a	Kiewit	Attached Appartment	Housing Element Update 6th Cycle	2031	0	6	22	25	25	26	26
21.b	Kiewit	Single family detached or attached	Housing Element Update 6th Cycle	2031	0	24	84	96	97	97	98
22	Merritt	Single family	Housing Element Update 6th Cycle	2031	0	4	14	16	16	16	16
23	Sunol Boulevard Properties	Attached Appartment	Housing Element Update 6th Cycle	2031	0	30	105	120	121	122	123
24	Sonoma Drive area	single-family attached or apartments	Housing Element Update 6th Cycle	2031	0	6	20	23	23	24	24
25	PUSD-District	single-family attached or apartments	Housing Element Update 6th Cycle	2031	0	6	20	23	23	24	24
26	St. Augustine	Single family detached	Housing Element Update 6th Cycle	2031	0	1	4	5	5	5	5
27	PUSD-Vineyard	Single family detached	Housing Element Update 6th Cycle	2031	0	1	4	4	4	4	4
29	Oracle	Attached Appartment	Housing Element Update 6th Cycle	2031	0	7	25	28	29	29	29
N/A	BART Surface Parking Lot	Attached Appartment	Housing Element Update 6th Cycle	2031	0	10	34	39	39	39	39
N/A	ADUs	Accessory Dwelling Units (ADU)	Housing Element Update 6th Cycle	2031	0	3	10	12	12	12	12
N/A	1500 Lund Ranch Rd.	Single family	Approved or Entitled Projects	2031	0	2	6	7	7	7	8
N/A	1000 Minnie St.	Single family	Approved or Entitled Projects	2031	0	1	3	4	4	4	4
N/A	1000 Minnie St.	Attached Appartment	Approved or Entitled Projects	2031	0	1	2	3	3	3	3
N/A	2188 Foothill Rd.	Single family	Approved or Entitled Projects	2031	0	0	1	1	1	1	1
N/A	990 Sycamore Rd.	Single family	Approved or Entitled Projects	2031	0	0	0	1	1	1	1
N/A	N/A (The Residence at California Center)	Attached Appartment	Approved or Entitled Projects	2031	0	10	34	38	39	39	39
N/A	8026 Kingbird Ct.	Single family	Approved or Entitled Projects	2031	0	0	0	0	0	0	0
N/A	8032 Kingbird Ct.	Single family	Approved or Entitled Projects	2031	0	0	0	0	0	0	0
N/A	8020 Kingbird Ct.	Single family	Approved or Entitled Projects	2031	0	0	0	0	0	0	0
N/A	8008 Kingbird Ct.	Single family	Approved or Entitled Projects	2031	0	0	0	0	0	0	0
N/A	8014 Kingbird Ct.	Single family	Approved or Entitled Projects	2031	0	0	0	0	0	0	0
N/A	8025 Kingbird Ct.	Single family	Approved or Entitled Projects	2031	0	0	0	0	0	0	0
N/A	8019 Kingbird Ct.	Single family	Approved or Entitled Projects	2031	0	0	0	0	0	0	0
N/A	8013 Kingbird Ct.	Single family	Approved or Entitled Projects	2031	0	0	0	0	0	0	0
N/A	2500 Vineyard Ave.	Single family	Approved or Entitled Projects	2031	0	0	0	1	1	1	1
N/A	375 Sycamore Rd.	Single family	Approved or Entitled Projects	2031	0	0	0	1	1	1	1
N/A	Stoneridge Shopping Center surface parking lots	Attached Appartment	Housing Element Update Carryover 5th Cycle	2031	0	13	44	50	51	51	52
N/A	BART Surface Parking Lot	Attached Appartment	Housing Element Update Carryover 5th Cycle	2031	0	8	27	31	32	32	32
N/A	Office buildings, surface parking	Single family	Housing Element Update Carryover 5th Cycle	2031	0	4	12	14	14	14	15
N/A	Industrial complex, surface parking	Attached Appartment	Housing Element Update Carryover 5th Cycle	2045	0	4	15	17	26	37	48
N/A	Parking lot	Attached Appartment	Housing Element Update Carryover 5th Cycle	2045	0	2	7	8	13	18	23
N/A	Vacant	Single family	Housing Element Update Carryover 5th Cycle	2045	0	0	0	0	0	1	1
N/A	Vacant	Single family	Housing Element Update Carryover 5th Cycle	2045	0	0	0	0	0	0	0
N/A	Single-Family Residence w. pool	Single family	Housing Element Update Carryover 5th Cycle	2045	0	0	0	0	0	0	0
N/A	Single-Family Residence w. pool	Single family	Housing Element Update Carryover 5th Cycle	2045	0	0	0	0	0	0	0
N/A	Single-Family Residence	Single family	Housing Element Update Carryover 5th Cycle	2045	0	0	0	0	0	0	0
N/A	Single-family residence	Single family	Housing Element Update Carryover 5th Cycle	2045	0	0	2	2	3	4	5
N/A	Vacant	Single family	Housing Element Update Carryover 5th Cycle	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Housing Element Update Carryover 5th Cycle	2045	0	0	1	1	1	1	2
N/A	Vacant	Single family	Housing Element Update Carryover 5th Cycle	2045	0	0	0	0	0	0	0
N/A	Single-Family Residence	Single family	Housing Element Update Carryover 5th Cycle	2045	0	0	0	0	0	0	0
N/A	ADUs (Additional Growth)	Accessory Dwelling Units (ADU)	ADUs (Additional Growth)	2045	0	1	2	2	3	5	6
N/A	ADUs (Additional Growth)	Accessory Dwelling Units (ADU)	ADUs (Additional Growth)	2031	0	1	5	6	6	6	6
N/A	Vacant	single-family attached or apartments	Growth From Existing Zoning	2031	0	0	0	0	0	0	0
N/A	Commercial building, surface parking	single-family attached or apartments	Growth From Existing Zoning	2031	0	0	0	0	0	0	0
N/A	Commercial building, surface parking	single-family attached or apartments	Growth From Existing Zoning	2031	0	1	2	2	2	2	2
N/A	Parking lot	single-family attached or apartments	Growth From Existing Zoning	2031	0	0	0	0	0	0	0
N/A	Bank, surface parking	single-family attached or apartments	Growth From Existing Zoning	2031	0	0	1	1	1	1	1

No	Name	Housing Type	Project Phase	Horizon Year	2023	2025	2030	2031	2035	2040	2045
N/A	Commercial buildings, surface parking lot	single-family attached or apartments	Growth From Existing Zoning	2031	0	0	0	0	0	0	0
N/A	Commercial building, surface parking	single-family attached or apartments	Growth From Existing Zoning	2031	0	0	2	2	2	2	2
N/A	Commercial building, surface parking	single-family attached or apartments	Growth From Existing Zoning	2031	0	0	0	0	0	0	0
N/A	Commercial buildings/offices, surface parking lot	single-family attached or apartments	Growth From Existing Zoning	2031	0	0	0	0	0	0	0
N/A	Commercial building w. interior parking	single-family attached or apartments	Growth From Existing Zoning	2031	0	0	1	1	1	1	1
N/A	Offices, surface parking	single-family attached or apartments	Growth From Existing Zoning	2031	0	0	1	1	1	1	1
N/A	Auto dealership, surface parking	single-family attached or apartments	Growth From Existing Zoning	2031	0	0	1	1	1	1	1
N/A	Commercial building, surface parking	single-family attached or apartments	Growth From Existing Zoning	2031	0	0	1	1	1	1	1
N/A	Vacant	single-family attached or apartments	Growth From Existing Zoning	2031	0	1	2	3	3	3	3
N/A	Funeral home, surface parking	single-family attached or apartments	Growth From Existing Zoning	2031	0	1	2	2	2	2	2
N/A	Vacant	Attached Appartment	Growth From Existing Zoning	2031	0	1	3	3	3	3	3
N/A	Commercial buildings, surface parking	single-family attached or apartments	Growth From Existing Zoning	2031	0	0	2	2	2	2	2
N/A	Restaurant	Single family	Growth From Existing Zoning	2031	0	0	1	1	1	1	1
N/A	Commercial building, surface parking	single-family attached or apartments	Growth From Existing Zoning	2031	0	0	1	1	1	1	1
N/A	Single-family residences (2 units), surface parking lot	Single family	Growth From Existing Zoning	2031	0	0	1	1	1	1	1
N/A	Vacant	Attached Appartment	Growth From Existing Zoning	2031	0	1	4	5	5	5	5
N/A	Commercial building, surface parking	Attached Appartment	Growth From Existing Zoning	2031	0	2	7	8	8	8	8
N/A	Commercial parking lot	Single family	Growth From Existing Zoning	2031	0	0	0	1	1	1	1
N/A	Commercial/Restaurant/Bar	Single family	Growth From Existing Zoning	2031	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2031	0	0	1	1	1	1	1
N/A	Vacant	single-family attached or apartments	Growth From Existing Zoning	2031	0	0	1	1	1	1	1
N/A	Offices, surface parking	Single family	Growth From Existing Zoning	2031	0	0	1	1	1	1	1
N/A	Commercial buildings, surface parking	Single family	Growth From Existing Zoning	2031	0	0	1	1	1	1	1
N/A	Commercial/industrial property	Single family	Growth From Existing Zoning	2031	0	0	0	1	1	1	1
N/A	Vacant	single-family attached or apartments	Growth From Existing Zoning	2031	0	0	1	1	1	1	1
N/A	Restaurant, surface parking	Single family	Growth From Existing Zoning	2031	0	0	1	1	1	1	1
N/A	Local Market and surface parking	Single family	Growth From Existing Zoning	2031	0	0	1	1	1	1	1
N/A	Commercial building, surface parking	Single family	Growth From Existing Zoning	2031	0	0	1	1	1	1	1
N/A	Bank, surface parking	Single family	Growth From Existing Zoning	2031	0	0	1	1	1	1	1
N/A	Restaurant/Bar and surface parking	single-family attached or apartments	Growth From Existing Zoning	2031	0	0	1	1	1	1	1
N/A	Vacant	single-family attached or apartments	Growth From Existing Zoning	2031	0	0	1	1	1	1	1
N/A	Commercial buildings, surface parking lot	single-family attached or apartments	Growth From Existing Zoning	2031	0	0	0	0	0	0	0
N/A	Multi-family housing (4 units) and surface parking	Single family	Growth From Existing Zoning	2031	0	0	0	1	1	1	1
N/A	Single-family residence	Single family	Growth From Existing Zoning	2031	0	0	1	1	1	1	1
N/A	Offices, surface parking lot	Single family	Growth From Existing Zoning	2045	0	0	0	0	1	1	1
N/A	Bank, surface parking	single-family attached or apartments	Growth From Existing Zoning	2045	0	0	0	0	1	1	1
N/A	Single-family residence	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	1	1
N/A	Single-family residence	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	1	1
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	1
N/A	Single-Family Residence w. pool	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	1
N/A	Single-family residence	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	1	1
N/A	Single-family residence	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	1	1
N/A	Single-family residence	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	1	1
N/A	Single-family homes	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	1	1
N/A	Single-family residence	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	1	1
N/A	Church, preschool, surface parking	single-family attached or apartments	Growth From Existing Zoning	2045	0	1	2	2	3	5	6
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	1
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Offices	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Restaurant, surface parking	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Restaurant/Bar	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Office, surface parking	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Single-family residence	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	1
N/A	Office, surface parking	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Single-Family Residence, surface parking	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	1
N/A	Commercial building, surface parking	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	1
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Multi-family residence (3 units), surface parking	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	1
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0

No	Name	Housing Type	Project Phase	Horizon Year	2023	2025	2030	2031	2035	2040	2045
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Office, surface parking	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Single-family homes	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	1
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Single-Family Residence w. pool	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	1	1
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Single-family residence	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	1	1
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Board and care home on large otherwise undeveloped lot	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	1
N/A	Nursery	Single family	Growth From Existing Zoning	2045	0	0	0	1	1	1	2
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Single-Family Residence, rural	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Single-Family Residence w. pool	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	1
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0

No	Name	Housing Type	Project Phase	Horizon Year	2023	2025	2030	2031	2035	2040	2045
N/A	Single-family residence	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	1	1
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Driveway for church property	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Single-Family Residence w. pool	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Single-Family Residence w. pool	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	1
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	1
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Single-Family Residence w. pool	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	1
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	0
N/A	Single-family residence	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	1	1
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	1
N/A	Single-Family Residence w. pool	Single family	Growth From Existing Zoning	2045	0	0	0	0	0	0	1
		Totals			-	324	1,126	1,289	1,322	1,363	1,406

					Total Annual Water Demand (AFY)						
No	Name	Housing Type	Project Phase	Horizon Year	2023	2025	2030	2031	2035	2040	2045
1	Lester	Single family detached	Housing Element Update 6th Cycle	2031	0.00	4.11	14.27	16.34	16.45	16.58	16.72
2	Stoneridge Shopping Center	Attached Appartment	Housing Element Update 6th Cycle	2031	0.00	139.99	486.25	556.64	560.33	564.94	569.55
3	PUSD-Donion	Single family detached	Housing Element Update 6th Cycle	2031	0.00	3.71	12.89	14.76	14.86	14.98	15.10
4	Owens (Motel 6 and Tommy T)	Attached Appartment	Housing Element Update 6th Cycle	2031	0.00	9.15	31.77	36.37	36.61	36.91	37.22
5	Laborers Council	Attached Appartment	Housing Element Update 6th Cycle	2031	0.00	5.26	18.27	20.91	21.05	21.22	21.39
6	Signature Center	Attached Appartment	Housing Element Update 6th Cycle	2031	0.00	42.78	148.58	170.08	171.21	172.62	174.03
7	Hacienda Terrace	Attached Appartment	Housing Element Update 6th Cycle	2031	0.00	7.78	27.01	30.92	31.13	31.39	31.64
8	Muslim Community Center	Single-family attached or apartments	Housing Element Update 6th Cycle	2031	0.00	13.70	47.58	54.47	54.83	55.28	55.73
9	Metro 580	Attached Appartment	Housing Element Update 6th Cycle	2031	0.00	36.46	126.63	144.96	145.92	147.12	148.32
11	Old Santa Rita Area	Attached Appartment	Housing Element Update 6th Cycle	2031	0.00	127.49	442.81	506.91	510.27	514.47	518.67
12	Pimlico Area (North)	Attached Appartment	Housing Element Update 6th Cycle	2031	0.00	8.26	28.70	32.86	33.07	33.35	33.62
14	St. Elizabeth Seton	single-family attached or apartments	Housing Element Update 6th Cycle	2031	0.00	5.61	19.49	22.31	22.46	22.65	22.83
15	Rheem Drive Area (Southwest Side)	Single family detached or attached	Housing Element Update 6th Cycle	2031	0.00	18.12	62.93	72.04	72.52	73.11	73.71
16	Tri-Valley Inn	single-family attached or apartments	Housing Element Update 6th Cycle	2031	0.00	6.81	23.64	27.06	27.24	27.46	27.69
18	Valley Plaza	Attached Appartment	Housing Element Update 6th Cycle	2031	0.00	21.39	74.29	85.04	85.61	86.31	87.02
19	Black Avenue	single-family attached or apartments	Housing Element Update 6th Cycle	2031	0.00	7.16	24.87	28.46	28.65	28.89	29.12
20	Boulder Court	Attached Appartment	Housing Element Update 6th Cycle	2031	0.00	36.77	127.70	146.19	147.16	148.37	149.58
21.a	Kiewit	Attached Appartment	Housing Element Update 6th Cycle	2031	0.00	19.44	67.53	77.31	77.82	78.46	79.10
21.b	Kiewit	Single family detached or attached	Housing Element Update 6th Cycle	2031	0.00	74.02	257.09	294.31	296.26	298.70	301.14
22	Merritt	Single family	Housing Element Update 6th Cycle	2031	0.00	12.06	41.90	47.97	48.29	48.68	49.08
23	Sunol Boulevard Properties	Attached Appartment	Housing Element Update 6th Cycle	2031	0.00	92.98	322.94	369.69	372.14	375.20	378.26
24	Sonoma Drive area	single-family attached or apartments	Housing Element Update 6th Cycle	2031	0.00	17.90	62.16	71.16	71.63	72.22	72.81
25	PUSD-District	single-family attached or apartments	Housing Element Update 6th Cycle	2031	0.00	17.90	62.16	71.16	71.63	72.22	72.81
26	St. Augustine	Single family detached	Housing Element Update 6th Cycle	2031	0.00	3.84	13.35	15.29	15.39	15.51	15.64
27	PUSD-Vineyard	Single family detached	Housing Element Update 6th Cycle	2031	0.00	3.31	11.51	13.18	13.27	13.37	13.48
29	Oracle	Attached Appartment	Housing Element Update 6th Cycle	2031	0.00	21.87	75.98	86.97	87.55	88.27	88.99
N/A	BART Surface Parking Lot	Attached Appartment	Housing Element Update 6th Cycle	2031	0.00	29.78	103.45	118.43	119.21	120.19	121.17
N/A	ADUs	Accessory Dwelling Units (ADU)	Housing Element Update 6th Cycle	2031	0.00	9.06	31.47	36.02	36.26	36.56	36.86
N/A	1500 Lund Ranch Rd.	Single family	Approved or Entitled Projects	2031	0.00	5.70	19.80	22.67	22.82	23.00	23.19
N/A	1000 Minnie St.	Single family	Approved or Entitled Projects	2031	0.00	2.92	10.13	11.60	11.67	11.77	11.87
N/A	1000 Minnie St.	Attached Appartment	Approved or Entitled Projects	2031	0.00	2.17	7.52	8.61	8.67	8.74	8.81
N/A	2188 Foothill Rd.	Single family	Approved or Entitled Projects	2031	0.00	0.93	3.22	3.69	3.71	3.74	3.78
N/A	990 Sycamore Rd.	Single family	Approved or Entitled Projects	2031	0.00	0.40	1.38	1.58	1.59	1.60	1.62
N/A	N/A (The Residence at California Center)	Attached Appartment	Approved or Entitled Projects	2031	0.00	29.65	102.99	117.90	118.68	119.66	120.63
N/A	8026 Kingbird Ct.	Single family	Approved or Entitled Projects	2031	0.00	0.13	0.46	0.53	0.53	0.53	0.54
N/A	8032 Kingbird Ct.	Single family	Approved or Entitled Projects	2031	0.00	0.13	0.46	0.53	0.53	0.53	0.54
N/A	8020 Kingbird Ct.	Single family	Approved or Entitled Projects	2031	0.00	0.13	0.46	0.53	0.53	0.53	0.54
N/A	8008 Kingbird Ct.	Single family	Approved or Entitled Projects	2031	0.00	0.13	0.46	0.53	0.53	0.53	0.54
N/A	8014 Kingbird Ct.	Single family	Approved or Entitled Projects	2031	0.00	0.13	0.46	0.53	0.53	0.53	0.54
N/A	8025 Kingbird Ct.	Single family	Approved or Entitled Projects	2031	0.00	0.13	0.46	0.53	0.53	0.53	0.54
N/A	8019 Kingbird Ct.	Single family	Approved or Entitled Projects	2031	0.00	0.13	0.46	0.53	0.53	0.53	0.54
N/A	8013 Kingbird Ct.	Single family	Approved or Entitled Projects	2031	0.00	0.13	0.46	0.53	0.53	0.53	0.54
N/A	2500 Vineyard Ave.	Single family	Approved or Entitled Projects	2031	0.00	0.40	1.38	1.58	1.59	1.60	1.62
N/A	375 Sycamore Rd.	Single family	Approved or Entitled Projects	2031	0.00	0.40	1.38	1.58	1.59	1.60	1.62
N/A	Stoneridge Shopping Center surface parking lots	Attached Appartment	Housing Element Update Carryover 5th Cycle	2031	0.00	38.89	135.07	154.62	155.65	156.93	158.21
N/A	BART Surface Parking Lot	Attached Appartment	Housing Element Update Carryover 5th Cycle	2031	0.00	24.22	84.11	96.29	96.93	97.72	98.52
N/A	Office buildings, surface parking	Single family	Housing Element Update Carryover 5th Cycle	2031	0.00	11.00	38.22	43.75	44.04	44.40	44.77
N/A	Industrial complex, surface parking	Attached Appartment	Housing Element Update Carryover 5th Cycle	2045	0.00	13.16	45.71	52.33	79.01	112.86	147.24
N/A	Parking lot	Attached Appartment	Housing Element Update Carryover 5th Cycle	2045	0.00	6.44	22.38	25.62	38.69	55.26	72.09
N/A	Vacant	Single family	Housing Element Update Carryover 5th Cycle	2045	0.00	0.19	0.67	0.77	1.16	1.65	2.16
N/A	Vacant	Single family	Housing Element Update Carryover 5th Cycle	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Single-Family Residence w. pool	Single family	Housing Element Update Carryover 5th Cycle	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Single-Family Residence w. pool	Single family	Housing Element Update Carryover 5th Cycle	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Single-Family Residence	Single family	Housing Element Update Carryover 5th Cycle	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Single-family residence	Single family	Housing Element Update Carryover 5th Cycle	2045	0.00	1.45	5.02	5.75	8.68	12.40	16.18
N/A	Vacant	Single family	Housing Element Update Carryover 5th Cycle	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Housing Element Update Carryover 5th Cycle	2045	0.00	0.48	1.67	1.92	2.89	4.13	5.39
N/A	Vacant	Single family	Housing Element Update Carryover 5th Cycle	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Single-Family Residence	Single family	Housing Element Update Carryover 5th Cycle	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	ADUs (Additional Growth)	Accessory Dwelling Units (ADU)	ADUs (Additional Growth)	2045	0.00	1.64	5.69	6.52	9.84	14.06	18.34
N/A	ADUs (Additional Growth)	Accessory Dwelling Units (ADU)	ADUs (Additional Growth)	2031	0.00	4.60	15.96	18.27	18.39	18.55	18.70
N/A	Vacant	single-family attached or apartments	Growth From Existing Zoning	2031	0.00	0.35	1.23	1.41	1.41	1.43	1.44
N/A	Commercial building, surface parking	single-family attached or apartments	Growth From Existing Zoning	2031	0.00	0.22	0.77	0.88	0.88	0.89	0.90
N/A	Commercial building, surface parking	single-family attached or apartments	Growth From Existing Zoning	2031	0.00	1.68	5.83	6.68	6.72	6.78	6.83
N/A	Parking lot	single-family attached or apartments	Growth From Existing Zoning	2031	0.00	0.35	1.23	1.41	1.41	1.43	1.44
N/A	Bank, surface parking	single-family attached or apartments	Growth From Existing Zoning	2031	0.00	1.02	3.53	4.04	4.07	4.10	4.14

No	Name	Housing Type	Project Phase	Horizon Year	2023	2025	2030	2031	2035	2040	2045
N/A	Commercial buildings, surface parking lot	single-family attached or apartments	Growth From Existing Zoning	2031	0.00	0.22	0.77	0.88	0.88	0.89	0.90
N/A	Commercial building, surface parking	single-family attached or apartments	Growth From Existing Zoning	2031	0.00	1.33	4.60	5.27	5.31	5.35	5.39
N/A	Commercial building, surface parking	single-family attached or apartments	Growth From Existing Zoning	2031	0.00	0.13	0.46	0.53	0.53	0.53	0.54
N/A	Commercial buildings/offices, surface parking lot	single-family attached or apartments	Growth From Existing Zoning	2031	0.00	0.22	0.77	0.88	0.88	0.89	0.90
N/A	Commercial building w. interior parking	single-family attached or apartments	Growth From Existing Zoning	2031	0.00	0.44	1.53	1.76	1.77	1.78	1.80
N/A	Offices, surface parking	single-family attached or apartments	Growth From Existing Zoning	2031	0.00	0.57	2.00	2.28	2.30	2.32	2.34
N/A	Auto dealership, surface parking	single-family attached or apartments	Growth From Existing Zoning	2031	0.00	0.80	2.76	3.16	3.18	3.21	3.24
N/A	Commercial building, surface parking	single-family attached or apartments	Growth From Existing Zoning	2031	0.00	0.80	2.76	3.16	3.18	3.21	3.24
N/A	Vacant	single-family attached or apartments	Growth From Existing Zoning	2031	0.00	1.99	6.91	7.91	7.96	8.02	8.09
N/A	Funeral home, surface parking	single-family attached or apartments	Growth From Existing Zoning	2031	0.00	1.55	5.37	6.15	6.19	6.24	6.29
N/A	Vacant	Attached Appartment	Growth From Existing Zoning	2031	0.00	2.56	8.90	10.19	10.26	10.34	10.43
N/A	Commercial buildings, surface parking	single-family attached or apartments	Growth From Existing Zoning	2031	0.00	1.46	5.07	5.80	5.84	5.88	5.93
N/A	Restaurant	Single family	Growth From Existing Zoning	2031	0.00	0.66	2.30	2.64	2.65	2.67	2.70
N/A	Commercial building, surface parking	single-family attached or apartments	Growth From Existing Zoning	2031	0.00	1.10	3.84	4.39	4.42	4.46	4.49
N/A	Single-family residences (2 units), surface parking lot	Single family	Growth From Existing Zoning	2031	0.00	0.66	2.30	2.64	2.65	2.67	2.70
N/A	Vacant	Attached Appartment	Growth From Existing Zoning	2031	0.00	3.89	13.51	15.46	15.56	15.69	15.82
N/A	Commercial building, surface parking	Attached Appartment	Growth From Existing Zoning	2031	0.00	6.05	21.03	24.07	24.23	24.43	24.63
N/A	Commercial parking lot	Single family	Growth From Existing Zoning	2031	0.00	0.40	1.38	1.58	1.59	1.60	1.62
N/A	Commercial/Restaurant/Bar	Single family	Growth From Existing Zoning	2031	0.00	0.27	0.92	1.05	1.06	1.07	1.08
N/A	Vacant	Single family	Growth From Existing Zoning	2031	0.00	0.66	2.30	2.64	2.65	2.67	2.70
N/A	Vacant	single-family attached or apartments	Growth From Existing Zoning	2031	0.00	0.80	2.76	3.16	3.18	3.21	3.24
N/A	Offices, surface parking	Single family	Growth From Existing Zoning	2031	0.00	0.53	1.84	2.11	2.12	2.14	2.16
N/A	Commercial buildings, surface parking	Single family	Growth From Existing Zoning	2031	0.00	0.53	1.84	2.11	2.12	2.14	2.16
N/A	Commercial/industrial property	Single family	Growth From Existing Zoning	2031	0.00	0.40	1.38	1.58	1.59	1.60	1.62
N/A	Vacant	single-family attached or apartments	Growth From Existing Zoning	2031	0.00	0.88	3.07	3.51	3.54	3.57	3.60
N/A	Restaurant, surface parking	Single family	Growth From Existing Zoning	2031	0.00	0.53	1.84	2.11	2.12	2.14	2.16
N/A	Local Market and surface parking	Single family	Growth From Existing Zoning	2031	0.00	0.53	1.84	2.11	2.12	2.14	2.16
N/A	Commercial building, surface parking	Single family	Growth From Existing Zoning	2031	0.00	0.66	2.30	2.64	2.65	2.67	2.70
N/A	Bank, surface parking	Single family	Growth From Existing Zoning	2031	0.00	0.66	2.30	2.64	2.65	2.67	2.70
N/A	Restaurant/Bar and surface parking	single-family attached or apartments	Growth From Existing Zoning	2031	0.00	0.57	2.00	2.28	2.30	2.32	2.34
N/A	Vacant	single-family attached or apartments	Growth From Existing Zoning	2031	0.00	1.10	3.84	4.39	4.42	4.46	4.49
N/A	Commercial buildings, surface parking lot	single-family attached or apartments	Growth From Existing Zoning	2031	0.00	0.22	0.77	0.88	0.88	0.89	0.90
N/A	Multi-family housing (4 units) and surface parking	Single family	Growth From Existing Zoning	2031	0.00	0.40	1.38	1.58	1.59	1.60	1.62
N/A	Single-family residence	Single family	Growth From Existing Zoning	2031	0.00	0.93	3.22	3.69	3.71	3.74	3.78
N/A	Offices, surface parking lot	Single family	Growth From Existing Zoning	2045	0.00	0.34	1.17	1.34	2.03	2.89	3.78
N/A	Bank, surface parking	single-family attached or apartments	Growth From Existing Zoning	2045	0.00	0.29	1.00	1.15	1.74	2.48	3.24
N/A	Single-family residence	Single family	Growth From Existing Zoning	2045	0.00	0.19	0.67	0.77	1.16	1.65	2.16
N/A	Single-family residence	Single family	Growth From Existing Zoning	2045	0.00	0.24	0.84	0.96	1.45	2.07	2.70
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0.00	0.14	0.50	0.58	0.87	1.24	1.62
N/A	Single-Family Residence w. pool	Single family	Growth From Existing Zoning	2045	0.00	0.14	0.50	0.58	0.87	1.24	1.62
N/A	Single-family residence	Single family	Growth From Existing Zoning	2045	0.00	0.19	0.67	0.77	1.16	1.65	2.16
N/A	Single-family residence	Single family	Growth From Existing Zoning	2045	0.00	0.19	0.67	0.77	1.16	1.65	2.16
N/A	Single-family residence	Single family	Growth From Existing Zoning	2045	0.00	0.19	0.67	0.77	1.16	1.65	2.16
N/A	Single-family homes	Single family	Growth From Existing Zoning	2045	0.00	0.24	0.84	0.96	1.45	2.07	2.70
N/A	Single-family residence	Single family	Growth From Existing Zoning	2045	0.00	0.24	0.84	0.96	1.45	2.07	2.70
N/A	Church, preschool, surface parking	single-family attached or apartments	Growth From Existing Zoning	2045	0.00	1.77	6.14	7.03	10.61	15.16	19.78
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.14	0.50	0.58	0.87	1.24	1.62
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Offices	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Restaurant, surface parking	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0.00	0.10	0.33	0.38	0.58	0.83	1.08
N/A	Restaurant/Bar	Single family	Growth From Existing Zoning	2045	0.00	0.10	0.33	0.38	0.58	0.83	1.08
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0.00	0.10	0.33	0.38	0.58	0.83	1.08
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0.00	0.10	0.33	0.38	0.58	0.83	1.08
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Office, surface parking	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Single-family residence	Single family	Growth From Existing Zoning	2045	0.00	0.14	0.50	0.58	0.87	1.24	1.62
N/A	Office, surface parking	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Single-Family Residence, surface parking	Single family	Growth From Existing Zoning	2045	0.00	0.14	0.50	0.58	0.87	1.24	1.62
N/A	Commercial building, surface parking	Single family	Growth From Existing Zoning	2045	0.00	0.14	0.50	0.58	0.87	1.24	1.62
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Multi-family residence (3 units), surface parking	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0.00	0.14	0.50	0.58	0.87	1.24	1.62
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54

No	Name	Housing Type	Project Phase	Horizon Year	2023	2025	2030	2031	2035	2040	2045
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Office, surface parking	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0.00	0.10	0.33	0.38	0.58	0.83	1.08
N/A	Single-family homes	Single family	Growth From Existing Zoning	2045	0.00	0.10	0.33	0.38	0.58	0.83	1.08
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0.00	0.10	0.33	0.38	0.58	0.83	1.08
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0.00	0.14	0.50	0.58	0.87	1.24	1.62
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Single-Family Residence w. pool	Single family	Growth From Existing Zoning	2045	0.00	0.24	0.84	0.96	1.45	2.07	2.70
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.10	0.33	0.38	0.58	0.83	1.08
N/A	Single-family residence	Single family	Growth From Existing Zoning	2045	0.00	0.24	0.84	0.96	1.45	2.07	2.70
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Board and care home on large otherwise undeveloped lot	Single family	Growth From Existing Zoning	2045	0.00	0.14	0.50	0.58	0.87	1.24	1.62
N/A	Nursery	Single family	Growth From Existing Zoning	2045	0.00	0.43	1.51	1.73	2.60	3.72	4.85
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Single-Family Residence, rural	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Single-Family Residence w. pool	Single family	Growth From Existing Zoning	2045	0.00	0.14	0.50	0.58	0.87	1.24	1.62
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54

No	Name	Housing Type	Project Phase	Horizon Year	2023	2025	2030	2031	2035	2040	2045
N/A	Single-family residence	Single family	Growth From Existing Zoning	2045	0.00	0.24	0.84	0.96	1.45	2.07	2.70
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0.00	0.10	0.33	0.38	0.58	0.83	1.08
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.10	0.33	0.38	0.58	0.83	1.08
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Driveway for church property	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Single-Family Residence w. pool	Single family	Growth From Existing Zoning	2045	0.00	0.10	0.33	0.38	0.58	0.83	1.08
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0.00	0.10	0.33	0.38	0.58	0.83	1.08
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0.00	0.10	0.33	0.38	0.58	0.83	1.08
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0.00	0.10	0.33	0.38	0.58	0.83	1.08
N/A	Single-Family Residence w. pool	Single family	Growth From Existing Zoning	2045	0.00	0.10	0.33	0.38	0.58	0.83	1.08
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0.00	0.10	0.33	0.38	0.58	0.83	1.08
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0.00	0.10	0.33	0.38	0.58	0.83	1.08
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0.00	0.10	0.33	0.38	0.58	0.83	1.08
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0.00	0.14	0.50	0.58	0.87	1.24	1.62
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0.00	0.10	0.33	0.38	0.58	0.83	1.08
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0.00	0.10	0.33	0.38	0.58	0.83	1.08
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0.00	0.10	0.33	0.38	0.58	0.83	1.08
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0.00	0.10	0.33	0.38	0.58	0.83	1.08
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.14	0.50	0.58	0.87	1.24	1.62
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0.00	0.10	0.33	0.38	0.58	0.83	1.08
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0.00	0.10	0.33	0.38	0.58	0.83	1.08
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0.00	0.10	0.33	0.38	0.58	0.83	1.08
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	0.00	0.10	0.33	0.38	0.58	0.83	1.08
N/A	Single-Family Residence w. pool	Single family	Growth From Existing Zoning	2045	0.00	0.14	0.50	0.58	0.87	1.24	1.62
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.05	0.17	0.19	0.29	0.41	0.54
N/A	Single-family residence	Single family	Growth From Existing Zoning	2045	0.00	0.19	0.67	0.77	1.16	1.65	2.16
N/A	Vacant	Single family	Growth From Existing Zoning	2045	0.00	0.14	0.50	0.58	0.87	1.24	1.62
N/A	Single-Family Residence w. pool	Single family	Growth From Existing Zoning	2045	0.00	0.14	0.50	0.58	0.87	1.24	1.62
		Totals			**0.00**	**994.62**	**3,454.70**	**3,954.79**	**4,056.00**	**4,183.91**	**4,313.36**

					Total Recycled Annual Water Demand for Sites 6, 7, 8, 29 (AFY)						
No	Name	Housing Type	Project Phase	Horizon Year	2023	2025	2030	2031	2035	2040	2045
1	Lester	Single family detached	Housing Element Update 6th Cycle	2031	-	-	-	-	-	-	-
2	Stoneridge Shopping Center	Attached Appartment	Housing Element Update 6th Cycle	2031	-	-	-	-	-	-	-
3	PUSD-Donion	Single family detached	Housing Element Update 6th Cycle	2031	-	-	-	-	-	-	-
4	Owens (Motel 6 and Tommy T)	Attached Appartment	Housing Element Update 6th Cycle	2031	-	-	-	-	-	-	-
5	Laborers Council	Attached Appartment	Housing Element Update 6th Cycle	2031	-	-	-	-	-	-	-
6	Signature Center	Attached Appartment	Housing Element Update 6th Cycle	2031	0.00	3.28	11.40	13.05	13.13	13.24	13.35
7	Hacienda Terrace	Attached Appartment	Housing Element Update 6th Cycle	2031	0.00	0.60	2.07	2.37	2.39	2.41	2.43
8	Muslim Community Center	Single-family attached or apartments	Housing Element Update 6th Cycle	2031	0.00	1.05	3.65	4.18	4.21	4.24	4.27
9	Metro 580	Attached Appartment	Housing Element Update 6th Cycle	2031	-	-	-	-	-	-	-
11	Old Santa Rita Area	Attached Appartment	Housing Element Update 6th Cycle	2031	-	-	-	-	-	-	-
12	Pimlico Area (North)	Attached Appartment	Housing Element Update 6th Cycle	2031	-	-	-	-	-	-	-
14	St. Elizabeth Seton	single-family attached or apartments	Housing Element Update 6th Cycle	2031	-	-	-	-	-	-	-
15	Rheem Drive Area (Southwest Side)	Single family detached or attached	Housing Element Update 6th Cycle	2031	-	-	-	-	-	-	-
16	Tri-Valley Inn	single-family attached or apartments	Housing Element Update 6th Cycle	2031	-	-	-	-	-	-	-
18	Valley Plaza	Attached Appartment	Housing Element Update 6th Cycle	2031	-	-	-	-	-	-	-
19	Black Avenue	single-family attached or apartments	Housing Element Update 6th Cycle	2031	-	-	-	-	-	-	-
20	Boulder Court	Attached Appartment	Housing Element Update 6th Cycle	2031	-	-	-	-	-	-	-
21.a	Kiewit	Attached Appartment	Housing Element Update 6th Cycle	2031	-	-	-	-	-	-	-
21.b	Kiewit	Single family detached or attached	Housing Element Update 6th Cycle	2031	-	-	-	-	-	-	-
22	Merritt	Single family	Housing Element Update 6th Cycle	2031	-	-	-	-	-	-	-
23	Sunol Boulevard Properties	Attached Appartment	Housing Element Update 6th Cycle	2031	-	-	-	-	-	-	-
24	Sonoma Drive area	single-family attached or apartments	Housing Element Update 6th Cycle	2031	-	-	-	-	-	-	-
25	PUSD-District	single-family attached or apartments	Housing Element Update 6th Cycle	2031	-	-	-	-	-	-	-
26	St. Augustine	Single family detached	Housing Element Update 6th Cycle	2031	-	-	-	-	-	-	-
27	PUSD-Vineyard	Single family detached	Housing Element Update 6th Cycle	2031	-	-	-	-	-	-	-
29	Oracle	Attached Appartment	Housing Element Update 6th Cycle	2031	0.00	1.68	5.83	6.67	6.72	6.77	6.83
N/A	BART Surface Parking Lot	Attached Appartment	Housing Element Update 6th Cycle	2031	-	-	-	-	-	-	-
N/A	ADUs	Accessory Dwelling Units (ADU)	Housing Element Update 6th Cycle	2031	-	-	-	-	-	-	-
N/A	1500 Lund Ranch Rd.	Single family	Approved or Entitled Projects	2031	-	-	-	-	-	-	-
N/A	1000 Minnie St.	Single family	Approved or Entitled Projects	2031	-	-	-	-	-	-	-
N/A	1000 Minnie St.	Attached Appartment	Approved or Entitled Projects	2031	-	-	-	-	-	-	-
N/A	2188 Foothill Rd.	Single family	Approved or Entitled Projects	2031	-	-	-	-	-	-	-
N/A	990 Sycamore Rd.	Single family	Approved or Entitled Projects	2031	-	-	-	-	-	-	-
N/A	N/A (The Residence at California Center)	Attached Appartment	Approved or Entitled Projects	2031	-	-	-	-	-	-	-
N/A	8026 Kingbird Ct.	Single family	Approved or Entitled Projects	2031	-	-	-	-	-	-	-
N/A	8032 Kingbird Ct.	Single family	Approved or Entitled Projects	2031	-	-	-	-	-	-	-
N/A	8020 Kingbird Ct.	Single family	Approved or Entitled Projects	2031	-	-	-	-	-	-	-
N/A	8008 Kingbird Ct.	Single family	Approved or Entitled Projects	2031	-	-	-	-	-	-	-
N/A	8014 Kingbird Ct.	Single family	Approved or Entitled Projects	2031	-	-	-	-	-	-	-
N/A	8025 Kingbird Ct.	Single family	Approved or Entitled Projects	2031	-	-	-	-	-	-	-
N/A	8019 Kingbird Ct.	Single family	Approved or Entitled Projects	2031	-	-	-	-	-	-	-
N/A	8013 Kingbird Ct.	Single family	Approved or Entitled Projects	2031	-	-	-	-	-	-	-
N/A	2500 Vineyard Ave.	Single family	Approved or Entitled Projects	2031	-	-	-	-	-	-	-
N/A	375 Sycamore Rd.	Single family	Approved or Entitled Projects	2031	-	-	-	-	-	-	-
N/A	Stoneridge Shopping Center surface parking lots	Attached Appartment	Housing Element Update Carryover 5th Cycle	2031	-	-	-	-	-	-	-
N/A	BART Surface Parking Lot	Attached Appartment	Housing Element Update Carryover 5th Cycle	2031	-	-	-	-	-	-	-
N/A	Office buildings, surface parking	Single family	Housing Element Update Carryover 5th Cycle	2031	-	-	-	-	-	-	-
N/A	Industrial complex, surface parking	Attached Appartment	Housing Element Update Carryover 5th Cycle	2045	-	-	-	-	-	-	-
N/A	Parking lot	Attached Appartment	Housing Element Update Carryover 5th Cycle	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Housing Element Update Carryover 5th Cycle	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Housing Element Update Carryover 5th Cycle	2045	-	-	-	-	-	-	-
N/A	Single-Family Residence w. pool	Single family	Housing Element Update Carryover 5th Cycle	2045	-	-	-	-	-	-	-
N/A	Single-Family Residence w. pool	Single family	Housing Element Update Carryover 5th Cycle	2045	-	-	-	-	-	-	-
N/A	Single-Family Residence	Single family	Housing Element Update Carryover 5th Cycle	2045	-	-	-	-	-	-	-
N/A	Single-family residence	Single family	Housing Element Update Carryover 5th Cycle	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Housing Element Update Carryover 5th Cycle	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Housing Element Update Carryover 5th Cycle	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Housing Element Update Carryover 5th Cycle	2045	-	-	-	-	-	-	-
N/A	Single-Family Residence	Single family	Housing Element Update Carryover 5th Cycle	2045	-	-	-	-	-	-	-
N/A	ADUs (Additional Growth)	Accessory Dwelling Units (ADU)	ADUs (Additional Growth)	2045	-	-	-	-	-	-	-
N/A	ADUs (Additional Growth)	Accessory Dwelling Units (ADU)	ADUs (Additional Growth)	2031	-	-	-	-	-	-	-
N/A	Vacant	single-family attached or apartments	Growth From Existing Zoning	2031	-	-	-	-	-	-	-
N/A	Commercial building, surface parking	single-family attached or apartments	Growth From Existing Zoning	2031	-	-	-	-	-	-	-
N/A	Commercial building, surface parking	single-family attached or apartments	Growth From Existing Zoning	2031	-	-	-	-	-	-	-
N/A	Parking lot	single-family attached or apartments	Growth From Existing Zoning	2031	-	-	-	-	-	-	-
N/A	Bank, surface parking	single-family attached or apartments	Growth From Existing Zoning	2031	-	-	-	-	-	-	-

No	Name	Housing Type	Project Phase	Horizon Year	2023	2025	2030	2031	2035	2040	2045
N/A	Commercial buildings, surface parking lot	single-family attached or apartments	Growth From Existing Zoning	2031	-	-	-	-	-	-	-
N/A	Commercial building, surface parking	single-family attached or apartments	Growth From Existing Zoning	2031	-	-	-	-	-	-	-
N/A	Commercial building, surface parking	single-family attached or apartments	Growth From Existing Zoning	2031	-	-	-	-	-	-	-
N/A	Commercial buildings/offices, surface parking lot	single-family attached or apartments	Growth From Existing Zoning	2031	-	-	-	-	-	-	-
N/A	Commercial building w. interior parking	single-family attached or apartments	Growth From Existing Zoning	2031	-	-	-	-	-	-	-
N/A	Offices, surface parking	single-family attached or apartments	Growth From Existing Zoning	2031	-	-	-	-	-	-	-
N/A	Auto dealership, surface parking	single-family attached or apartments	Growth From Existing Zoning	2031	-	-	-	-	-	-	-
N/A	Commercial building, surface parking	single-family attached or apartments	Growth From Existing Zoning	2031	-	-	-	-	-	-	-
N/A	Vacant	single-family attached or apartments	Growth From Existing Zoning	2031	-	-	-	-	-	-	-
N/A	Funeral home, surface parking	single-family attached or apartments	Growth From Existing Zoning	2031	-	-	-	-	-	-	-
N/A	Vacant	Attached Appartment	Growth From Existing Zoning	2031	-	-	-	-	-	-	-
N/A	Commercial buildings, surface parking	single-family attached or apartments	Growth From Existing Zoning	2031	-	-	-	-	-	-	-
N/A	Restaurant	Single family	Growth From Existing Zoning	2031	-	-	-	-	-	-	-
N/A	Commercial building, surface parking	single-family attached or apartments	Growth From Existing Zoning	2031	-	-	-	-	-	-	-
N/A	Single-family residences (2 units), surface parking lot	Single family	Growth From Existing Zoning	2031	-	-	-	-	-	-	-
N/A	Vacant	Attached Appartment	Growth From Existing Zoning	2031	-	-	-	-	-	-	-
N/A	Commercial building, surface parking	Attached Appartment	Growth From Existing Zoning	2031	-	-	-	-	-	-	-
N/A	Commercial parking lot	Single family	Growth From Existing Zoning	2031	-	-	-	-	-	-	-
N/A	Commercial/Restaurant/Bar	Single family	Growth From Existing Zoning	2031	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2031	-	-	-	-	-	-	-
N/A	Vacant	single-family attached or apartments	Growth From Existing Zoning	2031	-	-	-	-	-	-	-
N/A	Offices, surface parking	Single family	Growth From Existing Zoning	2031	-	-	-	-	-	-	-
N/A	Commercial buildings, surface parking	Single family	Growth From Existing Zoning	2031	-	-	-	-	-	-	-
N/A	Commercial/industrial property	Single family	Growth From Existing Zoning	2031	-	-	-	-	-	-	-
N/A	Vacant	single-family attached or apartments	Growth From Existing Zoning	2031	-	-	-	-	-	-	-
N/A	Restaurant, surface parking	Single family	Growth From Existing Zoning	2031	-	-	-	-	-	-	-
N/A	Local Market and surface parking	Single family	Growth From Existing Zoning	2031	-	-	-	-	-	-	-
N/A	Commercial building, surface parking	Single family	Growth From Existing Zoning	2031	-	-	-	-	-	-	-
N/A	Bank, surface parking	Single family	Growth From Existing Zoning	2031	-	-	-	-	-	-	-
N/A	Restaurant/Bar and surface parking	single-family attached or apartments	Growth From Existing Zoning	2031	-	-	-	-	-	-	-
N/A	Vacant	single-family attached or apartments	Growth From Existing Zoning	2031	-	-	-	-	-	-	-
N/A	Commercial buildings, surface parking lot	single-family attached or apartments	Growth From Existing Zoning	2031	-	-	-	-	-	-	-
N/A	Multi-family housing (4 units) and surface parking	Single family	Growth From Existing Zoning	2031	-	-	-	-	-	-	-
N/A	Single-family residence	Single family	Growth From Existing Zoning	2031	-	-	-	-	-	-	-
N/A	Offices, surface parking lot	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Bank, surface parking	single-family attached or apartments	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-family residence	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-family residence	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-Family Residence w. pool	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-family residence	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-family residence	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-family residence	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-family homes	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-family residence	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Church, preschool, surface parking	single-family attached or apartments	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Offices	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Restaurant, surface parking	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Restaurant/Bar	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Office, surface parking	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-family residence	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Office, surface parking	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-Family Residence, surface parking	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Commercial building, surface parking	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Multi-family residence (3 units), surface parking	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-

No	Name	Housing Type	Project Phase	Horizon Year	2023	2025	2030	2031	2035	2040	2045
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Office, surface parking	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-family homes	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-Family Residence w. pool	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-family residence	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Board and care home on large otherwise undeveloped lot	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Nursery	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-Family Residence, rural	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-Family Residence w. pool	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-

No	Name	Housing Type	Project Phase	Horizon Year	2023	2025	2030	2031	2035	2040	2045
N/A	Single-family residence	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Driveway for church property	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-Family Residence w. pool	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-Family Residence w. pool	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-Family Residence	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-Family Residence w. pool	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-family residence	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Vacant	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
N/A	Single-Family Residence w. pool	Single family	Growth From Existing Zoning	2045	-	-	-	-	-	-	-
		Totals			0.00	6.61	22.94	26.27	26.44	26.66	26.88

Appendix E

Sites with Additional Growth

APN	Zoning	General Plan[1]	Parcel Size	Site (size)	Vacant/Existing Use	Year Built	Unit Dev. Potential[2]	FAR Dev. Potential[2]	5th Cycle Site[3]	Income Category	Units (max)	Units (realistic, net)	Lower	Moderate	Above Moderate	Other	Unit Type (per WSA Categories)	Persons Per Household	Population	Rounded Up Population
094 010400300	C-C	Commercial	0.13	A (1.3 acres)	Vacant	0				Lower	6	3	3			This is a site with APN 094 010401200 to meet size requirement for Lower income	MDR	2.48	7.44	8
094 010400803	C-C	Commercial	0.28	A (1.3 acres)	Commercial building, surface parking	1956	4.1	11.9		Lower	12	2	2			This is a site with APN 094 010401200 to meet size requirement for Lower income	MDR	2.48	4.96	5
094 010401200	C-C	Commercial	0.87	A (1.3 acres)	Commercial building, surface parking	0				Lower	38	15	15			This is a site with APNs 094 010400803 and 094 010400300	MDR	2.48	37.2	38
094 012202300	C-C	Commercial	0.16	B (0.73 acres)	Parking lot	0				Lower	7	3	3			This is a site with APN 094 012200103 to meet size requirement for Lower income	MDR	2.48	7.44	8
094 012200103	C-C	Commercial	0.57	B (0.73 acres)	Bank, surface parking	0	24.6			Lower	25	9	9			This is a site with APN 094 012202300	MDR	2.48	22.32	23
094 011004900	C-C	Commercial	0.19	C (0.93 acres)	Commercial buildings, surface parking lot	1900	8.4	10.3		Lower	8	2	2			This is a site with APN 094 011005000 to be meet size requirement for Lower income	MDR	2.48	4.96	5
094 011005000	C-C	Commercial	0.74	C (0.93 acres)	Commercial building, surface parking	0	32.3	7.9		Lower	32	12	12			This is a site with APN 094 011004900	MDR	2.48	29.76	30
094 015700104	C-C	Commercial	0.28	D (0.63 acres)	Commercial building, surface parking	0	3.1	9.9		Lower	12	1	1			This is a site with APN 094 015700112 to meet size requirement for Lower income	MDR	2.48	2.48	3
094 015700112	C-C	Commercial	0.35	D (0.63 acres)	Commercial buildings/offices, surface parking lot	0	3.8	3.3		Lower	15	2	2			This is a site with APN 094 015700104 to be meet size requirement for Lower income	MDR	2.48	4.96	5
094 015100805	C-C	Commercial	0.32	E (0.97 acres)	Commercial building w. interior parking	0	7.0	1.9		Lower	14	4	4			This is a site with APN 094 015100806 to meet size requirement for Lower income	MDR	2.48	9.92	10
094 015100806	MU-T	MixedUse	0.64	E (0.97 acres)	Offices, surface parking	0	4.7	1.6		Lower	28	5	5			This is a site with APN 094 015100805	MDR	2.48	12.4	13
094 010600404	C-C	Commercial	0.55		Auto dealership, surface parking	1952	11.9	6.5		Lower	24	7	7				MDR	2.48	17.36	18
946 337001900	C-C	Commercial	0.63		Commercial building, surface parking	1979	6.8	13.6		Lower	27	7	7				MDR	2.48	17.36	18
094 010701004	C-C	Commercial	0.70		Vacant	0				Lower	30	18	18				MDR	2.48	44.64	45
094 011005101	C-C	Commercial	0.79		Funeral home, surface parking	0				Lower	34	14	14				MDR	2.48	34.72	35
946 110004400	C-C	Commercial	0.99		Vacant	0				Lower	43	26	26				HDR	2.2	57.2	58
094 010200804	C-C	Commercial	1.05		Commercial buildings, surface parking	1979	9.1	10.1		Lower	46	13	13				MDR	2.48	32.24	33
094 011400700	C-C	Commercial	1.05		Restaurant	0	45.9	73.3		Lower	46	5	5				LDR	2.99	14.95	15
094 011001411	C-C	Commercial	1.11		Commercial building, surface parking	0	5.4	11.2		Lower	48	10	10				MDR	2.48	24.8	25
094 011400800	C-C	Commercial	1.24		Single-family residences (2 units), surface parking lot	1887	27.0	17.1		Lower	54	5	5				LDR	2.99	14.95	15
094 011004503	C-C	Commercial	1.52		Vacant	0				Lower	66	40	40				HDR	2.2	88	88
946 110004300	C-C	Commercial	3.62		Commercial building, surface parking	0	157.8	10.2		Lower	158	62	62				HDR	2.2	136.4	137
941 120109403	C-R (m)/PUD-MU	Commercial/MixedUse	28.63	Only 10 acres zoned for residential	Stoneridge Shopping Center surface parking lots	1981			YES	Lower	400	400	88		312	Only 10 acres zoned for residential (parking lots); 40 du/a min.; also rezone site	HDR	2.2	880	880
941 120105203	PUD-MU	Commercial	6.06		Parking lot	0			YES	Lower	182	182	182			Kaiser parking lot; 30 du/a min.	HDR	2.2	400.4	401
941 277101500	PUD-MU	MixedUseBusinessPark	6.93		BART surface parking lot	0			YES	Lower	208	259	259			BART parcel, per AB 2923 min. 75 du/a, 37 du/a assumed	HDR	2.2	569.8	570
941 277800200	PUD-MU	MixedUseBusinessPark	7.97		BART surface parking lot	0			YES	Lower	239	296	296			BART parcel, per AB 2923 min. 75 du/a, 37 du/a assumed	HDR	2.2	651.2	652
094 015200800	C-C	Commercial	0.16		Commercial parking lot	0				Moderate	7	3		3			LDR	2.99	8.97	9
094 015701100	C-C	Commercial	0.17		Commercial/Restaurant/Bar	1930	7.2	1.9		Moderate	7	2		2			LDR	2.99	5.98	6
094 015701000	C-C	Commercial	0.17		Vacant	0				Moderate	8	5		5			LDR	2.99	14.95	15
094 019900107	C-C	Commercial	0.26		Vacant	0				Moderate	11	7		7			MDR	2.48	17.36	18
946 337001300	C-C	Commercial	0.27		Offices, surface parking	0	11.6	4.0		Moderate	12	4		4			LDR	2.99	11.96	12
094 012200300	C-C	Commercial	0.28		Commercial buildings, surface parking	0	12.3	4.0		Moderate	12	4		4			LDR	2.99	11.96	12
094 010400100	C-C	Commercial	0.29		Commercial/industrial property	1916	6.3	12.9		Moderate	13	3		3			LDR	2.99	8.97	9
946 168000500	C-C	Commercial	0.31		Vacant	0				Moderate	13	8		8			MDR	2.48	19.84	20
094 015200401	C-C	Commercial	0.31		Restaurant, surface parking	1977	13.4	10.2		Moderate	13	4		4			LDR	2.99	11.96	12
094 010600306	C-C	Commercial	0.34		Local Market and surface parking	0	7.3	10.0		Moderate	15	4		4			LDR	2.99	11.96	12
094 010701700	C-C	Commercial	0.34		Commercial building, surface parking	1951	14.7	4.1		Moderate	15	5		5			LDR	2.99	14.95	15
094 015100102	C-C	Commercial	0.35		Bank, surface parking	1971	15.3	10.8		Moderate	15	5		5			LDR	2.99	14.95	15
094 010200101	C-C	Commercial	0.35		Restaurant/Bar and surface parking	1968	15.3	14.7		Moderate	15	5		5			MDR	2.48	12.4	13
946 168901500	C-C	Commercial	0.39		Vacant	0				Moderate	17	10		10			MDR	2.48	24.8	25
094 015100300	C-C	Commercial	0.41		Commercial buildings, surface parking lot	1910	3.6	8.1		Moderate	18	2		2			MDR	2.48	4.96	5
094 011003300	C-C	Commercial	0.42		Multi-family housing (4 units) and surface parking	1955	4.6	12.4		Moderate	18	3		3			LDR	2.99	8.97	9
094 011001907	C-C	Commercial	0.44		Single-family residence	1915	19.3	57.3		Moderate	19	7		7			LDR	2.99	20.93	21
094 010600308	C-C	Commercial	0.47		Offices, surface parking lot	0	20.6	14.9		Moderate	21	7		7			LDR	2.99	20.93	21
094 015700119	C-C	Commercial	0.48		Bank, surface parking	0	20.8	17.1		Moderate	21	7		7			MDR	2.48	17.36	18
094 015400405	MU-T	MixedUse	0.31		Single-family residence	1900	13.6	21.7		Moderate	14	4		4			LDR	2.99	11.96	12
094 015501200	MU-T	MixedUse	0.36		Single-family residence	1900	15.6	21.4		Moderate	16	5		5			LDR	2.99	14.95	15
941 276100300	PUD-MU	MixedUseBusinessPark	33.37		Industrial complex, surface parking	2008	1001.2		YES	Moderate	372	372		372		Hacienda (Roche); 30 du/a min.; 12.4 acres vacant/available; 30 du/a min.	HDR	2.2	818.4	819
094 015300100	RM-15	HighDensity	0.26		Vacant	0			YES	Moderate	8	4		4			LDR	2.99	11.96	12
094 012703401	RM-15	HighDensity	0.27		Single-Family Residence	1922	7.8	4.0		Moderate	8	3		3			LDR	2.99	8.97	9

APN	Zoning	General Plan[1]	Parcel Size	Site (size)	Vacant/Existing Use	Year Built	Unit Dev. Potential[2]	FAR Dev. Potential[2]	5th Cycle Site[3]	Income Category	Units (max)	Units (realistic, net)	Lower	Moderate	Above Moderate	Other	Unit Type (per WSA Categories)	Persons Per Household	Population	Rounded Up Population
094 012704017	RM-15	HighDensity	0.28		Single-Family Residence w. pool	1949	8.0	5.9		Moderate	8	3		3			LDR	2.99	8.97	9
094 015300500	RM-15	HighDensity	0.31		Single-family residence	1895	8.9	3.6		Moderate	9	4		4			LDR	2.99	11.96	12
094 012705504	RM-15	HighDensity	0.34		Single-family residence	1955	9.8	3.2		Moderate	10	4		4			LDR	2.99	11.96	12
094 015101200	RM-15	HighDensity	0.37		Single-family residence	1910	10.6	5.5		Moderate	11	4		4			LDR	2.99	11.96	12
094 015102500	RM-15	HighDensity	0.39		Single-family homes	1910	11.4	6.4		Moderate	11	5		5			LDR	2.99	14.95	15
094 015102604	RM-15	HighDensity	0.41		Single-family residence	1900	11.9	3.4		Moderate	12	5		5			LDR	2.99	14.95	15
941 090706200	RM-15	HighDensity	2.98		Church, preschool, surface parking	1978	86.7	3.5		Moderate	87	44		44			MDR	2.48	109.12	110
946 455001704	A	MediumDensity	2.94		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
946 169100700	C-C	Commercial	0.10		Vacant	0				Above Moderate	4	3			3		LDR	2.99	8.97	9
946 169100800	C-C	Commercial	0.10		Single-Family Residence	1923	4.2			Above Moderate	4	1			1		LDR	2.99	2.99	3
094 010702002	C-C	Commercial	0.13		Offices	1935	5.8	5.5		Above Moderate	6	1			1		LDR	2.99	2.99	3
094 015202700	C-C	Commercial	0.13		Restaurant, surface parking	1968	5.9	6.4		Above Moderate	6	1			1		LDR	2.99	2.99	3
094 015700115	C-C	Commercial	0.16		Single-Family Residence	1951	6.8	21.0		Above Moderate	7	2			2		LDR	2.99	5.98	6
094 010400400	C-C	Commercial	0.16		Restaurant/Bar	1900	6.8	7.5		Above Moderate	7	2			2		LDR	2.99	5.98	6
094 015700117	C-C	Commercial	0.16		Single-Family Residence	1950	7.0	18.9		Above Moderate	7	2			2		LDR	2.99	5.98	6
094 010600102	C-C	Commercial	0.17		Single-Family Residence	1904	7.3	17.2		Above Moderate	7	2			2		LDR	2.99	5.98	6
094 011003600	C-C	Commercial	0.17		Single-Family Residence	1900	3.7	8.0		Above Moderate	7	1			1		LDR	2.99	2.99	3
094 010601002	C-C	Commercial	0.18		Single-Family Residence	1930	4.0	14.2		Above Moderate	8	1			1		LDR	2.99	2.99	3
094 012200600	C-C	Commercial	0.20		Office, surface parking	1930	4.4	8.6		Above Moderate	9	1			1		LDR	2.99	2.99	3
094 012202200	C-C	Commercial	0.20		Single-family residence	1940	8.8	28.6		Above Moderate	9	3			3		LDR	2.99	8.97	9
094 011004000	C-C	Commercial	0.21		Office, surface parking	2003	9.2	4.7		Above Moderate	9	1			1		LDR	2.99	2.99	3
094 011003900	C-C	Commercial	0.21		Single-Family Residence, surface parking	1940	9.2	24.0		Above Moderate	9	3			3		LDR	2.99	8.97	9
094 010600602	C-C	Commercial	0.22		Commercial building, surface parking	1900	9.4	29.7		Above Moderate	9	3			3		LDR	2.99	8.97	9
094 010701006	C-C	Commercial	0.23		Single-Family Residence	1903	3.3	6.2		Above Moderate	10	1			1		LDR	2.99	2.99	3
094 015200900	C-C	Commercial	0.23		Multi-family residence (3 units), surface parking	1900	3.4	4.4		Above Moderate	10	1			1		LDR	2.99	2.99	3
094 011003700	C-C	Commercial	0.24		Single-Family Residence	1910	10.5	30.5		Above Moderate	10	3			3		LDR	2.99	8.97	9
941 171001001	C-C	Commercial	1.18		Vacant	0				Above Moderate	51	1			1		LDR	2.99	2.99	3
094 015502203	MU-T	MixedUse	0.04		Vacant	0				Above Moderate	2	1			1		LDR	2.99	2.99	3
094 015502202	MU-T	MixedUse	0.04		Vacant	0				Above Moderate	2	1			1		LDR	2.99	2.99	3
094 015601508	MU-T	MixedUse	0.10		Office, surface parking	1915	4.3	6.6		Above Moderate	4	1			1		LDR	2.99	2.99	3
094 015400301	MU-T	MixedUse	0.10		Single-Family Residence	1948	4.5	6.9		Above Moderate	5	1			1		LDR	2.99	2.99	3
094 015400302	MU-T	MixedUse	0.12		Single-Family Residence	1948	5.0	5.5		Above Moderate	5	1			1		LDR	2.99	2.99	3
094 015501101	MU-T	MixedUse	0.14		Single-Family Residence	1895	6.3	8.5		Above Moderate	6	2			2		LDR	2.99	5.98	6
094 015501102	MU-T	MixedUse	0.18		Single-family homes	1956	7.8	2.5		Above Moderate	8	2			2		LDR	2.99	5.98	6
094 015201102	MU-T	MixedUse	0.18		Single-Family Residence	1931	7.8	5.4		Above Moderate	8	2			2		LDR	2.99	5.98	6
094 015601002	MU-T	MixedUse	0.21		Single-Family Residence	1950	9.2	9.5		Above Moderate	9	3			3		LDR	2.99	8.97	9
949 000200800	PUD-A	LowDensity	1.84		Single-Family Residence	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
950 002701800	PUD-A/OS/LDR	LowDensity	0.55		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
950 002802100	PUD-A/OS/LDR	LowDensity	0.79		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
950 002902500	PUD-A/OS/LDR	LowDensity	0.75		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
950 002802500	PUD-A/OS/LDR	LowDensity	1.27		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
941 210000900	PUD-A/RDR	RuralDensity	10.78		Vacant	0			YES	Above Moderate	1	1			1		LDR	2.99	2.99	3
946 460600400	PUD-HR/OS	PublicHealthandSafety	2.42		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
946 460600300	PUD-HR/OS	LowDensity	2.42		Single-Family Residence	0				Above Moderate	2	1			1		LDR	2.99	2.99	3
949 001703400	PUD-LDR	LowDensity	0.48		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
948 001700603	PUD-LDR	LowDensity	3.15		Single-Family Residence w. pool	1946				Above Moderate	6	5			5		LDR	2.99	14.95	15
946 114604600	PUD-LDR	LowDensity	1.67		Single-Family Residence w. pool	1977			YES	Above Moderate	2	1			1		LDR	2.99	2.99	3
946 114604700	PUD-LDR	LowDensity	1.66		Single-Family Residence w. pool	1987			YES	Above Moderate	2	1			1		LDR	2.99	2.99	3
946 457400400	PUD-LDR	LowDensity	1.01		Single-Family Residence	1961			YES	Above Moderate	1	1			1		LDR	2.99	2.99	3
946 460301700	PUD-LDR	LowDensity	0.52		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
946 460301500	PUD-LDR	LowDensity	0.37		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
946 460302000	PUD-LDR	LowDensity	0.57		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3

APN	Zoning	General Plan[1]	Parcel Size	Site (size)	Vacant/Existing Use	Year Built	Unit Dev. Potential[2]	FAR Dev. Potential[2]	5th Cycle Site[3]	Income Category	Units (max)	Units (realistic, net)	Lower	Moderate	Above Moderate	Other	Unit Type (per WSA Categories)	Persons Per Household	Population	Rounded Up Population
946 460300900	PUD-LDR	LowDensity	0.49		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
946 460300800	PUD-LDR	LowDensity	0.48		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
946 460302100	PUD-LDR	LowDensity	0.53		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
946 460301400	PUD-LDR	LowDensity	0.34		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
946 460301600	PUD-LDR	LowDensity	0.60		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
946 460301300	PUD-LDR	LowDensity	0.36		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
946 460301200	PUD-LDR	LowDensity	0.59		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
946 460300700	PUD-LDR	LowDensity	0.49		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
946 460301900	PUD-LDR	LowDensity	0.65		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
941 198001901	PUD-LDR	LowDensity	0.57		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
946 405007600	PUD-LDR	LowDensity	1.07		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
949 001703702	PUD-LDR	LowDensity	0.56		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
949 001704600	PUD-LDR	LowDensity	0.46		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
949 001704200	PUD-LDR	LowDensity	0.56		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
949 001705100	PUD-LDR	LowDensity	0.37		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
946 114604200	PUD-LDR	LowDensity	0.76		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
946 114605200	PUD-LDR	LowDensity	0.87		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
946 114605100	PUD-LDR	LowDensity	0.87		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
946 114605400	PUD-LDR	LowDensity	0.86		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
946 460001800	PUD-LDR	LowDensity	0.46		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
946 444001700	PUD-LDR	LowDensity	0.92		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
949 001704500	PUD-LDR	LowDensity	0.46		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
949 001704900	PUD-LDR	LowDensity	0.41		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
946 444001800	PUD-LDR	LowDensity	0.92		Single-Family Residence	2020				Above Moderate	1	1			1		LDR	2.99	2.99	3
949 001702200	PUD-LDR	LowDensity	0.53		Single-Family Residence	2018				Above Moderate	1	1			1		LDR	2.99	2.99	3
946 457400200	PUD-LDR	LowDensity	1.30		Vacant	0				Above Moderate	1	2			2		LDR	2.99	5.98	6
946 457401102	PUD-LDR	LowDensity	4.97		Single-family residence	1982				Above Moderate	35	5			5		LDR	2.99	14.95	15
941 282001000	PUD-LDR/C/PHS/WO	LowDensity	0.79		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
941 282000900	PUD-LDR/C/PHS/WO	LowDensity	0.82		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
946 460003000	PUD-LDR/OS	LowDensity	2.53		Board and care home on large otherwise undeveloped lot	1987				Above Moderate	3	3			3		LDR	2.99	8.97	9
946 461401900	PUD-LDR/OS	LowDensity	7.17		Nursery	1973				Above Moderate	9	9			9		LDR	2.99	26.91	27
946 461401500	PUD-LDR/OS	LowDensity	0.53		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
946 461401700	PUD-LDR/OS	LowDensity	0.48		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
946 461401600	PUD-LDR/OS	LowDensity	0.57		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
941 210100300	PUD-LDR/RDR/OS	RuralDensity	0.69		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
941 210100200	PUD-LDR/RDR/OS	RuralDensity	0.52		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
941 210100100	PUD-LDR/RDR/OS	RuralDensity	1.05		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
941 210100700	PUD-LDR/RDR/OS	RuralDensity	0.56		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
941 210100600	PUD-LDR/RDR/OS	RuralDensity	0.44		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
941 210100500	PUD-LDR/RDR/OS	RuralDensity	0.55		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
941 210001100	PUD-LDR/RDR/OS	RuralDensity	2.24		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
941 210001200	PUD-LDR/RDR/OS	RuralDensity	7.30		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
948 000400603	PUD-MDR	MediumDensity	10.25		Single-family residence	1954			YES	Above Moderate	80	30			30		LDR	2.99	89.7	90
941 276201101	PUD-MU	MixedUseBusinessPark	6.61		Office buildings, surface parking	1985			YES	Above Moderate	83	83			83		LDR	2.99	248.17	249
950 000500500	PUD-OS	PublicHealthandSafety	7.95		Single-Family Residence, rural	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
946 135001507	PUD-OS	PublicHealthandSafety	20.00		Single-Family Residence w. pool	1980				Above Moderate	4	3			3		LDR	2.99	8.97	9
946 458505000	PUD-RDR/LDR	LowDensity	0.56		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
946 458505200	PUD-RDR/LDR	LowDensity	0.73		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
941 210000500	PUD-RDR/LDR/OS	RuralDensity	7.83		Vacant	0			YES	Above Moderate	6	1			1		LDR	2.99	2.99	3
950 000400208	PUD-RDR/OS	LowDensity/ParksRecreation	560.34		Vacant	0			YES	Above Moderate	10	10			10	APN manually corrected to 950 000400208	LDR	2.99	29.9	30
941 180201500	PUD-RURAL/LDR/A	LowDensity	1.08		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3

APN	Zoning	General Plan[1]	Parcel Size	Site (size)	Vacant/Existing Use	Year Built	Unit Dev. Potential[2]	FAR Dev. Potential[2]	5th Cycle Site[3]	Income Category	Units (max)	Units (realistic, net)	Lower	Moderate	Above Moderate	Other	Unit Type (per WSA Categories)	Persons Per Household	Population	Rounded Up Population
949 001900200	PUD-SRDR	LowDensity1Dwelling/2Acres	10.23		Single-family residence	1960				Above Moderate	5	5			5		LDR	2.99	14.95	15
949 001901400	PUD-SRDR	LowDensity1Dwelling/2Acres	0.85		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
949 001901600	PUD-SRDR	LowDensity1Dwelling/2Acres	0.86		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
946 170400801	R-1-10	MediumDensity	0.82		Single-Family Residence	1950	3.6			Above Moderate	4	2			2		LDR	2.99	5.98	6
949 000500500	R-1-20	LowDensity	0.87		Vacant	0				Above Moderate	2	1			1		LDR	2.99	2.99	3
949 000402100	R-1-20	LowDensity	2.09		Vacant	0				Above Moderate	5	2			2		LDR	2.99	5.98	6
946 393000402	R-1-40	LowDensity	1.11		Vacant	0			YES	Above Moderate	1	1			1		LDR	2.99	2.99	3
946 393000501	R-1-40	LowDensity	1.61		Single-Family Residence	1957	1.8	7.3	YES	Above Moderate	2	1			1		LDR	2.99	2.99	3
946 394700200	R-1-40	Agriculture	4.66		Single-Family Residence	1973	5.1	13.9		Above Moderate	5	1			1		LDR	2.99	2.99	3
946 255000600	R-1-65	MediumDensity	0.16		Driveway for church property	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
094 002100100	R-1-65	MediumDensity	0.26		Vacant	0				Above Moderate	2	1			1		LDR	2.99	2.99	3
094 012000600	R-1-65	MediumDensity	0.49		Single-Family Residence	1923	3.3	3.3		Above Moderate	3	1			1		LDR	2.99	2.99	3
094 006601201	R-1-65	MediumDensity	0.49		Single-Family Residence	1959	3.3	7.1		Above Moderate	3	1			1		LDR	2.99	2.99	3
946 254901000	R-1-65	MediumDensity	0.51		Single-Family Residence w. pool	1972	3.4	3.9		Above Moderate	3	2			2		LDR	2.99	5.98	6
946 254405908	R-1-65	MediumDensity	0.53		Single-Family Residence	1973	3.6	3.5		Above Moderate	4	2			2		LDR	2.99	5.98	6
946 332501800	R-1-65	MediumDensity	0.54		Single-Family Residence	1961	3.6	4.3		Above Moderate	4	2			2		LDR	2.99	5.98	6
948 001107800	R-1-65	MediumDensity	0.55		Single-Family Residence	1971	3.7	5.0		Above Moderate	4	2			2		LDR	2.99	5.98	6
094 012702101	R-1-65	MediumDensity	0.56		Single-Family Residence w. pool	1951	3.7	3.0		Above Moderate	4	2			2		LDR	2.99	5.98	6
094 001900700	R-1-65	MediumDensity	0.57		Single-Family Residence	1905	3.8	13.6		Above Moderate	4	2			2		LDR	2.99	5.98	6
941 105104800	R-1-65	MediumDensity	0.61		Single-Family Residence	1950	4.1	3.5		Above Moderate	4	2			2		LDR	2.99	5.98	6
094 001903200	R-1-65	MediumDensity	0.69		Single-Family Residence	1959	4.6	10.0		Above Moderate	5	2			2		LDR	2.99	5.98	6
094 006604200	R-1-65	MediumDensity	0.87		Single-Family Residence	1966	5.8	8.3		Above Moderate	6	3			3		LDR	2.99	8.97	9
094 015300701	RM-15	HighDensity	0.11		Single-Family Residence	1944	3.2	3.7		Above Moderate	3	1			1		LDR	2.99	2.99	3
094 015400200	RM-15	HighDensity	0.14		Single-Family Residence	1895	4.1	4.4		Above Moderate	4	1			1		LDR	2.99	2.99	3
094 015202002	RM-15	HighDensity	0.17		Single-Family Residence	1940	5.0	3.5		Above Moderate	5	2			2		LDR	2.99	5.98	6
094 015300900	RM-15	HighDensity	0.17		Single-Family Residence	1951	5.0	3.5		Above Moderate	5	2			2		LDR	2.99	5.98	6
094 015500800	RM-15	HighDensity	0.17		Single-Family Residence	1895	5.0	3.7		Above Moderate	5	2			2		LDR	2.99	5.98	6
094 015300800	RM-15	HighDensity	0.17		Single-Family Residence	1910	5.0	3.3		Above Moderate	5	2			2		LDR	2.99	5.98	6
094 015300702	RM-15	HighDensity	0.18		Vacant	0				Above Moderate	5	3			3		LDR	2.99	8.97	9
094 015201600	RM-15	HighDensity	0.19		Single-Family Residence	1910	5.6	3.5		Above Moderate	6	2			2		LDR	2.99	5.98	6
094 015102400	RM-15	HighDensity	0.20		Single-Family Residence	1931	5.7	4.3		Above Moderate	6	2			2		LDR	2.99	5.98	6
094 015101900	RM-15	HighDensity	0.20		Single-Family Residence	1922	5.9	5.3		Above Moderate	6	2			2		LDR	2.99	5.98	6
094 012703300	RM-15	HighDensity	0.23		Single-Family Residence	1912	6.6	6.9		Above Moderate	7	2			2		LDR	2.99	5.98	6
094 015201400	RM-15	HighDensity	0.25		Single-Family Residence w. pool	1923	7.2	4.4		Above Moderate	7	3			3		LDR	2.99	8.97	9
094 009502400	RM-25	HighDensity	0.06		Vacant	0				Above Moderate	1	1			1		LDR	2.99	2.99	3
948 000700800	RM-25	HighDensity	0.30		Single-family residence	1967	5.3	4.2		Above Moderate	5	4			4		LDR	2.99	11.96	12
094 001903800	RM-4	MediumDensity	0.25		Vacant	0				Above Moderate	3	3			3		LDR	2.99	8.97	9
094 012203101	RM-40	HighDensity	0.58		Single-Family Residence w. pool	0				Above Moderate	4	3			3	APNs merged here - new APN listed here, not updated in model but noted in comm	LDR	2.99	8.97	9
Total												**2,283**	**1,090**	**552**	**641**	**0**	-	-	**5425.84**	**5444**

APN	Address	Status	Low	Moderate	Above Moderate	Total Net New[1]	Density Class	Persons Per Household	Population (rounded up)
948 001500105	1500 Lund Ranch Rd.	Approved and Under Construction	-	-	43	43	LDR	2.99	129
949 001600600	1000 Minnie St.	Approved	-	-	44	44	22 LDR, 22 HDR	2.99 or 2.20	114
946 394500600	2188 Foothill Rd.	Approved	-	-	7	7	LDR	2.99	21
946 394500600	990 Sycamore Rd.	Approved	-	-	3	3	LDR	2.99	9
941 278003200	N/A (The Residence at California Center)	Approved; Development Agreement executed	23	-	282	305	HDR	2.2	671
946 463300900	8026 Kingbird Ct.	Approved and Under Construction	-	-	1	1	LDR	2.99	3
946 463301000	8032 Kingbird Ct.	Approved and Under Construction	-	-	1	1	LDR	2.99	3
946 463300800	8020 Kingbird Ct.	Approved and Under Construction	-	-	1	1	LDR	2.99	3
946 463300600	8008 Kingbird Ct.	Approved and Under Construction	-	-	1	1	LDR	2.99	3
946 463300700	8014 Kingbird Ct.	Approved and Under Construction	-	-	1	1	LDR	2.99	3
946 463301100	8025 Kingbird Ct.	Approved and Under Construction	-	-	1	1	LDR	2.99	3
946 463301200	8019 Kingbird Ct.	Approved and Under Construction	-	-	1	1	LDR	2.99	3
946 463301300	8013 Kingbird Ct.	Approved and Under Construction	-	-	1	1	LDR	2.99	3
946 460600200	2500 Vineyard Ave.	Approved and Final Map Recorded	-	-	3	3	LDR	2.99	9
949 000200402	375 Sycamore Rd.	Approved	-	-	3	3	LDR	2.99	9
		Subtotal Gross	**23**	**0**	**393**	**416**			**986**
		Subtotal Net New	**23**	**0**	**393**	**416**			

Housing Type	Horizon Year	Low	Moderate	Above Moderate	Total Net New[1]	Density Class	Persons Per Household	Population (rounded up)
Accessory Dwelling Unit	2031	17	23	7	47	HDR	2.2	104
Accessory Dwelling Unit	2045	16	23	7	46	HDR	2.2	102

Appendix F

Zone 7 April 2022 Meeting Documents

ZONE 7 WATER AGENCY
Delivering Quality, Reliability and Safety

100 North Canyons Parkway
Livermore, CA 94551
(925) 454-5000

NOTICE OF REGULAR MEETING OF BOARD OF DIRECTORS

DATE: Wednesday, April 20, 2022

TIME: 6:00 p.m. Closed Session

7:00 p.m. Open Session (time approximate)

PARTICIPATION: **In Person:**
Zone 7 Administration Building
100 North Canyons Parkway, Livermore, California
Zoom Webinar:
https://us02web.zoom.us/j/84644213061

Due to the current state of emergency and imminent health risks to in-person attendees because of COVID-19 and in accordance with the provisions of California Government Code Section 54953(e), Directors may attend this meeting via teleconference.

To join the meeting, click https://us02web.zoom.us/j/84644213061 or enter the Meeting ID 846 4421 3061 into the Zoom app on your smartphone or computer. Alternatively, you may join by phone by calling (669) 900-6833 and entering the Meeting ID. You may find further information at: www.zone7water.com.

Consistent with state and local requirements, all persons attending this meeting must wear a mask, without regard to their vaccination status. If you have a fever or other symptoms of COVID-19, please do not enter the building, and instead submit any comments that you may have by telephone, email, or written letter. Any member of the public desiring to address the Board on an item under discussion may do so upon receiving recognition from the President.

In compliance with the Americans with Disabilities Act, the meeting room is wheelchair accessible and disabled parking is available at the Zone 7 Administrative Building lot. If you are a person with a disability and you need disability-related modifications or accommodations to participate in this meeting, please contact the Zone 7 Executive Assistant, Donna Fabian, at (925) 454-5007 or fax (925) 454-5723. Notification 48 hours prior to the meeting will enable Zone 7 to make reasonable arrangements to ensure accessibility to this meeting. {28 CFR 35.102-35, 104 ADA Title II}.

AGENDA

1. Closed Session

    a. Conference with Labor Negotiators pursuant to Government Code section 54954.5: Agency Negotiators: Valerie Pryor/Osborn Solitei Employee Organizations: Alameda

County Management Employees Association; Alameda County Building and Construction Trades Council, Local 342, AFL-CIO; International Federation of Professional and Technical Engineers, Local 21, AFL-CIO; Local 1021 of the Service Employees International Union, CTW; Unrepresented Management

b. Conference with Legal Counsel – Initiation of litigation pursuant to Gov't Code section 54956.9(d) (4): one case

c. Conference with Legal Counsel – Existing litigation pursuant to Gov't Code section 54956.9(d) (1): (1) City and County of San Francisco v. County of Alameda (Contra Costa County Superior Court Action No. MSN18-0928), (2) County of Butte v. California Department of Water Resources (California Supreme Court No. S258574, (3) State Water Contractors v. California Department of Fish & Wildlife (Fresno County Superior Court, filed April 29, 2020), (4) Thomason v. Morrow (Alameda County Superior Court No. 18918041), (5) Stark v. Alameda County Flood Control and Water Conservation District, Zone 7 (Alameda County Superior Court Case No. 22-CV-5837)

2. Open Session and Report Out of Closed Session (approximate time: 7:00 p.m.)

3. Pledge of Allegiance

4. Roll Call of Directors

5. Public Comment on Non-Agenda Items
The Public Comment section provides an opportunity to address the Board of Directors on items that are not listed on the agenda, or informational items pertinent to the agency's business. The Board welcomes your comments and requests that speakers present their remarks in a respectful manner, within established time limits, and focus on issues which directly affect the agency or are within the jurisdiction of the agency. The Board will not be able to act on matters brought to its attention under this item until a future board meeting.

6. Consent Calendar
   a. Board of Directors Authority to Hold Hybrid Meetings Pursuant to AB 361
   b. Recommend Support of Assembly Bill 2142 (Gabriel)
   c. Recommend Opposing Senate Bill 1157 (Hertzberg)
   d. Bay Area Proposition 1 IRWMP Implementation Grant – EBMUD MOU
   e. Agreement with Alameda County Resource Conservation District for Living Arroyos Program – Task Order
   f. Award Contract for Motor Control Protection Maintenance, Parts, and Repair
   g. Award Contract for As-Needed Repair of Medium Voltage Systems
   h. Award Contract for Electric Motor Repair, Parts, and Replacement
   i. Award Contract for Electrical Power Testing and As-Needed Repair/Testing Services for Del Valle Water Treatment Plant
   j. Mechanical Analysis Repairs Inc., dba MarTech Contract Amendment

k. Budget Change Request for Emergency Pipeline Repair and Purchase of Replacement Pumps and VFDs at MGDP
l. Award of Construction Contracts for Arroyo Mocho Medeiros Reach Floodplain Reconnection Project

Recommended Action: Adopt Resolutions

7. Minutes
   a. Special Board Meeting Minutes of March 2, 2022
   b. Regular Board Meeting Minutes of March 16, 2022

8. 2022 Annual Sustainability Report

   Recommended Action: Information only

9. Update on Continuing Drought and Zone 7 Water Supply

   Recommended Action: Information only

10. Continued Participation in the Delta Conveyance Project Process and Funding of the Environmental Planning Process

    Recommended Action: Adopt Resolution

11. Declaration of May as Water Awareness Month

    Recommended Action: Adopt Resolution

12. General Manager's Compensation

    Recommended Action: Adopt Resolution

13. Committees
    a. Legislative Committee Meeting Notes of March 24, 2022

14. Reports – Directors
    a. Verbal Comments by President
    b. Written Reports
    c. Verbal Reports

15. Items for Future Agenda – Directors
16. Staff Reports
    a. General Manager's Report
    b. March Outreach Activities
    c. Legislative Update
    d. Monthly Water Inventory and Water Budget Update

e. Annual Groundwater Sustainability Report
f. Verbal Reports

17. Adjournment

18. Upcoming Board Schedule: (All meeting locations are in the Boardroom at 100 North Canyons Parkway, Livermore, unless otherwise noted.)
    a. Tri-Valley Water Liaison Committee Meeting: April 26, 2022, 4:00 p.m., (City of Dublin, Regional Room, 100 Civic Plaza, Dublin)
    b. Legislative Committee Meeting: April 28, 2022, 4:00 p.m.
    c. Finance Committee Meeting: May 12, 2022, 4:00 p.m.
    d. Regular Board Meeting: May 18, 2022, 7:00 p.m.

ZONE 7 WATER AGENCY
Delivering Quality, Reliability and Safety

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MINUTES OF THE BOARD OF DIRECTORS
ZONE 7

ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

SPECIAL MEETING
March 2, 2022

The following were present:

DIRECTORS:	SANDY FIGUERS DENNIS GAMBS LAURENE GREEN SARAH PALMER ANGELA RAMIREZ HOLMES OLIVIA SANWONG
DIRECTORS ABSENT:	MICHELLE SMITH MCDONALD
ZONE 7 STAFF:	VALERIE PRYOR, GENERAL MANAGER OSBORN SOLITEI, TREASURER/ASSISTANT GENERAL MANAGER, FINANCE COLTER ANDERSEN, PRODUCTION MANAGER JARNAIL CHAHAL, ENGINEERING MANAGER DONNA FABIAN, EXECUTIVE ASSISTANT ALEXANDRA BRADLEY, COMMUNICATIONS SPECIALIST
COUNSEL:	REBECCA SMITH, DOWNEY BRAND

Item 1 – Call Meeting to Order

President Ramirez Holmes called the meeting to order at 5:50 p.m.

Item 2 – Closed Session

The Board went into Closed Session at 5:50 p.m. and came out at 6:01 p.m.

Item 3 – Open Session and Report Out of Closed Session

President Ramirez Holmes stated that the Board conferred with Legal Counsel and there was nothing to report.

Item 4 – Pledge of Allegiance

Item 5 – Public Comment – none

Item 6 – Adoption of Flood Management Plan Goals and Objectives

Valerie Pryor, General Manager, said that on March 17, 2021, the Board of Directors awarded contracts for the development of a new Flood Management Plan (FMP) which is being managed in two phases. The first phase, in part, establishes the Goals and Objectives.

Mike Inamine, Project Manager for HDR, Zone 7's Flood Management Consultant, gave a brief overview of where they are in the process, and discussed the guiding principles to the goals and objectives for the FMP.

Mr. Inamine noted that a series of workshops were conducted with senior staff, senior flood management staff and those with flood management responsibilities with Zone 7. Through those workshops, seven themes were identified. 1) Flood Control Channel System, 2) Relationships with Land Use Agencies, 3) Capital Improvement, 4) Operations and Maintenance (O&M), 5) Technical Excellence, 6) Communication and Engagement, and 7) Resource Agency Permitting. Mr. Inamine gave an overview of each theme, including their goal statements and objectives, and answered questions from the Board.

Theme No. 1 – Flood Control Channel System

Director Green asked for more detail on the institutional framework. Mr. Inamine responded that when they refer to institutional frameworks, there are those who have more impact and control on the watershed and what ends up the system, for example regulatory and resource agencies. An example of an institutional framework would be collaborating with partner agencies and land use agencies to affect routine maintenance in a more efficient manner than what is done today.

Director Palmer asked what Mr. Inamine meant by Zone 7 not having control of the watershed and relying on other agencies. Mr. Inamine responded that, for example, the watershed, everything that ends up in the channelized flood control system, are controlled or regulated by the land use agencies. Director Palmer asked what specific agencies he is referring to. Mr. Inamine responded the County and the Cities of Dublin, Livermore and Pleasanton.

Director Gambs asked for more detail on 'risk-informed.' Mr. Inamine responded to simplify what risk is, it is basically hazard or the probability of something bad happening, multiplied by that bad thing happening. It was a process they used throughout the workshops to prioritize the themes, goals and objectives.

Theme No. 2 – Relationships with Land Use Agencies

President Ramirez Holmes asked if Zone 7 should broaden relationships with other agencies and businesses, as well as the land use agencies, as it has relationships with the quarry development, East Bay Regional Park District (EBRPD), and the Department of Water

Resources (DWR), etc. Ms. Pryor suggested the Agency bolster the first objective on relationships or common interests.

Theme No. 3 – Capital Improvement

Director Gambs asked for clarification on what goes under Capital Improvement (CIP) versus Operations and Maintenance (O&M). He added that a maintenance project could be very significant and something worthy of a CIP. He asked how are they differentiated.

Mr. Inamine replied that one of the recommendations is to do projects that might be considered proactive O&M, what is termed an early implementation project. Something that can fit into a long-term strategy but would preclude later expenditure and extensive capital project. He added it will be an outcome of the eventual evaluation of part of Phase 2. Mr. Inamine further stated that they were careful not to set a recurrence interval for the entire flood control system. The entire flood control system should meet a hundred-year recurrence interval. It should be able to convey a hundred-year storm. It may not be the case on a reach-by-reach basis. The hazard and consequences may not be worthy of that kind of expenditure, but in the highly urbanized areas where the consequences are in the tens of millions, then it may be worthwhile to do a more expensive project in a proactive way as 'proactive maintenance.'

Theme No. 4 – Operations and Maintenance

There were no questions from the Board.

Theme No. 5 – Technical Excellence

There were no questions from the Board.

Theme No. 6 – Communication and Engagement

President Ramirez Holmes asked if Objective #1 is for development of the plan and Objectives #2 and #3 are about the implementation of the plan, or if they were all implementation and the stakeholder engagement piece for the process.

Mr. Inamine replied that the first objective is to integrate flood management communication engagement, stakeholder engagement, public communication, integrated with all the other things that Zone 7 does. The second objective is specific to flood emergency response with partner agencies outside of Zone 7.

President Ramirez Holmes asked if communication is going to be like climate change, integrated throughout the process and not specifically called out, where this goal is about implementation of the plan, as opposed to the process to develop it. Mr. Inamine replied that it is to develop the plan. President Ramirez Holmes asked for that to be clearer.

President Ramirez Holmes stated that there was discussion about climate change being a standard practice and assumed through all of the goals. And we touched on, briefly,

communication, stakeholders, being assumed through all the goals, but she wants to clarify the objectives. Are we talking about the objectives of communicating through the process and development of the process with stakeholder input, versus what she understands is really the protocol piece, which is not the development, it's the implementation? She would like to discuss that later.

Theme No. 7 – Resource Agency Permitting

President Ramirez Holmes asked Mr. Inamine what he meant by past panels convening on flood management roles. Mr. Inamine responded that he heard from one of Zone 7's partner agencies that there was a group that convened in the early 2000s to address issues with the resource agencies with regard to routine maintenance in a way that agencies could approach their flood management responsibilities. President Ramirez Holmes asked how that would impact the Agency's application for programmatic permits. Mr. Inamine replied that they have not 'unpacked this.' He said they understand that Zone 7 is beginning to prepare a document specific to Zone 7 that will result in more efficient permitting of routine maintenance. He added there are other agencies who are doing the same thing, but they are not connected to what Zone 7 is doing.

Director Sanwong suggested that the five permitting agencies be listed in Theme No. 7, as a footnote or something similar, along with a list of acronyms.

Mr. Inamine shared the draft General Schedule for Objectives.

The Board took a 10-minute recess.

President Ramirez Holmes revisited Theme No. 2 and suggested adding 'partner' before 'agencies' under the Goal Statement, and adding 'land use' before 'agencies' under Objectives 1 and 2.

The Board discussed the wording that should be used for the Goal Theme, the Goal Statement, and the Objectives, and agreed on:

Goal Theme

Relationships with partner and land use agencies.

Goal Statement

Foster and participate in productive relationships with land use agencies and others to improve flood management.

Objectives

1. By end of 2023, identify common flood management interests of land use agencies with a flood management role or impact in the watershed.
2. By end of 2024, propose agreements with land use agencies who share flood

management interests in the watershed.
3. By the end of 2024, identify partner interests who impact the watershed.

President Ramirez Holmes stated that Theme No. 6 needs more clarity between process and delivery, and that Theme No, 7 needs a footnote or a definition of who it is referring to. Ms. Pryor suggested Theme No. 7, Objective #2, say, 'By the end of 2026, adopt and implement a regional programmatic approach to routine Operations and Maintenance (O&M) with the resource agencies, primarily the Army Corps of Engineers, California Department of Fish and Wildlife and the Regional Water Quality Control Board. President Ramirez Holmes added to spell out O&M throughout the document and include stakeholder mapping to the general schedule.

Director Palmer made a motion to approve the Resolution with noted amendments and Director Gambs seconded the motion.

The Resolution was approved by a voice vote of 6-0 with Director Smith McDonald absent.

Item 7 – Committees – There were no comments on the Committee notes.

Item 9 – Adjournment – President Ramirez Holmes adjourned the meeting at 7:47 p.m.

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MINUTES OF THE BOARD OF DIRECTORS
ZONE 7

ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

REGULAR MEETING
March 16, 2022

The following were present:

DIRECTORS:	SANDY FIGUERS DENNIS GAMBS LAURENE GREEN ANGELA RAMIREZ HOLMES OLIVIA SANWONG MICHELLE SMITH MCDONALD
DIRECTORS ABSENT:	SARAH PALMER
ZONE 7 STAFF:	VALERIE PRYOR, GENERAL MANAGER OSBORN SOLITEI, TREASURER/ASSISTANT GENERAL MANAGER, FINANCE COLTER ANDERSEN, PRODUCTION MANAGER JARNAIL CHAHAL, ENGINEERING MANAGER CAROL MAHONEY, GOVERNMENT RELATIONS MANAGER JOE SETO, PRINCIPAL ENGINEER TAMI CHURCH, ASSOCIATE PLANNER ALEXANDRA BRADLEY, COMMUNICATIONS SPECIALIST DONNA FABIAN, EXECUTIVE ASSISTANT
COUNSEL:	REBECCA SMITH, DOWNEY BRAND

Item 1 – Closed Session

The Board went into Closed Session at 5:18 p.m. Directors Figuers arrived at 5:35 p.m. The Board came out of Closed Session at 7:20 p.m.

Item 2 – Open Session and Report Out of Closed Session

President Ramirez Holmes called the meeting to order at 7:29 p.m.

President Ramirez Holmes reported out of Closed Session that the Board evaluated the General Manager stating that Valerie Pryor, General Manager, is "meeting expectations in many areas and exceeding them in others. She has provided responsive and consistent leadership, and the strong representation of the staff in providing information to the Board is reflective of her high standards for the work of the agency. During COVID, she has effectively managed the agency and kept Zone 7s work moving forward during a challenging time. We have provided her goals for the upcoming year, and we are confident in her leadership of the agency into the future." Item 11, which is the General Manager's Compensation, will be tabled to the next Board meeting.

Item 3 – Pledge of Allegiance

Item 4 – Roll Call of Directors – Director Palmer was absent.

Item 5 – Public Comment – There were no comments from the public.

Item 6 – Minutes

Director Smith McDonald moved to approve the minutes and Director Gambs seconded the motion. The minutes were approved by a voice vote of 6-0 with Director Palmer absent.

Item 7 – Consent Calendar

Director Figuers moved to approve the Consent Calendar and Director Green seconded the motion. The Consent Calendar was approved by a roll call vote of 6-0 with Director Palmer absent.

Item 8 – Presentation by Delta Conveyance Design and Construction Authority Executive Director

Graham Bradner, Executive Director of the Delta Conveyance Design and Construction Authority (DCA) briefly explained the roles and responsibilities of DCA with respect to the Delta Conveyance Project. He noted that the DCA works hand in hand with the Department of Water Resources (DWR), and they are the lead agency for the Environmental Impact Report (EIR) and the California Environmental Quality Act (CEQA) analyses. DCA is responsible for the conceptual engineering and development of all the documentation and support that is used to conduct those impact analyses.

Mr. Bradner stated that the purpose of the Delta Conveyance Project is to modernize the aging State Water Project (SWP) infrastructure in the Delta and restore and protect the reliability of the SWP. He added that the objectives of the project are to address sea level rise, climate change, minimize water supply disruption due to seismic risk, protect water supply reliability, and provide operational flexibility to improve aquatic conditions.

Mr. Bradner noted that there are three alignments included in the EIR. The central alignment goes through the heart of the Delta, the Eastern alignment, which is closer to I-5, and the Bethany Reservoir alignment. Mr. Bradner reminded the Board that there are four capacity

options being considered for the project ranging from 3000 cubic feet per second (cfs), all the way up to 7,500 cfs. The 7,500 cfs would only be an option if there was a 1,500 cfs contribution by the Bureau of Reclamation.

Mr. Bradner stated that there is a Stakeholder Engagement Committee that was formed to provide feedback to the DCA on engineering work with a focus on reducing potential construction-related impacts.

Mr. Bradner spoke about public outreach and community engagement, how they are trying to make sure the information is out there for public review, and they are trying to encourage participation in the process.

Mr. Bradner added that the estimated project cost has not changed but will be refined when there is a preferred alternative selected, the budget has not changed, and they are currently on schedule and on budget.

President Ramirez Holmes wanted clarification that all three proposed alignments could produce 6,000 cfs with the potential of 7,500 cfs and Mr. Bradner confirmed. President Ramirez Holmes lauded Director Palmer's work on the Stakeholder Engagement Committee.

Director Green asked if the one of the alignments is preferred over the other from an environmental standpoint. Mr. Bradner responded that the Bethany Reservoir alternative would be less of an impact to wetlands and waters.

Item 9 – Authorizing Resolution for Accepting Department of Water Resources Floodplain Management, Protection, and Risk Awareness Grant Program Funds

Tami Church, Associate Planner, gave a report requesting authorization of resolutions needed for staff to apply for a grant through the DWR Floodplain Management, Protection, and Risk Awareness Grant Program (FMPRA) to complete the Flood Management Plan Phase 2 Project and the Alamo Creek Bank Stabilization and Flood Management Pilot Project.

Ms. Church noted that DWR has $50.4 million to fund flood related projects. She said that staff submitted two proposals in October which received favorable feedback from DWR. Staff then submitted full proposals in February; however, Board resolutions are required to complete the application for funding eligibility.

Director Gambs asked if using rock slope protection, rock cross-vanes, and vegetation integration is different than what is done now and what staff hoped to learn from these new techniques. Ms. Church replied that while she is not an engineer, there is a high degree of turbulence that is generated by the confluence of South San Ramon Creek and Alamo Creek, which is causing issues at the transition point downstream of the huge concrete confluence structure. Therefore, the rock cross-vanes are going to be spread out across around 2,000 linear feet and instead of treating the entire 2,000 linear feet of reach, staff hopes to address it in smaller digestible, incremental approaches. She believed if that technique was proven successful, it could be used more widely across our service area, especially in areas with steep slopes, not so great soils, and areas where velocity and incision issues occur.

Director Sanwong asked if the City of Dublin is involved in this project. Ms. Church responded that they did consult with the City of Dublin, but they did not want to participate. Director Sanwong asked Ms. Church if she was the point person on the City of Dublin's project just upstream. Ms. Pryor replied that Joe Seto, Principal Engineer for Zone 7, sits on quarterly meetings with the City of Dublin on their project, but many staff is in communication with people from the City of Dublin on a regular basis on these projects.

Director Gambs moved to approve both resolutions and Director Green seconded the motion. The resolutions passed by a roll call vote of 6-0 with Director Palmer absent.

Item 10 – Update on Water Supply Reliability Public Information Program

Alexandra Bradley, Communications Specialist, presented an update on the Water Reliability Public Information Program. She provided an overview of the background of the program, the program's goals and strategies, details on Zone 7's outreach concepts and materials, and how the message will be delivered through outreach efforts. She then played an educational video that depicts the journey that the Agency's water takes to reach the Tri-Valley.

Director Smith McDonald expressed concern about the concept of 'Tri-Valley Water Partners' and that it might be confusing to the residents of the Tri-Valley. Ms. Pryor responded that this was a collaborative process with all the partners and that all the partner agencies' logos would always be included to show that they are all working together, so that is where 'Tri-Valley Water Partners' came to fruition. Director Gambs stated that one of the challenges is conveying to people what Zone 7 is.

Ms. Bradley stated that there were several conversations with the retailers on how to convey that this is not a separate entity, and from a survey looking back, people are confused, not only about who Zone 7 is, but who they pay their bills to.

Director Sanwong agreed with the comments about the confusion with another entity and wondered if there is a way the logo could include all five agencies. She also stated that she does not like the phrase, 'behind the scenes.'

Director Green agreed that more must be done to educate people, so they understand where the water is coming from. She added that she wants to make sure the Agency has not decided on potable reuse, but that it was looking into it. She wanted to make sure it did not come across as marketing potable reuse. Ms. Bradley responded that this is to give everyone a broad understanding of the water system overall and the reason potable reuse is mentioned is that this education program came out of that discussion, which is why it is mentioned more often than the other projects.

President Ramirez Holmes stated that the money came from the potable reuse studies and workgroup and the work that has been done is gathering and providing information. The Board has not discussed or weighed in on any votes. She wanted to be very clear that it is not a topic that this Board has discussed. President Ramirez Holmes asked how the survey was conducted and when.

Ms. Bradley responded that it was done using a third-party company called Sentiment in 2021. President Ramirez Holmes asked how it was sent out. Ms. Bradley replied that she can get more information from the consulting firm. President Ramirez Holmes asked that she receive the full results from the survey, and she asked how much would be spent on this public information program. Ms. Bradley replied that there is a budget of $300,000 over two years.

President Ramirez Holmes asked how the process is working with the other partners. Ms. Bradley responded that they have been working collaboratively throughout the entire process, either through the steering committee or the PIO communications committee to vet and look at the marketing materials. She added that all the retailers have been at the table going through all the materials and are happy to put their branding and logos behind it.

President Ramirez Holmes stated that she agreed with Director Smith McDonald and that she is concerned about the 'partners' language. She felt it would be important for the logos to be used so that people know who is involved. She is also concerned about driving traffic to a new website. She agreed to strike the term 'behind the scenes.' She also added that the City of Pleasanton pulled out of some of the studies and asked if this was a separate pot of money. Ms. Pryor responded that Zone 7 is funding the program through treated water rates, then it is equitably born by all the retailers' customers. Ultimately the customers will be paying for this, whether it is through Zone 7 or from the retailers to Zone 7.

Director Smith McDonald added that she is uncomfortable with it because she feels like it is a marketing campaign, and some people might be resistant to that. She wants to be sure that as the agencies that are involved in this collaboration, the language is consistent.

Ms. Pryor stated that it has been requested to be on the agenda for the Tri-Valley Water Liaison Committee meeting on April 26.

Item 11 – General Manager's Compensation

Item 11 was tabled to the next Board meeting so that the public can have more time weigh in if they choose.

Item 12 – Committees

There were no comments from the Board on the Committee notes.

Item 13 – Reports - Directors

President Ramirez Holmes reported that Zone 7 is participating in the Go Green Initiative on the hometown water documentary film screening and panel for April 21st at the Firehouse Art Center in Pleasanton at 7:00 p.m. Zone 7 staff will be participating on the panel, and she will also be involved. She continues to chair the Los Vaqueros JPA, and she attended the ACWA Legislative Symposium and two State Legislative Committees of which she is a member.

Item 14 – Items for Future Agenda

There were no items for a future agenda.

Item 15 – Staff Reports

Ms. Pryor highlighted from her report that we are still in a drought, the drought is worsening, and due to record dry January and February, the Agency is anticipating a reduction in the SWP allocation. Staff was instructed by DWR to start planning for a dry 2023 and that mandatory conservation is most likely going to be required for the remainder of 2022.

President Ramirez Holmes asked for confirmation that Zone 7 has been planning for a 0% allocation if it gets to that. Ms. Pryor responded that staff have been planning for it. Last year we pumped our highest amount of groundwater, and we are planning to do that again this year. We have stored water in our local groundwater basin, and we have water stored in San Luis Reservoir and in the various storage and recovery projects in Kern County. If possible, we are also looking to purchase some water.

President Ramirez Holmes asked for water use in January and February. Ms. Pryor said that January demands were 2% higher relative to the same time in 2020. The monthly water inventory and report showed February demands were 4% higher, both relative to the same time in 2020. Ms. Pryor added that grant funds may be available, and Zone 7 would be applying for some of those funds.

Item 16 – Adjournment

President Ramirez Holmes adjourned the meeting at 8:53 p.m.

ZONE 7 WATER AGENCY
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ITEM NO. 6a

ORIGINATING SECTION: Administration
CONTACT: Donna Fabian

AGENDA DATE: April 20, 2022

SUBJECT: Board of Directors Authority to Hold Hybrid Meetings Pursuant to AB 361

SUMMARY:

On September 16, 2021, Governor Gavin Newson signed Executive Order N-15-21 clarifying that public agencies may continue to meet remotely in accordance with procedures established by prior Executive Orders. Assembly Bill 361 (AB 361) expands public agencies' ability to meet remotely during proclaimed states of emergency. Agencies that meet remotely under AB 361 are subject to modified Brown Act noticing and voting requirements that are similar but not identical to the rules and procedures established by the previous Executive Orders.

AB 361 authorizes local agencies to use these modified procedures subject to a finding by the agency's Board that (1) a state of emergency has been proclaimed pursuant to Section 8625 of the California Emergency Services Act; and (2) either the state of emergency directly impacts the ability of the members to meet safely in person, *or* State or local officials have imposed or recommended measures to promote social distancing. These findings should be revisited every 30 days.

Due to continued prevalence and spread of COVID-19 activity Alameda County, the Board of Directors will consider holding hybrid meetings for the health and safety of participants and Board members.

FUNDING:

N/A

RECOMMENDED ACTION:

Adopt the attached Resolution.

ATTACHMENT:

Resolution

ZONE 7
ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

BOARD OF DIRECTORS

RESOLUTION NO.

INTRODUCED BY
SECONDED BY

Board of Directors Authority to Hold Hybrid Meetings Pursuant to AB 361

WHEREAS, the Zone 7 of the Alameda County Flood Control and Water Conservation District (Zone 7) is committed to preserving public access and participation in meetings of the Board of Directors; and

WHEREAS, all meetings of Zone 7 are open and public, as required by the Ralph M. Brown Act (Gov. Code, §§ 54950 – 54963), so that any member of the public may attend, participate, and watch the agency's legislative body conduct its business; and

WHEREAS, on March 4, 2020, Governor Gavin Newsom declared a statewide emergency arising from the Coronavirus 2019 (COVID-19) pandemic; and

WHEREAS, in light of that state of emergency, Governor Newsom's Executive Orders N-29-20 and N-08-21 suspended certain provisions of the Brown Act pertaining to teleconferenced meetings through September 30, 2021; and

WHEREAS, on September 16, 2021, Governor Newsom signed Assembly Bill 361 (AB 361) as urgency legislation effective immediately, which provides that under Government Code section 54953(e), legislative bodies may continue to meet remotely without complying with the non-emergency teleconferencing rules in Government Code section 54953(b)(3), subject to certain conditions; and

WHEREAS, a required condition of AB 361 is a finding by the legislative body of the agency that a state of emergency is declared by the Governor pursuant to Government Code section 8625, proclaiming the existence of conditions of disaster or of extreme peril to the safety of persons and property within the state caused by conditions as described in Government Code section 8558; and

WHEREAS, AB 361 further requires a finding that state or local officials have imposed or recommended measures to promote social distancing, or the legislative body determines that meeting in person may present imminent risks to the health and safety of attendees; and

WHEREAS, such conditions now exist within the agency, specifically, on March 4, 2020, Governor Gavin Newsom proclaimed a State of Emergency to exist in California due to the threat of COVID-19; and despite sustained efforts, the virus continues to spread and threatens public health and safety in nearly all sectors of California.

THEREFORE, BE IT RESOLVED that the Board of Directors of Zone 7 of the Alameda County Flood Control and Water Conservation District, finds that the Governor's March 4, 2020, declaration of a state of emergency due to the COVID-19 pandemic remains active, and the threat of COVID-19 continues to impact the ability of the Board of Directors and Zone 7 staff to meet safely in person.

THEREFORE, BE IT FURTHER RESOLVED that in order to protect the health of staff and the public, the Board may conduct hybrid meetings pursuant to the provisions of AB 361, and the Board shall comply with the requirements to provide the public with access to the meetings as prescribed in paragraph (2) of subdivision (e) of Government Code section 54953.

ADOPTED BY THE FOLLOWING VOTE:

AYES:

NOES:

ABSENT:

ABSTAIN:

I certify that the foregoing is a correct copy of a Resolution adopted by the Board of Directors of Zone 7 of the Alameda County Flood Control and Water Conservation District on April 20, 2022.

By: _____
President, Board of Directors

ITEM NO. 6b

ZONE 7 WATER AGENCY
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Livermore, CA 94551
(925) 454-5000

ORIGINATING SECTION: Administration
CONTACT: Carol Mahoney/Valerie Pryor

AGENDA DATE: April 20, 2022

SUBJECT: Assembly Bill 2142 (Gabriel)

POSITION RECOMMENDATION: Support

BILL STATUS:

AB 2142: Income taxes: exclusion: turf replacement water conservation program		
AUTHOR: Gabriel	INTRODUCED: 02-15-2022	COMMITTEE: Assembly Revenue and Taxation
CO-AUTHORS: N/A	SPONSOR: N/A	COMMITTEE HEARING DATE: 03/22/22: Hearing for testimony only.
SUMMARY: An act to add and repeal Sections 17138.2 and 24308.9 of the Revenue and Taxation Code, relating to taxation, to take effect immediately, tax levy.		
Positions Taken or Recommended by Others: ACWA and CSDA recommend "Support"		

ANALYSIS:

This report provides a position recommendation of "Support" as defined in Attachment 1 for AB 2142 (Gabriel) related to the taxation of turf replacement water conservation programs.

<u>AB 2142: Allows tax exemption for turf replacement rebate similar to other programs</u>
The Legislative Council's Digest states that a key outcome of AB 2142 (Gabriel) is that for, both the Personal Income Tax Law and the Corporation Tax Law, a provision be made for "*an exclusion from gross income for any amount received as a rebate, voucher, or other financial incentive issued by a local water agency or supplier for participation in a turf replacement water conservation program.*" This would be in effect "*on or after January 1, 2022, and before January 1, 2027.*"

A support position is recommended because this bill would provide a tax exemption for turf replacement projects similar to existing tax exemptions for other water conservation programs such as high-efficiency clothes washer and toilet rebates. Turf replacement still remains a significant means to reduce outdoor water use and advance water conservation goals by as much as 60 percent of total residential use. This bill is supported by the Association of California Water Agencies (ACWA) and the California Special Districts Association (CSDA).

To bolster water conservation efforts, Zone 7's Board approved an increase in the rebate amount of the Water Efficient Lawn (WEL) Conversion program in June 2021. The City of Pleasanton also offers an additional rebate that was increased in February 2022 to augment Zone 7's rebate and encourage even more participation. The inclusion of WEL rebates in gross income for tax purposes is not in keeping with the spirit of offering incentives to encourage participation in such programs.

The Legislative Committee suggested adding more local examples of the rebate program's success for the Tri-Valley and led to minor edits in the proposed "Support" letter. With the suggested modifications, the Zone 7 Legislative committee recommended that the position letter be brought to the full Board (attached).

FUNDING:

N/A

RECOMMENDED ACTION:

The Legislative Committee recommends the Board discuss and consider an "Support" position for Assembly Bill 2142 (Gabriel) and provide the attached comment letter.

ATTACHMENTS:

Attachment 1 – Legislative Positions
Zone 7 Draft Position Letter

Attachment 1 - Legislative Positions

- **Support (S)** — Agency actively supports the proposed legislation.
- **Support and Seek Amendments (S/S)** — Agency will actively support the proposed legislation while continuing to seek specific amendments.
- **Support if Amended (S/A)** — Agency will actively support the proposed legislation, if it is amended to address specific shortcomings identified by the District.
- **Favor (F)** —Agency will join with other organizations in support but will not engage actively in advocacy for the measure.
- **Favor, if Amended (F/A)** — Agency will join with other organizations in support, if legislation is amended to address specific shortcomings identified by the Agency but will not engage actively in advocacy for the measure.
- **Watch (W)** — Measures or general issues have not been sufficiently defined for a formal position.
- **Not Favor (NF)** — Agency will join with other organizations in opposition but will not engage actively in advocacy against the measure.
- **Oppose Unless Amended (O/A)** — Agency will actively oppose the proposed legislation unless it is amended to address specific shortcomings.
- **Oppose (O)** — Agency actively opposes the proposed legislation.

ZONE 7 WATER AGENCY
Delivering Quality, Reliability and Safety

100 North Canyons Parkway
Livermore, CA 94551
(925) 454-5000

April 20, 2022

Honorable Jacqui Irwin, Chair
Assembly Committee on Revenue & Taxation
P.O. Box 942849
Sacramento, CA 94249-0001

Re: Position Letter – Support for Assembly Bill 2142 (Gabriel)

Alameda County Flood Control and Water Conservation District, Zone 7 ("Zone 7 Water Agency" or "Zone 7") is a dependent special district with a seven-member elected board of directors serving roughly 266,000 residents of the Tri-Valley area and acting as a water wholesaler to four retail water purveyors. In addition to providing roughly 80% of the imported water supply from the State Water Project, Zone 7 also acts as the exclusive Groundwater Sustainability Agency for the Livermore Valley Groundwater Basin and provides flood protection for all of eastern Alameda County.

Zone 7 Water Agency is pleased to support AB 2142 (Gabriel). In coordination with our retailers, the ability to continue to provide a mechanism for the public to participate in water saving rebates is an important component in long-term water supply reliability. This bill, that reinstates a tax exemption for lawn conversion rebates from Californian's gross income, provides a key incentive to further water saving actions and dovetails with other permanently exempted rebates, like high-efficiency clothes washers and toilet programs. Together these rebate programs raise awareness of the balance between water use and water needs. As drought conditions persist, awareness of water consumption is key to helping Californians make conservation a way of life and rebate programs need to be accessible.

Zone 7 acts as the clearinghouse for rebates related to water conservation for three of the four retail water purveyors within the service area. A Water Efficient Lawn (WEL) Conversion rebate program that allows for the conversion of turf to more water-efficient landscapes is one of a suite of options that residential customers have to improve water efficiency through rebates. Our WEL rebate program for turf replacement has been available since 2011 and has replaced roughly 428,529 square feet (9.84 acres) of lawn through over 300 rebate applications. The program's rebate amount was recently increased for single-family properties from $750 per residential site to $2,000 per residential site, covering up to 50% of the costs of conversion in an effort to encourage additional water savings through this program. Zone 7 estimates that these rebates save roughly 25 gallons per square-foot per year. Taking into account all square-footage converted thus far, that amounts to over 10 million gallons per year conserved.

Some retailers offer additional incentives related to the turf replacement programs and this flexibility allows retailers to assist their customers in achieving even more water conservation by targeting the programs that will have the most impact within their individual service areas – but these additional incentives would further complicate taxation, should they be included in gross income. Taxing this rebate program is a deterrent to participation. The replacement of existing lawns is a significant investment for residents, so removing barriers to implementation is preferable.

Zone 7 is committed to encouraging water efficiency and for the reasons stated above, wishes to express support for AB 2142.

Sincerely,

Angela Ramirez Holmes
President of the Board of Directors

c: Honorable Vice-Chair and Members, Assembly Committee on Revenue & Taxation
Honorable Steve Glazer
Honorable Rebecca Bauer-Kahan
Honorable Jesse Gabriel
Ms. Valerie Pryor
Zone 7 Board of Directors
The Gualco Group, Inc.

ZONE 7 WATER AGENCY
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ITEM NO. 6C

ORIGINATING SECTION: Administration
CONTACT: Carol Mahoney/Valerie Pryor

AGENDA DATE: April 20, 2022

SUBJECT: Senate Bill 1157 (Hertzberg)

POSITION RECOMMENDATION: Oppose

BILL STATUS:

SB 1157: Urban water use objectives: indoor residential water use.		
AUTHOR: Hertzberg	INTRODUCED: 02-17-2022	COMMITTEE: Senate Natural Resources and Water
CO-AUTHORS: N/A	SPONSOR: N/A	COMMITTEE HEARING DATE: 04/05/22
SUMMARY: An act to amend Section 10609.4 of the Water Code, relating to water.		
Positions Taken or Recommended by Others: ACWA and CSDA recommend "Oppose unless amended"		

ANALYSIS:

This report provides a position recommendation of "Oppose" as defined in Attachment 1 for SB 1157 (Hertzberg) related indoor urban water use objectives.

SB 1157: Reduces allowable indoor residential water use without further evaluation of impact

The Legislative Council's Digest states, "*Existing law requires the Department of Water Resources, in coordination with the State Water Resources Control Board, and including collaboration with and input from stakeholders, to conduct necessary studies and investigations and authorizes the department and the board to jointly recommend to the Legislature a standard for indoor residential water use. Existing law, until January 1, 2025, establishes 55 gallons per capita daily as the standard for indoor residential water use. Existing law establishes, beginning January 1, 2025, the greater of 52.5 gallons per capita daily or a standard recommended by the department and the board as the standard for indoor residential water use, and beginning January 1, 2030, establishes the greater of 50 gallons per capita daily or a standard recommended by the department and the board as the standard for indoor residential water use.*"

Key provisions of the proposed bill would replace the current water conservation standards as stated above from existing law, with new standards lowered to:

- 47 GPCD by January 1, 2025, and
- 42 GPCD beginning January 1, 2030.

A study was performed by the Department of Water Resources (DWR) in conjunction with others and presented to the Legislature in 2021 but did not evaluate the quantitative impact of lowering indoor residential water use to the levels proposed by this bill. The bill also eliminates the provision that would allow for an alternative recommendation through further analysis. An oppose position is recommended because this bill removes the collaborative nature of determining appropriate residential water conservation measures and arbitrarily sets limits on indoor water use that has not been evaluated for potential negative impacts to water, wastewater, and recycled water systems.

Specific potential impacts noted by local retailers for the Tri-Valley's water and wastewater systems have not been quantified, but include:

- Need for minor infrastructure and/or operational changes,
- Increased outreach and increased incentives for the replacement of older appliances and fixtures,
- Potential water quality impacts in the higher-pressure zones where residential neighborhoods are predominantly located,
- Potential increase in contaminant loading, odors, or blockages in the sewer collection system with lower indoor water use,
- Potential lowering of recycled water quality due to more concentrated sewer flows.

Questions and comments during the Legislative Committee led to minor edits and the addition of specific water conservation information from the 2020 Tri-Valley Municipal and Industrial Water Demand Study to reinforce the strong progress in achieving long-term conservation that has already been made in the Tri-Valley. With the suggested modifications, the Zone 7 Legislative committee recommended that the position letter be brought to the full Board (attached).

FUNDING:

N/A

RECOMMENDED ACTION:

The Legislative Committee recommends the Board discuss and consider an "Oppose" position for Senate Bill 1157 (Hertzberg) and provide the attached comment letter.

ATTACHMENTS:

Attachment 1 – Legislative Positions
Zone 7 Draft Position Letter

Attachment 1 - Legislative Positions

- **Support (S)** — Agency actively supports the proposed legislation.
- **Support and Seek Amendments (S/S)** — Agency will actively support the proposed legislation while continuing to seek specific amendments.
- **Support if Amended (S/A)** — Agency will actively support the proposed legislation, if it is amended to address specific shortcomings identified by the District.
- **Favor (F)** —Agency will join with other organizations in support but will not engage actively in advocacy for the measure.
- **Favor, if Amended (F/A)** — Agency will join with other organizations in support, if legislation is amended to address specific shortcomings identified by the Agency but will not engage actively in advocacy for the measure.
- **Watch (W)** — Measures or general issues have not been sufficiently defined for a formal position.
- **Not Favor (NF)** — Agency will join with other organizations in opposition but will not engage actively in advocacy against the measure.
- **Oppose Unless Amended (O/A)** — Agency will actively oppose the proposed legislation unless it is amended to address specific shortcomings.
- **Oppose (O)** — Agency actively opposes the proposed legislation.

ZONE 7 WATER AGENCY
Delivering Quality, Reliability and Safety

100 North Canyons Parkway
Livermore, CA 94551
(925) 454-5000

April 20, 2022

The Honorable Henry Stern
Chair, Senate Committee on Natural Resources and Water
1021 O Street, Room 3220
Sacramento, CA 95814

Re: Position Letter – Oppose Senate Bill 1157 - Urban water use objectives: indoor residential water use

Alameda County Flood Control and Water Conservation District, Zone 7 ("Zone 7 Water Agency" or "Zone 7") is a dependent special district with a seven-member elected board of directors serving roughly 266,000 residents of the Tri-Valley area and acting as a water wholesaler to four retail water purveyors. In addition to providing roughly 80% of the imported water supply from the State Water Project, Zone 7 also acts as the exclusive Groundwater Sustainability Agency for the Livermore Valley Groundwater Basin and provides flood protection for all of eastern Alameda County.

Zone 7 Water Agency is committed to seeking effective means to achieve water conservation and long-term reliability; however, respectfully opposes SB-1157 (Hertzberg) for the following reasons:

1. The study prescribed in related legislation enacted in 2018, Assembly Bill 1668 and Senate Bill 606, was to be completed by the Department of Water Resources (DWR) and State Water Resources Control Board (SWRCB) in conjunction with stakeholders, was completed in November 2021 with the intent to inform the Legislature regarding indoor residential water use standards. The final report determined that Californians have already achieved on average indoor water use of 48 gallons per capita daily (GPCD) and that nearly a quarter of Californians use 42 GPCD. Californians are already moving toward greater indoor water conservation without further legislative restrictions.

   Indoor water consumption estimated in 2019 by Tri-Valley retailers ranged from 39.5 gallons per capita per day (GPCD) to 47.5 GPCD as noted in the 2020 Tri-Valley Municipal and Industrial Water Demand Study (https://www.zone7water.com/sites/main/files/file-attachments/2020_tri-valley_demand_study.pdf?1627595774). The Tri-Valley has also seen

total demand (indoor and outdoor) on a per capita basis decrease since the year 2000 by 31% overall. Recent information shows that total demands are about the same as those observed in 2020, even with the 48% increase in population since 2000, as shown in the following table:

	Total Potable Demand in - Acre-Feet	**Population**	**Tri-Valley GPCD**
2000	42,401	180,100	210
2013	49,259	227,222	194
2014	36,466	232,369	140
2015	31,941	238,575	120
2016	34,491	242,000	127
2017	39,250	251,200	139
2018	40,931	254,800	143
2019	40,659	258,400	140
2020	43,162	266,000	145
		Conservation: 2000 to 2020	31%
		Conservation: 2013 to 2020	25%

2. What the DWR/SWRCB study did not include was an analysis of how reducing the standard for indoor water use for all Californians to 42 GPCD beyond 2030 could adversely impact water affordability, recycled water use, water and wastewater facilities and costs. The study did not quantify the costs and benefits of achieving 42 GPCD, so the impacts to local water, wastewater/recycled water, and residents was not defined. The California Water Efficiency Partnership estimated during the regulatory process that the "the total anticipated cost range for reasonably complying with a 2030 standard in which all providers achieve a residential indoor per capita volume of 42 GPCD by 2030 is likely between $2.8 and $4.6 billion." This expenditure only results in an overall water savings of six (6) GPCD beyond what has been achieved by Californians already. The impact to residential users for these additional 6 gallons and the associated costs to water affordability should be evaluated.

The Tri-Valley area of the San Francisco Bay region has met and surpassed each call for water conservation in the previous droughts and continues to look for ways to make water conservation a way of life, as evidenced in the reduction in per capita use over the past 20 years. Therefore, we respectfully oppose additional legislative restrictions.

Sincerely,

Angela Ramirez Holmes
President of the Board of Directors

c: Honorable Vice Chair and Members, Senate Committee on Natural Resources and Water
Honorable Robert Hertzberg
Honorable Steve Glazer
Honorable Rebecca Bauer-Kahan
Mr. Dennis O'Connor
Mr. Todd Moffit
Ms. Valerie Pryor
Mr. Freddie Quintana
Zone 7 Board of Directors
The Gualco Group, Inc.

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(925) 454-5000

ITEM NO. 6d

ORIGINATING SECTION: Integrated Planning
CONTACT: Amparo Flores

AGENDA DATE: April 20, 2022

SUBJECT: Bay Area Proposition 1 IRWMP Implementation Grant – EBMUD MOU

SUMMARY:

- To meet Zone 7 Water Agency's ("Agency" or "Zone 7") mission to "Deliver safe, reliable, efficient, and sustainable water services", Zone 7 has a conservation program. The program is aligned with Strategic Initiative #2 – Evaluate and develop appropriate new water supply and reliability opportunities.
- The Integrated Regional Water Management (IRWM) Program was created by the Department of Water Resources (DWR) in 2002 to foster regional collaboration and to implement effective water management solutions.
- On November 18, 2020, the Zone 7 Board adopted the Updated 2019 San Francisco Bay Area IRWM Plan (Plan), which contains a list of projects eligible for State grant funding, such as conservation programs, that is updated from time to time to match agency needs and funding opportunities.
- The Association of Bay Area Governments (ABAG), on behalf of the San Francisco Bay Area IRWM partners (also called Participating Agencies or PAs), applied for $23M in grant funding based on a sub-set of projects from the Plan list under Proposition 1 Round 1 and, in the late spring of 2020, was awarded this amount under the Bay Area Proposition 1 IRWM Implementation Grant.
- With EBMUD as the lead, $4.2M (of the $23M) was secured for PAs' water conservation programs; this amount includes $83,300 for Zone 7 towards rebate programs and landscaper training.
- EBMUD and ABAG have entered into an Implementation Agreement by which ABAG agrees to disburse funding from the Proposition 1 Round 1 Grant to EBMUD.
- EBMUD will then pass Proposition 1 Round 1 Grant funds to the PAs, such as Zone 7, via the Bay Area Proposition 1 IRWM Implementation Grant Memorandum of Understanding (MOU).
- The MOU will be in effect until the Implementation Agreement between ABAG and EBMUD terminates on March 31, 2025, or when all the Parties' obligations under the State Agreement are fully satisfied, whichever occurs earlier. Eligible conservation program costs after June 2, 2020, are eligible for reimbursement under the MOU. Each PA must abide by the guidelines within the State Agreement and the Implementation Agreement.
- Under the MOU, Zone 7 agrees to comply with the Proposition 1 Round 1 Grant requirements and the ABAG/EBMUD Implementation Agreement.

- Staff recommends negotiation and execution of the Bay Area Proposition 1 IRWM Implementation Grant MOU.

FUNDING:

Grant funds for the conservation program would contribute to Fund 100 - Water Enterprise (80%) and Fund 130 - Water Enterprise Capital Expansion (20%).

RECOMMENDED ACTION:

Adopt the attached Resolution.

ATTACHMENT:

Resolution

ZONE 7

ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
BOARD OF DIRECTORS

RESOLUTION NO.

INTRODUCED BY
SECONDED BY

Bay Area Proposition 1 IRWMP Implementation Grant – EBMUD MOU

WHEREAS, to meet Zone 7 Water Agency's ("Zone 7's") mission to "Deliver safe, reliable, efficient, and sustainable water services", Zone 7 has a conservation program, which is aligned with Strategic Initiative #2 – Evaluate and develop appropriate new water supply and reliability opportunities; and

WHEREAS, the Association of Bay Area Governments (ABAG), on behalf of the San Francisco Bay Area IRWM partners (also called Participating Agencies or PAs), was awarded $23M in State grant funding under the Bay Area Proposition 1 IRWM Implementation Grant in the spring of 2020; and

WHEREAS, on November 18, 2020, the Zone 7 Board adopted the Updated 2019 San Francisco Bay Area Integrated Regional Water Management (IRWM) Plan, which fosters regional collaboration and implementation of effective water management solutions in the Bay Area, and supports access to State grant funding; and

WHEREAS, with EBMUD as the lead, $4.2M (of the $23M) was secured for PAs' water conservation programs, including $83,300 for Zone 7 towards rebate programs and landscaper training; and

WHEREAS, Zone 7 will need to execute the Bay Area Proposition 1 IRWMP Implementation Grant – EBMUD Memorandum of Understanding (MOU) to receive the grant funds of $83,300 from EBMUD with eligibility over approximately June 2020 to March 2025.

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of Zone 7 of the Alameda County Flood Control and Water Conservation District directs the General Manager to negotiate and execute the Bay Area Proposition 1 IRWMP Implementation Grant – EBMUD MOU.

BE IT FURTHER RESOLVED that the Board of Directors of Zone 7 of the Alameda County Flood Control and Water Conservation District authorizes the General Manager to negotiate and execute future amendments to the MOU that require no financial contribution.

ADOPTED BY THE FOLLOWING VOTE:

AYES:

NOES:

ABSENT:

ABSTAIN:

I certify that the foregoing is a correct copy of a Resolution adopted by the Board of Directors of Zone 7 of the Alameda County Flood Control and Water Conservation District on April 20, 2022.

By: _____
President, Board of Directors

ZONE 7 WATER AGENCY
Delivering Quality, Reliability and Safety

100 North Canyons Parkway
Livermore, CA 94551
(925) 454-5000

ITEM NO. 6e

ORIGINATING SECTION: Integrated Planning
CONTACT: Tami Church/Amparo Flores

AGENDA DATE: April 20, 2022

SUBJECT: Agreement with Alameda County Resource Conservation District for Living Arroyos Program – Task Order

SUMMARY:

- To meet Zone 7's mission to "Deliver safe, reliable, efficient, and sustainable water and flood protection services," Zone 7 Water Agency (Zone 7) has been participating in the Living Arroyos Program (Program), which is an anticipated activity specified under Goal D, Initiative #10 – Update the flood protection strategy and Goal F, Initiative #19 – Optimize Agency communications program.
- The Program was established in 2013 (Resolution 18-39) and has successfully leveraged resources and shared expertise to coordinate long-term flood protection improvements and maintenance. It has also provided riparian enhancements, channel restoration, and community education and engagement through the involvement in stream management and stewardship.
- Livermore Area Recreation and Parks District (LARPD), which implemented the program since 2015, wishes to discontinue in their role as the Implementing Partner when the existing agreement expires on June 30, 2022.
- Zone 7, City of Livermore ("Livermore"), City of Pleasanton ("Pleasanton"), and City of Dublin ("Dublin") (collectively "Program Partners") reaffirm their desire to continue to work together to leverage resources and maximize effectiveness in achieving the goals of the Program.
- The Alameda County Resource Conservation District (ACRCD) recently became a signatory to the Tri-Valley Intergovernmental Reciprocal Services Master Agreement and expressed interest in taking on the role of Implementing Partner as the Program aligns well with their mission.
- ACRCD mission is to provide leadership in the County and region on natural resources conservation, wildlife, and agricultural enhancement through partnerships, education, outreach, resource services, technical assistance, and funding.
- Zone 7 will continue to act as the Fiscal Agent for the Program. As the Fiscal Agent, Zone 7 budgets for the full amount to run the Program with agreed reimbursements from the Program Partners of approximately 50%, proportionate to the work done for each Partner.
- The proposed Program budget is estimated at $252,000 and Zone 7's share of the program is currently estimated at 45% ($113,400) with the rest to be reimbursed by the other Program Partners. Cost shares may be adjusted with mutual agreement of all the Program Partners to reflect the proportion of work completed per Program Partner.

- Staff recommends the Board adopt the attached resolution, which authorizes the General Manager to negotiate and execute annual task orders under the Tri-Valley Intergovernmental Reciprocal Services Master Agreement with the Alameda County Resource Conservation District on behalf of the Program Partners for the Living Arroyos Program in an amount not-to-exceed $252,000 per year, with an estimated cost-share by Livermore, Pleasanton, and Dublin at 55% or $138,600.

FUNDING:

Funding will be incorporated in subsequent budgets from Fund 200 – Flood Protection Operations.

RECOMMENDED ACTION:

Adopt the attached Resolution.

ATTACHMENT:

Resolution

ZONE 7
ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

BOARD OF DIRECTORS

RESOLUTION NO.

INTRODUCED BY
SECONDED BY

Agreement with Alameda County Resource Conservation District for Living Arroyos Program – Task Order

WHEREAS, to meet Zone 7's mission to "Deliver safe, reliable, efficient, and sustainable water and flood protection services," Zone 7 Water Agency (Zone 7) has been participating in the Living Arroyos Program, which is an anticipated activity specified under Goal D, Initiative #10 – Update the flood protection strategy and Goal F, Initiative #19 – Optimize Agency communications program; and

WHEREAS, the Living Arroyos Program (Program) has successfully leveraged resources and shared expertise to engage the public, and coordinate long-term flood protection improvements and maintenance, riparian enhancements, channel restoration, and community involvement in stream management and stewardship; and

WHEREAS, Zone 7, City of Livermore ("Livermore"), City of Pleasanton ("Pleasanton"), and City of Dublin ("Dublin") (collectively "Program Partners") reaffirm their desire to continue to work together to leverage resources and maximize effectiveness in achieving the goals of the Program; and

WHEREAS, Zone 7, as the Fiscal Agent, budgets for the full amount of the annual Program costs estimated at $252,000 per year with agreed reimbursements or cost shares from Dublin, Livermore, and Pleasanton of approximately 55% of this total amount; and

WHEREAS, cost shares may be adjusted with mutual agreement of the Program Partners to reflect the proportion of work completed per Program Partner on an annual basis.

WHEREAS, the Alameda County Resource Conservation District is a signatory to the Tri-Valley Intergovernmental Reciprocal Services Master Agreement and wishes to take on the role of Implementing Partner under a Task Order from this agreement.

NOW, THEREFORE, BE IT RESOLVED that the Zone 7 Board of Directors of the Alameda County Flood Control and Water Conservation District does hereby authorize the General Manager to negotiate, execute and amend annual task orders under the Tri-Valley Intergovernmental Reciprocal Services Master Agreement with Alameda County Resource

Conservation District on behalf of the Program Partners for the Living Arroyos Program for a total not-to-exceed task order amount of $252,000 per Program year with reimbursement from Dublin, Livermore and Pleasanton estimated at $138,600.

ADOPTED BY THE FOLLOWING VOTE:

AYES:

NOES:

ABSENT:

ABSTAIN:

I certify that the foregoing is a correct copy of a Resolution adopted by the Board of Directors of Zone 7 of the Alameda County Flood Control and Water Conservation District on April 20, 2022.

By: _____
President, Board of Directors

ZONE 7 WATER AGENCY
Delivering Quality, Reliability and Safety

100 North Canyons Parkway
Livermore, CA 94551
(925) 454-5000

ITEM NO. 6f

ORIGINATING SECTION: Operations and Maintenance
CONTACT: Colter Andersen

AGENDA DATE: April 20, 2022

SUBJECT: Award Contract for Motor Control Protection Maintenance, Parts, and Repair

SUMMARY:

- The proposed action is in support of the Zone 7 Mission Statement to deliver safe, reliable, efficient, and sustainable water and flood protection service, Strategic Plan Goal B; Safe Water: Provide customers with safe water and Strategic Plan No. 14 – evaluate current program to increase ratio of preventative to reactive maintenance.

- Variable Frequency Drive's (VFD) and Soft Starters allow electric motors that are attached to pumps to start and function. These can be found on well pump motors; water treatment plant sludge pump motors; and fire pump motors and play a crucial role in ensuring Zone 7's ability to deliver drinking water.

- In accordance with the Agency Purchasing Policy, the selection of a new vendor was done through a competitive procurement process. A Request for Quote (RFQ No. B2022-38) was issued to qualified vendors to solicit bidders for VFD & Soft Starter Preventative Maintenance and as-needed parts and repair services. Naz & Co dba True Blue Automation Services was found to be the lowest responsible and qualified bidder.

- One hundred and one units are in service throughout the Zone 7 water treatment and distribution system. This last Fiscal Year VFD and soft start repairs cost approximately $25,000.

- Staff recommends that the Board authorize the General Manager to:

    - Negotiate, execute, and amend as-needed a contract for variable frequency drive and soft starter preventative maintenance, as-needed replacement parts, and repair services contract with Naz & Co dba True Blue Automation Services; for a three-year term starting July 1, 2022, through June 30, 2025, for a contract amount not-to-exceed $104,000. Spending for the contract will be per fiscal year:

        - FY 2022-23 – $33,000
        - FY 2023-24 – $34,000
        - FY 2024-25 – $37,000

FUNDING:

For FY 2023 and FY 2024 – Funding will be requested in the next fiscal year's budget request from Fund 100 – Water Enterprise Operations and for the remaining one-year, funding will be requested in subsequent fiscal year budget.

RECOMMENDED ACTION:

Adopt the attached Resolution.

ATTACHMENT:

Resolution

ZONE 7
ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
BOARD OF DIRECTORS

RESOLUTION NO.

INTRODUCED BY
SECONDED BY

Award Contract for Motor Control Protection Maintenance, Parts, and Repair

WHEREAS, Zone 7 of the Alameda County Flood Control and Water Conservation District is committed to delivering safe, reliable, efficient, and sustainable water and flood protection services; and

WHEREAS, Zone 7 owns 101 Variable Frequency Drive's (VFD's) and Soft Starters from a variety of manufacturers. This equipment requires annual preventative maintenance services', replacement parts, and repair; and

WHEREAS, maintaining the VFD's and Soft Starters will support Strategic Plan Goal B; Safe Water: Provide customers with safe water and Strategic Plan No. 14 – evaluate current program to increase ratio of preventative to reactive maintenance; and

WHEREAS, in accordance with the Agency Purchasing Policy, a Request for Quote (RFQ No. B2022-38) was issued to qualified vendors to solicit bidders for VFD & Soft Starter preventative maintenance and as-needed services. Naz & Co dba True Blue Automation Services was found to be the lowest responsible and qualified bidder.

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of Zone 7 of the Alameda County Flood Control and Water Conservation District does hereby authorize the General Manager to negotiate execute and amend as-needed a variable frequency drive and soft starter preventative maintenance, replacement parts and repair contract with Naz & Co dba True Blue Automation Services for a three-year term starting July 1, 2022, through June 30, 2025, for a total contract amount not-to-exceed $104,000.

ADOPTED BY THE FOLLOWING VOTE:

AYES:

NOES:

ABSENT:

ABSTAIN:

I certify that the foregoing is a correct copy of a Resolution adopted by the Board of Directors of Zone 7 of the Alameda County Flood Control and Water Conservation District on April 20, 2022.

By: _____
President, Board of Directors

ZONE 7 WATER AGENCY
Delivering Quality, Reliability and Safety

100 North Canyons Parkway
Livermore, CA 94551
(925) 454-5000

ORIGINATING SECTION: Operations and Maintenance
CONTACT: Colter Andersen

AGENDA DATE: April 20, 2022

SUBJECT: Award Contract for As-Needed Repair of Medium Voltage Systems

SUMMARY:

- The proposed action is in support of the Zone 7 Mission Statement to deliver safe, reliable, efficient, and sustainable water and flood protection service, Strategic Plan Goal B; Safe Water: Provide customers with safe water and Strategic Plan No. 14 – evaluate current program to increase ratio of preventative to reactive maintenance.

- Zone 7's medium voltage systems (480V and lower) require as-needed repair services to ensure safe drinking water is provided to the retailers. Medium voltage electrical systems are used throughout the Agency to power pump motors; valve actuators; chemical systems; and other electronic devices.

- Expenditures in the past have been between $6,000 and $16,000 a year for these services.

- A Request for Quote (RFQ No. 2022-35) was issued to qualified vendors to solicit bidders for As-Needed Repair Services for Medium Voltage Systems. Electrical Power Systems International Inc. was found to be the lowest responsible and qualified bidder.

- Staff recommends that the Board authorize the General Manager to:

    - Negotiate, execute, and amend as-needed a contract for as-needed repair of medium voltage systems with Electrical Power Systems International Inc; for a three-year term starting July 1, 2022, through June 30, 2025, for a total contract amount not-to-exceed $60,000 ($20,000 per fiscal year).

FUNDING:

For FY 2023 and FY 2024 – Funding will be requested in the next fiscal year's budget request from Fund 100 – Water Enterprise Operations and for the remaining one-year, funding will be requested in subsequent fiscal year budget.

RECOMMENDED ACTION:

Adopt the attached Resolution

ATTACHMENT:

Resolution

ZONE 7
ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

BOARD OF DIRECTORS

RESOLUTION NO.

INTRODUCED BY
SECONDED BY

Award Contract for As-Needed Repair of Medium Voltage Systems

WHEREAS, Zone 7 of the Alameda County Flood Control and Water Conservation District is committed to delivering safe, reliable, efficient, and sustainable water and flood protection services; and

WHEREAS, Zone 7 medium voltage systems (480V and lower) located at many Zone 7 facilities, require as-needed electrical repair services; and

WHEREAS, maintaining medium voltage systems will support Strategic Plan Goal B; Safe Water: Provide customers with safe water and Strategic Plan No. 14 – evaluate current program to increase ratio of preventative to reactive maintenance; and

WHEREAS, a Request for Quote (RFQ No. 2022-35) was issued to qualified vendors to solicit bidders for As-Needed Repair Services for Medium Voltage Systems. Electrical Power Systems International Inc. was therefore found to be the lowest responsible and qualified bidder.

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of Zone 7 of the Alameda County Flood Control and Water Conservation District does hereby authorize the General Manager to negotiate, execute and amend as-needed a contract for as-needed repair of medium voltage systems with Electrical Power Systems International Inc. for a three-year term starting July 1, 2022, through June 30, 2025, for a total contract amount not-to-exceed $60,000 ($20,000 per fiscal year).

ADOPTED BY THE FOLLOWING VOTE:

AYES:

NOES:

ABSENT:

ABSTAIN:

I certify that the foregoing is a correct copy of a Resolution adopted by the Board of Directors of Zone 7 of the Alameda County Flood Control and Water Conservation District on April 20, 2022.

By: _____
President, Board of Directors

ZONE 7 WATER AGENCY
Delivering Quality, Reliability and Safety

100 North Canyons Parkway
Livermore, CA 94551
(925) 454-5000

ITEM NO. 6h

ORIGINATING SECTION: Operations and Maintenance
CONTACT: Colter Andersen

AGENDA DATE: April 20, 2022

SUBJECT: Award Contract for Electric Motor Repair, Parts, and Replacement

SUMMARY:

- The proposed action is in support of the Zone 7 Mission Statement to deliver safe, reliable, efficient, and sustainable water and flood protection service, Strategic Plan Goal B- Safe Water: Provide customers with safe water and Initiative No. 14: Evaluate current program to increase ratio of preventative to reactive maintenance. Staff is proposing to award an as-needed contract for electric motors, parts, and repair services.

- Zone 7's assortment of electric motors is essential for providing water to the Retailers and ensuring Zone 7's compliance with water quality regulations set forth by the Division of Drinking Water of the State of California. Electric motors provide water sample streams, compressed air, and spin large pumps for moving water through pump stations.

- In accordance with the Agency Purchasing Policy, the selection was done through a competitive procurement process. A Request for Quote (RFQ No. B2022-39) was issued to qualified vendors to solicit bidders for Electrical Motors, Parts, and Repair Services, Dahl Beck Electric was found to be the lowest responsible and qualified bidder.

- In recent years, the cost of repairs and maintenance of electric motors is $17,000 to $21,000. The maintenance and repair services are dependent on the hours of run time and motor starts. As this equipment ages, it is anticipated that repairs and maintenance will be more frequent.

- Staff recommends that the Board authorize the General Manager to:

    - Negotiate, execute, and amend an as-needed electric motors, parts, and repair services contract with Dahl Beck Electric; for a three-year term starting July 1, 2022, through June 30, 2025, for a total contract amount not-to-exceed $150,000 ($50,000 per fiscal year).

FUNDING:

For FY 2023 and FY 2024– Funding will be requested in the next fiscal year's budget request from Fund 100 – Water Enterprise Operations and for the remaining one-year, funding will be requested in subsequent fiscal year budget.

RECOMMENDED ACTION:

Adopt the attached Resolution

ATTACHMENT:

Resolution

ZONE 7
ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

BOARD OF DIRECTORS

RESOLUTION NO.

INTRODUCED BY
SECONDED BY

Award Contract for Electric Motor Repair, Parts, and Replacement

WHEREAS, Zone 7 of the Alameda County Flood Control and Water Conservation District is committed to delivering safe, reliable, efficient, and sustainable water and flood protection services; and

WHEREAS, Zone 7 owns a vast assortment of electric motors from a multitude of vendors that require replacement, parts and repair; and

WHEREAS, Electric motor repairs will support Strategic Plan Goal B- Safe Water: Provide customers with safe water and Initiative No. 14 – Evaluate current program to increase ratio of preventative to reactive maintenance; and

WHEREAS, a Request for Quote (RFQ No. B2022-39) was issued to qualified vendors to solicit bidders for as needed Electrical Motors, Parts, and Repair Services, Dahl Beck Electric was found to be the lowest responsible and qualified bidder.

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of Zone 7 of the Alameda County Flood Control and Water Conservation District does hereby authorize the General Manager to negotiate, execute, and amend as-needed an electric motors, parts and repair services contract for a three-year term with Dahl Beck Electric starting July 1, 2022 through June 30, 2025, for a total contract amount not-to-exceed $150,000 ($50,000 per fiscal year).

ADOPTED BY THE FOLLOWING VOTE:

AYES:

NOES:

ABSENT:

ABSTAIN:

I certify that the foregoing is a correct copy of a Resolution adopted by the Board of Directors of Zone 7 of the Alameda County Flood Control and Water Conservation District on April 20, 2022.

By: _____
President, Board of Directors

ZONE 7 WATER AGENCY
Delivering Quality, Reliability and Safety

100 North Canyons Parkway
Livermore, CA 94551
(925) 454-5000

ORIGINATING SECTION: Operations and Maintenance
CONTACT: Colter Andersen

AGENDA DATE: April 20, 2022

SUBJECT: Award Contract for Electrical Power Testing and As-Needed Repair - Testing Services for Del Valle Water Treatment Plant

SUMMARY:

- The proposed action is in support of the Zone 7 Mission Statement to deliver safe, reliable, efficient, and sustainable water and flood protection service, Strategic Plan Goal B; Safe Water: Provide customers with safe water and Strategic Plan No. 14 – evaluate current program to increase ratio of preventative to reactive maintenance.

- The Del Valle Water Treatment Plant's routine power equipment electrical testing and as-needed repairs are essential to its reliable operation. This service includes testing the circuit breakers in all of the electrical panels, inspecting, cleaning, and torquing the switchboards so that the electrical equipment will stay in service through their expected useful life. Staff is currently scheduling the maintenance inspection and work every five years.

- In recent years, the cost of repairs and maintenance of testing the electrical equipment has varied depending on the installation. For example, the Mocho Well's 3 and 4 testing services were completed last year for approximately $25,000 total.

- In accordance with the Agency Purchasing Policy, the selection of a new vendor was done through a competitive procurement process. A Request for Quote (RFQ No. B2022-36) was issued to qualified vendors to solicit bidders for electrical power testing for the Del Valle Water Treatment Plant and as needed repair/testing services. Electrical Power Systems International, Inc., was found to be the lowest responsible and qualified bidder.

- Staff recommends that the Board authorize the General Manager to negotiate, execute, and amend as-need an electrical power testing and repair services contract with Electrical Power Systems International Inc; for Del Valle Water Treatment Plant for fiscal year 2022-23, for a total contract amount not-to-exceed $64,250.

FUNDING:

For FY 2022-23 – Funding will be requested in the next fiscal year's budget in Fund 100 – Water Enterprise Operations.

RECOMMENDED ACTION:

Adopt the attached Resolution

ATTACHMENT:

Resolution

ZONE 7
ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

BOARD OF DIRECTORS

RESOLUTION NO.

INTRODUCED BY
SECONDED BY

Award Contract for Electrical Power Testing and As-Needed Repair - Testing Services for Del Valle Water Treatment Plant

WHEREAS, Zone 7 of the Alameda County Flood Control and Water Conservation District is committed to delivering safe, reliable, efficient, and sustainable water and flood protection services; and

WHEREAS, Zone 7's electrical power equipment at the Del Valle Water Treatment Plant requires routine testing, maintenance and as-needed repair; and

WHEREAS, Testing, maintenance and repairing electrical power equipment will support Strategic Plan Goal B; Safe Water: Provide customers with safe water and Strategic Plan No. 14 – evaluate current program to increase ratio of preventative to reactive maintenance; and

WHEREAS, in accordance with the Agency Purchasing Policy, a Request for Quote (RFQ No. 2022-36) was issued to qualified vendors to solicit bidders for electrical power testing for Del Valle water treatment plant and as needed repair/testing services, Electrical Power Systems International INC. was found to be the lowest responsible and qualified bidder.

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of Zone 7 of the Alameda County Flood Control and Water Conservation District does hereby authorize the General Manager to negotiate, execute and amend as-needed an electrical power testing and repair services contract with Electrical Power Systems International, Inc., for Del Valle Water Treatment Plant for fiscal year 2022-23 for a total contract amount not-to-exceed $64,250.

ADOPTED BY THE FOLLOWING VOTE:

AYES:

NOES:

ABSENT:

ABSTAIN:

I certify that the foregoing is a correct copy of a Resolution adopted by the Board of Directors of Zone 7 of the Alameda County Flood Control and Water Conservation District on April 20, 2022.

By: _____
President, Board of Directors

ZONE 7 WATER AGENCY
Delivering Quality, Reliability and Safety

100 North Canyons Parkway
Livermore, CA 94551
(925) 454-5000

ITEM NO. 6j

ORIGINATING SECTION: Operations and Maintenance
CONTACT: Colter Andersen

AGENDA DATE: April 20, 2022

SUBJECT: Mechanical Analysis Repairs Inc., dba MarTech Contract Amendment

SUMMARY:

- The proposed action is in support of the Zone 7 Mission Statement to deliver safe, reliable, efficient, and sustainable water and flood protection service, Strategic Plan Goal B; Safe Water: Provide customers with safe water and Strategic Plan No. 14 – evaluate current program to increase ratio of preventative to reactive maintenance.

- Pursuant Board Resolution No. 07-2981 authorizing the General Manager to enter into contracts for goods and services for a not-to-exceed amount of $50,000, the Agency entered into a contract with Mechanical Analysis Repairs Inc., dba MarTech for Del Valle Water Treatment Plant's raw water Booster Pumps No. 1 and No. 2 repair services for a contract amount of $46,914. The total cost of the repair services under the contract was approximately $55,914, exceeding the General Manager authority limit.

- The Contractor, MarTech, performed additional tasks within the scope of work, which include; welding work, machine work, bushing replacement, and transportation. This additional work was not anticipated at the time of bidding the project, Booster Pump No. 2, which was found to be in poor condition as the repair services was started.

- Staff recommends that the Board authorize the General Manager to increasing MarTech contract for an additional $9,000 to cover the additional repair services and increase the contract for a contract amount not-to-exceed $55,914.

FUNDING:

Funding is available in Fund 100 – Water Enterprise Operations.

RECOMMENDED ACTION:

Adopt the attached Resolution.

ATTACHMENT:

Resolution

ZONE 7
ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

BOARD OF DIRECTORS

RESOLUTION NO.

INTRODUCED BY
SECONDED BY

Mechanical Analysis Repairs Inc., dba MarTech Contract Amendment

WHEREAS, Zone 7 of the Alameda County Flood Control and Water Conservation District is committed to delivering safe, reliable, efficient, and sustainable water and flood protection services; and

WHEREAS, Repairing and maintaining the Del Valle Water Treatment Plant's raw water booster pumps is in support of Strategic Plan Goal B; Safe Water: Provide customers with safe water and Strategic Plan No. 14 – evaluate current program to increase ratio of preventative to reactive maintenance; and

WHEREAS, a contract amendment is needed to cover additional tasks performed by MarTech within the scope of work repairing the booster pumps at Del Valle Water Treatment Plant.

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of Zone 7 of the Alameda County Flood Control and Water Conservation District does hereby authorize the General Manager to increase the Mechanical Analysis Repair Inc. dba MarTech contract for an additional $9,000 to cover the additional repair services and increase the contract for a contract amount not-to-exceed $55,914 under contract no. A21-96-MAR.

ADOPTED BY THE FOLLOWING VOTE:

AYES:

NOES:

ABSENT:

ABSTAIN:

I certify that the foregoing is a correct copy of a Resolution adopted by the Board of Directors of Zone 7 of the Alameda County Flood Control and Water Conservation District on April 20, 2022.

By: _____
President, Board of Directors

ZONE 7 WATER AGENCY
Delivering Quality, Reliability and Safety

100 North Canyons Parkway
Livermore, CA 94551
(925) 454-5000

ITEM NO. 6k

ORIGINATING SECTION: Water Supply Engineering
CONTACT: Steven Ellis/Rhett Alzona

AGENDA DATE: April 20, 2022

SUBJECT: Budget Change Request for Emergency Pipeline Repair and Purchase of Replacement Pumps and VFDs at MGDP

SUMMARY:

- The purpose of this budget change request is to pay for emergency pipeline repair and procurement of materials to ensure reliable operation of the Mocho Groundwater Demineralization Plant (MGDP). Emergency repair and procurement of materials are in support of Strategic Plan Initiative No.3 – Continue to effectively implement infrastructure projects in the water system Capital Improvement Program.

- An emergency repair to a leaking pipeline at the MGDP site was performed under an existing On-Call Construction Contract with GradeTech, Inc. The pipeline leak prevented water from Mocho Wells 2 and 3 from flowing through MGDP for both demineralization and chloramination to provide chloramine residual. Under the same On-Call Construction Contract, new MGDP concentrate pumps and variable frequency drives (VFDs) were also procured to replace existing pumps and VFDs to ensure reliable operation of MGDP.

- This budget change request is needed to cover the approximate $700,000 in costs for emergency pipeline repair work and the procurement of the replacement concentrate pumps and VFDs.

FUNDING:

Following a condition assessment, staff recommends a deferral of at least two years for the Mocho 2 Building and Electrical System Replacement Project. In addition, the MGDP Reverse Osmosis (RO) Membrane Replacement budget will be unused this year as the existing membranes are in good condition. Table 1 details the budget change request by staff which adds $700,000 for the emergency pipeline repair work and procurement of the concentrate pumps and VFDs and defers the two projects in the FY 2021-22 budget which total $740,000.

Table 1 – Budget Change Request		
Change Item	**FY 2021-22 Budget Addition**	**FY 2021-22 Budget Deferment**
Emergency Pipeline Repair Work and Procurement of Pumps and VFDs	$700,000	
Mocho 2 Building and Electrical System Replacement Project		$490,000
MGDP Reverse Osmosis (RO) Membrane Replacement		$250,000
Total	$700,000	$740,000

RECOMMENDATION:

Adopt the attached Resolution.

ATTACHMENT:

Resolution

ZONE 7

ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

BOARD OF DIRECTORS

RESOLUTION NO.

INTRODUCED BY
SECONDED BY

Budget Change Request for Emergency Pipeline Repair and Purchase of Replacement Pumps and VFDs at MGDP

WHEREAS, a pipeline emergency repair work was performed and replacement pumps and VFDs were ordered to ensure reliable operation of the Mocho Groundwater Demineralization Plant (MGDP); and

WHEREAS, emergency pipeline repair and procurement of materials for MGDP are in support of Strategic Plan Initiative No. 3 – Continue to effectively implement infrastructure projects in the water system Capital Improvement Program; and

WHEREAS, Zone 7 performed the work through an On-Call Construction Contract with GradeTech, Inc., which provides on-call construction services for small construction projects or emergency repairs; and

WHEREAS, funding is needed to cover the approximate $700,000 in costs for the emergency pipeline repair effort and the procurement of the replacement concentrate pumps and VFDs; and

WHEREAS, staff recommends deferral of the following two projects budgeted in FY 2021-22: 1) Mocho 2 Building and Electrical System Replacement Project ($490,000), and 2) MGDP Reverse Osmosis Membrane Replacement Project ($250,000) and recommends a budget change that transfers $700,000 of these funds to pay for the said emergency pipeline repair work and purchase of the replacement pumps and VFDs.

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of Zone 7 of the Alameda County Flood Control and Water Conservation District does hereby approve the budget change to allocate $700,000 in the FY 2021-22 budget for emergency pipeline repair and procurement of replacement pumps and VFDs for MGDP and defer the Mocho 2 Building and Electrical System Replacement Project ($490,000) and the MGDP Reverse Osmosis Membrane Replacement Project ($250,000).

ADOPTED BY THE FOLLOWING VOTE:

AYES:

NOES:

ABSENT:

ABSTAIN:

I certify that the foregoing is a correct copy of a Resolution adopted by the Board of Directors of Zone 7 of Alameda County Flood Control and Water Conservation District on April 20, 2022.

By_____
President, Board of Directors

ZONE 7 WATER AGENCY
Delivering Quality, Reliability and Safety

100 North Canyons Parkway
Livermore, CA 94551
(925) 454-5000

ITEM NO. 6I

ORIGINATING SECTION: Flood Protection Engineering
CONTACT: Jessica Traynor/Jeff Tang

AGENDA DATE: April 20, 2022

SUBJECT: Award of Construction Contract for the Arroyo Mocho Medeiros Reach Floodplain Reconnection Project

SUMMARY:

- In order to provide effective flood protection for the Livermore-Amador Valley (Tri-Valley) area, the Zone 7 Water Agency (Zone 7) implements maintenance and improvements to flood control channels under a Capital Improvement Program (CIP). This effort is in support of Strategic Plan Initiatives No. 9 – Continue to maintain the flood protection system.

- Arroyo Mocho Medeiros Reach, which sits south of College Avenue and in between Holmes Street and Arroyo Road in Livermore, is disconnected from the Oak Grove Nature Reserve (OGNR), a former rock quarry currently used as a recreation area, by the raised Arroyo Bike Trail. The Project consists of lowering a portion of the Arroyo Mocho asphalt bike trail and embankment to reconnect the OGNR to the Arroyo Mocho Floodplain. It will also improve existing dirt trails with aggregate base rock and remove invasive plant species within Medeiros Reach.

- The project provides approximately 22 acre-feet of floodwater detention during storms greater than 10-year return interval, and reduces flood risk at Holmes Street and, to a limited extent, regionally in the Zone 7 Service Area. Additionally, the project improves existing riparian habitat quality by controlling invasive vegetation in the reach and enhances existing dirt trails in the OGNR with aggregate base rock.

- In October 2017, Zone 7 entered into a Grant Agreement with the State of California Natural Resources Agency for up to $500,000 in grant funding under the California River Parkways Grant Program. Per the Agreement, the project must be completed before December 31, 2023, to be reimbursed for approved costs.

- Per the California Environmental Quality Act (CEQA) guidelines, a Draft Initial Study/Mitigated Negative Declaration (IS/MND) was prepared and circulated for public review from December 17, 2018, through January 22, 2019, according to CEQA standards. On February 20, 2019, the Zone 7 Board, under Resolution 19-19, adopted and certified the Final IS/MND, adopted the associated Mitigation and Monitoring Reporting Plan, and approved the Project's CEQA compliance requirement.

- In accordance with the California Public Contract Code, Zone 7 advertised and solicited bids for the Project from February 21, 2022, to March 24, 2022. On March 24, 2022, four (4) bids were received, opened, and publicly read. The bid prices ranged from $619,655 to $748,800.

- Staff has reviewed the bid packages and has determined Galeb Paving, Inc to be the lowest responsive and responsible bidder with a bid price of $619,655.

- Staff recommends the Board: 1) approve the plans, specifications, appendices, and addenda for the Arroyo Mocho Medeiros Reach Floodplain Reconnection Project, Project No. 282-19 2) award the construction contract to Galeb Paving, Inc for $619,655; 3) authorize the General Manager to negotiate and execute the contract with Galeb Paving; and 4) authorize the General Manager to execute change orders as and when needed, in a total amount not-to-exceed 61,965 (10% of the construction contract amount).

- The project construction is scheduled to commence in May 2022. The project scope related to non-native and invasive plant removal will continue for one year after completion of the substantial completion of construction. The Project's substantial completion date is anticipated to be October 15, 2022, with a final completion date of October 15, 2023.

FUNDING:

Funding for the Project is budgeted in FY 2021-22 from Fund 200 – Flood Protection Operations (43%) and Fund 210 – Flood Protection Development Impact Fee Fund (57%).

Grant funding, up to $500,000 in approved project costs, can be reimbursed to Zone 7 from the California River Parkways Grant Program.

RECOMMENDED ACTION:

Adopt the attached Resolution

ATTACHMENT:

Resolution

ZONE 7

ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

BOARD OF DIRECTORS

RESOLUTION NO.

INTRODUCED BY
SECONDED BY

Award of Construction Contract for the Arroyo Mocho Medeiros Reach Floodplain Reconnection Project

WHEREAS, Zone 7 of the Alameda County Flood Control and Water Conservation District has a project, Arroyo Mocho Medeiros Reach Floodplain Reconnection Project, Project No. 282-19, to lower a portion of the Arroyo Mocho asphalt bike trail and embankment, improving existing dirt trails with aggregate base rock and removing invasive plant species within the Medeiros Reach; and

WHEREAS, the project is in support of Strategic Plan Initiatives No. 9 – Continue to maintain the flood protection system; and

WHEREAS, Zone 7 adopted and certified a Final Initial Study/Mitigated Negative Declaration as per the California Environmental Quality Act (CEQA) guidelines, adopted the associated Mitigation and Monitoring Reporting Plan, and approved the Arroyo Mocho Medeiros Reach Floodplain Reconnection Project on February 20, 2019; and

WHEREAS, the project plans, specifications, appendix, and addenda were developed and advertised for bids in accordance with the California Public Contract Code; and

WHEREAS, four (4) bids were received and publicly read by the Zone 7 General Manager's authorized representatives at the Zone 7 Administration Office, 100 North Canyons Parkway, Livermore, on March 24, 2022, at 2:00 pm; and

WHEREAS, the lowest responsive and responsible bid received for Project No. 282-19 is the bid by Galeb Paving, Inc. with a bid amount of $619,655.

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of Zone 7 of the Alameda County Flood Control and Water Conservation District does hereby approve the plans, specifications, appendices, and addenda for the Arroyo Mocho Medeiros Reach Floodplain Reconnection Project, Project No. 282-19; and

BE IT FURTHER RESOLVED that the bid of the lowest responsive and responsible bidder, Galeb Paving, Inc. be accepted, and that the contract for the project be awarded to Galeb Paving, Inc. in an amount not-to-exceed $619,655; and

BE IT FURTHER RESOLVED that the General Manager is hereby authorized to negotiate and execute a contract for the project with Galeb Paving, Inc. in an amount not-to-exceed $619,655; and

BE IT FURTHER RESOLVED that the General Manager is hereby authorized to negotiate and execute change orders as and when needed in an amount not-to-exceed $61,965 (10% as contingency) for the project.

ADOPTED BY THE FOLLOWING VOTE:

AYES:

NOES:

ABSENT:

ABSTAIN:

I certify that the foregoing is a correct copy of a Resolution adopted by the Board of Directors of Zone 7 of the Alameda County Flood Control and Water Conservation District on April 20, 2022.

By: _____
President, Board of Directors

ZONE 7 WATER AGENCY
Delivering Quality, Reliability and Safety

100 North Canyons Parkway
Livermore, CA 94551
(925) 454-5000

ITEM NO. 8

ORIGINATING SECTION: Integrated Planning
CONTACT: Sal Segura/Amparo Flores

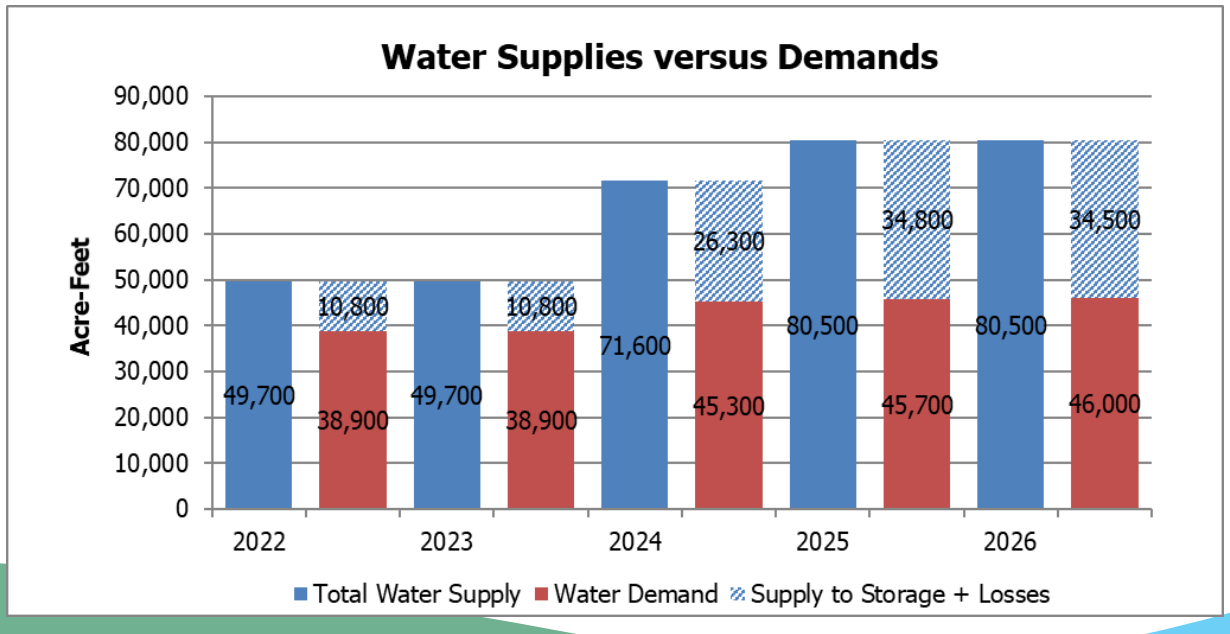
AGENDA DATE: April 20, 2022

SUBJECT: 2022 Annual Sustainability Report

SUMMARY:

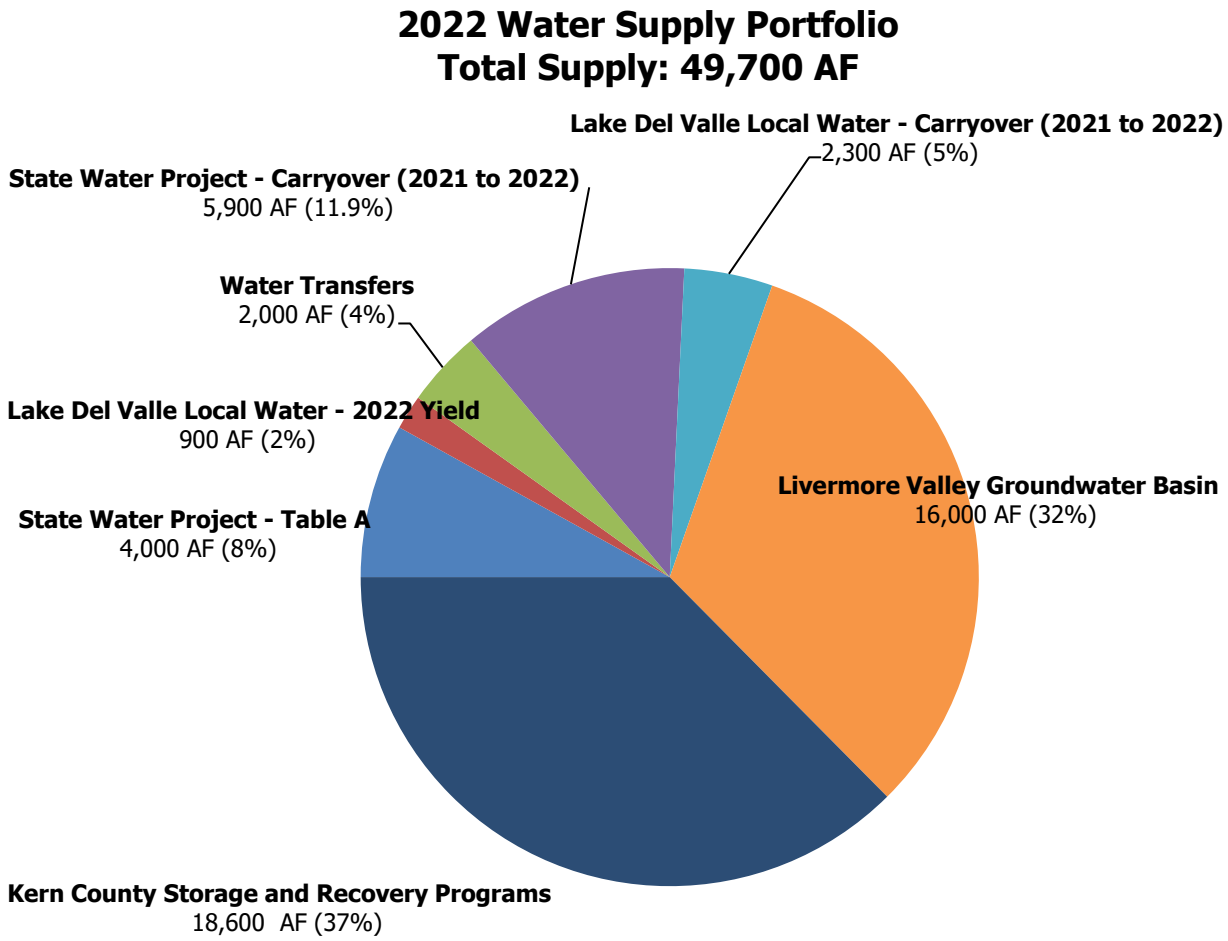
- Zone 7 Water Agency's mission is to "Deliver safe, reliable, efficient, and sustainable water and flood protection services." The Annual Sustainability Report assesses Zone 7's ability to provide such sustainable water services over the next five years and reflects the results of Strategic Initiative #1 - Establish a diversified water supply plan and #2 - Evaluate and develop appropriate new water supply and reliability opportunities.
- The preparation of the Annual Sustainability Report is required by Zone 7's Water Supply Reliability Policy, which requires an annual review of sustainable water supplies and demonstration of Zone 7's ability to meet *delivery requests* over the next five years. Given the state of drought emergency, this Annual Sustainability Report adjusted retailer demands to reflect the current mandated conservation level of 15% (relative to 2020) for 2022 and 2023. Retailer demands were then assumed to progressively increase to delivery requests by 2026, assuming a return to average hydrologic conditions in 2025 and 2026.
- As shown on Figure 1 below, a comparison of projected water supply and demand indicates that, based on supply availability, Zone 7 can deliver 100% of projected demands over the next five years, assuming 15% conservation in 2022 and 2023, with a ramp up to projected delivery requests by 2026 (assuming average conditions in 2025 and 2026).

Figure 1: Water Supplies versus Demands Based on Delivery Requests



- With local and Northern Sierra hydrologic conditions resulting in low SWP Table A allocation and low amount of Lake Del Valle local water, significant use of groundwater and surface water from storage will be needed to meet 2022 demands. Locally stored groundwater will be used to meet peak demands, accommodate the surface water treatment plant shutdowns, and moderate supply blend to improve system reliability. Zone 7 also expects to supplement water supplies by recovering water from the Kern County Storage and Recovery Programs and via water transfers, if available (e.g., Yuba Accord and other transfers). Figure 2 shows the expected relative contributions of water supplies in 2022.

Figure 2: Expected 2022 Water Supply Portfolio to Meet Demands



- In June 2022, staff plan to provide an updated Operations Plan to the Water Resources Committee; this plan will reflect the latest actual supply and demand conditions and Zone 7's most feasible operational scenario for the remainder of 2022.
- Zone 7 staff will continue to monitor both state and local conditions and will adjust operations and projections accordingly.
- While this Annual Sustainability Report indicates that Zone 7 is able to meet demands assuming 15% mandatory conservation consistent with the 2021 Zone 7 Board Resolution 21-67, the Board may wish to consider additional conservation if drought conditions worsen in 2022 (with a corresponding decrease in the SWP Table A allocation from 5% to 0%) and conditions persist in 2023.

FUNDING:

Funding for annual water supplies comes from Fund 100 – Water Enterprise Operations. Staff estimates significantly higher water supply expenditures in Calendar Year 2022 due to the need to supplement SWP and Lake Del Valle Local Water Arroyo Valle supplies with water transfers and withdrawal from the Kern County groundwater banks. These higher water supply expenditures will largely impact Fiscal Year (FY) 2022-23. The need for any additional funding will be addressed in the Mid-Cycle Budget Adjustment for FY 2022-23, to be presented to the Board in June 2022.

RECOMMENDED ACTION:

Information only

ATTACHMENT:

Annual Sustainability Report 2022

ANNUAL SUSTAINABILITY REPORT 2022

BACKGROUND

As a part of meeting Zone 7 Water Agency's (Zone 7) mission to "Deliver safe, reliable, efficient, and sustainable water and flood protection services," Zone 7 assesses sustainable water services over a five-year period in order to further Strategic Initiatives #1 - Establish a diversified water supply plan and #2 - Evaluate and develop appropriate new water supply and reliability opportunities. On October 17, 2012, Zone 7 adopted the Water Supply Reliability Policy (Resolution 13-4230, see Attachment A), which requires an annual review of sustainable water supplies (Annual Review). This memorandum presents the Annual Review (also called Annual Sustainability Report) and covers the following topics:

- Key hydrologic and water supply conditions
- Projected water demands for the next five years
- Projected water supplies for the next five years
- Comparison of supplies and demands for the next five years
- Programs necessary to continue meeting water demands going forward

SUMMARY OF FINDINGS

In late May 2021, Zone 7 and the retailers began requesting 10% voluntary conservation relative to 2020 treated water demands due to the critically dry conditions in 2021. Subsequently, Zone 7 and the retailers requested 15% voluntary conservation in line with the Governor's statewide request in July 2021 based on statewide dry conditions. On September 1, 2021, the Zone 7 Board declared a state of drought emergency at Stage 2 of Zone 7's Water Shortage Contingency Plan and called for 15% mandatory conservation for treated water customers (relative to 2020 demands) in preparation for a potential third dry year in 2022 (Resolution No. 21-67). The retailers rolled out their own declarations in the following months to comply with this conservation request over the following months. Despite the good start to the water year with storms in October and December 2021, the rest of the wet season has been very dry, with January and February 2022 breaking the record for the driest on record. The rapidly changing hydrology resulted in Table A allocations starting at 5%, increasing to 15%, then dropping to its current level of 5%. Recognizing the worsening hydrology, Governor Newsom issued Executive Order N-7-22 on March 28, 2022, calling for additional conservation statewide and other drought-response actions, including making mandatory the activation of Stage 2 actions. The 15% conservation level has been applied to treated water customer demands in this Annual Sustainability Report.

Under these drought conditions, for calendar year 2022, Zone 7's planned incoming supplies consist of the following:

- 4,000 acre-feet (AF) based on a 5% State Water Project (SWP) Table A allocation,
- 900 AF of Lake Del Valle local water captured in 2022 to-date, and
- an estimated 2,000 AF of water transfers through Yuba Accord and other water transfer options.

Given the dry conditions and low incoming supplies, Zone 7 is also planning to draw from storage as follows:

- 5,900 AF of SWP carryover from 2021 at the beginning of January 2022,
- 2,300 AF of Lake Del Valle local water captured in 2021,
- 18,600 AF of recovered groundwater from the Kern County Storage and Recovery Programs, and
- 16,000 AF from the Livermore Valley Groundwater Basin.

Planned incoming water supplies, combined with withdrawal from various stored supplies, result in a total of 49,700 AF that could be used to meet customer demands of 38,900 AF; note that this is based on retailer and direct customer demand projections (with 15% conservation based on 2020 treated water deliveries) and untreated water demands. A portion of the remaining water will be unavailable as operational losses (evaporation and system loss; 800 AF). As part of the water management strategy, the rest of the supplies (10,000 AF) will be redeposited into San Luis Reservoir for use in 2023 as SWP Carryover.

A comparison of projected water supply and demand indicates that Zone 7 can deliver projected demands that incorporate the 15% treated water conservation, even if conditions remain critically dry in 2023 and 2024 is below average. Zone 7 also expects to meet demands over 2025-2026, assuming average hydrologic conditions in that time period. Note that given the historic prolonged dry conditions that California is experiencing, a more conservative five-year outlook has been presented in this Annual Sustainability Report with a ramp-up to average conditions this year and over the next two years (2023-2024).

As described in the 2019 Water Supply Evaluation Update, Zone 7 has been participating in several potential future water supply and storage options to bolster long-term water supply reliability. A number of planned capital projects (new wells, the Chain of Lakes Pipeline, Chain of Lakes diversion structures, and reliability intertie) and the completed Chain of Lakes will help bolster the reliability of Zone 7's water supply system over the coming years. Furthermore, these projects will optimize the long-term yield of Lake Del Valle local water, a key source of incoming supplies, and the use of the groundwater basin for storage and withdrawal.

Zone 7 will continue to monitor local and statewide hydrologic conditions, adjust operations as necessary to optimize use of available resources, remain prepared for another single or multi-year drought, and continue to coordinate regularly with the local water supply retailers, untreated water customers, and the Department of Water Resources (DWR) – the agency responsible for operating the SWP.

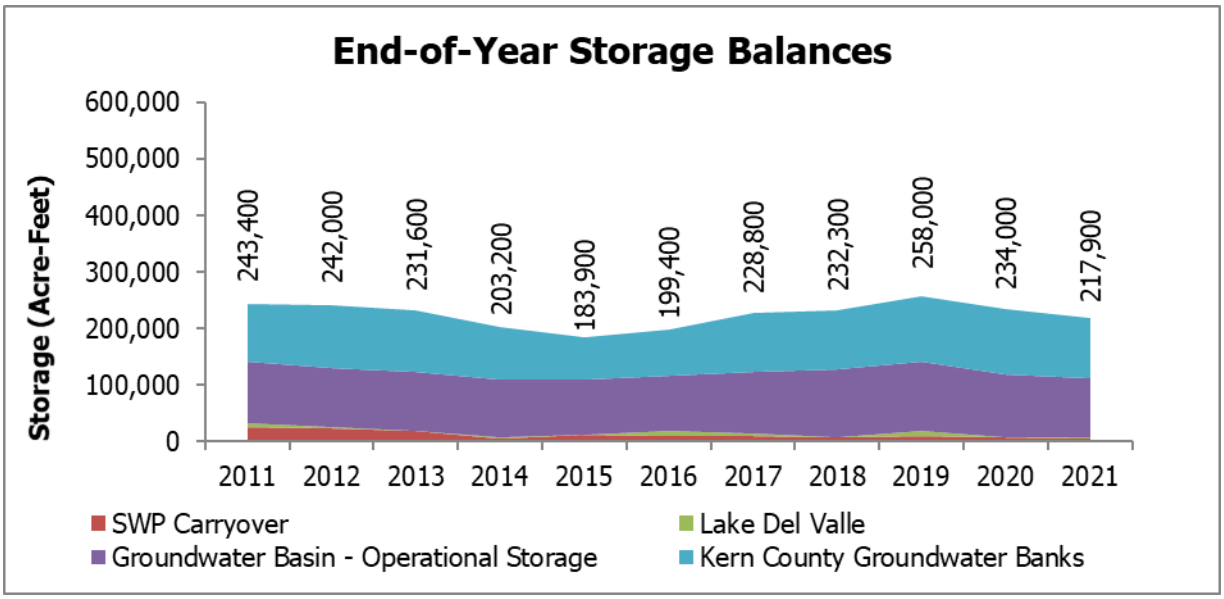
While this Annual Sustainability Report indicates that Zone 7 is able to meet demands assuming 15% mandatory conservation consistent with the 2021 Zone 7 Board Resolution 21-67, the Board may wish to consider additional conservation if the SWP Table A allocation decreases further from 5%.

KEY HYDROLOGIC AND WATER SUPPLY CONDITIONS

Initial Storage Conditions (January 1, 2022)

Zone 7 started 2022 with a SWP carryover of 5,900 AF, 2,300 of Lake Del Valle local water carryover, Livermore Valley Groundwater Basin operational storage of 104,000 AF (including additional emergency storage of 128,000 AF, this equates to 91% of total capacity of the Main Basin), and 105,700 AF of water stored in the Kern County Storage and Recovery Programs (Semitropic Water Storage District [Semitropic] and Cawelo Water District [Cawelo]). At the beginning of 2022, Zone 7's storage portfolio had about 218,000 AF, as shown on Figure 3 below. This does not include the 128,000 AF of emergency storage in the local groundwater basin.

Figure 3: Historical Water Supply Storage Conditions



Reservoir Conditions

Storage in Oroville Reservoir, as of April 1, was at 1.7 million acre-feet (MAF) or 48% of capacity. Oroville Reservoir collects runoff from the Feather River watershed in northern California, the main source of supply for the SWP. San Luis Reservoir, the main reservoir for the SWP south of the Delta, was at 0.9 MAF or 45% of capacity.

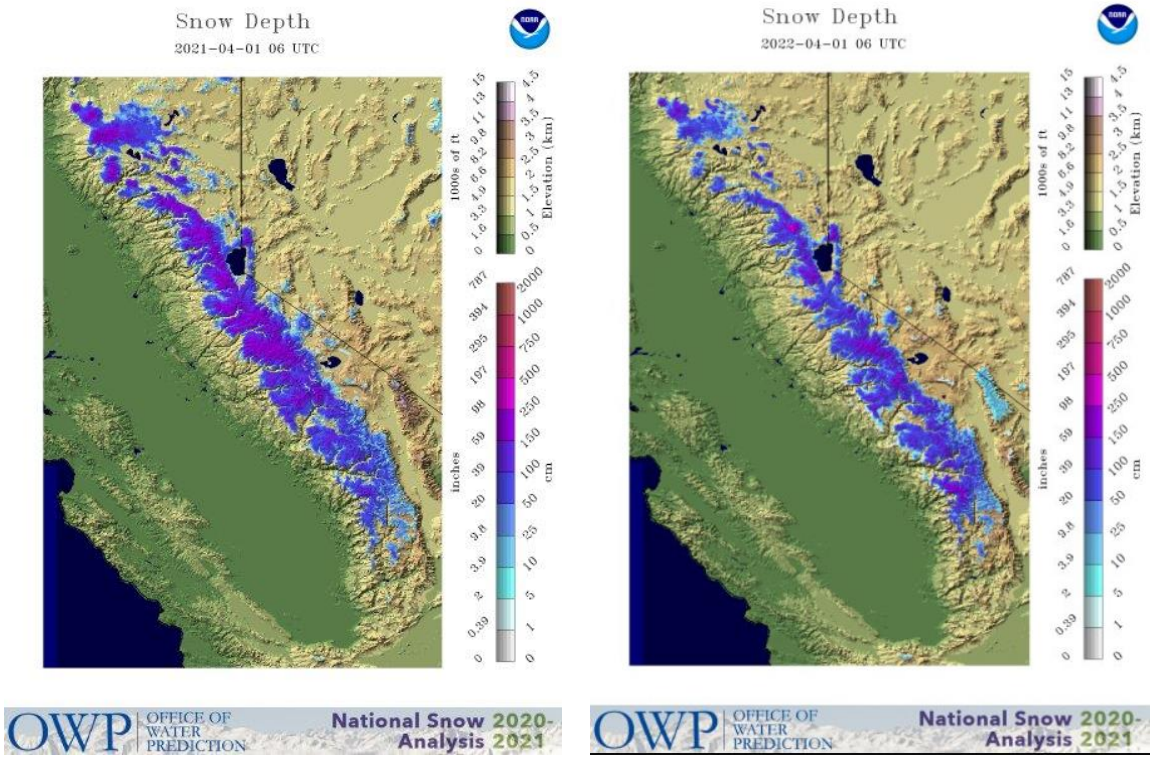
Zone 7's SWP carryover is stored in San Luis Reservoir; the reservoir is not expected to spill this year, which means Zone 7's full SWP carryover amount will be available for use.

Sierra Snowpack and Precipitation (April 1, 2022)

The statewide Sierra snowpack on April 1, 2022, was estimated at about 38% of average (see Attachment B), compared to 59% at the same time last year. April 1 is normally when the snowpack level peaks before the spring melt begins. The snowpack level in northern California, the main source of supply for the SWP during the spring and summer, is currently 28% of the April 1 average. Figure 4 presents a comparison of snow depths in the Sierras in April 2021 versus those for April 2022. In 2022, the predominant snow depth is 100-150 cm (~5 ft) versus the predominant depth in 2021 of 250 cm (~8 ft).

Northern Sierra precipitation, which is a strong constituent in SWP allocation, was 33.2 inches as of April 1, 2022, or 75% of average (Attachment B).

Figure 4: Statewide Snowpack in the Sierra Nevada: 2021 versus 2022

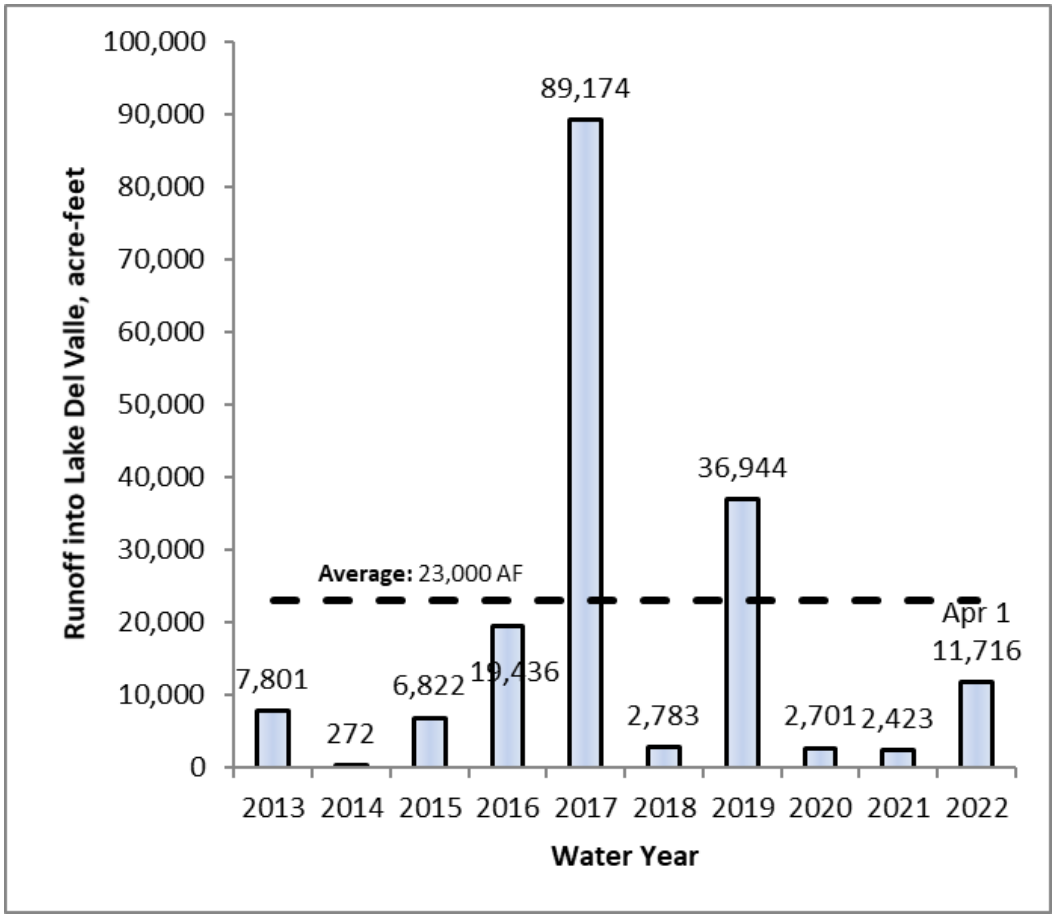


(Source: National Weather Service Remote Sensing Center, www.nohrsc.noaa.gov/nsa)

Local Runoff and Precipitation in 2022

The Tri-Valley area has experienced significantly more runoff this year compared to the same time last year. Figure 5 shows that as of April 1, 2022, runoff into Lake Del Valle is 51% of average (11,720 AF compared to 23,000 AF). Locally captured available water is split with Alameda County Water District and stored in the lake for future use in accordance with Zone 7's water rights permit. Based on DWR's reports, Zone 7 has no local water in Lake Del Valle as of April 1, 2022; Zone 7 has already used its 2,300 AF of local water available this year. Local precipitation is at 90% of average year-to-date at Livermore Airport Station for April 1, 2022 (Attachment B).

Figure 5: Runoff into Lake Del Valle
(USGS Stream Gauge Arroyo Valle Below Lang Canyon)

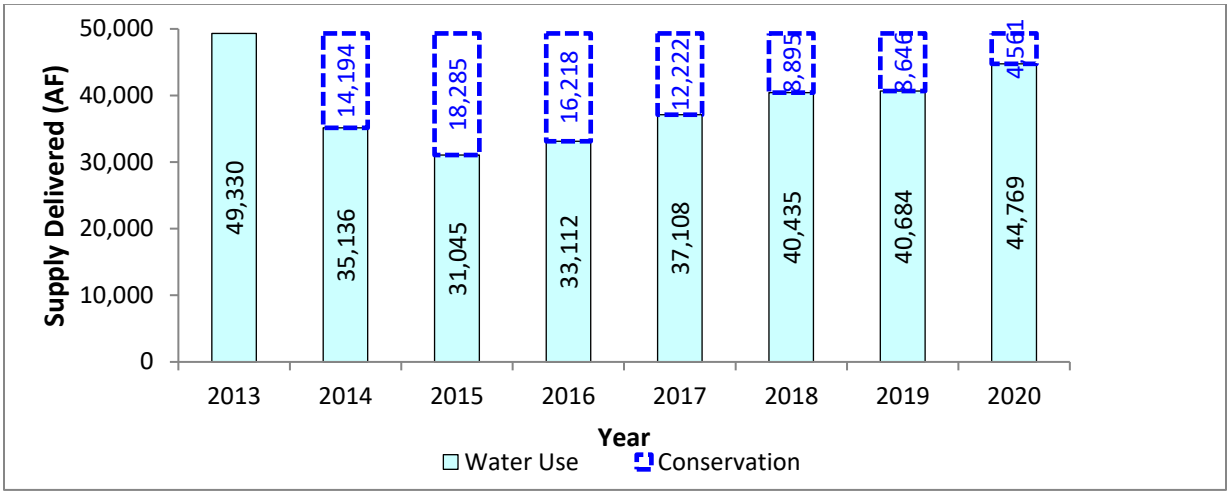


Conservation in the Tri-Valley

Following the 2014 drought Tri-Valley water users reduced the required water supply delivery from Zone 7 relative to 2013 water demand by 29% in 2014, 37% in 2015, 33% in 2016, 25% in 2017, 18% in 2018, 18% in 2019 and 9% in 2020; this represents a cumulative water supply savings of 83,000 AF over that time period. Figure 6A compares years 2014-2020 to 2013. The Zone 7 Board lifted the local drought emergency in June 2017 but set a voluntary 10% conservation target to support ongoing statewide water conservation efforts. The community response to earlier calls for conservation continued through 2020.

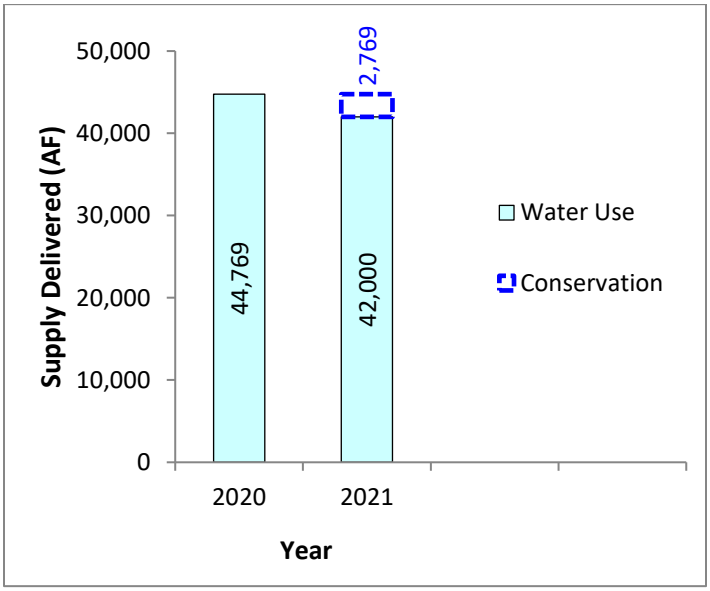
As noted earlier, renewed calls for conservation began in late May 2021, with Zone 7 and the retailers requesting 10% voluntary conservation relative to 2020 treated water demands; this was increased to 15% voluntary conservation in July 2021. Finally, on September 1, 2021, the Zone 7 Board called for 15% mandatory conservation for treated water customers in preparation for a potential third dry year in 2022 (Resolution No. 21-67). This requirement remains as of April 2022 and is reflected in the demand projections.

Figure 6A: Conservation in the Tri-Valley (2013 Baseline)



Recognizing a new period of drought, 2020 has now been set as the new baseline per Governor Newsom for tracking conservation. Figure 6B shows 2021 water use and conservation relative to 2020. About 2,800 AF was conserved by the Tri-Valley treated and untreated water customers (6% relative to 2020). Water supply conservation preserves limited supplies and supports Zone 7's ability to meet retailer demands in current and subsequent years.

Figure 6B: Conservation in the Tri-Valley (2020 Baseline)



2022 SWP Table A Allocation: 5% as of April 1, 2022

Zone 7 has a contract with DWR for up to 80,619 AF of SWP Table A water in any given year; the percent of this amount Zone 7 will actually receive is called the "Table A" allocation. The 2022 SWP Table A allocation is 5% as of April 1, 2022, reflecting critically dry hydrologic conditions in the North Sierra and across the state. This is equivalent to 4,000 AF for Zone 7. The Table A allocation is expected to be finalized in May.

ANNUAL SUSTAINABILITY REPORT ASSUMPTIONS

In a normal year, the Annual Sustainability Report uses the retailers' delivery requests in the analysis. Given the state of drought emergency and the Zone 7 Board's call for 15% mandatory conservation relative to 2020 under Stage 2 of Zone 7's Water Shortage Contingency Plan, this report reflects retailer demands corresponding to this level of conservation.

To illustrate Zone 7's ability to meet treated and untreated water demands, the analysis conservatively assumes critically dry[1] conditions (equivalent to 1977 conditions[2]) in 2022, followed by critically dry conditions in 2023, continuing critically dry conditions in 2024 and average conditions in 2025-2026. While previous Annual Sustainability Reports assumed a return to average conditions in the third year (2024), this revised trend is reflective of the historic nature of the current drought and its anticipated long-range effects. For this Annual Sustainability Report, projected average conditions are consistent with the 59% average Table A allocation or 47,600 AF in DWR's 2019 Delivery Capability Report[2]. Lake Del Valle local water supply is expected to yield an average 5,500 AF per year to reflect climate change conditions and recent actual conditions, as described in the 2019 Water Supply Evaluation Update[3]. Each year, Zone 7 typically strives to carry over to the following year 10,000 AF in SWP facilities ("SWP Carryover"). Any water captured locally in Lake Del Valle is also typically carried over into the following year, when possible. Reserving water for future years is good water management given the uncertainty and variability of hydrologic conditions from year to year.

PROJECTED WATER DEMANDS: NEXT FIVE YEARS

Each year, Zone 7 receives Municipal and Industrial (M&I) treated water delivery requests from the retailers for the next five years (Table 1 and Figure 7), which are normally used in the Annual Sustainability Report. Zone 7 estimates demands for direct customers and untreated water customers based on recent trends. Note that while the Annual Sustainability Report typically uses retailer treated water delivery requests in the analysis, as noted above, retailer demands have been adjusted to reflect the current mandated conservation level of 15% relative to 2020 deliveries for 2022 and 2023. Retailer demands were then assumed to progressively increase to delivery requests by 2026. Figure 8 shows untreated water demand projections used in the analysis.

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[1] Designations of hydrologic conditions are based on the Sacramento Valley Water Year Index: https://cdec.water.ca.gov/reportapp/javareports?name=WSIHIST

[2] The 2019 Delivery Capability Report projections were used for the average SWP Table A estimate and for equivalent hydrologic conditions: https://data.cnra.ca.gov/dataset/state-water-project-delivery-capability-report-dcr-2019/resource/119da5c5-1c47-4142-8896-334628ca61cd. The 2021 Delivery Capability Report had not been finalized as of March 31, 2022.

[3] The 2019 Water Supply Evaluation Update is accessible here: https://www.dropbox.com/s/fzhdf6olhcvnmyc/2019%20WSE%20Update.pdf?dl=0

As shown in Table 1, in addition to customer deliveries, demands also include system losses and water planned to be placed in storage for future use.

Table 1: Actual and Projected Five-Year Demands (Customer Deliveries), Water Planned for Storage, and System Losses

DEMANDS/PLANNED FOR STORAGE[a] **Acre-Feet**	**ACTUAL**	**PROJECTIONS**				
	2021	**2022**	**2023**	**2024**	**2025**	**2026**
Hydrologic Year Equivalent	*2015*	*2015*	*1988*	*1994*	*Average*	*Average*
Table A Allocation	*5%*	*5%*	*10%*	*30%*	*59%*	*59%*
Customer Deliveries						
Treated Water Demand[b]	35,800	32,900	32,900	39,300	39,700	40,000
Untreated Water Demand[c]	6,000	6,000	6,000	6,000	6,000	6,000
To Storage						
State Water Project - Carryover (Current to Following Year)	5,900	10,000	10,000	10,000	10,000	10,000
Lake Del Valle Local Water - Carryover	2,300	0	0	4,000	5,500	5,500
Livermore Valley Groundwater Basin Groundwater Recharge	200	0	0	11,400	12,300	12,300
Semitropic Storage	0	0	0	0	2,700	2,500
Cawelo Storage	0	0	0	0	3,000	2,900
System Losses						
Groundwater Production (Disposal to brine)	0	0	0	0	400	400
Water Transfers/Exchanges - Delta Carriage Water	400	300	300	0	0	0
Treated Water System Losses	200	300	300	400	400	400
Lake Del Valle Evaporation Losses	0	200	200	500	500	500
Total	**50,800**	**49,700**	**49,700**	**71,600**	**80,500**	**80,500**

Notes:

(a) Projected demands were rounded to the nearest 100 acre-feet.

(b) Treated Water Demand = M&I = Municipal and Industrial. Demands include retailer demands (including groundwater pumping quota (GPQ) for Dublin San Ramon Services District) and direct retail. Incorporates 15% conservation relative to 2020 retailer deliveries.

(c) Zone 7's untreated water demand is used primarily for agricultural and golf course irrigation; projections are based on recent past usage.

Figure 7: Historical and Projected Five-Year Treated Water Demands Based on Delivery Requests

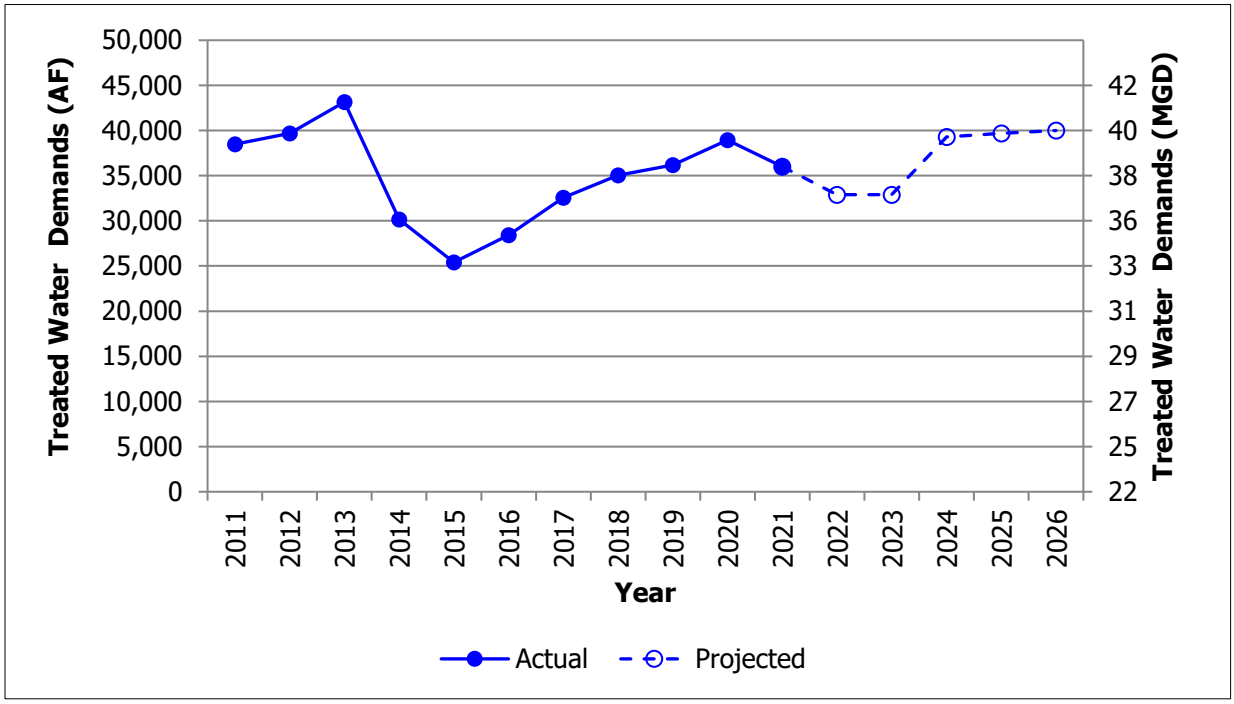
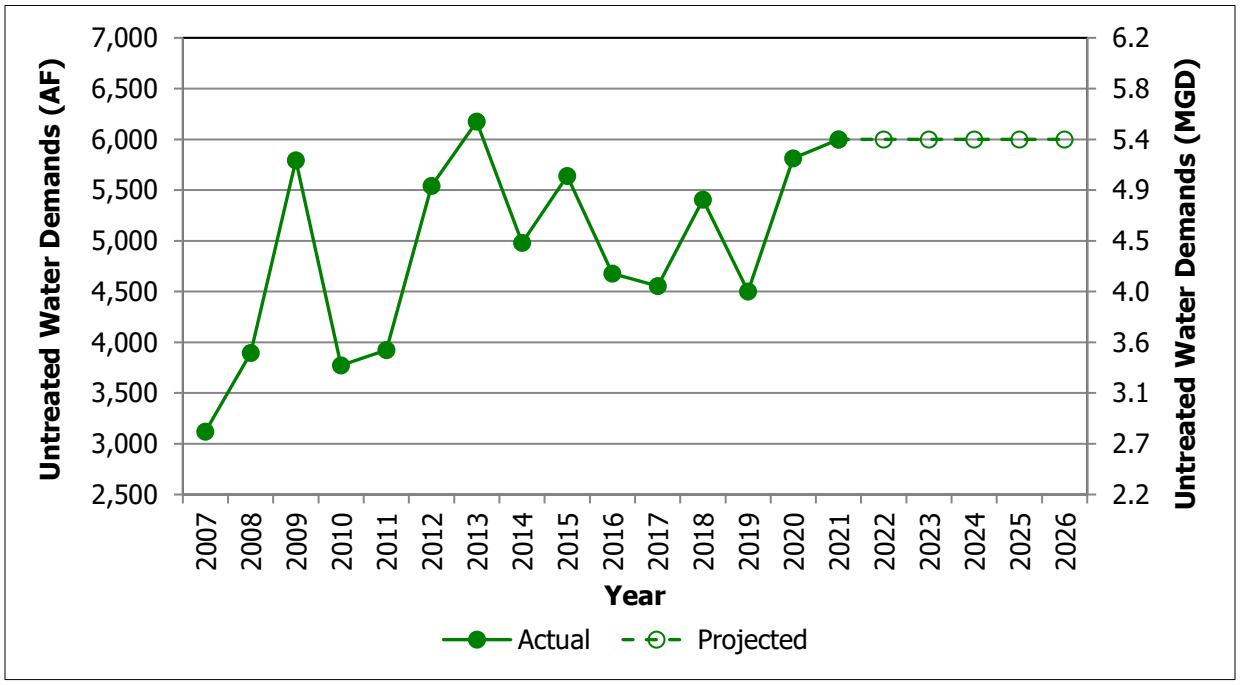


Figure 8: Historical and Projected Untreated Water Demands



The State of California has been rolling out regulations to achieve the goals of the Long-Term Conservation Framework, which was developed in response to Governor Jerry Brown's 2016 Executive Order (B-37-16). For example, indoor residential water use is required to decrease to an average 55 gallons per capita per day (gpcd) by 2024; by 2030, this will decrease to at

least 50 gpcd. Future demands will therefore reflect a combination of water conservation (i.e., reduced gpcd) and population growth in the Tri-Valley. Zone 7 will continue to coordinate closely with the retailers to verify demands and track the effects of conservation. The 2020 Tri-Valley Municipal and Industrial Water Demand Study has been completed to improve long-term demand estimates[4].

PROJECTED WATER SUPPLIES: NEXT FIVE YEARS

Incoming Supplies

Each year Zone 7 receives water from its contract with DWR for imported SWP Table A water[5] and its local water right permit on Arroyo Valle (Lake Del Valle Local Water). For 2022, Zone 7 is also planning to acquire about 2,000 AF of water transfers to supplement these supplies, *subject to availability*. Approximately 1,000 AF is expected to be available from Yuba Accord. For the remaining 1,000 AF, Zone 7 is pursuing a water transfer agreement with another SWP contractor and has signed up for the Dry Year Transfer program. To preserve water in storage for dry or critically dry years, purchase of transfer water in subsequent years is also recommended to replenish water withdrawn from storage.

Table 2 presents the expected yields in 2022 and estimates for 2022 assuming 2015-type critically dry hydrologic conditions, followed by continuing critically dry conditions in 2023 and 2024 and ramping up to average conditions in 2025 and 2026. Each year in the table below is paired with a comparable historical hydrologic year in anticipation of receiving a similar yield (e.g., Table A allocation) based on the latest projections from the 2019 Delivery Capability Report[2]. Figure 9 shows the incoming supplies for 2022 totaling 6,900 AF.

Water from Storage

Zone 7 currently stores surplus water in various storage facilities, including the local Livermore Valley Groundwater Basin, Lake Del Valle and Kern County Storage and Recovery Programs (Semitropic and Cawelo) to help meet water demands as needed during dry years. Water is withdrawn from storage when needed to supplement that year's incoming supply to meet demands. Water may also be shifted from one type of storage to another as part of water management; in 2022, for example, water is withdrawn from storage then a portion is subsequently redeposited into storage in other locations as required by operational needs. Figure 10 shows that Zone 7 plans to access 42,800 AF of its storage supplies in 2022. Table 2 shows Zone 7 is planning to recover banked water from Kern County in 2023 and 2024 based on assumed hydrologic conditions.

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[4] 2020 Tri-Valley Municipal and Industrial Water Demand Study: https://www.zone7water.com/sites/main/files/file-attachments/2020_tri-valley_demand_study.pdf?1627595774

[5] This includes Table A or SWP carryover from the previous year; the latter is discussed in the next section.

Table 2: Projected Supply Sources: Incoming Supplies and Water from Storage

SUPPLY SOURCES[a] **Acre-Feet**	**ACTUAL**	**PROJECTIONS**				
	2021	**2022**	**2023**	**2024**	**2025**	**2026**
Hydrologic Year Equivalent	*2015*	*2015*	*1988*	*1994*	*Average*	*Average*
Table A Allocation	*5%*	*5%*	*10%*	*30%*	*59%*	*59%*
Incoming Supplies						
State Water Project (SWP) - Table A[b]	4,000	4,000	8,100	24,200	47,600	47,600
Lake Del Valle Local Water - Current Year Capture[c]	3,200	900	2,000	4,000	5,500	5,500
Yuba Accord/Dry Year Transfer Program[d]	1,600	1,000	1,000	0	0	0
SWP/Other Water Transfer	8,100	1,000	2,000	5,000	5,000	5,000
From Storage						
State Water Project - Carryover (Previous to Current Year)	8,900	5,900	10,000	10,000	10,000	10,000
Lake Del Valle Local Water - Carryover	0	2,300	0	0	4,000	5,500
Livermore Valley Groundwater Basin	14,600	16,000	10,000	12,000	8,000	6,500
Groundwater Brine Disposal	0	0	0	0	400	400
Semitropic Banked Water (Pumpback/Exchange)	10,400	9,500	9,100	10,500	0	0
Cawelo Banked Water	0	9,100	7,500	5,900	0	0
Total	**50,800**	**49,700**	**49,700**	**71,600**	**80,500**	**80,500**

Notes:

(a) See Zone 7's 2019 Water Supply Evaluation Update for more details about Zone 7 supplies: https://www.dropbox.com/s/fzhdf6olhcvnmyc/2019%20WSE%20Update.pdf?dl=0.

(b) 2022 yield is based on 5% (current 2022 allocation) of 4,000 AF. Average yield is 59% of Zone 7's Table A amount (80,619 AF) per DWR's 2019 Delivery Capability Report for Existing Conditions. Both 1988 and 1994 were considered critically dry years with projected Table A allocations of about 10% and 30%, respectively, in the 2019 Delivery Capability Report.

(c) Zone 7 has captured and used 700 AF in 2022 to-date. Additional capture could occur by the end of December 2022; however, to be conservative, no additional yield is assumed for 2022. An average annual yield of 5,500 AFY is assumed in line with the 2019 Water Supply Evaluation Update.

(d) Zone 7 is planning to obtain water transfers over the next five years, subject to availability. To obtain a net yield of 700 AF of Yuba Accord or Dry Year Transfer Program water in 2022, Zone 7 has to purchase about 1,000 AF to cover conveyance losses in the Delta ("Delta Carriage Water"). SWP Water Transfer does not incur such loss.

Figure 9: Incoming Water Supplies in 2022

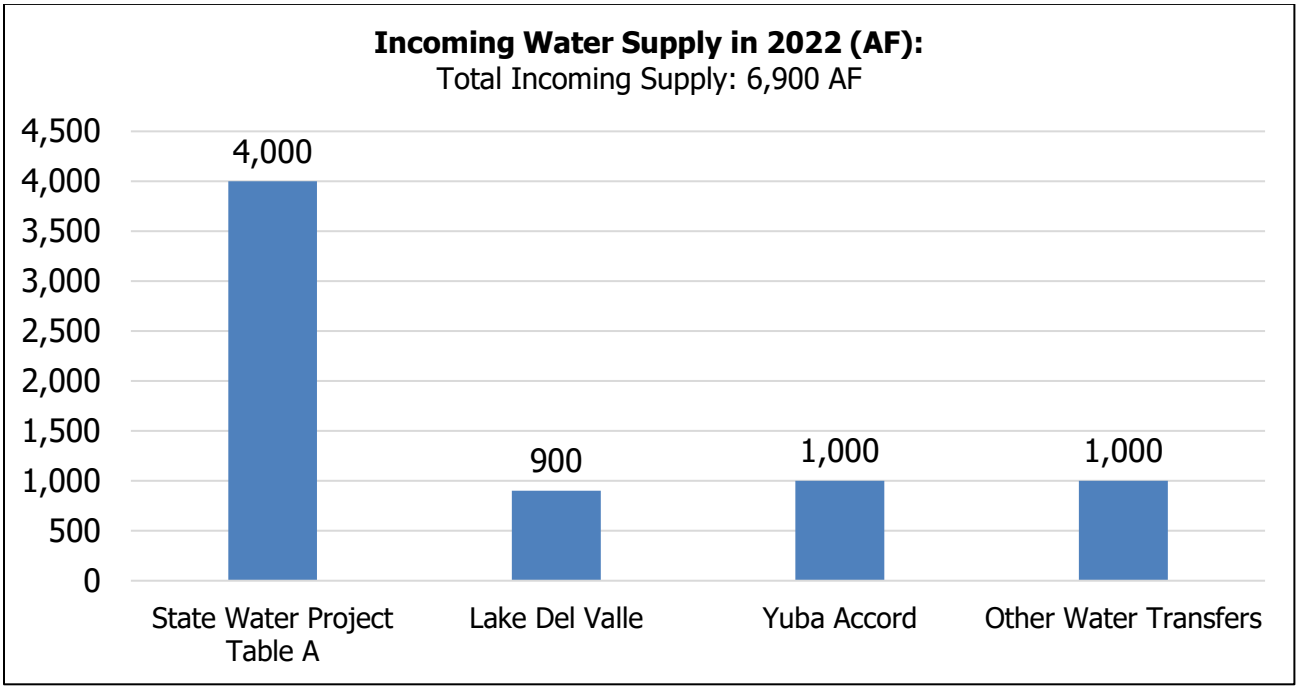


Figure 10: Water Supply Withdrawals from Storage in 2022 to Meet Delivery Requests

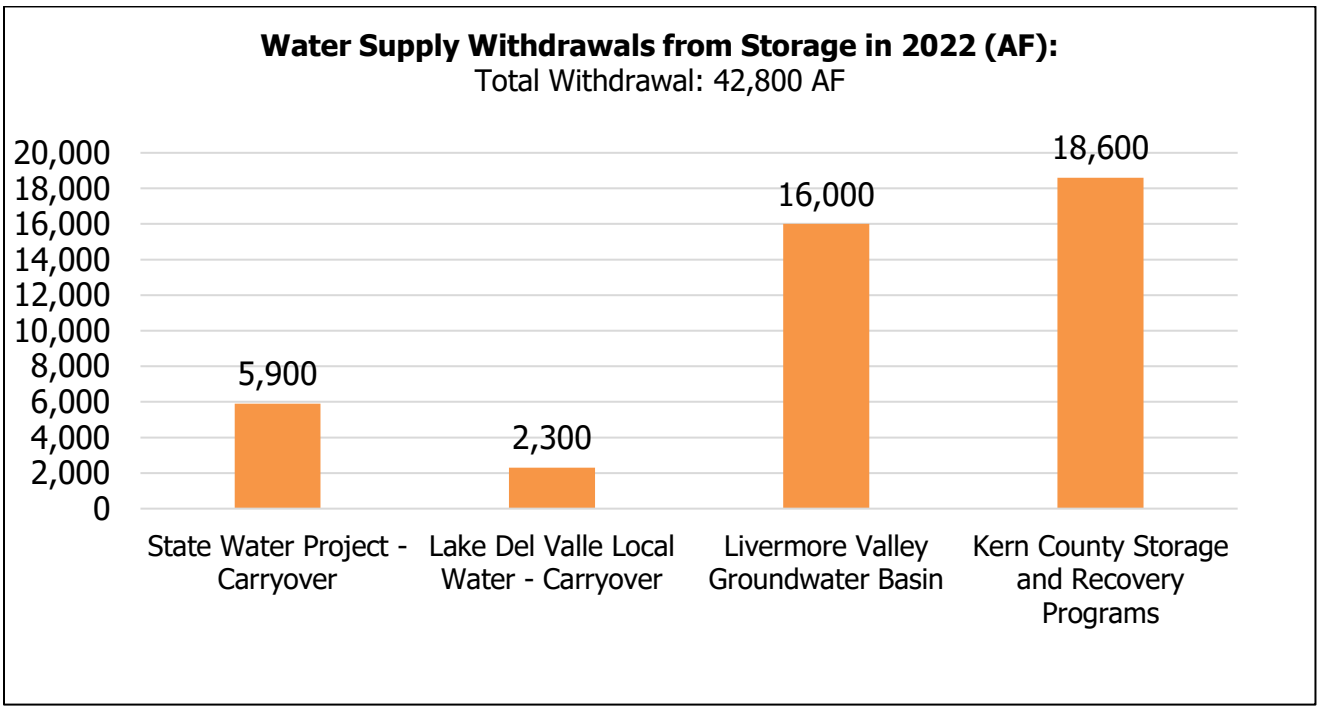
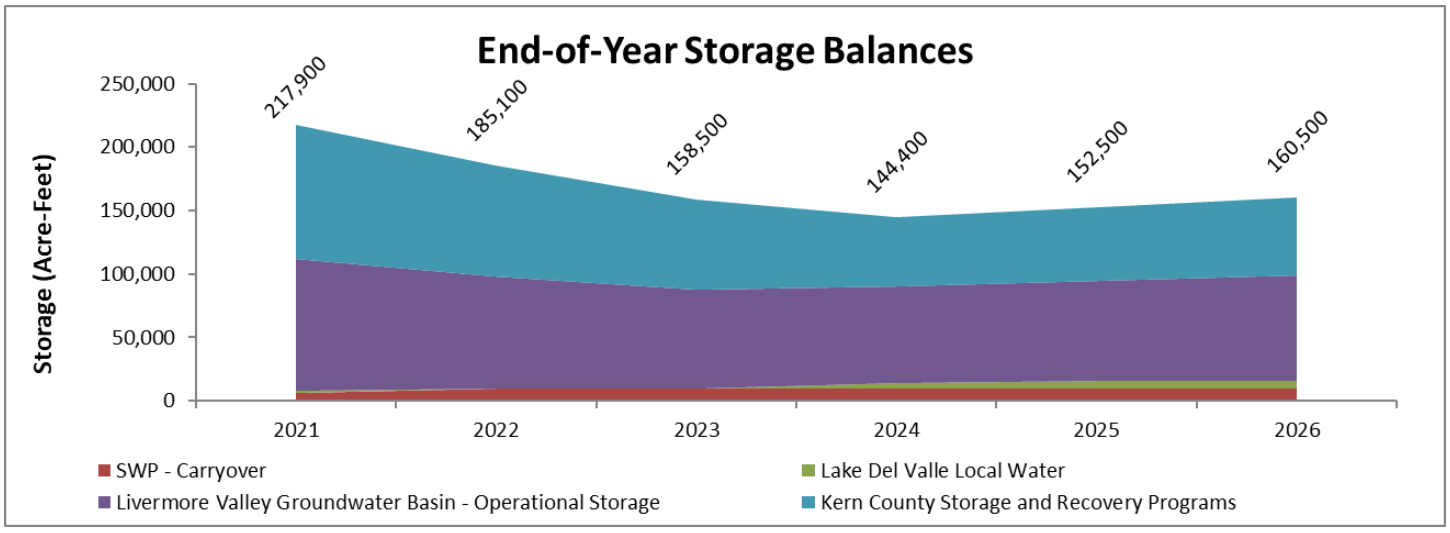


Table 3 and Figure 11 summarize the total water in storage available as of the end of 2021, and projected storage levels over 2022 through 2026. Storage projections show a decrease of about 58,000 AF over the next five years from the end of 2021 through the end of 2026 based on assumed hydrologic conditions and demands. This trend is a preliminary estimate based on projected deposits and withdrawals from the various storage categories. For example, while it accounts for 10% groundwater loss from local storage activities, it does not account for the natural influx to storage that occurs in the local groundwater basin due to rainfall runoff. The declining storage trend could be mitigated through additional water transfers. Staff will monitor conditions to determine the appropriate amounts of water transfers in future years.

Table 3: End-of-Year Storage Balances (Actual and Projected)

	ACTUAL	PROJECTIONS				
End of Year Storage Balance (Acre-Feet)	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**
SWP - Carryover	5,900	10,000	10,000	10,000	10,000	10,000
Lake Del Valle Local Water	2,300	0	0	4,000	5,500	5,500
Livermore Valley Groundwater Basin - Operational Storage	104,000	88,000	78,000	76,300	79,000	83,200
Kern County Storage and Recovery Programs	105,700	87,100	70,500	54,100	58,000	61,800
Semitropic	75,800	66,300	57,200	46,700	49,100	51,400
Cawelo	29,900	20,800	13,300	7,400	8,900	10,400
TOTAL STORAGE	**217,900**	**185,100**	**158,500**	**144,400**	**152,500**	**160,500**

Figure 11: End-of-Year Storage Balances (Actual and Projected)



COMPARISON OF SUPPLY AND DEMAND: NEXT FIVE YEARS

As shown in Table 4, Zone 7 can deliver water to supply 100% of customer demands based on the retailer 15% conservation level for 2022 and 2023, with demands projected to ramp up to delivery request levels for 2025 and 2026 based on assumed hydrology for 2022 through 2026. Additional conservation would allow unused water to be placed into storage—or allow for reduction of water supply accessed from storage—while higher demands (than currently projected) could potentially be met by using additional storage supplies.

Table 4: Comparison of Supplies and Demands: Next Five Years

SUPPLIES VS DEMANDS	**ACTUAL**	**PROJECTIONS**				
Acre-Feet	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**
Hydrologic Year Equivalent	*2015*	*2015*	*1988*	*1994*	*Average*	*Average*
Table A Allocation	*5%*	*5%*	*10%*	*30%*	*59%*	*59%*
Incoming Supplies[a]	25,800	6,900	13,100	33,200	58,100	58,100
Water Supply from Storage[b]	25,000	42,800	36,600	38,400	22,400	22,400
Total Water Supply	50,800	49,700	49,700	71,600	80,500	80,500
Customer Deliveries[c]	41,800	38,900	38,900	45,300	45,700	46,000
Supply to Storage[d]	8,400	10,000	10,000	25,400	33,500	33,200
System Losses[e]	600	800	800	900	1,300	1,300
% of Demand Delivered (Customer Deliveries)	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
TOTAL STORAGE	**217,900**	**185,100**	**158,500**	**144,400**	**152,500**	**160,500**

Notes:

[a] From Table 2: SWP - Table A, Lake Del Valle Local Water, and water transfers.

[b] From Table 2: SWP - Carryover, Lake Del Valle Local Water - Carryover, Livermore Valley Groundwater Basin, and Semitropic/Cawelo.

[c] From Table 1: Treated and Untreated Water Demands.

[d] From Table 1: Water stored in Lake Del Valle and SWP as carryover, Livermore Valley Groundwater Basin recharge, and water stored in Semitropic/Cawelo.

[e] Operational losses: storage losses, evaporation, other system losses.

PROGRAMS NECESSARY TO MEET WATER DEMANDS GOING FORWARD

The Annual Sustainability Report indicates that Zone 7 has enough water supplies to meet projected water demands over the next five years based on current projected demands (reflecting 15% conservation for retailers for 2022 and 2023) and assumed hydrology. To achieve long-term water supply reliability through buildout while accounting for hydrologic and other uncertainties (e.g., major system outages), Zone 7 has been evaluating several potential future water supply and storage options.

The 2022 Water Supply Evaluation (WSE) Update is underway and will analyze the following water supply and storage alternatives:

- Bay Area Regional Desalination Project

- Delta Conveyance Project
- Los Vaqueros Reservoir Expansion
- Potable Reuse
- Short and Long-Term Water Transfers
- Sites Reservoir

Under the 2022 WSE Update, the newly developed risk model will be used to assess the performance of the listed alternatives above against the baseline scenario of no new water supply and storage projects. In other words, the baseline scenario will only include planned water supply reliability infrastructure projects identified in Zone 7's Capital Improvement Plan. The new risk model can run on a monthly timestep to simulate monthly delivery constraints and demand variation. This an improvement from the old risk model, which was only capable of running on an annual timestep. The 2022 WSE Update is expected to be completed by the end of the year.

Zone 7 also continues to evaluate and optimize the long-term local water yield from the Arroyo Valle currently captured in Lake Del Valle. A number of planned capital projects (new wells, the Chain of Lakes Pipeline, Chain of Lakes diversion structures, and reliability intertie) will help bolster the reliability of Zone 7's water supply system. The turnover of the lakes in the Chain of Lakes for Zone 7's use also continues to be a key component of Zone 7's long-term reliability.

Zone 7 staff will also continue to monitor local and statewide conditions, adjust operations as necessary to optimize use of available resources, remain prepared for continuing drought conditions, and continue to coordinate regularly with its local water supply retailers, untreated water customers, and with DWR. In June 2022, staff will provide an updated Operations Plan to the Water Resources Committee; this plan will reflect the latest actual supply and demand conditions and Zone 7's most feasible operational scenario for the remainder of 2022.

While this Annual Sustainability Report indicates that Zone 7 is able to meet demands assuming 15% mandatory conservation consistent with the 2021 Zone 7 Board Resolution 21-67, the Board may wish to consider additional conservation if drought conditions worsen in 2022 (with a corresponding decrease in the SWP Table A allocation from 5% to 0%) and conditions persist in 2023.

To support conservation, Zone 7 will continue to implement rebates and public outreach programs in partnership with the retailers. As previously noted, Zone 7 recently completed the 2020 Tri-Valley Municipal and Industrial Water Demand Study, which refines demand projections as the region looks towards compliance with the State's Long-Term Conservation Framework.

ATTACHMENTS:

A. Water Supply Reliability Policy
B. Latest Hydrologic Conditions

Attachment A
Water Supply Reliability Policy

ZONE 7
ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

BOARD OF DIRECTORS

RESOLUTION NO 13-4230

INTRODUCED BY DIRECTOR QUIGLEY
SECONDED BY DIRECTOR STEVENS

Water Supply Reliability Policy

WHEREAS, the Zone 7 Board of Directors desires to maintain a highly reliable Municipal and Industrial (M&I) water supply system so that existing and future M&I water demands can be met during varying hydrologic conditions; and

WHEREAS, the Board has an obligation to communicate to its M&I customers and municipalities within its service area the ability of Zone 7's water supply system to meet projected water demands; and

WHEREAS, the Board on August 18, 2004 adopted Resolution No. 04-2662 setting forth its Reliability Policy for Municipal & Industrial Water Supplies; and

WHEREAS, the Board desires to revise the Reliability Policy to reflect recent data, analysis, and studies.

NOW, THEREFORE, BE IT RESOLVED that the Board hereby rescinds Resolution No. 04-2662 adopting the August 18, 2004 Reliability Policy for Municipal & Industrial Water Supplies; and

BE IT FURTHER RESOLVED that the Board hereby adopts the following level of service goals to guide the management of Zone 7's M&I water supplies as well as its Capital Improvement Program (CIP):

Goal 1.Zone 7 will meet its treated water customers' water supply needs, in accordance with Zone 7's most current Contracts for M&I Water Supply, including existing and projected demands as specified in Zone 7's most recent Urban Water Management Plan (UWMP), during normal, average, and drought conditions, as follows:

- At least 85% of M&I water demands 99% of the time
- 100% of M&I water demands 90% of the time

Goal 2:Provide sufficient treated water production capacity and infrastructure to meet at least 80% of the maximum month M&I contractual demands should any one of Zone 7's major supply, production, or transmission facilities experience an extended unplanned outage of at least one week.

BE IT FURTHER RESOLVED that to ensure that this Board policy is carried out effectively, the Zone 7 General Manager will provide a water supply status report to the Board every five years with the Zone 7 Urban Water Management Plan that specifies how these goals will be, or are being, achieved.

If the General Manager finds that the goals cannot be met during the first five years of the Urban Water Management Plan, then the Board will hold a public hearing within two months of the General Manager's finding to consider remedial actions that will bring Zone 7 into substantial compliance with the stated level of service goals. Remedial actions may include, but are not limited to, voluntary conservation or mandatory rationing to reduce water demands, acquisition of additional water supplies, and/or a moratorium on new water connections. After reviewing staff analyses and information gathered at the public hearing, the Board shall, as expeditiously as is feasible, take any additional actions that are necessary to meet the level of service goals during the following five-year period; and

BE IT FURTHER RESOLVED that the Zone 7 General Manager shall prepare an Annual Review of the Sustainable Water Supply Report which includes the following information:

(1) An estimate of the current annual average water demand for M&I water as well as a five-year projection based on the same information used to prepare the UWMP and CIP;
(2) A Summary of available water supplies to Zone 7 at the beginning of the calendar year;
(3) A comparison of current water demand with the available water supplies; and
(4) A discussion of water conservation requirements and other long-term supply programs needed to meet Zone 7 M&I water demands for single-dry and multiple-dry year conditions, as specified in the Zone 7's UWMP.

A summary of this review will be provided to M&I customers.

Definitions

Level of Service for Annual Water Supply Needs—the level of service is the percent of existing or projected water demand that Zone 7's water supply system can meet during two key conditions: (1) during various hydrologic conditions and (2) during unplanned outages of major facilities. *Capital Improvement Program (CIP)*—the CIP is Zone7's formal program for developing surface and ground water supplies, along with associated infrastructure, including import water conveyance facilities, surface water treatment plants, groundwater wells, and M&I water transmission system to meet projected water demands.

Normal conditions—conditions that most closely represent median runoff or allocation from all normally contracted or available water supplies from the historic record.

Average conditions—conditions that most closely represent the average runoff or allocation from all normally contracted or legally available water supplies from the historic record.

Drought conditions—conditions that most closely represent reduced runoff or allocation level from the historic record from all normally contracted or legally available water supplies, including both single-dry and multiple-dry year conditions.

Single-dry year condition—a condition that most closely represents the lowest yield over a one-year period from the historic record from all normally contracted or legally available supplies.

Multiple-dry year condition—a condition that most closely represents three or more consecutive dry years from the historic record that represent the lowest yields from all normally contracted or legally available supplies.

Available water supplies—consist solely of (1) water supplies that Zone 7 has contracted for (e.g., listed under Schedule A of the State Water Contract, dry-year water options, special contracts with other water districts, etc.) and (2) water actually stored in surface and subsurface reservoirs.

Maximum Month—the largest monthly average water use.

ADOPTED BY THE FOLLOWING VOTE:

AYES: DIRECTORS FIGUERS, GRECI, MACHAEVICH, PALMER, QUIGLEY, RAMIREZ HOLMES STEVENS

NOES: NONE

ABSENT: NONE

ABSTAIN: NONE

I certify that the foregoing is a correct copy of a Resolution adopted by the Board of Directors of Zone 7 of the Alameda County Flood Control and Water Conservation District on October 17, 2012.

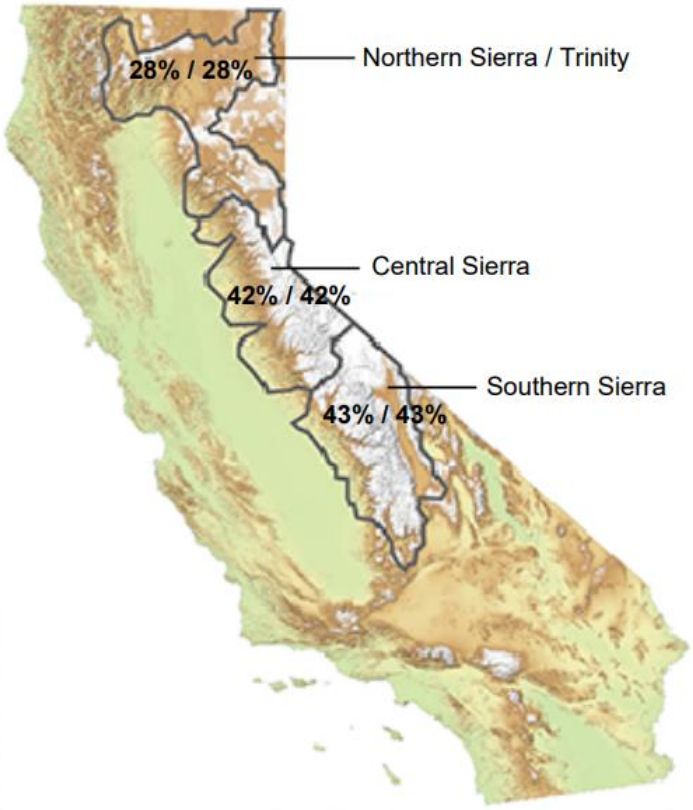
By _____
President, Board of Directors

Figure 12: California Snow Water Content as of April 1, 2022



CURRENT REGIONAL SNOWPACK FROM AUTOMATED SNOW SENSORS

% of April 1 Average / % of Normal for This Date



NORTH	
Data as of April 1, 2022	
Number of Stations Reporting	31
Average snow water equivalent (Inches)	7.7
Percent of April 1 Average (%)	28
Percent of normal for this date (%)	28

CENTRAL	
Data as of April 1, 2022	
Number of Stations Reporting	42
Average snow water equivalent (Inches)	12.6
Percent of April 1 Average (%)	42
Percent of normal for this date (%)	42

SOUTH	
Data as of April 1, 2022	
Number of Stations Reporting	26
Average snow water equivalent (Inches)	10.9
Percent of April 1 Average (%)	43
Percent of normal for this date (%)	43

STATE	
Data as of April 1, 2022	
Number of Stations Reporting	99
Average snow water equivalent (Inches)	10.6
Percent of April 1 Average (%)	38
Percent of normal for this date (%)	38

Statewide Average: 38% / 38%

Figure 13: Northern Sierra Precipitation as of April 1, 2022

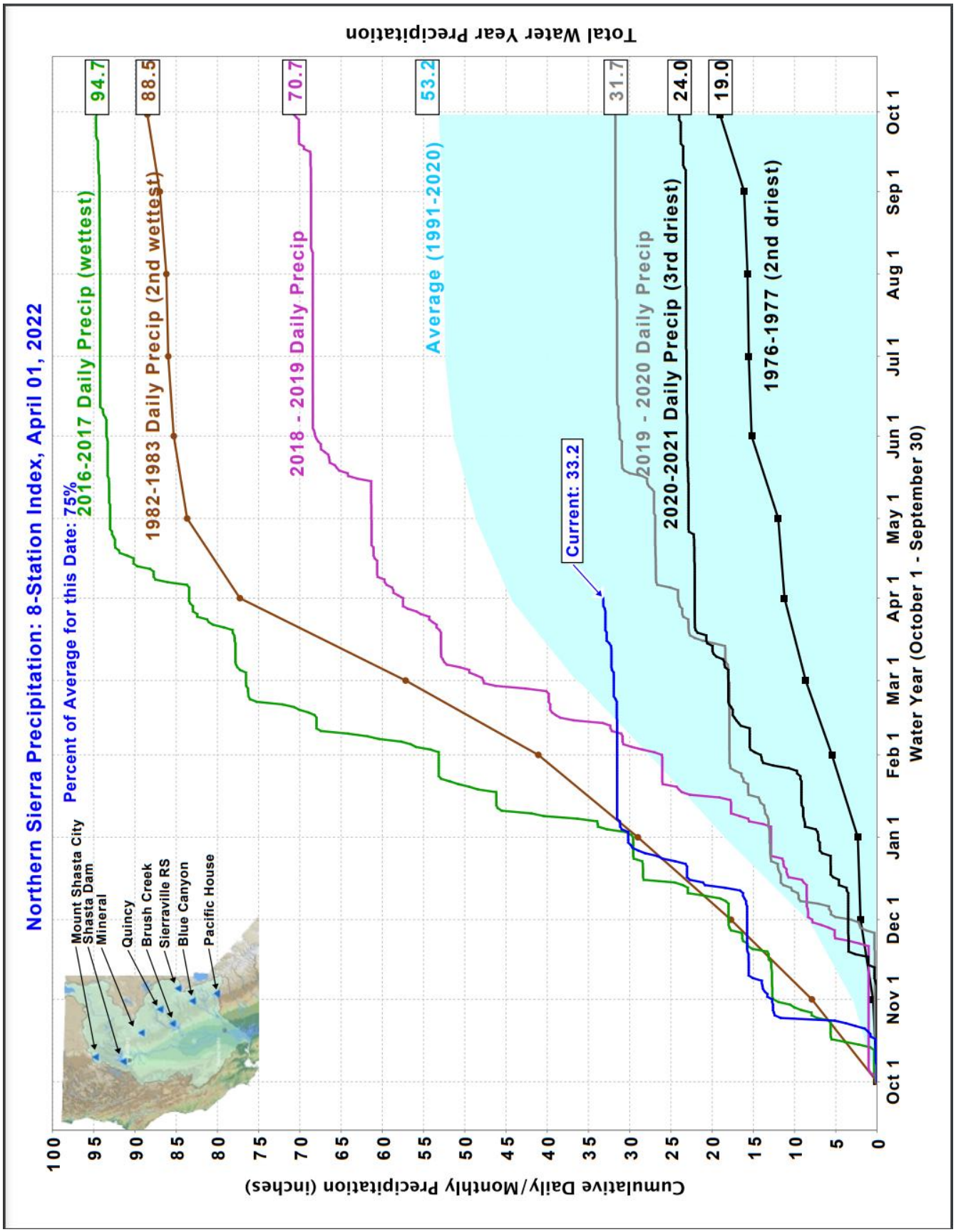


Figure 14: California Reservoir Conditions as of April 1, 2022

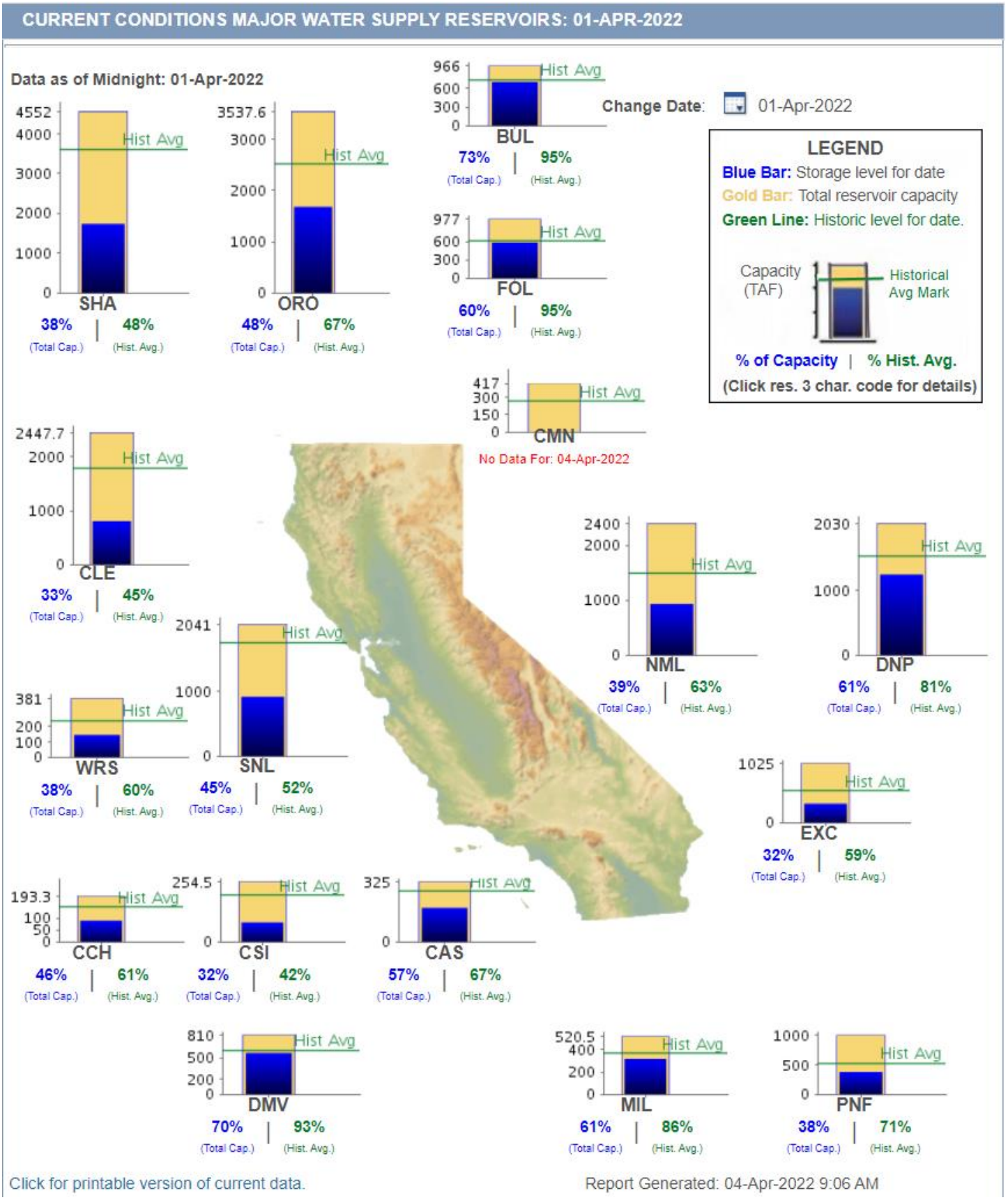
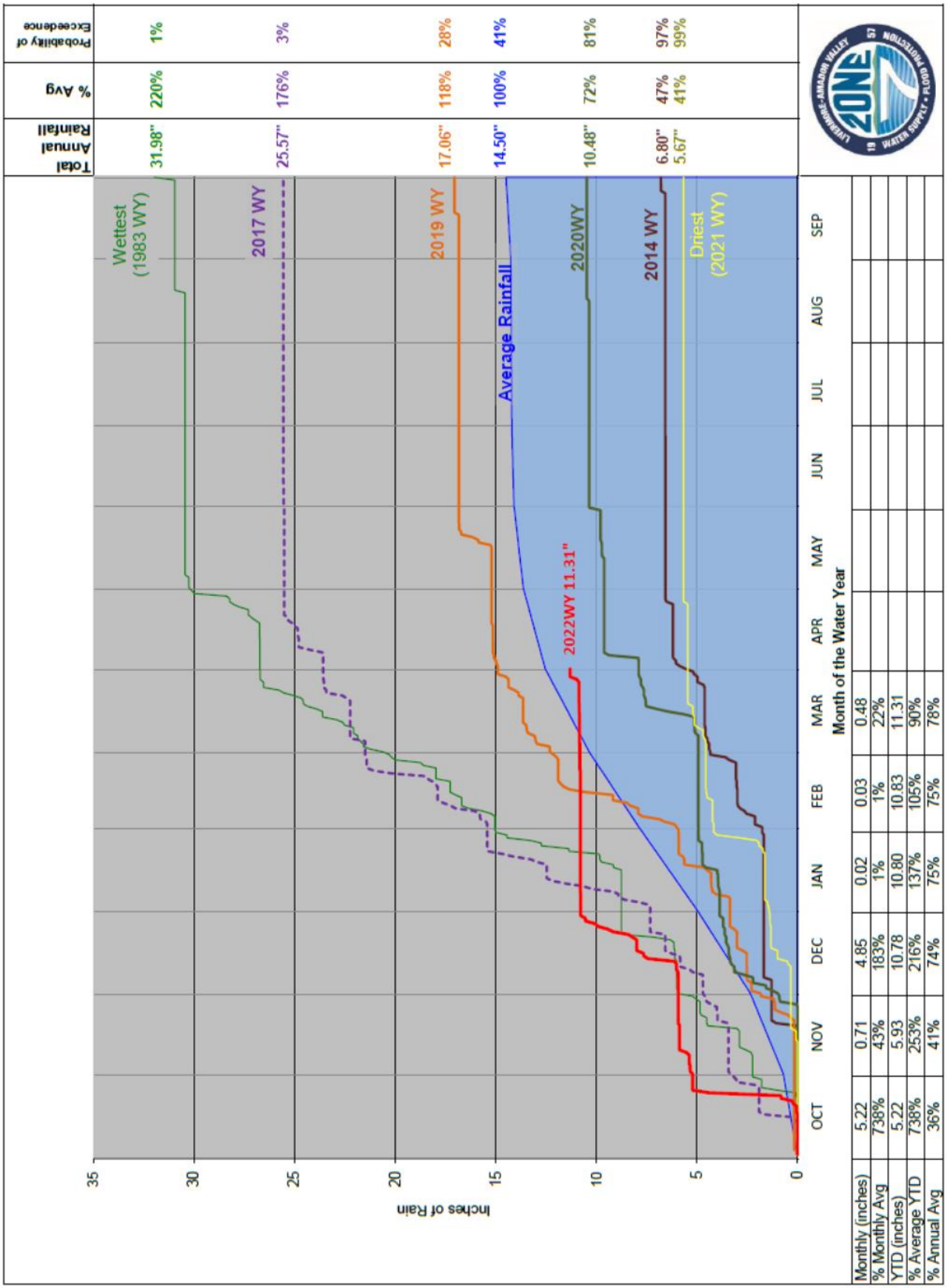


Figure 15: Local Rainfall (Livermore Station KLVK) as of April 1, 2022



ZONE 7 WATER AGENCY
Delivering Quality, Reliability and Safety

100 North Canyons Parkway
Livermore, CA 94551
(925) 454-5000

ORIGINATING SECTION: Administration
CONTACT: Valerie Pryor/Amparo Flores

AGENDA DATE:

SUBJECT: Update on Continuing Drought and Zone 7 Water Supply

SUMMARY:

This item supports Zone 7's mission to "Deliver safe, reliable, efficient, and sustainable water and flood protection services" and Goal A – "Reliable Water Supply and Infrastructure: Provide customers with reliable water supply and delivery."

Calendar year 2022 is a critically dry year and is the third dry year in a row. The Zone 7 State Water Project (SWP) allocation this year is 5%, following a 5% allocation in 2021 and a 20% allocation in 2020. Zone 7 has met water supply demands through reliance on stored water both locally and in other regions and through water transfers (purchases) and through water conservation. The Board of Directors declared a drought emergency on September 1, 2021, and required 15% mandatory conservation from the retailers. Given critically dry conditions throughout the State, the availability of water transfers will be limited in 2022 and conservation will be even more important. If 2023 is another critically dry year, the water supply challenges will be more severe. Given this, the Board may want to consider increasing the amount of mandatory conservation and/or applying it to untreated water customers.

More detailed information on the water supply situation includes:

- Zone 7 was able to purchase 9,700 AF of water in 2021 but only anticipates being able to purchase up to 2,000 AF in 2022. If drought conditions continue, there may not be opportunities to purchase significant water in 2023.
- Zone 7 pumped 12,400 AF from the groundwater basin in 2020, 14,600 AF in 2021 and plans to pump 16,000 AF in 2022. Based on these high levels of pumping and a lowering of the groundwater basin level, Zone 7 anticipates pumping a more moderate amount of 10,000 AF in 2023.
- Zone 7 receives water stored in San Luis Reservoir and Kern County Storage and Recovery Programs through water conveyed through the Delta. If SWP allocations go to zero and/or if drought conditions continue, Zone 7 may have very limited access to water stored outside of the Tri-Valley.

To proactively prepare for continued and/or worse drought conditions in 2022 and 2023, Zone 7 may want to consider the following options:

1. Maintain the current Stage 2 Shortage Level at 15% mandatory conservation in alignment with Zone 7's Water Shortage Contingency Plan (see attached excerpts from 2020 Urban Water Management Plan)

2. Declare a Stage 2 Shortage Level at 20% mandatory conservation via resolution in alignment with Zone 7's Water Shortage Contingency Plan (see attached excerpts from 2020 Urban Water Management Plan)

3. Adopt a resolution requiring mandatory conservation from untreated water customers.

FUNDING:

None at this time.

RECOMMENDED ACTION:

Discuss and provide direction.

ATTACHMENTS:

Excerpts from 2020 Urban Water Management Plan/Water Shortage Contingency Plan
Table A – Conservation May 2021 through March 2022
Figure A – Actual Treated Water Conservation vs Targets

Table 3. Water Shortage Contingency Plan Levels (DWR Table 8-1)

Shortage Level	Percent Shortage Range	Water Shortage Condition	Shortage Response Actions
1	Up to 10%	• Agency has adequate supply and seeks to preserve water resources for the future; or • Assessment shows that water supply is not able to meet normal demands by up to 10%; or • Definable event has reduced water supply by up to 10%.	Implement actions per Table 4 and Table 5
2	Up to 20%	• Assessment leads to a reasonable conclusion that water supplies may not adequately meet normal demands in the current or upcoming years; or • Assessment shows that water supply is not able to meet normal demands by up to 20%; or • Definable event has reduced water supply by up to 20%.	Implement actions per Table 4 and Table 5
3	Up to 30%	• Previous water conservation target has not been met; or • Assessment shows that water supply is not able to meet normal demands by up to 30%; or • Definable event has reduced water supply by up to 30%.	Implement actions per Table 4 and Table 5
4	Up to 40%	• Previous water conservation target has not been met; or • Assessment shows that water supply is not able to meet normal demands by up to 40%; or • Definable event has reduced water supply by up to 40%.	Implement actions per Table 4 and Table 5
5	Up to 50%	• Previous water conservation target has not been met; or • Assessment shows that water supply is not able to meet normal demands by up to 50%; or • Definable event has reduced water supply by up to 50%.	Implement actions per Table 4 and Table 5
6	>50%	• Previous water conservation target has not been met; or • Assessment shows that water supply is not able to meet normal demands by more than 50%; or • Definable event has reduced water supply by more than 50%.	Implement actions per Table 4 and Table 5

Notes: Assessment is based on findings from the Annual Sustainability Report. Zone 7 will also consider any statewide actions or declarations in any local declarations of a shortage stage.

4.0 SHORTAGE RESPONSE ACTIONS AND EFFECTIVENESS

CWC §10632 (a)(4) requires shortage response actions that align with the defined shortage levels. Zone 7's shortage response actions consist of a combination of demand reduction (in coordination with its retailers), supply augmentation, and operational changes. Zone 7's suite of response actions depends on the event that precipitates a water shortage stage, the time of the year the event occurs, the water supply sources available, and the condition of its water system infrastructure. In general, Zone 7 plans to use a balanced and dynamic approach, adapting its response actions to close the gap between water supplies and water demand and meet the water use goals associated with the declared water shortage stage.

Table 4. Demand Reduction Actions (DWR Table 8-2)

Shortage Level	Demand Reduction Actions ***Drop down list*** *These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.*	How much is this going to reduce the shortage gap? *Include units used (volume type or percentage)*	Additional Explanation or Reference *(optional)*	Penalty, Charge, or Other Enforcement? ***For Retail Suppliers Only*** *Drop Down List*
1	Expand Public Information Campaign	(see Note)	Public outreach to support voluntary conservation.	No
	Other	Up to the full shortage gap	Ask retailers for voluntary demand reduction, as needed.	No
2	Expand Public Information Campaign	(see Note)	Expand public outreach to support conservation.	No
	Other	Up to the full shortage gap	Ask retailers for voluntary or mandatory demand reduction, as needed. Only the latter will be enforced.	Yes
3*	Expand Public Information Campaign	(see Note)	Intensify public outreach to support conservation.	No
	Other	Up to the full shortage gap	Ask retailers for mandatory demand reduction.	Yes
NOTES: Expanding public information campaign boosts water conservation overall, so no shortage gap reduction estimate provided. Actions introduced in a lower stage will also be used in higher stages, unless otherwise noted. *At Stage 3 and higher, Zone 7 will likely require its retailers to reduce demands up to the applicable shortage percentage.				

Zone 7 will monitor water production, demands, and changing conditions to determine the intensity of its public outreach, the extent of its enforcement actions, and the need to adjust its water shortage stage declaration as discussed in Section 9.0.

4.2 Additional Mandatory Restrictions

As a wholesaler, Zone 7 does not have direct authority to institute water use prohibitions. Zone 7 will support mandatory restrictions imposed by its retailers on their customers and coordinate with its retailers to provide consistent public outreach messaging.

4.3 Supply Augmentation and Other Actions

Chapter 6 of Zone 7's 2020 UWMP describes Zone 7's normal water supply portfolio, as well as dry-year and emergency supplies. Zone 7's non-local groundwater storage in the Kern County groundwater banks is largely intended to provide water supply during drought years or during definable water shortage events. Water transfer amounts would also be adjusted to meet supply deficits. These supply augmentation options are already included in the Annual Sustainability Report as needed to close the gap between supplies and demands, so they are not counted again as a potential shortage response.

Table 5 lists the supply augmentation methods and other actions (including operational changes described in Section 4.4) Zone 7 can utilize during each shortage level. These actions are only listed in Table 5 in the stage when they are first implemented. Zone 7 will continue to use these actions in higher stages unless otherwise noted.

Table 5. Supply Augmentation and Other Actions (DWR Table 8-3)

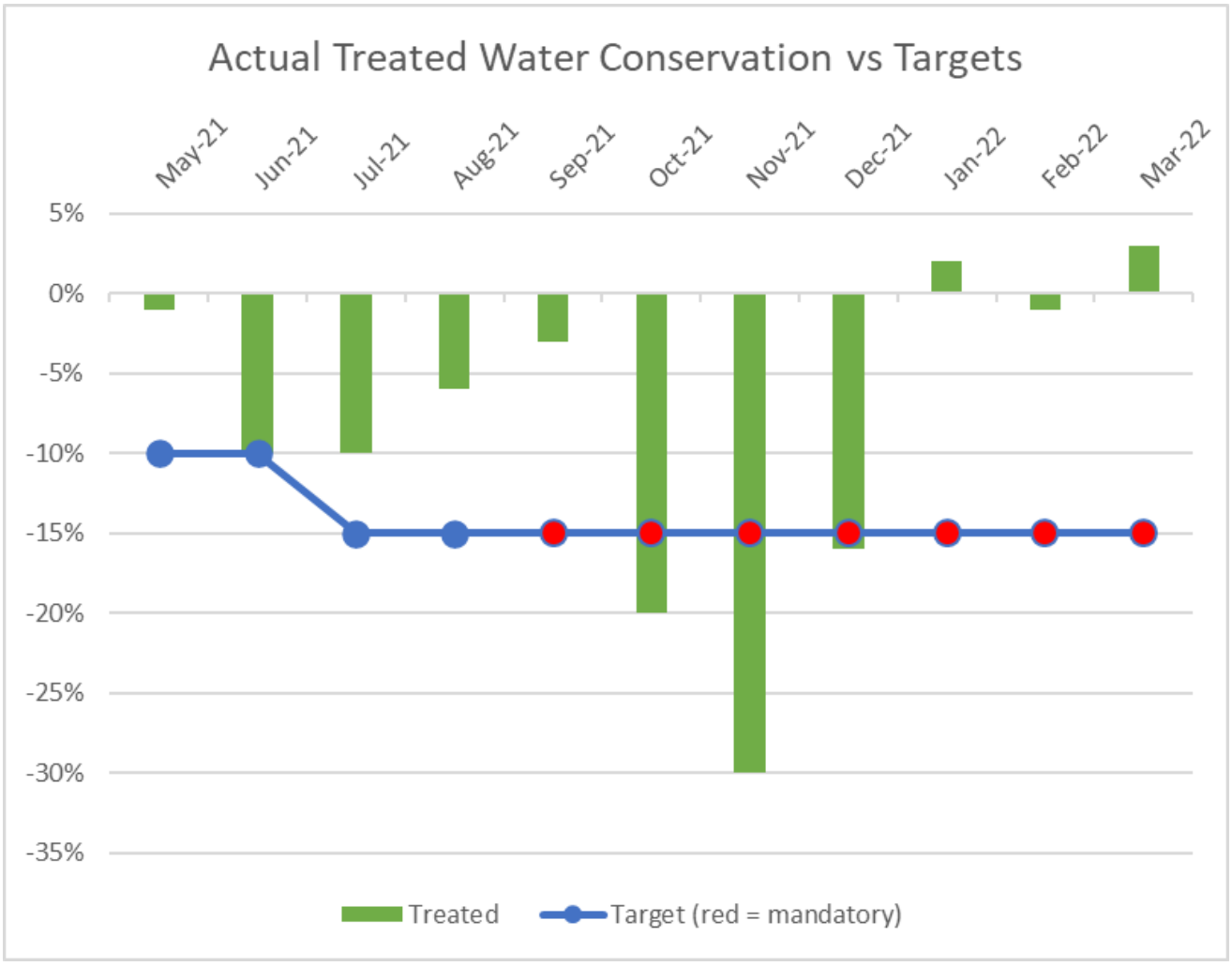
Shortage Level	Supply Augmentation Methods and Other Actions by Water Supplier ***Drop down list*** *These are the only categories that will be accepted by the WUEdata online submittal tool*	How much is this going to reduce the shortage gap? *Include units used (volume type or percentage)*	Additional Explanation or Reference *(optional)*
1	Other actions (describe)	Up to the full shortage gap.	Optimize use of groundwater and surface water supplies and adjust use of locally vs. remotely stored water.
	Other actions (describe)	N/A	Improve monitoring, analysis, and tracking of customer water usage rates.
	Other actions (describe)	N/A	In anticipation of decreased revenue, reduce discretionary spending
2	Transfers	Up to the full shortage gap.	Pursue opportunities for additional water transfers to lower the shortage gap, beyond what is already in the Annual Sustainability Report.
	Exchanges	Up to the full shortage gap.	Pursue opportunities for (additional) water exchanges to lower the shortage gap.
	Implement or Modify Drought Rate Structure or Surcharge	N/A	Consider implementation of water shortage surcharge correlated with stage (requires Board approval).
	Other actions (describe)	N/A	Evaluate timing of maintenance activities that could negatively impact ability to manage water supplies/shortages, or could result in loss of water supply.
	Other actions (describe)	up to 100 AF	Consider greater incentives under rebate program and focus on high-consumption customers.
3	Other actions (describe)	unknown - depends on project/s identified	Review CIP program and accelerate projects facilitating immediate improvement in water supply management if feasible/necessary.
	Stored emergency supply	To be determined based on operational	Consider/plan for/implement pumpback into South Bay Aqueduct if no supplies are available from Delta pumping.
NOTES: Actions introduced in a lower stage will also be used in higher stages, unless otherwise noted.			

4.4 Operational Changes

Beginning with Stage 2, Zone 7 will adjust operations to minimize supply losses. This includes improved monitoring, analysis, and tracking of customer water usage and optimizing use of Zone 7's water supplies to emphasize shortage management. In addition, Zone 7 will evaluate the timing of maintenance activities that could negatively impact the ability to manage water supplies or shortages or could result in a loss of water supply.

Table A – Conservation May 2021 through March 2022

	Change from Same Month in 2020	
	Treated	**Untreated**
10% voluntary conservation May 2021	-1%	+60%
10% voluntary conservation June 2021	-10%	+10%
15% voluntary conservation July 2021	-10%	+11%
15% voluntary conservation August 2021	-6%	+6%
15% mandatory conservation September 2021	-3%	+14%
15% mandatory conservation October 2021	-20%	+9%
15% mandatory conservation November 2021	-30%	-72%
15% mandatory conservation December 2021	-16%	-57%
15% mandatory conservation January 2022	+2%	+400%
15% mandatory conservation February 2022	-1%	+76%
15% mandatory conservation March 2022	+3%	+43%


Actual Treated Water Conservation vs Targets
May-21
Jun-21
Jul-21
Aug-21
Sep-21
Oct-21
Nov-21
Dec-21
Jan-22
Feb-22
Mar-22
5%
0%
-5%
-10%
-15%
-20%
-25%
-30%
-35%
Treated
Target (red = mandatory)

ZONE 7 WATER AGENCY
Delivering Quality, Reliability and Safety

100 North Canyons Parkway
Livermore, CA 94551
(925) 454-5000

ITEM NO. 10

ORIGINATING SECTION: Integrated Planning
CONTACT: Amparo Flores/Valerie Pryor

AGENDA DATE: April 20, 2022

SUBJECT: Continued Participation in the Delta Conveyance Project Process and Funding of the Environmental Planning Process – 2023 and 2024

SUMMARY:

- To support the Mission Statement to deliver safe, reliable, efficient, and sustainable water, Zone 7 Water Agency (Zone 7) has been participating in the Delta Conveyance Project (DCP) to improve the conveyance of State Water Project (SWP) water supply via the Sacramento-San Joaquin Delta (Delta). This supports Strategic Plan Initiative No. 2: Evaluate and develop appropriate new water supply and reliability opportunities.
- The Tri-Valley area receives approximately 70% of its water through the Delta. SWP water, carryover water, water banked in Kern County and transfer water all come through the Delta. Sites Reservoir Project water would also be conveyed through the Delta.
- The Delta as a conveyance system for water supply is threatened by various factors such as ecosystem considerations, seismic risk, and climate change/sea level rise. Key benefits of the proposed Delta Conveyance Project (DCP) to Zone 7 are related to the availability of alternative conveyance based on the new, single-tunnel option that could bypass the South Delta when it is unusable. The proposed DCP will also likely increase SWP reliability and improve water quality, but an alternate conveyance system for the majority of Zone 7's water is the significant benefit.
- On November 18, 2020, the Board approved continued participation in the DCP through a funding agreement with the Department of Water Resources (DWR) for Zone 7's share of environmental planning costs in an amount not to exceed $2.8M for calendar years 2021 and 2022. Staff noted at that time that another Board decision will be needed for continued participation past December 2022.
- On March 16, 2022, the Delta Conveyance Authority's (DCA's) Executive Director gave an update on the DCP, focused on project progress and upcoming work through the end of the year and plans for the next two-year phase ending in December 2024.
- The DCP is currently on track with the plans presented in November 2020. The next phase will continue the work towards the final environmental documents and permits, with Zone 7's potential total share of the funding estimated at $4.75M for 2023 and 2024.
- Continued participation by Zone 7 in the planning costs will allow Zone 7 to elect to participate in the DCP in the future based on information developed in the planning process, will allow access by Zone 7 to information related to benefits and costs, and

will provide Zone 7 influence throughout the process. Upon the conclusion of CEQA and with a fully defined project, Contractors that have participated in the planning process would have the option to approve the contract amendment and participate in the DCP. Contractors that have not participated in the planning process will not have the opportunity to join the DCP.

- The actions required for continued participation in the environmental planning process are (1) authorizing the providing of additional funding to DWR for Zone 7's share of the environmental planning costs associated with the proposed DCP and (2) determining that the actions are exempt from CEQA.
- These actions DO NOT approve participation in the DCP itself or an amendment to the SWP Contract for the DCP. Any such decisions would be made in the future and would be informed by the environmental planning process.

DISCUSSION:

Overview

The Tri-Valley area receives approximately 70% of its water through the Delta. State Water Project (SWP) water, carryover water, water banked in Kern County and transfer water all come through the Delta. Sites Reservoir Project water would also be conveyed through the Delta. The Delta as a conveyance system for water supply is threatened by various factors such as ecosystem considerations, seismic risk, and climate change/sea level rise. Key benefits of the proposed Delta Conveyance Project (DCP) to Zone 7 are related to the availability of alternative conveyance based on the new, single-tunnel option that could bypass the South Delta when it is unusable. The proposed DCP will also likely increase SWP reliability and improve water quality, but an alternate conveyance system for the majority of Zone 7's water is the significant benefit. Zone 7 has been a participant in the DCP environmental planning process that began in 2021; under this agenda item, staff is seeking to obtain Board approval of continuing this participation in 2023 and 2024.

Delta Conveyance Project: Overview and Status

<u>DCP Overview</u>

Improvements to SWP conveyance have been envisioned for many years. Under Governor Newsom's direction, in May 2019, DWR began planning for a single-tunnel option under the newly envisioned DCP. In January 2020, DWR released a Notice of Preparation (NOP) of an Environmental Impact Report (EIR) pursuant to CEQA for a proposed single tunnel project with 6,000 cfs of capacity referred to as the 'Delta Conveyance Project' or DCP. As discussed in the NOP, the proposed project is a single tunnel up to 6,000 cfs and DWR is considering alternatives including capacities ranging from 3,000 to 7,500 cfs. Anticipated benefits include:

- Water supply reliability and SWP resiliency
    - Climate change adaptation/stormwater capture
    - Sea-level rise adaptation

    - Seismic resilience
- South Delta flow pattern improvements for fisheries
- Water transfer capacity and carriage water savings
- Water quality improvements for SWP deliveries

Environmental Planning Process

A four-year environmental planning process was envisioned as shown on Figure 1 below. On November 18, 2020, the Board approved continued participation in the DCP through a funding agreement with the Department of Water Resources (DWR) for Zone 7's share of environmental planning costs in an amount not to exceed $2.8M for calendar years 2021 and 2022. Staff noted at that time that another Board decision will be needed for continued participation past December 2022.

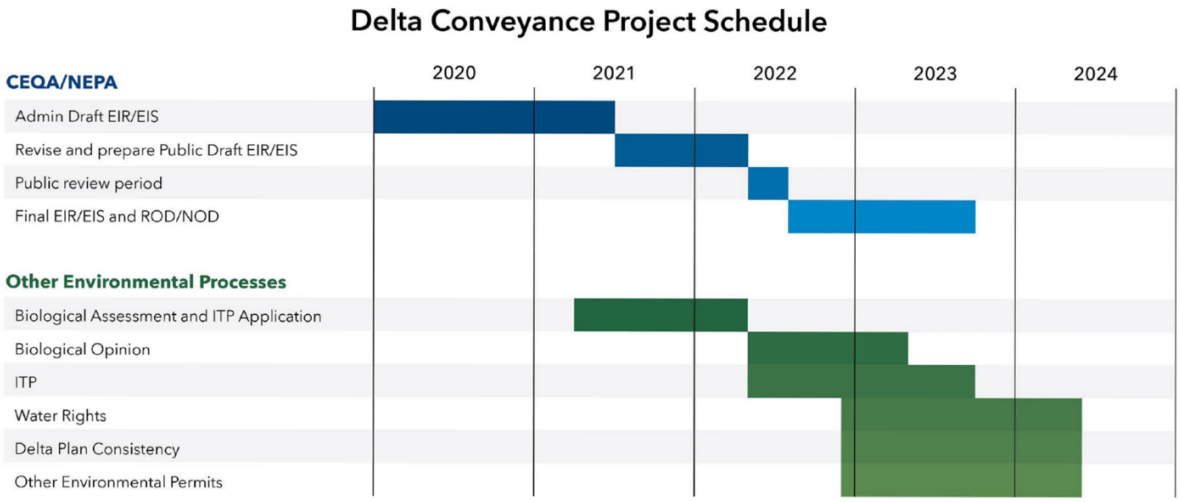


Figure 1. DCP schedule.

On March 16, 2022, the Executive Director of the Delta Conveyance Design and Construction Authority (DCA)—the Joint Powers Authority tasked with supporting the design, development, and implementation of the DCP—gave an update on the DCP's progress and upcoming work through the end of the year and plans for the next two-year phase ending in December 2024. The DCP is currently on track with the plans presented in November 2020.

DWR is in the process of completing the draft Environmental Impact Report (EIR) that is considering a reasonable range of project alternatives that avoid or substantially reduce potentially significant impacts. DWR expects to release the draft EIR for public review in mid-2022. Concurrently, U. S. Army Corps of Engineers (USACE) is conducting a federal environmental review and preparing an Environmental Impact Statement (EIS) under the National Environmental Policy Act (NEPA). In June 2020, DWR submitted a Section 404 permit application identifying a 6,000 cfs project pursuant to Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act (Section 404 permit application) to the USACE. In November 2021, DWR amended the Section 404 permit application to identify the Bethany Alternative as the proposed project because it has the least impacts to wetlands and waters.

This does not represent a decision by DWR on whether to move forward with the project or selection of an Alternative. DWR will still evaluate the tunnel alignment options originally proposed and a reasonable range of potentially feasible alternatives, in addition to the proposed project and a no project alternative, at the same level of detail. These tunnel alignment options are shown on Figure 2 below.



Figure 2. DCP tunnel alignment alternatives.

DWR plans to have a final EIR completed in 2023 and other environmental review, permitting and regulatory processes being completed in 2024. Once the DCP receives all necessary approvals and permits and has complied with all legal requirements, including but not limited to obtaining a change in point of diversion to DWR's existing water rights permit, construction could begin.

Public Engagement

During 2020 and 2021, DWR conducted robust public outreach in multiple forums to keep the public informed about DCP and receive public input into planning and design of the DCP. In 2022, DWR is expected to continue public engagement on the DCP activities including the Draft EIR, development of Community Benefits Program, and tribal and other environmental justice community outreach.

Key public outreach activities include: informational webinars to help the public learn more about the assumptions and methodology to be used in conducting impact analyses as part of the EIR; development of a Community Benefits Program, including specific outreach to tribal communities; Environmental Justice survey at the end of 2020; ongoing tribal outreach, including a Tribe-led Tribal Engagement Committee and a DWR-led annual Tribal Informational Meeting; and ongoing development of a broad range of informational resources, including videos, FAQs, fact sheets, briefings, and tabling events.

Preliminary Analysis of Water Supply Benefits

With the Draft EIR still under development, the preliminary benefits information provided below is the same information presented in 2020, based on a preliminary SWP water supply analysis conducted by the State Water Contractors. It is not possible to know the exact future conditions under which the DCP would operate but the conditions are likely a combination of many of the known and unknown risks. The selected range of future scenarios are intended to represent potential SWP operating conditions under future regulatory, climate change, sea level rise, and seismic risks, with and without the DCP. For this analysis the modeling assumed a 6,000 cfs diversion capacity and north Delta diversion operations criteria consistent with permitting from California WaterFix, the previous version of the DCP.

Figure 3 shows preliminary modeled average annual SWP exports under existing and future scenarios and the corresponding increment resulting with the DCP. All the future scenarios modeled indicate potentially lower SWP exports than the existing scenarios. Without the DCP, SWP exports are estimated to be reduced by up to 1,000,000 acre-feet on average per year under various future scenarios when compared to the existing conditions. DCP shows potential to alleviate reductions to SWP reliability under many plausible future risk scenarios. The preliminary modeling results shown on Figure 3 indicate that, on average, the DCP is estimated to result in about 100,000 acre-feet to 1,000,000 acre-feet per year of increased SWP exports when compared to scenarios without the DCP. As the DCP is further defined and ultimately permitted, the analysis of water supply benefits will be refined. DWR's analysis for the Proposed Project will be available as part of the draft EIR to be released in mid-2022.

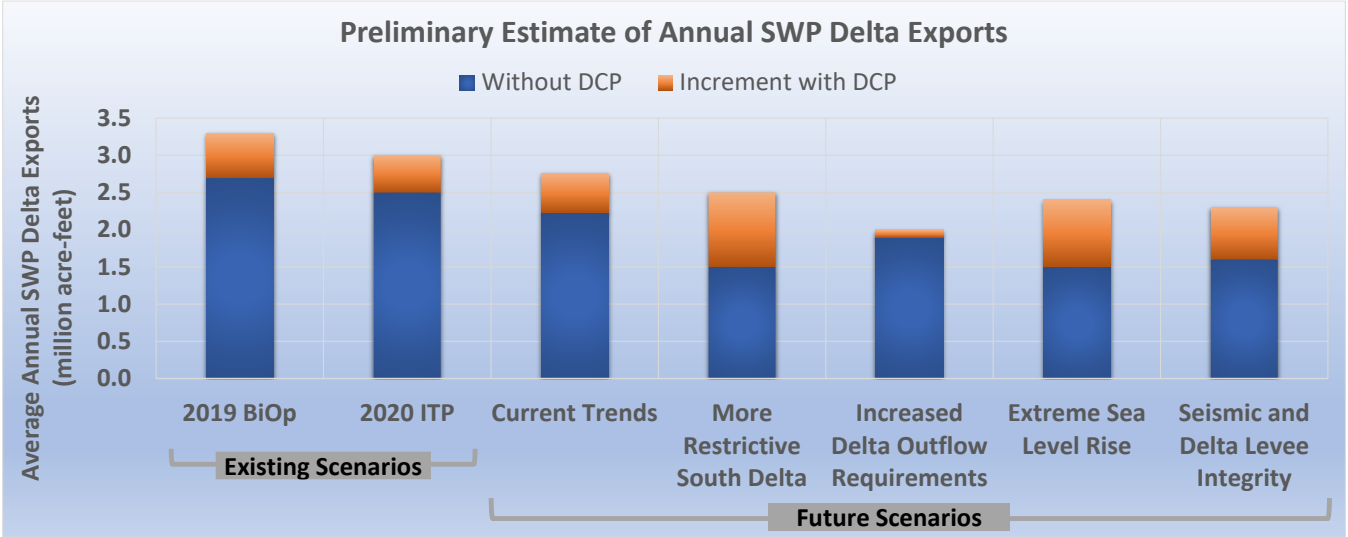


Figure 3. Preliminary estimates of SWP deliveries under existing and future scenarios, with and without the DCP.

Preliminary Cost Estimates

Based on the information available to the DCA in early 2020 and the estimated contingency levels at that time, the DCA estimated the proposed DCP to cost $15.9 billion in 2020 dollars. While there has been substantial work by the DCA on planning and design refinements since 2020, it is not possible to develop more refined cost information until additional geotechnical investigations are complete, which are expected to occur in the next few years. While the cost information was developed for the Central Alignment, the DCA expects the cost information for the Bethany Alignment to be similar. As planning proceeds, more information will become available to inform potential construction and associated costs, and cost information will be updated and refined.

Proposed Zone 7 Board Action

On November 18, 2020, the Zone 7 Board approved participation in the DCP environmental planning process at a 2.2% participation level. The Zone 7 share of funding over the four years is $7.5M based on a total cost of $340.7M. Zone 7 subsequently executed a Funding Agreement with DWR to pay for Zone 7's share of environmental review, planning, and design costs associated with the DCP for the first two years, out of four years of requested funding, in the amount of $ 2.8M. DWR is now requesting each DCP participant to provide the remaining two years of funding to support continued environmental review, planning, and design of the proposed project through 2023 and 2024 ($4.75M for Zone 7). The Funding Agreement allows for additional funds to be contributed to DWR pursuant to a letter signed by Zone 7 and a copy of a Board Resolution to this effect. DCP participants would be reimbursed or receive a credit for the advanced funds upon the first sale of revenue bonds to pay for the DCP. If the DCP does not proceed, the advanced funds would not be recovered.

Continued participation by Zone 7 in the planning costs will allow Zone 7 to elect to participate in the DCP in the future based on information developed in the planning process, will allow access by Zone 7 to information related to benefits and costs, and will provide Zone 7 influence throughout the process. At the March 30, 2022, meeting, the Water Resources Committee recommended bringing this action to the Board for consideration.

CEQA Determination

The recommended action does not qualify as a "project" subject to CEQA because the action constitutes (1) continuing administrative or maintenance activities, such as general policy and procedure making; (2) government fiscal activities that do not involve any commitment to any specific project that may result in a potentially significant physical impact on the environment; and (3) organizational or administrative activities of a public agency that will not result in direct or indirect physical changes in the environment. (State CEQA Guidelines, § 15060(c)(3).) The recommended action does not constitute an approval by the Agency of the DCP nor does the action authorize or approve construction of the DCP. The recommended action does not authorize or commit the Agency or DWR to expenditure of the funding on any site-specific project. In addition, the recommended action does not authorize or approve any actions by the DCA or DWR that may cause direct or reasonably foreseeable indirect environmental impacts. As such, the action recommended herein is not a "project" requiring environmental review under the California Environmental Quality Act ("CEQA") pursuant to State CEQA Guideline § 15378, subdivisions (a) and (b)(2), (b)(4) and (b)(5).

Further, and even was the action to be considered a CEQA "project," this action would be statutorily exempt from environmental review pursuant to CEQA Guideline § 15262 because the action merely calls for the funding and completion of feasibility and planning studies, including the completion of CEQA review itself. In addition, the action is exempt under the "common sense" exemption in CEQA Guidelines § 15061, subd. (b)(3) because it can be seen with certainty that there is no possibility that the action may have a significant effect on the environment. Finally, none of the exceptions to the use of the "common sense" exemption as identified in CEQA Guidelines § 15300.2 exist here.

FUNDING:

The estimated $4.75M will be requested in the FY 2023 and FY 2024 budget from Fund 100 – Water Enterprise Operations.

RECOMMENDED ACTION:

Adopt the attached Resolution.

ATTACHMENT:

Resolution

ZONE 7
ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

BOARD OF DIRECTORS

RESOLUTION NO.

INTRODUCED BY
SECONDED BY

Continued Participation in the Delta Conveyance Project Process and Funding of the Environmental Planning Process – 2023 and 2024

WHEREAS, to support the Mission Statement to deliver safe, reliable, efficient, and sustainable water, Zone 7 Water Agency (Zone 7) has been participating in various stages of a Sacramento-San Joaquin Delta (Delta) conveyance project, which aligns with Strategic Plan Initiative No. 2 (Evaluate and develop appropriate new water supply and reliability opportunities); and

WHEREAS, the Tri-Valley area receives approximately 70% of its water through the State Water Project (SWP) system and the Delta, and this conveyance system is facing major challenges related to climate change/sea level rise, earthquakes, environmental impacts, and water quality degradation rendering it increasingly unreliable; and

WHEREAS, the proposed Delta Conveyance Project (DCP), which offers alternative conveyance based on the new, single-tunnel option, has been developed by the Department of Water Resources (DWR) to address these challenges and increase the SWP system's reliability; and

WHEREAS, on November 18, 2020, the Zone 7 Board approved Resolution No. 20-66, which authorized informing DWR that Zone 7 desires to participate in the DCP at 2.2% participation level; and

WHEREAS, Resolution No. 20-66 further authorized the execution of a funding agreement with DWR to pay for Zone 7's share of environmental review, planning and design costs associated with the DCP for the first two years, out of four years of required funding, in the amount of up to $2.8M ("Funding Agreement"); and

WHEREAS, DWR is requesting each SWP contractor who has indicated they intend to participate in the DCP to provide the remaining two years of requested funding for environmental review, planning, and design costs of the proposed project through 2024; and

WHEREAS, the Funding Agreement with DWR allows for Zone 7 to contribute additional funds by providing a letter and a copy of Zone 7's Board Resolution of the additional funding; and

WHEREAS, continued participation by Zone 7 in the planning costs will allow Zone 7 to elect to participate in the DCP in the future based on information developed in the planning

process, will allow access by Zone 7 to information related to benefits and costs, and will provide Zone 7 influence throughout the process; and

WHEREAS, upon the conclusion of CEQA and with a fully defined project, Contractors that have participated in the planning process would have the option to approve the contract amendment and participate in the DCP and Contractors that have not participated in the planning process will not have the opportunity to join the DCP; and

WHEREAS, the estimated $4.75M will be requested in the FY 2023 and FY 2024 budget from Fund 100 – Water Enterprise Operations; and

WHEREAS, the recommended actions do not qualify as a "project" subject to CEQA because the actions constitute (1) continuing administrative or maintenance activities, such as general policy and procedure making; (2) government fiscal activities that do not involve any commitment to any specific project that may result in a potentially significant physical impact on the environment; and (3) organizational or administrative activities of a public agency that will not result in direct or indirect physical changes in the environment. (State CEQA Guidelines, § 15060(c)(3).) The recommended actions do not constitute an approval by the Zone 7 of the DCP nor do the actions authorize or approve construction of the DCP. The recommended actions do not authorize any amendment to the long-term water supply contract with DWR. As such, the actions recommended herein are not a "project" requiring environmental review under the California Environmental Quality Act ("CEQA") pursuant to State CEQA Guideline § 15378, subdivisions (a) and (b)(2), (b)(4) and (b)(5); and

WHEREAS, even if the actions were considered a CEQA "project," these actions would be statutorily exempt from environmental review pursuant to CEQA Guideline § 15262 because the actions merely call for the funding and completion of feasibility and planning studies, including the completion of CEQA review itself. In addition, the actions are exempt under the "common sense" exemption in CEQA Guidelines § 15061, subd. (b)(3) because it can be seen with certainty that there is no possibility that the actions may have a significant effect on the environment. Finally, none of the exceptions to the use of the "common sense" exemption as identified in CEQA Guidelines § 15300.2 exist here.

NOW THEREFORE BE IT RESOLVED that the Board of Directors of Zone 7 of the Alameda County Flood Control and Water Conservation District does hereby find and determine as follows:

1. The General Manager is authorized to execute a letter to DWR that commits Zone 7 to provide up to an additional $4.75M to DWR for Zone 7's share of the environmental review, planning, and design costs associated with the Delta Conveyance Project through 2024. These funds shall be paid in a manner consistent with the provisions of the Funding Agreement.

2. For the reasons set forth above, Zone 7 Board's actions are not a "project" requiring environmental review pursuant to State CEQA Guidelines § 15060, subdivision (c)(3) and § 15378, subdivisions (a) and (b)(2), (b)(4) and (b)(5). Alternatively, the actions are statutorily exempt from CEQA review pursuant to State CEQA Guidelines §15262 and exempt under the "common sense" exemption identified in State CEQA Guidelines

§ 15061, subdivision (b)(3). None of the exceptions to the use of the "common sense" exemption as identified in Government Code § 15300.2 exist.

3. Zone 7 staff is directed to prepare and file a Notice of Exemption within five working days of the approval of this Resolution.

ADOPTED BY THE FOLLOWING VOTE:

AYES:

NOES:

ABSENT:

ABSTAIN:

I certify that the foregoing is a correct copy of a Resolution adopted by the Board of Directors of Zone 7 of the Alameda County Flood Control and Water Conservation District on April 20, 2022.

By: _____
President, Board of Directors

ZONE 7 WATER AGENCY
Delivering Quality, Reliability and Safety

100 North Canyons Parkway
Livermore, CA 94551
(925) 454-5000

ITEM NO. 11

ORIGINATING SECTION: Office of the General Manager
CONTACT: Alexandra Bradley

AGENDA DATE: April 20, 2022

SUBJECT: Declaration of May as Water Awareness Month

SUMMARY:

- As part of Zone 7's mission to "Deliver safe, reliable, efficient, and sustainable water and flood protection services", Zone 7 participates in water conservation education activities to support Strategic Initiatives #2 – Evaluate and develop appropriate new water supply and reliability opportunities and #19 – Optimize Agency communications program.

- Water Awareness Month is celebrated in May in California. During the celebration, water agencies throughout the state conduct public outreach and education events to heighten public awareness about water supply and the need for conservation and water use efficiency.

- Zone 7 traditionally recognizes the significance of Water Awareness Month with a Board Resolution of Support and various community activities, which can highlight drought messaging, the vital role of water, and the importance of conservation.

- As a program partner in the "Save Our Water" program—a partnership between the Association of California Water Agencies and the Department of Water Resources—Zone 7 Water Agency (Zone 7) works with the retailers to manage and reduce local water demands through water conservation and water use efficiency.

- Zone 7 also works with local partners and our retailers to promote community water-use awareness events:

    - Fix a Leak Week (March 14-20, 2022) kicked off activities leading up to Water Awareness Month.

    - Water Wise Wendy Water Conservation Campaign – launched in March to provide tips to help valley residents to become "water saving wizards." New tips and videos to be release in May. See more at www.zone7water.com/waterwise.

    - Free Lawn Conversion Webinar hosted by Zone 7 to share the steps on converting a lawn and available rebate programs on April 14 at 6:30 p.m.

- Bringing Back the Natives Garden Tour, sponsored by Zone 7 and others, will conduct both virtual and in-person tours this year. See www.bringingbackthenatives.net/ for more information.

- Co-Sponsored the Livermore Science Odyssey "One Water Awards" and the winners will be recognized at the Zone 7 Regular Board meeting in May.

- Co-Sponsored the Livermore Water Awareness Poster Contest. Zone 7 will receive a proclamation announcing May as Water Awareness Month at the Livermore City Council meeting and will assist in the presentation of awards to the contest winners.

- Staff recommends that the Board adopt the attached resolution, declaring the month of May as Water Awareness Month with associated public outreach and education activities.

FUNDING:

Not applicable

RECOMMENDED ACTION:

Adopt the attached Resolution.

ATTACHMENT:

Resolution

ZONE 7
ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

BOARD OF DIRECTORS

RESOLUTION NO.

INTRODUCED BY
SECONDED BY

Declaration of May as Water Awareness Month

WHEREAS, as part of Zone 7's mission to "Deliver safe, reliable, efficient, and sustainable water and flood protection services", Zone 7 participates in water conservation education activities to support Strategic Initiatives #2 – Evaluate and develop appropriate new water supply and reliability opportunities and #19 – Optimize Agency communications program; and

WHEREAS, May has historically been designated as Water Awareness Month to highlight the vital role of water and the importance of conservation and water use efficiency; and

WHEREAS, water conservation and water use efficiency are important tools in combating drought conditions in California; and

WHEREAS, staff plans to coordinate with local retailers to promote public outreach and education for this year's Water Awareness Month.

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of Zone 7 of the Alameda County Flood Control and Water Conservation District supports and declares May as Water Awareness Month with associated public outreach and education activities.

ADOPTED BY THE FOLLOWING VOTE:

AYES:

NOES:

ABSENT:

ABSTAIN:

I certify that the foregoing is a correct copy of a Resolution adopted by the Board of Directors of Zone 7 of the Alameda County Flood Control and Water Conservation District on April 20, 2022.

By: _____
President, Board of Directors

ZONE 7 WATER AGENCY
Delivering Quality, Reliability and Safety

100 North Canyons Parkway
Livermore, CA 94551
(925) 454-5000

ITEM NO. 12

ORIGINATING SECTION: Administrative Services
CONTACT: Osborn Solitei

AGENDA DATE: April 20, 2022

SUBJECT: General Manager's Compensation

SUMMARY:

- In accordance with section 7 of the General Manager's contract, *"The Board of Directors and General Manager shall meet no later than the Regular Board meeting of each March to discuss and establish mutually agreeable goals and objectives to be accomplished by General Manager for the ensuing year and to review General Manager's performance of duties and obligation hereunder. As a result of such evaluation, the Board may, but shall not be obligated to, adjust General Manager's compensation and/or revise his/her employment benefits as the Board shall determine."*

- In accordance with section 3 of the General Manager's contract, "…*the General Manager shall be eligible annually for up to an additional 5% of her base salary as a bonus in recognition of outstanding performance as determined by the Board at the General Manager's annual reviews conducted pursuant to Section 7. The decision to pay a bonus, if any, and the amount thereof, shall be in the sole and absolute discretion of the Board of Directors and, if granted, will be paid over two (2) pay-periods following the Board of Directors' action."*

- The current annual base salary for the General Manager is $300,476.80 with the potential for up to a 5% performance bonus based on extraordinary performance, as determined by the Board of Directors. The base salary includes a vehicle allowance.

- The General Manager receives the same general benefits package (retirement benefits, health care, dental care, etc.) the other unrepresented management employees at Zone 7 receive, and also receives a deferred compensation plan.

- If the Board of Directors wishes to increase the General Manager's base salary, the Board of Directors must make that decision in open session.

FUNDING: Funding will depend on the Board action

RECOMMENDED ACTION: None

ZONE 7 BOARD OF DIRECTORS
SUMMARY NOTES OF THE LEGISLATIVE COMMITTEE

March 24, 2022
4:00 p.m.

DIRECTORS PRESENT: SARAH PALMER
ANGELA RAMIREZ HOLMES
OLIVIA SANWONG

STAFF PRESENT: VALERIE PRYOR, GENERAL MANAGER
OSBORN SOLITEI, TREASURER/ASSISTANT GENERAL MANAGER – FINANCE
CAROL MAHONEY, GOVERNMENT RELATIONS MANAGER
DONNA FABIAN, EXECUTIVE ASSISTANT

Director Ramirez Holmes called the meeting to order at 4:05 p.m.

1. Public Comment on Items Not on the Agenda

Kelly Abreu, Fremont resident, provided comment.

2. 2022 Legislative Session Update

Bob Gore of the Gualco Group stated that a dam safety funding request of $850 million is being sponsored as a budget funding act by Assemblyman Robert Rivas. Concurrently, the Central Valley Flood Legislative Committee is also beginning to work on getting support for a funding request for water conveyance infrastructure. He added that the Association of California Water Agencies (ACWA) is co-sponsoring that as well as California Municipal Utilities Association (CMUA). Jackson Gualco of the Gualco Group added that there may be an effort next week by Assemblywoman Buffy Wicks to move ahead with her vaccination requirement measure, which would apply to all public and private employers. Another bill they have on their tracking list that they recommend staff look at is SB1412 by Senator Bob Hertzberg. Mr. Gualco added that all the bills they spoke about at the last Legislative Committee meeting regarding the State Water Board, stormwater, and related issues, have all advanced out of committee.

Director Palmer asked for the listing of legislation that the Gualco Group is watching. Mr. Gualco responded that he would send it to Carol Mahoney, Government Relations Manager, to share with the Committee.

Director Ramirez Holmes asked that the list be included in future agendas of the Legislative Committee.

Mr. Gore stated that the State Water Board declared the drought in progress will begin curtailing Sacramento and San Joaquin River diverters almost immediately. They sent out 20,000 notices statewide to water rights holders wanting them to report their annual usage.

Notices of violation are being drafted by the Water Rights Enforcement Unit. Mr. Gore suggested that staff watch the $250 million in drought emergency funding that has been set aside by the Governor.

Director Ramirez Holmes asked how the money would be distributed and how the Agency could get access to it.

Mr. Gore replied that they would get the specifics within the next two to three weeks.

3. Position Recommendations: Assembly Bill 2142 (Gabriel); Senate Bill 1157 (Hertzberg)

Carol Mahoney, Government Relations Manager, stated that Assembly Bill 2142 provides an exemption to the 1099 requirements for turf replacement rebates. It states that agencies should not be taxing this type of rebate and that there should be an exemption like the clothes washer and irrigation controller rebate programs.

Director Ramirez Holmes wanted to clarify that if she received a $1,000 turf rebate, she would be sent a 1099 for her tax return to claim as income. Ms. Mahoney confirmed that yes, she would receive a 1099 from the retailers, not Zone 7.

Ms. Mahoney added that the rebate would show up as a credit on their water bill and that people would receive a 1099 recognizing it as gross income where it would be taxed based on the local tax rate. Ms. Mahoney added that since this is a water conservation program, staff want to encourage this program and do not want to penalize people for conserving water.

Ms. Mahoney pointed out that ACWA has also recommended a support position for this bill.

Directors Palmer, Ramirez Holmes, and Sanwong recommend that it be sent to the full Board for a support position.

The Committee then reviewed the draft letter and suggested that it be mentioned in the letter how successful the program has been at Zone 7, how many square feet have been converted, and how much water has been saved.

Director Ramirez Holmes stated that she spoke with Ms. Mahoney about creating a template letter for both supporting and opposing bills. The Committee suggested including how many people the Agency serves, how many retailers it has, etc.

Ms. Mahoney explained that AB 2142 addresses an exemption of turf replacement rebates from gross income, thereby extending a previous exemption that had expired. This would eliminate the need for 1099 forms to be provided for this type of rebate for the term on the bill. This exemption is like those already in place for high-efficiency clothes washers and irrigation controller rebates.

Director Ramirez Holmes clarified that if a turf rebate was received, for example $1,000, then the person receiving the rebate would need to claim it as income and Zone 7 would have to provide a 1099 form to them regarding the rebate?

Ms. Mahoney indicated that this was correct, although it would be the retailer that would provide the 1099 form and not Zone 7.

Director Ramirez Holmes asked if the bill was suggesting that this should not be the case and Ms. Mahoney indicated that that was correct.

Director Ramirez Holmes asked if there was any other information about the bill.

Ms. Mahoney stated that the bill's exemption pertains specifically to the rebate as it related to gross income. The rebate, which is received as a credit on the customer's bill, would be subject to the California tax rate without this exemption. The idea is that staff want to encourage water conservation through this program and do not want to penalize people for conserving water in this way, for outdoor irrigation. Roughly 60% of people's water use can go to outside irrigation. That is why staff would recommend a support position for the Board to send a letter to Assemblymember Gabriel stating that.

Director Ramirez Holmes pointed out that ACWA has recommended a support position for this bill. She stated that she would like to determine first if the Committee would like to recommend a support position to the full Board, and if so, then look at the proposed support letter from staff.

Director Palmer recommended supporting and sending that recommendation to the full Board for approval. Director Sanwong also indicated her support for that recommendation, as did Director Ramirez Holmes.

Director Ramirez Holmes introduced the draft letter for discussion and noted that she felt they should also include how successful the program has been for Zone 7, how many square feet have been converted, and how much water savings have been achieved. She noted that it is the specificity that gives our legislators the ability to chime in and note how well it is working, and why it is something that should be supported during the drought.

Director Sanwong also noted the desire to see the length of time the program has been in place and the metrics.

Director Ramirez Holmes agreed and noted that this year the rebate dollar amount was increased as a part of the Agency's water conservation effort to combat drought, which is all really important to the story.

Director Sanwong pointed out that California suburbs have a lot of single-family homes and traditionally with the California dream, having that green lawn has been such an iconic part of that image. It takes a lot of effort to get folks to make the transition. She affirmed that anything that helps to do that, which this bill is helping to shift and make that transition, is important.

Director Ramirez Holmes noted that she would like a template for each of the bills related to positions. She stated that she would like to see information upfront that explains who Zone 7 is and how many people it serves.

Director Palmer stated that this is the kind of thing that ACWA does in their letters. Ms. Mahoney agreed to send the edits to Director Ramirez Holmes offline before the next packet.

Director Ramirez Holmes moved to Senate Bill 1157, and Ms. Mahoney provided an overview of the proposed bill as it relates to water use and water conservation.

Ms. Mahoney noted that the bill would reduce per capita water use requirements from 55 gallons per capita per day to 47 gallons per person, per day, by January 1, 2025. Likewise, it recommends a reduction from a requirement of 50 gallons per person, per day, to 42 gallons per person, per day, by January 1, 2030. Staff recommended an opposing position on this bill because it has been shown that California has already achieved 48 gallons per person, per day on average which meant they were already achieving that water conservation. She felt that it would be better to encourage people to continue to conserve, not from a legislative standpoint, but from the standpoint of already moving in that direction. Ms. Mahoney stated that the Agency could continue to encourage rebates; encourage to move to more efficient types of indoor use and again, since this was specific to indoor use. This is something that has to do with toilets and high-efficiency washers, showerheads, and fixtures in the house.

Director Palmer asked if this is a bill that basically cuts across the state, no matter what region and Ms. Mahoney replied that was correct.

Director Ramirez Holmes inquired what Zone 7's indoor use is. Ms. Mahoney stated that this varies by retailer, but that the Agency falls within the state's overall average of 48 gallons per person, per day. Some retailers' average falls within the 30s and some as much as in the 50s. She believed all were less than the 52.5 gallons per person per day rate, so the Agency was already achieving that.

Director Ramirez Holmes restated Ms. Mahoney's comment that Zone 7 was probably meeting the standard that is going into effect but lowering it would mean that all retailers are probably not meeting the lowered rate at the moment – to which Ms. Mahoney replied that was correct.

Director Sanwong said that her retailer cannot really distinguish between outdoor versus indoor use at her house, so she asked how something like this proposal would be regulated.

Ms. Mahoney replied that on a basic level, a retailer can look at the amount that is used in the winter to provide an indication of indoor use because most people are not irrigating at that time.

Director Palmer inquired if there is a statewide standard for calculating indoor versus outdoor use since this is proposed to be regulated by the legislature.

Ms. Mahoney replied that there was not a standard method, but that there are methodologies for calculating indoor use.

Director Palmer asked if that is a legal indicator - meaning one that would stand up to legislation, Ms. Mahoney replied that she could not speak to the legal validity of the method and noted it is a good general litmus test because people are not using outdoor irrigation substantially during those months. Some agencies are much more sophisticated in the way that they are able to meter.

Director Palmer related that she had been on a Lower Colorado River tour and was asking Imperial Irrigation District about the huge amounts of water that was being used per capita, and yet, there was no distinguishing between what was being used indoors and outdoors. They had numbers like 105 and 87 gallons per capita, per day. There was no real definition as to how to determine what was what. She wondered aloud how this legislation can be enacted.

Valerie Pryor, General Manager, addressed Director Palmer's question and stated that from what she understood about the current legislation, the 55 gallons per capita, per day, is at the retailer level. It is not on a household, per customer level and each retailer is supposed to estimate their service area, the indoor use, the irrigation use, industrial use, water loss/leak use, and then that is how they report the targets. If they do not meet them, then the state can fine the retailers. She noted that this is her understanding of how the current law works. There could be guidelines from the State Department of Water Resources, but the legislation does not define how that is calculated and it is on a retailer-by-retailer basis.

Director Ramirez Holmes noted that there are some households in California that do not have individual meters. They were unaware how this current law is going to work, and they were already lowering it. She felt that it was a little arbitrary and premature.

Director Sanwong asked if this was something that ACWA is opposing that Zone 7 can get behind and both Ms. Mahoney and Director Ramirez Holmes noted that ACWA has noted their concerns and opposition.

Director Ramirez Holmes noted that continuing to work with the author would be preferable since there are several things that could be recommended and noted that ACWA has been meeting with Senator Hertzberg, who participated in the Legislative Symposium Day speaking about why the bill was proposed.

Director Palmer stated that she felt it was good for Zone 7 to be seen also as opposing something like this, in terms of how its constituents may feel about these restrictions and affirmed her support for bringing this to the full Board as an opposing position. She noted that a lot of people she had talked to were very much against this.

Director Sanwong stated that she thought this would be very difficult to implement. It would just be another thing that the state would be requiring retailers to do but noted that she appreciates the spirit of it and would be more inclined to lean more towards neutral, than no.

Director Palmer expressed her concerns that somebody is trying to make a nice statement and turn it into a governmental thing and another piece of legislation.

Director Ramirez Holmes acknowledged Director Sanwong's concerns regarding neutrality on the matter and noted that two of the three Committee members recommended an opposing position, so the committee moved on to reviewing the letter.

The Committee again reiterated that having up-front language regarding who Zone 7 is and specific examples of water use from the valley would be helpful additions to the letter. Ms. Mahoney suggested that she add water usage information from the Urban Water Management Plan to show the increase in conservation that was achieved since the previous drought.

The Committee had other minor edits to the text regarding the Agency's intent in opposing the bill and noted that they have not yet seen the existing law go into effect to see how people meet those requirements. The Committee agreed that the letters would be presented to the Board under Consent.

4. Verbal Reports

Director Ramirez Holmes clarified that she does not want to look at SB 1412, which is the Hertzberg pre-qualification as she felt it would be controversial. She added that Director Sanwong might want to talk about the Maienschein bill, AB 1953 which would require publicly accessed buildings to install water bottle refill stations.

Director Sanwong responded that she is personally against plastic water bottles that are not meant to be reusable and would be interested in reviewing the bill.

Director Ramirez Holmes added that she, Ms. Pryor, and Ms. Mahoney will be meeting with Assemblymember Rebecca Bauer-Kahan to discuss the efforts Zone 7 has done in terms of desalination and what the Agency's concerns are.

Ms. Pryor stated that staff are reviewing how the drought impacts the water rights and water permits, which would ultimately impact the yield. The Bay Area Regional Reliability Project is doing two pilot transfers which would be transfers between the Central Valley Project and State Water Contractors Project, because that is how the Bay Area Regional Desal Project water would be accessed, and it is very hard to do transfers between projects.

Director Ramirez Holmes asked Ms. Mahoney to provide a one-pager on desalination and the history of what Zone 7 has been doing, and to also provide the bill list provided by the Gualco Group for future Legislative Committee meetings.

Ms. Mahoney added that she is still working with the California Special Districts Association to try to schedule an update to the Committee.

5. Adjournment – Director Ramirez Holmes adjourned the meeting at 5:00 p.m.

Palmer Board Report April 20, 2022

March 16-18 Water Education Foundation: Lower Colorado River Tour

> "The lower Colorado River has virtually every drop allocated, yet demand is growing from myriad sources — increasing population, declining habitat, drought and climate change.
>
> The 1,450-mile river is a lifeline to 40 million people in the Southwest across seven states, 30 tribal nations and Mexico. How the Lower Basin states – Arizona, California and Nevada – use and manage this water to meet agricultural, urban, environmental and industrial needs was the focus of this tour.
>
> This year's tour took place while the river was experiencing extraordinary and historic turmoil, and during the centennial of the 1922 Colorado River Compact. The compact divided the river's watershed into two basins, established the water allotment for each basin and provided a framework for management of the river.
>
> Already plagued by more than 20 years of drought, officials and water users face unprecedented conditions fueled by climate change. A poor snowpack and extreme dryness sent Lake Powell and Lake Mead plunging to record low elevations, prompting the first-ever shortage to occur in 2022. Despite Drought Contingency Plans enacted just a few years prior, experts agreed urgent actions are required before the set of operating guidelines expire in 2026.
>
> This 3-day, 2-night tour journeyed along the Lower Colorado River from Hoover Dam and Lake Mead to the Salton Sea and the Coachella Valley, and included a boat trip through scenic Topock Gorge. Along the way, experts discussed challenges related to what has been the most contested, beloved for recreation and meticulously managed river in the United States." https://www.watereducation.org/tour/lower-colorado-river-tour-2022

March 22 - WORLD WATER DAY: Water Equity in California

> "According to data published in 2019 by the World Health Organization and UNICEF in 2019, more than 785 million worldwide people did not have access to at least basic water services and more than 884 million people did not have safe water to drink. A study released by UC Berkeley and UC Los Angeles in January 2022 reports that an estimated 370,000 Californians rely on drinking water that may contain high levels of the chemicals arsenic, nitrate or hexavalent chromium. Other estimates that account for a broader range of contaminants and access issues put the number of Californians without access to clean water at over 1 million. A lack of infrastructure, aging systems, dried up wells, unaffordable rates, poor water quality, historical or systemic racism, are all more likely to impact lower-income communities.
>
> Since 2012, California's "Human Right to Water" law (Assembly Bill 685) has declared that every person in the state has a right to clean, safe, and affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes. Now, under SB 200 we have the SAFER program.

Nationwide, the Clean Water Act, Resource Conservation and Recovery Act, and the Safe Drinking Water Act, establish providing safe, clean water as a government obligation.

In this 1.5-hour event, we'll learn more about what is being done here in California to provide equal access to clean water to communities statewide."

Event Panelists:

- Letitia Carpenter, US Water Alliance
- Heather Lukacs, Community Water Center
- Amanda Ford, California State Water Resources Control Board
- Arthine Cossey van Duyne, WaterFunder

https://awwee.org/events/mar-22-water-equity

March 23 - I gave a presentation to the Concord Diablo Rotary Club on "**California Water Infrastructure Upgrade: Delta Conveyance and Beyond**" This included:

- Background on California water and the risk factors we face
- What the Delta Conveyance Project is (and isn't) including the alternatives
- Update on where we are now with this project and where Dept. of Water Resources is heading
- Other projects affecting our water here in northern California
    - Los Vaqueros Expansion
    - Sites Reservoir

This talk was modified and updated from previous talks given to Rotary Club of Livermore Valley, Dublin Rotary Club, Diablo Foothills Garden Clubs

March 25 - Monthly check-in with Graham Bradner, Executive Director of Delta Conveyance Project Design and Construction JPA (DCA)

March 25 - ACWA Board of Directors Meeting (Agenda Attached)

March 30 - Zone 7 Water Resources Committee on:

- Continued Participation in the Delta Conveyance Project Process and Funding of the Environmental Planning Process - 2023-2024 (our recommendation was to bring this to the full board
- Chain of Lakes Pipeline Alignment Study - update

ZONE 7 WATER AGENCY
Delivering Quality, Reliability and Safety

100 North Canyons Parkway
Livermore, CA 94551
(925) 454-5000

ITEM NO. 16a

ORIGINATING SECTION: Administration
CONTACT: Valerie Pryor

AGENDA DATE: April 20, 2022

SUBJECT: General Manager's Report

SUMMARY:

The following highlights a few of the key activities which occurred last month. Also attached is a list of the General Manager (GM) contracts executed during March.

Drought Emergency and Drought Operations:

This year's January, February, and March have now become the driest on record. On April 1, the manual snow survey recorded just 2.5 inches of snow depth and a snow water equivalent of one inch, which is four percent of average for the Phillips Station, a key indicator location for statewide water operations forecasting. April 1 is typically when the snowpack is at its highest. In light of extreme dry conditions, the SWP Table A allocation was reduced from 15% to 5% or about 4,000 acre-feet (AF), resulting in about 8,000 AF of reduced water supply for Zone 7 this year. Staff continue to pursue water transfer opportunities and have adjusted the water supply operations plan to reflect this change.

On March 28, 2022, Governor Newsom issued the attached Executive Order asking Californians to limit summertime water use and directing the State Water Resources Control Board to adopt emergency regulations that require urban water suppliers that have adopted a Water Shortage Contingency Plan to implement, at a minimum, Level 2. The Executive Order also calls on the State Water Board to adopt emergency regulations defining "non-functional turf" and banning irrigation of non-functional turf in the commercial, industrial, and institutional sectors. An exception is made to ensure the health of trees and other perennial non-turf plantings. Zone 7 is currently in compliance with this order.

The Valley Pump Station is being expedited as a drought emergency project.

Operations and Maintenance:

Staff worked on several projects including support work for the Del Valle Water Treatment Plant (DVWTP) Ozonation post-project work, the Patterson Pass Water Treatment Plant (PPWTP) Expansion and Ozonation Project and the Valley Pump Station Project.

Staff have been preparing for the summer production season at the water facilities. Two SuperPulsators (water treatment plant sludge removal process infrastructure) were cleaned, an ozone contactor was also taken offline and cleaned and sludge drying beds are being cleaned.

Zone 7 has begun its annual fire prevention maintenance program along the flood protection channels it maintains. In addition to maintaining the channel facilities for flood activities, removing downed trees, and conducting regular inspections of the channels to ensure they're in working order, the Agency is also tasked with fire prevention activities. The channel mowing program, which commenced April 4, began in eastern Livermore, and will work its way through the city, then moving on to Pleasanton and finishing in Dublin. Mowing is expected to be completed by June 15. After that, the Agency will continue its monitoring program and repeat mowing or goat grazing where vegetation has grown back in.

Administration and Outreach:

Preparation of the FY 2022-24 Budget is underway.

Continuing Disclosure Annual Report: Staff completed the Continuing Disclosure Annual Report, satisfying the continuing disclosure undertakings of the Agency in connection with $64 million Livermore Valley Water Financing Authority Water Revenue Bonds, 2018 Series A. The FY 2020-21 Continuing Disclosure Annual Report was uploaded to the Municipal Securities Rulemaking Board (MSRB) Electronic Municipal Market Access ("EMMA") website, for the benefit of the owners of the Obligations, on March 23, 2022. The report can also be found on the Zone 7 website.

Drought Campaign: We're still in a drought and under mandatory 15% conservation. Please help us keep up the water savings trend by liking our page and sharing our messages on social media. We also have a https://www.zone7water.com/post/drought-alert-15-mandatory-conservation-still-effect-tri-valley-2022 on the website that provides updates on the drought and outlines each retailer jurisdiction's watering restrictions. Please use this as a resource if you receive any questions about water restrictions as they vary by jurisdiction.

Engineering and Water Quality:

Regulatory Development – Hexavalent Chromium (Cr6): On March 22, 2022, California State Water Board posted the proposed administrative draft Cr6 Maximum Contaminant Level (MCL) at 10 parts per billion (ppb) and an associated detection limit for purposes of reporting (DLR) at 0.05 ppb. The proposed draft Cr6 MCL is at the same level as the previously invalidated MCL. In addition, State Water Board staff proposes a compliance schedule (2 to 3 years after the regulation takes effect) based on system size. Written public comments are due by April 29, 2022. After considering comments received on this administrative draft, the State Water Board plans to release a proposed MCL sometimes in mid-2022. Zone 7 has one well (COL 5) above the proposed draft Cr6 MCL. This well had a blending plan that was previously

approved by the State Water Board. Zone 7 continues to operate per blending plan as conditions allow.

Patterson Pass Water Treatment Plant Upgrades and Ozonation Project: Testing of the signals and programming associated with the new filters is in progress. Currently, it is anticipated that plant startup will be in the first part of May, followed by startup of the ozonation system.

Valley Pump Station Project: The complete foundation for the building has been poured and completed. Conco has installed almost all the piping on the project site including all the discharge piping (see photo). The block building will begin construction on April 11 and should take approximately three weeks to complete.



Integrated Water Resources:

On March 29, 2022, state, federal and local water agencies announced broad agreement on measures to provide additional water flows and new habitat to help improve conditions in the Sacramento-San Joaquin River Delta watershed. The agencies signed an MOU that outlines terms for a Voluntary Agreement (VA) framework that represents a new approach to water management in the Delta and its rivers. The VA framework will provide new flows for the environment, create, and restore habitat for fish and wildlife, provide funding and outlines a governance and habitat monitoring framework. The VA will be analyzed and considered by the State Water Resources Control Board as an alternative for the Bay-Delta Water Quality Control Plan update. A fact sheet prepared by State Water Contractors is attached.

Sustainable Groundwater Management: California Code of Regulations Title 23 (CCR §356.2) requires Groundwater Sustainability Agencies to submit annual reports describing basin conditions by April 1 of every year. Staff submitted the Sustainable Groundwater

Management 2021 Annual Report for the Livermore Valley Groundwater Basin to the California Department of Water Resources (DWR) SGMA Portal on March 31 and met the April 1st statutory deadline. It is also available on Zone 7 website at: https://www.zone7water.com/sites/main/files/file-attachments/2-010_wy_2021.pdf?1648845314.

This report included the essential components in compliance with the regulatory requirements. In addition to the required information, staff are preparing supplemental information as an appendix to the annual report to present additional information of Zone 7's programs (e.g., surface water, land subsidence).

Delta Conveyance Project: In November 2020, Zone 7 approved participation in the Delta Conveyance Project and $2.8 million for two years (calendar years 2021 and 2022) of funding for environmental planning. The environmental planning and preliminary engineering work are on schedule and on budget and the Draft Environmental Impact Report (EIR) is scheduled to be released in mid-2022. As discussed at the time of this approval, the environmental planning process will take four years and the Zone 7 share of environmental planning costs will be approximately $4.7 million for calendar years 2023 and 2024. Consideration of the next phase of participation and funding by the Zone 7 Board will take place in April 2022.

Zone 7 representatives continue to serve on the Boards of the Delta Conveyance Design and Construction Authority (DCA) and the Delta Conveyance Finance Authority (DCFA). Minutes for the January 20, 2022, and February 17, 2022, DCA Board meetings are attached to this report. Board packets for both the DCA and the DCFA can be found at: http://www.dcdca.org/#meetings.

Water Supply and Reliability Projects: Zone 7 is currently actively pursuing water supply and reliability projects. Key activities are as follows:

- **Los Vaqueros Reservoir Expansion (LVE).** Progress continues on critical items such as the development of service agreements, long-term financing, water rights and permitting, and engineering. A key focus is advancing the cost and funding allocation approach.

- **Sites Reservoir.** Key work on environmental permitting and water rights continues. More restrictive diversion criteria are being incorporated for planning purposes to achieve a higher degree of permitting certainty while maintaining project affordability. The US EPA formally invited the Sites Project Authority to apply for a $2.2 billion low-interest loan through the Water Infrastructure Finance and Innovation Act (WIFIA). A loan through the WIFIA program could dramatically reduce the costs to participants.

- **Local Water Supply and Water Quality Studies**. Work on the 2022 Water Supply Evaluation Update continues, and a meeting was held with the Retailers to get feedback on the proposed approach.

Monthly List of GM Contracts

March 2022

Contracts	Amount	Purpose
Civicorps Schools	$50,000	Debris and Vegetation Management
EKI Environment and Water, Inc.	$50,000	As-needed Consulting Services related to implementation of the Sustainable Groundwater Basin, including 2021 Alternative Groundwater Sustainability Plan
EMA, Inc.	$35,200	Technology Services for the Agency
Prudential Overall Supply	$26,305	Laundry Services for Agency-Owned Uniforms and Rental Services for Mats and Shop Towels
Total March 2022	**$161,505**	

EXECUTIVE DEPARTMENT
STATE OF CALIFORNIA

EXECUTIVE ORDER N-7-22

WHEREAS on April 12, 2021, May 10, 2021, July 8, 2021, and October 19, 2021, I proclaimed states of emergency that continue today and exist across all the counties of California, due to extreme and expanding drought conditions; and

WHEREAS climate change continues to intensify the impacts of droughts on our communities, environment, and economy, and California is in a third consecutive year of dry conditions, resulting in continuing drought in all parts of the State; and

WHEREAS the 21st century to date has been characterized by record warmth and predominantly dry conditions, and the 2021 meteorological summer in California and the rest of the western United States was the hottest on record; and

WHEREAS since my October 19, 2021 Proclamation, early rains in October and December 2021 gave way to the driest January and February in recorded history for the watersheds that provide much of California's water supply; and

WHEREAS the ongoing drought will have significant, immediate impacts on communities with vulnerable water supplies, farms that rely on irrigation to grow food and fiber, and fish and wildlife that rely on stream flows and cool water; and

WHEREAS the two largest reservoirs of the Central Valley Project, which supplies water to farms and communities in the Central Valley and the Santa Clara Valley and provides critical cold-water habitat for salmon and other anadromous fish, have water storage levels that are approximately 1.1 million acre-feet below last year's low levels on this date; and

WHEREAS the record-breaking dry period in January and February and the absence of significant rains in March have required the Department of Water Resources to reduce anticipated deliveries from the State Water Project to 5 percent of requested supplies; and

WHEREAS delivery of water by bottle or truck is necessary to protect human safety and public health in those places where water supplies are disrupted; and

WHEREAS groundwater use accounts for 41 percent of the State's total water supply on an average annual basis but as much as 58 percent in a critically dry year, and approximately 85 percent of public water systems rely on groundwater as their primary supply; and

WHEREAS coordination between local entities that approve permits for new groundwater wells and local groundwater sustainability agencies is important to achieving sustainable levels of groundwater in critically overdrafted basins; and

WHEREAS the duration of the drought, especially following a multiyear drought that abated only five years ago, underscores the need for California to redouble near-, medium-, and long-term efforts to adapt its water management and delivery systems to a changing climate, shifting precipitation patterns, and water scarcity; and

WHEREAS the most consequential, immediate action Californians can take to extend available supplies is to voluntarily reduce their water use by 15 percent from their 2020 levels by implementing the commonsense measures identified in operative paragraph 1 of Executive Order N-10-21 (July 8, 2021); and

WHEREAS to protect public health and safety, it is critical the State take certain immediate actions without undue delay to prepare for and mitigate the effects of the drought conditions, and under Government Code section 8571, I find that strict compliance with various statutes and regulations specified in this Proclamation would prevent, hinder, or delay the mitigation of the effects of the drought conditions.

NOW, THEREFORE, I, GAVIN NEWSOM, Governor of the State of California, in accordance with the authority vested in me by the State Constitution and statutes, including the California Emergency Services Act, and in particular, Government Code sections 8567, 8571, and 8627, do hereby issue the following Order to become effective immediately:

IT IS HEREBY ORDERED THAT:

1. The orders and provisions contained in my April 21, 2021, May 10, 2021, July 8, 2021, and October 19, 2021 Proclamations remain in full force and effect, except as modified by those Proclamations and herein. State agencies shall continue to implement all directions from those Proclamations and accelerate implementation where feasible.

2. To help the State achieve its conservation goals and ensure sufficient water for essential indoor and outdoor use, I call on all Californians to strive to limit summertime water use and to use water more efficiently indoors and out. The statewide Save Our Water conservation campaign at SaveOurWater.com provides simple ways for Californians to reduce water use in their everyday lives. Furthermore, I encourage Californians to understand and track the amount of water they use and measure their progress toward their conservation goals.

3. By May 25, 2022, the State Water Resources Control Board (Water Board) shall consider adopting emergency regulations that include all of the following:

    a. A requirement that each urban water supplier, as defined in section 10617 of the Water Code, shall submit to the Department of Water Resources a preliminary annual water supply and demand assessment consistent with section 10632.1 of the Water Code no later than June 1, 2022, and submit a final annual water

supply and demand assessment to the Department of Water Resources no later than the deadline set by section 10632.1 of the Water Code;

b. A requirement that each urban water supplier that has submitted a water shortage contingency plan to the Department of Water Resources implement, at a minimum, the shortage response actions adopted under section 10632 of the Water Code for a shortage level of up to twenty percent (Level 2), by a date to be set by the Water Board; and

c. A requirement that each urban water supplier that has not submitted a water shortage contingency plan to the Department of Water Resources implement, at a minimum, shortage response actions established by the Water Board, which shall take into consideration model actions that the Department of Water Resources shall develop for urban water supplier water shortage contingency planning for Level 2, by a date to be set by the Water Board.

To further conserve water and improve drought resiliency if the drought lasts beyond this year, I encourage urban water suppliers to conserve more than required by the emergency regulations described in this paragraph and to voluntarily activate more stringent local requirements based on a shortage level of up to thirty percent (Level 3).

4. To promote water conservation, the Department of Water Resources shall consult with leaders in the commercial, industrial, and institutional sectors to develop strategies for improving water conservation, including direct technical assistance, financial assistance, and other approaches. By May 25, 2022, the Water Board shall consider adopting emergency regulations defining "non-functional turf" (that is, a definition of turf that is ornamental and not otherwise used for human recreation purposes such as school fields, sports fields, and parks) and banning irrigation of non-functional turf in the commercial, industrial, and institutional sectors except as it may be required to ensure the health of trees and other perennial non-turf plantings.

5. In order to maximize the efficient use of water and to preserve water supplies critical to human health and safety and the environment, Public Resources Code, Division 13 (commencing with section 21000) and regulations adopted pursuant to that Division are hereby suspended, with respect to the directives in paragraphs 3 and 4 of this Order and any other projects and activities for the purpose of water conservation to the extent necessary to address the impacts of the drought, and any permits necessary to carry out such projects or activities. Entities that desire to conduct activities under this suspension, other than the directives in paragraphs 3 and 4 of this Order, shall first request that the Secretary of the Natural Resources Agency make a determination that the proposed activities are eligible to be conducted under this suspension. The Secretary shall use sound discretion in applying this Executive Order to ensure that the suspension serves the purpose of accelerating conservation projects that are necessary to address impacts of the drought, while at the same time

protecting public health and the environment. The entities implementing these directives or conducting activities under this suspension shall maintain on their websites a list of all activities or approvals for which these provisions are suspended.

6. To support voluntary approaches to improve fish habitat that would require change petitions under Water Code section 1707 and either Water Code sections 1425 through 1432 or Water Code sections 1725 through 1732, and where the primary purpose is to improve conditions for fish, the Water Board shall expeditiously consider petitions that add a fish and wildlife beneficial use or point of diversion and place of storage to improve conditions for anadromous fish. California Code of Regulations, title 23, section 1064, subdivisions (a)(1)(A)(i)-(ii) are suspended with respect to any petition that is subject to this paragraph.

7. To facilitate the hauling of water for domestic use by local communities and domestic water users threatened with the loss of water supply or degraded water quality resulting from drought, any ordinance, regulation, prohibition, policy, or requirement of any kind adopted by a public agency that prohibits the hauling of water out of the water's basin of origin or a public agency's jurisdiction is hereby suspended. The suspension authorized pursuant to this paragraph shall be limited to the hauling of water by truck or bottle to be used for human consumption, cooking, or sanitation in communities or residences threatened with the loss of affordable safe drinking water. Nothing in this paragraph limits any public health or safety requirement to ensure the safety of hauled water.

8. The Water Board shall expand inspections to determine whether illegal diversions or wasteful or unreasonable use of water are occurring and bring enforcement actions against illegal diverters and those engaging in the wasteful and unreasonable use of water. When access is not granted by a property owner, the Water Board may obtain an inspection warrant pursuant to the procedures set forth in Title 13 (commencing with section 1822.50) of Part 3 of the Code of Civil Procedure for the purposes of conducting an inspection pursuant to this directive.

9. To protect health, safety, and the environment during this drought emergency, a county, city, or other public agency shall not:

    a. Approve a permit for a new groundwater well or for alteration of an existing well in a basin subject to the Sustainable Groundwater Management Act and classified as medium- or high-priority without first obtaining written verification from a Groundwater Sustainability Agency managing the basin or area of the basin where the well is proposed to be located that groundwater extraction by the proposed well would not be inconsistent with any sustainable groundwater management program established in any applicable Groundwater Sustainability Plan adopted by that Groundwater Sustainability

Agency and would not decrease the likelihood of achieving a sustainability goal for the basin covered by such a plan; or

b. Issue a permit for a new groundwater well or for alteration of an existing well without first determining that extraction of groundwater from the proposed well is (1) not likely to interfere with the production and functioning of existing nearby wells, and (2) not likely to cause subsidence that would adversely impact or damage nearby infrastructure.

This paragraph shall not apply to permits for wells that will provide less than two acre-feet per year of groundwater for individual domestic users, or that will exclusively provide groundwater to public water supply systems as defined in section 116275 of the Health and Safety Code.

10. To address household or small community drinking water shortages dependent upon groundwater wells that have failed due to drought conditions, the Department of Water Resources shall work with other state agencies to investigate expedited regulatory pathways to modify, repair, or reconstruct failed household or small community or public supply wells, while recognizing the need to ensure the sustainability of such wells as provided for in paragraph 9.

11. State agencies shall collaborate with tribes and federal, regional, and local agencies on actions related to promoting groundwater recharge and increasing storage.

12. To help advance groundwater recharge projects, and to demonstrate the feasibility of projects that can use available high water flows to recharge local groundwater while minimizing flood risks, the Water Board and Regional Water Quality Control Boards shall prioritize water right permits, water quality certifications, waste discharge requirements, and conditional waivers of waste discharge requirements to accelerate approvals for projects that enhance the ability of a local or state agency to capture high precipitation events for local storage or recharge, consistent with water right priorities and protections for fish and wildlife. For the purposes of carrying out this paragraph, Division 13 (commencing with section 21000) of the Public Resources Code and regulations adopted pursuant to that Division, and Chapter 3 (commencing with section 85225) of Part 3 of Division 35 of the Water Code and regulations adopted pursuant thereto are hereby suspended to the extent necessary to address the impacts of the drought. This suspension applies to (a) any actions taken by state agencies, (b) any actions taken by local agencies where the state agency with primary responsibility for the implementation of the directives concurs that local action is required, and (c) permits necessary to carry out actions under (a) or (b). The entities implementing these directives shall maintain on their websites a list of all activities or approvals for which these provisions are suspended.

13. With respect to recharge projects under either Flood-Managed Aquifer Recharge or the Department of Water Resources Sustainable

Groundwater Management Grant Program occurring on open and working lands to replenish and store water in groundwater basins that will help mitigate groundwater conditions impacted by drought, for any (a) actions taken by state agencies, (b) actions taken by a local agency where the Department of Water Resources concurs that local action is required, and (c) permits necessary to carry out actions under (a) or (b), Public Resources Code, Division 13 (commencing with section 21000) and regulations adopted pursuant to that Division are hereby suspended to the extent necessary to address the impacts of the drought. The entities implementing these directives shall maintain on their websites a list of all activities or approvals for which these provisions are suspended.

14. To increase resilience of state water supplies during prolonged drought conditions, the Department of Water Resources shall prepare for the potential creation and implementation of a multi-year transfer program pilot project for the purpose of acquiring water from willing partners and storing and conveying water to areas of need.

15. By April 15, 2022, state agencies shall submit to the Department of Finance for my consideration proposals to mitigate the worsening effects of severe drought, including emergency assistance to communities and households and others facing water shortages as a result of the drought, facilitation of groundwater recharge and wastewater recycling, improvements in water use efficiency, protection of fish and wildlife, mitigation of drought-related economic or water-supply disruption, and other potential investments to support short- and long-term drought response.

IT IS FURTHER ORDERED that as soon as hereafter possible, this Order be filed in the Office of the Secretary of State and that widespread publicity and notice be given of this Order.

This Order is not intended to, and does not, create any rights or benefits, substantive or procedural, enforceable at law or in equity, against the State of California, its agencies, departments, entities, officers, employees, or any other person.

IN WITNESS WHEREOF I have hereunto set my hand and caused the Great Seal of the State of California to be affixed this 28th day of March 2022.

GAVIN NEWSOM
Governor of California

ATTEST:

SHIRLEY N. WEBER, PH.D.
Secretary of State



CALIFORNIA'S VOLUNTARY AGREEMENTS

A TRANSFORMATIONAL APPROACH TO HEALTHY RIVERS, FARMS AND COMMUNITIES

For many years, the state of California has led the development of a watershed-wide approach to flows, ecosystem restoration and water supply reliability. Termed "Voluntary Agreements" (VAs), this transformational approach represents a collaborative integration of the latest science, dedicated funding and flow and habitat actions to improve and protect the Delta and its tributaries while preserving adequate water supplies for 35 million Californians.

The Voluntary Agreements are More: Affordable | Flexible | Adaptive | Reliable | Better for California

A COLLABORATIVE APPROACH

Through partnerships and cooperation with state, federal and local water agencies, the VAs set California on a new and innovative path — a remarkable alternative to more limited regulatory approaches that result in prolonged litigation and no benefits to California's environment or economy.

THE LARGEST PURCHASE OF WATER FOR THE ENVIRONMENT IN CALIFORNIA'S HISTORY

The VAs provide significant investments to improve fish and wildlife habitat conditions throughout the watershed. Many identified environmental improvement projects could be implemented in the next 12-18 months — injecting tens of millions of dollars into the state's economy for habitat restoration projects.

- Up to **825,000 acre-feet of water** for the environment
- **More than 45,000 acres** of instream habitat, new spawning and rearing habitat, floodplain habitat and fish food production

AN UNPRECEDENTED SUITE OF INNOVATIVE FINANCING

Funding for the VAs will come from the state government, federal government and Public Water Agencies, totaling nearly $3 billion at full participation.

- Public Water Agencies: **$522 million** for an environmental water budget, science program and governance
- State of California: **$1.4 billion**
- Federal Government: **$740 million** to assist with science and habitat restoration

SCIENCE-BASED GOVERNANCE & ADAPTIVE MANAGEMENT

The VAs Governance Program will bring together conservation groups, public water agencies and local, state and federal representatives to direct flows and habitat restoration, conduct regular assessments and implement a robust science program. The Governance Program will address changing climate conditions and support research to improve management actions for native fish. Flow and non-flow measures will be adaptively managed through structured decision making and informed by the latest science.



UNPRECEDENTED COMMITMENT & MOMENTUM: THE TIME TO ACT IS NOW

Ongoing droughts and increased climate extremes mean Californians cannot afford to take a decades-long regulatory or litigious approach — time is not on our side. California's economy and environment needs a holistic, functional flow water management strategy that applies the best science to meet real-time ecosystem needs while providing sustainable water supplies for communities. **The VAs provide this solution.**

NEXT STEPS

Once approved by participating parties, the VAs proposal will be submitted to the State Water Resources Control Board (Water Board) for third-party scientific assessment, environmental review and appropriate public input. The Water Board's environmental review will analyze the VAs plan as an alternative for the update to the Bay-Delta Water Quality Control Plan. If approved by the Water Board, the VAs will become the new Bay-Delta Water Quality Control Plan and will be implemented through binding agreements between the Water Board, the Department of Water Resources and participating water agencies to direct water, funding and habitat restoration efforts to improve the health of California's Bay-Delta ecosystem and its tributaries.

Public Water Agencies are working with a broad coalition of stakeholders, including state and federal agencies, to implement the VAs and ensure that the flow, habitat and funding objectives are realized in terms of real water, real habitat projects and real dollars.

SWC — State Water Contractors — Served by the State Water Project — Founded in 1982

NCWA — Northern California Water Association

THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

GCID

Westlands Water District

KERN COUNTY WATER AGENCY

BOARD OF DIRECTORS MEETING

MINUTES

REGULAR MEETING

Thursday, January 20, 2022
2:00 p.m.
(Paragraph numbers coincide with agenda item numbers)

1. CALL TO ORDER

The regular meeting of the Delta Conveyance Design and Construction Authority (DCA) Board of Directors was called to order remotely - Conference Access Information: Phone Number: (916)262-7278, code: 1475397607#, https://meetings.ringcentral.com/j/1475397607 at 2:00 pm.

2. ROLL CALL

Board members in attendance were Richard Atwater, Martin Milobar, Tony Estremera, Sarah Palmer, Gary Martin, Robert Cheng, and Adnan Anabtawi, constituting a quorum of the Board.

DCA staff members in attendance were Graham Bradner, Joshua Nelson, Nazli Parvizi, and Katano Kasaine.

Department of Water Resources (DWR) staff member in attendance was Carrie Buckman.

3. PLEDGE OF ALLEGIANCE

President Richard Atwater convened the open session at approximately 2:00 p.m. and led all present in reciting the Pledge of Allegiance.

4. PUBLIC COMMENT

President Atwater provided an overview of the public comment process.

President Atwater opened Public Comment, there were no public comment requests received and he proceeded to close the comment period.

5. APPROVAL OF MINUTES: November 18, 2021 Regular Board Meeting, December 16, 2021 Special Board Meeting, and January 14, 2022 Special Board Meeting

Recommendation: Approve the November 18, 2021 Regular Board Meeting, December 16, 2021 Special Board Meeting, and January 14, 2022 Special Board Meeting

Motion to Approve Minutes from November 18, 2021, December 16, 2021, and January 14, 2022, as

Noted:	Palmer
Second:	Martin
Yeas:	Atwater, Milobar, Estremera, Palmer, Martin, Cheng, Anabtawi
Nays:	None

Abstains:	None
Recusals:	None
Absent:	None
Summary:	7 Yeas; 0 Nays; 0 Abstain; 0 Absent. (Motion passed as MO 22-01-01).

6. CONSENT CALENDAR

Recommendation: Approve Resolution Authorizing Virtual Board and Committee Meetings Pursuant to AB 361

Motion to Approve Resolution Authorizing Virtual Board and Committee Meetings Pursuant to AB 361, as

Noted:	Palmer
Second:	Estremera
Yeas:	Atwater, Milobar, Estremera, Palmer, Martin, Cheng, Anabtawi
Nays:	None
Abstains:	None
Recusals:	None
Absent:	None
Summary:	7 Yeas; 0 Nays; 0 Abstain; 0 Absent. (Motion passed as Resolution 21-08-03).

7. DISCUSSION ITEMS:

a) January DCA Monthly Report

Informational Item

Executive Director Graham Bradner provided an overview of the monthly board report, starting with Section 1: Worked Performed. He stated that the engineering team prepared the updated engineering project report for all three (3) proposed alternatives. This included updates to the main narrative report supporting technical memoranda and the GIS data that represents all of the features and updated engineering drawings. This is a significant milestone as it represents a fully conformed fresh set of information that is updated as needed or per DWR's request.

Mr. Bradner continued to Section 2: Stakeholder Engagement, highlighting the social media metrics. He mentioned that DCA continues to focus on community outreach and engagement and providing updated information through various social media platforms.

Lastly, moving on to Section 3: Budget, Mr. Bradner explained that we have a current budget of $23.5 million, of which $17.5 million has been committed. Currently all activities are on schedule.

No questions or comments were presented from the Board.

b) Second DCA FY 21/22 Budget Adjustment

Adopt by Minute Order

Mr. Bradner provided a budget summary for Fiscal Year (FY) 21/22. The proposed revised budget of $24.48 million is based on the final closeout from FY 20/21, which includes a continued underrun of $978,396. He reminded the Board of the $2 million initial underrun that was rolled over in July to the FY 21/22 budget, revising the budget from $21.5 million to $23.5 million. This current budget change request will increase the adopted FY 21/22 budget from $23.5 million to $24.48 million.

Recommendation: Approval of Second DCA FY 21/22 Budget Adjustment

Motion to Approve Second DCA FY 21/22 Budget Adjustment by minute order, as

Noted:	Palmer
Second:	Anabtawi
Yeas:	Atwater, Milobar, Estremera, Palmer, Martin, Cheng, Anabtawi
Nays:	None
Abstains:	None
Recusals:	None
Absent:	None
Summary:	7 Yeas; 0 Nays; 0 Abstain; 0 Absent. (Motion passed as Minute Order 22-01-02).

c) Adopt Resolution to Sunset the Stakeholder Engagement Committee

Adopt Resolution

DCA Communications Manager, Nazli Parvizi, provided a brief overview of the reasoning behind sunsetting the Stakeholder Engagement Committee (SEC). Ms. Parvizi reminded the Board that they approved the start of the SEC and now it is time for them to make the decision of sunsetting the committee. She also mentioned that the DCA has drafted a White Paper to encapsulate the process of creating the SEC, as well as lessons learned. In the event that the proposed project is approved, the DCA may want to form other committees and will have the White Paper as a reference. The draft White Paper is attached in the Board Packet and the DCA will later invite SEC members to provide their input. The final White Paper will be posted to the DCA website once the review process is completed.

Director Martin expressed his appreciation of staff keeping the Board informed of the direction the SEC was headed. He also thanked Vice President/Chair Palmer, Ms. Parvizi, and staff of their work for this effort. He stated that this effort speaks very well for the Board and the project, and the effort we are making to keep communication open with the public.

Vice President Palmer thanked Director Martin for his comment. She also acknowledged former Executive Director, Kathryn Mallon, for her role in forming the SEC.

Public comment by Osha Meserve, representing the Local Agencies of the North Delta, stated that is it fine to summarize what occurred in the meetings and there was quite a bit of effort made to present important information. She also expressed her concerns about the existence of the SEC meetings and input being used as evidence that the tunnel would be consistent with existing land uses at a future proceeding such as Delta Stewardship Counsel. She stated that the SEC meetings

were useful to have, however, none of the people who participated would want it to be used against them later as evidence that their concerns were addressed. Another concern she expressed was that although the stakeholder group was stylized as something that would be used outside of the environmental review and California Environmental Quality Act (CEQA) mitigation process, she believes that some of the things that occurred probably would be required under CEQA as feasible mitigation to lessen significate impacts on the environment. She mentioned that as long as the Delta Conveyance Authority is careful about how it discusses the stakeholder work, then those concerns should not be an issue. She reminded the Board that many SEC members stated multiple times during the meetings that the tunnel was not the right project for the Delta and that there weren't really any ways to mitigate the extremely huge impacts on the Delta community and the environment. She acknowledged that certain positive things did come from the process and reiterated her concern of the way in which the process is described in the future.

Director Estremera thanked Chair Palmer and Vice Chair Keegan for their leadership and all of the members of the committee that participated in the process. He assured the Delta community that the Board will make sure that they can continue to participate, and the Board will participate in communities impact review following the CEQA process.

President Atwater stated his appreciation for the public input and also the effort of the Directors in providing leadership in the meetings.

Vice President Palmer brought attention to the importance of the attendance of the members of the public at the SEC meetings.

Director Cheng also thanked all of the Staff, members, and tireless volunteers who committed an abundant amount of their time into the effort. He stated that he realizes that the process may have not been perfect but there is respect for trying to listen to the needs of the community. He agreed that the input provided is valuable and reemphasized comments made by the fellow Directors, which is that the comments will be taken to heart as we proceed with this process.

Vice President Palmer thanked Nazli Parvizi for her diplomacy with everyone, Valerie Martinez, SEC Facilitator, for facilitating the meetings, and Carrie Buckman, DWR Environmental Manager, for her participation in presentations.

No further questions or comments were presented from the public or the Board.

Recommendation:	Adopt Resolution to Sunset the Stakeholder Engagement Committee

Motion to Approve	Adopt Resolution to Sunset the Stakeholder Engagement Committee, as Noted: Palmer
Second:	Milobar
Yeas:	Atwater, Milobar, Estremera, Palmer, Martin, Cheng, Anabtawi
Nays:	None
Abstains:	None
Recusals:	None
Absent:	None
Summary:	7 Yeas; 0 Nays; 0 Abstain; 0 Absent. (Motion passed as Resolution 22-01).

d) Adopt Resolution to Award Geotechnical Exploration and Reporting Services Contract, Making Responsible Agency Findings Under CEQA, Considering a Mitigated Negative Declaration and Addendum and Adopting a Mitigation Monitoring and Reporting Program

Adopt Resolution to Award and Adopt

Executive Graham Bradner introduced Michael Wuflestad, DCA's Procurement Manager. Mr. Wuflestad informed the Board that as a part of the project, the DCA determines and requires the services of a professional consultant for geotechnical exploration, testing and reporting services during the permitting and planning phase. The geotechnical consultant will assist the DCA with subsurface exploration, laboratory testing of rock, soil, and water samples, and prepare Geotechnical Data Reports (GDRs). The term for the proposed contract is three (3) years with a proposed contract value, not to exceed $30 million. The agreement will be task order based with the possibility of multiple task orders being issued each year, based on need.

Mr. Wuflestad then provided a summary of the procurement process that the DCA's followed, stating that the request for qualifications (RFQs) was issued on October 1st, 2021, via the DCA website and the E-Builder system. The statement of qualifications (SOQs) were due November 5th, 2021, and evaluated from November 8th, 2021, to November 19th, 2021. After the completion of evaluations, interviews and presentation were held with the short-listed firms on December 8th, 2021, and December 14th, 2021. The selection criteria in the RFQ included firm qualifications and experience, personnel performance and experience, technical understanding, Small Business Enterprise and Disabled Veteran Business Enterprise (SBE/DVBE) participation, and cost evaluation. The DCA received SOQs from three (3) firms: AECOM Technical Services, Inc., Blackburn Consulting Inc., and Fugro Land USA. During the review process of the SOQs, DCA staff checked for compliance related to the RFQ and references provided by each respondent. All SOQs and references received from each firm were deemed responsive and favorable. An evaluation committee was formed to compile the SOQ scores and select a short-list of the top two firms based on the highest ranked firms. Once interviews of the short-list firms were complete, the evaluation committee complied the combined SOQ and interview score to recommend the highest ranked firm to the Board, AECOM Technical Services Inc.

President Atwater inquired about the expected first task order date.

Executive Graham Bradner informed that the next step would be the negotiating of the task order, followed by the planning for potential investigations this Spring.

Director Anabtawi asked if the DCA staff would be presenting subsequent task orders to the Board.

Executive Graham Bradner informed the Board that there is an authorized budget established in the current FY 21/22 budget for Geotechnical Exploration and Reporting Services. The recommended resolution would allow DCA Staff to issue the task order without further approval.

General Counsel Josh Nelson confirmed the information provided by Mr. Bradner and added that there would be budget control through the Board approval of the annual budget for the Geotechnical line item.

Treasurer Katano Kasaine clarified that there are not firm funding commitments for subsequent years, and it will be included as a line item in each proposed annual budget.

Vice President Palmer asked if the budget may be under the 30 million allocation if the task orders are delayed.

Executive Director Graham Bradner confirmed Vice President Palmer's question.

Director Martin suggested that the DCA include an update of the task orders with a description and narrative in the monthly board report.

Public comment by Osha Meserve, representing the Local Agencies of the North Delta, pointed out that the Staff Report or Board Memo does not disclose that the environmental review, that staff is saying that the DCA would rely on in approving this contract, is in litigation. The mitigated negative declaration was challenged in August of 2020 in Sacramento Superior Court and later an amended complaint was filed in March 2021, that pulls in the addendum. Under CEQA, because it is a short form review, plaintiffs including the Central Delta Water Agency, South Delta Water Agency and local water agencies of the North Delta are arguing that there are potentially significant impacts of these geotechnical exploration activities, at the project level and the cumulative level. Ms. Meserve recalled that the draft Environmental Impact Report (EIR) for the failed two tunnel project also included review of the geotechnical exploration and she expects that the new single tunnel EIR will probably do the same. She is unaware of when this matter will go before the court, however she believes it is important for the DCA Board to know that the environmental documents upon which the DCA are relying, are being challenged. She mentioned that as far as the plaintiffs are concerned, these environmental documents are inadequate to adequately review this matter. She stated that they believe the review of exploration activities of the tunnel, and the construction and operation of the tunnel should be combined together in the review under the Environmental Quality Act. She also pointed out that the access on to the properties that would be required for much of the exploration is in a different court in a coordinated proceeding in the San Joaquin County as many of the property owners have not agreed to allow entry. She wanted to ensure that the Board is aware of this matter and that this is a very contentious item.

Josh responded to Ms. Meserve's comment, stating that she is correct in her statement. He mentioned that the DCA is aware of the litigation that is ongoing and will return to the Board if the litigation prevents or affects the DCA from moving forward. He reminded the Board that all geotechnical work is done under the direction of the DWR.

No further questions or comments were presented from the public or the Board.

Recommendation: Adopt Resolution to Award Geotechnical Exploration and Reporting Services Contract, Making Responsible Agency Findings Under CEQA, Considering a Mitigated Negative Declaration and Addendum and Adopting a Mitigation Monitoring and Reporting Program

Motion to Adopt Resolution to Award Geotechnical Exploration and Reporting Services Contract, Making Responsible Agency Findings Under CEQA, Considering a Mitigated Negative Declaration and Addendum and Adopting a Mitigation Monitoring and Reporting Program Services, as

Noted:	Palmer
Second:	Estremera
Yeas:	Atwater, Milobar, Estremera, Palmer, Martin, Cheng, Anabtawi
Nays:	None
Abstains:	None
Recusals:	None
Absent:	None
Summary:	7 Yeas; 0 Nays; 0 Abstain; 0 Absent. (Motion passed as Resolution 22-02).

8. STAFF REPORTS AND ANNOUNCEMENTS:

a. General Counsel's Report

A written report was provided in the Board package. Mr. Nelson highlighted the AB361 30-day findings, stating that with February being a short month, the Board will not have to conduct both special and regular meetings for the months of February and March as they had to do in the previous months. He also mentioned that staff is still evaluating hybrid meetings, to have both in-person and remote participation, however, the Sacramento County Health Officer issued an order suspending all in-person meetings by Brown Act bodies in the county until further notice. If and when this order is lifted, staff can provide options for hybrid or in-person meetings.

b. Treasurer's Report

Two written reports were provided in the Board package. Ms. Katano provided an overview of the total disbursements for November and December 2021 of $2,511,555. She noted the nonoperating expense for the return of the DCA stand-up costs was $800,000, leaving the ending cash balance at $396,010. She also mentioned that the budget is at $23.5 million, and the approved revised budget will be reflected in the next report.

c. DWR Environmental Manager's Report

A written report was provided in the Board package. Ms. Buckman highlighted that DWR is continuing the development of the draft Environmental Impact Report (EIR), with plans to release it in the middle of this year. She also mentioned that a case meeting workshop was held for interested members of the public, about previous community benefits programs and lessons learned, which is a part of DWR's continuing efforts to develop a framework for the community benefits program to include in the draft EIR.

d. Verbal Reports

None.

9. FUTURE AGENDA ITEMS:

None.

10. ADJOURNMENT:

President Atwater adjourned the meeting at 2:52 p.m., remotely - Conference Access Information: Phone Number: (916)262-7278, code: 1475397607#, https://meetings.ringcentral.com/j/1475397607

BOARD OF DIRECTORS MEETING

MINUTES

SPECIAL MEETING

Thursday, February 17, 2022
2:00 p.m.
(Paragraph numbers coincide with agenda item numbers)

1. CALL TO ORDER

The regular meeting of the Delta Conveyance Design and Construction Authority (DCA) Board of Directors was called to order remotely - Conference Access Information: Phone Number: (916)262-7278, code: 1488889944#, https://meetings.ringcentral.com/j/1488889944 at 2:00 p.m.

2. ROLL CALL

Board members in attendance were Richard Atwater, Martin Milobar, Tony Estremera, Gary Martin, Robert Cheng, Adnan Anabtawi, and Alternate Director John Weed sitting in for Sarah Palmer, constituting a quorum of the Board.

DCA staff members in attendance were Graham Bradner and Joshua Nelson.

3. PLEDGE OF ALLEGIANCE

President Richard Atwater convened the open session at approximately 2:00 p.m. and led all present in reciting the Pledge of Allegiance.

4. PUBLIC COMMENT

President Richard Atwater opened Public Comment, there were no public comment requests received, therefore the comment period was closed.

5. DISCUSSION ITEMS:

a) Extend Resolution No. 2021-08 Authorizing Virtual Board and Committee Meetings Pursuant to AB 361

Approve by Motion

General Counsel Josh Nelson informed the Board that this item is to reauthorize the AB 361 findings which is needed once every 30 days. He noted that AB 361 is not tied to the rescinding of the mask mandate, rather it is tied to the statewide declaration of emergency which is currently set to go through the end of March but may be extended by the Governor.

Recommendation:	Extend Resolution No. 2021-08 Authorizing Virtual Board and Committee Meetings Pursuant to AB 361

Motion to Approve Second Amendment to Management Partners Agreement for Executive Director Services, as

Noted:	Estremera
Second:	Anabtawi
Yeas:	Atwater, Milobar, Estremera, Martin, Cheng, Anabtawi, Weed
Nays:	None
Abstains:	None
Recusals:	None
Absent:	None
Summary:	7 Yeas; 0 Nays; 0 Abstain; 0 Absent. (Motion passed as Resolution 21-08-04).

6. ADJOURNMENT:

President Atwater adjourned the meeting at 2:04 p.m., remotely - Conference Access Information: Phone Number: (916)262-7278, code: 1488889944#, https://meetings.ringcentral.com/j/1488889944

ZONE 7 WATER AGENCY
Delivering Quality, Reliability and Safety

100 North Canyons Parkway
Livermore, CA 94551
(925) 454-5000

ITEM NO. 16b

ORIGINATING SECTION: Office of the General Manager
CONTACT: Alexandra Bradley

AGENDA DATE: April 20, 2022

SUBJECT: March Outreach Activities

SUMMARY:

To deliver on the Agency's 2020-2024 Strategic Plan Goal F which strives to engage our stakeholders to foster mutual understanding, staff implements and oversees a multi-faceted outreach and communications program to connect with and engage stakeholders. Through an open and transparent approach, the Agency seeks to deliver effective customer-centric communications, reaching constituents where, when, and how they prefer. Effective communication builds confidence, trust, and awareness among constituents, increases participation to help with effective decision making, and helps strengthen Zone 7's commitment to its mission and vision. This monthly staff report provides timely updates on progress towards meeting the goal of engaging our stakeholders.

Communications Plan Updates:

Drought Outreach: Staff continues to focus on drought messaging, educating residents about 15% mandatory conservation. Staff will be ramping up marketing for the warmer, higher water demand months and has added additional public events calendar as pandemic conditions have begun to allow for increased event participation. New drought outreach materials are being ordered for events. Drought outreach efforts are being coordinated with retailer partners.

Livermore Water Conservation Art Contest: This year's contest theme was "Water's Journey", which was designed to challenge students to learn more about how Livermore's drinking water travels hundreds of miles from the Sierra Nevada to our taps. Fifty-four young artists submitted posters to this year's water awareness poster contest which featured the theme "Water's Journey." Through a community vote, three winners have been selected, along with honorable mentions. An awards presentation will be held at the Livermore City Council meeting on April 25. Artwork from all ten finalists will be displayed in the Livermore Chamber of Commerce's windows during the month of May in celebration of "Drinking Water Awareness Month".

Fix A Leak Week: Staff promoted Fix a Leak Week with a series of outreach materials, including a feature on Water Wise Wendy's Fix a Leak tips in the Patch, a press release, a social media campaign and an activity for kids through the Schools' Program.

Press: In March staff sent out three news releases:

- Zone 7 Board of Directors declare March 14-20, 2022, Fix a Leak Week
- A Third Year of Drought Imminent, State Water Project Allocations Reduced
- Two Weeks Remain in Zone 7 Board of Directors Candidate Filing Period

Schools' Program:

During the month of March Zone 7 teachers taught 19 in person classes and 5 using our Live-Stream platform. We continue to offer and schedule classes and follow each school's protocols for on-site visits.

A Kid Zone enewsletter was sent out in March promoting Fix a Leak Week.

Completed In-Person Events:

Livermore Innovation Fair, Saturday, March 19 10:00am-5:00pm at Alameda Fairgrounds. Hands on event with over 50 exhibitors. Zone 7 was represented with a booth with an interactive activity and our usual giveaways and information about rebates. The fair was incredibly well attended, and hundreds of people stopped by the booth, so many people that staff lost count. Staff gave out 300 hand sanitizers, bags, and toothbrushes as well as flyers.

A Day by The Water, Sunday, March 20, 10:00am-3:00pm at Del Valle Regional Park. Attendees were invited to visit the newly renovated Visitors Center at Del Valle and interact with booths set up outdoors all focusing on the importance of water in our valley. Over 115 people visited the Zone 7 booth and enjoyed learning about our watershed and the water flowing through it.

Sunol Weekend, Saturday, March 26, 12:00pm-3:00pm outside of the Sunol Visitors Center. This activity replaces the Sunol Wilderness Festival. Zone 7 set up a booth and interacted with participants of an organized hike in Sunol. Over 130 patrons talked to our representative and enjoyed information and a seed activity. Handouts and information were also available.

Upcoming In-Person Events:

Zone 7 Free Lawn Conversion Webinar, Thursday, April 14, 6:30pm. This webinar, presented by Loren McIrvin of Allied Landscape will walk residents through the process of converting a lawn into a water wise garden. Retailers will be on hand to answer rebate questions.

Ag & Enviro Adventure Day, Thursday, April 21, 8:00am-3:00pm at Livermore High School. Zone 7 will participate in this organized event for Livermore third graders with an interactive movement-based activity which highlights our watershed and its connection with the community.

Career Day at Foothill HS, Thursday, April 21, at Foothill High School. Zone 7 will participate with a booth and information about water industry-based jobs. Students will be invited to play a game that will teach the types of careers in the industry and the educational paths to these.

Hometown Water Documentary Film Screening Event, Thursday, April 21, 7:00pm-8:30pm. Zone 7 will host a booth with information about the Agency as well as rebates and drought giveaways.

City of Dublin Volunteer and Environmental Resource Fair, Saturday, April 23 from 11am-2pm at Emerald Glen Park. Zone 7 will precipitate with a booth, providing information on how to save water during the drought, rebate programs and volunteer opportunities through the Living Arroyos Program.

Career Day at Amador Valley HS, Thursday, April 28, at Amador Valley High School. Zone 7 will participate with a booth and information about water industry-based jobs. Students will be invited to play a game that will teach the types of careers in the industry and the educational paths to these.

ATTACHMENT:

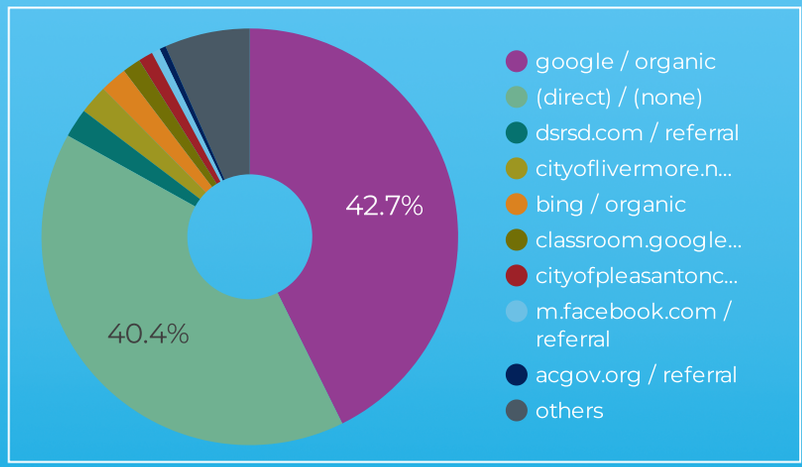
Analytics Dashboards

Site Acquisition | March 2022

	Source / Medium	New Users
1.	google / organic	1,480
2.	(direct) / (none)	1,401
3.	dsrsd.com / referral	78
4.	cityoflivermore.net / referral	78
5.	bing / organic	73
6.	classroom.google.com / referral	49
7.	cityofpleasantonca.gov / referral	39
8.	m.facebook.com / referral	23
9.	acgov.org / referral	17
10.	googleads.g.doubleclick.net / referral	16
11.	duckduckgo.com / referral	12
12.	patch.com / referral	12
13.	linkedin.com / referral	11

Acquisition Insights for March 2022:

- The majority of the snapshot statistics continue to increase since January. The bounce rate has decreased, which is good, indicating that more visitors are viewing additional content within the site.
- The top referrals for new users are coming from a direct source, google, or partner agency sites.

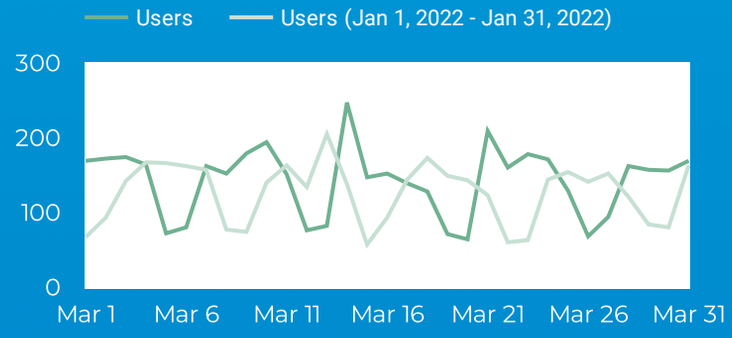


Snapshot:

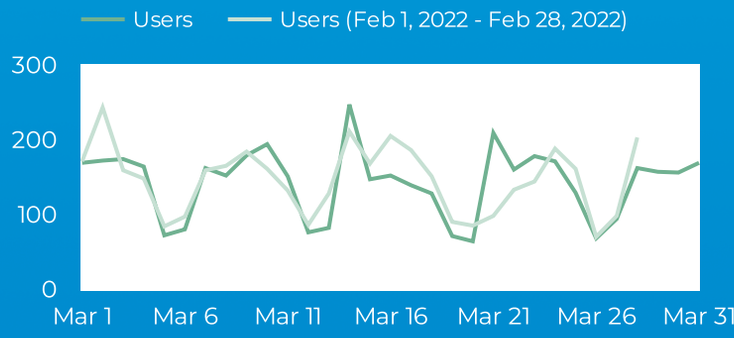
Users	New Users	Sessions	Pageviews	Bounce Rate	Avg. Session Duration
3,713	3,466	4.8K	9,478	57.22%	00:01:33
▲ 5.3%	▲ 5.2%	▲ 5.6%	▲ 11.0%	▼ -6.8%	▼ -1.8%

	Landing Page	Users ▾	Bounce Rate
1.	/	728	35.4%
2.	/post/examples-water-cycle-story	356	84.45%
3.	/construction-business-opportunities	349	47.9%
4.	/water-wise-wendy	301	91.6%
5.	/post/lessons-fifth-grade-label-water-cycle	292	74.92%
6.	/careers	149	30.1%

Traffic Compared to Two Months Ago



Traffic Compared to Last Month



Site Behavior | March 2022

Behavior Insights for March 2022:

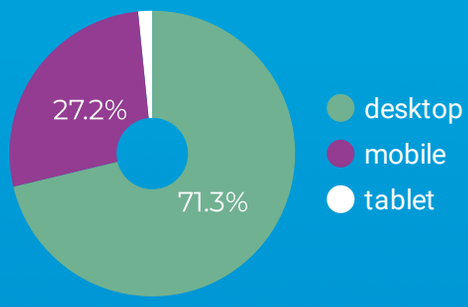
- This month the Zone 7 Home page had the most views with 808 users with 648 of those new users.
- Construction & Business opportunities was second as construction gets more underway.
- Users are still spending the most amount of time on the main Zone 7 Water Agency homepage, with an average time of 10 minutes. This long length of time could be viewing the water conservation tips on the homepage.

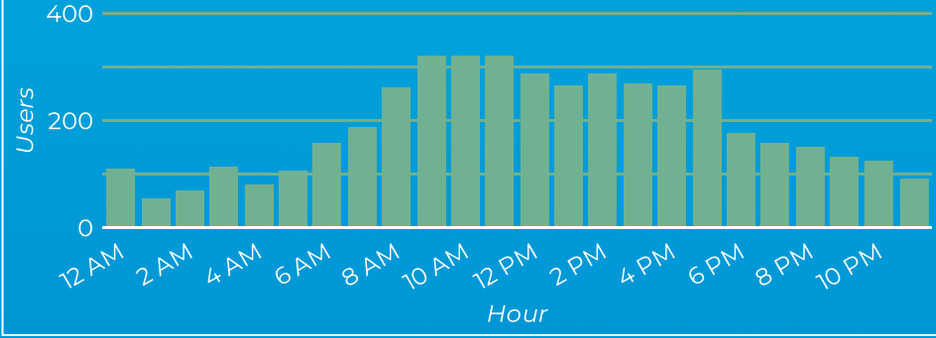
Top 10 most visited pages on the website from new users:

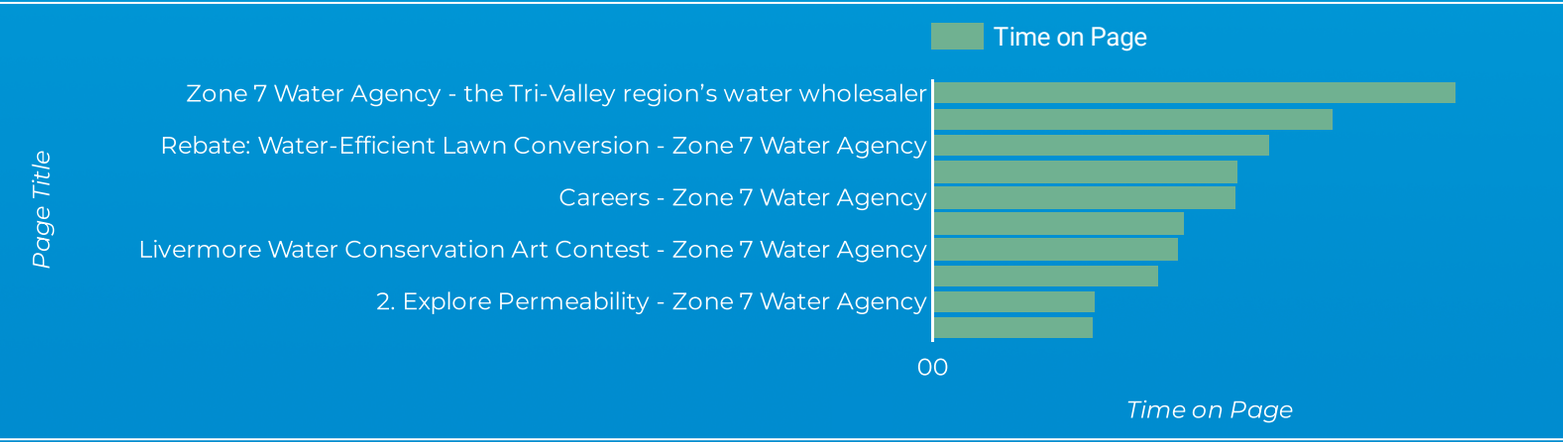
	Page Title	Users	New Users
1.	Zone 7 Water Agency - the Tri-Vall...	808	648
2.	Examples of a Water Cycle Story - ...	358	353
3.	Construction & Business Opportu...	401	300
4.	Water Wise Wendy - Zone 7 Water ...	311	291
5.	4. Label the Water Cycle - Zone 7 ...	292	290
6.	Careers - Zone 7 Water Agency	253	124
7.	DROUGHT ALERT: 15% MANDATO...	144	122
8.	Rebate Programs - Zone 7 Water ...	169	118
9.	Page not found - Zone 7 Water Ag...	127	107
10.	Rebate: Water-Efficient Lawn Con...	189	97

Page Depth / Users

Source / Medium	0	1	2	3	4	5	6	7
google / organic	13	1,136	260	146	96	48	35	24
(direct) / (none)	4	1,078	227	79	41	23	16	10
bing / organic	-	44	22	13	9	7	5	4
cityoflivermore.net / r...	2	66	17	6	3	3	1	1
dsrsd.com / referral	1	24	38	14	10	2	3	2







Facebook Statistics | March 2022

Facebook Insights for March 2022:

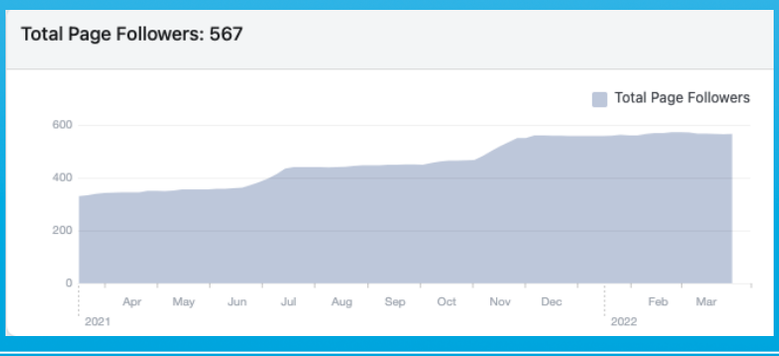
- In March, Facebook followers remained at 567. Comparing followers to 2021, the page has gained 260 followers.
- The top ten posts for the month include conservation posts and our high efficiency washing machine rebates post. There were paid posts promoting the washing machine rebates and we have had a ew dry months in a row.
- The top 3 performing videos for the month all stemmed from the Water Wise Wendy Fix a leak week campaign: check for toilet leaks, listen for running water and check your water meter.

Monthly Snapshot

Posts	Reach	Impressions	Engaged Users
32	**2,982**	**3,208**	**171**

Growth in page likes over past year

Total Page Likes: 567



Top 3 performing videos for month



Water Wise Wendy Check for toilet leaks with food color drops | 46 views



Water Wise Wendy Listen for running water | 16 views



Water Wise Wendy Check your water meter | 14 views

Top 10 posts for month, by total reach

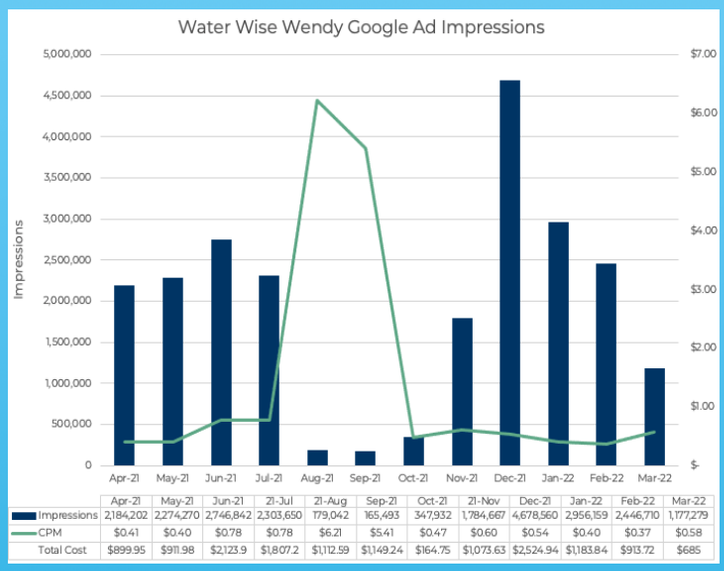
Post Message	Type	Posted	Total Reach	Total Impressions	Engaged Users
We missed our 15% conservation goal in February by a lot! The Tri-Valley only conserved 1% of water compared to 2020. Cutting back on outdoor water use is the easiest way to save water. Mandatory 15% conservation is still in effect. You can find your local water use restrictions by visiting www.zone7water.com/drought	Photo	3/23/22 4:50 PM	806	809	24
A new washing machine can be a great way to save water! With a high-efficiency washer, you can save 15 gallons on every load or up to 3,120 gallons a year if you are washing four loads per week! Those gallons saved will help meet the mandatory 15% water saving goal for the Tri-Valley. Learn more about this rebate and more ways to conserve at www.zone7water.com/conserve #waterwise #everydropcounts	Photo	3/30/22 1:01 PM	534	548	7
Fix a leak week is a great way to help the Tri-Valley reach its 15% water savings goal! You don't need to wait until next week to become a water-saving wizard, head over to our website www.zone7water.com/waterwise to get tips for saving water indoors and outdoors. #FixaLeak #Everydropcounts #waterwise	Photo	3/4/22 1:00 PM	242	259	21
This month we are celebrating Fix-a-leak Week! The average household wastes more than 10,000 gallons of water each year from leaks - that's enough to fill the bathtub more than 140 times! This month hunt down those leaks and stop those drips to become more water-wise. #FixaLeak #Everydropcounts #waterwise	Photo	3/1/22 10:01 AM	154	171	5
Incoming water saving tip from Water-Wise Wendy! Add a few drops of food coloring to your toilet tank to check if your flapper needs to be replaced. If food coloring seeps into the water in your toilet bowl, then you know you have a leak. Learn more water saving tips at www.zone7water.com/waterwise #FixaLeak #Everydropcounts #waterwise City of Pleasanton ◆ Dublin San Ramon Services District - DSRSD◆ California Water Service City of Livermore, CA - Government	Video	3/14/22 11:00 AM	102	112	9
Today kicks off National Groundwater Awareness Week! Zone 7 is the designated agency for managing the groundwater basin and has been doing so since 1974! Learn about how we continue to proactively manage our groundwater basin at https://www.zone7water.com/groundwater-management	Photo	3/6/22 12:00 PM	77	93	10
Remember to check your water meter to understand your water usage. 💦 Does it seem unusually high? You may have a leak! You can do this by turning off all water sources in your house, waiting two hours and then checking your water meter again. There should be no activity! #FixaLeak #Everydropcounts #waterwise City of Pleasanton Dublin San Ramon Services District - DSRSD City of Livermore, CA - Government California Water Service	Video	3/13/22 2:00 PM	65	71	7
Join Clean Water Program Alameda County at their Free Webinar on March 10, 5-6 pm: Soil Basics! 🌿 Learn why healthy soil is beneficial for the growth of your plants, reduction of pests, and the water efficiency of your garden. Register for the event at https://fb.me/e/2yy4u6tbI	Link	3/2/22 7:26 AM	63	69	5
There's still time to vote for your favorite artwork. We've narrowed down our contest finalists, and now it's time for you to vote for our winner! View the artwork at www.surveymonkey.com/r/LivArtContest to select your favorite. This year's winning artwork will be displayed in downtown Livermore this spring. Voting closes Sunday, April 3rd at 5:00 p.m.	Photo	3/31/22 10:01 AM	60	64	5
As the Tri-Valley area continues to face drought conditions, there is no better time to upgrade your irrigation system. 🚰 We offer a weather-based irrigation controller rebate and will provide a maximum rebate of up to 50% of the customer costs! You can take advantage of this rebate if you are customer of @City of Pleasanton, Dublin San Ramon Services District - DSRSD or City of Livermore, CA - Government Learn more information and qualifying details at www.zone7water.com/rebate-programs	Photo	3/9/22 1:00 PM	54	60	5

Eblasts and Media | March 2022

Outreach Insights for March 2022

- Google Ad impressions for the month of March were just over 1 million, slightly declining on impressions from February.
-The cost-per-mille (CPM or cost for every one thousand impressions) for February stayed at about 50 cents and is the lowest CPM of the google campaign.
- In the month of March, a total of three Mailchimp eblasts were sent out.
- Youtube views for March were at 6,780 views. The top videos on the Agency's Youtube Channel were all fix a leak week focused.

Google Ads - Impressions and Cost/1k Impressions



	Apr-21	May-21	Jun-21	21-Jul	21-Aug	Sep-21	Oct-21	21-Nov	Dec-21	Jan-22	Feb-22	Mar-22
Impressions	2,184,202	2,274,270	2,746,842	2,303,650	179,042	165,493	347,932	1,784,667	4,678,560	2,956,159	2,446,710	1,177,279
CPM	$0.41	$0.40	$0.78	$0.78	$6.21	$5.41	$0.47	$0.60	$0.54	$0.40	$0.37	$0.58
Total Cost	$899.95	$911.98	$2,123.9	$1,807.2	$1,112.59	$1,149.24	$164.75	$1,073.63	$2,524.94	$1,183.84	$913.72	$685

YouTube Views

6,780

includes views from previously posted videos

Facebook Video Views

136

Top 3 Videos this month



Water Wise Wendy Fix-a-Leak Week | Look for Signs of Leaks under Sinks



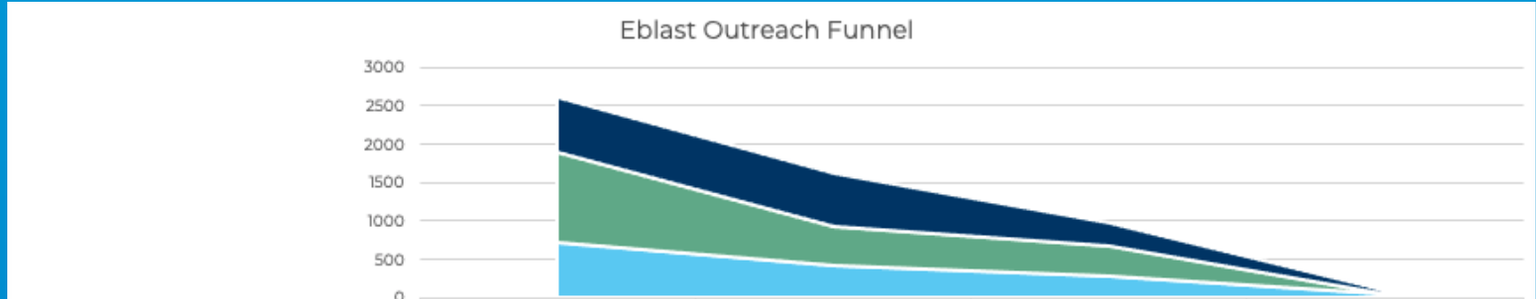
Water Wise Wendy Fix-a-leak Week | Check your sprinkler heads



Water Wise Wendy Fix-a-Leak week | Check for Toilet Leaks with Food Coloring Drops

Mail Chimp E-blast Deliveries

Total Eblasts Sent	Total Deliveries	Total Opens	Total Unique Opens	Total Clicks
3	2,608	1,619	972	87



	Deliveries	Total Opens	Unique Opens	Total Clicks
3/24/22 Latest from Zone 7	715	687	296	28
3/18/22 Kid Zone Newsletter	1,178	523	406	9
3/14/22 Regular Board Meeting Announcement	715	409	270	50

Kid Zone Report | March 2022

Insights for March 2022:

- The highest views went to the middle school groundwater lessons, this was in conjunction with groundwater awareness week.
- This month also saw a continued activity from the City of Livermore's site, this can be attributed to the poster contest.
- Users were scattered across the county, however, many users came from Zone 7's service area.

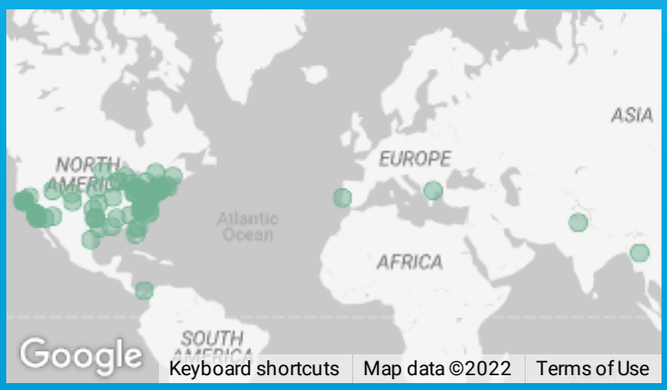
MONTHLY SNAPSHOT

182	126
Users	New Users
273	46
Combined Page Views	Clicks

Top 5 Landing Pages based on Pageviews

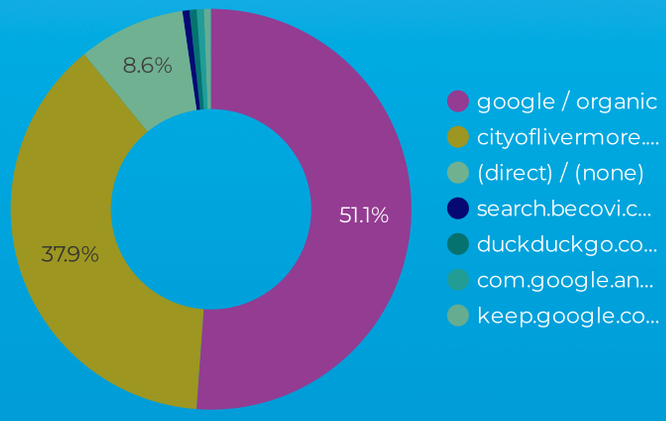
	Landing Page	Pageviews
1.	/lessons-middle-school-groundwater	154
2.	/pod/livermore-water-conservation-art...	153
3.	/lessons-fifth-grade	12
4.	/kid-zone	12
5.	/lessons-kindergarten	8

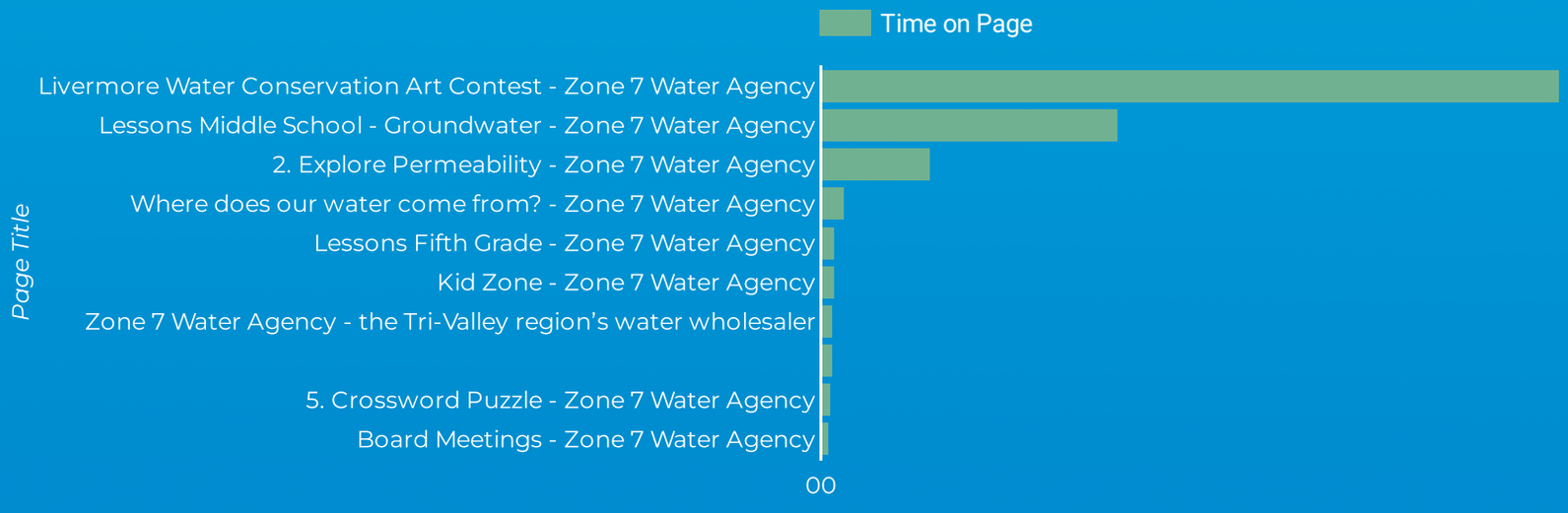
Locations of Users



California Cities: Antioch, Livermore, Pleasanton, Dublin, San Ramon, San Francisco, Oakland, Union City

Referrals to landing pages





ZONE 7 WATER AGENCY
Delivering Quality, Reliability and Safety

100 North Canyons Parkway
Livermore, CA 94551
(925) 454-5000

ORIGINATING SECTION: Administration
CONTACT: Carol Mahoney/Valerie Pryor

AGENDA DATE: April 20, 2022

SUBJECT: Legislative Update

SUMMARY:

Zone 7 staff, with the support of Agency consultants, monitors legislation that is being considered in Sacramento, as well as other political and regulatory activities of interest. This item supports Strategic Plan, Goal F – Stakeholder Engagement, engage our stakeholders to foster understanding of their needs, the Agency, and its function.

California's Assembly, Senate, and Committees are in a two-year legislative cycle, which resumed the second year in January 2022. The attached is the legislative executive summary of bills of potential interest.

FUNDING:

N/A

RECOMMENDED ACTION:

Information only.

ATTACHMENT:

Gualco Legislative Executive Summary – As of April 5, 2022

ZONE 7 WATER AGENCY
Delivering Quality, Reliability and Safety

100 North Canyons Parkway
Livermore, CA 94551
(925) 454-5000

ITEM NO. 16d

ORIGINATING SECTION: Integrated Planning
CONTACT: Sal Segura/Amparo Flores

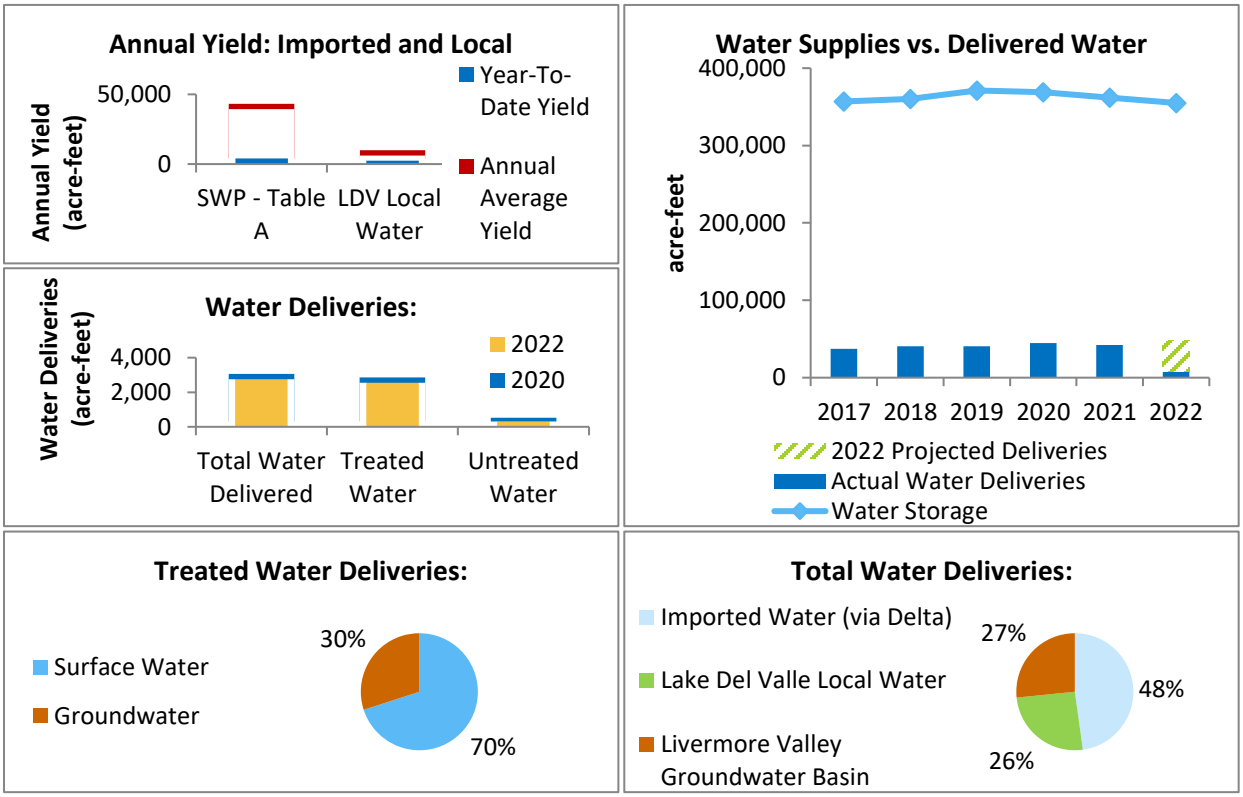
AGENDA DATE: April 20, 2022

SUBJECT: Monthly Water Inventory and Water Budget Update

SUMMARY:

In support of Zone 7's mission to "deliver safe, reliable, efficient, and sustainable water…services," for Strategic Plan Goal A – "Reliable Water Supply and Infrastructure;" this report summarizes recent water supply, usage, and storage conditions. An overall analysis of the annual water supply was completed this April as part of the Annual Review of Sustainable Water Supply. Long-term water supply planning is summarized in the Urban Water Management Plan, which is updated every five years and assesses water supply reliability on a 20-year time horizon. The reports consider the various sources of supply and storage available to Zone 7 locally and in State Water Project facilities, as well as in Kern County storage and recovery programs.

Figure ES 1: At-a-Glance Summaries of 2022 Water Supplies, Deliveries, and Available Water (as of March 2022)



MARCH 2022
Zone 7 Water Inventory and Water Budget

Supply and Demand *(See Table 1, Table 2, Figure 1, Figure 2, Figure 3, and Figure 4)*

- Monthly totals: 2,970 AF delivered to customers (2,620 AF treated, 300 AF untreated, 50 AF to recharge)
- The total treated water production increased by 18% compared to last month.
- Treated water sources were 70% surface water and 30% groundwater this month. PPWTP is scheduled to be offline through mid-May for construction activities.
    - Treatment plant production was 19.2 MGD.
    - Wellfield production was 8.3 MGD.

Comparison of Demands: 2022 vs 2020 *(See Table 1)*

- Total Zone 7 demands this month were 6% higher relative to the same time in 2020; treated production was 3% Higher, and untreated delivery was 43% higher.

Table 1: March 2022 comparison - water demand and conservation

	Treated Production	Untreated Delivery	Total
March 2022 (AF)	2,620	300	2,920
March 2020 (AF)	2,550	210	2,760
March Conservation (2022 vs 2020)	-3%	-43%	-6%

- On September 1, 2021, the Zone 7 Board called for 15% mandatory conservation in preparation for a potential third dry year in 2022; the retailers rolled out their own declarations in the following months. Thus far, conservation has not materialized this year due to extreme dry local conditions.

Imported Water *(See Table 2)*

- The 2022 State Water Project (SWP) Table A allocation was reduced from 15% to 5% or about 4,000 AF; this amount remains available. DWR has indicated a potential re-evaluation of allocation due to recent historic dry statewide conditions. January thru March 2022 is considered the driest first quarter on record in the Sierra Nevada.
- Zone 7 began the year with about 5,980 AF of State Water Project carryover and backed up water (water recovered from Kern County storage and recovery programs and stored in San Luis Reservoir). In March, Zone 7 backed up 980 AF into San Luis Reservoir, bringing the total State Water Project carryover and backed up water balance to 7,330 AF.
- Withdrawals from Kern storage and recovery programs are expected to continue through the fall assuming continued low SWP allocation.

- Remaining incoming supplies and total operational water storage are approximately 218,210 AF; if emergency storage in the Livermore Valley Groundwater Basin below the historical low is included, then the total amount of remaining supplies and storage is estimated at 346,210 AF.

Groundwater *(See Table 2 and Figure 5)*

- Wellfield pumping made up 790 AF (30%) of treated supply delivered to retailers.
- Artificial recharge via the arroyos added 50 AF back into the Livermore Valley Groundwater Basin.
- Live stream recharge (i.e., release of water from Lake Del Valle into Arroyo Valle) has been in effect since December 2021 (required by the water right permit) due to natural inflow into the lake from rainfall. Zone 7's individual contribution to live stream was 50 AF. In early March, releases were made to maintain a live flow downstream until Zone 7's stored water in Lake Del Valle was depleted. Since then, only minor inflow from the watershed has been released.
- Groundwater basin overflow on the west side of the Livermore Valley Groundwater Basin was estimated at 200 AF.
- The Livermore Valley Groundwater Basin remains at approximately 91% of total capacity (232,000 AF out of 254,000 AF).
    - 104,000 AF are operational storage (i.e., above historical groundwater lows).
    - The remaining 128,000 AF are designated for emergency storage.

Local Surface Water *(See Table 2 and Figure 6)*

- Zone 7 utilized 760 AF of local stored water from Lake Del Valle this month. In coordination with the South Bay Contractors, DWR has strived to keep Lake Del Valle full this season to ensure sufficient supplies are available if the drought continues. DWR recently topped off the lake and plans to pump in more if needed.
- Zone 7 began 2022 with 2,300 AF of available local water with 600 AF available at the beginning of March. Live stream releases, in compliance with Arroyo Valle water rights permit, withdrew from this remaining water and available local water is now 0 AF.

Stream Outflow, *(See Table 2)*

- Surface runoff exceeded 10 cfs baseflow at the Arroyo de la Laguna at Verona stream gauge and yielded about 200 AF of outflow.
- Note: some surface flows out of the Tri-Valley are mandated for other downstream purposes.

Local Precipitation *(See Figure 7)*

- March was dry with 0.48 inch of precipitation recorded in the Livermore area this month.

- Cumulative precipitation to date for Water Year 2021/2022 was at 11.31 inches or 90% of average for March 31st. Note that Water Year 2020/2021 ended at 5.67 inches locally and was one of the driest years on record.

  Historically, Weather Station 15E was selected as the representative station for Zone 7's rainfall graph because of its extensive historical record; however, in late 2020 Station 15E was relocated and the data is no longer available in a consistent and regular basis. In the current water year, staff has been using available data from Station 15E as well as the data from the nearby Livermore Municipal Airport Station (KLVK). After evaluating data quality and availability, staff determined that the KLVK data will be more reliable and representative. Therefore, the graph for this water year now only reflects corrected rainfall data from the KLVK station resulting in an overall increase of about 1.3 inches. Zone 7's Livermore Rainfall Index (LRI), which represents a long-term historical record for Livermore, will primarily consist of 15E data up to June 2020 and the KLVK data thereafter.

Sierra Precipitation *(See Figure 8)*

- Only 1.3 inches of precipitation was recorded in the Northern Sierra this month. Note that Water Year 2020/2021 ended at roughly 24.0 inches compared to the current total of 33.2 inches.
- Due to a dry March, cumulative precipitation in the Northern Sierra had decreased to 75% of the seasonal average to date as of March 31, 2022, down from 87% at the end of February 2022.

Sierra Snowpack *(See Figure 9)*

- There were 7.7 inches of snow-water equivalent in the Northern Sierra basins as of April 1, 2022.
- Northern Sierra snowpack was at 28% of normal conditions for April 1.

Lake Oroville *(See Figure 10)*

- Lake Oroville was at 47% of total capacity (67% of average) as of March 31, 2022.
  - Total storage: 1,675,777 AF
  - Storage as a percentage of total capacity did not change since last month.

San Luis Reservoir *(See Figure 11)*

- San Luis Reservoir was at 45% capacity (52% of average) as of March 31, 2022.
  - Total storage: 920,682 AF
  - Storage increased by approximately 1% of total capacity since last month.

NOTE: *Numbers presented are estimates only and subject to adjustment over the course of the year.*

Table 2: Quarterly water inventory

Water Inventory for Zone 7 Water Agency

Note: Values are rounded. All units in AF unless noted otherwise. Subject to adjustment over the year.

	2021 *Jan-Dec*	2022 - Q1 *Jan-Mar*	2022 - YTD *Jan-Dec*
Source			
Incoming Supplies			
State Water Poject (SWP) - Table A	0	0	0
Lake Del Valle Local Water	950	2,500	2,500
Water Transfers/Exchanges [1]	9,330	0	0
Subtotal	**10,280**	**2,500**	**2,500**
From Storage			
State Water Project - Carryover	8,210	730	730
Livermore Valley Groundwater Basin	14,620	2,210	2,210
Kern Storage and Recovery Programs	9,070	3,520	2,020
Subtotal	**31,900**	**6,460**	**4,960**
Total Supply	**42,180**	**8,960**	**7,460**
Water Use			
Customer Deliveries			
Treated Water Demand [2]	35,810	6,860	6,860
Untreated Water Demand	6,000	480	480
Subtotal	**41,810**	**7,340**	**7,340**
To Storage			
Livermore Valley Groundwater Basin Recharge	370	120	120
Kern Storage and Recovery Programs	0	0	0
Subtotal	**370**	**120**	**120**
Total Water Use	**42,180**	**7,460**	**7,460**
Available Water Supplies		**End-of-Quarter Balances**	
Incoming Supplies in 2022			
SWP - Table A (%)		5%	5%
SWP - Table A Remaining		4,000	4,000
Water Transfers/Exchanges [1]		0	0
Subtotal		**4,000**	**4,000**
Storage Balance from 2021			
SWP Carryover + Backed Up Water [3]	5,980	7,330	7,330
Lake Del Valle Local Water	2,300	0	0
Livermore Valley Groundwater Basin [4]	102,000	104,000	104,000
Kern Storage and Recovery Programs	105,680	102,880	102,880
Subtotal	**215,960**	**214,210**	**214,210**
Total Available Water	**215,960**	**218,210**	**218,210**
Watershed Conditions	**End-of-2021**		
Precipitation at Livermore Station (in)	13.6	0.6	0.6
Lake Del Valle Local Water Net Yield	2,980	-2,300	-2,300
Livermore Valley Groundwater Basin Net Recharge (est.)	16,000	-1,000	-1,000
Surface Water Outflow [5]	25,430	640	640

[1] Yuba Accord, Dry Year Transfer and Mojave transfer supplies were acquired in 2021.

[2] Includes a small amount of unaccounted-for water.

[3] Backed Up Water is recovered water from Kern Storage and Recovery Programs that is moved to San Luis Reservoir for storage.

[4] Storage volume is based on most recent groundwater level data; amount shown excludes 128,000 AF of emergency storage.

[5] Surface Water Outflow is estimated based on flow at USGS gage Arroyo De La Laguna at Verona.

Figure 1: Monthly treated water production in acre-feet (AF)

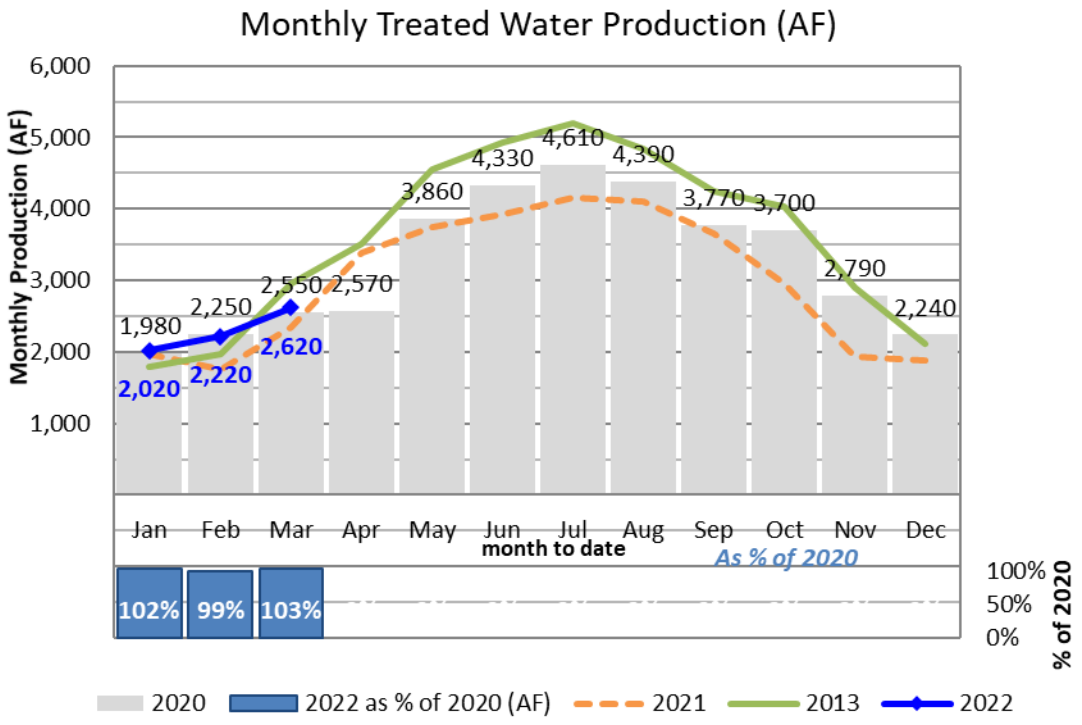


Figure 2: Monthly treated water production in average million gallons per day

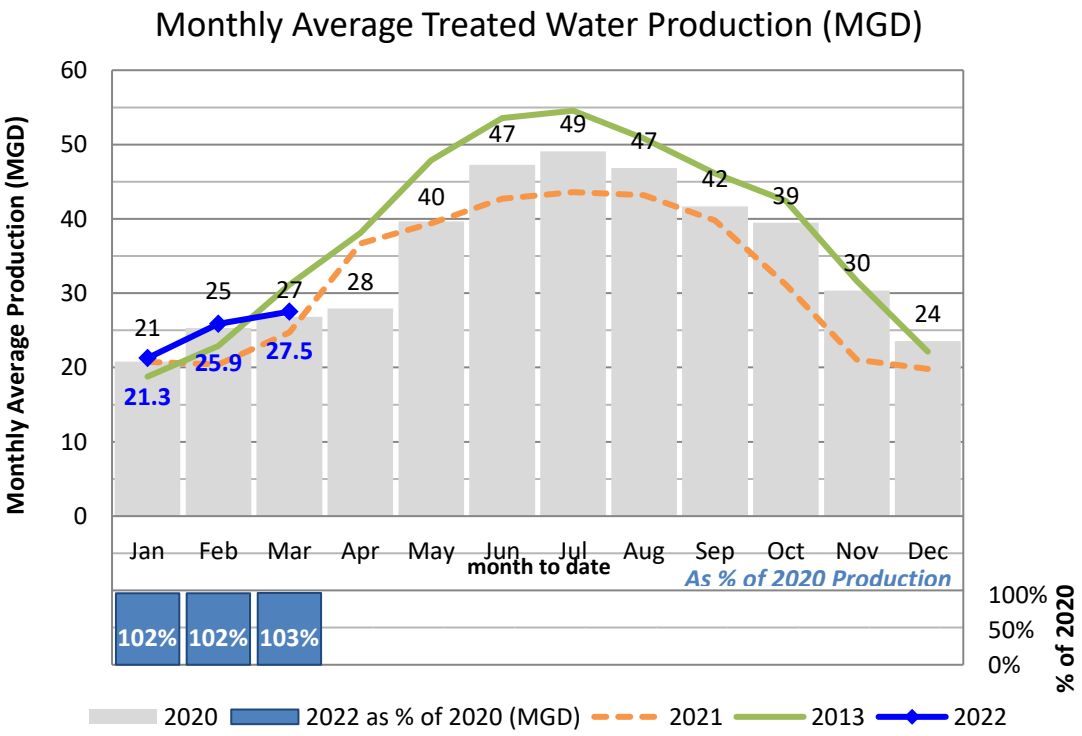


Figure 3: Pleasanton Estimated In-Lieu Demand (Based on 2016-2019 Pumping)

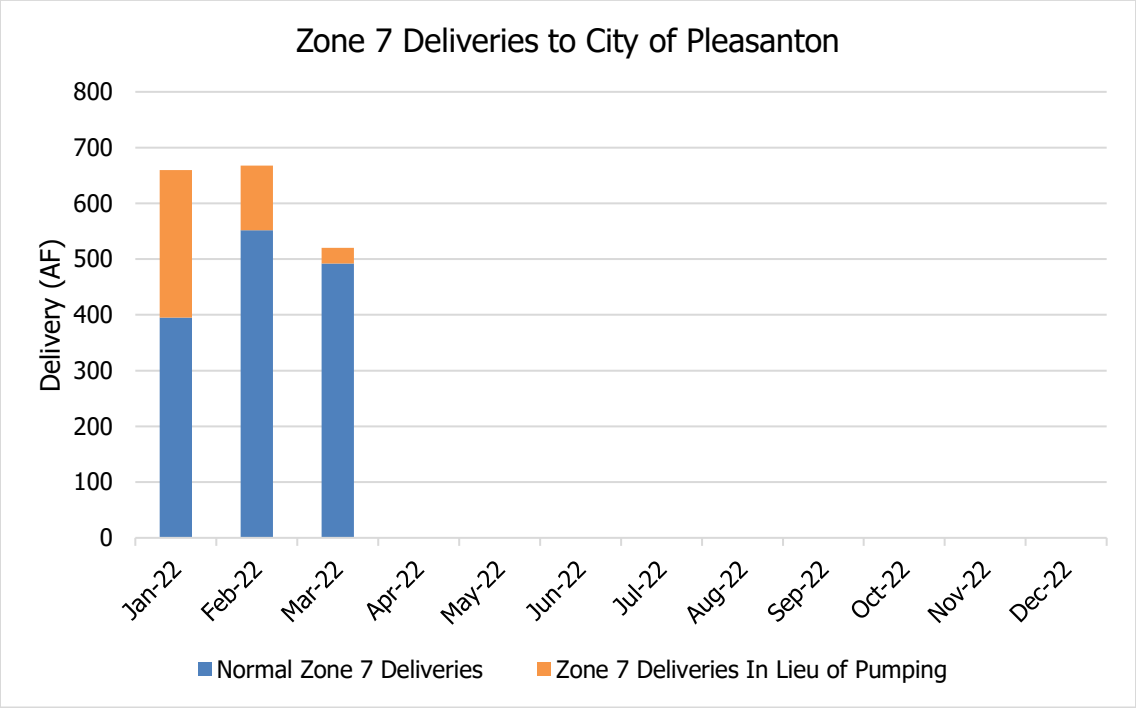


Figure 4: California Water Service Estimated In-Lieu Demand (Based on 2016-2019 Pumping)

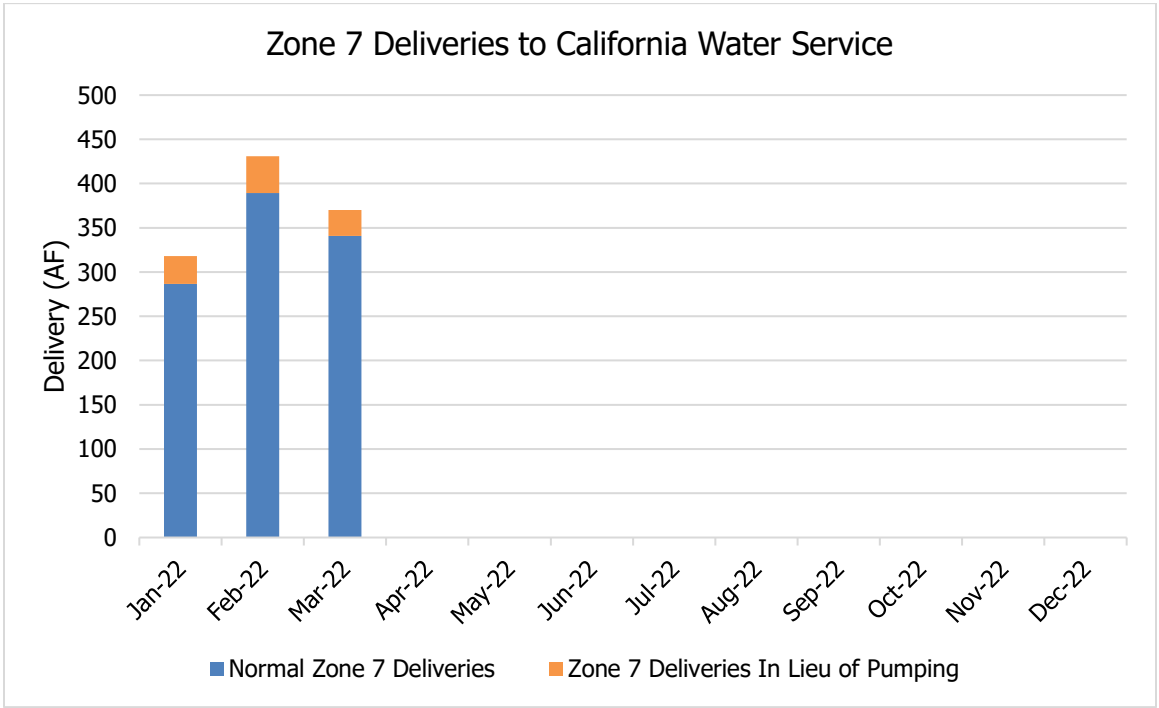


Figure 5: Livermore Valley Groundwater Basin Storage

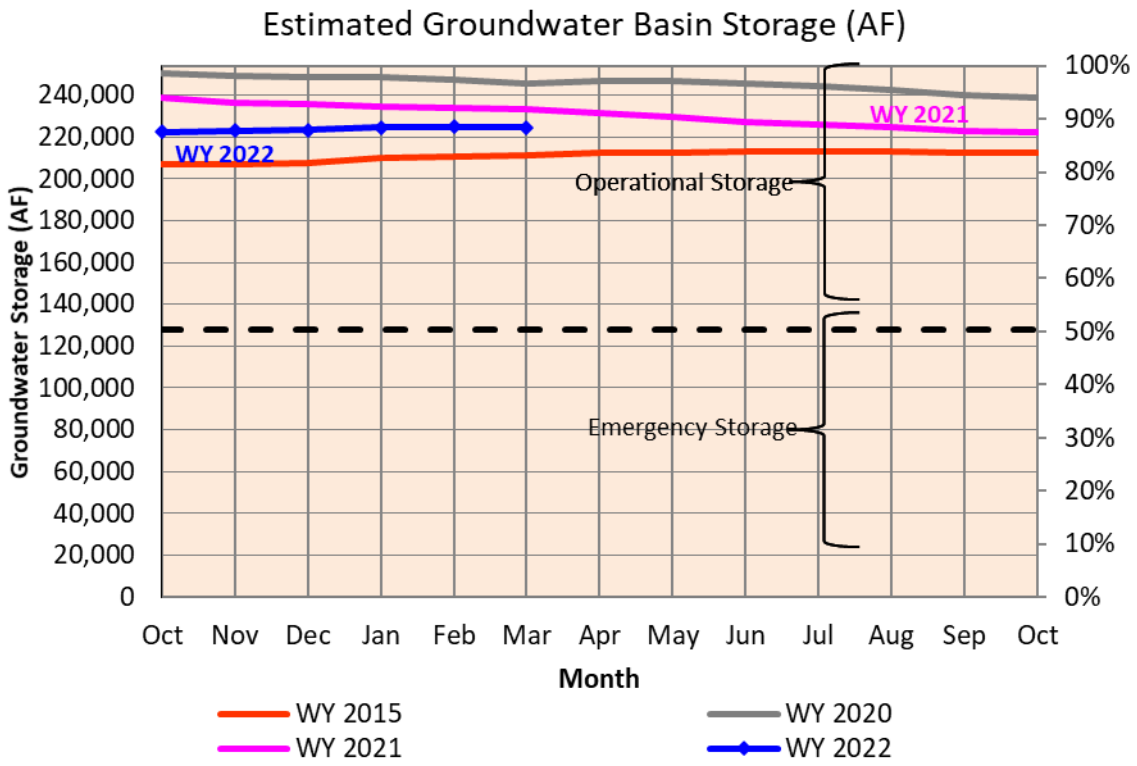
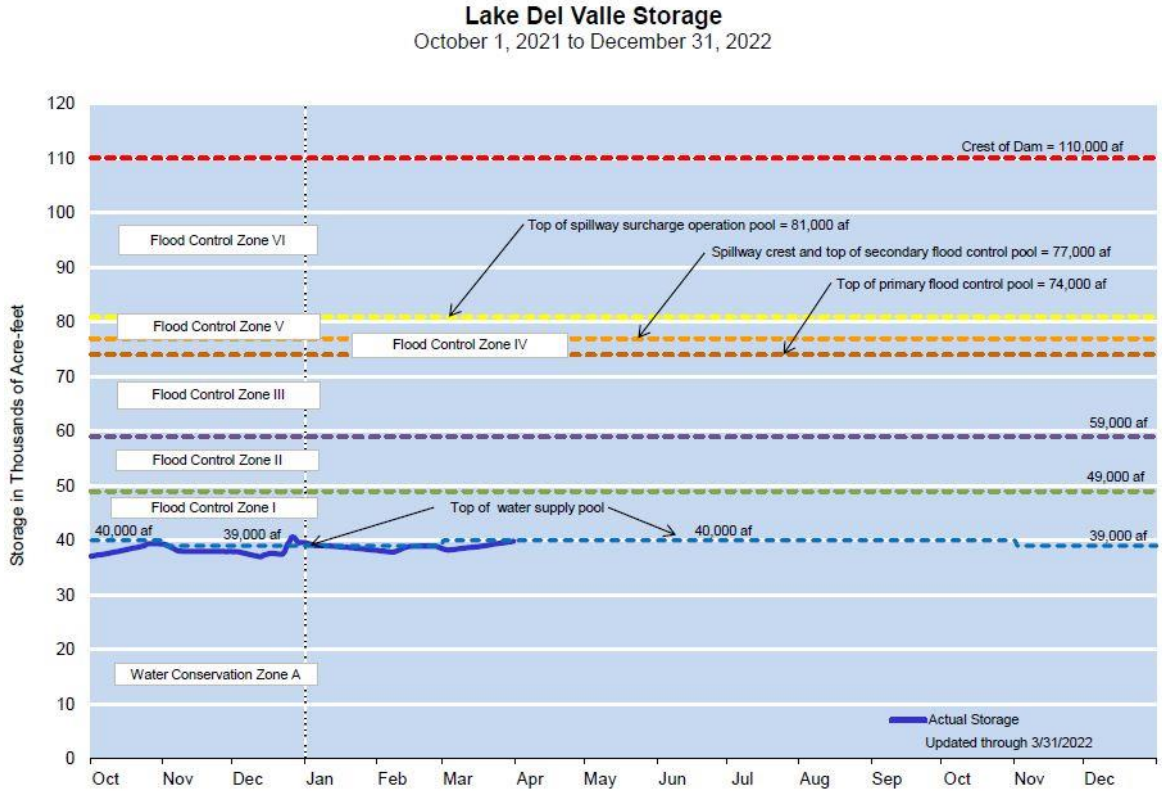


Figure 6: Lake Del Valle storage



(Source: https://water.ca.gov/-/media/DWR-Website/)

Figure 7: Local precipitation

Note: Water Year 2021/2022 has a cumulative total of 11.31 inches of rain, 90% of the average for this time of year with 0.48 inches of rain received in March. In March of 2022, Zone 7 made a retractive correction to precipitation data for the current water year resulting from the selection of a more reliable and representative local weather station (Livermore Municipal Airport Station-KLVK).

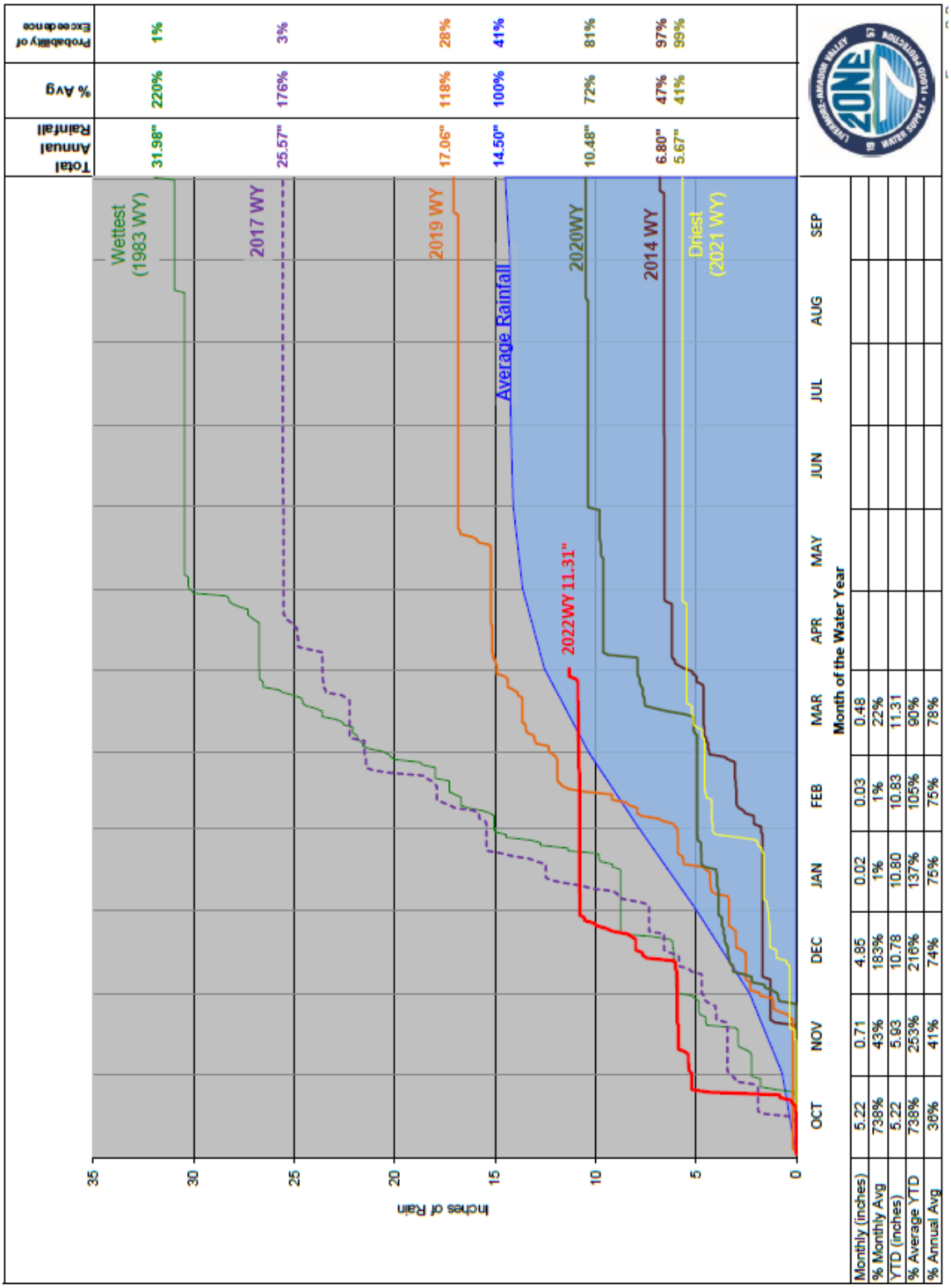
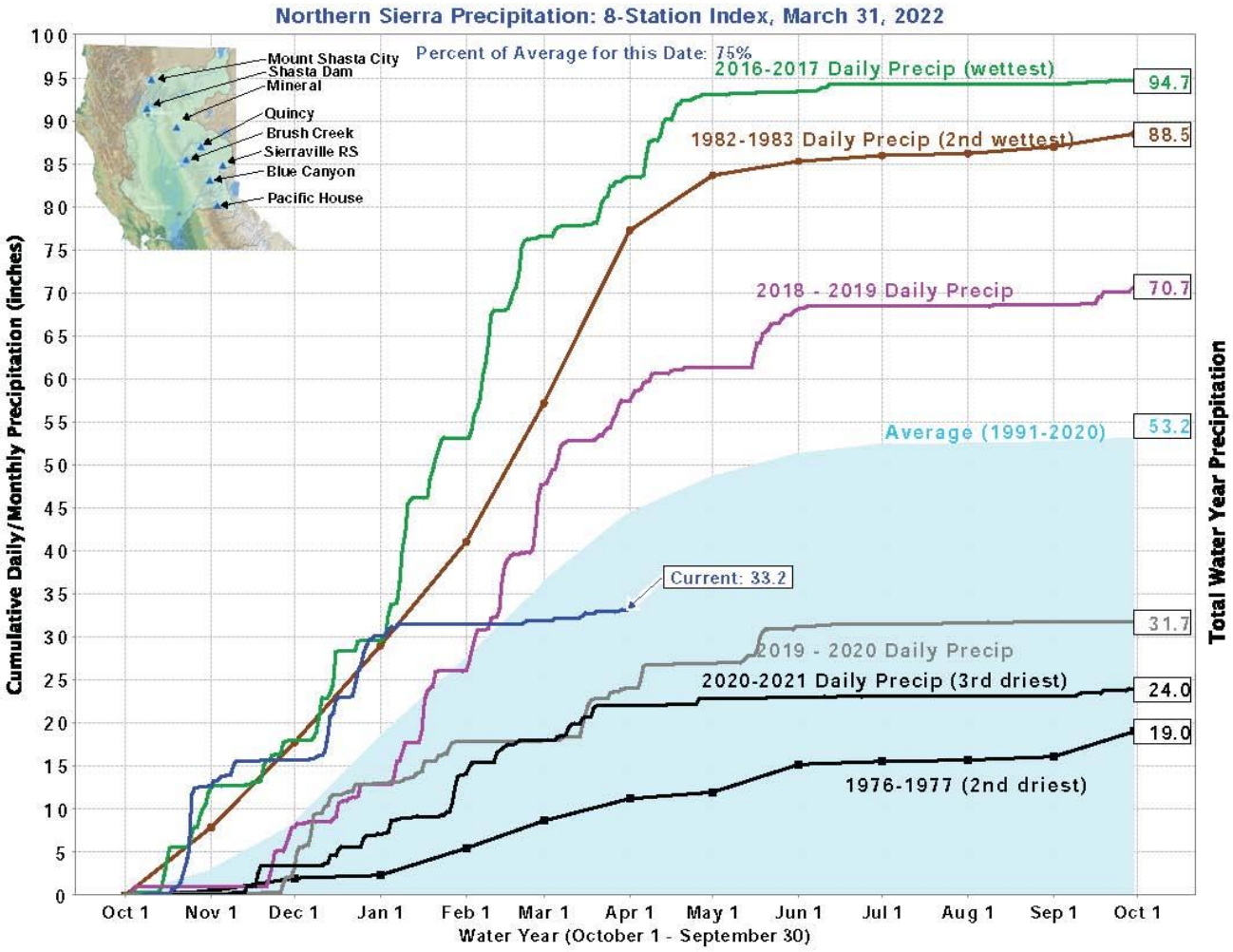


Figure 8: Cumulative precipitation in the North Sierra

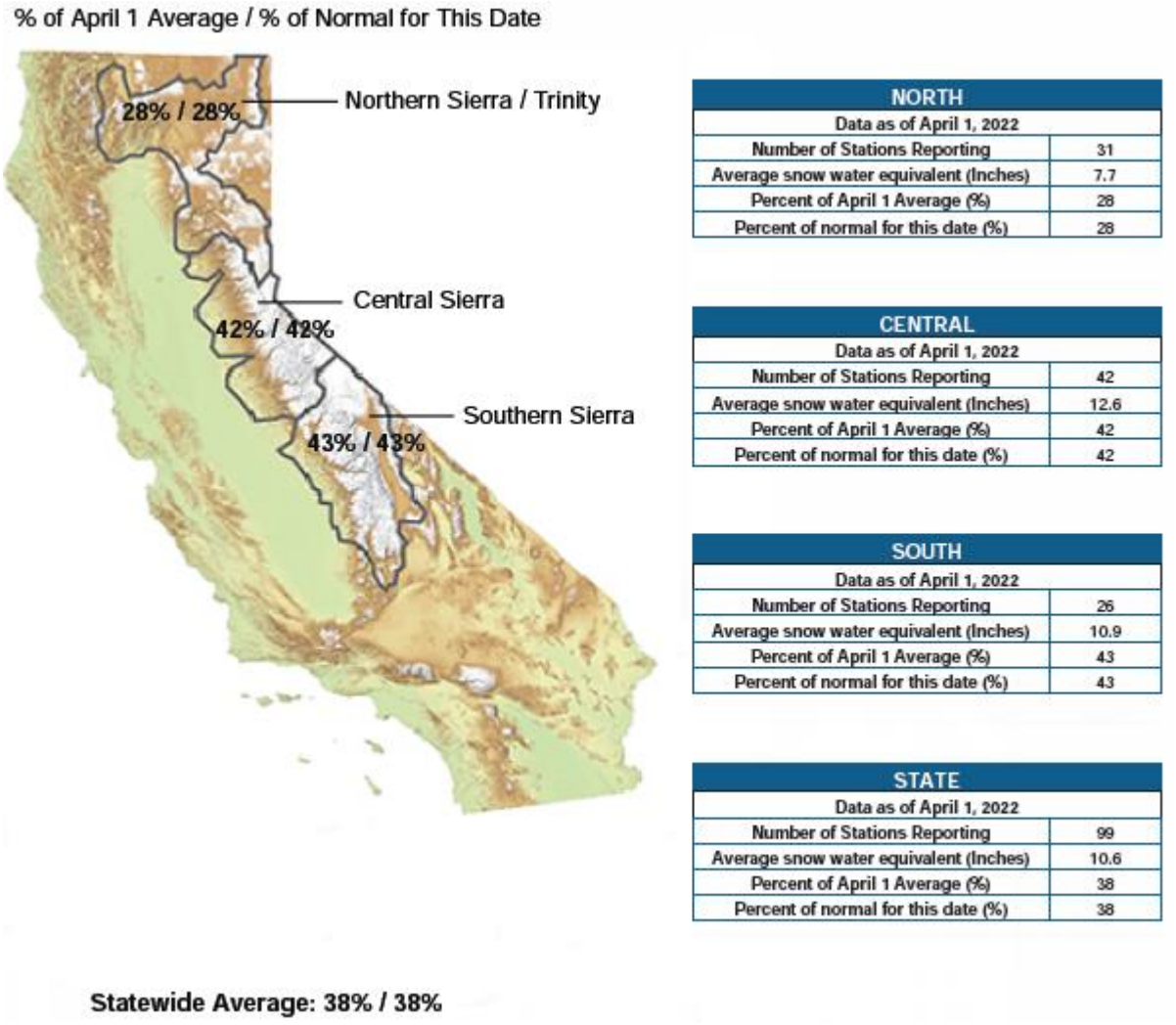
Note: Cumulative precipitation in the Northern Sierra was at 75% of average for March 31.



(Source: http://cdec.water.ca.gov/cgi-progs/products/PLOT_ESI.pdf)

Figure 9: Sierra Snowpack

Note: Average Snow Water Equivalent in the Northern Sierra was at 28% of average for April 1.



NORTH	
Data as of April 1, 2022	
Number of Stations Reporting	31
Average snow water equivalent (Inches)	7.7
Percent of April 1 Average (%)	28
Percent of normal for this date (%)	28

CENTRAL	
Data as of April 1, 2022	
Number of Stations Reporting	42
Average snow water equivalent (Inches)	12.6
Percent of April 1 Average (%)	42
Percent of normal for this date (%)	42

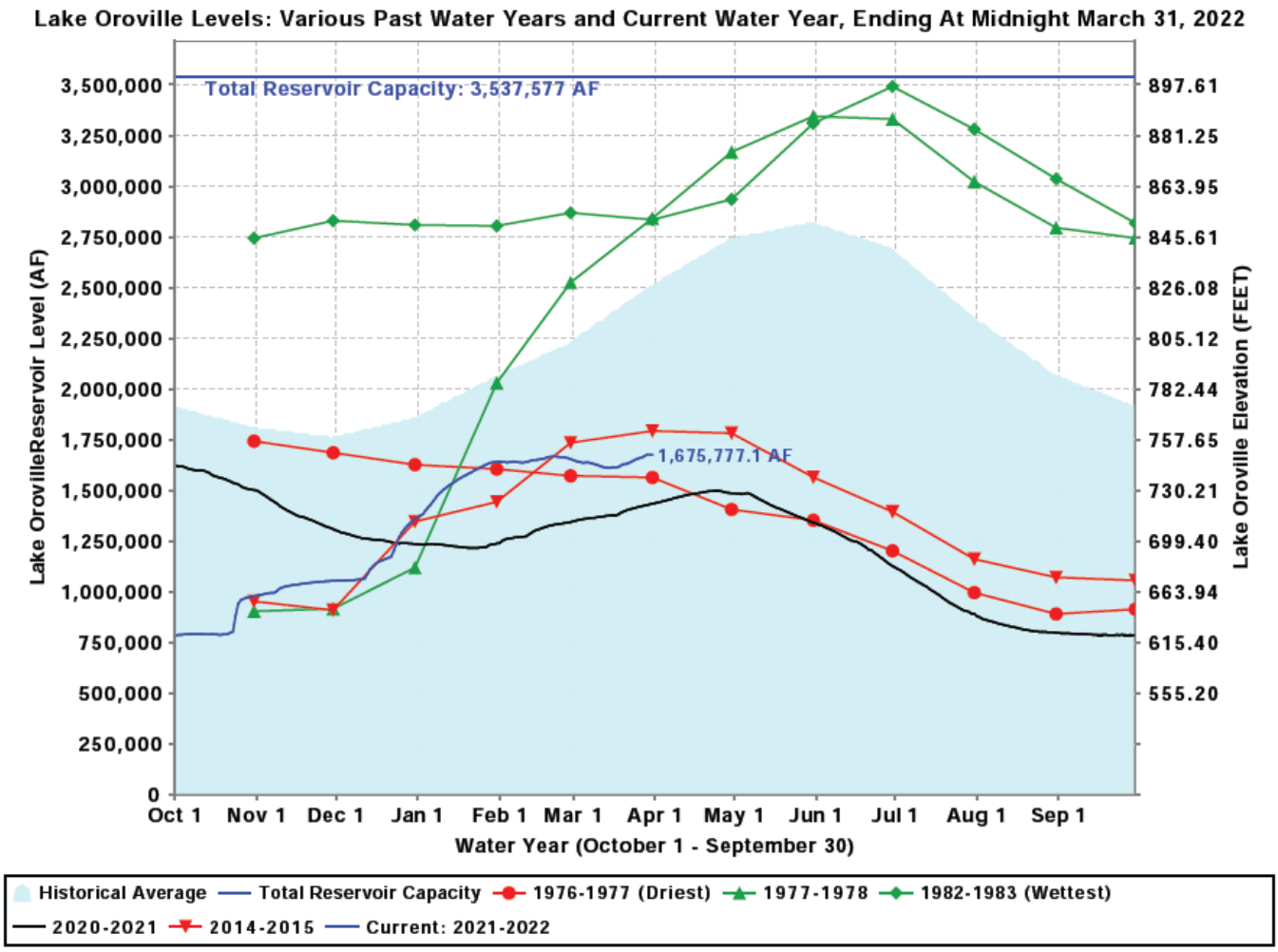
SOUTH	
Data as of April 1, 2022	
Number of Stations Reporting	26
Average snow water equivalent (Inches)	10.9
Percent of April 1 Average (%)	43
Percent of normal for this date (%)	43

STATE	
Data as of April 1, 2022	
Number of Stations Reporting	99
Average snow water equivalent (Inches)	10.6
Percent of April 1 Average (%)	38
Percent of normal for this date (%)	38

(Source: https://cdec.water.ca.gov/reportapp/javareports?name=swccond.pdf)

Figure 10: Lake Oroville storage compared with past water years

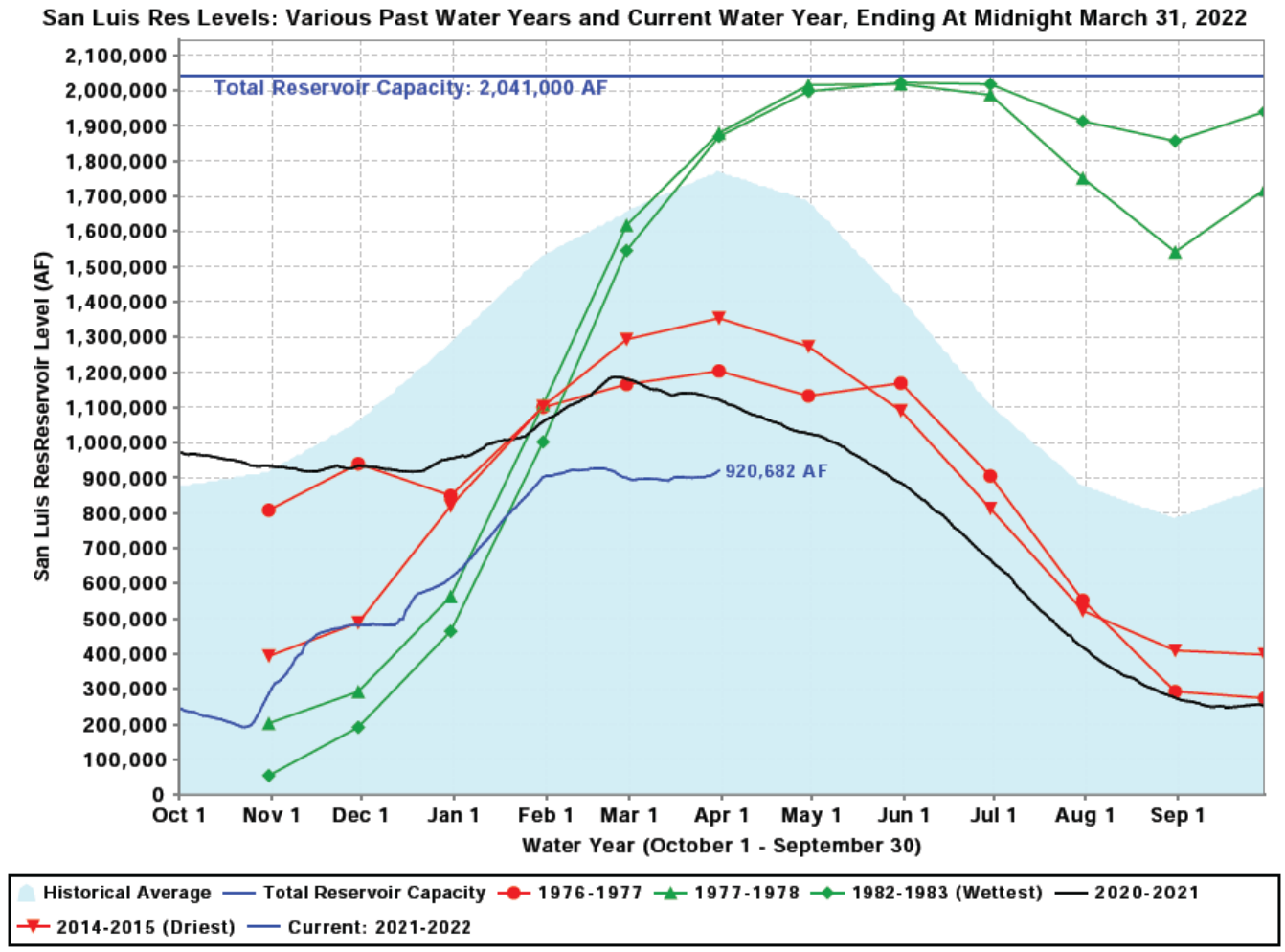
Note: On March 31, 2022, Lake Oroville was at 47% of its total capacity and 67% of its historical average.



(Source: https://cdec.water.ca.gov/resapp/ResDetail.action?resid=ORO)

Figure 11: San Luis Reservoir storage compared with past water years

Note: On March 31, 2022, San Luis Reservoir was at 45% of its total capacity and 52% of its historical average.



(Source: https://cdec.water.ca.gov/resapp/ResDetail.action?resid=SNL)

ZONE 7 WATER AGENCY
Delivering Quality, Reliability and Safety

100 North Canyons Parkway
Livermore, CA 94551
(925) 454-5000

ITEM NO. 16e

ORIGINATING SECTION: Groundwater
CONTACT: Ken Minn/Tom Rooze

AGENDA DATE: April 20, 2022

SUBJECT: Annual Groundwater Sustainability Report

SUMMARY:

California Code of Regulations Title 23 (CCR §356.2) requires Groundwater Sustainability Agencies (GSAs) to submit annual reports describing basin conditions by April 1 of every year. In compliance with the regulations, staff submitted the Sustainable Groundwater Management 2021 Annual Report for the Livermore Valley Groundwater Basin to the DWR SGMA Portal on March 31 and met the April 1st statutory deadline.

This report included the essential components -- (i) amount of groundwater extraction, (ii) water supply sources and water use info, (iii) change in storage, and (iv) groundwater monitoring data -- as required. In addition to the required information, staff plans to submit supplemental information on Zone 7's sustainable groundwater management programs, such as water quality and land subsidence monitoring, as an appendix to the annual report.

Background:

As the exclusive GSA of the Basin, Zone 7 submitted the Alternative Groundwater Sustainability Plan (Alternative GSP) for the Basin in December 2016. DWR reviewed and approved the Alternative GSP with recommended actions in July 2019. In December 2021, Zone 7 submitted its first Five-Year Update to the Alternative GSP. To address DWR recommended actions, Zone 7 established Representative Monitoring Sites (RMS), Minimum Thresholds (MTs), and Measurable Objectives (MOs) to develop Sustainable Management Criteria (SMCs) for the Basin. Attached Figure 14-8 shows locations of RMS used for setting SMCs. In addition to five-year updates, the regulations also require GSAs to prepare annual reports for DWR to evaluate basin conditions.

2021 Annual Report:

Staff has prepared the annual report meeting regulatory requirements and planned to append supplemental information to provide Zone 7's comprehensive sustainable groundwater management activities as discussed below:

- 2021 Annual Report: It contains detailed information required by CCR 23 § 356.2. As was done for the 2021 Alternative GSP, this report was reorganized to align with the requirements of the regulation sections.
- Supplemental Information Appendix: It contains information on Zone 7's sustainable groundwater management programs program and data similar to what was included in Zone 7's previous annual reports. This information will discuss Zone 7's comprehensive sustainable groundwater management activities and data organized by the program. This appendix complements the regulatory content and can serve as a reference for board members, staff, stakeholders, and the public.

The 2021 Annual Report is available on Zone 7's website at https://www.zone7water.com/sites/main/files/file-attachments/2-010_wy_2021.pdf?1648845314. Staff are currently preparing the Supplemental Information Appendix and plan to submit it to DWR in May 2021.

Summary of 2021 Conditions:

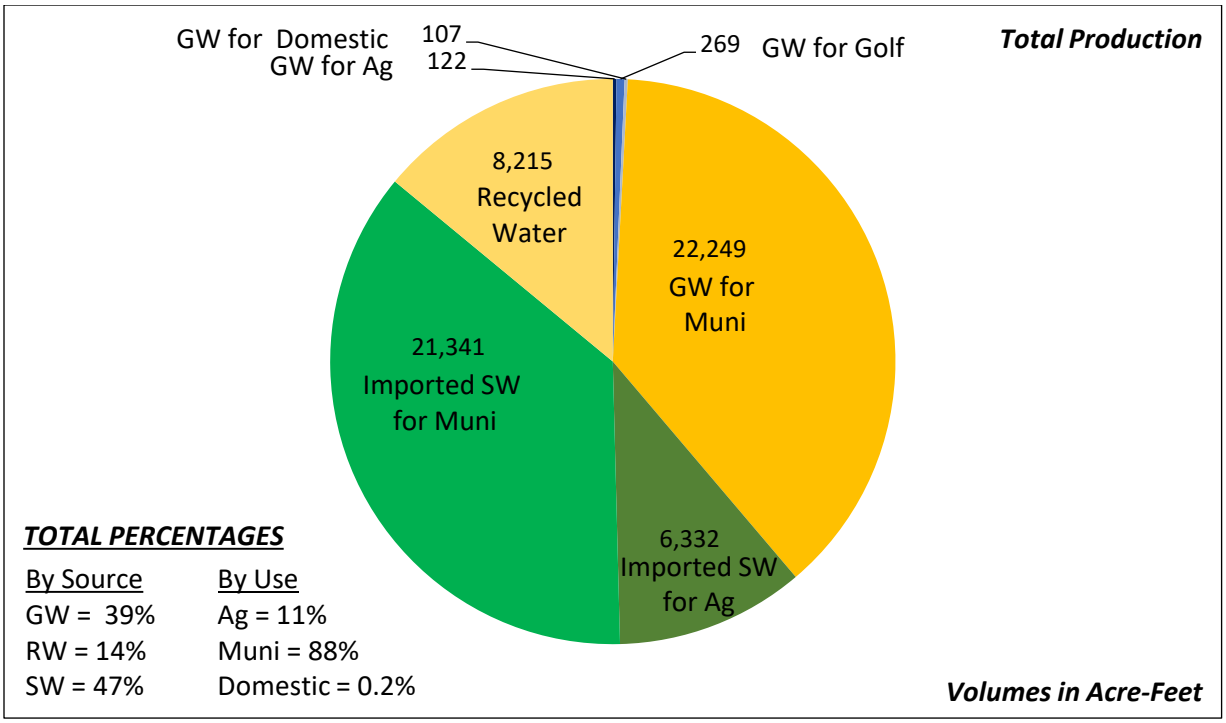
The annual report discussed the Water Year 2021 condition as follows:
DWR categorized the WY 2021 as a critically dry water year, which led to a State Water Project (SWP) allocation of only 5% of Zone 7's maximum allocation (80,619 AF). Consequently, Zone 7 needed to rely heavily on the groundwater basin for supply. As a result, the Basin's groundwater levels, and operational groundwater storage declined notably at the end of the water year.

Groundwater Extraction:

Basin-wide groundwater extractions -- including that of retailers and private pumpers -- totaled approximately 22,747 acre-feet (AF) during the water year. 98% (22,249 AF) of pumped groundwater was used for municipal supplies. Zone 7's pumpage accounted for 71% (16,440 AF) of the total extraction.

Water Supply Sources and Water Use Info:

In addition to groundwater extraction, Zone 7 imported 27,547 AF of surface water supplies to the Basin. Total water usage within the Basin for the WY 2021 consisted of 39% groundwater, 47% imported water, and 14% recycled water. The following chart delineates water use by source and sector.



Ag = Agriculture; Muni = Municipal; GW= Groundwater; RW = Recycled Water; SW = Surface Water

Change in Storage:
Total groundwater in storage at the end of WY 2021 was calculated to be 222.7 thousand acre-feet (TAF), about 17.4 TAF less than the WY 2020 average total storage value. The change in groundwater storage for the Basin (-17.4 TAF) was analogous to previous changes observed in recent critically dry years. The following table summarizes changes in storage for operational and total storage.

Groundwater Storage Summary, 2021 WY (in Thousand AF)

Storage Calculation Method	End of 2020 WY	End of 2021 WY	Change in Storage
TOTAL STORAGE	**240.1**	**222.7**	**-17.4**
Operational Storage	112.1	94.7	-17.4

Sustainable Management Criteria:

The Annual Report also summarizes the SMCs and the status of each Sustainability Indicator defined for the Basin in Table 8 (attached). At all RMS for Water Levels (RMS-WL) locations, groundwater levels continued to remain well above their respective MTs and MOs throughout the WY.

Groundwater levels declined below their MTs at two RMS for Interconnected Surface Water (RMS-ICSW) and below their MOs at three additional RMS-ICSW during the seasonal low (i.e.,

Fall) monitoring event; however, all measured water level data at the RMS-ICSW wells were recorded above their MTs and MOs during the seasonal high (i.e., Spring) monitoring event.

Total Dissolved Solids (TDS) was detected above the MT (by 19 mg/L) in one RMS for Water Quality (RMS-WQ) during the 2021 WY. No other Constituents of Concern (COCs), including TDS, Nitrate, Boron, and Chromium, were detected above their corresponding MTs in any other RMS-WQs.

In summary, Undesirable Results (URs) were not observed within the Basin during the WY 2021 for any of the five Sustainability Indicators with SMCs defined in the 2021 Alternative GSP. This implies that the ongoing sustainable groundwater management of the basin is effective; and the basin is sustainable and in compliance with SGMA during WY 2021.

ATTACHMENTS:

1. Map of RMS Sites (Figure 14-8 from 2021 Alternative GSP)
2. SMC Summary Table (Table 8 from 2021 Annual Report)

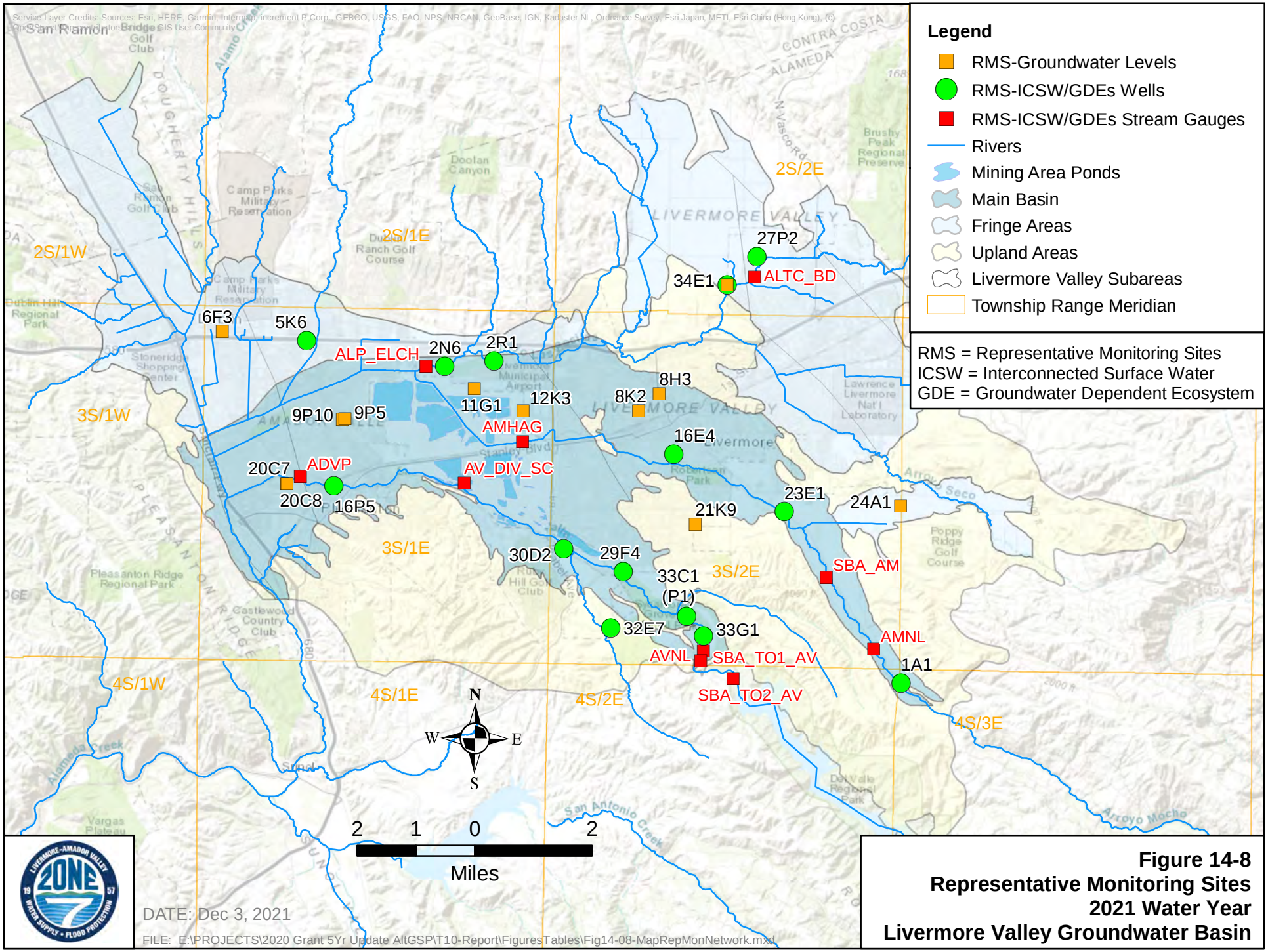


Figure 14-8
Representative Monitoring Sites
2021 Water Year
Livermore Valley Groundwater Basin

Table 8: Sustainable Management Criteria Status, 2021 WY

Sustainability Indicator	Undesirable Results Criteria	Minimum Threshold	2021 WY Status	Action Taken
Chronic Lowering of Groundwater Levels	Water levels in greater than 25% of the RMS-WLs decline below their respective MTs for two consecutive years.	Historic low minus maximum annual rate of groundwater level change, or historic low if maximum annual rate of groundwater level change is not available.	MTs were not exceeded at any RMS-WLs, see **Figure 6**.	Continue to monitor and maintain artificial recharge operations.
Depletion of Groundwater Storage	Water levels in greater than 25% of the RMS-WLs decline below their respective MTs for two consecutive years. Not applicable to Upland Management Area.	Water Level SMCs used as proxy.	MTs were not exceeded at any RMS-WLs, see **Figure 6**.	Continue to monitor maintain artificial recharge operations.
Degradation of Groundwater Quality	If MTs are exceeded for any of the identified constituents of concern in greater than 25% of the RMS-WQs at least two (2) consecutive years as a result of SGMA-related groundwater management activities such that they cannot be managed to provide drinking water supply (i.e., that treatment or blending is not possible or practicable).	TDS > 1,000 milligrams per liter (mg/L) or 2015 Baseline concentration plus maximum deviation, whichever is greater.	TDS was detected above the MT (by 19 mg/L) in RMS-WQ 3S2E08H003. TDS was not detected above the MT in any other RMS-WQs.	Continue to monitor and increase municipal supply pumping, implement SMP, increase operation of Mocho Groundwater Demineralization Plant (MGDP), and conduct artificial groundwater recharge with low TDS water.
		NO3 (as N) > 10 mg/L or 2015 Baseline concentration plus maximum deviation, whichever is greater.	Nitrate was not detected above the MT in any RMS-WQs	Continue to monitor and implement NMP.
		Boron > 1.4 mg/L, or 2015 Baseline concentration plus maximum deviation, whichever is greater.	Boron was not detected above the MT in any RMS-WQs	Continue to monitor.
		Total Chromium > 0.050 mg/L, or 2015 Baseline	Chromium was not detected above the MT in any RMS-WQs	Continue to monitor.

Sustainability Indicator	Undesirable Results Criteria	Minimum Threshold	2021 WY Status	Action Taken
Degradation of Groundwater Quality (continued)		concentration plus maximum deviation, whichever is greater.		
		SMCs for PFAS in development	Zone 7 continued to sample for PFAS compounds, investigated possible sources, and performed PFAS groundwater modeling	Continue to monitor
Land Subsidence	Water Level SMCs used as proxy for Main Basin and Fringe Management Area, and no more than 0.4 ft of irreversible land surface elevation decrease in one year. Not applicable to Upland Management Area.	Water Level SMCs used as proxy and irreversible land surface elevation decrease of 0.4 ft.	MTs were not exceeded at any applicable RMS-WLs and Elastic fluctuations less than 0.04 ft for the year	Continue to monitor
Depletion of Interconnected Surface Waters	If groundwater levels decline below their MTs in greater than 40% of the RMS-ICSWs for more than two consecutive years.	Historic low water levels or to be determined if historical water levels are not available.	Two MT exceedances were recorded RMS-ICSWs (Wells 3S1E16P005 and 3S2E23E001) during the seasonal low (fall) monitoring event (see **Table 2** and **Figure 7**); however no URs have been triggered within the Basin.	Continue to monitor

Appendix G

City of Pleasanton Groundwater Supply Well PFAS Levels

PFAS Test Data

State Water Resources Control Board Order No. 02_04_19M_002_0110008

						Well 5, ng/L							Well 6, ng/L							Well 8, ng/L						
	Method 537.1 Constituents		CCRDL (ng/L)	NL (ng/L)	RL (ng/L)	Quarter 1 (April to June 2019)	Quarter 2 (July to Sept 2019)	Quarter 3 (Oct to Dec 2019)	Quarter 4 (Jan to March 2020)	Quarter 5 (April to June 2020)	Quarter 6 (July to Sept 2020)	QRAA	Quarter 1 (April to June 2019)	Quarter 2 (July to Sept 2019)	Quarter 3 (Oct to Dec 2019)	Quarter 4 (Jan to March 2020)	Quarter 5 (April to June 2020)	Quarter 6 (July to Sept 2020)	QRAA	Quarter 1 (April to June 2019)	Quarter 2 (July to Sept 2019)	Quarter 3 (Oct to Dec 2019)	Quarter 4 (Jan to March 2020)	Quarter 5 (April to June 2020)	Quarter 6 (July to Sept 2020)	QRAA
1	HFPO-DA	Hexafluoropropylene oxide dimer acid	4			ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2	N-EtFOSAA	N-ethyl perfluorooctanesulfonamidoacetic acid	4			ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3	N-MeFOSAA	N-methyl perfluorooctanesulfonamidoacetic acid	4			ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4	PFBS	Perfluorobutanesulfonic acid	4	500	5000	7.1	4.9	4.7	NS	NS	5.2	5.5	7.4	5.5	5	5.6	8.3	5.4	6.1	11.5	8.9	7.5	7.9	13	8.6	9.3
5	PFDA	Perfluorodecanoic acid	4			ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6	PFDoA	Perfluorododecanoic acid	4			ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
7	PFHpA	Perfluoroheptanoic acid	4			3.2	2	2.2	NS	NS	1.9	2.3	3.4	1.9	2.5	2.5	2.7	1.9	2.4	13	7.6	8.1	7.6	9.3	5.1	7.5
8	PFHxS	Perfluorohexanesulfonic acid	4			24	18	19	NS	NS	18	19.8	26.5	21	23	23	29	22	24.3	77.5	64	60	65	69	58	63.0
9	PFHxA	Perfluorohexanoic acid	4			5.5	3.5	3.9	NS	NS	4.2	4.3	5.5	3.8	4.5	5.1	5.1	4.6	4.8	19.5	12	12	13	16	11	13.0
10	PFNA	Perfluorononanoic acid	4			ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.5	4.8	4	4.5	5	2.8	4.1
11	PFOS	Perfluorooctanesulfonic acid	4	6.5	40	31	22	21	NS	NS	19	23.3	26	22	22	22	25	21	22.5	115	100	69	110	110	82	92.8
12	PFOA	Perfluorooctanoic acid	4	5.1	10	4.2	3.7	3.3	NS	NS	4	3.8	3.8	3.3	3.6	3.9	4.3	3.5	3.8	8.75	8.3	7.5	8.3	9.1	7.6	8.1
13	PFTA	Perfluorotetradecanoic acid	4			ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
14	PFTrDA	Perfluorotridecanoic acid	4			ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
15	PFUnA	Perfluoroundecanoic acid	4			ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
16	11CL-PF3OUDS	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	2			ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
17	9CL-PF3ONS	9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid	2			ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
18	ADONA	4,8-Dioxa-3H-perfluorononanoic acid	2			ND	ND	ND	NS	NS	ND	ND	2.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

1. CCRDL = Consumer Confidence Report Detection Levels (i.e. levels requiring notification in annual Consumer Confidence Reports)
2. NL = Notification Level
3. RL = Response Level
4. ND = Non Detect
5. NS = Not Sampled
6. QRAA = Quarterly running annual average (i.e. average of the last 4 quarters of data)
7. Well 5 was out of service for repairs from January 2020 through June 2020.
8. Well 8 has been assigned Standby with State Water Resources Control Board, Division of Drinking Water. Will only operate under emergency conditions. Testing is voluntary.

PFAS Test Data

State Water Resources Control Board General Order No. DW2020-0003-DDW

	Method 537.1 Constituents		CCRDL (ng/L)	NL (ng/L)	RL (ng/L)	Well 5, ng/L								Well 6, ng/L								Well 8, ng/L							
						Quarter 1 (Oct to Dec 2020)	Quarter 2 (Jan to March 2021)	Quarter 3 (April to June 2021)	Quarter 4 (July to Sept 2021)	Quarter 5 (Oct to Dec 2021)	Quarter 6 (Jan to March 2022)	Quarter 7 (April to June 2022)	QRAA	Quarter 1 (Oct to Dec 2020)	Quarter 2 (Jan to March 2021)	Quarter 3 (April to June 2021)	Quarter 4 (July to Sept 2021)	Quarter 5 (Oct to Dec 2021)	Quarter 6 (Jan to March 2022)	Quarter 7 (April to June 2022)	QRAA	Quarter 1 (Oct to Dec 2020)	Quarter 2 (Jan to March 2021)	Quarter 3 (April to June 2021)	Quarter 4 (July to Sept 2021)	Quarter 5 (Oct to Dec 2021)	Quarter 6 (Jan to March 2022)	Quarter 7 (April to June 2022)	QRAA
1	HFPO-DA	Hexafluoropropylene oxide dimer acid	4			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2	N-EtFOSAA	N-ethyl perfluorooctanesulfonamidoacetic acid	4			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3	N-MeFOSAA	N-methyl perfluorooctanesulfonamidoacetic acid	4			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4	PFBS	Perfluorobutanesulfonic acid	4	500	5000	6.8	6.1	6.1	4.7	4.4	6.5	5.7	5.3	6.9	6.43	6.7	6.8	5.2	6.4	6.4	6.2	9.9	7	7.3	5.7	5.4	5.9	5.7	5.7
5	PFDA	Perfluorodecanoic acid	4			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6	PFDoA	Perfluorododecanoic acid	4			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
7	PFHpA	Perfluoroheptanoic acid	4			2.5	2.2	2.4	2.0	1.9	2.1	2.0	2.0	2.6	2.1	2.5	2.1	1.9	2.3	2.4	2.2	6.8	5.3	4.9	2.7	2.1	2.6	2.5	2.5
8	PFHxS	Perfluorohexanesulfonic acid	4			23	22.5	22.6	16.9	16.9	19.9	19.0	18.2	26	24.2	27.6	25.1	20.0	24.2	24.0	23.3	59	41.7	37.6	24.0	23.8	27.0	24.0	24.7
9	PFHxA	Perfluorohexanoic acid	4			4.6	3.9	4.7	3.4	3.5	4.3	3.9	3.8	4.7	4.5	5.1	4.2	4.0	4.7	4.7	4.4	12	8	7.9	4.6	3.6	4.6	4.4	4.3
10	PFNA	Perfluorononanoic acid	4			ND	0.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.394	ND	0.1	2.9	2.57	1.9	1.1	1.0	1.1	ND	0.8
11	PFOS	Perfluorooctanesulfonic acid	4	6.5	40	22	22.9	23.3	18.6	19.8	23.3	17.0	19.7	26	24.7	26.8	28.4	26.3	27.8	22.0	26.1	75	64.4	53.3	32.6	34.3	35.5	30.0	33.1
12	PFOA	Perfluorooctanoic acid	4	5.1	10	4	4.2	4.4	3.7	3.4	4.1	4.0	3.8	4	3.8	4.3	3.9	3.6	3.8	4.3	3.9	7.6	6.4	6.3	4.5	4.3	4.5	4.3	4.4
13	PFTA	Perfluorotetradecanoic acid	4			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
14	PFTrDA	Perfluorotridecanoic acid	4			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
15	PFUnA	Perfluoroundecanoic acid	4			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
16	11CL-PF3OUDS	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	2			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
17	9CL-PF3ONS	9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid	2			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
18	ADONA	4,8-Dioxa-3H-perfluorononanoic acid	2			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

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