

RESOLUTION 2024-20

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE BEAUMONT-CHERRY VALLEY WATER DISTRICT ACKNOWLEDGING THE REVIEW, RECEIPT, AND ACCEPTANCE OF THE WATER SUPPLY ASSESSMENT FOR THE PROPOSED 14201 CALIFORNIA AVENUE INDUSTRIAL PROJECT

WHEREAS, the 14201 California Avenue Development Project site is approximately 129.1 gross acres located south of 1st Street and west of Interstate Highway 79, upon Riverside County Assessor's Parcel Nos. 421-090-003, -004, -005, -011, -021, 421-110-001, -002, -003, -004, -006, -017, -018, -021, -024, -029, and -030, and

WHEREAS, the project consists of approximately 2.5 million square feet (sf) of warehouse uses, therefore qualifying as a "project" under the Water Code, and requiring the preparation of a Water Supply Assessment; and

WHEREAS, the Water Supply Assessment (WSA) has been prepared in accordance with Water Code §10910 (c)(1) and SB 610; and

WHEREAS, the Beaumont-Cherry Valley Water District Board of Directors has the authority and responsibility for approving the WSA; and

WHEREAS, Beaumont-Cherry Valley Water District staff prepared the WSA; and

WHEREAS, the WSA relied on existing information in the Urban Water Management Plan and more recent District water planning analysis and did conclude that the District has sufficient water supplies to serve the Project; and

NOW THEREFORE, BE IT RESOLVED that the Board of Directors of the Beaumont-Cherry Valley Water District finds and determines as follows:

1. The above recitals are true and correct and reflect the independent judgment of the Board
2. The WSA was prepared in accordance with the California Water Code
3. The conclusions set forth in the WSA are supported by substantial evidence and reasonable analysis, and are consistent with District policies, plans, documents and operations; and
4. The WSA demonstrated that the District's water supplies are sufficient to satisfy the water demands of the Project, while still meeting the current and projected future water demands of the community.

NOW THEREFORE, BE IT FURTHER RESOLVED that, in the exercise of independent judgment, and taking into consideration the WSA and engaging in due deliberations, the Board does hereby:

- Adopt the 14201 California Avenue Development Project Water Supply Assessment, and
- Request the Riverside Local Agency Formation Commission take proceedings for the annexation of parcels as described in the project WSA, according to the terms and conditions stated above and in the manner provided by the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000.

ADOPTED this 21 day of November, 2024, by the following vote:



AYES: Covington, Slawson, Williams, Ramirez, Hoffman

NOES:

ABSTAIN:

ABSENT:

ATTEST:


Director John Covington, President of the
Board of Directors of the
Beaumont-Cherry Valley Water District
Director Lona Williams, Secretary to the
Board of Directors of the
Beaumont-Cherry Valley Water District

421-090-003	421-090-004	421-090-005
421-090-011	421-090-021	421-110-001
421-110-002	421-110-003	421-110-004
421-110-006	421-110-017	421-110-018
421-110-021	421-110-024	421-110-029
421-110-030		

Attachment: Water Supply Assessment for the 14201 California Avenue Industrial Project

BEAUMONT-CHERRY VALLEY WATER DISTRICT

560 MAGNOLIA AVENUE
BEAUMONT, CALIFORNIA 92223
www.bcvwd.gov

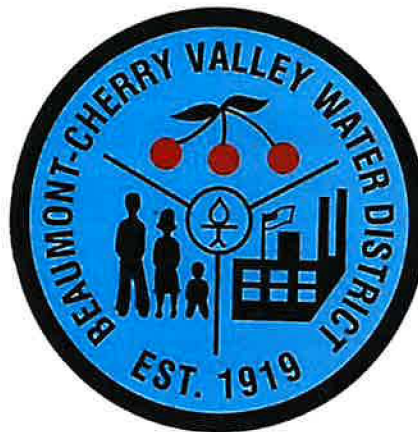
FINAL

WATER SUPPLY ASSESSMENT

for

14201 CALIFORNIA AVENUE
City of Beaumont, CA

NOVEMBER 2024



Prepared by

BEAUMONT-CHERRY VALLEY WATER DISTRICT

560 MAGNOLIA AVENUE
BEAUMONT, CALIFORNIA 92223
(951) 845-9581

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1. Introduction

The 14201 California Avenue Project (Project) is proposed to be constructed in the City of Beaumont (City), CA on an approximately 110 gross acre site, south of Highway 60 and west of Highway 79. The Project is anticipated to be constructed in two (2) phases:

- Phase 1 – Five (5) industrial buildings with a combined floor area of 1,146,183 square feet and a combined landscaped area of 506,002 square feet over a land area of 62.68 acres.
- Phase 2 – Two (2) industrial buildings with a combined floor area of 1,331,426 square feet and a combined landscaped area of 433,661 square feet over a land area of 66.39 acres.

In the above phasing, the landscaped areas are proposed to be irrigated with non-potable water. The Project is proposed to dedicate new streets in the east-west direction north of the existing Relay Drive. The Project is proposed to be located between Relay Drive and a newly dedicated street on both the east and west sides of California Avenue. The Project site is located within the Beaumont-Cherry Valley Water District (BCVWD) sphere of influence but not within the BCVWD service boundary. **Currently, only a portion of the Project has been annexed into the City and no portion of the Project has been annexed into BCVWD.** An Environmental Impact Report (EIR) will need to be completed to comply with the California Environmental Quality Act (CEQA), as required by the Riverside Local Agency Formation Commission (Riverside LAFCO). Upon the Project obtaining a Will-Serve Letter from the BCVWD Board of Directors, a Plan of Service (POS) will need to be completed prior to submittal to Riverside LAFCO.

2. Water Supply Assessment (WSA) Legislative Requirements

There were two Senate Bills, passed in 2001, to advance water supply planning efforts in California and provide the foundation for developing comprehensive water policies to meet future water needs by integrating water supply and land use planning. These were Senate Bill 221 and Senate Bill 610, (SB 221 and SB 610, respectively). The intent was to provide additional assurance that new projects could have a reliable water supply and the impact of the new developments on existing water users, i.e., those relying on common water sources, and decision makers, were adequately informed of the proposed project's water use, the impacts, and plans to maintain supplies.

2.1. Senate Bill 221 (SB 221)

SB 221 applies to residential subdivisions and is chaptered in Government Code §65867.5 *et seq.* which states:

(c) A development agreement that includes a subdivision, as defined in Government Code §666473.7, shall not be approved unless the agreement provides that any tentative map prepared for the subdivision will comply with the provisions of §666473.7. Government Code §666473.7 states:

(a)(1) For purposes of this section, the following definitions apply:

"Subdivision" means a proposed residential development of more than 500 dwelling units, except that for a public water agency that has fewer than 5,000 service connections, "subdivision" means any proposed residential development that would account for an increase of 10 percent or more in the number of the public water system's existing service connections.

(b)(1) The legislative body of a city or county or the advisory agency, to the extent that it is authorized by local ordinance to approve, conditionally approve, or disapprove the tentative map, shall include as a condition in any tentative map that includes a subdivision, a requirement that a sufficient water supply shall be available. Proof of the availability of a sufficient water supply shall be requested by the subdivision applicant or local agency and shall be based on written verification from the applicable water supply system within 90 days of a request.

(i) Government Code §666473.7 shall not apply to any residential project proposed for a site that is within an urbanized area and has previously been developed for urban uses, or where the immediate contiguous properties surrounding the residential project site area, or previously have been, developed for urban uses, or housing projects that

are exclusively for very low and low-income households.

- (a)(2) *"Sufficient water supply" means the total water supplies available during normal, single- dry, and multiple-dry years within a 20-year projection that will meet the projected demand associated with the proposed subdivision, in addition to existing and planned future uses, including but not limited to agricultural and industrial uses.*

This does not mean that 100 percent of the development's unrestricted water demand must be met 100 percent of the time, nor does it mean the new development may not have an impact on the service level of existing customers. A "sufficient water supply" may be found to exist for a proposed subdivision and for existing customers, even where a drought-induced shortage will be known to occur, as long as a minimum water supply can be estimated and planned for during a record drought.

2.2. Senate Bill 610 (SB 610)

SB 610, chaptered in Water Code §10910 *et seq.*, requires a city or county that determines a "Project," as defined in Water Code §10912, is subject to the California Environmental Quality Act (CEQA), the city or county must identify any public water system that may supply water for the project and to request those public water systems to prepare a specified water supply assessment (WSA), except as otherwise specified. Water Code §10912 defines a "Project" as any of the following:

- (1) *A proposed residential development of more than 500 dwelling units.*
- (2) *A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet (sq. ft.) of floor space.*
- (3) *A proposed commercial office building employing more than 1,000 persons or having more than 250,000 sq. ft. of floor space.*
- (4) *A proposed hotel or motel, or both having more than 500 rooms.*
- (5) *A proposed industrial, manufacturing, or processing plant, or industrial park planned to*
- (6) *house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 sq. ft. of floor area.*
- (7) *A mixed-use project that includes one or more of the projects specified in this subdivision.*
- (8) *A project that would demand an amount of water equivalent to, or greater than, the amount*

of water required by a 500 dwelling unit project¹.

The basic question to be answered in the WSA is:

Will the water supplier's total projected water supplies during normal, dry, and multiple dry years during a 20-year projection meet the projected water demand of the proposed project, in addition to the water supplier's existing and planned future uses, including agricultural and manufacturing uses?

The WSA, under SB 610, is to include the following, if applicable to the supply conditions:

1. Water supply entitlements, water rights or water service contracts shall be demonstrated by supporting documentation such as the following:
 - a. Written contracts or other proof of entitlement to an identified water supply.
 - b. Copies of capital outlay program for financing the delivery of a water supply that has been adopted by the public water system.
 - c. Federal, state, and local permits for construction of necessary infrastructure associated with delivering the water supply.
 - d. Any necessary regulatory approvals that are required to be able to convey or deliver the water supply.
2. Identification of other public water systems or water service contract holders that receive a water supply or have existing water supply entitlements, water rights, or water service contracts, to the same source of water as the public water system.
3. If groundwater is included for the supply of a proposed project, the following additional information is required:
 - a. Description of groundwater basin(s) from which the proposed project will be supplied. Adjudicated basins must have a copy of the court order or decree adopted and a description of the amount of groundwater the public water system has the legal right to pump. For non-adjudicated basins, information on whether the California Department of Water Resources has identified the basin as over drafted or has projected that the basin will become over drafted if present management conditions continue, in the most current bulletin of the Department of Water Resources that characterizes the condition of the basin, and a detailed description of the efforts being undertaken in the basin to eliminate the long-term overdraft.
 - b. Description and analysis of the amount and location of groundwater pumped by the

¹ The water use for one dwelling unit depends on regional climate and varies from agency to agency.

public water system for the past five (5) years from any groundwater basin from which the proposed project will be supplied. Analysis should be based on information that is reasonably available, including, but not limited to, historic use records.

- c. Description and analysis of the amount and location of groundwater projected to be pumped by the public water system from any groundwater basin from which the proposed project will be supplied. Analysis should be based on information that is reasonably available, including, but not limited to, historic use records.

2.3. Summary

The Senate bills are quite similar; SB 221 applies to proposed residential subdivisions over 500 dwelling units or a subdivision project that proposes 10 percent of the number of existing agency water connections whichever is smaller; SB 610 to other types of large projects or mixed-use projects. Both require documentation of water supply and demand under normal, dry and multiple dry year scenarios to accommodate the project plus existing and known planned projects. Both rely on the agency's Urban Water Management Plan (UWMP) for support.

Based on the description in the introduction, the proposed 14201 California Avenue Project **requires a water supply assessment pursuant to both SB 221 under Government Code §65867.5 et seq. and SB 610 under Section 10912 (a) (2).** The Proposed industrial contains more than 650,000 sf of floor area.

3. Urban Water Management Planning Act

3.1. Background

The California Water Code requires that all urban water suppliers within the state, serving over 3,000 acre-feet (AF) of water annually (1 AF = 325,829 gallons) or having at least 3,000 service connections, to prepare Urban Water Management plans (UWMPs) on a five-year, ongoing basis demonstrating their continued ability to provide water supplies for current and future expected development under normal, single dry, and multiple dry year scenarios. The Urban Water Management Planning Act was enacted in 1983 and amendments were made periodically since then. The Act also requires imported water suppliers to prepare UWMPs. Water Code sections §10610 through §10656 detail the information that must be included in the plans. These plans also require the assessment of urban water conservation measures and wastewater recycling. They also require, pursuant to §10632, a water shortage contingency plan, outlining how the municipal water provider will manage water shortages of up to 50 percent of their normal supplies in a given year.

An UWMP is a planning tool that provides general guidance to water management agencies. It provides managers and the public with high altitude overview on a number of water supply issues facing the agency. It is not a substitute for project-specific planning documents, nor was it intended to be when mandated by the State Legislature. When specific projects are chosen to be implemented, detailed project plans are prepared, environmental analysis, if required, is prepared, and financial and operational plans are developed.

“An UWMP is intended to function as a planning tool to guide broad-perspective decision making” by water agency managers and directors². It should not be viewed as an exact blueprint for supply and demand management. Water management in California is not a matter of certainty and planning projections may change in response to a number of factors. “Long-term water planning involves expectations and not certainties. The State Supreme Court has recognized the uncertainties inherent in long-term land use and water planning and observed that the generalized information required ...in the early stages of the planning process are replaced by firm assurances of water supplies at later stages.”³ It is appropriate to look at the UWMP as a general planning framework, not a specific action plan. It is an effort to generally answer a series of planning questions including:

- What are the potential sources of supply and what is the reasonable probable yield from

² *Sonoma County Water Coalition v. Sonoma County Water Agency* (2010) 189 Cal. App.

^{4th} 33, 39, taken from SGPWA 2015 UWMP.

³ *Ibid*

them?

- What is the probable demand, given a reasonable set of assumptions about growth and implementation of good water management practices?
- How well do supply and demand figures match up, assuming that the various probable supplies will be pursued by the implementing agency?

Based on the answers to these questions, the implementing agency will pursue feasible and cost-effective options and opportunities to meet demands.

The Urban Water Management Planning Act requires the supplier to document water supplies available during normal, single dry, and multiple dry water years over a 20-year projection and the existing and projected future water demand during a 20-year projection. The Act requires that the projected supplies and demands be presented in 5-year increments for the 20-year projection period.

Like SB 221 and SB 610, specific levels of supply reliability are not mandated (i.e., whether a specific level of demand can be met over a designated frequency); rather, the law provides that it is a local policy decision of the water provider as part of the planning process. As provided for in the law, this WSA can rely on the data in the latest UWMP in assessing the water demand of the proposed project relative to the overall increase in demands expected by BCVWD.

3.2. San Geronio Pass Water Agency 2020 UWMP

The 14201 California Avenue Project is located within the service area of the San Geronio Pass Water Agency (SGPWA or Pass Agency). BCVWD provided data to SGPWA on BCVWD's projected demands so the SGPWA could prepare their UWMP. Because the California Department of Water Resources (DWR) required the imported water suppliers to submit their UWMPs earlier than the retail agencies, BCVWD made some preliminary estimates of their demand over the 20-year projection period and provided the projections to SGPWA. These preliminary estimates deviated slightly from the actual demands in BCVWD's 2020 UWMP.

Table 3-1 – Project Total Water Supply for SGPWA Region through 2045 (AFY)

Service Area Water Supply to Meet Demands	2025	2030	2035	2040	2045
City of Banning	9,473	10,198	10,853	11,565	12,278
Beaumont Cherry Valley	14,963	16,160	17,515	18,710	19,693
Yucaipa Valley WD (Riverside Portion)	1,509	1,841	2,174	2,507	2,839
South Mesa WC (Riverside Portion)	1,032	1,084	1,138	1,196	1,196
High Valley WD	3,400	3,600	3,900	4,100	4,300
Cabazon County WD					
Mission Springs (SGPWA area)					
Other SGPWA service area not served by named retailers					
Total SGPWA Boundary Supply to meet Demands	30,400	32,900	35,600	38,100	40,300

Note:

1. Table 3-1 is taken from Table 3-16 in the SGPWA 2020 UWMP.
2. The supply totals necessary to meet demands in the table above are rounded to the nearest 100.

In Chapter 1 of the SGPWA's 2020 UWMP, the UWMP stated the following.

"It is important to note that this UWMP [SGPWA 2020 UWMP] has been completed to address regional resource management and does not address the particular conditions of any specific retail water agency or entity within the SGPWA service area. The retail urban water suppliers within SGPWA service area are preparing their own separate UWMPs where required, though SGPWA has facilitated coordination among the retailers to assure consistency."

BCVWD recognizes and acknowledges the disclaimer statement within the 2020 Urban Water Management Plan prepared by the SGPWA related to regional planning. While the UWMP prepared by the SGPWA "...does not address the particular conditions of any specific retail water agency..." BCVWD relies upon the policies and practices of the SGPWA as a foundation for regional water supply solutions. In other words, while the SGPWA's regional planning document does not address local water conditions, BCVWD does rely upon the policies of the SGPWA to provide comprehensive regional solutions related to the use of imported water in the SGPWA area. As an example of the policies and practices adopted by the SGPWA and relied upon by BCVWD include, but are not limited, to the following:

- San Geronio Pass Water Agency, Ordinance No. 8, An Ordinance Establishing Rules and Regulations for SGPWA Water Service, February 7, 2005;
- San Geronio Pass Water Agency Strategic Plan, May 2012;
- San Geronio Pass Water Agency, Resolution No. 2014-02, A Resolution of the San Geronio Pass Water Agency Establishing a Policy for Meeting Future Water Demands, February 18, 2014;

- San Geronio Pass Water Agency, Ordinance No. 10, Ordinance Establishing Water Shortage Plan, July 21, 2014;
- San Geronio Pass Water Agency, Resolution No. 2015-05, Resolution of the Board of Directors of the San Geronio Pass Water Agency to Adopt Facility Capacity Fees for Facilities and Water, July 27, 2015;
- San Geronio Pass Water Agency, State of the Supply PowerPoint Presentation, September 30, 2016;
- San Geronio Pass Water Agency, Ordinance No. 13, An Ordinance Amending Rules and Regulations Regarding Authorization for Service, June 5, 2017.

3.3. BCVWD's 2020 UWMP

There were some minor differences between the projections in BCVWD's 2020 UWMP and the projections provided to SGPWA for their 2020 UWMP. These differences stemmed from the need for BCVWD to provide preliminary demand projections early on so the SGPWA could meet their prescribed deadline.

BCVWD's demands for imported water are presented in BCVWD's 2020 UWMP (Table 6-24) and are repeated in Table 3-2 below. Table 3-2 shows the actual imported water demand to meet the potable water demand plus the banking water demand to ensure drought-proofing of future development. If imported water is not available in a given year, no banking will occur. But when imported water is available, any deficiencies from previous years would be "carried over" and "made up." As can be seen, there is a slight difference between the demands in Table 3-2 versus those shown above in Table 3-1.

Table 3-2 BCVWD Imported Water Needs from BCVWD 2020 UWMP

	2025	2030	2035	2040	2045
BCVWD Drinking Water Demand, AFY	9,144 ²	9,546 ²	9,966	10,717	11,281
Banking Demands, AFY	1,500	1,200	1,000	1,000	1,000
Total BCVWD Imported Water Demand, AFY	10,644	10,746	10,966	11,717	12,281

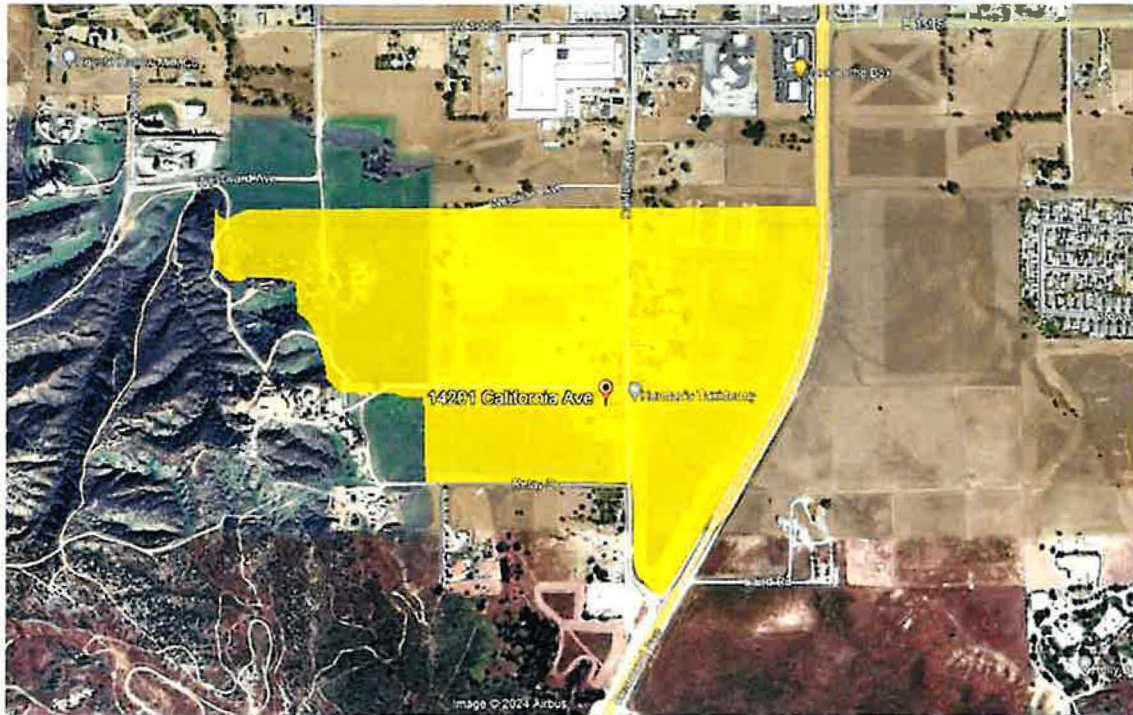
Note:

1. Taken from the BCVWD 2020 UWMP, Table 6-24
2. Includes imported water for non-potable water system since non-potable water system is supplied with potable groundwater.

4. 14201 California Avenue Development Project Description

The 14201 California Avenue Project is commercial/industrial (5,622,303 square feet) project located in the City of Beaumont on approximately 129.07 gross acres, south of Highway 60 and west of Highway 79. The project is primarily located in Section 16, T3S, R1W, SBB&M.

Figure 1
14201 California Avenue Project General Location



4.1. Proposed Project Estimated Water Demand

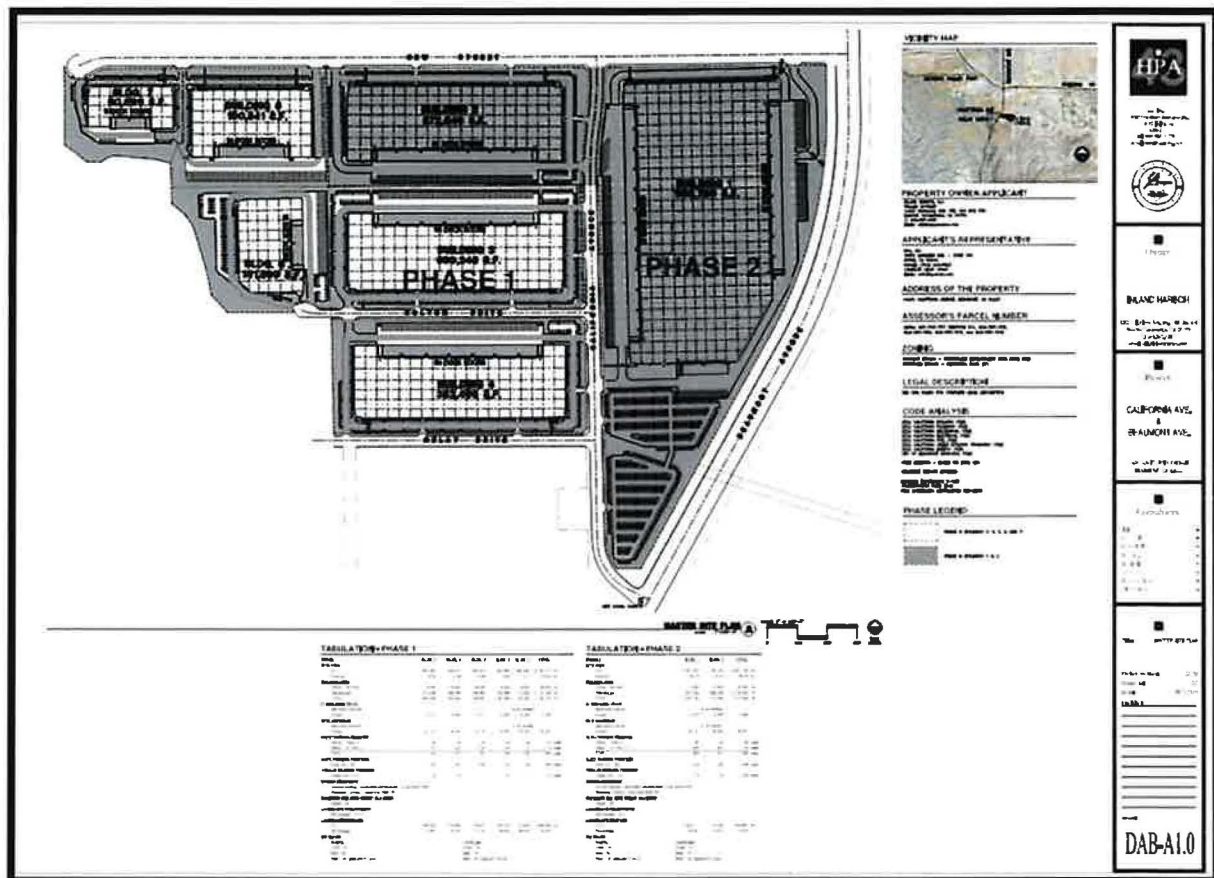
The current plan for the proposed project is Industrial. Phase 1 consists of five proposed industrial buildings which are approximately 265,904 to 807,565 square feet with the land area of 62.68 acres and 506,002 square feet of landscaping area. Phase 2 consists of three proposed industrial buildings which are approximately 794,195 to 2,097,593 square feet with the land area of 66.39 acres and 433,661 square feet of landscaping area.

A statistical summary of the proposed Project development is included in Table 4-1 as follows:

Table 4-1 – 14201 California Avenue Proposed Project Plan Statistical Summary

14201 California Avenue Project Summary Table					
Project Phase	Building No.	Building Area (SF)	Landscaped Area (SF)	Total Area (SF)	Total Area (ac)
I	Building 3	380,248	108,500	807,565	18.54
	Building 4	352,496	110,000	759,671	17.44
	Building 5	190,841	79,477	464,307	10.66
	Building 6	141,899	132,725	433,068	9.94
	Building 7	80,699	75,300	265,904	6.10
Total Phase I		1,146,183	506,002	2,730,515	62.68
II	Building 1	958,780	320,311	2,097,593	48.15
	Building 2	372,646	113,350	794,195	18.23
Total Phase II		1,331,426	433,661	2,891,788	66.39
Project Total		2,477,609	939,663	5,622,303	129.07

Figure 2
14201 California Avenue Site Plan



For Full Size Site Plan, please see Appendix "B"

Table 4-2 – 14201 California Avenue Proposed Commercial/Industrial Potable and Non-Potable Water Demand

Phase	Building	Land Use	Bldg Area (SF) ⁽¹⁾	Employee Count ⁽²⁾	Landscape Area (SF) ⁽³⁾	Indoor Water Demand Factor		Outdoor Water Demand Factor ⁽⁴⁾		Indoor Water Demand		Outdoor Irrigation Demand		Total Water Consumption		Total Water Consumption	
I	III	Warehouse	374,248	253	108,500	15	gpd/emp	530,000	gal/Ac/Yr	3,802	gpd	3,617	gpd	7,419	gpd	15	EDUs
		Office	6,000														
	IV	Warehouse	346,496	235	110,000	15	gpd/emp	530,000	gal/Ac/Yr	3,525	gpd	3,667	gpd	7,192	gpd	15	EDUs
		Office	6,000														
	V	Warehouse	180,841	127	79,477	15	gpd/emp	530,000	gal/Ac/Yr	1,908	gpd	2,649	gpd	4,558	gpd	9	EDUs
		Office	10,000														
	VI	Warehouse	135,899	95	132,725	15	gpd/emp	530,000	gal/Ac/Yr	1,419	gpd	4,424	gpd	5,843	gpd	12	EDUs
		Office	6,000														
	VII	Warehouse	74,699	54	75,300	15	gpd/emp	530,000	gal/Ac/Yr	807	gpd	2,510	gpd	3,317	gpd	7	EDUs
		Office	6,000														
II	I	Warehouse	948,780	639	320,311	15	gpd/emp	530,000	gal/Ac/Yr	9,588	gpd	10,677	gpd	20,265	gpd	42	EDUs
		Office	10,000														
	II	Warehouse	366,646	248	113,350	15	gpd/emp	530,000	gal/Ac/Yr	3,726	gpd	3,778	gpd	7,505	gpd	15	EDUs
TOTAL			2,477,609	1652	939,663					24,776	gpd	31,323	gpd	56,099	gpd	115	EDUs

Notes:

- (1) Based on latest Site Plan
- (2) Based on recent water demand prepared by BCVWD for similar warehouse development projects, which estimates 1 employee per 1,500 sf of warehouse/office space.
- (3) Landscape Area provided by latest Site Plan.
- (4) Based on outdoor water demand factor used for previous landscape demands and Water Supply Assessments.

Table 4-2 was used to calculate a total estimated water demand (build-out) at 14201 California Avenue of 56,099 gpd, or 63 AFY. Based on BCVWD equivalent dwelling unit usage of 0.546 AFY per equivalent dwelling unit, this equates to 115 EDUs. Of the total water demand, the non-potable water demand for outdoor irrigation is estimated to be 35 AFY, or approximately 56 percent of the total demands of the Project.

5. BCVWD Water System

BCVWD owns and operates the water system which would serve the 14201 California Avenue development project. BCVWD was first formed in April 1919, to provide domestic and irrigation water to the developing community of Beaumont and the surrounding area. BCVWD was originally named the Beaumont Irrigation District. In 1973, the name was changed to the Beaumont-Cherry Valley Water District. Sometime after that the hyphen was dropped from the name. However, even though the name has changed, the BCVWD's authority comes from the Irrigation District Law of the State of California.

BCVWD owns approximately 1,524 acres of watershed land north of Cherry Valley along the Little San Geronio Creek (also known as Edgar Canyon) and Noble Creek. There are two stream diversion locations within Little San Geronio Creek that are in the Department of Water Resources, Division of Water Rights, database. The diversions have pre-1914 recorded water rights amounting to 3,000 miners inch hours (MIH) or approximately 45,000 acre-feet per year (AFY) of right for diversion of water for domestic and irrigation uses. However, BCVWD has never had a demand that requires such large quantities of water supply; and the watersheds may not be capable of supplying such quantities during an average year. The creeks/canyons have been used for water development via diversions for irrigation and domestic service since the latter part of the 1800s. Currently, BCVWD diverts water from Little San Geronio Canyon Creek into a series of ponds adjacent to the creek where it percolates and recharges the shallow aquifers in the Canyon. BCVWD's wells located in Edgar Canyon provide a significant portion of BCVWD's water supply.

Figure 3 shows BCVWD's present Service Boundary and Sphere of Influence (SOI). BCVWD's present service area covers approximately 28 square miles, virtually all of which is in Riverside County and includes the City of Beaumont and the community of Cherry Valley. BCVWD-owned watershed land extends across Riverside County line into San Bernardino County where BCVWD operates a number of wells and several reservoirs.

BCVWD's SOI, or ultimate service planning area, encompasses an area of approximately 37.5

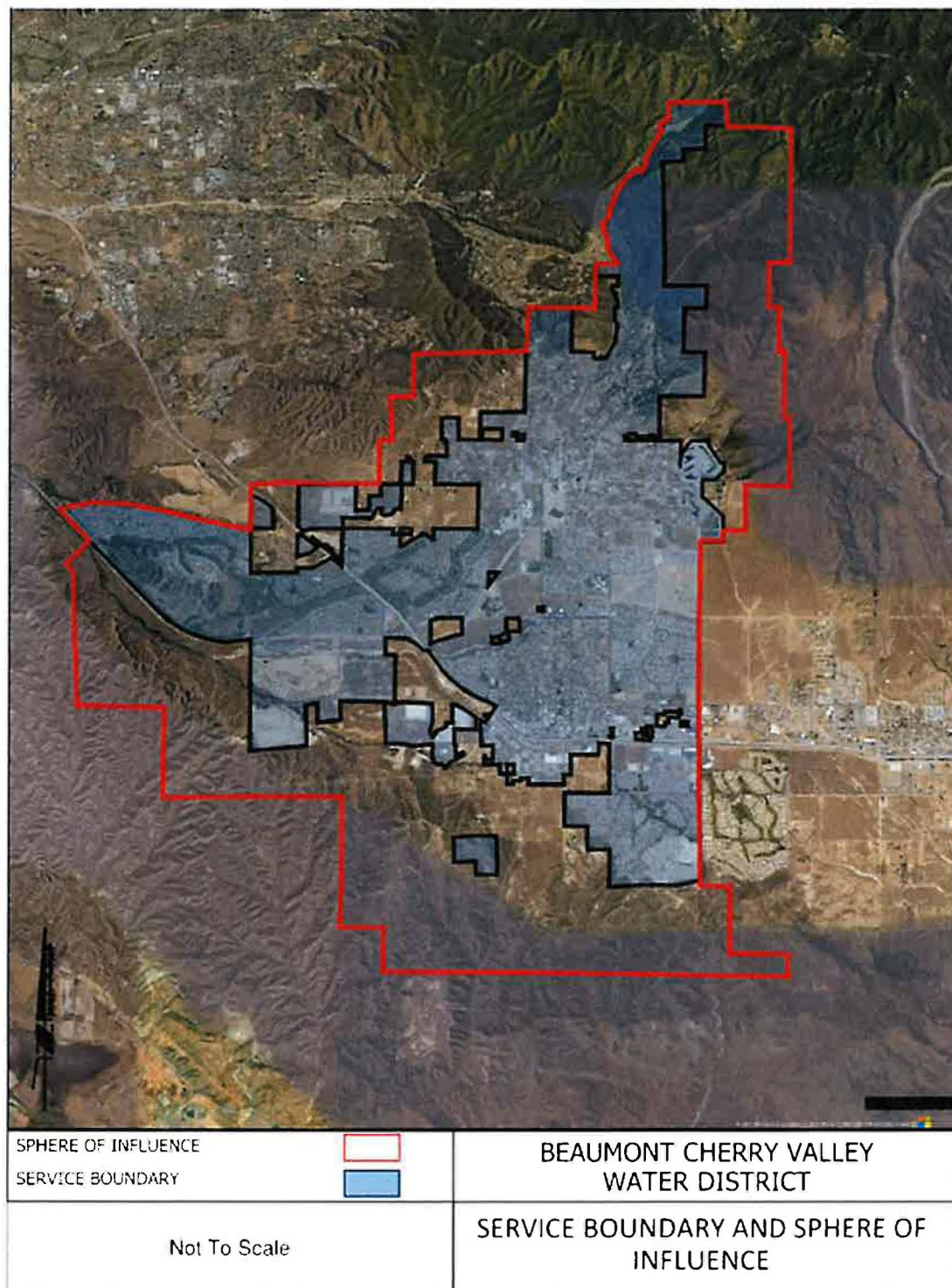
square miles (14.3 sq. mi. are in the City of Beaumont). This SOI was established by the Riverside and San Bernardino County Local Agency Formation Commissions (LAFCOs). SOIs are established as a planning tool and help establish agency boundaries and avoid problems in service, unnecessary duplication of costs, and inefficiencies associated with overlapping service.

BCVWD's SOI is bounded on the west and north by the Yucaipa Valley Water District (YVWD) and on the east by the City of Banning. The northerly boundary of Eastern Municipal Water District (EMWD) is BCVWD's southerly SOI boundary. BCVWD's SOI in Little San Geronio Canyon follows Oak Glen Road. The area west of Oak Glen Road is within YVWD's SOI, and the area east of Oak Glen Road is within BCVWD's SOI.

The service area ranges in elevation from 2,300 feet above mean sea level in Fairway Canyon area of Beaumont on the southwestern boundary, to 2,900 feet in Cherry Valley, and to over 4,000 feet in the upper reaches of the SOI.

The area serves primarily as a "bedroom" community for the Riverside/San Bernardino Area and the communities east of Los Angeles County along the I-10 corridor.

Figure 3
BCVWD Boundary and Sphere of Influence



5.1. Overview of BCVWD's Water System and Operation

BCVWD owns and operates both a potable and non-potable water distribution system. BCVWD provides water and irrigation water to users through the potable water system. BCVWD provides non-potable water for landscape irrigation of parks, playgrounds, school yards, street medians and common areas through its non-potable (recycled) water system.

Table 5-1 presents BCVWD 2023 potable and non-potable water connections and pumping amounts. The number of connections was 5,600 in year 2000, before the housing boom that encompassed Western Riverside County and particularly Beaumont.

**Table 5-1 – BCVWD Potable and Non-potable Water Connections and Deliveries
2023**

	Potable Water	Non-Potable Water	Total
Number of Connections ^(a)	21,117	425	21,542
Average Annual, MGD ^(b)	10.4	1.1	11.5
Maximum Day, MGD ^(b)	20.3	4.1	N/A
Total Demand, AF ^(c)	9,807	1,604	11,411

Notes:

- (a) Taken from Actual BCVWD Consumption Data.
- (b) Taken from Actual BCVWD Production Data.
- (c) The Total Demand shown does not include system losses.

5.2. Potable Water System

BCVWD's potable water system is supplied by wells in Little San Gorgonio Creek (Edgar Canyon) and the Beaumont Basin (sometimes called the Beaumont Storage Unit or the Beaumont Management Zone). The District has a total of 24 wells (1 well is a standby). One of the wells, Well 26, can pump into either the potable water or the non-potable water system. Currently, it is pumping into the non-potable water system.

The Beaumont Basin is adjudicated and managed by the Beaumont Basin Watermaster. BCVWD augments its groundwater supply with imported State Project Water from the SGPWA which is recharged at BCVWD's recharge facility at the intersection of Brookside Avenue and Beaumont Avenue. The Beaumont Basin Adjudication requires that the extracted amount of water from the Basin must be replaced.

Wells in Edgar Canyon have limited yield, particularly in dry years, and take water from shallow alluvial and fractured bedrock aquifers. Wells in the Beaumont Basin are large capacity and pump from deep aquifers – some as deep as 1,500 ft below the ground surface. The Edgar Canyon

wells are very inexpensive to operate and are the preferred source due to there being no replenishment requirement like the Beaumont Basin; however, those wells are not able to meet the current average day demand. The Edgar Canyon wells pump to a gravity transmission main that extends the full length of the District-owned properties in Edgar Canyon. The transmission main connects to the distribution system in Cherry Valley. Water from the Edgar Canyon Wells, which is not used in the developed areas adjacent to Edgar Canyon or Cherry Valley, is transferred to lower pressure zones serving the City of Beaumont. The Edgar Canyon Wells provide about 15 to 20 percent of the total annual supply; the rest is pumped from wells in the Beaumont Basin supplemented by recharged imported water.

BCVWD has two active stream diversion locations within Little San Geronio Creek (Edgar Canyon) that are in the State Water Resources Control Board, Division of Water Rights database (S014351, S014352). The diversions have pre-1914 recorded water rights amounting to 3,000 miner's inch hours (MIH) or approximately 45,000 AFY of right for diversion of water for domestic and irrigation uses. These date back to the early history of the District. However, the District has never had a demand that requires such large quantities of water supply; and the watersheds may not be capable of supplying such quantities during an average year. At the present time, the District currently diverts streamflow in Edgar Canyon to a series of percolation ponds which recharge the shallow wells in Edgar Canyon. This water is then extracted for domestic purposes.

BCVWD's total well capacity (Edgar Canyon and Beaumont Basin) is about 27.5 mgd with the largest well out of service, which is greater than the current 20.3 mgd maximum day demand. The District has 11 pressure zones and 14 reservoirs (tanks) ranging in size from 0.5 MG to 5 MG. Total storage is approximately 22 MG –just over two average days or one maximum day. The reservoirs provide gravity supply to their respective pressure zones. The BCVWD's potable system is constructed such that any higher zone reservoir can supply water on an emergency basis to any lower zone reservoir. There are booster pumps in the system to pump water up from a lower pressure zone to a higher pressure zone also.

The transmission system in the main pressure zones is comprised of 24-in diameter pipelines (there are some 30-in diameter pipelines at some reservoirs). The bulk of the transmission system is ductile iron pipe with cement mortar lining and was installed in the last 10 to 15 years. There are a number of small distribution lines (4-in and smaller) that are gradually being replaced over time with minimum 8-in diameter ductile iron pipe. All developments, since the early 1980s, have installed mortar lined, ductile iron pipe. The distribution system is capable of providing over 4,000 gallons per minute (gpm) fire flow in the industrial/commercial areas of the service area.

5.3. Imported Water and Recharge Facilities

Around 2001, BCVWD began investigating an 80-acre site on the east side of Beaumont Avenue between Brookside Avenue and Cherry Valley Boulevard as a location for a facility to recharge captured storm flow and imported water. After extensive hydrogeologic investigations, including pilot testing, the District eventually purchased the site (known as the Oda Property) and developed Phase 1 of the recharge facility on the westerly half of the site. The Phase 1 facilities were completed and went online in late summer 2006. Phase 2 of the recharge facility was completed in 2014. The 80-acre site has excellent recharge capabilities with long-term percolation rates around 7 to 10 acre-ft/acre/day, with proper maintenance.

The District completed construction of a 24-in pipeline from the SGPWA turnout on East Branch Extension (EBX) of the State Water Project to the District's recharge facilities in 2006. A metering station was installed at the turnout at Noble Creek and Vineland Avenue and BCVWD began taking imported water deliveries from SGPWA for recharge in September of 2006. In 2019, the EBX facility was expanded to allow for additional imported water capacity. Since its operation in 2006 through the end of 2023, nearly 131,136 acre-ft (about 42.7 billion gallons) of imported water have been recharged. As of the end of 2023, BCVWD has 32,884 acre-ft "banked" in the Beaumont Basin; this is more than a two-year supply. From 2020 to 2022, the region experienced a severe drought which required the District to extract supplies from its storage account. Due to an abundance of rainfall and snowfall in 2023, the District had the opportunity to recharge water supplies in the Beaumont Basin. As of the end of 2023, BCVWD has 32,884 acre-feet in its storage account.

The District also recently worked with Riverside County Flood Control and Water Conservation District to complete the construction of the MDP Line 16 Project, which will allow the District to capture and recharge stormwater at the Phase 2 recharge facilities. The expected volume of stormwater able to be recharged is approximately 250 AFY. Construction is expected to be completed in 2024.

5.4. Non-potable (Recycled) Water System

Currently, BCVWD has over 40 miles of non-potable water transmission and distribution pipelines (6-in and larger) in-place. This construction has been ongoing since about 2002. A 24-in diameter ductile iron pipeline forms a loop around the City of Beaumont. The system includes a 2 million gallon recycled (non-potable) water reservoir which provides gravity storage and pressurization for the system. The 2 MG non-potable water reservoir is configured to receive potable water or untreated State Project Water (SPW) through air gap connections. The non-potable water system

can have a blend of recycled water, imported water, non-potable groundwater, and potable water. The 2 MG reservoir is located at the District's groundwater recharge facility at Beaumont Avenue between Brookside Avenue and Cherry Valley Boulevard. There are about 350 existing irrigation connections to the recycled water system receiving about 1,600 acre-ft of water based on 2023 water meter records (in 2022, the non-potable water demand was 1,750 acre-ft). The effects of increased development in the District's service area impacted the non-potable system, also.

A large part of the non-potable water system is currently supplied from Well 26 and supplemented with potable water which is introduced into the 2 MG non-potable water tank through an air gap connection. The non-potable water system in the Tournament Hills and Fairway Canyon area is currently supplied with potable water through temporary interconnections between the potable and non-potable water system.

BCVWD is currently working with the City of Beaumont to secure recycled water for use in the non-potable water system. The City recently completed the expansion and upgrade of its existing wastewater treatment facility to bring it to 6 MGD capacity and will be installing a new membrane bioreactor (MBR) treatment unit followed by reverse osmosis membrane treatment. A brine line from the treatment plant to the Inland Empire Brine Line (IEBL) in San Bernardino was constructed in 2020. Upon the availability of recycled water from the City, the non-potable system will be completely severed from the potable system.

A memorandum of understanding between BCVWD and the City for recycled water purchase and use was signed in July 2019 and the City and BCVWD are in the process of finalizing an agreement for purchase of recycled water through an ad-hoc committee consisting of City Council members and BCVWD Board Members.

The Regional Water Quality Control Board (RWQCB) has ordered the City to be in compliance with the maximum benefit provisions, which include providing recycled water for beneficial use, by November 30, 2020. Construction completion has been delayed due to wet weather and the Covid-19 virus shutdown.

When the demand for recycled water for landscape irrigation is less than the supply available (winter months), BCVWD may ultimately recharge surplus recycled water at BCVWD's groundwater recharge facility or some alternative facility with appropriate treatment and permits. Recycled water use and recharge is permitted by the Beaumont Basin Adjudication.

6. Updated Water Demands in San Geronio Pass Area

In 2018, BCVWD developed a series of White Papers (White Papers No. 1 through 7) that evaluated water supply, water demands, current and future water supply costs, funding requirements and funding strategies considering both BCVWD's service area and the SGPWA as a whole. These White Papers were presented at BCVWD Board Meetings and elsewhere. The purpose of the White Papers was to assess the water supply situation vis-à-vis the growth in demand. The results of this series of White Papers indicated that the regional imported water demands in BCVWD's 2020 UWMP and the SGPWA 2020 UWMP may be overstated, primarily because of over-aggressive growth in demand, and limited consideration of recent state-mandated conservation and indoor water use requirements.

6.1. Regional Water Supply and Demand Spreadsheet Models

BCVWD, in cooperation with the other major retailers, developed a Regional Water Demand Spreadsheet or Workbook which included a separate worksheet for each of the three major retailers in the SGPWA service area: BCVWD, City of Banning, and Yucaipa Valley Water District (YVWD)/City of Calimesa. The other water supply agencies, e.g., Cabazon Water District, High Valleys Water District, etc. that are not currently receiving imported water from SGPWA were also included, based on data in SGPWA's 2020 UWMP.

The spreadsheet model allows the water agency to input (and adjust):

- New EDU Water Demand, AFY/EDU
- Existing EDU Water Demand, AFY/EDU
- Infill EDUs/year
- Commercial & Institutional EDUs/yr, %Residential EDUs
- Commercial & Institutional EDUs, Minimum EDUs/yr
- Water Conservation, % Reduction on Existing Demands
- Water Conservation, % Reduction on New Demands
- 2020 Year Ending Potable Water Demand, AF
- Beaumont Basin Groundwater Storage Account Maximum, AF
- Beaumont Basin Groundwater Storage Account 2023 Ending Balance, AF

The demand worksheets included the major development projects in each of the retailer's service

areas, based on data in specific plans, water supply assessments, regional water resource planning studies, and other sources. The spreadsheets allow the water supply agencies to input their own development rates, on a year by year basis, to adjust anticipated housing startups, build-out years for large developments, and the amount of in-fill development and commercial/institution development; adjust unit water demands for new and existing housing, and account for any anticipated conservation for new and existing demands, among other items. Each water supplier could adjust their imported water banking requirements and evaluate the impact of their strategies on their own Beaumont Basin storage accounts over time. Table 6-1, below, displays the water supply demands for the different SGPWA service areas.

Table 6-1: Projected Total Water Supply for SGPWA Region through 2045 (AFY)

Service Area Water Supply to Meet Demands	2025	2030	2035	2040	2045
City of Banning	9,473	10,198	10,853	11,565	12,278
Beaumont Cherry Valley	14,963	16,160	17,515	18,710	19,693
Yucaipa Valley WD (Riverside Portion)	1,509	1,841	2,174	2,507	2,839
South Mesa WC (Riverside Portion)	1,032	1,084	1,138	1,196	1,196
High Valley WD	3,400	3,600	3,900	4,100	4,300
Cabazon County WD					
Mission Springs (SGPWA area)					
Other SGPWA service area not served by named retailers					
Total SGPWA Boundary Supply to meet Demands	30,400	32,900	35,600	38,100	40,300

Note:

1. Taken from Table 3-16 in the SGPWA 2020 UWMP
2. The supply totals necessary to meet demands shown in the table above are rounded to the nearest 100.

The spreadsheet provides a graph of the agency's annual groundwater storage account balance which is automatically updated with any input change. The purpose is to allow the agencies to model, on a year by year basis, various imported water purchase and banking strategies vis-à-vis available imported water from SGPWA. Adjustments can be made to water demands using conservation factors on new and existing (older) housing units; water supply sources can include groundwater, recharged recycled water (indirect potable reuse), and captured storm water.

Beaumont Basin Watermaster's redistribution of unused overlie rights and forbearance water are included in the model.

The worksheets were reviewed by the retail water agency managers for reasonableness of growth taking into account the housing market and absorption capacity of the SGPWA service area. These spreadsheets, and their criteria are described in detail in White Paper No. 6, and summarized below:

Separate spreadsheet models have been developed for:

- BCVWD
- City of Banning, including Banning Heights Mutual Water Company, High Valleys Water District
- YVWD (Summerwind Ranch and Mesa Verde Area)
- All combined

6.1.1 City of Banning

Major development projects in the City of Banning which are included in the Regional Spreadsheet Model are shown in Table 6-2.

Table 6-2 – Major Development Projects in City of Banning

Project Name	Project EDU's	Estimated Start-up Year	Build-out Years
Butterfield Ranch (Atwell)	4,862	2020	30
Rancho San Gorgonio	3,385	2019	18

The data in Table 6-2 is taken from the water supply spreadsheets; these and other projects have been delayed. As a result, the water supply spreadsheets most likely overestimate the near-term water demands.

Butterfield Ranch (Atwell by Pardee) was projected to start in 2015 and extend for 30 years to buildout in 2045 per the Project's Water Supply Assessment (WSA). The project recently started grading operations and currently is selling homes to be occupied in 2020. Butterfield Ranch proposes 4,862 EDUs, calculating to an average of 160 EDUs per year over the 30-year build-out period. Rancho San Gorgonio is planned for 3,385 EDUs and was initially projected to start in 2017 and be fully built out by 2034 (17 years) per the Project's WSA (about 200 EDUs per year average over the build-out period).

The City of Banning has firm groundwater supplies from the Banning Storage Unit, Banning Bench Storage Unit, Cabazon Storage Unit, and Banning Canyon Storage Unit totaling 7,017 AFY⁴.

In addition, in accordance with the Adjudication, the City of Banning is entitled to 31.43% of the unused overlieer pumping rights in the Beaumont Storage Unit. Watermaster developed estimates for years 2023 through 2028 and are included in the spreadsheet. The amount of unused pumping

⁴ Table 3.4 in Banning 2020 UWMP.

rights varies from year to year, depending on hydrologic conditions and other factors, and is evaluated by Watermaster annually. The Draft 2023 Annual Watermaster Report indicates that Banning's reallocated unused overlie pumping amount for 2023 is 1,408 AFY, slightly less than that reported in the City's 2020 UWMP. As some of the overlying parties develop their properties, the overlie rights will be used by the potable water and recycled water supplying agency and will no longer be available for reallocation. As a result, the total amount subject to reallocation will decrease over time.

The City of Banning has 47,651 AF banked in their Beaumont Basin Storage account at the end of 2023 per Watermaster. For the period 2008 through 2023, the City of Banning has recharged an average of 936 AFY of SPW in BCVWD's recharge facility. The City can store up to 80,000 AF.

Table 6-3 presents a summary on the Supply-Demand Spreadsheet Model for the City of Banning. Table 6-3 was based on the following criteria:

- Average consumption rate of last 10 years: 234 gallons per capita per day
- Consumption Rate in 2001: 363 gpcd
- Consumption Rate in 2020: 247 gpcd
- Approximate "passive" savings over past 20 years: 6 gpcd per year

This was reviewed by the City of Banning. Table 6-3 indicates that the City of Banning has adequate local supply until 2045.

Table 6-3 – Summary of Spreadsheet Supply-Demand Model for City of Banning (AF)

Demand or Supply	Year				
	2025	2030	2035	2040	2045
Population					
Water Service Area Population	38,180	45,235	52,290	59,345	66,400
Consumption Rate (GPCD)	222	211	201	191	181
Supply					
Groundwater Pumped (Total)	8,508	8,574	8,595	8,542	8,476
Pumped from Beaumont Basin Storage Account	999	2,126	3,156	4,128	4,991
Total Anticipated Use of Supplies	9,507	10,700	11,751	12,670	13,467
Total Available Supply, AFY	56,358	52,388	44,066	33,124	21,098
Demand					
Total Estimated Demand	9,507	10,701	11,751	12,670	13,467
Supply/Demand Comparison					
Supply-Demand (Difference)	0	0	0	0	0
Supply/Demand (%)	100%	100%	100%	100%	100%
Available Leftover Supply Capacity	46,851	41,687	32,315	20,454	7,631

Note:

(1) Taken from City of Banning 2020 UWMP Table 7.1

6.1.2 YVWD/City of Calimesa

To develop the spreadsheet for YVWD, several references were reviewed for YVWD's water supply and projected demands within their service area lying within the SGPWA boundaries:

- 2020 SGPWA UWMP
- 2020 Integrated Regional Urban Water Management Plan Part 2 – Chapter 11

Water supply sources for these projects are:

- Reallocated unused overlie pumping rights in the Beaumont Basin
- Oak Valley Partners' earmarked transfer right
- Banked groundwater from storage
- Imported Water from SGPWA
- Treated potable water from the YVWD's Regional Water Treatment Plant

In accordance with the Adjudication, YVWD's share (13.58%) of the reallocated unused overlieer pumping right was determined by Watermaster for 2023 through 2028 and reported in the 2023 Draft Watermaster annual report. To project the amount available under more long-term conditions, BCVWD made an evaluation of a fully developed condition of the developable overlieer parcels as shown on the worksheet in the spreadsheet.

YVWD calculates water use projections by calculating actual 2020 water use and projecting planned development projects estimates to extrapolate annual projections to 2045. For the 2020 YVWD UWMP, water use projections also considered codes, ordinances and land use plans in order to refine the estimates.

YVWD has groundwater banked in the Beaumont Basin; at the end of 2023, per Watermaster, the amount in storage was 16,855.30 AF. YVWD has a 50,000 AF storage account.

Table 6-4 presents a summary on the Supply-Demand Spreadsheet Model for YVWD in the SGPWA service area, i.e., principally the City of Calimesa. Table 6-4 indicates that YVWD, in SGPWA service area has sufficient local supply to meet demands until 2045.

Table 6-4 - Summary of Spreadsheet Supply-Demand Model for YVWD (City of Calimesa)

Demand or Supply	Year				
	2025	2030	2035	2040	2045
Total Supplies (AF)	59,180	65,400	72,700	78,950	85,300
Total Demand (AF)	16,288	15,826	15,430	15,072	14,746
Difference (AF)	42,892	49,574	57,270	63,879	70,554

Note:

(1) Taken from YVWD 2020 UWMP Table 11-28

6.1.3 BCVWD

6.1.3.1 City of Beaumont – Cherry Valley Growth and Development

Historic and current populations for the District's service area were extracted from the District's 2020 UWMP are presented in Table 6-5 (Table 3-4 from the BCVWD 2020 UWMP) as the District is still awaiting the results of the 2020 census. There were some adjustments to account for the latest census data. The data in Table 6-5 came from several sources:

- 1980 and 1990 populations and household information – U.S. Census Bureau, 2000 Census of Population and Housing, Population and Housing Unit Counts, PHC-3-6, California,

Washington D.C., 2003. This data was used for the City of Beaumont. Data for Cherry Valley for this period was estimated.

- 2000, and 2010, 2015, and 2019 population and household information – U.S. Census Bureau American Fact Finder for Beaumont, CA and Cherry Valley CDP5, CA.
- 2020 Population- Estimated for Cherry Valley based on historic growth from 2018. Estimate for the City of Beaumont based on housing completions from City Planning Department, Major Project Status for period 2010 through 20196, and District staff discussions with various developers regarding construction progress for major projects in the District's service area (ongoing projects discussed herein).

⁵ CDP = Census-designated place

⁶ City of Beaumont Major Project Status Table and Map, December 16, 2019.

Table 6-5: Historical Population and Housing

	1980	1990	2000	2005	2010	2015	2020
City of Beaumont							
Population	6,818	9,685	11,384	19,105	36,877	43,370	51,647
Households	2,852	3,718	3,881	6,307	11,801	12,759	
People/Household	2.39	2.60	2.93	3.03	3.12	3.18	
Housing Units			4,258	6,949	12,908	13,563	
Occupied Housing Units			3,881	6,307	11,801	12,759	
Cherry Valley							
Population	5,012	5,945	5,891	6,126	6,362	6,595	7,610
Households	2,023	2,530	2,310	2,416	2,612	2,692	
People/Household	2.48	2.35	2.55	2.54	2.44	2.45	
Housing Units			2,627	2,750	2,874	2,903	
Occupied Housing Units			2,434	2,523	2,612	2,692	
Total							
Population	11,830	15,630	17,275	25,231	43,239	49,965	59,258
Households	4,875	6,248	6,191	8,723	14,413	15,451	
People/Household	2.43	2.5	2.79	2.89	3.00	3.23	
Housing Units			6,885	9,699	15,782	16,466	
Occupied Housing Units			6,315	8,830	14,413	15,451	

Notes

(1) Taken from Table 3-4 in the 2020 BCVWD UWMP.

Figure 4 shows the population growth in the City of Beaumont and Cherry Valley from 1980 to 2020. The population after 2015 was estimated as described for Table 6-5.

The data in Table 6-5 and Figure 4 shows a very rapid growth for the City of Beaumont between the years 2000 to 2020. Nearly 2/3 of this growth occurred between 2000 and 2010 based on building permits issued by the City of Beaumont. The high rate of growth decreased after 2010 following the economic turndown in the U.S. and California in 2008 which continued for several years. The rate of growth in the District's service area has increased again after 2015 after the start of the economic recovery. The population in Cherry Valley remained relatively constant since 1990. The community of Cherry Valley did not experience the same growth spurt that occurred in the City of Beaumont and other areas in Western Riverside County.

Figure 4: Historical Population Growth in District

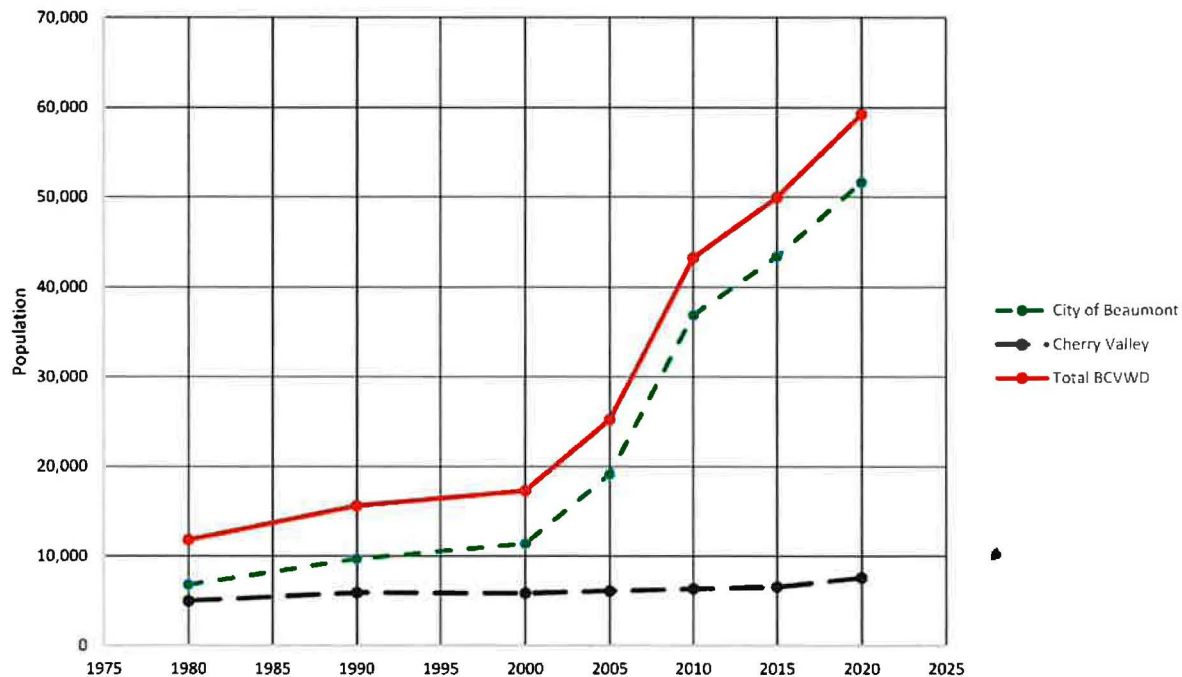
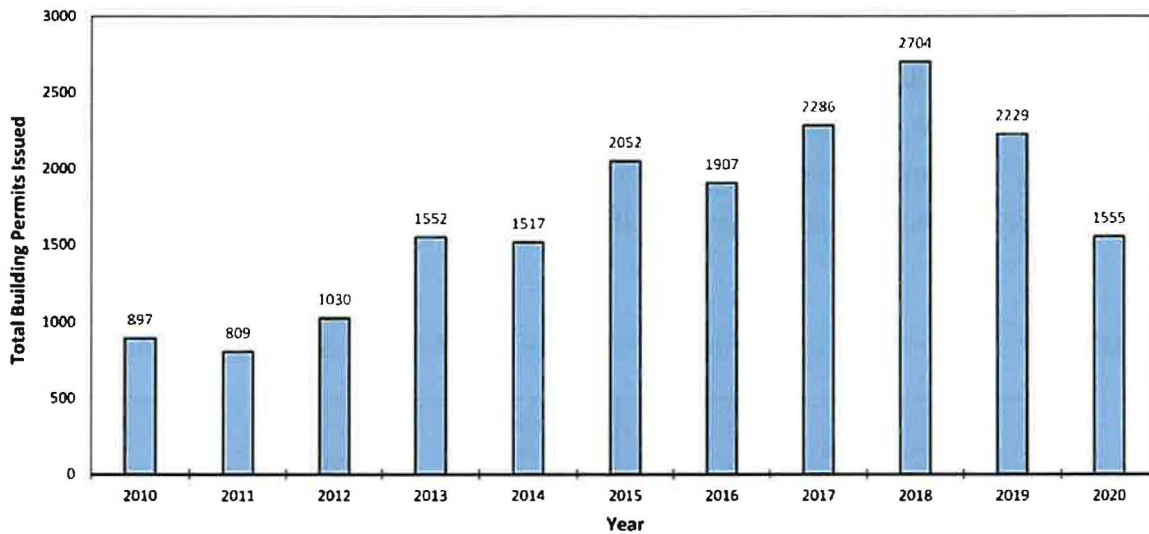


Figure 5 shows the number of single-family home building permits issued in the City of Beaumont for the year 2010 through 2019 (February 2020). BCVWD projects that approximately 500 single family home building permits were issued in 2020. Although not shown in Figure 5, the permits started picking up in 1999-2000 and reached their peak in 2005 with nearly 2,300 new home permits issued for that year. The number of permits for new homes declined to a low of 169 in 2011. Over the last 10 years (2011-2020), permit averaged 450 per year; over the last 5 years (2016-2020), permits averaged 541 per year. The 20-year average has been 693 per year. Future growth will likely be in the range of 350 to 650 permits per year, although some developers have projected slightly higher amounts in their build-out forecasts.

Figure 5: Growth in Beaumont as Shown by Single Family Home Building Permits



BCVWD uses Equivalent Dwelling Units (EDUs) to project water demands, water supply needs, and estimated population growth in the service area. Review of the City of Beaumont's Major Project Status Report listed five (5) projects that were currently under development (on-going construction). These are listed in Table 6-6 below. It appears there are about 3,155 EDUs in the current on-going projects yet to be constructed as of February 2021. It is important to note that the 14201 California Avenue project was not included in the City of Beaumont's Project Status Report or General Plan at the time the District's UWMP was written.

Table 6-7 presents a list of other projects in various stages of approval for the City of Beaumont. The total number EDUs is estimated to about 9,200.

Table 6-6: Projects within BCVWD Service Area Under Construction

Development Name	Total Anticipated EDU's	Estimated Housing Units Yet to be Constructed (Feb. 2021) ¹	Estimated Build-out Year
Sundance	4,450	808	2027
Fairway Canyon SCPGA	3,300	1,650	2035
Olivewood (Heartland)	981	697	2030
Hidden Canyon Industrial Park (Beaumont Distribution Center)	Industrial	-	2021
Sundance Corporate Center	Commercial	-	2021
Totals	8,731	3,155	

Note:

1. Taken from Table 3-6 in the BCVWD 2020 UWMP

The housing units yet to be constructed in Table 6-6 plus the EDUs in the other projects in Table 6-7 total about 12,400 EDUs in the City of Beaumont. This would result in an increase in population of about 35,000 people based on 3.28 people per EDU (average density for the City of Beaumont). This would bring the total Beaumont population to about 95,000. Based on the estimated build-out year for each project in Table 6-7, this population would not occur until after 2045.

Table 6-7: Other Projects within BCVWD Service Area or Sphere of Influence

Development Name	Total Probable EDU's	Estimated Build-out Year	Status (April 2021)
Beaumont Industrial Park (Industrial) ^{1,2}	70	2040	
Beaumont Downtown District	900	Unknown	
Beaumont Village (Mixed Use) ^{1,2}	2350	Unknown	
Beaumont Pointe (Jack Rabbit Trail – Commercial/Industrial) ¹	221	2027	
CJ Foods (Industrial)	225	2023	Incremental EDU increase per year, beginning 2018 and ending in 2023
Dowling Orchard (Industrial) ^{1,2}	50	Unknown	
Potrero Logistics (Hidden Canyon II) ^{1,2}	59	2031	
I-10 & Oak Valley Parkway (Commercial) ²	200	2035	
Kirkwood Ranch	391	2040	Specific Plan (1991). Tent. Tract Map 27357 Approved
Loma Linda/BUSD (Commercial/Industrial) ^{1,2}	100	2040	
MCM Chicken Ranch (Industrial) ^{1,2}	50	2045	
Noble Creek Vistas (Tract 29522)	298	Unknown	
Noble Creek Meadows (Tract 29267)	274	2025	
Oak Creek Village* (Commercial) ^{1,2}	100	Unknown	
Oak Valley Parkway/Oak View Drive (Commercial) ^{1,2}	75	Unknown	
Olivewood (Commercial) ^{1,2}	40	2035	
Potrero Creek Estates ^{1,2}	700	Unknown	Specific Plan (1989)
Riedman Properties (Merlin Properties)	140	2035	

Note:

1. Taken from Table 3-7 in the BCVWD 2020 UWMP

Table 6-7 Cont.: Other Projects within BCVWD Service Area or Sphere of Influence

Development Name	Total Probable EDU's	Estimated Build-out Year	Status (April 2021)
SDC Fairway Canyon Commercial ^{1 2}	75	Unknown	
Sunny Cal Egg Ranch	529	2040	
Taurek	244	Unknown	
Legacy Highlands (Residential, Commercial, Industrial) ²	2,542	Unknown	
Tournament Hills Phase 3, (TM 36307)	284	2028	Tract 36307, Amendment to Oak Valley Specific Plan Approved
Oak Valley Towncenter (NW Corner Beaumont Avenue & Oak Valley Parkway)	60	2030	
Manzanita (Tract 32850)	95	2035	
Xenia Apartments ³	100	2029	
Totals	9,272		

(1) Commercial/Industrial "EDUs" determined based on 0.546 AFY/EDU, or approximately 487 gal/EDU/day

(2) District staff estimated EDUs due to project not fully entitled.

Note:

1. Taken from Table 3-7 in the BCVWD 2020 UWMP.

Table 6-8: Summary of New EDUs in BCVWD Service Area

	Cumulative New EDUs					
	2020	2025	2030	2035	2040	2045
Beaumont	1947	4026	6293	8732	10693	12502
Cherry Valley	14	40	97	158	228	262
Total	1961	4066	6390	8889	10922	12764
Average New EDUs/year	654	421	465	500	406	368

Note:

1. Taken from Table 3-8 in the BCVWD 2020 UWMP

Based on the past history of building permits in the City of Beaumont, presented previously in Figure 5, an average of 470 EDUs per year for the period 2020 through 2045 shown in Table 6-8 is believed to be a reasonable market assimilation rate for the area. Table 6-9 shows the growth in population for Beaumont, Cherry Valley and BCVWD, as a whole, based on the anticipated EDU growth shown in Table 6-8.

Table 6-9: Current and Projected Population in BCVWD Service Area

	Based on Expected EDU Growth in Table 3-8					
	2020	2025	2030	2035	2040	2045
Beaumont	51,647	58,467	65,901	73,901	80,335	86,266
Cherry Valley	7,610	7,682	7,838	8,005	8,197	8,290
Total	59,258	66,149	73,739	81,906	88,532	94,556

Note:

1. Taken from Table 3-9 in the BCVWD 2020 UWMP

The growth in EDUs in Table 6-9 was the basis for projecting the water demand in the 2020 UWMP and is presented in future sections of this WSA addendum.

The BCVWD service area build-out or “saturation” population was determined using the City of Beaumont’s Zoning Map and Table 3.2a from the City’s General Plan (2020) to determine the total areas of the various zoning categories in the District’s SOI. Actual GIS data was obtained from the City and integrated into the District’s GIS system to determine the land uses within the District’s SOI. The zoning designation includes a range of dwelling units/acre. Table 3.2 from the City’s General Plan Update includes the estimated number of residential units per land use category.

A similar approach was used for Cherry Valley, only the data from Riverside County General Plan, Pass Area Land Use Plan was used⁷. Again, the GIS data set was obtained from the County and integrated into the District's GIS system to determine the land use category areas within the District's SOI.

BCVWD believes the build-out population for the SOI will increase from that presented in the 2015 UWMP, but the increase is yet to be determined. Build-out will not occur until sometime after 2045. Build-out population is valuable to determine ultimate water demands and ultimate facility requirements.

6.1.3.2 Supply Demand Model for BCVWD

BCVWD's current and future water sources can be summarized in the Table below and as described below. As noted in Table 6-14 of this document, the total BCVWD demand is less than the total available supply showing BCVWD will have sufficient water supplies for the Project under normal operating conditions.

⁷ The Pass Area Land Use Plan, December 6, 2016. (Part of the Riverside County General Plan)

Table 6-10: Current and Future Water Sources Available to BCVWD

Water Source	Current	Future
Groundwater, Edgar Canyon	•	•
Groundwater stored in the Beaumont Basin	•	•
Imported Water purchased through SGPWA	•	•
Recycled water for landscape irrigation		■
Recycled water for groundwater recharge from the City of Beaumont		Potential
Storm Water Capture and Recharge from Edgar Canyon, Noble Creek and other local watershed		■
Urban Storm Runoff captured in detention and water quality basins		■
Captured, nitrate-contaminated shallow groundwater from Edgar Canyon to supplement non-potable water system		Potential
Singleton Basin groundwater		Potential
San Timoteo Basin groundwater to supplement non-potable water system		■
Joint Projects with Other Agencies with Exchanges		Potential
Sites Reservoir		Potential

• Firm, existing source ■ Firm, future source

Note:

1. Taken from Table 6-1 in the BCVWD 2020 UWMP

BCVWD's source of supply consists of:

- **Edgar Canyon (Little San Geronio Creek) Groundwater** – BCVWD has long-term records on pumping. From 1957 to 2020, a period of 64 years, the average production from the Edgar Canyon Wells is 1,881 AFY. However, prior to 1983, the ability to utilize the water pumped from Edgar Canyon was limited due to a lack of sufficient conveyance capacity to deliver water from Edgar Canyon to Cherry Valley and Beaumont. In 1983, the District installed the 14-in Edgar Canyon Transmission Main which enabled larger quantities of water to be conveyed from Edgar Canyon to Cherry Valley and Beaumont. From 1983 to 2020, a period of 38 years, the average amount pumped was 2,073 AFY. This is far more indicative of Edgar Canyon's ability to produce water. As shown in Table

6-7 in the BCVWD 2020 UWMP the Edgar Canyon Wells produced about 10% of the District's annual demand (potable and non-potable) in 2020.

- **Beaumont Basin**

- **Overlier Potable and Non-Potable Water Forbearance** – is credited to a water supplier by Watermaster for any potable and/or recycled water provided to an overlying party or an overlying party's land. The overlier forbears pumping the equivalent amount of water supplied and the appropriator then has the right to pump the volume of water forgone by the overlier. This is done through the Beaumont Basin Watermaster who transfers forgone water to the appropriator's groundwater storage account on an annual basis.
- **Reallocated Unused Overlier Pumping Rights** – All of the "safe yield" from the Beaumont Basin is allocated to the overlying parties (overliers). Each overlier was given a share of the safe yield and was allowed to pump no more than five times that share in any five-year period. Most, if not all, of the overlies do not pump their entire share of the safe yield. The amount of groundwater not produced by an overlying party shall be available for allocation to appropriators in accordance with their percentage shares of unused safe yield stated in the Adjudication Exhibit C⁸. BCVWD's share is 42.51% of the unused overlier pumping rights. The Beaumont Basin Watermaster administers this reallocation and transfers the appropriate amounts into the appropriators' storage accounts on an annual basis.
- **Return Flow Credits** – Return flow is defined as the portion of water which is applied to the land which is not evaporated or evapo-transpired and which ultimately percolates (returns) to the groundwater table and which can be re-extracted for use. Return flows originate from irrigation of agricultural land and lawns and landscaped areas in rural and urban settings and from deep percolation of septic tank effluent in unsewered areas, e.g., Cherry Valley. In most adjudicated groundwater basins, credit is given to the supplier of water which is used on land overlying the groundwater basin and which percolates back or "returns" to the groundwater. Watermaster provided annual return flow estimates from various land uses in Table 3 of the Safe Yield Report and were used in estimating current and future return flow credits.

⁸ Beaumont Basin Watermaster Rules and Regulations, Article 7.8

- **Storm Water** – Stormwater capture plays a significant role in BCVWD's local water resources supply development. Diverted stormwater is/will be routed to percolation ponds capable of recharging the groundwater basins. The District currently has stormwater diversion located in the Upper and Middle of Edgar Canyon.
- **Potential Stormwater Capture Projects** – The District has a number of potential stormwater capture projects as summarized in Table 6-11 with their potential estimated stormwater capture flows shown in Table 6-12.

Table 6-11: Potential Stormwater Capture Projects

Project	Brief Description
Soft plug in Noble Creek at BCVWD Groundwater Recharge Facility	Large flows which would bypass the spreading basins at the mouth of Edgar Canyon (Figure 6-10 above) could still be captured. Provide "soft plug" in lined portion of Noble Creek channel and divert flows into BCVWD's recharge facility. (Note that only extreme flows actually make it out of the canyon). Estimated Yield – 500 AFY.
Stormwater Capture Noble Creek	Noble Creek flows could be desilted on property owned by BCVWD (15.7 acres) along Noble Creek upstream of Noble St and west of Cherry Ave. Unfortunately, this area is not over the Beaumont Basin, but the property could be used for desilting basins with the desilted water released back into Noble Cr. and recaptured at a soft plug in the lined channel and diverted into the District's recharge site. Estimated Yield = 400 AFY.
Marshall Creek s/o Elm to I-10	There is a significant amount of urban runoff from the developed area east of Beaumont Ave. between Oak Valley Parkway and Brookside Ave. which could be captured in the soft bottom of Marshall Creek using training dikes to prevent the water from going under the I-10 bridge. There is about 300 ac of urban drainage. Estimated Yield = 150 AFY.
Beaumont MDP Line 16	Approximately 517 acres of area could be intercepted by a storm drain along Grand Ave. and conveyed to the District's Recharge facility. This water is relatively free of sediments and runoff is generated with even the slightest amount of rainfall. Refer to Table 6-11 for estimates of stormwater capture.
Sundance Urban Runoff	Eighth St., Cherry Ave., and Starlight Ave. Basins capture runoff from the Sundance development. These basins capture runoff effectively, but percolation needs to be improved. Refer to Table 6-11 for estimates of stormwater capture.

Note:

1. Taken from Table 6-8 in the BCVWD 2020 UWMP.

Table 6-12: Summary of the Urban Runoff Drainage Areas and Retention Basin Volumes

Facility	Drainage Area, acres	Basin Volume, acre-ft
Beaumont MDP Line 16	517	90
Cherry Ave Basin	426	240
Eighth St. Basin	475	128
Starlight Basin	250	32

Note:

1. Taken from Table 6-11 in the BCVWD 2020 UWMP.

- **Non-Potable Groundwater**

- **Mouth of Edgar Canyon (Potential)** – High nitrate groundwater located at the mouth of Edgar Canyon can supplement the recycled water/non-potable water system flow in the summer, high demand months, making well water available for potable water use. BCVWD believes as much as 300 AFY can be captured and reused.
- **San Timoteo Creek (Potential)** – San Timoteo Canyon Extraction Wells to capture groundwater from the Beaumont Basin flowing into San Timoteo Canyon and also to capture City of Beaumont wastewater flow discharged to Cooper's Creek once the water has percolated and is no longer available for habitat maintenance. It is estimated that 400 to 800 AFY can be captured and put into the recycled water/non-potable water system to meet summertime demands.

- **Recycled Water** – The District is currently in the process of finalizing its Non-Potable Water Master Plan, which includes more current non-potable system facility requirements and recycled water supply projections. The non-potable/recycled water supply data provided in this WSA addendum are consistent with the District's 2020 UWMP. The non-potable/recycled water supply projections are considered draft as of the date of approval of this Addendum 1. Data from the BCVWD 2020 UWMP is used for consistency.

BCVWD is currently working with the City of Beaumont to distribute Title 22 recycled water produced at the City of Beaumont's Treatment Plant No. 1. Phase 1 of the City's wastewater treatment plant construction has been completed, increasing the rated capacity from 4 MGD to 6 MGD. Process upgrades include redundant coarse screens, a grit removal system, a flow equalization basin, a fine screen system, an activated sludge process coupled with a new MBR system followed by a partial RO, and a new UV disinfection system. The City submitted a Title 22

Recycled Water Engineering Report to the Santa Ana Regional Water Board in September 2019 and is awaiting formal comment. Another component to the treatment facility upgrades is the construction of a 12-inch diameter gravity pipeline from the Beaumont WWTP to the nearest connection point in the Inland Empire Brine Line (IEBL) to dispose of the brine waste generated by the upgraded treatment facility. Construction of the brine line was completed around early 2020 and is approximately 23 miles long.

BCVWD continues to work with the City relative to recycled water. Historically, the City of Beaumont's effluent has experienced TDS concentrations of about 400 mg/L, which is an excess of the Regional Board's Maximum Benefit Water Quality Objectives for the Beaumont Basin. With the implementation of the reverse osmosis system, the recycled water from the City will be treated to a high-level and should have no issue in achieving the Maximum Benefit Water Quality Objectives.

Table 6-13 below lists the estimated recycled water produced, the recycled water that must be reserved for habitat mitigation (1.8 mgd), and the net amount of recycled water available for recycling. Please note that not all the wastewater can be recycled due to onsite recycled water demands and reject water from the reverse osmosis process.

Table 6-13: Recycled Water Available from City of Beaumont's WWTP

Year	2020	2025	2030	2035	2040	2045
City of Beaumont Population	51,663	59,261	67,104	74,891	79,522	81,513
Wastewater Generation Flow Rate, gpcd	70	67.5	65	65	62	60
Wastewater Flow, mgd	3.62	4	4.36	4.87	4.93	4.89
Environmental Mitigation Flow, mgd	1.8	1.8	1.8	1.8	1.8	1.8
Wastewater Available for Recycling, mgd	1.82	2.2	2.56	3.07	3.13	3.09
Estimated amount which can be recycled, mgd	1.45	1.8	2.13	2.58	2.64	2.6
Estimated amount which can be recycled, AFY	1,630	2,017	2,381	2,892	2,955	2,915
Estimated amount which can be recycled, AF/month	136	168	198	241	246	243
Estimated amount which can be recycled, gal/min	1,020	1,260	1,480	1,800	1,840	1,810

Notes

1. The City of Beaumont population growth is less aggressive than shown in tables presented in Section 3 of the BCVWD 2020 UWMP to be conservative in the amount of recycled water available.
2. Table taken from Table 6-15 in the BCVWD 2020 UWMP.

- **Imported Water from SGPWA** – The amount of imported water which BCVWD is able to purchase and recharge is only the amount left over after YVWD, the City of Banning, and others have purchased the amount each needs to meet their demands and banking. The amount available from the SGPWA collectively is discussed later in this WSA. BCVWD has entered into an agreement, and participated financially, with the SGPWA for a share of the yield from the Sites Reservoir Project. This is discussed later in this WSA.

For the normal year, there is more than enough supply to meet the demand and BCVWD can bank water in the Beaumont Basin, which will be needed during dry periods. As noted in Table 6-14 below, demand totals include BCVWD's need include banking imported water to ground water storage for drought proofing. Any additional supply available after all demands have been satisfied would be recharged and added to BCVWD's storage account. Due to this Project's demands having not been accounted for in the BCVWD 2020 Urban Water Management Plan, the demands in the table below have been increased to include the demands of the proposed Project (14201 California Avenue) and reflect that there is adequate water supply.

A summary of the Water Supply Assessment for an average year is indicated below in Table 6-14.

Table 6-14: Water Supply Assessment for Normal Year Conditions

	YEAR				
	2025	2030	2035	2040	2045
DEMAND					
Potable Water Demand, AFY	13,224	14,280	15,419	16,313	17,110
Drought Proofing, AFY	1,500	1,200	1,000	1,000	1,000
Supplemental Water to Non-Potable System, AFY	276	246	-	-	-
Non-Potable Water Demand, AFY	1,992	2,210	2,513	2,596	2,613
Total Water Demand, AFY	16,992	17,936	18,932	19,909	20,723
LOCAL SUPPLY					
Potable Groundwater					
Edgar Canyon, AFY	2,073	2,073	2,073	2,073	2,073
Beaumont Basin Groundwater Available					
Overlier Potable Forebearance, AFY	-	67	264	384	384
Overlier Non-Potable Forebearance, AFY	471	480	1,123	1,158	1,158
Reallocation of Unused Overlier Rights, AFY	1,322	1,286	1,165	1,099	1,099
Return Flow Credits, AFY	280	514	868	922	1,155
Storm Water, AFY	185	535	535	535	535
Non-Potable Groundwater					
Mouth of Edgar Canyon, AFY	-	-	300	300	300
San Timoteo Creek, AFY	-	-	600	600	600
Recycled Water Available, AFY	2,017	2,381	2,892	2,955	2,915
Subtotal Local Supply, AFY	6,348	7,335	9,820	10,027	10,220
BCVWD's Share of Imported Supply					
Table A Allocation (58%), AFY	7,877	7,184	6,653	5,860	5,248
Yuba Accord, AFY	182	166	154	135	121
AVEK Nickel, AFY	1,335	1,217	1,127	993	889
Ventura, AFY	4,553	4,153	3,845	3,387	-
SGPWA Carryover Water, AFY	2,368	2,159	2,000	1,761	1,577
Sites Reservoir, AFY	-	-	3,037	5,623	7,911
Additional SWP Transfers/Exchanges, AFY	455	415	385	339	303
Subtotal Imported Supply (Normal Conditions), AFY	16,769	15,295	17,200	18,098	16,050
Total Supply, AFY	23,118	22,631	27,020	28,125	26,270
From (To) Banked Beaumont Basin Storage, AF	(6,126)	(4,695)	(8,089)	(8,216)	(5,547)

Note:

1. Modified Table 7-8 from the BCVWD 2020 UWMP to include Ventura Water
2. The demands in the above table have been updated to include the demands for the 14201 California Ave. Project.

6.2. Summary of Member Agency Imported Water Demands on SGPWA

Table 6-15 includes a projected amount of imported water for member agencies in SGPWA that are not currently taking SPW. These amounts were taken from SGPWA's 2020 UWMP. BCVWD believes these amounts are conservative considering the growth rates in the SGPWA Area.

Table 6-15 - Regional Summary of Spreadsheet Supply-Demand Model for SGPWA

Demand or Supply	Year				
	2025	2030	2035	2040	2045
Potable Water Demand, Banning, YVWD (Calimesa), BCWD Potable & Non-Potable, AFY	39,094	40,600	42,050	43,388	44,473
Local Supply, Banning, YVWD (Calimesa), BCVWD, AFY	26,005	26,094	27,671	26,934	26,203
Imported Water Demand, AFY	19,277	19,262	22,530	24,733	23,880
Total Imported and Local Supply, AFY	45,282	45,356	50,201	51,667	50,083
Total to (from) Regional Groundwater Storage, AF	6,188	4,756	8,151	8,279	5,610
SGPWA Imported Water Demands for those agencies not currently taking imported water, from SGPWA 2020 UWMP, AFY	3,400	3,600	3,900	4,100	4,300
Total Imported Water Demand, AFY	22,677	22,862	26,430	28,833	28,180

Note:

1. Taken data from Tables 6-3, 6-4, and 6-14.

7. SGPWA Available Imported Water

In November of 1962, SGPWA entered a State Water Project water service contract (SWP Contract) with the State of California Department of Water Resources (DWR). The SWP Contract authorized DWR to deliver SWP water to SGPWA under certain terms and conditions.

SGPWA also acquires water supplies through contracts with other agencies and annual water transfers and exchanges. SGPWA annually acquires Yuba Accord water as well as water under the Nickel Agreement. SGPWA may also acquire water through an agreement with San Bernardino Valley Municipal Water District (SBVMWD) as well as annual transfers and exchanges with other SWP contractors. In the future, SGPWA will acquire water through the Sites Reservoir Agreement. All these additional supplies, beyond SGPWA's SWP supply, are discussed in the following sections.

SGPWA's delivery of supplemental water includes both delivery to water filtration facilities and groundwater recharge basins to assist with the management of groundwater in the SGPWA service area. Whether by direct delivery, in-lieu recharge, or direct recharge, the SGPWA plays a critical role in the local management of groundwater and surface water resources.

7.1. State Water Project Overview

The State Water Project (SWP) is the largest state-built, multi-purpose water project in the country. It was authorized by the California State Legislature in 1959, with the construction of most facilities completed by 1973. Today, the SWP includes 28 dams and reservoirs, 26 pumping and generating plants, and approximately 660 miles of aqueducts.

The primary water source for the SWP is the Feather River, a tributary of the Sacramento River. The water flowing in the Feather River is captured by the SWP in Oroville dam and reservoir.

Water storage released from Oroville Dam flows down natural river channels to the Sacramento-San Joaquin River Delta (Delta). While some SWP supplies are pumped from the northern Delta into the North Bay Aqueduct or diverted by SWP contractors upstream, the vast majority of SWP supplies are pumped from the southern Delta into the 444-mile-long California Aqueduct. The California Aqueduct conveys water along the west side of the San Joaquin Valley to the Edmonston Pumping Plant, where water is pumped over the Tehachapi Mountains. From there the California Aqueduct divides into the East and West Branches. SGPWA takes its SWP deliveries from the East Branch, which was completed in 2003. Phase 2 of the East Branch Extension was completed in 2018 which increased the capacity of the supplemental water supplies and allowed the SGPWA to take the Agency's official maximum allotment of State Project Water.

SGPWA delivers its SWP supplies, along with other water supplies, to recharge local groundwater basins through transmission pipelines and recharge systems as well as some delivery to Yucaipa Valley Water District.

SGPWA is one of 29 water agencies that have a SWP Contract with DWR. Each SWP contractor's SWP Contract contains a "Table A Annual Amounts" (Table A) which lists the contracted maximum amount of water an agency may receive under its contract. Table A is also used in determining each contractor's share of the total SWP water supply DWR determines to be available each year. The total planned annual delivery capability of the SWP and the sum of all contractors' maximum Table A amounts was originally 4.23 million acre-feet. The initial SWP storage and conveyance facilities were designed to meet contractors' water demands with the construction of additional storage facilities planned as demands increased. However, few additional SWP storage facilities have been constructed since the early 1970s and a portion of the original conveyance design was never completed. SWP conveyance facilities were generally designed and have been constructed to deliver Table A to all contractors. The maximum Table A of all SWP contractors now totals about 4.133 million AF. SGPWA manages its SWP supplies to maximize the availability of these supplies to its retail customers. In this way, SGPWA seeks to optimally manage its Table A wet year supplies, acquire additional SWP supplies through Article 21 conditions (SWP surplus conditions), access Advanced Table A supplies, and potentially exchange Table A supplies with other SWP contractors. All of these actions improve the long-term reliability of Table A supplies.

7.1.1 **Table A Allocations**

SGPWA's Table A Annual Amount is 17,300 acre-feet per year up through the 2045 UWMP planning horizon. SGPWA's Table A represents a maximum contract amount that could be available each year assuming that the SWP could deliver 100% contract supplies to all SWP contractors. Though not shown on Table 7-1, 2023 was a 100% allocation year. Prior to 2023, the last 100% allocation year occurred in 2006. Currently, the Table A Allocation for 2024 is 40%. SGPWA's SWP Contract has numerous components that allow SGPWA to manage and control the annually available SWP water supplies.

More often than not, actual SWP allocations are less than 100% SGPWA's Table A Annual Amount. Annual SWP percentage Table A allocations fluctuate based upon hydrology, water storage, and regulatory criteria in the Delta. Table 7-1 below shows the SGPWA Table A Annual Amount from 2010 through 2020, the SWP allocation percentage, and the final available Table A allocation from 2010-2020. During this period, the SGPWA received on average 8,335 acre-feet, or about 48% of the Table A contract amount. It is important to recognize that this period included a significant and recent drought event.

Table 7-1: SWP Table A Allocations and Deliveries

Year	SWP Contract Table A	Percent Allocation	Allocation Amount
2010	17,300	50%	8,650
2011	17,300	80%	13,840
2012	17,300	65%	11,245
2013	17,300	35%	6,055
2014	17,300	5%	865
2015	17,300	20%	3,460
2016	17,300	60%	10,380
2017	17,300	85%	14,705
2018	17,300	35%	6,055
2019	17,300	75%	12,975
2020	17,300	20%	3,460

Notes

1. Taken from Table 3-1 in the 2020 SGPWA UWMP.

DWR has projected that it is less likely that 100% allocation years will occur on a regular basis in the future. In August 2020, DWR finalized the "2019 SWP Delivery Capability Report" (DCR) that outlined the probable future water supply allocations for the SWP system. The DCR showed

variations in future Table A deliveries based upon hydrological and regulatory conditions. These conditions are summarized in Table 7-2 below along with SGPWA's corresponding Table A amount.

Table 7-2: SWP Estimated Table A Deliveries from DCR (values in acre-feet)

	Long Term Average		Single Dry Year (1977)		Dry Periods							
					2 Year Drought (1976-1977)		4-Year Drought (1931-1934)		6-Year Drought (1987-1992)		6 Year Drought (1929-1934)	
2017 Report	2,571	62%	336	8%	1,206	29%	1,397	34%	1,203	29%	1,408	34%
2019 Report	2,414	58%	288	7%	1,311	32%	1,228	30%	1,058	26%	1,158	28%

Notes

1. Taken from Table 3-2 in the 2020 SGPWA UWMP

As shown in Table 7-2, DWR's long-term average reliability shows a downward trend from 62% in the 2017 SWP DCR to 58% in the 2019 DCR. DWR attributes this downward trend to climatological and hydrological factors that impact precipitation patterns and snowfall accumulation above its main SWP facility, Lake Oroville. In this way, SGPWA characterizes its average normal year SWP water supply through 2045 as 58% of its Table A Annual Amount in accordance with the DCR. Thus, from 2025 through 2045, SGPWA's projected Table A final available allocation will be 58% of 17,300 acre-feet or 10,034 acre-feet per year. Importantly, SGPWA anticipates years where its Table A Allocation exceeds the average normal year delivery of 58%. In these years, SGPWA will capture and store the surplus water assets.

The single dry year characterization and five consecutive dry year characterization for the SWP supplies are also an important consideration in SGPWA's UWMP. The 2017 and 2019 DCR represent the single driest year as 1977 with an 8% SWP allocation estimate in 2017 DCR and a 7% SWP allocation estimate in 2019 DCR. The single lowest historical SWP allocation occurred in 2014 at 5%, and this 5% allocation is also representative of the 2021 Table A Allocation. As such, to be conservative in its projections, SGPWA will use 5% of 17,300 acre-feet or 865 acre-feet per year as the single dry year allocation through 2045 as depicted in Table 7-3.

Table 7-3: SWP Future Table A Projected Water Year Deliveries During Single and Multi-Year Drought Conditions (AFY)

Table A	Year Type	Amount
	Normal	10,034
	Single Dry Year	865
Multi-Year Drought	Year 1	6,055
	Year 2	865
	Year 3	865
	Year 4	3,460
	Year 5	6,055

Notes

1. Taken from Table 3-3 in the 2020 SGPWA UWMP

The 2019 DCR also identifies various drought periods for purposes of characterizing SWP allocation percentages that would accompany those drought periods. The averaging of the allocations over the course of the drought period is not representative of SGPWA drought planning purposes. SGPWA will use the following drought characterization for its short-term and long-term planning: year 1 at 35%; year 2 at 5%; year 3 at 5%; year 4 at 20%; and year 5 at 35%. SGPWA examined the historical record and determined that there was no representative five consecutive year historical SWP delivery dry period that adequately reflects a potential future five-year critical drought condition that could drastically reduce SWP supply deliveries for SGPWA's service area. As such, taking a more conservative planning approach, SGPWA created a more restrictive dry year characterization that adequately represents a critical drought over five consecutive years. In this dry year modeled sequence, two consecutive critically dry years are bounded by Table A allocations that are reflected in the recent historical record. Table 7-4 shows the normal year, single dry year, and five consecutive dry years planned SWP Table A Allocation for San Geronio Pass Water Agency through 2045.

Table 7-4: Future SWP Allocations by Year Type Through 2045 (AFY)

Total Supply		2025	2030	2035	2040	2045
Normal		10,034	10,034	10,034	10,034	10,034
Single Dry Year		865	865	865	865	865
Multi-Year Drought	Year 1	6,055	6,055	6,055	6,055	6,055
	Year 2	865	865	865	865	865
	Year 3	865	865	865	865	865
	Year 4	3,460	3,460	3,460	3,460	3,460
	Year 5	6,055	6,055	6,055	6,055	6,055

Notes

1. Taken from Table 3-4 in the 2020 SGPWA UWMP

7.1.2 **Table A Carryover Water**

SGPWA's SWP Contract allows it to forego use of its allocated SWP Table A supply and retain a portion of that allocated supply in storage for future use. This retained supply is termed "Carryover" and is governed under Article 56 of SGPWA's SWP contract. Carryover water is water that is released from Oroville dam and reservoir, re-diverted at the Delta, and then stored in San Luis Reservoir – an off-stream reservoir located just outside the City of Santa Nella at the junction of Interstate 5 and California State Highway 152. San Luis Reservoir is jointly owned and operated by the state and federal governments and all SWP contractors may use the storage facility to manage Carryover water supplies. In short, the San Luis Reservoir receives, regulates, and stores exported water derived from the State Water Project and Federal Central Valley Project.

The amount of water that SGPWA may carryover in any given year is subject to a set of rules that implicate all SWP contractors throughout California. In brief, SGPWA delivers its Table A supplies to Carryover in San Luis Reservoir with an expectation that it will be able to divert all or a portion of these supplies in a subsequent year. In the event that water supplies are abundant, San Luis Reservoir may "spill." When San Luis Reservoir reaches a "spill" stage, DWR releases SGPWA's Carryover in accordance with the aforementioned rules as they apply in the context of all entities with stored water in San Luis Reservoir. Nevertheless, over the last 10 years SGPWA has retained a portion of its Table A Allocation as Carryover even in the driest years and continues to maintain a Carryover balance. Table 7-5 shows SGPWA's Carryover balance from 2010 through 2020.

Table 7-5: SGPWA Historic SWP Carryover Storage and Use (AFY)

Year	Source	Available Carryover
2010	97-12 Historic Delivery Database	2,719
2011	97-12 Historic Delivery Database	4,535
2012	97-12 Historic Delivery Database	4,956
2013	Finalization Report	5,277
2014	Finalization Report	5,264
2015	Finalization Report	954
2016	Finalization Report	936
2017	Finalization Report	1,700
2018	Finalization Report	5,159
2019	Finalization Report	2,668
2020	Finalization Report	4,211

Notes

1. Taken from Table 3-5 in the 2020 SGPWA UWMP

The Carryover supplies noted in Table 7-5 combine a number of water management factors that impact SGPWA's overall water supply availability. For example, where SGPWA is able to acquire additional water assets in normal and wet year types, SGPWA may carryover SWP supplies to water shortage years for use. Moreover, where SGPWA may acquire alternative supplies through transfers and exchanges, even in the driest years, the Agency may then manage its supply portfolio to preserve Carryover supplies for later use. For instance, in 2015, the SGPWA stored 954 acre-feet of water supplies as Carryover when SWP allocations were at the lowest historical allocation on record – five percent (5%) – in the 2014 water year (see Table 7-1). Similarly, in 2015 – a 20% allocation year – SGPWA was able to carryover 936 acre-feet of water into the 2016 water year by acquiring alternative supplies and flexibly managing regional supplies in coordination with the retail agencies. SGPWA's management actions coordinated the Agency's available water supply portfolio in these years with the regional retail agencies water supply portfolios and water conservation efforts in order to preserve SWP supplies for future uses.

The SGPWA will have access to its Table A Carryover supplies in future years based upon the hydrological and regulatory conditions. The Table A Carryover supplies result from a number of variables that are tied to the SWP Table A annual percent allocation, operations in San Luis Reservoir, and water supply management by SGPWA throughout its service area. In wet years, SGPWA carries over substantial supplies that are considered in the annual carryover numbers.

Accordingly, water years 2013 through 2017 above are representative of a five-year Carryover supply availability for SGPWA – and include 2014 and 2015 two of the driest years on record. Furthermore, SGPWA conservatively estimates future Carryover supplies in a normal year to be approximately 5,200 acre-feet similar to 2013, 2014, and 2018 and carryover in a single dry year to be just over 900 acre-feet like 2015 and 2016. These supplies are estimated based upon typical SWP management in a normal year in context of SGPWA's total water supply portfolio. The future normal year Carryover supply represents approximately half of SGPWA's normal year carryover number as noted in Table 7-5 but other years represent Carryover supplies that may result from additional SGPWA multi-year management actions that allow Carryover supplies to be available in these year types. Table 7-6 shows the Carryover supplies through 2025 and Table 7-7 shows the representative Table A Carryover supplies through 2045.

Table 7-6: Carryover Supplies Through 2025 (AFY)

Carryover	Year Type	Amount
Normal		3,000
Single Dry Year		936
Multi-Year Drought	Year 1	3,000
	Year 2	2,500
	Year 3	954
	Year 4	936
	Year 5	1,700

Notes

1. Taken from Table 3-6 in the 2020 SGPWA UWMP

Table 7-7: Future Available Table A Carryover Supplies (AFY)

Year Type	2025	2030	2035	2040	2045
Normal	3,000	3,000	3,000	3,000	3,000
Single Dry Year	936	936	936	936	936
Multi-Year Drought	Year 1	3,000	3,000	3,000	3,000
	Year 2	2,500	2,500	2,500	2,500
	Year 3	954	954	954	954
	Year 4	936	936	936	936
	Year 5	1,700	1,700	1,700	1,700

Notes

1. Taken from Table 3-7 in the 2020 SGPWA UWMP

7.1.3 Delta Conveyance Project Future SWP Increment

The Delta Conveyance Project, if implemented, would increase the future reliability of SGPWA water supplies derived from the SWP. Consistent with Executive Order N-10-19, in early 2019,

the state announced a new single tunnel project, which proposed a set of new diversion intakes along Sacramento River in the north Delta for SWP. In 2019, the California Department of Water Resources (DWR) initiated planning and environmental review for a single tunnel Delta Conveyance Project (DCP) to protect the reliability of State Water Project (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. DCP will potentially be operational no later than 2040 following extensive planning, permitting, and construction.

SGPWA anticipates that the DCP will increase access to water assets by providing conveyance opportunities that are currently unavailable. SGPWA recently increased its investment in the DCP from 1.22% to 2% of project capacity in order to improve future conveyance actions related to its water asset portfolio. As such, the DCP investment should provide better access to SWP supplies in normal and wet years as well as opportunities to deliver alternative planned supplies as they become available to SGPWA.

7.2. SGPWA Additional Imported Water Supplies

SGPWA has numerous other current and future water assets besides its Table A Annual Amount and Table A carryover supplies. These supplies are derived from the following items: Yuba Accord, Nickel Agreement, San Bernardino Valley Municipal Water District Agreement, Sites Reservoir Agreement, and Ventura Water Agreement. These additional water sources are more fully described below.

7.2.1 Yuba Accord Water

In 2008, SGPWA entered into the Yuba Accord Agreement and has amended the agreement several times through 2014. The Yuba Accord Agreement allows SGPWA to purchase water from Yuba County Water Agency through its contractual arrangement with DWR that permits 21 SWP contractors (including SGPWA) and the San Luis and Delta-Mendota Water Authority regular access to the supply. Yuba Accord water comes from the Yuba River, located north of the Delta, and the water purchased under this agreement is subject to losses associated with transporting it to SGPWA's service area. While the amount of this water varies each year depending on hydrologic conditions, the Agency anticipates receiving an average future amount of approximately 300 AFY. The Agency recently signed an extension to this agreement allowing it to purchase this water well into the future. Table 7-8 shows the last five years of Yuba Accord water supplies coming to SGPWA. Table 7-9 shows the normal, single dry, and five consecutive dry year water supplies available under the Yuba Accord.

Table 7-8: Last Five Years of Yuba Accord Water Deliveries (AFY)

Year	Yuba Accord Deliveries
2015	0
2016	0
2017	0
2018	124
2019	0
2020	406

Notes:

1. Taken from Table 3-8 in the 2020 SGPWA UWMP

Table 7-9: Yuba Accord Future Water Deliveries in all Year Types (AFY)

Yuba Accord Supply	2025	2030	2035	2040	2045
Normal	400	400	400	400	400
Single Dry Year	100	100	100	100	100
Multi-Year Drought	Year 1	300	300	300	300
	Year 2	100	100	100	100
	Year 3	100	100	100	100
	Year 4	200	200	200	200
	Year 5	300	300	300	300

Notes:

1. Taken from Table 3-9 in the 2020 SGPWA UWMP

7.2.2 Nickel Agreement

SGPWA signed an agreement with Antelope Valley – East Kern Water Agency (AVEK) on July 7, 2017 (hereafter called “Nickel Agreement”). The Nickel Agreement entitles SGPWA to purchase 1,700 acre-feet of AVEK water each year under a take or pay provision. The AVEK water is non-project water that is provided by the Kern County Water Agency. The Nickel Agreement expires in 2036 and SGPWA has a right of first refusal for an additional 20-year term. AVEK is required to deliver 100% of the supply in all years. Table 7-10 shows SGPWA Nickel Agreement water deliveries since 2017.

Table 7-10: Nickel Agreement Water Deliveries since 2017 (AFY)

Year	Nickel Agreement Deliveries
2017	1,700
2018	1,700
2019	1,700
2020	1,700

Notes:

1. Taken from Table 3-10 in the 2020 SGPWA UWMP

SGPWA may consider the Nickel Agreement water supply always available in normal, single dry, and five consecutive dry years. The Nickel Agreement is a take or pay contract with no shortage provision that obligates AVEK to deliver the water in all year types. Table 7-11 shows the SGPWA Nickel Agreement future water supply availability.

Table 7-11: Nickel Agreement Future Water Deliveries in all Year Types (AFY)

Nickel Agreement Deliveries		2025	2030	2035	2040	2045
Normal		1,700	1,700	1,700	1,700	1,700
Single Dry Year		1,700	1,700	1,700	1,700	1,700
Multi-Year Drought	Year 1	1,700	1,700	1,700	1,700	1,700
	Year 2	1,700	1,700	1,700	1,700	1,700
	Year 3	1,700	1,700	1,700	1,700	1,700
	Year 4	1,700	1,700	1,700	1,700	1,700
	Year 5	1,700	1,700	1,700	1,700	1,700

Notes:

1. Taken from Table 3-11 in the 2020 SGPWA UWMP.

7.2.3 San Bernardino Valley Municipal Water District Agreement

SGPWA entered the Surplus Water Sale Agreement with San Bernardino Valley Municipal Water District Surplus Water Sale Agreement (SBVMWD Agreement) in June of 2018. SBVMWD is a SWP contractor that holds an entitlement to 102,600 acre-feet under its Table A Annual Amount in its 1960 SWP contract. The SBVMWD Agreement entitles SGPWA to purchase up to 5,000 acre-feet of SWP entitlement each year with SBMVWD's express concurrence. The SBVMWD Agreement expires on December 31, 2032, and there is no right of renewal. Nevertheless, SGPWA anticipates renewing this contract. The amount of water available under the contract varies each year and is subject to the "sole discretion" of SBVMWD whether the water will be

made available for SGPWA to purchase. The water supply under this agreement may be available depending upon SBVMWD's supply availability determination. The SGPWA is not incorporating this potential supply into its water supply reliability determinations for all year types but considers the supply a component of its available transfer and exchange supplies and, when acquired, may be incorporated into its groundwater storage facilities.

7.2.4 Sites Reservoir Agreement

SGPWA signed the Sites Reservoir Agreement in 2019. Sites Reservoir is a proposed new 1,500,000 acre-feet 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. Sites Reservoir is expected to provide water supply, environmental, flood, and recreational benefits. The proponents of Sites Reservoir include 30 entities including several individual SWP Public Water Agencies (PWAs). Sites Reservoir is expected to provide approximately 240 TAF of additional deliveries on average to participating agencies under existing conditions. Sites Reservoir is currently undergoing environmental planning and permitting. Full operations of the Sites Reservoir are estimated to start by 2029 following environmental planning, permitting, and construction. Sites was conditionally awarded \$816 million from the California Water Commission for ecosystem, recreation, and flood control benefits under Proposition 1. Reclamation has also invested in Sites Reservoir and has allocated \$13.7 million in 2021 for the project. Both SGPWA and Beaumont Cherry Valley Water District have purchased shares in Sites Reservoir, 10,000 shares and 4,000 shares respectively, that would augment supplies in the San Geronio Pass Water Agency service area. Table 7-12 shows the future availability of Sites Reservoir water in the SGPWA's service area and incorporates both the SGPWA and Beaumont Cherry Valley potential supplies. Other stakeholders with investments in Sites Reservoir have accounted for available supplies in 2035 as well.

Table 7-12 Future Availability of Sites Reservoir Water (AFY)

Sites Reservoir		2025	2030	2035	2040	2045
Normal		0	0	10,000	12,000	15,000
Single Dry Year		0	0	10,000	12,000	15,000
Multi-Year Drought	Year 1	0	0	10,000	12,000	15,000
	Year 2	0	0	10,000	12,000	15,000
	Year 3	0	0	10,000	12,000	15,000
	Year 4	0	0	10,000	12,000	15,000
	Year 5	0	0	10,000	12,000	15,000

Notes:

1. Taken from Table 3-12 in the 2020 SGPWA UWMP.

7.2.5 Ventura Water

In 2022, SGPWA entered into a 20-year Agreement with the City of San Buenaventura (Ventura) and the Casitas Municipal Water District (Casitas). Together, the City of Ventura and the Casitas Municipal Water District have a combined Table A water allocation of 20,000 acre-feet. Ventura and Casitas do not plan to take direct delivery of their respective Table A water. The Ventura Water Agreement allows SGPWA to purchase water from Ventura and Casitas through its contractual arrangement. Of the 20,000 acre-feet total Table A allocation, the agreement allows for SGPWA to receive up to 10,000 acre-feet in addition to the existing 17,300 acre-feet Table A allocation for SGPWA.

7.2.6 Water Transfers and Exchanges

SGPWA also engages in water transfers and exchanges involving its SWP assets and other contractors' SWP water assets. Historically, SGPWA has both received and delivered water through these transfers and exchanges with various agencies throughout California. These transfers are essentially spot market transfers where short-term opportunities are identified and then actions taken for acquisition. These transfers help support management of SGPWA's and the retail agencies' water supply portfolios. Future SGPWA transfers and exchanges depend upon the allocations available to SGPWA and other water purveyors. As noted in Section 7.2.1., SGPWA has regularly acquired Yuba Accord water through its transfer and exchange activities. In addition, the State Water Contractors collectively develop annual water transfer and exchange programs to develop transferable supplies and negotiate transfer terms. SGPWA regularly participates in SWC's transfer programs. SGPWA seeks to augment potential opportunities for exchanges and transfers with SWP contractors and alternative transfer opportunities like the SWC

annual transfer program. Table 7-13 shows the planned future SWP and other water transfer opportunities that could be available for SGPWA.

Table 7-13 SGPWA Future Transfers and Exchanges (AFY)

Target Supply	2025	2030	2035	2040	2045
State Water Project	500	1,000	1,000	1,000	1,000
Additional Supplies	600	1,100	1,600	2,100	2,600
Total Transfers	1,100	2,100	2,600	3,100	3,600

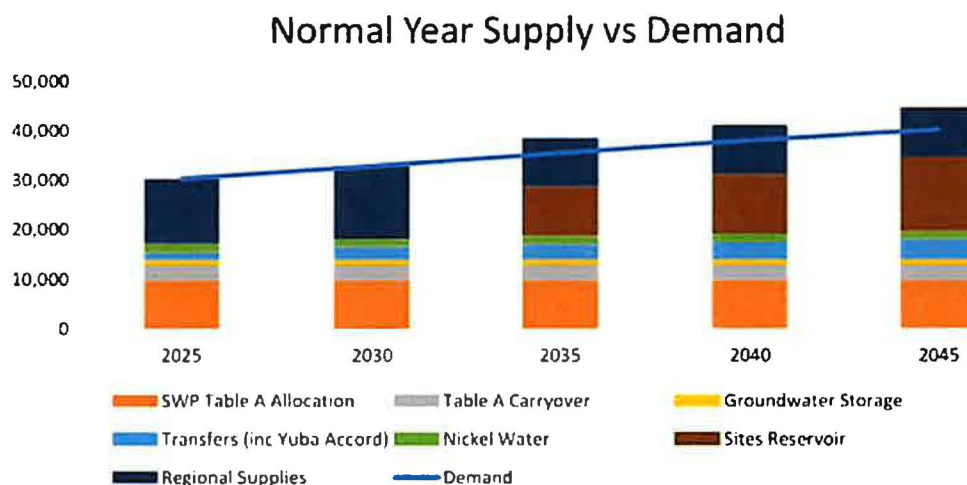
Notes:

1. Taken from Table 3-13 in the 2020 SGPWA UWMP.

7.3. Summary of Available Imported Water Supplies

As shown in Figure 6, SGPWA has reliable water supplies through the 2045 planning horizon. SGPWA has assessed the available SWP supplies, imported supplies, and locally available managed water supplies to assess regional water supply reliability through this planning horizon. In addition, SGPWA engages in annual water transfers and exchanges and stores water both within SGPWA's service area boundaries and outside its boundaries to address variable water conditions. Together, these supplies make up SGPWA's regional water asset portfolio that is actively managed by coordinated actions between SGPWA and the regional retail agencies to ensure long-term reliability.

Figure 6: SGPWA's Water Service Reliability through 2045 (AFY)

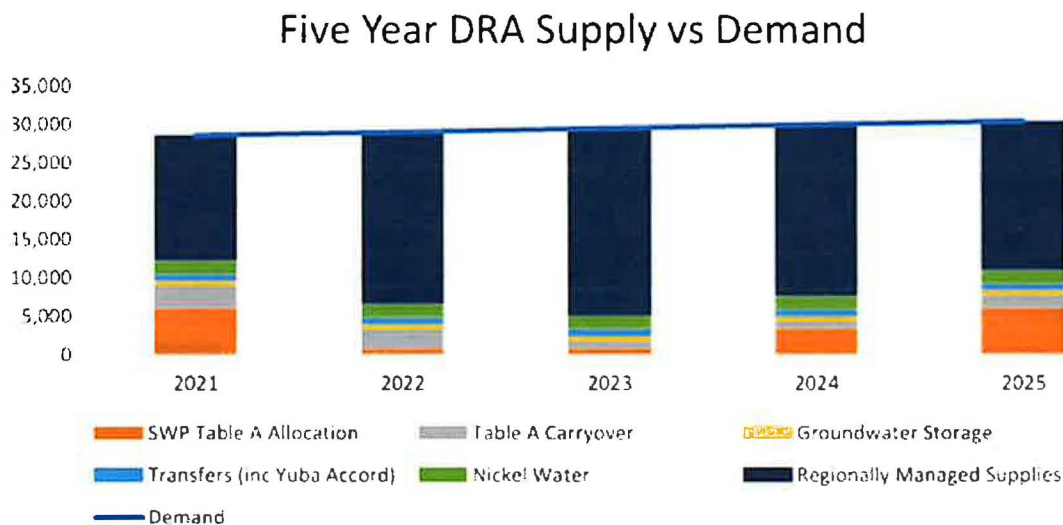


Notes

1. Taken from Figure ES-2 from the 2020 SGPWA UWMP.

SGPWA also coordinates management of its water supplies with the retail agencies to address projected dry conditions. Specifically, SGPWA and the retail agencies capture and store surplus imported water in normal and wet years in order to use the stored water assets to meet regional demands in dry years. Moreover, the retail agencies rely upon locally managed water supplies, including native groundwater, recycled supplies, surface water assets, and return flows, to meet their annual demands. These actions stabilize annual fluctuations in recurring imported supplies that may not meet regional demands under certain dry conditions. Figure 7 shows a water reliability assessment for a drought lasting five consecutive years where the retail agencies in SGPWA service area use stored water and regionally managed supplies to offset fluctuations in its SWP supplies. In summary, SGPWA's diverse surface water supply portfolio, combined with its coordinated management of regionally managed surface and groundwater resources with retail purveyors, provide stable and reliable water supplies to meet SGPWA's current and 2045 future water demands in its service area.

Figure 7: SGPWA's Drought Risk Assessment from 2021 through 2025 (AFY)



Notes

1. Taken from Figure ES-3 from the 2020 SGPWA UWMP.

8. Water Supply and Demand for BCVWD

Section 6.1.3 presented the water demand and water supply requirements, including imported water, under average hydrologic conditions for BCVWD. Section 7 quantified the imported water demands on the SGPWA from BCVWD and the other member agencies of the SGPWA. As presented in Section 7, SGPWA will have enough, or has made commitments for or taken steps

to acquire, imported water supply to meet its needs to year 2045 and beyond. Since BCVWD's demands and imported water requirements are included in SGPWA's demands, including imported water, it can be concluded that BCVWD has sufficient supply and imported water to meet demands beyond 2045 under average demand and supply conditions.

It should be pointed out that 28.6% of the Sites Reservoir Project yield, (4,000 AFY/14,000 AFY) shown in Figure 7 above, is committed to BCVWD by virtue of BCVWD's financial commitment to the Sites Reservoir Project Phase 1 and Phase 2 - 2019. Figure 8 shows BCVWD's demand is less than the available supply. Figure 8 is based on the data in Table 6-16. Figure 9 shows the accumulated volume in BCVWD's Beaumont Basin groundwater storage account. By 2045, the storage account is significantly full (58,700 AF in storage). Figure 9 has been updated to account for the loss of storage due to the drought from 2020 – 2022. Table 6-16 indicates that BCVWD's imported water demand will be 10,440 AFY in 2045; this means that BCVWD is projected to have 7.1 years of imported water demand in storage which can be used to supply water during drought periods even if no SPW is available.

Figure 8: BCVWD's Water Supply and Demand Projection to 2045

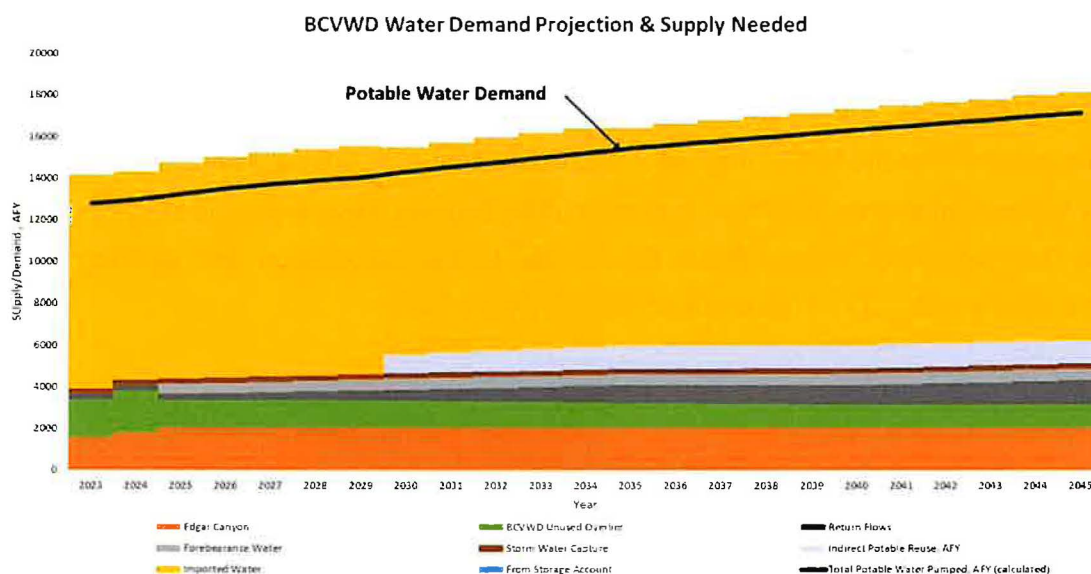
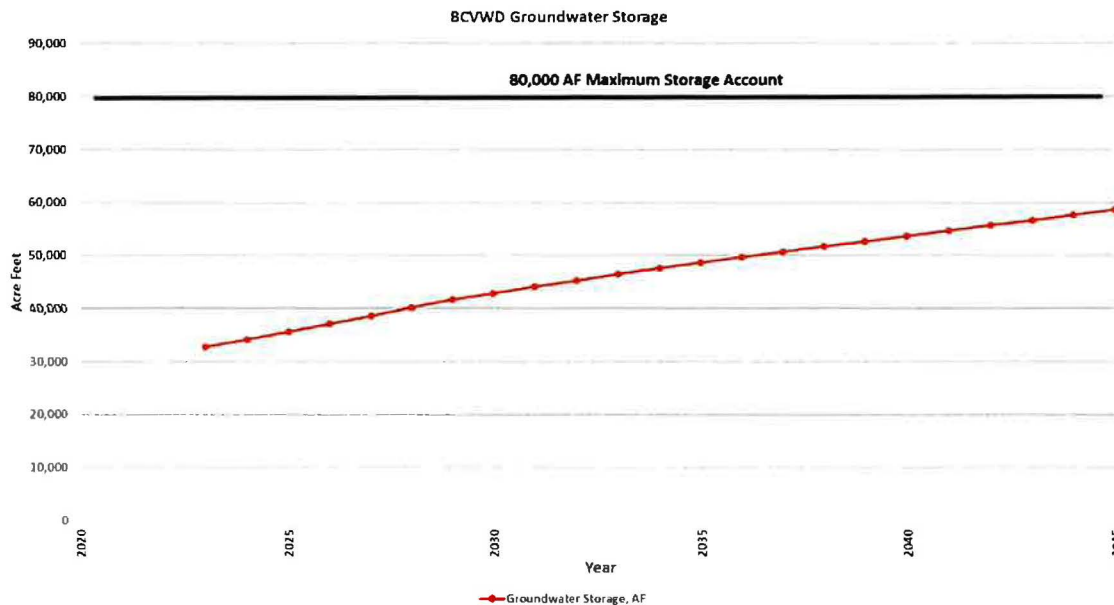


Figure 9: BCVWD's Groundwater Storage Balance to 2045



9. Water Supply Single and Multiple Dry Period Analysis

9.1. Constraints on Water Sources

A detailed description of BCVWD's current and future water sources are described previously in Section 6 of this WSA. Table 9-1, below shows a summary of BCVWD's current and future water sources and identifies the factors that affect the specific source's consistency of supply. Climate affects the amount of water available from most of the sources; there are some legal constraints on the Beaumont Groundwater Basin Source due to the Adjudication and contractual and environmental constraints on the imported State Project Water.

Table 9-1: Factors Resulting in Inconsistency of Supply

Water Supply Source	Cause of Inconsistent Supply				Additional Information
	Legal	Environmental	Water Quality	Climate	
Edgar Canyon Groundwater				X	
Beaumont Basin Groundwater Appropriator Rights	X				(1)
Beaumont Basin Groundwater Unused Overlier Rights	X			X	(2)
Imported State Project Water	X	X		X	(3)
Recycled Water				X	(4)
Stormwater Capture and Percolation				X	
Urban Runoff Capture and Percolation				X	
Nitrate-contaminated Groundwater from mouth of Edgar Canyon				X	

(1) After 2014, the Appropriator production rights are zero per Adjudication

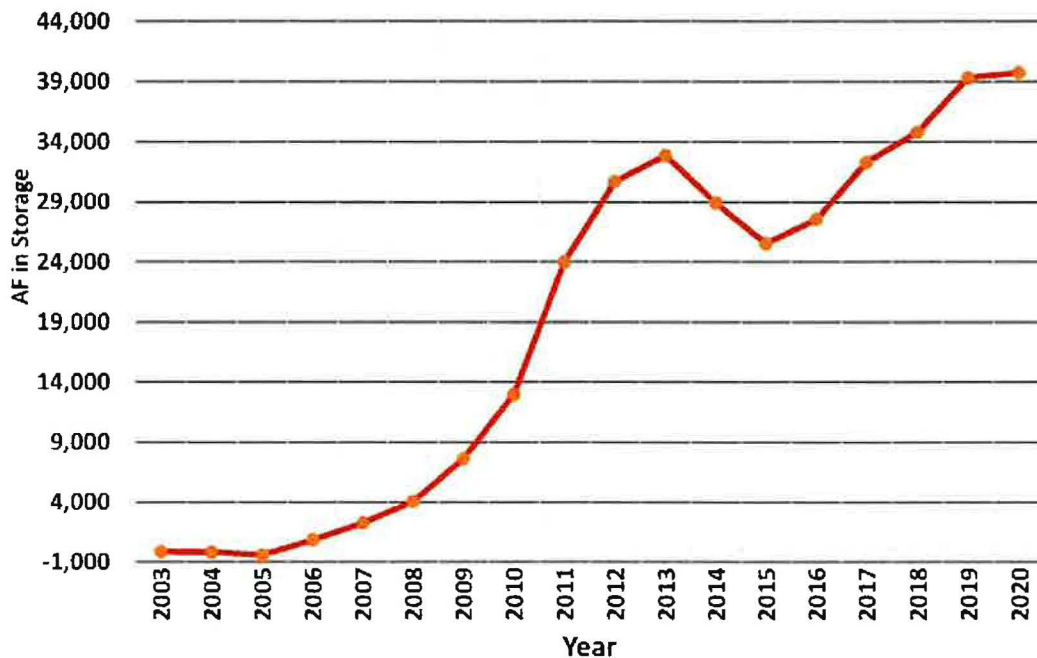
(2) Reallocation of Overlier pumping rights are variable. Estimated to drop to 200 AFY by 2045.

(3) SWP reliability discussed in text. 10% of Table A is available 100% of the time; adjusted per draft allocation agreement.

(4) Recycled water is not subject to any significant variations; but some drought period reductions in flow are experienced – maybe 10%. Domestic water restrictions typically have the greatest impact on outdoor water use.

The District relies on groundwater banking within the Beaumont Basin during wet periods to supply demands during specified dry periods. Complementing the large storage capacity is the fact that percolation and recharge occur at relatively high rates making it very easy to “bank” water in the Beaumont Basin. Figure 10 below shows the amount of water BCVWD has accumulated in its storage account since 2003. Please note that imported water began to be recharged in 2006.

Figure 10 – BCVWD’s Beaumont Basin Storage Amount
BCVWD Beaumont Storage Account



Notes

1. Taken from Figure 7-1 in the BCVWD 2020 UWMP

With the ability to bank water and the large “underground” reservoir, BCVWD and its neighboring agencies can withstand extended periods of drought without severe restrictions. At the end of 2020, for example, BCVWD had 39,750 AF in storage. This amount in BCVWD’s storage account has seen an increase of about 14,182 AF since 2015. BCVWD can store up to 80,000 AF in the Beaumont Basin managed by the Watermaster.

In Table 9-2 below (Table 6-24 in the 2020 BCVWD UWMP) a quantity of BCVWD-purchased imported water was identified as “From SGPWA for Banking.” This varied from 1,000 AFY to 1,500 AFY and is over and above the amount of imported water needed to meet demands. The purpose of this “banking water” is to build up BCVWD’s Beaumont Basin Groundwater Storage Account to be used as reserve for drought periods when adequate SPW is not available.

SGPWA is to supply the imported water requested in Table 9-2 below to meet BCVWD’s needs plus the anticipated SPW for banking. If, in any year(s), either of these quantities cannot be supplied for any reason, the accumulated shortfall is expected to be delivered to BCVWD by SGPWA as soon as possible once imported water is available. In this way, BCVWD will be able to keep adequate water in storage for current (2020) needs and accommodate growth in BCVWD’s service area. BCVWD anticipates banking around 28,500 AF of water over the next 25

years, which would bring BCVWD's storage account to about 68,250 AF. This is over 3 years of SPW requirements to meet 2045 demands with no SPW for over 3.5 years. The following subsections quantify the variability in BCVWD's water sources.

Table 9-2: BCVWD Water Supplies – Projected

DWR Table 6-9 Retail: Water Supplies — Projected											
Water Supply	Additional Detail on Water Supply	Projected Water Supply * Report To the Extent Practicable									
Drop down list May use each category multiple times. These are the only water supply categories that will be recognized by the WUEdata online submittal tool		2025		2030		2035		2040		2045 (opt)	
		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)
Add additional rows as needed											
Groundwater (not desalinated)	Little San Geronio Canyon	2,070	2,200	2,070	2,200	2,070	2,200	2,070	2,200	2,070	2,200
Groundwater (not desalinated)	Beaumont Basin (Reallocated unused overlie rights)	1,322		1,286		1,165		1,099		1,099	
Groundwater (not desalinated)	Beaumont Basin total forbearance water	471		547		1,387		1,542		1,542	
Groundwater (not desalinated)	Return flows	280		514		868		922		1,155	
Stormwater Use	Beaumont MDP Line 16	185		185		185		185		185	
Stormwater Use	Misc. Stormwater	0		350		350		350		350	
Purchased or Imported Water	From SGPWA for Replenishment of Beaumont Basin (Potable water)	8,868		9,300		9,966		10,717		11,781	
Recycled Water	From City of Beaumont for Landscaping	2,017		2,381		2,892		2,955		2,915	
Purchased or Imported Water	To supplement Non-Potable Water Supply (Purchased for Replenishment)	276		246		0		0		0	
Groundwater (not desalinated)	Non-Potable Groundwater at Mouth of Edgar Canyon	0		0		300		300		300	
Groundwater (not desalinated)	Non-Potable Groundwater along San Timoteo Creek	0		0		600		600		600	
Purchased or Imported Water	From SGPWA for Banking	1,500		1,200		1,000		1,000		1,000	
Purchased or Imported Water	Additional Imported Water Available from SGPWA	1,572		396		2,389		2,994		3,769	
Total		18,561	2,200	18,475	2,200	23,172	2,200	24,734	2,200	26,266	2,200
Total Imported Water Required		10,644		10,746		10,966		11,717		12,281	
Total Imported Water Available to BCVWD from SGPWA (See Table 7-8)		12,216		11,142		13,355		14,711		16,050	
*Units of measure (AF, CCF, MG) must remain consistent throughout the U/WMP as reported in Table 2-3.											
NOTES:											

9.2. Regional Supply Reliability

BCVWD has a very diverse water portfolio that allows it to maintain a reliable water supply to its current and future customers. The existing sources include:

- Unadjudicated groundwater from the Little San Geronio Creek (Edgar Canyon)
- Adjudicated groundwater from the Beaumont Basin
- Stormwater capture in Edgar Canyon (Little San Geronio Creek) and recharge in percolation ponds in Upper and Middle Canyon and at the Canyon mouth in recently added desilting and recharge basins.
- Non-potable groundwater supplying the existing non-potable water system
- Imported State Project Water from SGPWA
- AVEK-Nickel Water leased through SGPWA
- Yuba Accord water purchased through SGPWA

Potential Future Sources include the following and were described in Section 6.1.3.2 in this WSA Addendum.

- Recycled water from the City of Beaumont for landscape irrigation and with advanced treatment for indirect potable reuse (groundwater recharge).
- Improved recharge of captured urban runoff from Sundance development
- Non-potable groundwater from the mouth of Edgar Canyon
- Non-potable groundwater from San Timoteo Creek
- Stormwater capture and recharge via the MDP Line 16 Storm Drain (cost shared with RCFC&WCD, SAWPA grant and preparing for construction)
- Stormwater capture from Noble and Marshall Creek
- Additional urban runoff capture and recharge from developing areas

BCVWD's water management strategy since its formation has always been to maximize local water resources including local groundwater and capture and percolate surface flows in Little San Geronio Creek for subsequent extraction in the District's Edgar Canyon wells. With the development that occurred starting about year 2000, BCVWD began installation of a non-potable water system with the intent of using recycled water from the City of Beaumont. Currently (2020), the water demand in the non-potable system is about 12% of the total water demand. This demand is being partially met by non-potable groundwater. When recycled water becomes available, the District's non-potable demand will be primarily met with recycled water. Any additional non-potable demands will be met with non-potable groundwater.

As discussed above, BCVWD has an 80,000 AF storage account in the Beaumont Basin to purchase and store imported water when available in ample supply during wet years. In addition to SGPWA's Table A amount, there are two other sources of imported water over and that are available and are discussed within Section 7 above:

- Article 21 Water
- Turn-Back Pool Water

9.3. Water Service Reliability Assessment

The amount of water available during the dry periods from BCVWD's water sources are presented below.

9.3.1 Groundwater

9.3.1.1 Beaumont Basin

The Beaumont Basin is managed by the Beaumont Basin Watermaster. In any given year, BCVWD can pump out its stored (banked) water. The storage is replenished, at least partially, every year by forbearance water, reallocated unused Overlying Party pumping rights, return flows, and imported water, when available. The amount of imported water that can be recharged in any year depends on DWR's SWP allocation and varies from year to year. The amount of unused Overlying Party rights is based on a 5-year moving average and could decrease slightly during drought periods as the Overlying Parties use more well water to compensate for the lack of rainfall. The forbearance water and return flows will also decrease during dry periods as users reduce water consumption.

Table 9-3 below (Table 7-2 in the BCVWD 2020 UWMP) shows the estimated amount of water credited to BCVWD by Watermaster for a single or multiple dry year analysis. For the dry year analysis, it was estimated that there would be a 15% conservation effect; in other words, for dry year analysis, only 85% of average annual forbearance, reallocated Overlying Party rights, etc. would be available. In Table 9-3, the 15% reduction factor is also applied to the recycled forbearance water to account for a potential reduction in treated wastewater due to water conservation effects. This is believed to be conservative.

Return flow credits, included in Table 9-3 below, were not applied with a 15% reduction factor as return flows are dependent upon the conservation factors in effect during the year for which credits are given.

Table 9-3 Summary of BCVWD's Beaumont Basin Storage Credits^{1,2}

Item	2025	2030	2035	2040	2045
Total Return Flow Credits, Reallocated Unused Overlie Rights, and Forbearance Water from Table 6-10, AFY	2,073	2,346	2,820	2,963	3,196
Expected Ground Water Available for Dry Year Analysis, AFY	1,804	2,065	2,483	2,583	2,816

Note

1. Taken from Table 7-2 in the BCVWD 2020 UWMP.
2. Reference Table 6-10 included in the table above should reference to Table 7-8 in the 2020 BCVWD UWMP.

Edgar Canyon

Groundwater from Edgar Canyon is affected to some degree by climate change. The average annual extraction from Edgar Canyon is 2,073 AFY based on records from 1983-2020. During that period of time, the minimum extracted was 1,117 AFY, which occurred in 1991. This can be considered the "Single Dry Year Water Available." The 2-year, 3-year, 4-year, 5-year and 6-year moving averages for the extractions from 1983 -20 were determined and are presented in Table 9-4 (Table 7-3 in the BCVWD 2020 UWMP) along with the Base Period for moving averages.

Table 9-4 Groundwater Available from Edgar Canyon for Single and Multiple Dry Year Analysis

Drought Condition (Base Years)	Average Available over the Drought Period, AFY
Single Dry Year (1991)	1,117
2 Consecutive Dry Years (1990 – 91)	1,173
3 Consecutive Dry Years (1989 – 91)	1,230
4 Consecutive Dry Years (1989 – 92)	1,267
5 Consecutive Dry Years (1988 – 92)	1,305
6 Consecutive Dry Years (1987 – 92)	1,367

Note

1. Taken from Table 7-3 in the BCVWD 2020 UWMP.

9.3.2 *Imported Water*

The amount of imported water available from the SGPWA via the State Water Project is very climate dependent. A spreadsheet was developed using the 2019 DWR Delivery Capability Report simulation data (1922 to 2003) for SGPWA to develop an estimate of the delivery capability for the single dry year and multiple dry year reliability analysis. The 2-, 3-, 4-, 5-, and 6-year moving averages of annual estimated delivery allocations were determined for the period 1922-2003. A summary of the Table A delivery percentages is shown in Table 9-5 (Table 7-4 in the BCVWD 2020 UWMP).

Table 9-5 SGPWA SWP Delivery Capability as Percent of Table A

Year	Long-term Average		Single Dry Year (1977)		Dry Periods							
					2-Year Drought (1976-1977)		4-Year Drought (1931-1934)		6-Year Drought (1987-1992)		6-Year Drought (1929-1934)	
2017 Report	2,571	62%	336	8%	1,206	29%	1,397	34%	1,203	29%	1,408	34%
2019 Report	2,414	58%	288	7%	1,311	32%	1,228	30%	1,058	26%	1,158	28%

Note

1. Taken from Table 7-4 in the BCVWD 2020 UWMP.

The percentages in Table 9-3 were compared to actual SWP delivery allocations for the period 1922 to 2020. The allocations found in BCVWD's analysis of available data are indicated below:

Minimum year	5% (2015, 2020)
Minimum 2 consecutive years	12.5% (2014 - 2015)
Minimum 3 consecutive years	18% (1990 – 1992)
Minimum 4 consecutive years	26% (1988 – 1991)
Minimum 5 consecutive years	24% (1988 – 1992)
Minimum 6 consecutive years	25% (1987 – 1992)

As can be seen, the actual minimum single dry year and minimum 2 consecutive dry years are less than those from the 2019 DWR SWP Delivery Capability Report. For the reliability analysis in this 2020 UWMP and this WSA, the allocation percentages in Table 9-6 (Table 7-5 in the BCVWD 2020 UWMP) will be used.

Table 9-6 SGPWA SWP Delivery Capability as Percent of Table A (Used for Reliability Analysis)

Dry Year(s)	Single	2-Year	3-Year	4-Year	5-Year	6-Year
Table A Annual Delivery Average Over the Drought Period, %	5	12.5	18	26	24	25

Note

1. Taken from Table 7-5 in the BCVWD 2020 UWMP.

For the reliability analysis, the percentages in Table 9-6 will be applied to BCVWD's estimated available imported water supplies for any particular dry year period. The results of the reliability analysis are presented in Tables 9-11 through 9-16.

By Resolution 2015-05, the SGPWA Board of Directors established an obligation to meet the future water supply needs of the region, including BCVWD. BCVWD can rely on the SGPWA to secure and deliver the imported water needed to meet BCVWD's current and future demands as set forth in this 2020 UWMP and subsequent UWMP updates in concert with DWR's Delivery Capability Reports.

9.3.3 Recycled Water

Recycled water is planned to be consistently available; although during droughts, consumers are more aware of water conservation and reduce their indoor water consumption. They are more aware of the need to do only full loads of laundry, full loads for the dishwasher etc. Agencies, including the City of Beaumont, have observed a reduction in wastewater flows during the current drought.

BCVWD is counting on one source of recycled water, the City of Beaumont. For a single dry year, an estimate of 90% of the normal, average recycled water will be available. As the drought becomes more pervasive, the amount of recycled water is estimated to reduce further to 85% of normal. Table 9-7 provides an estimate of the available recycled water during extended dry periods. The amount of recycled water under normal conditions is shown in the updated Section 6 above.

Table 9-7 Estimated Recycled Water Available During Extended Dry Periods

		Year				
		2025	2030	2035	2040	2045
City of Beaumont Recycled Water Available (AFY)	% Available	2017	2381	2892	2955	2915
Single Dry Year	90%	1820	2150	2610	2660	2630
2-Years	85%	1720	2030	2460	2520	2480
3-Years	85%	1720	2030	2460	2520	2480
4-Years	85%	1720	2030	2460	2520	2480
5-Years	85%	1720	2030	2460	2520	2480
6-Years	85%	1720	2030	2460	2520	2480

Notes:

1. Taken from Table 7-6 in the BCVWD 2020 UWMP.
2. The District is currently in the process of finalizing its Non-Potable Water Master Plan, which includes more current non-potable system facility requirements and recycled water supply projections. The non-potable/recycled water supply data provided in this WSA addendum are consistent with the District's 2020 UWMP. The non-potable/recycled water supply projections are considered draft as of the date of approval of this Addendum 1. Data from the BCVWD 2020 UWMP is used for consistency.

9.3.4 Storm Water and Urban Runoff Reliability (Potential Projects).

Storm water and Urban Runoff quantities are very dependent on rainfall. Review of the rainfall record at Beaumont for the period 1888 – 2006 resulted in the data shown in Table 9-8 (Table 7-7 in the BCVWD 2020 UWMP). To determine the multiple dry year rainfall as a percent of the

average rainfall, the 2-, 3-, 4-, 5- and 6-year moving averages of the annual rainfall was determined.

Table 9-8 Estimated Storm Water Available During Extended Dry Periods

Dry Year (s)	Normal	Single	2 - Year	3 - Year	4 - Year	5 - Year	6 - Year
% of Annual Average		36%	45%	52%	52%	61%	63%
Facility	Estimated Average Annual Stormwater Capture, AFY						
MDP Line 16	185	66	83	96	96	113	117
Misc. Urban Runoff Basins	350	126	158	182	182	213	222
Total Stormwater Capture	535	192	241	279	278	325	339

Notes:

1. Taken from Table 7-7 in the BCVWD 2020 UWMP.

9.4. Drought Risk Assessment

A conservative approach was taken when considering the amount of imported supply BCVWD could expect in future conditions. BCVWD has included in its anticipated imported water supplies from the anticipated Table A Allocation available (using percentages described previously in Table 9-6), as well as additional potential sources of imported water identified in SGPWA's 2020 UWMP (June 2021). In any given year, when the demand for imported water exceeds the available supply, it is reasonable to assume that the imported water will be allocated by SGPWA in proportion to each member agency's fraction of the total imported water demand without banking. A summary of the expected allocation percentages for each agency is indicated in Table 9-9, below. Percentages as indicated were determined based on a series of White Papers (White Papers No. 1 through 7) that evaluated water supply and demand for the major retailers in the SGPWA service area.

Table 9-9 Member Agency's Percent of Available Imported Water When Demand Exceed Supply

Agency	Year				
	2025	2030	2035	2040	2045
City of Banning	0.0%	0.0%	0.0%	5.6%	5.6%
YVWD/Calimesa	7.0%	7.3%	7.9%	8.1%	8.5%
BCVWD	78.5%	71.6%	66.3%	58.4%	52.3%
Other Member Agencies	14.5%	21.1%	25.8%	27.9%	33.6%
Total	100%	100%	100%	100%	100%

Notes:

1. Taken from Table 7-9 in the BCVWD 2020 UWMP.

In the future, other SGPWA water retailers will require greater supplies of imported water to meet growing demands. As a result, the allocation percentages described above will continue to change. BCVWD expects to update these percentages after the adoption of the 2020 UWMP updates for the other member agencies in the SGPWA service area.

For the Single Dry Year, potable and non-potable water demands in Table 9-11 (Table 7-11 in the BCVWD 2020 UWMP) did not reflect any conservation. For 2 consecutive dry years through 6 consecutive dry years, demand reductions for potable and non-potable water were included. The estimated demand reductions (as percent) that could be seen during various multiple dry years are indicated below in Tables 9-12 through 9-16 (Tables 7-12 through 7-16 in the BCVWD 2020 UWMP).

Table 9-10 Estimated Demand Reductions During Various Dry Year Periods

Dry Year Analysis Period	Demand Reductions
Single Dry Year	0%
2 Consecutive Dry Years	10%
3 Consecutive Dry Years	20%
4 Consecutive Dry Years	25%
5 Consecutive Dry Years	30%
6 Consecutive Dry Years	40%

Notes:

1. Taken from Table 7-10 in the BCVWD 2020 UWMP.

This is a reasonable assumption since there would be adequate time to implement the potential water use restrictions identified in Section 10 for a dry period lasting longer than a single year.

Tables 9-11 through 9-16 present the water service reliability assessment for single through 6 consecutive dry years. Due to this Project's demands having not been accounted for in the BCVWD 2020 Urban Water Management Plan, the demands in Tables 9-11 – 9-16 below have been increased to include the demands of the proposed Project (14201 California Avenue) and reflect that there is adequate water supply.

Table 9-11 Water Service Reliability Assessment for Single Dry Year

	YEAR				
	2025	2030	2035	2040	2045
DEMAND					
Potable Water Demand, AFY	13,224	14,280	15,419	16,313	17,110
Supplemental Water to Non-Potable System, AFY	276	246	228	278	328
Non-Potable Water Demand, AFY	1,992	2,210	2,513	2,596	2,613
Total Water Demand, AFY	15,492	16,736	18,160	19,187	20,051
LOCAL SUPPLY					
Groundwater					
Edgar Canyon, AFY	1,117	1,117	1,117	1,117	1,117
Beaumont Basin Groundwater Available					
Overlier Potable Forebearance, AFY	-	67	264	384	384
Overlier Non-Potable Forebearance, AFY	471	480	523	558	558
Reallocation of Unused Overlier Rights, AFY	1,322	1,286	1,165	1,099	1,099
Return Flow Credits, AFY	280	514	868	922	1,155
Storm Water, AFY	66	192	192	192	192
Recycled Water Available, AFY	1,820	2,150	2,610	2,660	2,630
Subtotal Local Supply, AFY	5,076	5,805	6,739	6,932	7,135
BCVWD's Share of Imported Supply					
Table A Allocation (5%), AFY	679	619	573	505	452
Yuba Accord, AFY	16	14	13	12	10
AVEK Nickel, AFY	1,335	1,217	1,127	993	889
Ventura, AFY	393	358	332	292	-
SGPWA Carryover Water, AFY	204	186	172	152	136
Sites Reservoir, AFY	-	-	286	571	1,143
Additional SWP Transfers/Exchanges, AFY	39	36	33	29	26
Subtotal Imported Supply, AFY	2,665	2,431	2,537	2,554	2,657
Total Supply, AFY	7,742	8,236	9,276	9,487	9,792
From Banked Beaumont Basin Storage, AF	7,750	8,500	8,884	9,700	10,258

Notes:

1. Modified Table 7-11 from the BCVWD 2020 UWMP to include Ventura Water.
2. The demands in the above table have been updated to include the demands for the 14201 California Ave. Project.

Table 9-12 Water Service Reliability Assessment for 2 Consecutive Dry Years

	YEAR				
	2025	2030	2035	2040	2045
DEMAND					
Potable Water Demand, AFY	13,224	14,280	15,419	16,313	17,110
Supplemental Water to Non-Potable System, AFY	276	246	228	278	328
Non-Potable Water Demand, AFY	1,992	2,210	2,513	2,596	2,613
Total Water Demand, AFY	15,492	16,736	18,160	19,187	20,051
Total Water Demand (10% Demand Reduction), AFY	13,943	15,062	16,344	17,268	18,046
LOCAL SUPPLY					
Groundwater					
Edgar Canyon, AFY	1,173	1,173	1,173	1,173	1,173
Beaumont Basin Available, AFY					
Overlier Potable Forebearance, AFY	-	60	237	346	346
Overlier Non-Potable Forebearance, AFY	424	432	471	502	502
Reallocation of Unused Overlier Rights, AFY	1,190	1,157	1,049	989	989
Return Flow Credits, AFY	280	514	868	922	1,155
Storm Water, AFY	241	241	241	241	241
Recycled Water, AFY	1,720	2,030	2,460	2,520	2,480
Subtotal Local Supply, AFY	5,028	5,607	6,499	6,693	6,886
BCVWD's Share of Imported Supply					
Table A Allocation (12.5%), AFY	1,698	1,548	1,434	1,263	1,131
Yuba Accord, AFY	39	36	33	29	26
AVEK Nickel, AFY	1,335	1,217	1,127	993	889
Ventura, AFY	981	895	829	730	-
SGPWA Carryover Water, AFY	510	465	431	380	340
Sites Reservoir, AFY	-	-	286	571	1,143
Additional SWP Transfers/Exchanges, AFY	98	90	83	73	65
Subtotal Imported Supply, AFY	4,661	4,251	4,222	4,039	3,594
Total Supply, AFY	9,689	9,858	10,721	10,732	10,481
From Banked Beaumont Basin Storage, AF	4,254	5,204	5,623	6,536	7,565
Total Withdrawn from Storage during Dry Period, AF	8,507	10,408	11,245	13,072	15,130

Notes:

1. Modified Table 7-12 from the BCVWD 2020 UWMP to include Ventura Water.
2. The demands in the above table have been updated to include the demands for the 14201 California Ave. Project.

Table 9-13 Water Service Reliability Assessment for 3 Consecutive Dry Years

	YEAR				
	2025	2030	2035	2040	2045
DEMAND					
Potable Water Demand, AFY	13,224	14,280	15,419	16,313	17,110
Supplemental Water to Non-Potable System, AFY	276	246	228	278	328
Non-Potable Water Demand, AFY	1,992	2,210	2,513	2,596	2,613
Total Water Demand, AFY	15,492	16,736	18,160	19,187	20,051
Total Water Demand (20% Demand Reduction), AFY	12,393	13,389	14,528	15,349	16,041
LOCAL SUPPLY					
Groundwater					
Edgar Canyon, AFY	1,230	1,230	1,230	1,230	1,230
Beaumont Basin Available, AFY					
Overlier Potable Forebearance, AFY	-	54	211	308	308
Overlier Non-Potable Forebearance, AFY	377	384	418	446	446
Reallocation of Unused Overlier Rights, AFY	1,058	1,028	932	880	880
Return Flow Credits, AFY	280	514	868	922	1,155
Storm Water, AFY	241	241	241	241	241
Recycled Water, AFY	1,720	2,030	2,460	2,520	2,480
Subtotal Local Supply, AFY	4,906	5,481	6,361	6,546	6,739
BCVWD's Share of Imported Supply					
Table A Allocation (18%), AFY	2,444	2,230	2,065	1,819	1,629
Yuba Accord, AFY	57	52	48	42	38
AVEK Nickel, AFY	1,335	1,217	1,127	993	889
Ventura, AFY	1,413	1,289	1,193	1,051	-
SGPWA Carryover Water, AFY	735	670	621	547	490
Sites Reservoir, AFY	-	-	286	571	1,143
Additional SWP Transfers/Exchanges, AFY	141	129	119	105	94
Subtotal Imported Supply, AFY	6,125	5,586	5,458	5,128	4,282
Total Supply, AFY	11,030	11,067	11,819	11,674	11,021
From Banked Beaumont Basin Storage, AF	1,363	2,321	2,709	3,676	5,020
Total Withdrawn from Storage during Dry Period, AF	4,089	6,964	8,126	11,027	15,059

Notes:

1. Modified Table 7-13 from the BCVWD 2020 UWMP to include Ventura Water.
2. The demands in the above table have been updated to include the demands for the 14201 California Ave. Project.

Table 9-14 Water Service Reliability Assessment for 4 Consecutive Dry Years

	YEAR				
	2025	2030	2035	2040	2045
DEMAND					
Potable Water Demand, AFY	13,224	14,280	15,419	16,313	17,110
Supplemental Water to Non-Potable System, AFY	276	246	228	278	328
Non-Potable Water Demand, AFY	1,992	2,210	2,513	2,596	2,613
Total Water Demand, AFY	15,492	16,736	18,160	19,187	20,051
Total Water Demand (25% Demand Reduction), AFY	11,619	12,552	13,620	14,390	15,038
LOCAL SUPPLY					
Groundwater					
Edgar Canyon, AFY	1,267	1,267	1,267	1,267	1,267
Beaumont Basin Available, AFY					
Overlier Potable Forebearance, AFY	-	50	198	288	288
Overlier Non-Potable Forebearance, AFY	353	360	392	418	418
Reallocation of Unused Overlier Rights, AFY	992	964	874	825	825
Return Flow Credits, AFY	280	514	868	922	1,155
Storm Water, AFY	241	241	241	241	241
Recycled Water, AFY	1,720	2,030	2,460	2,520	2,480
Subtotal Local Supply , AFY	4,853	5,426	6,300	6,481	6,674
BCVWD's Share of Imported Supply					
Table A Allocation (26%), AFY	3,531	3,221	2,982	2,627	2,352
Yuba Accord, AFY	82	74	69	61	54
AVEK Nickel, AFY	1,335	1,217	1,127	993	889
Ventura, AFY	2,041	1,862	1,724	1,518	-
SGPWA Carryover Water, AFY	1,061	968	896	790	707
Sites Reservoir, AFY	-	-	286	571	1,143
Additional SWP Transfers/Exchanges, AFY	204	186	172	152	136
Subtotal Imported Supply, AFY	8,253	7,528	7,256	6,712	5,282
Total Supply, AFY	13,107	12,954	13,557	13,193	11,956
From Banked Beaumont Basin Storage, AF	(1,488)	(402)	63	1,197	3,082
Total Withdrawn from Storage during Dry Period, AF	(5,951)	(1,610)	253	4,790	12,329

Notes:

1. Modified Table 7-14 from the BCVWD 2020 UWMP to include Ventura Water.
2. The demands in the above table have been updated to include the demands for the 14201 California Ave. Project.

Table 9-15 Water Service Reliability Assessment for 5 Consecutive Dry Years

	YEAR				
	2025	2030	2035	2040	2045
DEMAND					
Potable Water Demand, AFY	13,224	14,280	15,419	16,313	17,110
Supplemental Water to Non-Potable System, AFY	276	246	228	278	328
Non-Potable Water Demand, AFY	1,992	2,210	2,513	2,596	2,613
Total Water Demand, AFY	15,492	16,736	18,160	19,187	20,051
Total Water Demand (30% Demand Reduction), AFY	10,844	11,715	12,712	13,431	14,036
LOCAL SUPPLY					
Groundwater					
Edgar Canyon, AFY	1,305	1,305	1,305	1,305	1,305
Beaumont Basin Available, AFY					
Overlier Potable Forebearance, AFY	-	47	185	269	269
Overlier Non-Potable Forebearance, AFY	330	336	366	390	390
Reallocation of Unused Overlier Rights, AFY	926	900	816	770	770
Return Flow Credits, AFY	280	514	868	922	1,155
Storm Water, AFY	241	241	241	241	241
Recycled Water, AFY	1,720	2,030	2,460	2,520	2,480
Subtotal Local Supply, AFY	4,801	5,373	6,241	6,417	6,610
BCVWD's Share of Imported Supply					
Table A Allocation (24%), AFY	3,259	2,973	2,753	2,425	2,171
Yuba Accord, AFY	75	69	64	56	50
AVEK Nickel, AFY	1,335	1,217	1,127	993	889
Ventura, AFY	1,884	1,718	1,591	1,402	-
SGPWA Carryover Water, AFY	980	894	827	729	653
Sites Reservoir, AFY	-	-	286	571	1,143
Additional SWP Transfers/Exchanges, AFY	188	172	159	140	126
Subtotal Imported Supply, AFY	7,721	7,043	6,807	6,316	5,032
Total Supply, AFY	12,523	12,415	13,048	12,733	11,642
From Banked Beaumont Basin Storage, AF	(1,678)	(700)	(336)	698	2,394
Total Withdrawn from Storage during Dry Period, AF	(8,392)	(3,501)	(1,678)	3,491	11,968

Notes:

1. Modified Table 7-15 from the BCVWD 2020 UWMP to include Ventura Water.
2. The demands in the above table have been updated to include the demands for the 14201 California Ave. Project.

Table 9-16 Water Service Reliability Assessment for 6 Consecutive Dry Years

	YEAR				
	2025	2030	2035	2040	2045
DEMAND					
Potable Water Demand, AFY	13,224	14,280	15,419	16,313	17,110
Supplemental Water to Non-Potable System, AFY	276	246	228	278	328
Non-Potable Water Demand, AFY	1,992	2,210	2,513	2,596	2,613
Total Water Demand, AFY	15,492	16,736	18,160	19,187	20,051
Total Water Demand (40% Demand Reduction), AFY	9,295	10,042	10,896	11,512	12,031
LOCAL SUPPLY					
Groundwater					
Edgar Canyon, AFY	1,367	1,367	1,367	1,367	1,367
Beaumont Basin Available, AFY					
Overlier Potable Forebearance, AFY	-	40	158	231	231
Overlier Non-Potable Forebearance, AFY	283	288	314	335	335
Reallocation of Unused Overlier Rights, AFY	793	771	699	660	660
Return Flow Credits, AFY	280	514	868	922	1,155
Storm Water, AFY	241	241	241	241	241
Recycled Water, AFY	1,720	2,030	2,460	2,520	2,480
Subtotal Local Supply, AFY	4,684	5,251	6,107	6,275	6,468
BCVWD's Share of Imported Supply					
Table A Allocation (25%), AFY	3,395	3,097	2,867	2,526	2,262
Yuba Accord, AFY	79	72	66	58	52
AVEK Nickel, AFY	1,335	1,217	1,127	993	889
Ventura, AFY	1,963	1,790	1,658	1,460	-
SGPWA Carryover Water, AFY	1,021	931	862	759	680
Sites Reservoir, AFY	-	-	286	571	1,143
Additional SWP Transfers/Exchanges, AFY	196	179	166	146	131
Subtotal Imported Supply, AFY	7,987	7,285	7,032	6,514	5,157
Total Supply, AFY	12,671	12,537	13,139	12,789	11,625
From Banked Beaumont Basin Storage, AF	(3,376)	(2,495)	(2,243)	(1,276)	406
Total Withdrawn from Storage during Dry Period, AF	(20,258)	(14,972)	(13,459)	(7,658)	2,434

Notes:

1. Modified Table 7-16 from the BCVWD 2020 UWMP to include Ventura Water.
2. The demands in the above table have been updated to include the demands for the 14201 California Ave. Project.

In all of the assessments, water must be extracted from BCVWD's Beaumont Basin Storage Account. Tables 9-11 through 9-16 clearly indicate the importance of maintaining substantial amounts of water in the storage account. The total amount required to be withdrawn from banked

storage will increase if conservation measures and restrictions described in Section 10 cannot be achieved. If no conservation occurs (worst case, conservative), BCVWD will need to maintain about 12,000 AF in its storage account to meet the demands during a 5 consecutive year dry period.

A summary of the available supplies expected during a 5-year drought, beginning in 2020 are summarized in Table 9-17 (Table 7-17 in the BCVWD 2020 UWMP) below. The results of the Drought Risk Assessment above assume that the demand reductions and conservation measures described in Section 12 (Section 8 in the BCVWD 2020 UWMP) are achieved.

Table 9-17 5-Year Drought Risk Assessment

	YEAR				
	2021	2022	2023	2024	2025
DEMAND					
Potable Water Demand, AFY	12,412	12,604	12,787	12,980	13,500
Non-Potable Water Demand, AFY	1,642	1,664	1,686	1,731	1,992
Total Water Demand, AFY	14,054	14,268	14,473	14,711	15,492
Demand Reduction (%)	0%	10%	20%	25%	30%
Total Water Demand (Including Reductions), AFY	14,054	12,841	11,578	11,033	10,844
LOCAL SUPPLY					
Groundwater					
Edgar Canyon, AFY	1,117	1,173	1,232	1,267	1,305
Beaumont Basin Available, AFY					
Overlier Potable Forebearance, AFY	-	-	-	-	-
Overlier Non-Potable Forebearance, AFY	-	-	-	-	330
Reallocation of Unused Overlier Rights, AFY	2,025	1,826	1,827	2,017	926
Return Flow Credits, AFY	235	246	258	269	280
Storm Water, AFY	-	185	185	185	241
Recycled Water, AFY		1,520	1,580	1,650	1,720
Subtotal Local Supply , AFY	3,377	4,950	5,082	5,388	4,802
BCVWD's Share of Imported Supply					
Table A Allocation (%), AFY	5%	12.5%	18%	26%	24%
Table A Allocation , AFY	679	1,698	2,444	3,531	3,259
Yuba Accord, AFY	16	39	57	82	75
AVEK Nickel, AFY	1,335	1,335	1,335	1,335	1,335
Ventura, AFY	393	981	1,413	2,041	1,884
SGPWA Carryover Water, AFY	204	510	735	1,061	980
Sites Reservoir, AFY	-	-	-	-	-
Additional SWP Transfers/Exchanges, AFY	39	98	141	204	188
Subtotal Imported Supply, AFY	2,665	4,661	6,125	8,253	7,721
Total Supply, AFY	6,042	9,611	11,207	13,641	12,523
From Banked Beaumont Basin Storage, AF	8,012	3,230	372	(2,608)	(1,679)
Total Withdrawn from Storage during Dry Period, AF	8,012	11,242	11,614	9,006	7,327

Notes:

1. Modified Table 7-17 from the BCVWD 2020 UWMP to include Ventura Water.
2. The demands in the above table have been updated to include the demands for the 14201 California Ave. Project.

10. Water Shortage Contingency Plan

As a companion to the BCVWD 2020 UWMP and required by the State, the District prepared and approved the BCVWD 2020 Water Shortage Contingency Plan (WSCP) as a strategic planning process to prepare for and respond to water shortages. As part of this new requirement, BCVWD will assess each year's water supplies to determine if there was a water volume shortage for that year. Based on the water shortage, the District may implement one of the six water conservation levels (shown in Table 10-1 below), as defined in the District's WSCP, to encourage or require water conservation among its service area. The 14201 California Avenue Development will be subject to these water conservation levels as dictated by BCVWD.

Table 10-1 Water Shortage Contingency Levels

DWR Table 8-1 Water Shortage Contingency Plan Levels		
Shortage Level	Percent Shortage Range	Shortage Response Actions (Narrative description)
1	Up to 10%	Up to 10% reduction in normal, "long term" water supply (including conjunctive use water in storage); response actions includes voluntary public demand reduction of 10%, and community outreach encouraging conservation.
2	Up to 20%	Up to 20% reduction in normal, "long term" water supply (including conjunctive use water in storage); includes any actions from Shortage Level 1. Response actions include mandatory 10% reduction - Increased public outreach, restaurants serve water upon request, lodging must offer opt out of linen services
3	Up to 30%	Up to 30% reduction in normal, "long term" water supply (including conjunctive use water in storage); response actions includes any actions from Shortage Levels 1 and 2. Response actions include mandatory 20% reduction - limit landscape irrigation to certain number of days per week
4	Up to 40%	Up to 40% reduction in normal, "long term" water supply (including conjunctive use water in storage); response actions includes any actions from Shortage Levels 1, 2 and 3. Response actions include mandatory 25% reduction - limit irrigation of lawns to once a week except for lawns and turf irrigate with recycled water, restrict water use for decorative water features, limit filling of pools only to cases where appropriate cover is in place
5	Up to 50%	Up to 50% reduction in normal, "long term" water supply (including conjunctive use water in storage); response actions includes any actions from Shortage Levels 1 - 4. Response actions include mandatory 30% reduction - prohibit filling of swimming pools, washing of automobiles only limited to facilities using recycled water, prohibit potable water use for construction activities, industrial water users required to reduce water use (food processing, concrete mixing plant)
6	>50%	Greater than 50% reduction in normal, "long term" water supply (including conjunctive use water in storage); response actions includes any actions from Shortage Levels 1 - 5. Response actions include mandatory 30% reduction - prohibit landscape irrigation except for irrigation with use of recycled water, industrial water users required to further reduce water use (food processing, concrete mixing plant)
NOTES:		

Notes:

1. Taken from Table 8-1 in the BCVWD 2020 UWMP.

11. Conclusion

1. The projected water demand from the 14201 California Avenue Development project is 56,099 gpd (63 AFY) of which 31,323 gpd (35 AFY) is outdoor, non-potable water use. This equates to approximately 0.5% of the District existing water demand for 2025.
2. The 14201 California Avenue development project was not included in the list of planned development projects in BCVWD's 2020 UWMP. To clarify, when the District was preparing the basis for future water demands within the District's service area in the BCVWD's 2020 UWMP, the District utilized the potable water demands from various projects within the District's Sphere of Influence. Because the project was not identified at the time of the District's Urban Water Management Plan, there would be an increase in projected water demands.
3. BCVWD prepared a series of White Papers which analyzed the regional (SGPWA) imported water supply requirements and funding requirements. These White Papers are referenced within this WSA. The basis for the White Papers was a regional spreadsheet demand model, developed by BCVWD, which was reviewed by the City of Banning and YVWD.
4. The White Papers indicate that SGPWA can obtain sufficient imported water supply to supplement local supplies to meet regional needs including BCVWD's needs. The White Papers also indicated that adequate funding is available to implement the imported water projects currently planned for the short and long terms.
5. As reflected in Tables 9-11 – 9-17, Ventura Water adds an additional 10,000 acre-feet of available Table A water to the available supplies. These additional available water supplies ensure the District has the capabilities to provide adequate water supply until the construction of the Sites Reservoir project.
6. BCVWD prepared and adopted a Potable Water Master Plan which identified water needs and facility needs to build-out. The BCVWD 2020 UWMP identified recycled water from the City of Beaumont for non-potable water irrigation with a plan for the recharge of surplus recycled water with appropriate treatment and permits. The City and BCVWD signed a Memorandum of Understanding (MOU) in 2019 which began the process of an agreement for purchase of recycled water by BCVWD. In addition, storm water capture and other local water resource projects were identified. One of these projects, MDP-Line 16, (Grand

Avenue Storm Drain) was recently constructed by the Riverside County Flood and Water Conservation District and BCVWD. The storm drain will be partially funded through a grant from the Santa Ana Watershed Project Authority.

7. SGPWA and BCVWD have made financial commitments to the Sites Reservoir project Phase 1 studies and will commit funds to Phase 2.
8. Adequate water supply exists, or is planned, for the 14201 California Avenue development project to 2045 and beyond as outlined in Section 9. BCVWD can meet the Project needs as well as BCVWD's existing demands and the demands of the other planned developments within BCVWD's service area which are listed in the 14201 California Avenue WSA.
9. Multiple dry-year reliability analysis demonstrates that BCVWD will be able to meet its existing demands and the demands of the other planned developments within its service area which were listed in the 14201 California Avenue WSA. BCVWD will supplement its existing supply sources during these dry periods with banked water in BCVWD's Beaumont Basin Groundwater Storage Account, and implement its Water Shortage Contingency Plan, when appropriate.
10. Pursuant to §10910 of the California Water Code (SB 610) and information provided in the 14201 California Avenue WSA, BCVWD has determined that currently available and planned supplies are sufficient to meet the water demands of the proposed 14201 California Avenue project in addition to the existing and other planned project demands during normal, single dry and multiple dry years over the next 20 years, as outlined in Sections 6 through 9 in this WSA.
11. Pursuant to the California Government Code Section 66473.7, (SB 221) BCVWD has determined that it has sufficient and adequate water supply available to serve the long-term needs of the 14201 California Avenue development in addition to the existing and other planned project demands during normal, single dry and multiple dry years over the next 20 years, as outlined in Sections 6 through 9.

12. References

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Appendix “A”

2020 BCVWD Urban Water Management Plan

Appendix “B”
Site Plan (Full Size)

Appendix “C”
ROW Landscape Exhibit

Beaumont-Cherry Valley Water District
Water Supply Assessment for 14201 California Avenue Specific

Appendix “D”
2020 SGPWA Urban Water Management Plan