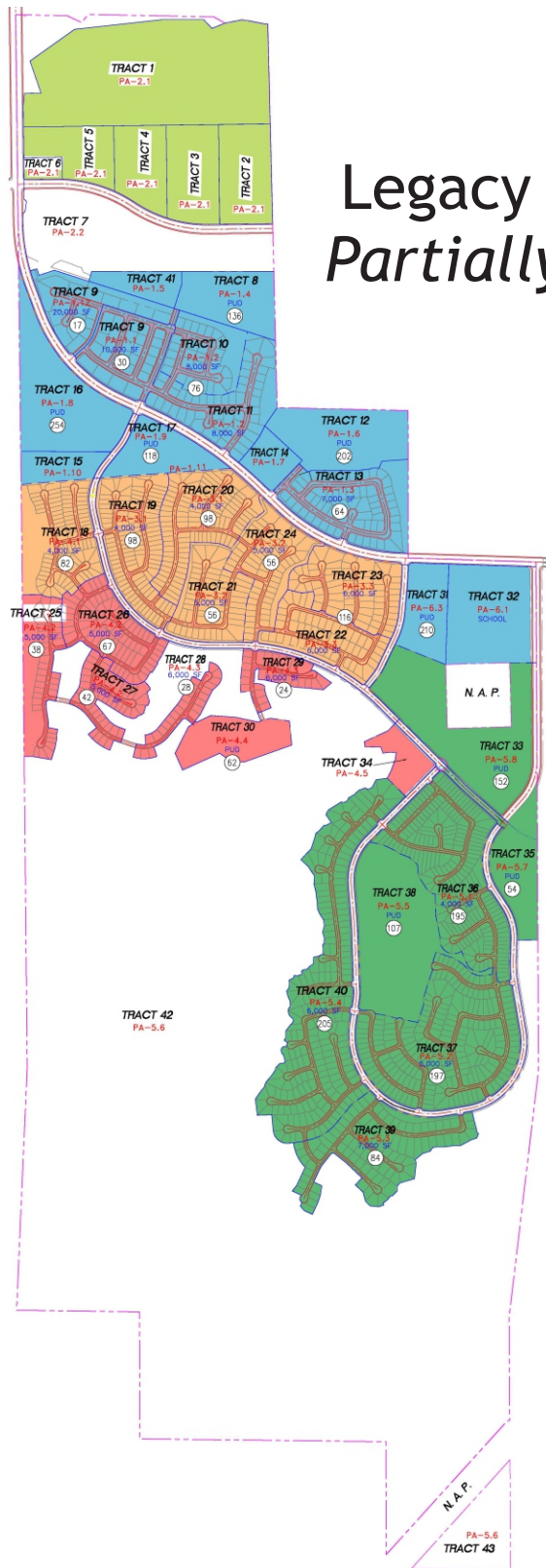


Legacy Highlands Specific Plan *Partially Recirculated Draft EIR*



December 14, 2020

Partially Recirculated
**DRAFT ENVIRONMENTAL
IMPACT REPORT**

for the

Legacy Highlands Specific Plan Project
State Clearinghouse Number:
2005031155

Prepared for:

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December 14, 2020

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PREFACE

PREFACE

NOTICE: This is a partial recirculation of the Legacy Highlands Specific Plan Project Draft EIR, published May 2, 2007, SCH No. 2005031155 (the 2008 EIR). The only portions of the 2008 EIR being recirculated under this Partially Recirculated Draft EIR (PRDEIR) are Section 4.4, *Water Supply*; and Section 5.2, *Alternatives Analysis*.

In addition to the above-noted revisions, newly added background information and analyses are appended to this PRDEIR, as listed below:

- New Appendix A-1 is added: Superior Court of California [Court], County of Riverside, *Cherry Valley Pass Acres and Neighbors v. City Of Beaumont, et al.*; Statement of Decision, No. D6 RIC492830, February 2, 2009. The Statement of Decision and accompanying (a) Preemptory Writ of Mandate and (b) Judgment identifies those portions of the 2008 DEIR determined to be deficient by the Court.
- New Appendix B-1 is added: *Assessment for TTM 31570 - The Legacy Highlands, City of Beaumont, CA* (Beaumont Cherry Valley Water District) June 2020 (Project Water Supply Assessment, Project WSA). The Project WSA conforms to SB 610 and SB 211 provisions and substantiates water supply adequacy for the Project and existing and planned future uses under normal, single dry, and multiple dry water years scenarios over a 20-year projection.
- New Appendix C-1 is added: *Legacy Highlands (Beaumont, CA) Estimates of Financial Performance of Identified Project Alternatives to the Proposed Project* (The Natelson Dale Group, Inc.) November 9, 2020 (Alternatives Financial Pro Forma). The Alternatives Financial Pro Forma substantiates that the cost per

dwelling unit under any of the Alternatives are such that the marginal costs of the Alternatives are so great that the Applicant or any other developer would not proceed with any of the Alternatives.

The City of Beaumont (City) requests that PRDEIR reviewers limit their comments to the revised discussions noted above (PRDEIR Section 4.4, *Water Supply*, PRDEIR Subsection 5.2.3.12); and the information presented at PRDEIR Appendix B-1 *Assessment for TTM 31570 - The Legacy Highlands, City of Beaumont, CA (Beaumont Cherry Valley Water District)* June 2020.

Background

On January 15, 2008, the City of Beaumont (City) certified the Legacy Highlands Specific Plan Project Environmental Impact Report, SCH No. 2005031155 (the 2008 EIR), and approved the Legacy Highlands Specific Plan Project (Project). The 2008 EIR evaluated potential environmental impacts of the Project. The Project, as approved by the City, would provide for a total of up to 2,868 dwelling units (1,107 single family residential units + 1,761 active adult, low density residential units), 100 acres (approximately 1.20 million square feet) of commercial/industrial uses, a 20-acre school site, various neighborhood parks, undeveloped open space, and all supporting infrastructure and utilities.

The Project site is located southerly of SR-60 and westerly of SR-79 in unincorporated Riverside County, adjacent to the boundary of the City of Beaumont. The Project site lies within the City of Beaumont Sphere of Influence (SOI), and would be annexed to the City as one of the Project's requested discretionary actions.

Following the City's approval of the Project, Cherry Valley Pass Acres and Neighbors (Petitioners) filed a CEQA action alleging that the 2008 EIR failed to adequately analyze several of the Project's potential environmental impacts. On February 03, 2009, the Superior Court of California, County of Riverside (Court) upheld the adequacy of the 2008 EIR in all but three discrete areas. See: Superior Court of California, County of

Riverside, Cherry Valley Pass Acres and Neighbors v. City Of Beaumont, et al.; Statement of Decision, No. D6 RIC492830, February 2, 2009 (February 2, 2009 Statement of Decision). Deficiencies identified under the February 2, 2009 Statement of Decision were:

- The Project Water Supply Assessment (WSA) and associated EIR analysis of water supply impacts were deemed deficient;
- The City Findings rejecting the “Reduced Intensity Alternative” and the “Biological Preserve Alternative” were not supported by substantial evidence; and
- The City’s Statement of Overriding Considerations (SOC) adopted when certifying the 2008 EIR were not supported by substantial evidence.

For informational purposes, the February 2, 2009 Statement of Decision is provided at Appendix A-1 to this PRDEIR.

The Court ordered the City to set aside certification of the 2008 EIR for reconsideration of the issues listed above. Accordingly, the City of Beaumont, as the Lead Agency under the California Environmental Quality Act, Public Resources Code Section 21000, et seq. (CEQA), has prepared this Partially Recirculated Draft Environmental Impact Report (PRDEIR) pursuant to *CEQA Guidelines* Section 15088.5. This PRDEIR addresses the issues listed above and identified in the February 2, 2009 Statement of Decision. All other aspects of the 2008 EIR were found to be adequate and were upheld under the Court’s February 2, 2009 Statement of Decision. This PRDEIR incorporates the 2008 EIR by reference.

CEQA Standards for Recirculation

Overview

CEQA Guidelines Section 15088.5 establishes that a lead agency is required to recirculate an EIR when significant new information is added to the EIR after it is released for public

review. Significant new information is defined as “changes in the project or environmental setting as well as additional data or other information” that results in the disclosure of:

- A new significant environmental impact;
- A substantial increase in the severity of an environmental impact; or
- A feasible project alternative or mitigation measure considerably different from others previously analyzed [that] would clearly lessen the environmental impacts of the project.

CEQA Guidelines Section 15088.5 also establishes that recirculation may be triggered by the Draft EIR being so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded. In this case, the Court’s February 2, 2009 Statement of Decision found the 2008 EIR to be deficient under the areas noted previously. In response, and to address the 2008 EIR deficiencies identified by the Court, the City has prepared this PRDEIR.

Accordingly, this Court’s retained jurisdiction is limited to ensuring the City has complied with the Court’s February 2, 2009 Statement of Decision:

[T]he trial court’s retained jurisdiction under Public Resources Code section 21168.9, subdivision (b) is limited to ensuring compliance with the peremptory writ of mandate. After considering the petitioner’s challenges to an EIR or other agency action and rendering a final judgment and peremptory writ of mandate, a trial court evaluating a return to the writ may not consider any newly asserted challenges arising from the same material facts in existence at the time of the judgment. To do so would undermine the finality of the judgment.

*

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Accordingly, we conclude that any challenge to an EIR or other agency action arising from facts in existence before the entry of judgment must be asserted in the proceeding before the entry of judgment. The failure to assert such a challenge before the entry of judgment or the failure to successfully appeal the judgment on an issue arising from facts in existence before the entry of judgment precludes a party from asserting the challenge in connection with post-judgment proceedings concerning compliance with the writ.

(*Ballona Wetlands Land Trust v. City of Los Angeles* (2011) 201 Cal.App.4th 455, 480-481).

Standards for Partial Recirculation

CEQA Guidelines Section 15088.5(c) establishes that if revisions to a Draft EIR are limited to only a few chapters of the document, the lead agency need only recirculate the portions that have been modified. This is known as partial recirculation. The City of Beaumont is partially recirculating the Legacy Highlands Specific Plan Project Draft EIR for public and agency review pursuant to the Court's February 2, 2009 Statement of Decision in the matter of *Cherry Valley Pass Acres and Neighbors v. City Of Beaumont, et al.*

Basis for Partial Recirculation of the Legacy Highlands Specific Plan Project Draft EIR

The Court's February 2, 2009 Statement of Decision required the 2008 EIR to be remanded to the City for reconsideration of the 2008 EIR's discussion of water supply impacts. Additionally, the Court determined that the City Findings rejecting the 2008 EIR Reduced Intensity Alternative and the Biological Preserve Alternative were not supported by substantial evidence. The Court also determined that the City's Statement of Overriding Considerations was not supported by substantial evidence.

A partial recirculation of the EIR most effectively complies with the Court's ruling and with CEQA Guidelines Section 15088.5, which sets forth the criteria and process for undertaking a partial recirculation. Consistent with direction provided by the Court,

this PRDEIR re-evaluates the Project water supply impacts, and substantiates compliance with SB 610 and SB 211 Water Supply Assessment requirements. The PRDEIR also provides supplemental information related to viability and feasibility of the 2008 EIR Reduced Intensity Alternative and the Biological Preserve Alternative. The remainder of the 2008 EIR analyses were affirmed by the Court, and therefore have not been revised or recirculated. The changes made to the 2008 EIR by this partial recirculation are summarized below.

Summary of PRDEIR Content and Revisions

CEQA Guidelines Section 15088.5(g) requires that Partial Recirculated Draft EIRs provide a summary of the revisions made to the Draft EIR. Revisions to the 2008 EIR presented in this PRDEIR are summarized below. These revisions do not affect findings and conclusions of the 2008 EIR. Substantive revisions to the 2008 EIR reflected in this PRDEIR include:

- **Revised Discussion of Water Supply Impacts.** Consistent with the Court's direction, a Water Supply Assessment (WSA) for the Project has been prepared. See: *Assessment for TTM 31570 - The Legacy Highlands, City of Beaumont, CA* (Beaumont Cherry Valley Water District) June 2020 (Project Water Supply Assessment, Project WSA), PRDEIR Appendix B-1. The Project WSA conforms to SB 610 and SB 211 provisions and substantiates water supply adequacy for the Project and existing and planned future uses under normal, single dry, and multiple dry water years scenarios over a 20-year projection. The discussion of water supply impacts at PRDEIR 4.4, *Water Supply* is revised in total for clarity and is consistent with information presented in the Project WSA. Correlating revisions to any tangentially affected 2008 EIR discussions are amended by reference.
- **Discussion of Reduced Intensity Alternative and Biological Preserve Alternative.** The Court identified informational deficiencies in the City Findings rejecting the "Reduced Intensity Alternative," and "Biological Preserve Alternative." This PRDEIR at Section 5.2.3.12, *Comparative Impacts of Project*

Objectives provides additional information supporting the City Findings rejecting the “Reduced Intensity Alternative,” and “Biological Preserve Alternative.” No other substantive revisions to the Original (2008) EIR discussion of Alternatives are proposed or required. No “outdated” thresholds are used in this analysis. (See *Citizens Against Airport Pollution v. City of San Jose* (2014) 227 Cal.App.4th 788). Note further that the trial court’s retained jurisdiction under Public Resources Code Section 21168.9, subdivision (b) is limited to ensuring compliance with the peremptory writ of mandate.

Correlating revisions to any tangentially affected 2008 EIR discussions are amended by reference. City Findings regarding Alternatives to the Project will be provided consistent with the City’s ultimate determination regarding the PRDEIR and the Project.

- **Revised Statement of Facts, Findings, and Overriding Considerations.** Because the Project would result in certain significant and unavoidable environmental impacts, in certifying the 2008 EIR, the City adopted a Statement of Overriding Considerations (SOC). The Court found the City’s SOC was not supported by substantial evidence in the record. The City’s SOC will be provided consistent with the City’s ultimate determination regarding the PREIR and the Project.

Partially Recirculated Draft EIR Review

Consistent with *CEQA Guidelines* Sections 15087 and 15088.5(d), this PRDEIR has been distributed for public review for a period of 45 days. Copies of the PRDEIR are available for review at City of Beaumont Civic Center, 550 E. 6th Street, Beaumont, CA 92223. Please contact the City via telephone (951) 769-8520 for current days/hours of operation. The PRDEIR can also be accessed at: <https://www.beaumontca.gov/1125/Planning-Projects>.

Partially Recirculated Draft EIR Comments

During the 45-day review period, the general public, agencies, and organizations are encouraged to submit written comments on the PRDEIR to the City on issues related to compliance with the Court's February 2, 2009 Statement of Decision. The City of Beaumont will accept comments that are written, emailed, faxed, or other format. Within comments provided, please identify a contact person or persons. Additionally, please include "Legacy Highlands Specific Plan PRDEIR" in the subject line of any correspondence regarding the PRDEIR.

Please mail comments to:

Christina Taylor, Community Development Director
City of Beaumont
550 E. 6th Street
Beaumont, CA 92223

Comments may also be sent by FAX to (951) 769-8526 or by email to ctaylor@beaumontca.gov.

At the conclusion of the public review process, a Final PRDEIR will be prepared. The Final PRDEIR will comprise comments received on the PRDEIR and responses to those comments; the PRDEIR including any necessary revisions or corrections to the PRDEIR; and by reference, the 2008 EIR.

Although a part of the administrative record, previous comments received on the 2008 EIR do not require a written response in the Final PRDEIR. New comments must be submitted for the PRDEIR. The City, as provided at *CEQA Guidelines*, Section 15088.5(f) (1), will not respond to comments received on the 2008 EIR but will respond to new comments received on this PRDEIR.

4.4 WATER SUPPLY

4.4 WATER SUPPLY

Abstract

This Section describes existing and anticipated water resources available to support development of the Project, identifies existing and projected water demands, and assesses water resources impacts resulting from adoption and implementation of the Project. More specifically, the analysis presented here evaluates whether:

- There are sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years over a 20-year analysis scenario; and*
- There is the potential for the Project to substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin.*

4.4.1 INTRODUCTION

The proposed Legacy Highlands Specific Plan is a “project” as defined under the California Water Code (CWC). Consistent with the requirements of the CWC and related provisions of SB 610 and SB 221,¹ a Water Supply Assessment (WSA) has been prepared for the Project (see: *Water Supply Assessment for TTM 31570 – The Legacy Highlands, City of Beaumont, CA* [Beaumont-Cherry Valley Water District] Revised June 2020 [Project WSA, PRDEIR Appendix B-1]). The Project WSA evaluates the sufficiency of water supplies to serve the needs of the Project, in addition to existing and planned

¹ California Water Code sections 10910 et seq. and Government Code section 66455.3 require a lead agency to comply with certain sections of the State Water Code when a project is subject to CEQA. In general, those laws require the lead agency to obtain information from the water system that will supply water to the project concerning the ability of the water system to adequately serve the project, in addition to existing and planned future uses, for the following twenty years under normal, dry, and extended dry periods.

future uses, for the following twenty years under normal, dry, and extended dry periods. The water supply analysis presented in this Section is summarized from the Project WSA. The Project WSA is incorporated by reference.²

The Project, as approved by the City, would provide for a total of up to 2,868 dwelling units (1,107 single family residential units + 1,761 active adult, low density residential units), 100 acres (approximately 1.2 million square feet) of commercial/industrial uses, a 20-acre school site, various neighborhood parks, undeveloped open space, and all supporting infrastructure and utilities.

The estimated Project development sequence is as follows:

- Phase 1: 897 single family residential lots with 16.9 acres of “active” parks and 3.5 acres of “passive” parks.
- Phase 2: 1.2 million square feet of commercial/industrial uses which is anticipated to consist of warehouse space.
- Phase 3: 424 Equivalent Dwelling Units (EDUs), active adult residences, in a gated community.
- Phase 4: 343 EDUs, active adult residences, and 4.4 acres of “active” parks in a gated community.
- Phase 5: 994 EDUs, active adult residences, in a gated community with 638.9 acres of natural open space.

² The year 2018 information presented in the WSA reflects the latest record year of available supply/demand data. The WSA projected water supply/demand estimates conform to SB221/SB610 requirements and substantiate that 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 Project, in addition to the water supplier’s existing and planned future uses, including agricultural and manufacturing uses. In this latter regard, the WSA provides supply/demand estimates for the period 2020 – 2040.

- Phase 6: 20-acre school, 210 single family residential lots with 111.2 acres of natural open space.

In the above phasing, “active” parks are assumed to be turfed and irrigated with non-potable water; “passive” parks are assumed to have low water using planting irrigated with non-potable water. The “open” space will not be irrigated. The developer anticipates constructing about 200 dwelling units per year and projects a 15-year build-out period (Project WSA, p. 1).

Ultimately, development timing would be shaped by market forces.

Groundwater impacts are discussed in the Project WSA as well as the Beaumont-Cherry Valley Water District 2015 Urban Water Management Plan (2015 UWMP). The 2015 UWMP is incorporated in the Project WSA and this PRDEIR by reference. The 2015 UWMP is available from Beaumont-Cherry Valley Water District, or can be accessed at: <https://bcvwd.org/wp-content/uploads/2017/09/January-2017-Urban-Water-Management-Plan-Final.pdf>.

Regulatory Background

Senate Bills 610 and 221

To assist water suppliers, cities, and counties in integrating water and land use planning, the stated passed Senate Bill (SB) 610 (Chapter 643, Statutes of 2001) and SB 221 (Chapter 642, Statutes of 2001), effective January 1, 2002. SB 610 and 221 improve the link between information of water supply availability and certain land use decisions made by cities and counties. SB 610 and SB 221 are companion measures that promote more collaborative planning between local water suppliers, cities, and counties. Both require detailed information regarding water availability to be provided to city and county decision makers prior to approval of specified large development projects. This detailed information must be included in the administrative record as the evidentiary basis for an approval action by the city of county on such projects. The statutes recognized local control and decision making regarding the availability of water for projects and the approval of projects. Under SB 610, a water supply assessment must be

furnished to local governments for inclusion in any environmental documentation for certain projects subject to CEQA, as defined in Water Code Section 10912[a], including this one.

Urban Water Management Planning Act

The Urban Water Management Planning Act of 1983, California Water Code Sections 10610 et seq., requires preparation of a plan that:

- Plans for water supply and assesses reliability of each source of water, over a 20-year period, in 5-year increments.
- Identifies and quantifies adequate water supplies, including recycled water, for existing and future demands in normal, single-dry, and multiple-dry years.
- Implements conservation and the efficient use of urban water supplies.

The Urban Water Management Planning Act states that every urban water supplier that provides water to 3,000 or more customers or provides over 3,000 acre-feet of water per year should make every effort to ensure the appropriate level of reliability in its water service to meet the needs of its various categories of customers during normal, dry, and multiple-dry years. Both SB 610 and SB 221 identify the UWMP as a planning document that can be used by a water supplier to meet the standards in both statutes.

Principles Governing CEQA Analysis of Water Supply

In *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (February 1, 2007), the California Supreme Court articulated the following principles for analysis of future water suppliers for projects subject to CEQA:

- To meet CEQA's informational purposes, the EIR must present sufficient facts to decision makers to evaluate the pros and cons of supplying the necessary amount of water to the project.
- CEQA analysis for large, multiphase projects must assume that all phases of the project will eventually be built and the EIR must analyze, to the extent reasonably possible, the impacts of providing water to the entire project. Tiering cannot be used to defer water supply analysis until future phases of the project

are built. CEQA analysis cannot rely on “paper water.” The EIR must discuss why the identified water should reasonably be expected to be available. Future water supplies must be likely, rather than speculative. When there is some uncertainty regarding availability of future water supply, an EIR should acknowledge the degree of uncertainty, include a discussion of possible alternative sources, and identify the environmental impacts of such alternative sources. Where a full discussion still leaves some uncertainty about the long-term water supply’s availability, mitigation measures for curtailing future development in the event that intended sources become unavailable may become a part of the EIR’s approach.

- The EIR does not need to show that water supplies are definitely assured because such a degree of certainty would be “unworkable, as it would require water planning to far outpace land use planning.” The requisite degree of certainty of a project’s water supply varies with the stage of project approval. CEQA does not require large projects, at the early planning phase, to provide high degree of assurances of certainty regarding long-term future water supplies.
- The EIR analysis may rely on existing urban water management plans, as long as the project’s new demand was included in the water management plan’s future demand accounting.
- The ultimate question under CEQA is not whether an EIR establishes a likely source of water, but whether it adequately addresses the reasonably foreseeable impacts of supplying water to the project.

In *Cherry Valley Pass Acres and Neighbors v. City of Beaumont* (RIC492830), the Riverside Superior Court held that a proper Water Supply Assessment was not prepared in compliance with SB 610 and that the EIR’s discussions and considerations of water supply impacts were legally deficient and did not comply with *Vineyard*.

A legally compliant water supply assessment has been prepared and approved by the Beaumont-Cherry Valley Water District in June 2020. The WSA relied on existing information in the Urban Water Management Plan and more recent water planning analysis and sets forth the existing and planned water supplies necessary to provide the

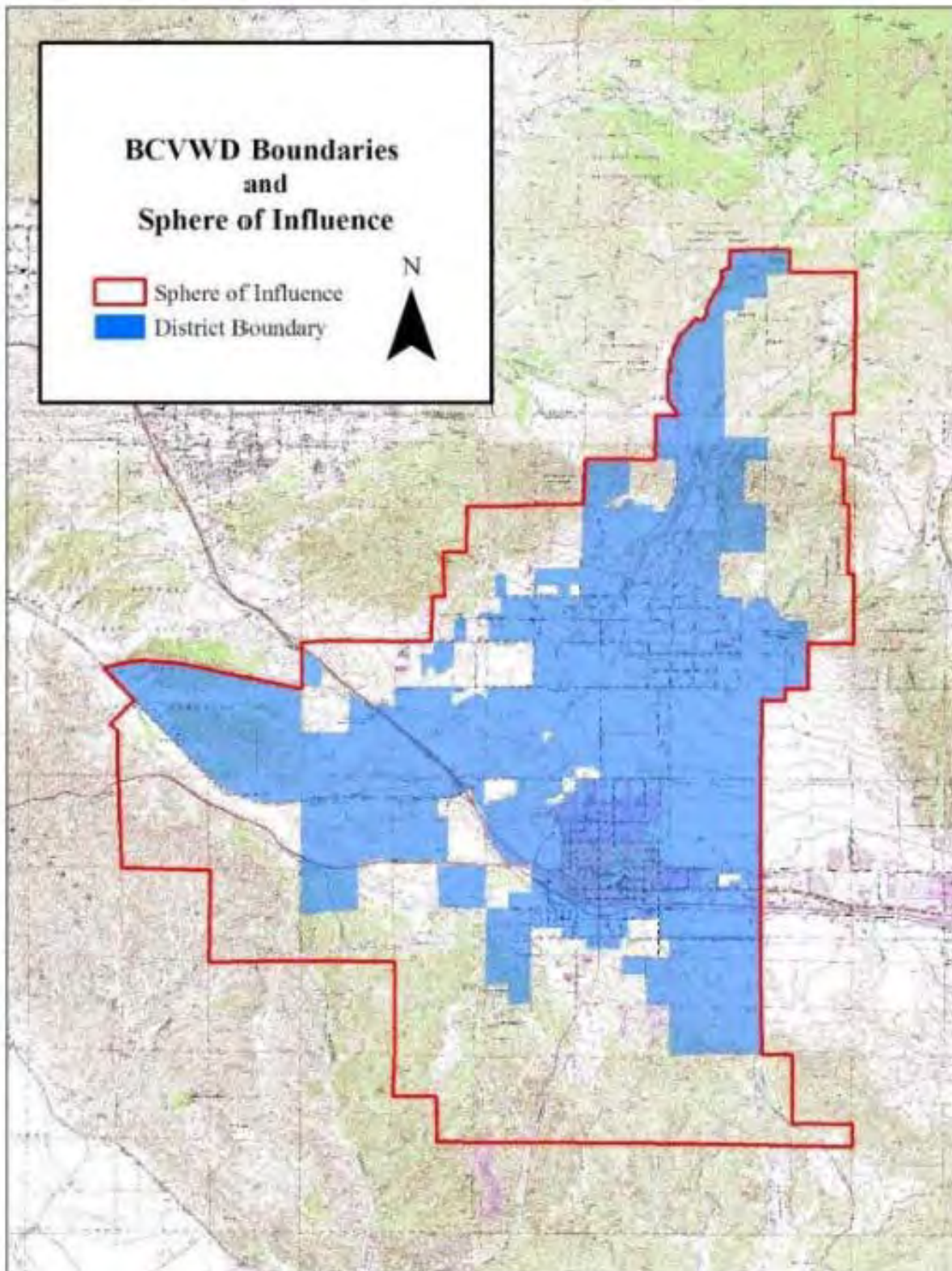
existing and planned developments within the District's Sphere of Influence, including this project.

4.4.2 SETTING

4.4.2.1 Water Supply System

Water would be provided to the Project by Beaumont-Cherry Valley Water District (BCVWD). BCVWD owns approximately 1,524 acres of watershed land north of Cherry Valley along the Little San Gorgonio Creek, (also known as Edgar Canyon), and Noble Creek. There are two stream diversion locations within Little San Gorgonio Creek that are in the Department of Water Resources Division of Water Rights database. The diversions have pre-1914 recorded water rights amounting to 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 Gorgonio 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 about 10.5 percent of BCVWD's water supply (Project WSA, p. 18).

The BCVWD Service Area, BCVWD Sphere of Influence and location of the Project are presented at Figure 4.4-1. BCVWD's present Service Area (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 Sphere of Influence (SOI), or ultimate service planning area, encompasses approximately 37.5 square miles (14.3 square miles are in the City of Beaumont). The BCVWD SOI was established by the Riverside and San Bernardino County Local Agency Formation Commissions (LAFCOs) (Project WSA, p. 18).



N
NOT TO SCALE
Source: BCVWD

Elevations in the Service Area range from 2,300 feet above mean sea level (AMSL) in Fairway Canyon area of Beaumont on the southwestern boundary, to 2,900 feet AMSL in Cherry Valley, and to over 4,000 feet AMSL in the upper reaches of the SOI. Residential development within the Service Area and SOI functions largely as a “bedroom” community for the Riverside/San Bernardino Area and the communities east of Los Angeles County along the I-10/State Highway 60 corridor (Project WSA, p. 20).

Potable Water System

BCVWD’s potable water system is supplied by wells in Little San Gorgonio Creek (Edgar Canyon) and the Beaumont Groundwater Basin (sometimes called the Beaumont Storage Unit or the Beaumont Management Zone). BCVWD has a total of 24 wells; 1 well is a standby. Only 20 of the wells are used to any great extent. Twelve of the wells have auxiliary engine drives, a portable generator connection, or an in-place standby generator. BCVWD has 3 portable generators capable of operating 50, 350 and 500 horsepower (HP) motors (Project WSA, p. 20).

The Beaumont Groundwater Basin is adjudicated and managed by the Beaumont Basin Watermaster (Watermaster).³ BCVWD augments its groundwater supply with imported State Project Water (SPW) obtained from the SGPWA. Imported SWP is recharged at BCVWD’s Groundwater Recharge Facility located at the northeast intersection of Brookside Avenue and Beaumont Avenue (Project WSA, p. 21).

Overall, the water quality from BCVWD’s wells is excellent. Total Dissolved Solids (TDS) is usually below 250 mg/L. Nitrates are only a sporadic problem in a few wells at present. BCVWD continues to monitor these wells per State Water Resources Control Board, (SWRCB) Division of Drinking Water (CDDW) requirements. No wells have had to be taken out of service because of water quality concerns (Project WSA, p. 21).

³ San Timoteo Watershed Management Authority vs. City of Banning et al, Superior Court of the State of California, for the County of Riverside, Riverside Court, Stipulation for Entry of Judgement Adjudicating Groundwater Rights in the Beaumont Basin, RIC 389197, February 4, 2004 (Beaumont Basin Adjudication).

BCVWD has 14 reservoirs ranging in size from 0.5 million gallons (MG) to 5 MG. Total storage is approximately 22 MG. Because of the range of topographic elevations within the Service Area, 11 pressure zones have been established to assure acceptable operating pressures for customers (Project WSA, p. 21).

The Service Area reservoirs provide gravity supply to their respective pressure zones. BCVWD's water supply 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 that allow water to be pumped up from a lower pressure zone to a higher-pressure zone also. This provides great flexibility in system operations. Sufficient reservoir redundancy exists permitting reservoirs to be taken out of service for maintenance (Project WSA, p. 21).

The backbone transmission system in the main pressure zones is primarily 24-inch diameter though there are some 30-inch diameter pipelines leading from some reservoirs. The bulk of the backbone transmission and distribution pipe is ductile iron, with cement mortar lining, that was installed in the last 10 to 15 years. There are a number of small, older, distribution lines in the system that are gradually being replaced with minimum 8-inch diameter ductile iron pipe. The BCVWD potable water distribution system is capable of providing over 4,000 gpm fire flow in the industrial/commercial areas of the service area (Project WSA, pp. 21, 22).

Groundwater Recharge

A BCVWD groundwater recharge facility comprising a 78-acre site (Groundwater Recharge Facility) exists on the east side of Beaumont Avenue between Brookside Avenue and Cherry Valley Boulevard. The Groundwater Recharge Facility accepts imported water and incidental storm runoff. The Groundwater Recharge Facility was selected after extensive hydrogeologic studies and pilot testing over a multi-year period. Phase 1 of the Groundwater Recharge Facility, on the westerly half of the site, went on-line in late summer 2006. Phase 2 of the Groundwater Recharge Facility was completed in 2014. This site has excellent recharge capability. Since its operation in 2006 through the end of 2018, BCVWD has recharged a total of 84,242 acre-ft (27.4 billion gallons) of

imported water. The capacity of the Groundwater Recharge Facility is conservatively estimated at 25,000 to 30,000 AFY. With more aggressive maintenance, the capacity may be as much as 35,000 AFY (Project WSA, p. 22).

BCVWD and Riverside County Flood Control and Water Conservation District (RCFC&WCD) are jointly in design of Beaumont Master Plan of Drainage (MPD)-Line 16. MPD-Line 16 is a large diameter storm drain in Grand Avenue that drains a watershed area of approximately 505 acres to BCVWD's Groundwater Recharge Facility. The MPD-Line 16 project should be operational by 2022. Discharges from the MPD-Line would be used for groundwater recharge via BCVWD's Groundwater Recharge Facility. Under future conditions, and contingent on appropriate treatment and permits, BCVWD envisions recharging recycled water at the Groundwater Recharge Facility (Project WSA, p. 22).

BCVWD obtains State Project Water (SPW) from the San Geronio Pass Water Agency (SGPWA). SGPWA imports SPW through the East Branch Extension (EBX) of the California State Water Project (Governor Edmund G. Brown California Aqueduct). EBX Phase I was completed in 2003; EBX Phase II was completed in 2018. The completion of EBX Phase II improvements brings SGPWA's imported water delivery capacity to the Pass Area to 48 cubic feet per second (cfs) or 34,750 AFY if it was operational continuously all year (Project WSA, p. 22).

BCVWD takes water from a 20-inch diameter turnout and metering station at the current end of the EBX at Orchard Avenue and Noble Creek in Cherry Valley. The turnout was expanded to 34 cfs, (24,600 AFY if operated continuously), which became operational in 2019. Water from the turnout is metered by the Department of Water Resources (DWR) and then enters a 3,500-foot long, 24-inch diameter gravity pipeline, constructed by BCVWD, which conveys the water to BCVWD's Groundwater Recharge Facility.

The 24-inch diameter pipeline was constructed in 2006 and at 34 cfs would have a velocity of 10.8 ft/second - a reasonable velocity for a mortar-lined pipeline. If operated

eleven months out of the year at that rate, the pipeline could convey 22,500 acre-ft per year. Higher velocities could be tolerated for short periods of time which would result in increased short-term delivery capacity (Project WSA, p. 22).

Non-Potable (Recycled) Water System

BCVWD

Currently, BCVWD has over 44 miles of non-potable water transmission and distribution system in place. The non-potable water system uses a blend of recycled water, filtered imported and otherwise untreated SPW, and potable water (Project WSA, pp. 22, 23).

The backbone non-potable water transmission system forms a loop around the City of Beaumont and comprises primarily 24-inch diameter cement mortar lined, ductile iron pipe, all installed after year 2000. The system includes a 2-million-gallon non-potable (recycled) water reservoir that provides gravity storage and pressurization for the system. At the end of 2019, there were approximately 309 connections delivering 1,547 AFY of non-potable water (Project WSA, pp. 22, 23).

There are three major non-potable water pressure zones (2800 Zone, 2600 Zone and 2520 Zone), with the potential for two additional pressure zones (3040 Zone, 2370 Zone). A 2 MG non-potable reservoir, (2800 Zone Non-potable Water Tank), was constructed at the BCVWD Groundwater Recharge Facility. The 2800 Zone Non-potable Water Tank is designed and constructed to receive potable water or untreated SPW (Project WSA, pp. 22, 23).

The 2800 Non-potable Water Zone is currently separated from the 2600 and lower pressure zones. The 2800 Non-potable Water Zone is currently supplied with well water, supplemented by potable groundwater introduced into the system at the 2800 Zone Non-potable water tank. The 2600 and lower non-potable water pressure zones are supplied with potable water through interconnections between the potable and non-potable water systems. BCVWD has a capital project approved to provide fine screening

of SPW prior to entering the 2800 Zone Non-potable Water Reservoir. This project will be implemented when demands increase and/or the non-potable water system is tested and approved for recycled water use (Project WSA, p. 23).

The City of Beaumont is currently constructing an expansion upgrade to its wastewater treatment plant (WWTP). The WWTP expansion upgrade would increase the WWTP treatment capacity to 6 million gallons per day (mgd) and would incorporate a new membrane bioreactor followed by reverse osmosis membrane treatment. BCVWD is working with the City to secure treated recycled water effluent from the WWTP for use in BCVWD's non-potable water system. A memorandum of understanding (MOU) 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 comprising City Council members and BCVWD Board Members (Project WSA, p. 23).

When the demand for recycled water is less than the supply available (typically winter months), BCVWD may ultimately recharge the surplus recycled water at BCVWD's Groundwater Recharge Facility or an alternative facility with appropriate treatment and permits. Recycled water use and recharge is permitted under the Beaumont Basin Adjudication (Project WSA, p. 23).

Project Site

Five shallow wells exist within the Project site. The wells are not located in the Adjudicated Beaumont Groundwater Basin but rather the unadjudicated San Timoteo Sub basin. The Project land is riparian to Cooper's Creek and overlies groundwater which can be pumped regardless of whether the groundwater is part of, or separate from, the subsurface flow beneath Cooper's Creek. The groundwater is not adjudicated and the landowner has an overlying right to produce groundwater to be used for reasonable and beneficial uses on the riparian/overlying land. The key is use on the "overlying land." The "rights" go with the land. These rights are equal in priority among other riparian or overlying owners regardless of date of first use. Overlying and riparian rights are superior to appropriative rights. (BCVWD is an "appropriator" and

could not pump and use the water elsewhere.) In summary, the existing wells could be used to supply non-potable water to the Project (Project WSA, pp. 10, 11). Until such time as recycled water is available from the City of Beaumont, the Project non-potable water supplies would be obtained solely from existing on-site wells.

4.4.2.2 Water Supply Sources

Near-term and long-term BCVWD water supply sources are listed at Table 4.4-1, and are described subsequently.

Table 4.4-1
BCVWD Water Supply by Source

Source	Year					
	2018	2020	2025	2030	2035	2040
Edgar Canyon, AFY	1,700	2,100	2,100	2,100	2,100	2,100
Beaumont Reallocated Overlier Rights, AFY	2,706	1,962	1,200	760	760	760
Forbearance Water (Sunny Cal Egg Ranch), AFY	0	50	200	340	340	340
Recycled Water from City of Beaumont, AFY (initially realized in 2021)	0	1,556	2,188	2,840	3,487	3,930
Stormwater Capture, AFY	0	0	250	250	250	250
Other Local Water Resource Projects, AFY	0	0	250	250	250	250
Total Local Supply, AFY	4,406	5,668	6,188	6,540	7,187	7,630
Imported Water for Replenishment, AFY	8,723	8,000	8,653	9,492	10,005	10,470
Imported Water for Drought Proofing, AFY	1,000	1,000	2,000	2,500	2,500	2,500
Total Imported Water, AFY	9,723	9,000	10,653	11,992	12,506	12,970
Groundwater Storage Account, AF	34,794	35,296	41,296	51,796	64,296	76,796

Source: Water Supply Assessment for TTM 31570 – The Legacy Highlands, City of Beaumont, CA (Beaumont-Cherry Valley Water District) Revised June 2020.

Notes: Year 2018 information reflects the latest record year of available supply/demand data.

Edgar Canyon (Little San Gorgonio Creek) Groundwater

BCVWD produces groundwater from Edgar Canyon. BCVWD's annual groundwater yield for Edgar Canyon is based on 37 years of pumping records. The average annual production for the period 1983 - 2019 was 2,094 AFY, rounded to 2,100 AFY for the purposes of this analysis (Project WSA, p. 35).

Beaumont Basin

- **Reallocated Overlier Pumping Rights.** BCVWD Reallocated Overlier Pumping Rights for groundwater production from the Beaumont Basin was 2,706 Acre-Feet (AF) in 2018 and 1,962 AF in 2020. The Project WSA estimates that allocated Overlier Pumping Rights would be 1,200 AF in 2025. The Project WSA assumes the allocation would be reduced to 760 AFY in the long-term (2025 – 2040) (Project WSA, pp. 35, 36).
- **Forbearance Water.** Forbearance water is credited to a water supplier by the Watermaster for any potable and/or recycled water provided to an overlier when the overlier's property develops. The overlier forbears pumping the equivalent amount of water supplied. BCVWD will be supplying water to the Sunny Cal Egg Ranch Development. Sunny Cal Egg Ranch and associated partners are overlying parties and have pumping rights. BCVWD estimates 50 AF in forbearance water from the Sunny Cal Egg Ranch Development in 2020. The amount of forbearance water credited to BCVWD will increase over time to 340 AFY as the Sunny Cal Egg Ranch Development progresses to anticipated buildout in 2030 (Project WSA, p. 36).
- **Water from Groundwater Storage.** BCVWD has an 80,000 AF storage account in the Beaumont Basin. As of the end of 2017, there were 32,296 AF in storage per the Watermaster's 2017 Annual Report. The amount in storage increased to 34,794 AF at the end of 2018. BCVWD's plan, which is shown in BCVWD's 2015 Urban Water Management Plan (2015 UWMP), envisions banking from 1,000 AFY to 2,500 AFY to drought proof BCVWD (Project WSA, pp. 36, 37).

Recycled Water from the City of Beaumont

The City of Beaumont is required by Regional Water Quality Control Board (RWQCB) Order No. R8-2015-0026 to have recycled water put to beneficial reuse by March 1, 2020. The City of Beaumont is currently constructing an expansion upgrade to its wastewater treatment plant (WWTP) that will provide for beneficial use of recycled water in compliance with RWQCB requirements. The WWTP expansion upgrade would increase

the WWTP treatment capacity to 6 million gallons per day (mgd) and would incorporate a new membrane bioreactor followed by reverse osmosis membrane treatment. BCVWD is working with the City to secure treated recycled water effluent from the WWTP for use in BCVWD's non-potable water system. A memorandum of understanding (MOU) 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 comprising City Council members and BCVWD Board Members (Project WSA, pp. 23, 37).

Under current conditions, recycled water is assumed to only be used for non-potable purposes. BCVWD estimates 1,556 AF of recycled water would be available from the City of Beaumont in 2021. In the future, as more recycled water becomes available during the late fall, winter, and early spring, BCVWD anticipates developing, with the City, an advanced treatment facility and secure permits allowing for groundwater recharge of the surplus effluent. BCVWD and the City anticipate providing recycled water to the Oak Valley Greens and/or Tukwet Canyon Golf Courses in exchange for forbearance water, translating to an increase in BCVWD's potable water supply (Project WSA, pp. 36, 37).

Storm Water Capture

BCVWD and Riverside County Flood Control and Water Conservation District (RCFC&WCD) are jointly working on a Santa Ana Watershed Project Authority (SAWPA) Grant Project to design and construct Beaumont MPD-Line 16 storm water capture project, also known as the Grand Avenue Storm Drain in Cherry Valley. An estimated 200 to 230 AFY can be captured with the MPD-Line 16 project. Other projects, in and around the BCVWD Groundwater Recharge Facility, will capture excess flow in both Brookside Avenue and Beaumont Avenue to increase the annual capture in the long-term to +/- 250 AFY on average. The MPD-Line 16 is in the final stages of design with construction to start in 2021 (Project WSA, pp. 37, 38).

Other Local Water Resource Projects

Other BCVWD local water resource projects that would collectively add to available water supplies are described below. For purposes of the Project WSA, 250 AFY are assumed to be available with the initial phases of these projects (Project WSA, p. 38).

- **High nitrate groundwater at the mouth of Edgar Canyon.** This groundwater can supplement the recycled water/non-potable water system flow in the summer, high demand months, increasing well water available for potable water uses. BCVWD estimates as much as 300 AFY can be captured and reused in the long-term (Project WSA, p. 38).
- **San Timoteo Canyon Extraction Wells.** The San Timoteo Canyon Extraction Wells would capture groundwater from the Beaumont Basin flowing into San Timoteo Canyon and also to capture City's 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 used in the recycled water/non-potable water system (Project WSA, p. 38).
- **Other Groundwater Capture.** High groundwater has been observed along Oak Valley Parkway in the vicinity of Palmer Drive and was encountered in the construction of the City's brine line. This water can be captured and used to supplement the recycled water during the high demand summertime (Project WSA, p. 38).

Imported Water from SGPWA

Imported water that BCVWD is able to purchase from SGPWA comprises the residual amount after other municipalities and agencies have met their respective needs. This amount fluctuates based on seasonal weather conditions. Total imported water is estimated at 9,000 AF in 2020. BCVWD anticipates that imported water under normal conditions would total 10,653 AF in 2025, increasing to 12,970 AF by 2040 (Project WSA, p. 36, Table 12).

4.4.2.3 BCVWD Service Area Water Demand

BCVWD, in cooperation with the other major retailers, developed a supply-demand model and 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 in the current spreadsheet modeling, based on their demand data in SGPWA's 2015 UWMP. The supply-demand model allows the water agency/city to input (and adjust):

- New EDU Water Demand, AFY/Equivalent Dwelling Unit (EDU)⁴
- Existing EDU Water Demand, AFY/EDU
- Infill EDUs/year
- Commercial & Institutional EDUs/year, as a % of Residential EDUs
- Commercial & Institutional EDUs, Minimum EDUs/year
- Water Conservation, % Reduction on Existing Demands
- Water Conservation, % Reduction on New Demands going forward
- 2017 Year Ending Potable Water Demand, AF
- Beaumont Basin Groundwater Storage Account Maximum, AF
- Beaumont Basin Groundwater Storage Account 2017 Ending Balance, AF

The supply-demand model included the major development projects in each of the retailer's service area, based on data in specific plans, water supply assessments, regional water resource planning studies, and other sources. The supply-demand model allows 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/institutional 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

⁴ BCVWD uses Equivalent Dwelling Units (EDUs) to calculate and project potable water demand.

could adjust their imported water banking requirements, and evaluate the impact of their strategies on their own Beaumont Basin storage accounts over time.

The supply-demand model 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 supply-demand model and resulting outputs were reviewed by the retail water agency managers for reasonableness of growth taking into account the housing market and absorption capacity of the Pass Area.

The BCVWD supply-demand model includes existing water demands and projected water demands from major new development in the Service Area. Major new development in the City of Beaumont (including the City of Beaumont Sphere of Influence) for the period 2020 – 2040 is estimated at 12,545 EDUs. This estimate includes 3,218 EDUs proposed under the [2008] Legacy Highlands Specific Plan Project (Project WSA, p. 33). Criteria reflected in the BCVWD supply-demand model is summarized below:

- 2017 Ending Potable and Non-potable Water Demand: 12,981 AFY
 - New EDU water demand: 0.546 AFY/EDU
 - Existing EDU water demand: 0.62 AFY/EDU
 - Water demand reduction from conservation on new EDUs: 5%
 - Water demand reduction from conservation on existing EDUs: 5%
- (Project WSA, pp. 34, 35).

Results of the supply-demand model indicate BCVWD Service Area total water demand (potable and non-potable demand) for the Service Area was approximately 13,129 AF in 2018, and is projected to increase to 18,100 AF by 2040 (Project WSA, p. 36, Table 12).

4.4.2.4 Supply/Demand Comparison

Modeled BCVWD Service Area water supply/demand for the period 2018 – 2040 is summarized at Table 4.4-2.

Table 4.4-2
BCVWD Service Area Water Supply/Water Demand 2018 – 2040

Supply/Demand	Year					
	2018	2020	2025	2030	2035	2040
Local Water Supply Sources						
Edgar Canyon, AFY	1,700	2,100	2,100	2,100	2,100	2,100
Beaumont Reallocated Overlier Rights, AFY	2,706	1,962	1,200	760	760	760
Forbearance Water (Sunny Cal Egg Ranch), AFY	0	50	200	340	340	340
Recycled Water from City of Beaumont, AFY (initially realized in 2021)	0	1,556	2,188	2,840	3,487	3,930
Stormwater Capture, AFY	0	0	250	250	250	250
Other Local Water Resource Projects, AFY	0	0	250	250	250	250
Total Local Water Supply, AFY	4,406	5,668	6,188	6,540	7,187	7,630
Total Water Demand (Potable and Non-Potable) AFY	13,129	13,668	14,841	16,032	17,192	18,100
Local Water Supply/Demand Deficiency, AFY	(8,723)	(8,000)	(8,653)	(9,492)	(10,005)	(10,470)
Imported Water for Replenishment, AFY	8,723	8,000	8,653	9,492	10,005	10,470
Imported Water for Drought Proofing, AFY	1,000	1,000	2,000	2,500	2,500	2,500
Total Imported Water, AFY	9,723	9,000	10,653	11,992	12,506	12,970
Groundwater Storage Account, AF	34,794	35,296	41,296	51,796	64,296	76,796

Source: Water Supply Assessment for TTM 31570 – The Legacy Highlands, City of Beaumont, CA (Beaumont-Cherry Valley Water District) Revised June 2020.

Notes: Year 2018 information reflects the latest record year of available supply/demand data.

As indicated at Table 4.4-2, when considering local water supplies only, modeled supply/demand “deficiencies” currently exist, and are projected to continue through 2040. These deficiencies however are resolved through acquisition of imported water from SGWPA equal to the amount needed to replenish the calculated deficiency. Beyond the amount needed for replenishment, additional imported water (if available)

is acquired and banked in BCVWD's Beaumont Basin Groundwater Storage Account (Storage Account). This banked water can be used to supply water to the Service Area during drought periods, or during periods when limited or no imported water may be available.

The Project WSA indicates that SGPWA will have enough imported water, or has made commitments for, or taken steps to acquire, additional imported water supply to meet its needs through year 2040 and beyond. SGPWA current and projected available imported water supply sources are discussed in detail at Project WSA pp. 39 – 52 and are summarized at Table 4.4-3.

Table 4.4-3
SGPWA Current and Projected Imported Water Supply

Source	Low Yield Case, Annual Amount, AFY	High Yield Case, Annual Amount, AFY	Remarks
Existing Table A	8,300	10,380	17,300 AFY but only 60% reliable (10,380 AFY) per Bulletin 132; to degrade to approximately 48% (8,300 AFY) without Delta Conveyance Project (DCP) by 2035.
Yuba Accord	200	200	When available, represents average per year.
San Bernardino Valley MWD Surplus Table A Water (SBVMWD Water)	2,000	2,000	Up to 5,000 AFY available estimated 2 out of every 5 years (40%) of time = 2,000 AFY; agreement terminates in 2032, but can be extended.
Antelope Valley East Kern Water Agency (AVEK) Nickel Water, (AVEK Nickel Water)	1,700	1,700	20-year agreement terminates in 2037 with option for a 20-year extension.
Additional Table A SGPWA Partner Agency	500	3,000	Extended exchange agreement with Table A SGPWA Partner Agency(s) to utilize unused Table A water.
Article 21 Water Purchase	800	800	Variable, represents average per year.
Turn-back Pool Purchases	200	200	Variable, represents average per year.
Delta Conveyance Project (DCP)	---	---	Will increase reliability of State Water Project (SWP) back to 60 to 62%.
Sites Reservoir	9,100	14,000	Worst case with 65% assumed reliability. (4,000 AFY of the 14,000 AFY is committed to BCVWD by virtue of BCVWD's financial commitment to the Sites Reservoir Project Phase 1 and Phase 2).
Total Imported Water Potentially Available	22,800	32,280	

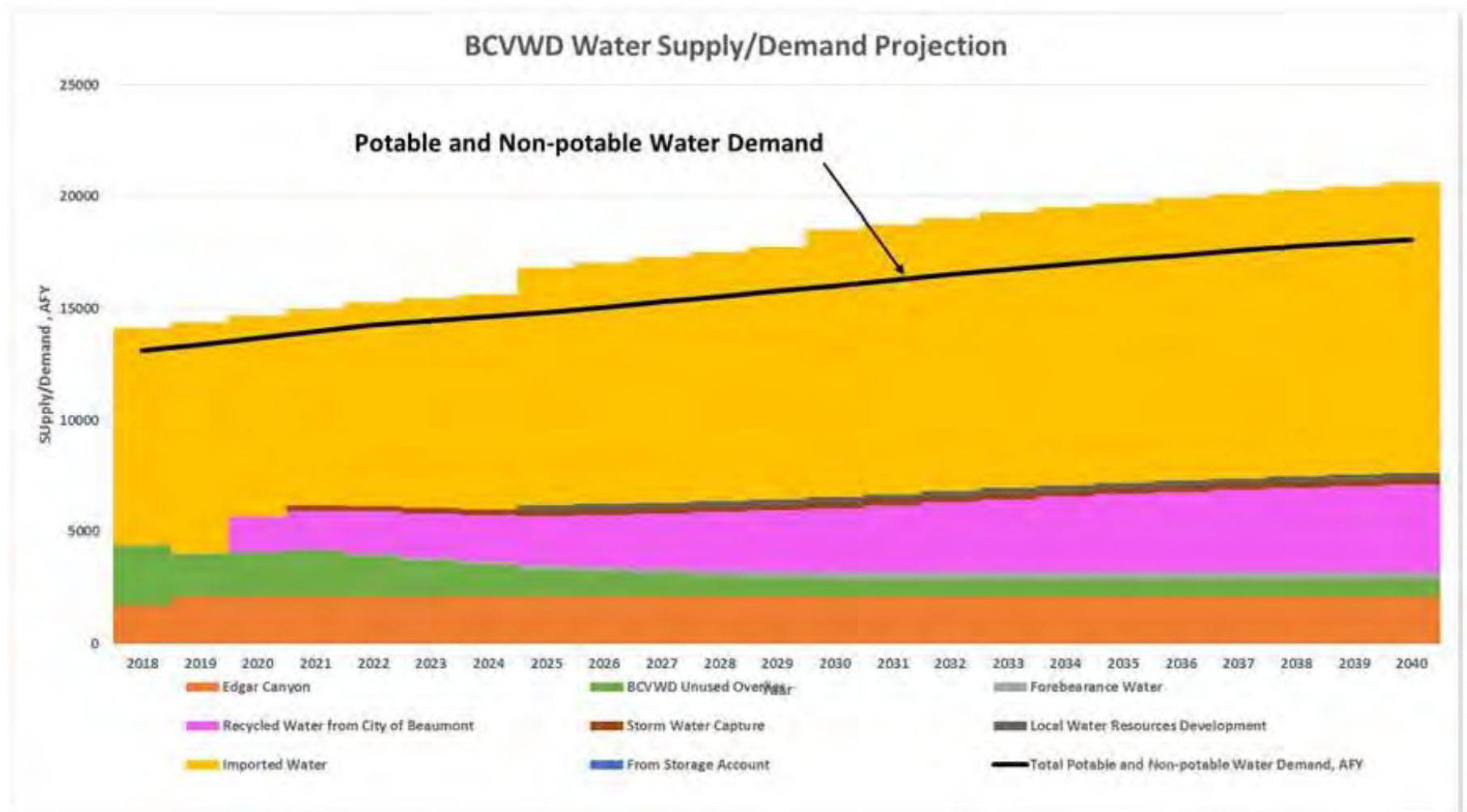
Source: Water Supply Assessment for TTM 31570 – The Legacy Highlands, City of Beaumont, CA (Beaumont-Cherry Valley Water District) Revised June 2020.

Total SGPWA imported water demand (from all agencies, including BCVWD) is estimated at 10,272 AFY in 2018, increasing to 17,914 AFY by 2040 (Project WSA, p. 39, Table 13). This total imported water demand is satisfied even under the “Low Yield Case” (22,800 AFY) identified at Table 4.4-3.

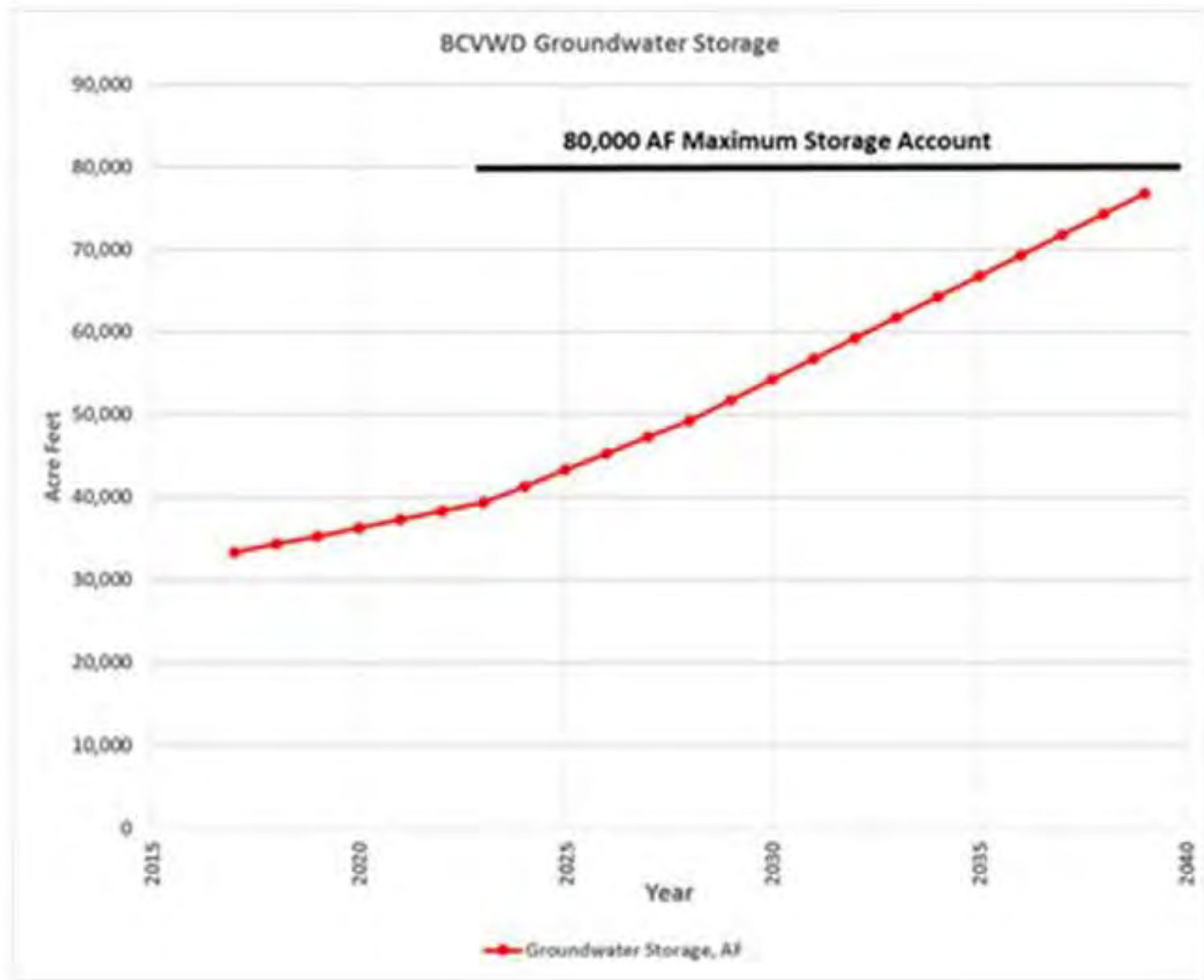
The Project WSA concludes that “BCVWD has firm supply including imported water to meet demands to 2025 under average demand and supply conditions based on the growth rates and water consumption rates presented previously in this WSA, so long as Recycled Water is implemented and planned SGPWA water supply projects are finalized. Beyond 2025, BCVWD will rely on the SGPWA to secure short-term water transfers, purchase of Turn-back Pool Water, and Article 21 Water to the time when DCP and Sites Reservoir are online” (Project WSA, p. 53).

Figure 4.4-2 summarizes BCVWD’s total potable and non-potable water supply and demand. Figure 4.4-2 shows BCVWD is able to meet its demands, providing recycled water and imported water supplies are available. Of note is the significant contribution from recycled water, shown in magenta in Figure 4.4-2. Without recycled water, BCVWD would not be able to meet future demands. The imported water demands presented at Figure 4.4-2 include water banking demands for drought-proofing.

Figure 4.4-3 presents the accumulated volume of water banked in BCVWD’s Beaumont Storage Account. By 2040, the Storage Account is almost full (76,796 AF in storage). Previous Table 4.4-2 indicates that BCVWD’s imported water demand in 2040 would be approximately 10,470 AFY. Based on the 2040 amount of banked water in the Storage Account, BCVWD would have approximately 7.3 years of water demand in storage. This stored groundwater would be available to Service Area customers during drought periods and/or when imported water is limited or unavailable.



Source: WSA (Beaumont-Cherry Valley Water District)



Source: WSA (Beaumont-Cherry Valley Water District)

4.4.3 STANDARDS OF SIGNIFICANCE

Consistent with the standards of significance outlined in the *CEQA Guidelines*, water supply impacts resulting from implementation of the Project could be considered potentially significant if they caused or resulted in any of the following:

- Have insufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years over a 20-year analysis scenario; or
- Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin.

4.4.4 POTENTIAL IMPACTS AND MITIGATION MEASURES

4.4.4.1 Impact Statements

Potential Impact: *Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years.*

Impact Analysis: As defined under at Government Code §66473.7 (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.”

Water supply sufficiency does not mean that 100 percent of a given project’s unrestricted water demand must be met 100 percent of the time. Nor does it mean that 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 new project 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.

The Project proposes a residential subdivision greater than 500 dwelling units, and commercial development greater than 500,000 square feet in area. The Project is therefore subject to requirements of SB 610 and SB 221. 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 serving water purveyor's Urban Water Management Plan (UWMP) for support.

For the Project, the water purveyor is the Beaumont-Cherry Valley Water District (BCVWD). Pursuant to requirements of SB 221 under Government Code §65867.5 *et seq.* and SB 610 under Section 10912 (a) (2), a Water Supply Assessment (WSA) has been prepared for the Project (see: *Water Supply Assessment for TTM 31570 – The Legacy Highlands, City of Beaumont, CA* (Beaumont-Cherry Valley Water District) Revised June 2020, Project WSA, PRDEIR Appendix B-1).

The California Water Code requires all urban water suppliers within the state to prepare urban water management plans and update them every five years. These plans satisfy the requirements of the Urban Water Management Planning Act of 1983 including amendments that have been made to the Act since then. Sections 10610 through 10656 of the Water Code detail the information that must be included in these plans, as well as who must file them. An Urban Water Management Plan (UWMP) is a planning tool and general guidance employed by water management agencies. It provides managers and the public with an overview of water supply issues facing the agency. The agency UWMP 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 considered for approval, detailed project plans are prepared, environmental analysis, if required, is prepared, and financial and operational plans are developed. BCVWD has prepared an Urban Water Management Plan as required under the California Water Code.

Per Section 10910 (c) (2) of the California Water Code: "If the projected water demand associated with the proposed project was accounted for in the most recently adopted urban water management plan, the public water system may incorporate the requested information from the urban water management plan in preparing the elements of the

assessment required to comply with subdivisions (d), (e), (f), and (g).” As discussed in the Project WSA, and summarized below, the Project water demands are accounted for in the BCVWD 2015 UWMP (2015 UWMP):

“The Legacy Highlands Development was included in the list of planned development projects in BCVWD’s 2015 UWMP. In the 2015 UWMP, Legacy Highlands was anticipated to have 3,218 EDUs at 0.65 AFY/EDU for a total demand of 2,092 AFY. This is more than the current 2,868 residential EDUs requiring 1,628 AFY (potable plus non-potable) total water demand.” (Project WSA, p. 68).

Accordingly, BCVWD has incorporated relevant information from the 2015 UWMP in developing the Project WSA. Sufficiency of water supplies for the Project, existing and planned future uses is supported by analysis and findings of the 2015 UWMP, and is further substantiated in the Project WSA.

Project Water Demand in the Context of the 2015 UWMP

The Project proposes a total of 2,868 residential dwelling units (1,107 single family residential units + 1,761 active adult, low density residential units), 100 acres (approximately 1.2 million square feet) of commercial/industrial uses, a 20-acre school site, various neighborhood parks, and undeveloped open space areas. Water demand of the Project reflecting these proposed uses is summarized at Table 4.4-4.

**Table 4.4-4
Project Water Demand Summary**

Potable Water Demand	Acre-ft/yr (AFY)
Residential Conventional Housing	609
Residential Active Adults	827
Commercial/Industrial	14.4
Total Potable Water Demand (rounded)	1,450
Non-potable Water Demand	Acre-ft/yr (AFY)
Commercial/Industrial	36.2
School Site	21.9

Table 4.4-4
Project Water Demand Summary

Active Open Space	63.8
Street Medians	56.3
Total Non-potable Water Demand (rounded)	178
TOTAL PROJECT WATER DEMAND	1,628

Source: Water Supply Assessment for TTM 31570 – The Legacy Highlands, City of Beaumont, CA (Beaumont-Cherry Valley Water District) Revised June 2020.

Table 4.4-5 compares Project water demands to correlating demand estimates reflected in the 2015 UWMP.

Table 4.4-5
Water Demand Comparison
Project and 2015 UWMP Estimates

	Total Water Demand AFY
Project	1,628
2015 UWMP Estimate*	2,092

Source: Water Supply Assessment for TTM 31570 – The Legacy Highlands, City of Beaumont, CA (Beaumont-Cherry Valley Water District) Revised June 2020.

Notes: The Legacy Highlands Development was included in the list of planned development projects in BCVWD's 2015 UWMP. In the 2015 UWMP, Legacy Highlands was anticipated to have 3,218 EDUs at 0.65 AFY/EDU for a total demand of 2,092 AFY. This is more than the current 2,868 residential EDUs requiring 1,628 AFY (potable plus non-potable) total water demand.

As indicated at Table 4.4-5, the Project's water demand of 1,628 AFY is well below the 2,092 AFY demand assumed for the subject site within the 2015 UWMP.

Further, per the Project WSA, when fully developed at 2,868 residential EDUs, the Project would generate an estimated 524 AFY of recycled water, (which includes a 25% loss for brine and in-plant losses). The recycled water generated under Project buildout conditions could supply all of the estimated 178 AFY non-potable demand identified at Table 4.4-4. The recycled water surplus (346 AFY) could be made available to meet the non-potable demands in other areas of BCVWD's system. Alternatively, the excess recycled water could be advance-treated and recharged to augment BCVWD's potable water supply (Project WSA, p. 68).

Water Supply/Demand During Critical and Multi-year Dry Periods

The previous discussions in this Section demonstrate there is adequate water supply for BCVWD to meet the Service Area water demands under “normal conditions,” provided that planned and programmed water supply projects and agreements identified are implemented. In addition to the normal conditions analysis, the Project WSA provides a supply sufficiency analysis for critical dry year and multiple dry year conditions. The water supply conditions for these periods are presented at 2015 UWMP, Section 7, *Water Supply Reliability Assessment*. Key tables and information from the 2015 UWMP are incorporated and updated in the Project WSA.

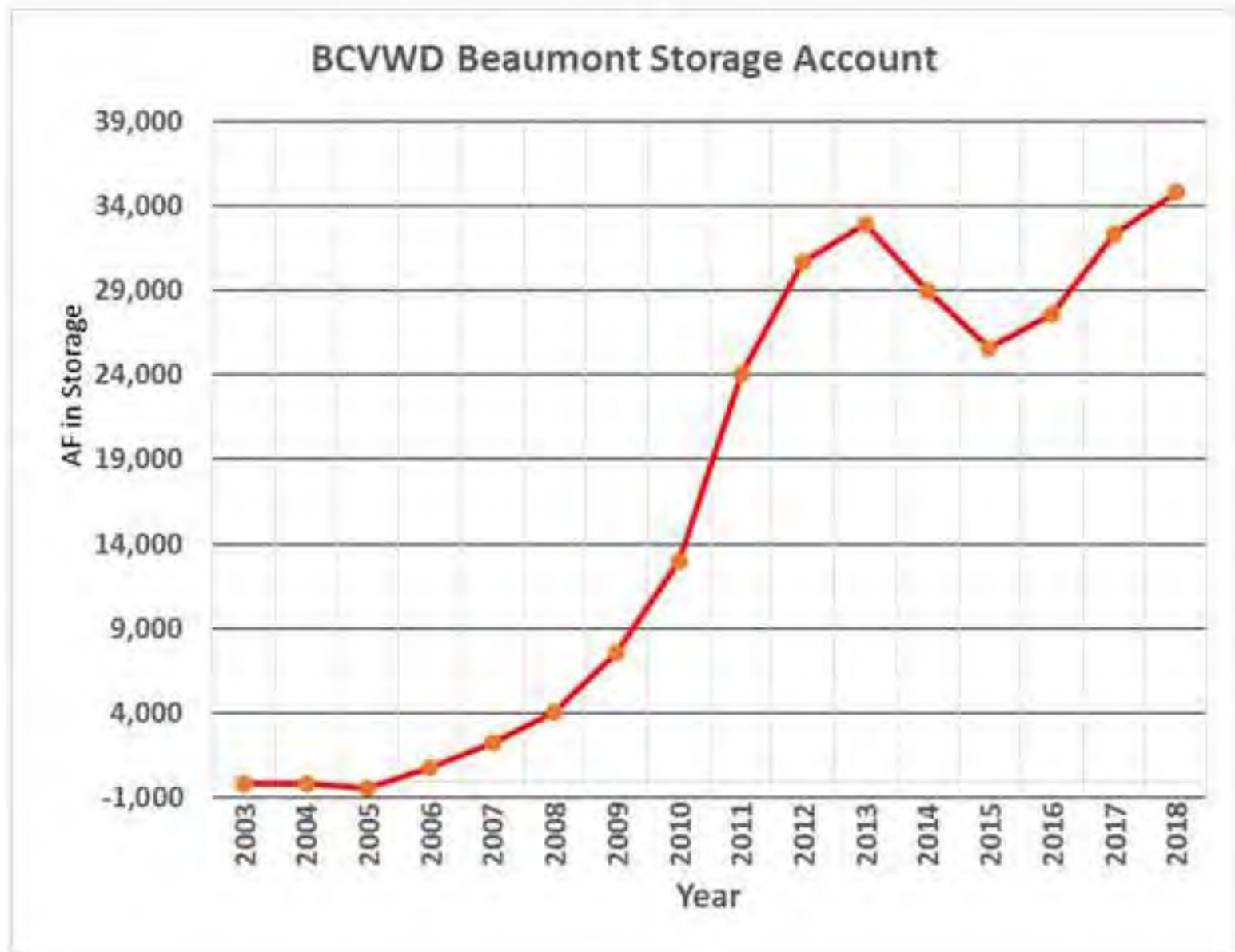
The critical and multi-year dry periods scenarios evaluated in the Project WSA and summarized here include:

- Single Critical Dry Year: The lowest water supply available to BCVWD, a worst-case condition;
- 2 Consecutive Dry Years: The lowest average available water supply over a continuous 2-year period;
- 3 Consecutive Dry Years: The lowest average available water supply over a continuous 3-year period;
- 6 Consecutive Dry Years: The lowest average available water supply over a continuous 6-year period.

BCVWD will be relying on banked water to provide the major portion of the supply during these periods. In this regard, BCVWD benefits from substantial available Beaumont Basin (Basin) storage capacity for banking water against potential future drought periods. BCVWD takes advantage of this by banking imported water during wet years for use during extended droughts. Complementing the Basin’s substantial available capacity is the fact that percolation and recharge occur at relatively high rates, facilitating the physical banking of water in the Basin.

Figure 4.4-4 illustrates the amount of water BCVWD has accumulated in its Storage Account since 2003. As indicated at Figure 4.4-4, as of the end of 2018, there were approximately 34,794 AF in the BCVWD Storage Account. BCVWD's current maximum storage capacity is 80,000 AF. Figure 4.4-4 also illustrates the drop in storage in response to the drought in 2015 when there was very little imported water available for recharge and banking. Even at the lowest point during the 2015 drought, more than 24,000 AF were maintained in, and were available from, the BCVWD Storage Account. This demonstrates the efficacy of the BCVWD Storage Account in meeting Service Area water demands in time of drought or when imported water supplies are limited.

Table 4.4-2, presented previously, showed the average BCVWD water demands (potable and non-potable) under normal conditions. These demands are used in the WSA Dry Period Reliability Analysis (following) for the 1-, 2-, and 3- consecutive year dry periods, primarily because there may not be enough time to implement water demand restrictions and see the effect of these restrictions on demand. However, for the 6 consecutive year dry period, it is assumed that water shortage contingency measures set forth at 2015 UWMP Section 8, *Water Shortage Contingency Planning*, would be in effect and would realize at least a 15% reduction in water consumption. As a point of reference, pursuant to previous state-mandated water conservation program targets, water shortage contingency measures implemented by BCVWD was able to reduce water consumption by 24.3% for the period May 2015 through April 2016 (2015 UWMP, p. 8-2). The 15% reduction in water consumption assumed under the WSA's 6 consecutive year dry period scenario is therefore considered reasonable and conservative.



Source: WSA (Beaumont-Cherry Valley Water District)

Water supply/demand comparisons for single dry year, 2 consecutive dry years, 3 consecutive dry years, and 6 consecutive dry years over a 20-year time frame are presented at Tables 4.4-6 through 4.4-9, respectively. The water demands reflected at Tables 4.4-6 through 4.4-9 include water demands of all existing Service Area customers as well as water demands of planned development in the Service Area (including the Project water demands). The water supply/demand comparisons presented at Tables 4.4-6 through 4.4-9 demonstrate that BCVWD can supply water to all existing and planned developments (including the proposed Legacy Highlands Specific Plan Project) for single dry year, 2 consecutive dry years, 3 consecutive dry years, and 6 consecutive dry years over a 20-year timeframe, provided that planned and programmed water supply projects and agreements identified are implemented.

During critical dry year and multiple dry year periods, BCVWD would rely on available groundwater in its Storage Account. BCVWD will need to maintain a maximum 25,111 AF of water banked in storage (occurring in 2030) to meet the 6-year dry period. This is not an unreasonable amount of storage considering BCVWD has an 80,000 AF storage account and as of the end of 2018, had 34,794 AF in storage (Project WSA, p. 65).

Under the 3- and 6- year dry year scenarios (2035 – 2040), imported water would be banked in the Storage Account (reflected as negative account line items), acting to offset previous years' Storage Account withdrawals. To ensure adequate and on-going levels of groundwater storage, BCVWD will continue banking available water for drought proofing purposes.

Table 4.4-6
BCVWD Water Supply/Demand Summary – Critical Dry Year

	YEAR				
	2020	2025	2030	2035	2040
DEMAND					
Total Water Demand	13,668	14,841	16,032	19,192	18,100
SUPPLY					
Groundwater					
Edgar Canyon, AFY	1,117	1,117	1,117	1,117	1,117

Table 4.4-6
BCVWD Water Supply/Demand Summary – Critical Dry Year

	YEAR				
	2020	2025	2030	2035	2040
Beaumont Basin, Allocated Overlie Pumping Rights and Forbearance Water, AFY	1,710	1,190	680	680	680
Storm Water, AFY	90	90	90	90	90
Other Local Water Resource Projects, AFY	90	90	90	90	90
Recycled Water, AFY	1,400	1,970	2,555	3,135	3,535
Imported SPW, AFY	2,400	2,100	2,000	12,800	11,300
Subtotal Supply, AFY	6,807	6,557	6,532	17,912	16,812
From Banked Beaumont Basin Storage, AF	6,861	8,284	9,500	1,280	1,288
Total Water Supply	13,668	14,841	16,032	19,192	18,100

Source: Water Supply Assessment for TTM 31570 – The Legacy Highlands, City of Beaumont, CA (Beaumont-Cherry Valley Water District) Revised June 2020.

Table 4.4-7
BCVWD Water Supply/Demand Summary – 2 Consecutive Dry Years

	YEAR				
	2020	2025	2030	2035	2040
DEMAND					
Total Water Demand	13,668	14,841	16,032	19,192	18,100
SUPPLY					
Groundwater					
Edgar Canyon, AFY	1,173	1,173	1,173	1,173	1,173
Beaumont Basin, Allocated Overlie Pumping Rights and Forbearance Water, AFY	1,710	1,190	680	680	680
Storm Water, AFY	90	90	90	90	90
Other Local Water Resource Projects, AFY	90	90	90	90	90
Recycled Water, AFY	1,320	1,860	2,415	2,960	3,340
Imported SPW, AFY	3,500	3,200	2,900	13,700	12,100
Subtotal Supply, AFY	7,883	7,603	7,348	18,693	17,473
From Banked Beaumont Basin Storage, AFY	5,785	7,238	8,684	499	627
Total Water Supply	13,688	14,841	16,032	19,192	18,100
Total Volume Withdrawn from Storage, AF (2 years)	11,570	14,476	17,368	998	1,254

Source: Water Supply Assessment for TTM 31570 – The Legacy Highlands, City of Beaumont, CA (Beaumont-Cherry Valley Water District) Revised June 2020.

Table 4.4-8
BCVWD Water Supply/Demand Summary – 3 Consecutive Dry Years

	YEAR				
	2020	2025	2030	2035	2040
DEMAND					
Total Water Demand	13,668	14,841	16,032	19,192	18,100
SUPPLY					
Groundwater					
Edgar Canyon, AFY	1,230	1,230	1,230	1,230	1,230
Beaumont Basin, Allocated Overlie Pumping Rights and Forbearance Water, AFY	1,710	1,190	680	680	680
Storm Water, AFY	90	90	90	90	90
Other Local Water Resource Projects, AFY	90	90	90	90	90
Recycled Water, AFY	1,320	1,860	2,415	2,960	3,340
Imported SPW, AFY	4,700	4,200	3,800	14,700	13,000
Subtotal Supply, AFY	9,140	8,660	8,305	19,750	18,430
From Banked Beaumont Basin Storage, AFY	4,528	6,181	7,727	-558	-330
Total Water Supply	13,668	14,841	16,032	19,750	18,430
Total Volume Withdrawn from Storage, AF (3 years)	13,584	18,543	23,181	-1,674	-990

Source: Water Supply Assessment for TTM 31570 – The Legacy Highlands, City of Beaumont, CA (Beaumont-Cherry Valley Water District) Revised June 2020.

Table 4.4-9
BCVWD Water Supply/Demand Summary – 6 Consecutive Dry Years

	YEAR				
	2020	2025	2030	2035	2040
DEMAND					
Total Water Demand	11,618	12,615	13,627	16,313	15,385
SUPPLY					
Groundwater					
Edgar Canyon, AFY	1,367	1,367	1,367	1,367	1,367
Beaumont Basin, Allocated Overlie Pumping Rights and Forbearance Water, AFY	1,710	1,190	680	680	680
Storm Water, AFY	90	90	90	90	90
Other Local Water Resource Projects, AFY	90	90	90	90	90
Recycled Water, AFY	1,320	1,860	2,415	2,960	3,340

Table 4.4-9
BCVWD Water Supply/Demand Summary – 6 Consecutive Dry Years

	YEAR				
Imported SPW, AFY	5,900	5,300	4,800	15,700	13,800
Subtotal Supply, AFY	10,477	9,897	9,442	20,887	19,367
From Banked Beaumont Basin Storage, AFY	1,141	2,718	4,185	-4,574	-3,982
Total Water Supply	11,618	12,615	13,627	20,887	19,367
Total Volume Withdrawn from Storage, AF (6 Years)	6,845	16,307	25,111	-27,443	-23,892

Source: *Water Supply Assessment for TTM 31570 – The Legacy Highlands, City of Beaumont, CA* (Beaumont-Cherry Valley Water District) Revised June 2020.

The preceding discussions and the Project WSA substantiate that sufficient water supplies are available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years, provided imported water projects and imported water supply agreements proceed. In this latter regard, the WSA concludes that the risk of imported water projects and imported water supply agreements not coming to fruition is low. Additionally, the developer will utilize onsite wells for non-potable water until the imported water supplies are available. This EIR section complies with *Vineyard*⁵ in that it discusses why identified water should reasonably be expected to be available and that future water supplies are likely, rather than speculative. It also complies with *Vineyard*, because when there is some uncertainty regarding availability of future water supply, this section acknowledges the degree of uncertainty, including a discussion of possible alternative sources, and identifies the environmental impacts of such alternative sources. Notably, existing wells within the Project site shall supply all the Project's non-potable water demands until such time as recycled water is available from the City to BCVWD, and facilities have been installed to deliver BCVWD non-potable water to the Project.

⁵ See *Santa Clarita Organization for Planning the Environment v. County of Los Angeles* (2007) 157 Cal.App.4th 149, 161: "Quite aside from the Monterey Agreement, the legislative policy of this state is to facilitate water transfers. (See Water Code, §§ 475, 480 et seq.) SCOPE points to no evidence whatsoever that the DWR has any inclination to disapprove the Kern-Castaic transfer even if the Monterey Agreement is ultimately invalidated." The standard of a WSA is not to show that water supplies are definitely assured because such a degree of certainty would be "unworkable, as it would require water planning to far outpace land use planning." In compliance with *Vineyard*, the identified water is reasonably expected to be available and the future water supplies are likely, rather than speculative.

Level of Significance: Less-Than-Significant.

Other Considerations

The Project WSA recognizes the importance of recycled water provided by the City of Beaumont for use by BCVWD to meet future Service Area demands. The WSA concludes that without recycled water, BCVWD would not be able to meet future Service Area demands (Project WSA, p. 53). To support and ensure provision of recycled water, the City and BCVWD are working on a recycled water purchase agreement, and have been coordinating the location of pumping and storage facilities on or adjacent to the City's wastewater treatment plant. Construction on the new treatment facility is nearing completion. Although there is some risk that recycled water may not be timely available, BCVWD considers that risk to be small (Project WSA, p. 26). Nonetheless, in light of the importance of recycled water in meeting the Project and Service Area water demands, the following Condition of Approval (COA) is imposed:

COA-1 Existing wells within the Project site shall supply all the Project non-potable water demands (including water used during construction) until such time as recycled water is available from the City to BCVWD, and facilities have been installed to deliver BCVWD non-potable water to the Project. The Project shall provide treatment of all well water for iron and manganese removal. Sequestration is not an acceptable treatment technology. The Project non-potable water distribution system shall be subject to BCVWD inspection and approval. Prior to dedicating the Project non-potable water system to BCVWD, the system, including all irrigation laterals and piping, shall be thoroughly flushed and shock chlorinated. Upon dedication of the non-potable water system, the Applicant shall transfer and/or convey all wells and related facilities to BCVWD for its full ownership and control as per the conditions set forth by the City of Beaumont.

Potential Impact: *Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin.*

Impact Analysis:

Potential Groundwater Supply Impacts

Potable Water

The Project would obtain potable water from BCVWD. The BCVWD potable water system is supplied exclusively by groundwater wells. BCVWD groundwater sources include Edgar Canyon and the Beaumont Basin. These groundwater sources and overdraft conditions (if any) are described below.

Edgar Canyon (Little San Gorgonio Creek) Groundwater

BCVWD produces groundwater from Edgar Canyon. Edgar Canyon groundwater has not been adjudicated. BCVWD has been extracting groundwater from Edgar Canyon for nearly 100 years (2015 UWMP, p. 6-28). BCVWD's annual groundwater yield for Edgar Canyon is based on 37 years of pumping records. The average annual production for the period 1983 - 2019 was 2,094 AFY, rounded to 2,100 AFY for the purposes of this analysis (Project WSA, p. 35). A study by the San Timoteo Watershed Management Authority (STWMA) indicated a safe yield of about 2,600 AFY; a SGPWA water balance study put the safe yield between 2,000 and 2,800 AFY. Based on these studies and BCVWD's long term records of pumping, Edgar Canyon is not in overdraft (2015 UWMP, p. 6-28).

Edgar Canyon groundwater supplied to the Project by BCVWD is accounted for in the Project WSA. As presented at previous Table 4.4-1, BCVWD groundwater produced from Edgar Canyon under normal conditions would not exceed 2,100 AFY. Under critical dry year and extended drought conditions, Edgar Canyon groundwater production would be reduced, and would range from 1,117 – 1,367 AFY. The Project does not propose or require Edgar Canyon groundwater production beyond that reflected in the Project WSA, and within the 2015 UWMP.

Beaumont Basin Groundwater

- **Reallocated Overlier Pumping Rights.** BCVWD Reallocated Overlier Pumping Rights for groundwater production from the Beaumont Basin was 2,706 Acre-Feet (AF) in 2018 and 1,962 AF in 2020. The Project WSA estimates that allocated Overlier Pumping Rights would be 1,200 AF in 2025. The Project WSA assumes the allocation would be reduced to 760 AFY in the long-term (2025 – 2040) (Project WSA, pp. 35, 36).
- **Forbearance Water.** Forbearance water is credited to a water supplier by the Watermaster for any potable and/or recycled water provided to an overlier when the overlier's property develops. The overlier forbears pumping the equivalent amount of water supplied. BCVWD will be supplying water to the Sunny Cal Egg Ranch Development. Sunny Cal Egg Ranch and associated partners are overlying parties and have pumping rights. BCVWD estimates 50 AF in forbearance water from the Sunny Cal Egg Ranch Development in 2020. The amount of forbearance water credited to BCVWD will increase over time to 340 AFY as the Sunny Cal Egg Ranch Development progresses to anticipated buildout in 2030 (Project WSA, p. 36).
- **Water from Groundwater Storage.** BCVWD has an 80,000 AF storage account in the Beaumont Basin. As of the end of 2017, there were 32,296 AF in storage per the Watermaster's 2017 Annual Report. The amount in storage increased to 34,794 AF at the end of 2018. BCVWD's plan, which is shown in BCVWD's 2015 Urban Water Management Plan (2015 UWMP), envisions banking from 1,000 AFY to 2,500 AFY to drought proof BCVWD (Project WSA, pp. 36, 37).

The Beaumont Groundwater Basin is adjudicated and managed by the Beaumont Basin Watermaster. Prior to 2004, the year the Adjudication came into effect, the Beaumont Basin was in overdraft. Groundwater levels had declined from historical levels. According to STWMA, progressive drawdown of water levels in the Beaumont Basin occurred from the 1920s to about 1980. Since then, groundwater levels have stabilized. Current levels in the basin are about 75 to 120 feet below the 1920 levels and about 10 to

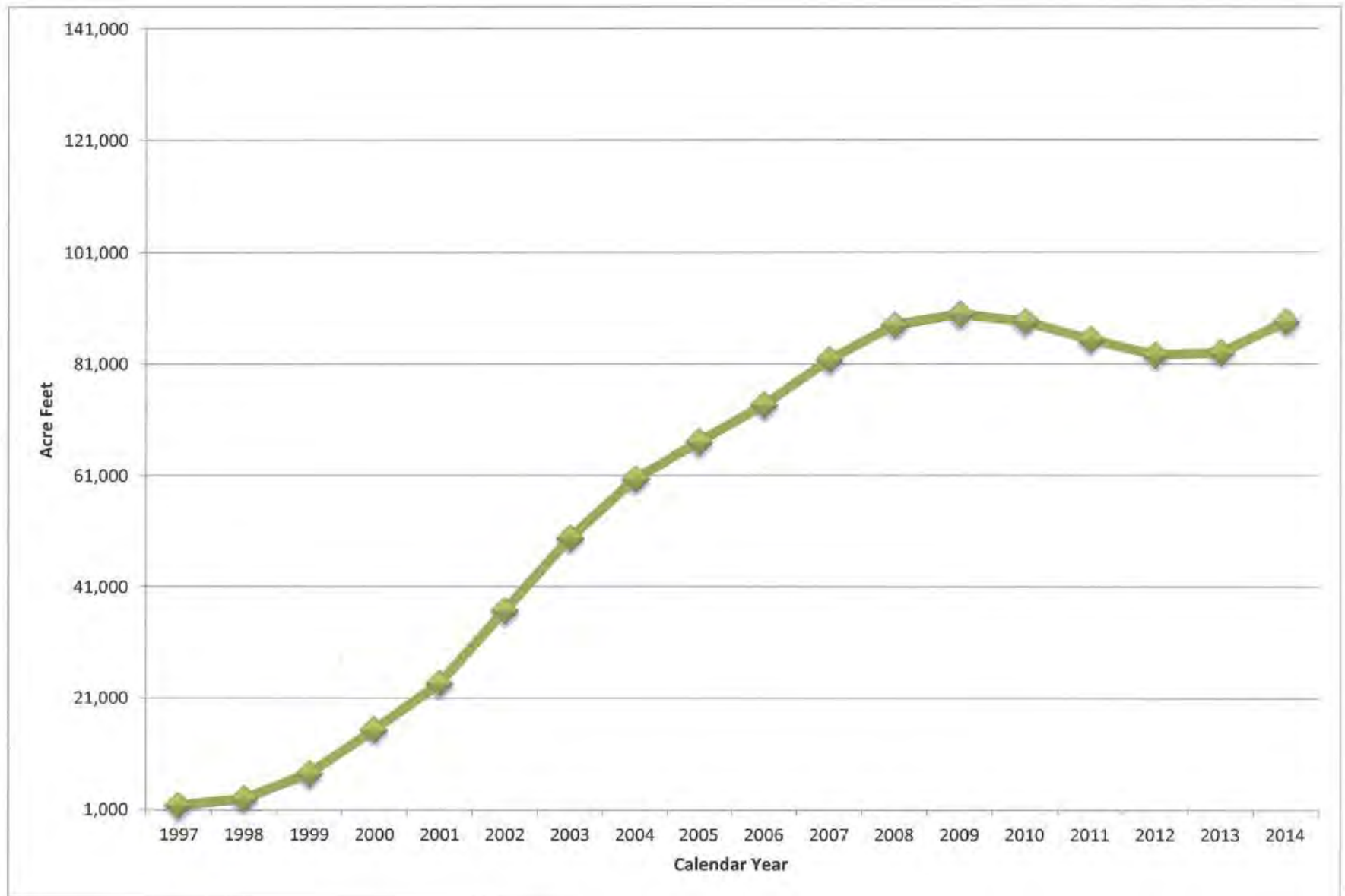
40 feet below the 1980 level. However, in spite of the drop in water levels, there were no water quality impacts or known subsidence. At the present time, with the Adjudication, the Beaumont Basin is operated on a long-term safe yield basis (2015 UWMP, p. 6-28).

To simplify the Judgment, an appropriator, like BCVWD, after February 2014, can only extract water within the appropriator's storage account as determined by Watermaster. Water in the storage account can include:

- Imported water recharged by the Appropriator.
- Water transferred from one Appropriator's storage account to the Appropriator.
- Recycled water recharged to the Beaumont Basin which meets Regional Board and SWRCB Division of Drinking Water (DDW) groundwater water recharge regulations.
- "New" captured storm water or urban runoff recharged by the Appropriator.
- Unused Overlying Party pumping rights allocated back to the Appropriator.
- Return flows from imported water or recycled water applied to land overlying the Beaumont Basin by the Appropriator.
- Forbearance water allocated to the Appropriator for providing potable or recycled water to the Overlying Party's land.

BCVWD complies with provisions of the Adjudication.

The SGPWA monitors the overdraft in the Beaumont Basin. Figure 4.4-5 illustrates the accumulated overdraft since 1997.



Source: 2015 UWMP

In September 2006, BCVWD completed the Phase I of its storm water capture and groundwater recharge project located along Beaumont Avenue between Brookside Avenue and Cherry Valley Boulevard and began recharging imported SPW purchased from the SGPWA. The imported water percolates into the ground and comingles with the native groundwater in the Beaumont Basin.

As indicated at Figure 4.4-5, once water began to be imported, the accumulated overdraft began to level off. The overdraft increased slightly after 2013 due to the drought when imported water supplies were reduced. Basins managed on a long-term safe yield basis are expected to have fluctuations in groundwater levels from year to year depending on hydrologic conditions and the availability of imported water. During dry years, the water levels drop; during wet years, the levels recover. This is normal operation of a groundwater basin (2015 UWMP, p. 6-29).

Beaumont Basin groundwater supplied to the Project by BCVWD is accounted for in the Project WSA. As presented at previous Table 4.4-1, BCVWD groundwater produced from the Beaumont Basin under normal conditions would not exceed 2,706 AFY. Under critical dry year and extended drought conditions, Beaumont Basin groundwater production would be reduced, and would range from 680 – 1,710 AFY. The Project does not propose or require Beaumont Basin groundwater production beyond that reflected in the Project WSA, and within the 2015 UWMP.

Non-Potable Water

Five shallow wells exist within the Project site. The wells are not located in the Adjudicated Beaumont Groundwater Basin but rather the unadjudicated San Timoteo Sub basin. The Project land is riparian to Cooper's Creek and overlies groundwater which can be pumped regardless of whether the groundwater is part of, or separate from, the subsurface flow beneath Cooper's Creek. The groundwater is not adjudicated and the landowner has an overlying right to produce groundwater to be used for reasonable and beneficial uses on the riparian/overlying land. The key is use on the "overlying land." The "rights" go with the land. These rights are equal in priority among other riparian or overlying owners regardless of date of first use. Overlying and

riparian rights are superior to appropriative rights. (BCVWD is an “appropriator” and could not pump and use the water elsewhere.) In summary, the existing wells could be used to supply water to the Project (Project WSA, pp. 10, 11). Until such time as recycled water is available from the City of Beaumont, the Project non-potable water supplies would be obtained solely from existing on-site wells.

The San Timoteo Sustainable Groundwater Management Agency (San Timoteo SGMA) was formed in 2017 in response to the 2014 Sustainable Groundwater Management Act (2014 SGMA). In summary, the 2014 SGMA provides the “framework for sustainable, groundwater management-management and use of groundwater in a manner that can be maintained during the planning and implementation horizon without causing undesirable results.”⁶ The San Timoteo SGMA would oversee well production within the Project site to ensure compliance with 2014 SGMA, acting to protect underlying groundwater and avoid potentially adverse impacts to groundwater supplies.

Summary

The Project would obtain potable water from BCVWD. The BCVWD potable water system is supplied exclusively by groundwater wells. BCVWD groundwater sources include Edgar Canyon and the Beaumont Basin.

Edgar Canyon groundwater is not adjudicated. Groundwater produced from Edgar Canyon by BCVWD does not and would not exceed the Edgar Canyon safe yield. Edgar Canyon is not in overdraft. The Project does not propose or require Edgar Canyon groundwater production beyond that reflected in the Project WSA, and within the 2015 UWMP.

The Beaumont Groundwater Basin is adjudicated and managed by the Beaumont Basin Watermaster. At the present time, with the Adjudication, the Beaumont Basin is operated on a long-term safe yield basis. Under the provisions of the Adjudication, BCVWD may only extract water within its storage account as determined by Watermaster. Water in the storage account can include:

⁶ <https://water.ca.gov/Programs/Groundwater-Management/SGMA-Groundwater-Management>

- Imported water recharged by the Appropriator.
- Water transferred from one Appropriator's storage account to the Appropriator.
- Recycled water recharged to the Beaumont Basin which meets Regional Board and SWRCB Division of Drinking Water (DDW) groundwater water recharge regulations.
- "New" captured storm water or urban runoff recharged by the Appropriator.
- Unused Overlying Party pumping rights allocated back to the Appropriator.
- Return flows from imported water or recycled water applied to land overlying the Beaumont Basin by the Appropriator.
- Forbearance water allocated to the Appropriator for providing potable or recycled water to the Overlying Party's land.

BCVWD complies with provisions of the Adjudication. Beaumont Basin groundwater supplied to the Project by BCVWD is accounted for in the Project WSA comprises a portion of the water in the BCVWD storage account. The Project does not propose or require Beaumont Basin groundwater production beyond that reflected in the Project WSA, and within the 2015 UWMP.

Non-potable water would be supplied by on-site wells until such time as recycled water is available from the City of Beaumont. On-site well production would be overseen by the San Timoteo Sustainable Groundwater Management Agency to ensure compliance with the 2014 Sustainable Groundwater Management Act. Compliance with the Act protects underlying groundwater and would avoid potentially adverse impacts to groundwater supplies.

Potential Groundwater Recharge Impacts

The Project does not propose or require uses that would interfere with any designated groundwater recharge facility. Groundwater recharge would be facilitated by the Project stormwater capture and detention basins. More specifically, the Project would implement two detention/infiltration basins for stormwater capture, treatment, and infiltration (Project WSA, p. 11). The basins would capture an estimated 150 AFY available for infiltration to, and recharge of, the underlying groundwater basin.

Further, per the Project WSA, when fully developed at 2,868 residential EDUs, the Project would generate an estimated 524 AFY of recycled water, (which includes a 25% loss for brine and in-plant losses). The recycled water generated under Project buildout conditions could supply all of the Project non-potable water demands (approximately 178 AFY). The recycled water surplus (346 AFY) is available to meet the non-potable demands in other areas of BCVWD's system. Alternatively, the excess recycled water may be advance-treated and recharged to augment BCVWD's potable water supply (Project WSA, p. 68).

Based on the preceding, the potential for the Project to substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin is less-than-significant.

Level of Significance: Less-Than-Significant.

5.2 ALTERNATIVES ANALYSIS

5.2 ALTERNATIVES ANALYSIS

In accordance with §15126.6 of the *CEQA Guidelines* for Implementation of the California Environmental Quality Act (*CEQA Guidelines*, *Guidelines*), an EIR must describe a range of reasonable alternatives to the proposed Project, or to the location of the Project, which would feasibly attain the basic Project objectives, but would avoid or substantially lessen any of the significant environmental effects of the proposal. As further presented in the *CEQA Guidelines*, an EIR need not consider every conceivable alternative, but rather, the discussion of Project alternatives and their relative potential impacts should be provided in a manner that fosters informed decision-making and public participation. To this end, the *CEQA Guidelines* indicate that the range of alternatives selected for examination in an EIR should be governed by the “rule of reason,” and requires the EIR to set forth only those alternatives necessary to permit an informed decision.

Consistent with the above-stated provisions of the *CEQA Guidelines*, the following analysis presents a reasonable range of alternatives to the Project that would reduce its environmental effects while allowing for attainment of the basic Project Objectives. Supporting reasoning behind the selection of alternatives is presented together with a summary description of each alternative. The merits of the selected alternatives compared with the Project are described and evaluated. Additionally, consideration of alternative Project sites, as means of reducing potential environmental impacts, is discussed.

The *CEQA Guidelines* specifically require that the Draft EIR include in its evaluation a No Project Alternative. The No Project Alternative describes likely or environmental conditions that would likely occur if the Project is not implemented. The alternatives analysis concludes with identification of the environmentally superior alternative. If the environmentally superior alternative is the No Project Alternative, the *CEQA Guidelines* require that the environmentally superior alternative (other than the No Project Alternative) be identified among the remaining alternatives considered.

5.2.1 Alternatives Considered and Rejected

“In determining the nature and scope of alternatives to be examined in an EIR, the Legislature has decreed that local agencies shall be guided by the doctrine of ‘feasibility.’” (Goleta II, *supra*, 52 Cal.3d at p. 565, 276 Cal.Rptr. 410, 801 P.2d 1161.) CEQA defines ‘feasible’ as ‘capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors.’ (Pub. Resources Code, § 21061.1; see also [Guidelines,] § 15364.)[¶] ‘There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason.’ ([Guidelines,] § 15126.6, subd. (a).) The rule of reason ‘requires the EIR to set forth only those alternatives necessary to permit a reasoned choice’ and to ‘examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project.’ (*Id.*, § 15126.6, subd. (f).)” (*In re Bay-Delta* (2008) 43 Cal.4th 1143, 1163).

“The issue of feasibility arises at two different junctures: (1) in the assessment of alternatives in the EIR and (2) during the agency’s later consideration of whether to approve the project. [Citation.] But ‘differing factors come into play at each stage.’ [Citation.] For the first phase—inclusion in the EIR—the standard is whether the alternative is *potentially* feasible. [Citations.] By contrast, at the second phase—the final decision on project approval—the decision-making body evaluates whether the alternatives are *actually* feasible. [Citation.] At that juncture, the decision makers may reject as infeasible alternatives that were identified in the EIR as potentially feasible.” (*California Native Plant Society v. City of Santa Cruz* (2009) 177 Cal.App.4th 957, 981).

Accordingly, the City of Beaumont City Council will have the ultimate authority to determine the feasibility of alternatives and whether to reject them. Absent legal error, the City’s infeasibility findings are entitled to great deference and are presumed correct. (*California Native Plant Society*, 177 Cal.App.4th at 997). A lead agency may reject an alternative as infeasible because it cannot meet project objectives, as long as the finding is supported by substantial evidence in the record. (*Rialto Citizens for Responsible Growth v. City of Rialto* (2012) 208 Cal.App.4th 899).

5.2.1.1 Alternative Sites

As stated in the *CEQA Guidelines* §15126.6 (f)(1)(2)(A), the “key question and first step in [the] analysis [of alternative locations] is whether any of the significant effects of the project would be avoided or substantially lessened by putting the project in another location. Only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR.” *CEQA Guidelines* §15126.6 (f) (1) also provides that when considering the feasibility of potential alternative sites, the factors that may be taken into account are “site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context) and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site (or the site is already owned by the proponent). None of these factors establishes a fixed limit on the scope of reasonable alternatives.”

There are no other sites within the City that are under control of, or could be reasonably acquired by, the Project proponent that would allow for similar development, including sites similar in size and configuration, and that are provided SR-60 freeway adjacency. Review of the City General Plan, City Zoning Map, and inventory/map of current and recent development projects indicates there are no available 1,600-acre sites with appropriate General Plan Land Use and Zoning Designations, or that could be reasonably amended to appropriate General Plan Land Use and Zoning Designations; and that are provided SR-60 freeway adjacency comparable to the Project. Even assuming that some other, yet-to-be-identified site were determined to be available for relocation of the Project, such relocation would not demonstrably reduce potentially significant environmental impacts of the Project. In this regard, the 2008 EIR analysis determined that the Project would result in certain significant air quality impacts.

In as much as significant air quality impacts of the Project are attributable to mobile source emissions, these emissions would be generated irrespective of the Project’s location. If constructed at an alternate location, localized air quality impacts would be transferred, and the Project would still contribute to air pollutant loads within the

affected Air Basin. These impacts would not be substantially reduced, only relocated. Further, and as discussed previously, there are no other sites under control of the proponent that could reasonably allow for development of the Project. Based on the preceding discussions, there are no feasible alternative sites that would avoid or substantially lessen environmental effects of the Project. For these reasons, consideration of an Alternative Site was not further evaluated.

5.2.1.2 SCAQMD Thresholds Alternative

As discussed in the 2008 EIR, the Project would create significant and unavoidable impacts due to calculated exceedances of certain SCAQMD emissions thresholds. Specifically, short-term emissions from Project construction activities will exceed SCAQMD thresholds oxides of nitrogen (NO_x), and Carbon Monoxide (CO) emissions. Over the long-term, Project-related operational emissions of CO, NO_x, reactive organic gases (ROG), and particulates of less than 10-microns in diameter (PM₁₀), will exceed applicable SCAQMD thresholds.

As discussed below, alternatives which could potentially achieve all SCAQMD construction and operational emissions thresholds were not considered feasible, and therefore were not further considered. It is recognized however, that the No Project Alternative and Reduced Intensity Alternative that are considered subsequently in this Section will, to some degree, reduce the severity of calculated SCAQMD threshold exceedances.

Construction Emissions Thresholds Alternative

Based on practical and economic concerns of construction, it is assumed that building areas within each phase of the Project will be mass-graded, within the quickest possible time frame. This is due largely to the expense and logistics of transporting heavy earth-moving equipment to the Project site, equipment operating costs, weather concerns, etc.

Based on the 2008 EIR Air Quality Analysis, grading and site preparation activities will result in significant exceedances of SCAQMD thresholds for NO_x and CO. In order to minimize these exceedances, the daily grading area of the Project site would need to be

limited. This would unreasonably increase the duration of, and costs associated with, site preparation. It is also recognized, that in attempting to realize SCAQMD thresholds in this manner, general disturbance in the Project area would be prolonged. As such, although SCAQMD construction emissions thresholds may be achieved, potentially adverse environmental trade-offs related to extended periods of increased noise levels, prolonged generation of fugitive dust, and additional periods of potential traffic disturbances due to grading activities, would tend to negate any benefits so-realized. For these reasons, an alternative developed specifically to achieve SCAQMD construction emissions thresholds was determined to be infeasible, and was not further considered.

Operational Emissions Thresholds Alternative

Operational emissions of the Project are calculated to result in substantial exceedances of applicable SCAQMD thresholds, as summarized below.

- Total Project CO emissions = 2016.54 pounds per day / SCAQMD threshold = 550 pounds per day (Project CO emissions = 367% of SCAQMD threshold);
- Total Project ROG emissions = 393.85 pounds per day / SCAQMD threshold = 55 pounds per day (Project ROG emissions = 716% of SCAQMD threshold);
- Total Project NO_x emissions = 229.68 pounds per day / SCAQMD threshold = 55 pounds per day (Project NO_x emissions = 418% of SCAQMD threshold);
- Total Project PM₁₀ emissions = 346.75 pounds per day / SCAQMD threshold = 150 pounds per day (Project PM₁₀ emissions = 232% of SCAQMD threshold).

Of the total operational emissions generated by the Project, approximately 90% are due to Project-related mobile sources (vehicular traffic). In practical terms, in order to achieve reductions in Project operational emissions, correlating reductions in Project traffic would be required.

As indicated in the preceding summary of the Project's calculated operational threshold exceedances, to achieve even the least restrictive SCAQMD operational threshold (PM₁₀), traffic generation would need to be reduced by approximately 57%. This could be achieved through a mix of land uses similar to the Project, but reduced in scope by approximately 57%. This reduction in scope would result in a correlating 57% reduction in Project traffic and PM₁₀ emissions, and would therefore achieve SCAQMD PM₁₀ operational thresholds for the proposal.

Along these same lines, to achieve the SCAQMD operational threshold for CO would require an approximate 73% reduction in traffic generation and correlating reduction in scope of development. To achieve the SCAQMD NO_x operational emission threshold would require an approximately 76% reduction in traffic generation and correlating reduction in scope of development. To realize the SCAQMD operational threshold for ROG would require an approximately 86% reduction in traffic generation and correlating reduction in scope of development.

Assuming the types of and uses proposed under the Project, the reductions in development scope necessary to achieve CO, NO_x, and ROG emissions thresholds are considered to be economically unviable, and in a true sense, at these reductions, such an alternative would bear little in common with the initial Project concept. Further, at such reductions in scope, the Project objectives would be only marginally realized, as summarized below.

- The 73 – 86% reduction in scope necessary to achieve SCAQMD CO, NO_x, ROG emissions operational thresholds would substantially reduce aggregate development otherwise resulting from the Project. This would severely constrain attainment of the Project General Objectives to provide fiscal benefit to the City, maximize buildout potential of the subject site while protecting natural features, and implement a development providing local and regional construction employment opportunities.

- The 73 – 86% reduction in scope necessary to achieve SCAQMD CO, NO_x, ROG emissions operational thresholds would substantially reduce housing assets otherwise created by the Project. This would severely constrain attainment of the Project Residential Project Objectives providing for expanded and diversified locally available housing stock; creation of a complementary mix of residential products and supporting community amenities; and implementing a variety of housing types pursuant to the City's Housing Element.
- The 73 – 86% reduction in scope necessary to achieve SCAQMD CO, NO_x, ROG emissions operational thresholds would substantially reduce commercial/industrial development otherwise resulting from the Project. This would severely constrain attainment of the Project Commercial/Industrial Objectives to provide a broad range of employment opportunities; implement a development that responds to current and anticipated market demands, and attract new businesses and jobs thereby fostering economic growth.

For the reasons noted above, an alternative based on significant reductions in the scope of development proposed under the Project, and designed specifically to achieve all SCAQMD operational emissions thresholds, is infeasible.

It is also noted that under a different but related approach, the Reduced Intensity Alternative assessed subsequently in this Section would achieve relative reductions in air quality impacts. These reductions may be realized through development of the subject site with alternative land uses that have comparatively lower trip generation rates, and therefore would reduce vehicle trips and vehicle emissions impacts.

5.2.1.3 Large Lot Alternative

This Alternative assumes an interpretation of the site's Rural Residential (SOI) General Plan Land Use designation that would result in area-wide development of the Specific Plan residential land uses at a maximum of 2.0 dwelling units per acre (one-half acre minimum lot sizes). This alternative would not allow for clustering or transfer of residential densities as currently proposed under the Project, but instead would result in

a greater area of development and overall larger lot sizes. Commercial land uses in the northerly portion of the subject site would be developed as currently proposed under the Project.

This Alternative would not substantially reduce significant air quality impacts that would otherwise result from the Project, and may in fact increase air pollutant emissions due to greater average vehicle trip lengths resulting from dispersed development. By allowing development activities throughout the subject site, the Large Lot Alternative would also negate provision of substantial aggregated natural habitat/open space areas, that would otherwise result from the Project. In this regard, the Large Lot Alternative would tend to controvert biological resources protection and preservation goals and policies articulated within the Multiple Species Habitat Conservation Plan (MSHCP) and the City General Plan.

In diffusing development throughout the subject site, the Large Lot Alternative would also allow for grading and construction in areas that are currently characterized by relatively steep slopes and ravines, and require substantial landform alteration and potential visual degradation. The Large Lot Alternative would also allow for and require substantial extensions of roadways, water lines, sewer lines, and drainage structures. In addition to greater engineering and construction challenges, such infrastructure extensions would result in substantially greater development costs and associated increased housing costs. As a consequence, the potential to provide varied and affordable housing would be diminished, contrary to goals and policies articulated within the *City of Beaumont 2013 – 2021 Housing Element of the General Plan* (City of Beaumont) December 17, 2013 (Housing Element). In this latter regard, Housing Element Goals include:

- Designate sites that fully meet the housing needs of all income groups as quantified by SCAG's Regional Housing Needs Assessment; and
- Facilitate the construction of the maximum feasible number of housing units for all income groups (Housing Element, p. 3-4).

Housing Element Policies include:

- Designate sites that provide for a variety of housing types;
- Implement the Community Development Element and Zoning Ordinance to achieve adequate sites for all income groups; and
- Implement adopted Specific Plans (Housing Element, p. 3-4).

The Large Lot Alternative would implement only low-density single-family residential uses, and therefore: (a) would not satisfy of housing needs of all income groups; (b) would not facilitate the construction of the maximum feasible number of housing units for all income groups; (c) would not comprise a development providing for a variety of housing types; (d) would not implement the City Community Development Element and Zoning Ordinance in a manner that would achieve adequate sites for all income groups; and (e) would not implement an adopted Specific Plan.

On the basis of the preceding discussion, the Large Lot Alternative was considered to be environmentally inferior to the Project, and was not further evaluated.

5.2.2 Evaluated Alternatives

Three (3) alternatives to the EIR Project were selected for analysis. In addition to the CEQA-mandated consideration of a “No Project” alternative, this EIR presents and evaluates “Reduced Intensity” and “Biological Preserve” scenarios. These alternatives were selected based on their ability to fulfill the basic objectives of the Project and capability to reduce its potential environmental effects. The three alternatives are assessed in the 2008 EIR and this PRDEIR and are summarized in the following paragraphs.

5.2.2.1 No Project Alternative

It is assumed that under the No Project scenario, the subject site would eventually be developed under the site’s current Riverside County General Plan Land Use designation.

For the majority of the site, this is “Rural Mountainous Residential,” with a 10-acre minimum lot size. Approximately 100 acres of the site’s northernmost area is designated “Rural Residential,” with a 5-acre minimum lot size. For the purposes of this PRDEIR, it is anticipated that residences would be clustered within developable areas. Development of approximately 170 homes would be allowed within the subject site.

5.2.2.2 Reduced Intensity Alternative

Under the Reduced Intensity Alternative, total development within the subject site would be reduced by 57%. This intensity of development would reduce Project air emissions such that at a minimum, the least restrictive SCAQMD threshold (PM₁₀ emissions) could be achieved. For the purposes of this analysis, it is assumed that general configurations of land uses would be as currently proposed under Legacy Highlands Specific Plan, with a 57 percent reduction in development intensity achieved uniformly throughout the subject site. This would yield a total development of approximately 0.54 million square feet of commercial development and 1,291 residential units.¹

5.2.2.3 Biological Preserve Alternative

This alternative precludes development within the Project’s proposed Planning Area 5, located in the southerly portion of the subject site, thereby preserving approximately 225 acres of open space which has been identified as potential Stephens’ Kangaroo Rat (SKR) habitat. In this regard, this Alternative would likely reduce the extent of SKR take, as well as the magnitude and extent of permitting and payment of mitigation fees required under the MSHCP. The remainder of the subject site would be developed as proposed under the Project. Under the Biological Preserve Alternative, total residential development would be reduced by approximately one-third (or 990 units) when compared to the Project.²

¹ Note: The Project evaluated in the 2008 EIR comprised up to 100 acres (approximately 1.25 million square feet) of commercial/industrial uses, and up to 3,001 residential units. The Project, as approved by the City Council in January 2008, allowed for up to 100 acres (approximately 1.20 million square feet) of commercial/industrial uses, and up to 2,868 residential units. The comparative reduced scopes reflected in the Reduced Intensity Alternative and the Biological Preserve Alternatives are based on the original 2008 EIR scope of development.

² Ibid.

5.2.3 Comparative Impacts

Comparative impacts of the above-described Alternatives vis-à-vis the Project, are discussed below.

5.2.3.1 Comparative Land Use/Planning Impacts

Discretionary land use decisions and actions required under the Project would not be required under No Project conditions. As a consequence, under the No Project Alternative, the Project site would not be annexed to the City of Beaumont, and would remain under County jurisdiction. Based on the current County land use designations, the overall intensity of development on the Project site would be significantly reduced.

The Reduced Intensity Alternative would result in an aggregate 57 percent reduction in development intensity. For commercial/retail uses, the resulting development intensity, expressed as floor to area ratio (FAR), would be approximately 12.4 percent, as opposed to 28.7 percent under the Project. For residential uses, the resulting development intensity would be 0.86 units per acre, as opposed to 2.0 units per acre under the Project. Discretionary land use decisions and actions required under the Project would also be required under the Reduced Intensity Alternative.

Under the Biological Preserve Alternative, residential development intensity would be reduced by approximately one-third when compared to the Project. Notable, southerly portions of the Project site would remain in their current natural state. This Alternative would likely reduce SKR take permit requirements and mitigation fees required under the MSHCP. Commercial/retail uses would be implemented in the northerly portion of the subject site (generally north of the 4th Street alignment), as currently proposed under the Project. Discretionary land use decisions and actions required under the Project would also be required under the Biological Preserve Alternative.

5.2.3.2 Comparative Earth Resources Impacts

Under the No Project Alternative, exposure to seismic hazards would be reduced as there would be fewer persons and structures subject to earthquake(s). Mass grading of the site

would be avoided, as on-site grading would be the responsibility of the individual property owners.

The Reduced Intensity Alternative would realize fewer residential lots and a reduction in commercial/retail development intensity, thereby reducing the number of people potentially exposed to regional seismic conditions. This Alternative would not substantially reduce the area of total development, and land disturbance would likely be similar to the Project.

Based on the overall reduction in development intensity under the Biological Preserve Alternative, potential exposure to geologic/seismic hazards would be reduced when compared to the proposed Project. Additionally, this Alternative would reduce land disturbance by approximately 225 acres (approximately 14% of the total Project area), with comparable reductions in areas that would, at least temporarily, be exposed to potential water and wind erosion.

5.2.3.3 Comparative Hydrology/Water Quality Impacts

Under the No Project Alternative, water improvements would not be comprehensively constructed. Infrastructure, including water, sewer and stormwater management systems would be extended as individual properties were improved. Because the lots would be approximately 5-to-10 acres in size, there is the possibility that property owners could opt to construct on-site wells and/or septic systems. While total water consumption would likely be reduced under this alternative, these types of systems could cumulatively impact existing overdraft conditions, and adversely affect water quality.

Consistent with the decrease in overall site development realized under the Reduced Intensity Alternative, this Alternative would likely reduce the extent of impermeable surfaces within the subject site, with corollary reductions in developed storm water runoff. This could relieve certain detention/retention requirements required of the Project, and/or alter certain design and drainage elements, with no discernible effect on the amount or quality of stormwater exiting the Project site. That is, quality and quantity of drainage discharge resulting from implementation of the Reduced Scale Alternative

are governed by fixed National Pollutant Discharge Elimination System (NPDES) permitting requirements as well as applicable policies of the Riverside County Flood Control District and California Regional Water Quality Control Board (Santa Ana Region). As such, quality and quantity of drainage discharge resulting from implementation of this Alternative would not be significantly different than discharge quantities and qualities anticipated to result from implementation of the Project. The overall area of development would be similar to the Project, and in this sense, the extent of serving stormwater management systems would likely be similar to the Project. Under this Alternative, sewer systems would be extended to the subject site, precluding potential impacts to groundwater quality associated with use of septic systems.

The Biological Preserve Alternative would likely result in reduced volumes and rates of stormwater runoff due to an overall reduction in development intensity and resultant impermeable surfaces. The overall scope and extent of necessary drainage system improvements would also likely be reduced. The quality and quantity of drainage discharge releases resulting from implementation of the Biological Resources Alternative are governed by fixed NPDES permitting requirements as well as applicable policies of the Riverside County Flood Control District and California Regional Water Quality Control Board (Santa Ana Region). As such, quality and quantity of drainage discharge resulting from implementation of the Biological Preserve Alternative would not be significantly different than discharge quantities and qualities anticipated to result from implementation of the proposed Project. It is assumed that similar to the Project, water supplies would be realized consistent with provisions of the BCVWD Urban Water Management Plan, with no adverse effects on water quality, availability of groundwater, or other effects to water sources. Sewer systems would be extended to the subject site under this Alternative, precluding potential impacts to groundwater quality associated with use of septic systems.

5.2.3.4 Comparative Water Supply Impacts

Under the No Project Alternative, water improvements would likely not be comprehensively constructed. Based on the relatively large lot sizes resulting under this Alternative, and the current general lack of water system improvements in the area,

individual wells could be utilized to obtain a potable water source. While total residential water consumption would likely be reduced under this Alternative, resulting wells and private water systems that may be realized could cumulatively impact existing overdraft conditions, and may adversely affect water quality.

Under the Reduced Intensity Alternative, total water demands would be reduced compared to the Project. Specifically, assuming a direct EDU/water consumption correlation between this Alternative and the Project, this alternative would reduce total water consumption by approximately 57% when compared to the Project. While water demand would be reduced compared to the Project, similar to the Project, water supplies would be realized as provided for under an approved WSA, with no adverse effects on water resources. The scope and extent of water system improvements under this Alternative would likely be similar to the Project.

The approximate one-third reduction in residential development under the Biological Preserve Alternative, would likely result in corollary EDU reductions in water consumption. For the purposes of this analysis, all other potable and non-potable water demands occurring under this Alternative and under the Project are assumed to be constant. On this basis, the approximate one-third unit reduction in residential development resulting under this Alternative would translate to an approximate one-third reduction in residential water consumption otherwise resulting from the Project. While water demand would be reduced compared to the Project, similar to the Project, water supplies would be realized as provided for under an approved WSA, with no adverse effects to water resources. The scope and extent of water system improvements under this Alternative would likely be reduced when compared to the Project.

5.2.3.5 Comparative Cultural Resources Impacts

The area and type of site disturbance expected under the No Project, Reduced Intensity, and Biological Preserve alternatives would likely be reduced when compared to the Project. Thus, the potential for discovery of cultural resources may be reduced under these Alternatives. Net impacts however would likely remain unchanged as

identification, recordation, and preservation/protection of resources is mandated under the Project and all of the considered alternatives.

5.2.3.6 Comparative Biological Resources Impacts

Through the application of easements on individual parcels, the No Project Alternative could be designed to avoid potential impacts associated with the general loss of habitat. Without these easements, cohesive habitat areas would be separated by property boundaries, and habitat impacts would likely occur at the discretion of individual property owners. Administration of MSHCP requirements may be complicated by numerous unrelated development proposals.

The reduction in overall development intensity under the Reduced Intensity Alternative would provide an opportunity to preserve general habitat areas on-site. This could be accomplished through the application of easement(s) on any designated habitat areas. No substantive reduction in the extent of impacts is anticipated, however, as the predominance of the subject site that would be graded or otherwise disturbed under the Project would also likely be disturbed/graded under this Alternative. Compliance with MSHCP requirements would be realized under this Alternative.

The premise of the Biological Preserve Alternative is to avoid potential impacts associated with the take of SKR and loss of SKR habitat. Under this Alternative, potential impacts to SKR and SKR habitat would be reduced, as would any required permitting or fee payments associated with SKR take or loss of SKR habitat.

5.2.3.7 Comparative Traffic/Circulation Impacts

Under the No Project Alternative, the reduction in development intensity would substantially reduce trip generation characteristics of the subject site. Comprehensive roadway improvements would be realized as planned and implemented by Riverside County.

The overall reduction in the development intensities resulting from either the Reduced Intensity Alternative or the Biological Preserve Alternative would result in corollary

reductions in traffic on the surrounding street network. Certain traffic improvements currently required of the Project may be reduced in scope under either of these Alternatives. However, construction of major street systems, to include roadways identified on the General Plan Circulation Element would still be required. Traffic growth in the area will largely be influenced by areawide and regional growth patterns.

5.2.3.8 Comparative Air Quality Impacts

Consistent with the reduction in overall intensity and traffic generation when compared to the Project, the No Project Alternative would reduce air emissions impacts. Specifically, significant operational CO, NO_x, PM₁₀, and ROG emissions resulting from the Project, would, under the No Project Alternative, likely be reduced below SCAQMD significance thresholds. Long-term local and regional air quality may be adversely affected by other areawide development.

The Reduced Intensity Alternative is based on targeted reductions in operational criteria pollutants emissions. At the 57% reduction in development intensity that would be realized under this Alternative, it is likely that SCAQMD PM₁₀ operational emissions thresholds could be achieved. However, CO, NO_x, and ROG operational emissions levels would remain above applicable SCAQMD thresholds.

Based on the approximately one-third unit reduction in residential development under the Biological Preserve Alternative, corollary reductions in total air quality impacts would result. Assuming an approximate direct relation between reduced residential development and air quality impacts it can be anticipated that criteria pollutant emission would likely be reduced by approximately one-third when compared to the Project. Though this represents a substantial numerical reduction in criteria pollutants, SCAQMD thresholds for CO, ROG, NO_x, and PM₁₀ could still be exceeded. As discussed previously in this Section, a minimum reduction in total Project scope of approximately 57% would be necessary even to realize the least restrictive SCAQMD threshold.

5.2.3.9 Comparative Noise Impacts

Under the No Project Alternative, the substantive reduction in traffic and areawide activities volumes would translate into perceptible reductions in development-generated noise levels. However, as identifiable noise sources would likely result due to other areawide development, off-site noise levels at the periphery of the subject site would likely be unaffected by reduced intensity resulting from this Alternative.

Either the Biological Preserve Alternative or the Reduced Intensity Alternative would likely produce noise impacts similar to those anticipated from the proposed Project. However, areas excluded from development under either alternative would not be future sources of noise. Reduced traffic generated under these alternatives may result in localized reductions in noise levels along affected roadways, though any such reduction would likely be indiscernible against background conditions.

5.2.3.10 Comparative Utilities and Public Services Impacts

The No Project Alternative would reduce demands on public services and utilities from a user generation and demand standpoint. The cost to extend such services would be greater given the longer distance for extending electrical, gas, water, and sewer. Demands on schools and public services would be less, given the lower development intensity of the No Project Alternative.

The overall reduction in the scope of the under the Reduced Intensity Alternative would likely result in corollary reductions in water and sewer demand, as well as the demands for schools, parks, and emergency services. The per unit cost of utility service extensions would likely increase, based on relative static costs in design and construction of utilities systems throughout the developed site, serving fewer residential units. Typically, these costs are passed on in the form of higher housing prices, thereby acting to restrict rather than expand the City's base of economically accessible and affordable housing.

Under the Biological Preserve Alternative, the reduction in residential development intensity would likely translate into corollary reductions in utilities and services demands. As certain additional areas of the subject site would be excluded from

development, extensions of utilities services in these areas would not be required, and associated impacts would be reduced.

5.2.3.11 Comparative Aesthetics, Light and Glare Impacts

Under the No Project Alternative, the resulting five- to ten-acre minimum lot sizes would tend to preserve a rural sense of the area. Grading impacts may be minimized as greater flexibility in individual site designs may be realized. The subject property would be regulated by development standards established by Riverside County.

As with the Project, under the Reduced Intensity Alternative, development of the subject site would be required to conform with Specific Plan development standards and guidelines as approved by the City of Beaumont. The Reduced Intensity Alternative would likely provide for greater flexibility in site design and would tend to promote hillside preservation and protection of vistas. Total light and glare would be reduced based on realized reductions in development intensities.

As with the Project, the Biological Preserve Alternative would be implemented consistent with City-approved Specific Plan development standards and design guidelines. Approximately 225 acres of additional open space would be realized under this Alternative, acting to reduce overall urbanization and development intensity of the subject site, though this may not be perceptible to the casual observer. Total light and glare would be reduced based on realized reductions in development intensities.

5.2.3.12 Comparative Attainment of Project Objectives

The Project Objectives and comparative attainment of the Project Objectives under the No Project Alternative, Reduced Intensity Alternative, and the Biological Preserve Alternative is summarized at Table 5.2-1.

As presented at Table 5.2-1, under the No Project Alternative, the Project Objectives would either not be realized, or attainment of the Project Objectives would be substantially constrained.

Under the Reduced Intensity Alternative, attainment of 3 of 7 of the Project General Objectives would be substantially constrained; attainment of all the Project Residential Objectives would be substantially constrained; and attainment of 3 of 4 of the Project commercial/light industrial objectives would be substantially constrained.

Under the Biological Preserve Alternative, attainment of 3 of 7 of the Project General Objectives would be substantially constrained; and attainment of all the Project Residential Objectives would be substantially constrained.

Table 5.2-1
Comparative Attainment of Project Objectives

EVALUATED ALTERNATIVES			
	No Project Alternative The Project site would be developed under the site's current Riverside County General Plan Land Use designation. For the majority of the site, this designation is "Rural Mountainous Residential," with a 10-acre minimum lot size. Approximately 100 acres of the site's northernmost area is designated "Rural Residential," with a 5-acre minimum lot size. Under the No Project Alternative, development of approximately 170 homes (or 6% of the 2,868 units currently proposed) would be realized within the subject site.	Reduced Intensity Alternative Total development within the subject site would be reduced by 57%. The general configurations of land uses would be as currently proposed under the Specific Plan, with a 57% reduction in development intensity achieved uniformly throughout the subject site.	Biological Preserve Alternative This Alternative precludes development within the Project's proposed Planning Area 5, located in the southerly portion of the subject site, thereby preserving approximately 225 acres of open space which has been as potential Stephens' Kangaroo Rat (SKR) habitat. The remainder of the subject site would be developed as proposed under the Project. Under the Biological Preserve Alternative, total residential development would be reduced by approximately one-third when compared to the Project.
PROJECT: GENERAL OBJECTIVES	Attainment of Project Objectives		
	No Project Alternative	Reduced Intensity Alternative	Biological Preserve Alternative
Establish Specific Plan land uses, circulation design standards, site development standards, and design guidelines contributing to a desirable master planned community.	No Specific Plan would be implemented. <i>Attainment of this Objective would not be realized under the No Project Alternative.</i>	Specific Plan development would be implemented. <i>Attainment of this Objective under the Reduced Intensity Alternative would be comparable to the Project.</i>	Specific Plan development would be implemented. <i>Attainment of this Objective under the Biological Preserve Alternative would be comparable to the Project.</i>
Improve both visual and functional attributes of the City.	Low density residential development under the No Project Alternative would generally contribute to fragmented urban sprawl. <i>Attainment of this Objective under the No Project Alternative would be substantially constrained when compared to the Project.</i>	It is assumed that as with the Project, the Specific Plan development under this Alternative would contribute positively to functional and visual attributes of the area. <i>Attainment of this Objective under the Reduced Intensity Alternative would be comparable to the Project.</i>	It is assumed that as with the Project, the Specific Plan development under this Alternative would contribute positively to functional and visual attributes of the area. <i>Attainment of this Objective under the Biological Preserve Alternative would be comparable to the Project.</i>

**Table 5.2-1
Comparative Attainment of Project Objectives**

<p>Establish new development that would benefit the City's fiscal condition.</p>	<p>Low density residential development under this Alternative would provide fiscal benefits to the City such as increased property values, tax revenues, utility connection and service revenues, permit and inspection fees, etc. However, based on the Fiscal benefits to the City under this Alternative would be limited when compared to property values and tax revenues resulting from commercial/light industrial uses and increased residential development resulting from the Project.</p> <p><i>Attainment of this Objective under the No Project Alternative would be substantially constrained when compared to the Project.</i></p>	<p>Residential and commercial/industrial development under this Alternative would provide fiscal benefits to the City such as increased property values, tax revenues, utility connection and service revenues, permit and inspection fees, etc. However, based on the approximately 57% reduction in overall development intensity, fiscal benefits would be limited when compared to property values and tax revenues resulting from increased commercial/light industrial uses and increased residential development resulting from the Project.</p> <p><i>Attainment of this Objective under the Reduced Intensity Alternative would be substantially constrained when compared to the Project.</i></p>	<p>Residential and commercial/industrial development under this Alternative would provide fiscal benefits to the City such as increased property values, tax revenues, utility connection and service revenues, permit and inspection fees, etc. However, based on the approximately one-third reduction in residential development, fiscal benefits would be reduced when compared to fiscal benefits due to increased residential development resulting from the Project.</p> <p><i>Attainment of this Objective under the Biological Preserve Alternative would be substantially constrained when compared to the Project.</i></p>
<p>Make efficient use of the undeveloped subject property by maximizing its buildout potential for residential uses and employment-generating commercial/light industrial uses, while protecting natural features.</p>	<p>Low-density large lot residential development under the No Project Alternative runs counter to efficient use of available land – impairing the scope and breadth of development within the subject site with little or no added protection of natural features.</p> <p><i>Attainment of this Objective under the No Project Alternative would be substantially constrained when compared to the Project.</i></p>	<p>The 57% reduction in total development intensity under the Reduced Intensity Alternative would result in inefficient use of available land by limiting rather than maximizing buildout potential of the site. Site disturbance would be comparable to the Project.</p> <p><i>Attainment of this Objective under the Reduced Intensity Alternative would be substantially constrained when compared to the Project.</i></p>	<p>The one-third reduction in residential development under this Alternative would result in inefficient use of available land by limiting rather than maximizing buildout potential of the site. This Alternative would exclude certain areas of the site from development activities.</p> <p><i>Attainment of this Objective under the Biological Preserve Alternative would be substantially constrained when compared to the Project.</i></p>
<p>Implement residential and commercial/light industrial uses providing local and regional construction employment opportunities.</p>	<p>Commercial/light industrial uses would not be implemented. At only 6% of the Project residential scope, low-density large lot residential development under this Alternative would substantially limit construction employment opportunities when compared to the Project.</p> <p><i>Attainment of this Objective under the No Project Alternative would be substantially constrained when compared to the Project.</i></p>	<p>The 57% reduction in total development intensity under this Alternative would substantially limit construction employment opportunities when compared to the Project.</p> <p><i>Attainment of this Objective under the Reduced Intensity Alternative would be substantially constrained when compared to the Project.</i></p>	<p>The one-third reduction in residential development under this Alternative would substantially limit construction employment opportunities when compared to the Project.</p> <p><i>Attainment of this Objective under the Biological Preserve Alternative would be substantially constrained when compared to the Project.</i></p>

**Table 5.2-1
Comparative Attainment of Project Objectives**

Provide a safe community that is cognizant of natural and man-made conditions.	Low-density large lot residential development under the No Project Alternative lacks cohesive design and safety aspects otherwise resulting from the Project Specific Plan uses. <i>Attainment of this Objective under the No Project Alternative be limited when compared to the Project.</i>	It is assumed that as with the Project, the Specific Plan uses under this Alternative would be developed in a manner that is cognizant of natural and man-made conditions. <i>Attainment of this Objective under the Reduced Intensity Alternative would be comparable to the Project.</i>	It is assumed that as with the Project, the Specific Plan uses under this Alternative would be developed in a manner that is cognizant of natural and man-made conditions. <i>Attainment of this Objective under the Biological Preserve Alternative would be comparable to the Project.</i>
PROJECT: RESIDENTIAL OBJECTIVES	Attainment of Project Objectives		
	No Project Alternative	Reduced Intensity Alternative	Biological Preserve Alternative
Provide a Specific Plan development that expands and diversifies the locally available housing stock.	No Specific Plan would be implemented. <i>This Objective would not be realized under the No Project Alternative.</i>	The 57% reduction in residential development under this Alternative would limit total available housing resources and the reduce diversity of residential products otherwise resulting from the Project. <i>Attainment of this Objective under the Reduced Intensity Alternative would be substantially constrained when compared to the Project.</i>	The one-third reduction in residential development under this Alternative would limit total available housing resources and the reduce diversity of residential products otherwise resulting from the Project. <i>Attainment of this Objective under the Biological Preserve Alternative would be substantially constrained when compared to the Project.</i>
Create a complementary mix of residential products and supporting community amenities.	Only large-lot low-density residential development, as opposed to a complementary mix of residential products, would be implemented under this Alternative. No community amenities would be constructed under this Alternative. <i>This Objective would not be realized under the No Project Alternative.</i>	The 57% reduction in residential development under this Alternative would reduce diversity of residential products otherwise resulting from the Project. It is assumed that the scope and variety and community amenities would be reduced in proportion to the reduction in total residential development <i>Attainment of this Objective under the Reduced Intensity Alternative would be substantially constrained when compared to the Project.</i>	The one-third reduction in residential development under this Alternative would reduce diversity of residential products otherwise resulting from the Project. It is assumed that the scope and variety and community amenities would be reduced in proportion to the reduction in total residential development <i>Attainment of this Objective under the Biological Preserve Alternative would be substantially constrained when compared to the Project.</i>

**Table 5.2-1
Comparative Attainment of Project Objectives**

Implement the City's Housing Element by providing a variety of housing types.	Only large-lot low-density residential development, as opposed to a variety of housing types, would be implemented under this Alternative. <i>This Objective would not be realized under the No Project Alternative.</i>	The 57% reduction in residential development under this Alternative would reduce total residential uses, the variety of residential products otherwise resulting from the Project. <i>Attainment of this Objective under the Reduced Intensity Alternative would be substantially constrained when compared to the Project.</i>	The one-third reduction in residential development under this Alternative would reduce total residential uses, the variety of residential products otherwise resulting from the Project. <i>Attainment of this Objective under the Biological Preserve Alternative would be substantially constrained when compared to the Project.</i>
PROJECT: COMMERCIAL/LIGHT INDUSTRIAL OBJECTIVES	Attainment of Project Objectives		
	No Project Alternative	Reduced Intensity Alternative	Biological Preserve Alternative
Implement commercial/light industrial development supporting a broad range of employment opportunities.	Commercial/light industrial uses would not be implemented. <i>None of the Project commercial/light industrial objectives would be realized.</i>	The 57% reduction in commercial/light industrial development under this Alternative would substantially reduce total employment and the variety of employment opportunities otherwise resulting from the Project. <i>Attainment of this Objective under the Reduced Intensity Alternative would be substantially constrained when compared to the Project.</i>	Commercial/light industrial development and resulting employment opportunities would be comparable to the Project. <i>Attainment of this Objective under the Biological Preserve Alternative would be comparable to the Project.</i>
Provide commercial/light industrial uses near existing roadways and freeways to reduce VMT, traffic congestion, and air emissions.	Commercial/light industrial uses would not be implemented. <i>None of the Project commercial/light industrial objectives would be realized.</i>	As with the Project, commercial/light industrial uses implemented under this Alternative would be provided proximate access to existing roadways and freeways. <i>Attainment of this Objective under the Reduced Intensity Alternative would be comparable to the Project.</i>	As with the Project, commercial/light industrial uses implemented under this Alternative would be provided proximate access to existing roadways and freeways. <i>Attainment of this Objective under the Biological Preserve Alternative would be comparable to the Project.</i>

**Table 5.2-1
Comparative Attainment of Project Objectives**

<p>Provide commercial/light industrial products responsive to current and anticipated market demands.</p>	<p>Commercial/light industrial uses would not be implemented.</p> <p><i>None of the Project commercial/light industrial objectives would be realized.</i></p>	<p>The 57% reduction in commercial/light industrial development under this Alternative would substantially reduce the scope and variety commercial/light products and similarly reduce the ability to respond to current and anticipated market demands.</p> <p><i>Attainment of this Objective under the Reduced Intensity Alternative would be substantially constrained when compared to the Project.</i></p>	<p>Commercial/light industrial development and scope and variety commercial/light products would be comparable to the Project.</p> <p><i>Attainment of this Objective under the Biological Preserve Alternative would be comparable to the Project.</i></p>
<p>Attract new businesses and jobs and thereby foster economic growth.</p>	<p>Commercial/light industrial uses would not be implemented.</p> <p><i>None of the Project commercial/light industrial objectives would be realized.</i></p>	<p>The 57% reduction in commercial/light industrial development under this Alternative would substantially reduce the potential to attract new businesses and jobs and foster economic growth.</p> <p><i>Attainment of this Objective under the Reduced Intensity Alternative would be substantially constrained when compared to the Project.</i></p>	<p>Commercial/light industrial development and scope and potential to attract new businesses and jobs and foster economic growth would be comparable to the Project.</p> <p><i>Attainment of this Objective under the Biological Preserve Alternative would be comparable to the Project.</i></p>

Limited attainment or non-attainment of the Project Objectives under No Project Alternative, the Reduced Intensity Alternative, and the Biological Preserve Alternative detailed at Table 5.2-1 above indicates the infeasibility of these Alternatives. Independently, costs incurred in developing any of the Alternatives would also effectively preclude their implementation. In this regard, financial pro forma analysis³ prepared by the Applicant and economic data analyzed by the City substantiate that the cost per dwelling unit under any of the Alternatives are such that the marginal costs of the Alternatives are so great that the Applicant or any other developer would not proceed with any of the Alternatives. Results of the pro forma analysis are summarized below and at following Table 5.2-2. The analysis is provided at Appendix C-1 to this PRDEIR.

- The analysis shows that both the No Project and the Reduced Intensity Alternatives produce negative returns (expressed as a percent of profit on the total investment), indicating that they are fundamentally infeasible from a development/investment perspective.
- The Biological Preserve Alternative shows a positive rate of return, but below 2%, and therefore far below what would constitute the feasibility threshold for a project of this type.
- In addition to the usual investment risks associated with large-scale land development, including the potential for market downturns, changing regulatory environments, and emerging competition, investments in property improvements in this case must occur before any reimbursements from a Community Facilities District, according to the developer of the Project. These conditions, which are not specifically quantified in this analysis, would further reduce the feasibility of all three project alternatives.

³ See: *Legacy Highlands, (Beaumont, CA) Estimates of Financial Performance of Identified Project Alternatives to the Proposed Project* (The Natelson Dale Group, Inc.) November 9, 2020, PRDEIR Appendix C-1.

Interpretation of analysis findings. The conclusion of financial infeasibility for all three of the Alternatives reflects the following conditions applicable to lower-density development in this location:

- Development of this property (regardless of density) would require substantial investment in “backbone” and other infrastructure and fees that are essentially fixed costs to the developer. Whereas some development costs (especially construction of individual housing units and certain tract-level infrastructure) would decrease in direct proportion to reductions in unit counts, some land development infrastructure requirements would not change proportionately with reduced development densities. Thus, infrastructure costs contribute to the financial impediment to lower-density development for conditions in which the same fixed costs need to be allocated over a smaller number of dwelling units (or commercial square feet).
- Although the lower-density residential development under the alternative scenarios would support higher home sales prices than the Proposed Project, the potential price premiums associated with lower-density development (i.e., larger lot sizes) are subject to practical limits based on the characteristics of the local market. In this location, the price premiums would not be sufficient to offset the inherent cost inefficiencies noted above.
- Analysis of the No Project Alternative assumes site development conditions similar to the Project, except for cost reductions as noted elsewhere in the pro forma analysis to reflect the reduced number of units and density, rather than a complete re-design and re-conceptualization of the Project.

**Table 5.2-2
Financial Performance Summary**

No Project Alternative				
Total Profit			-\$169,633,144	-\$169,633,144
Total investment, land-related			\$216,956,894	\$248,044,182
Total investment, retail/ind. buildings			\$0	\$0
Total investment, residential buildings	\$64,026,250.00		\$64,026,250	\$64,026,250
Total investment, land + buildings			\$280,983,144	\$312,070,432
Profit as % of total investment			-60.4%	-54.4%
Reduced Intensity Alternative				
Total Profit			-\$38,789,236	-\$38,789,236
Total investment, land-related			\$275,256,088	\$344,837,527
Total investment, retail/ind. buildings	\$12,165,795.00	\$75,275,856.56	\$87,441,652	\$87,441,652
Total investment, residential buildings	\$177,583,230.00	\$112,745,433.23	\$290,328,663	\$290,328,663
Total investment, land + buildings			\$653,026,403	\$722,607,842
Profit as % of total investment			-5.9%	-5.4%
Biological Preserve Alternative				
Total Profit			\$15,658,047	\$15,658,047
Total investment, land-related			\$304,030,307	\$409,358,321
Total investment, retail/ind. buildings	\$17,572,815.00	\$180,205,838.44	\$197,778,653	\$197,778,653
Total investment, residential buildings	\$178,846,000.00	\$181,994,593.70	\$360,840,594	\$360,840,594
Total investment, land + buildings			\$862,649,554	\$967,977,569
Profit as % of total investment			1.8%	1.6%

Source: Legacy Highlands (Beaumont, CA) Estimates of Financial Performance of Identified Project Alternatives to the Proposed Project (The Natelson Dale Group, Inc.) November 9, 2020.

Table Notes:

1. When cash flow is negative, return on investment is a “lower negative” when costs are higher, the reverse of what happens with a positive profit line.
2. Table figures do not fully capture the negative value of this scenario (would require “negative profit” at the pro forma stage of the analysis).

Further, under any of the Alternatives, the City’s policy to encourage the development of new housing at varying densities to accommodate a variety of incomes and lifestyles and special needs groups would also not be fully materialized. In addition, even if development could occur under any of the Alternatives, based on the substantial reduction in residential development, the City’s compliance with the State’s mandates relating to Regional Housing Need Assessment (RHNA) requirements would be severely hindered.

APPENDIX A-1

SUPERIOR COURT OF CALIFORNIA, COUNTY OF RIVERSIDE

TITLE: CHERRY VALLEY PASS ACRES AND NEIGHBORS v. CITY OF BEAUMONT, ET AL.	DATE & DEPT: 02/03/09 D6 FILED SUPERIOR COURT OF CALIFORNIA COUNTY OF RIVERSIDE	NUMBER: RIC492830
COUNSEL: None present	REPORTER: None	FEB - 3 2009
PROCEEDING: STATEMENT OF DECISION ON MATTER UNDER SUBMISSION		

Moving Party: Petitioners, Cherry Valley Acres and Neighbors, and Cherry Valley Environmental Planning Group; Represented by: Rogers, Joseph, O'Donnell

Responding Party: Respondents, City of Beaumont; Represented by: Gresham, Savage, Nolan & Tilden

STATEMENT OF DECISION

Petitioners Cherry Valley Acres and Neighbors, and Cherry Valley Environmental Planning Group (collectively "Cherry Valley" or "petitioners") challenge a residential project approved by respondent City of Beaumont. The Legacy Highlands project proposed by real-party-in-interest, The Preserve, LLC, will convert 1,600 acres of undeveloped land in unincorporated Riverside County southwest of the City of Beaumont (currently zoned rural/agricultural) into a 2,868-unit residential community with 100 acres reserved for commercial uses and 809 acres reserved for parks and open space (the "Project").

An Environmental Impact Report (EIR) including a Statement of Overriding Considerations was certified in connection with the approval of the Project, which consisted of several components including a Specific Plan, a Parcel Map, a Zone Change, an Annexation, and a Development Agreement.

Cherry Valley's petition contains 1 cause of action seeking mandamus relief for alleged violations of the California Environmental Quality Act (CEQA).

Cherry Valley's opening brief contends that the EIR did not adequately analyze the project's water impacts. Petitioners also contend that the analysis of cumulative impacts was insufficient. Petitioners

Mac R. Fisher, Judge
G. Reyes (cmg), Clerk
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claim the EIR's discussion of growth inducing effects was inadequate. Petitioners also challenge the EIR's analysis of project alternatives. Finally, petitioners claim that the Statement of Overriding Considerations was legally defective.

The petition is jointly opposed by respondent City and real party, The Preserve, LLC (sometimes referred to collectively as "respondents").

DISCUSSION

The court finds that the EIR does not adequately analyze the project's water supply impacts. The City's determination that there is sufficient water to support the project is not supported by substantial evidence. In addition, the City's alternatives analysis violates CEQA. The "Reduced Intensity Alternative" and the "Biological Preserve Alternative" were improperly rejected. The court further finds that the City's Overriding Considerations do not comply with CEQA. The court finds no merit to petitioner's claims regarding cumulative and growth inducing impacts.

1) Water Analysis:

The court finds that a proper Water Supply Assessment was not prepared in compliance with SB 610. In addition, the EIR's discussions and considerations of water supply impacts are legally deficient and do not comply with *Vineyard Area Citizens For Responsible Growth v. City of Rancho Cordova* (2007) 40 Cal.4th 412.

The proposed water supplier for the Legacy Highlands project is the Beaumont Cherry Valley Water District (BCVWD). BCVWD duly adopted its initial Urban Water Management Plan in 2000. The latest Plan in the administrative record appears to be BCVWD's 2005 Urban Water Management Plan Update (adopted in January of 2006). (AR: tab 77, vol. 5, p. 1300 – vol. 6, p. 1400.)

BCVWD did not provide a document to respondent City of Beaumont labeled "Water Supply Assessment" for the Legacy Highlands project. Instead, it submitted a document called a "Plan of

Service” (POS). BCVWD has apparently generated a number of POS’s, two of which are contained in the record. One POS was prepared in July of 2003 (AR: tab 1, vol. 1, pp. 15-41.) BCVWD later provided respondent City with another POS for the project that appears to have been revised in March of 2006. (AR: tab 77, vol. 6, pp. 1401-1420.) It is this revised POS upon which parties focus.

The revised POS fails to comply with SB 610. Providing an adequate SB 610 Assessment is the obligation of respondent City. (See Wat. C. §§10910(g)(3), 10911(c).) The revised POS prepared by BCVWD and accepted by respondent City is not a proper Water Supply Assessment and fails to comply with SB 610. It is incoherent and confusing and fails to adequately analyze BCVWD ‘s existing and projected water demands and supplies.

For one thing, Water Code section 10910(f) requires specific information when groundwater basins are cited as sources for a project. A Water Supply Assessment must not only describe each basin but also discuss pumping rights, the overdraft status of the basins, any past or planned overdraft mitigation, and provide a 20-year sufficiency analysis. The administrative record and respondents’ opposition brief refer to several groundwater sources for the BCVWD; e.g., the Beaumont Basin, the South Beaumont Basin, the Singleton Basin, and the San Timeteo Basin. However, the revised POS does not even mention a number of these groundwater sources. The revised POS appears to analyze only the Beaumont Basin and the Edgar Canyon as groundwater sources. (See e.g. AR: tab 77, vol. 6, p. 1407.)

The revised POS fails in its task of describing whether total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the Legacy Highlands project in addition to BCVWD’s existing and planned future uses. (See Wat. C. §10910(c).) Respondents attempt to gloss over this failure by pointing generally to several documents in the record which they claim somehow collectively meet the

requirements for a proper CEQA water analysis as described in *Vineyard Area Citizens For Responsible Growth v. City of Rancho Cordova* (2007) 40 Cal.4th 412. The EIR concludes that the water supply is and will be sufficient for the project and no significant impacts to water supply would result from the project. (AR: tab 77, vol. 4, p. 958.) The documents which allegedly support this conclusion include the initial POS (AR: tab 1, vol. 1, pp. 15-29); the revised POS (AR: tab 77, vol. 6, pp.1401-1420); the Hydrology and Water Quality Assessment in the EIR (AR: tab 77, vol. 4, pp. 937-972); the 2005 UWMP (AR: tab 77, vol. 5, p. 1300 – vol. 6, p. 1400); and a letter written by BCVWD in response to comments made during the CEQA process (AR: tab 181, vol. 16, pp. 3859-3861.) But the water supply analysis in the EIR is inconsistent, confusing, and inadequate. The information in the different documents simply does not match up and cannot be reconciled. This is particularly true in connection with the information and conclusions regarding the Beaumont Basin and regarding BCVWD's increasing reliance on State Water Project water.

Respondents concede, as they must, that the Beaumont Basin, a significant and important source of water for BCVWD, is in overdraft. Because of the overdraft problems, the Beaumont Basin was the subject of a court adjudication that required the management of the basin by a Basin Watermaster. (AR: tab 77, vol. 4, pp. 960-961.) It is difficult to figure out how much Beaumont Basin water BCVWD is entitled to and can supply to the Project. The revised POS seems to indicate that it can extract 20,466 acre-feet per year in 2010. (AR: tab 77, vol. 6, p. 1412.) But the EIR says that BCVWD "is entitled to an Operating Yield of 7,995 acre feet per year from the Beaumont Basin for the next ten years." (AR: tab 77, vol. 4, p.961.) There is an unexplained disparity of almost 13,000 acre-feet per year. More importantly, the EIR fails to analyze the impacts of providing all this water to the Project including the impacts related to exacerbating the overdraft problems in the Beaumont Basin and other groundwater storage basins from which the BCVWD pumps water.

The analysis regarding State Water Project water is even more puzzling. Up to 20% of BCVWD's needs are expected to be filed by another water agency, the San Geronio Pass Water Agency (SGPWA). (AR: tab 77, vol. 6, p. 1412.) But SGPWA was created for the primary purpose of importing State Water Project water to replenish and recharge the overdrafted basins. (AR: tab 77, vol. 4, p.963.) Thus, it is far from clear how BCVWD can conclude that it is entitled to any water directly from SGPWA. The EIR admits that SGPWA has established no formal allocation policy for any of the imported State Water Project water. (AR: tab 77, vol. 6, p. 1413.)

The EIR also refers to an "in lieu" program (AR: tab 77, vol. 6, p. 1412), presumably a transmission method for SGPWA to directly deliver surface water in return for reduction of groundwater production. However, there appears to be no indication that BCVWD will forego pumping of any groundwater "in lieu" of receiving such water directly from SGPWA. On the contrary, it appears that BCVWD expects to pump its full complement of groundwater from overdrafted basins while at the same time relying on State Water Project water received directly from SGPWA.

There appears to be no coherent analysis of the likelihood that SGPWA will receive its full entitlement (or any percentage of entitlement) from the State Water Project even if BCVWD is entitled to some allocation of that entitlement. There is often a great disparity between State Water Project entitlements and what the State can actually deliver. Because of this, State Water Project entitlements are referred to as nothing more than "paper water." (See *Santa Clarita Organization for Planning the Environment v. County of L.A.* (2003) 106 Cal.App.4th 715.) This lack of analysis violates one of the important requirements of *Vineyard Area Citizens For Responsible Growth* that future water identified and relied upon must bear a likelihood of actually proving available. Speculative sources or unrealistic allocations are insufficient. (40 Cal.4th at 432.)

Even if BCVWD were to obtain all the State Water Project water it assumes it will get, the EIR fails to analyze the impacts of providing this State Water Project water to the City, including the impacts related to exacerbating the overdraft problems in the Beaumont Basin and other groundwater storage basins from which the City already pumps water.

Finally, the City's reliance on recycled water to substitute for existing potable water is also inadequately explained and analyzed. Despite the fact that the recycling plan is critical to long range water plans, there is very little analysis in the EIR regarding the "when, where and how" of building the "extensive recycled water system" envisioned in the EIR, or of possible replacement sources and alternatives if recycled water is delayed or fails to materialize. (See AR: tab 77, vol. 4, pp. 962-963.)

The City's findings regarding water resource impacts are not supported by substantial evidence.

2) Cumulative and Growth Inducing Impacts:

The EIR's discussions regarding cumulative impacts and growth inducing impacts admittedly leave much to be desired. A cumulative impacts analysis must be based on either (a) a list of past, present and foreseeable projects, or 2) a summary of projections contained within an adopted general plan or related planning document. (CEQA Guidelines §15130(b).) The EIR uses a prepared list and relies on the City's General Plan. (AR: tab 77, vol. 5, p. 1116.) The EIR does not appear to do a good job on either basis for analyses.

On the other hand, petitioners use terms like "falls far short of CEQA's requirements", "nothing more than a summary of the project's impacts", "legally inadequate", etc. But there is very little substance to petitioner's arguments. Petitioners make little or no effort to identify specific cumulative impacts and directly challenge respondent's analysis as to those particular impacts.

With respect to growth inducing impacts, the EIR concludes that although the project proposes to build new improvements and infrastructure facilities, these would only induce additional growth already

“anticipated” in the City’s projections. Petitioners argue that the distinction between anticipated and unanticipated growth is irrelevant. They insist that the discussion in the EIR cannot be limited to unanticipated growth inducing impacts.

Admittedly, there is not a lot of authority discussing growth inducing impacts. However, there are passages in *Napa Citizens for Honest Government v. Napa County Bd. Of Supervisors* (2001) 91 Cal.App.4th 342, which point out that the main requirement is indeed to warn about and address unanticipated (and potentially unmitigated) growth impacts. (91 Cal.App.4th at 367-371.) Petitioners make no effort to show that development which the City indicates it has anticipated has not already been subject to environmental analysis. Petitioners do not explain the point in addressing and mitigating such development.

3) Alternatives analysis:

The court finds that the City’s alternatives analysis violates CEQA.

Petitioners contend that the City improperly rejected project alternatives that would mitigate air quality impacts; i.e., the “South Coast Air Quality Management District (SCAQMD) Thresholds Alternative,” the “Reduced Density Alternative,” and the “Biological Preserve Alternative.” (AR: tab 77, vol. 5, pp. 1183-1193.)

The EIR found that there were significant air quality impacts from the project that could not be avoided. (AR: tab 77, vol. 4, p. 1053.) A project with unavoidable environmental impacts may still be approved if specific economic, legal, social, technological or other benefits of the project are found to override the adverse effects. (CEQA Guidelines §15093.) If a lead agency determines to approve a project despite significant adverse impacts, it must issue two sets of findings. The first set must specifically state how the lead agency responded to the significant effects identified in the EIR. The second set of findings is the Statement of Overriding Considerations. An agency may not jump directly to

the Statement of Overriding Considerations without making the first set of findings. (Remy, et al., Guide to the Environmental Quality Act, pp. 379-380 (11th Ed.) citing to e.g., CEQA Guidelines §§15091(f), 15093(c).) Thus, an agency is prohibited from approving a project for which significant environmental effects have been identified unless it makes specific findings about alternatives and mitigation measures. (Pub. Res. C. §21081; CEQA Guidelines §15091.) This effectuates CEQA's mandate that agencies refrain from approving projects with significant environmental impacts when there are feasible alternatives or mitigation measures that can lessen or avoid such impacts. (*Mountain Lion Foundation v. Fish & Game Comm.* (1997) 16 Cal.4th 105.)

Respondent City's findings regarding the feasibility of alternatives and mitigation are at AR: tab 196, vol. 22, pp. 5573-5578. The SCAQMD Thresholds Alternative was not even evaluated in the EIR. (The project would create significant, unavoidable impacts precisely because the project would exceed certain SCAQMD emissions thresholds.) While, the EIR eventually analyzed alternatives that reduced the adverse air quality impacts, it summarily rejected as infeasible any project alternative that would achieve all SCAQMD emissions thresholds. (AR: tab 77, vol. 5, pp. 1183-1186.)

An EIR is required to evaluate a reasonable range of potentially feasible project alternatives. (Guidelines §15126.6; *Citizens of Goleta Valley v. Bd. Of Supervisors (aka Goleta II)* (1990) 52 Cal.3d 553, 564-566.) Nevertheless, the court agrees with respondents that the SCAQMD Thresholds Alternative was not a reasonable or feasible alternative, and did not have to be evaluated. Respondents point out that 90% of operational emissions would be generated from project-related traffic. In order to meet all SCAQMD emissions thresholds, it would be necessary to reduce traffic generation (and the scope of the project) by some 86%. (AR: tab 77, vol. 5, pp. 1183-1185.) Such an extreme reduction in the scope of the project would result in something that would have little in common with the project concept and any development objectives. CEQA does not require analysis of every imaginable

alternative or mitigation measure. Its concern is with feasible means of reducing environmental effects. (*Concerned Citizens of South Central Los Angeles v. Los Angeles U.S.D.* (1994) 24 Cal.App.4th 826, 841.)

On the other hand, the “Reduced Intensity Alternative” and the “Biological Preserve Alternative” were improperly rejected. The Findings admit that both alternatives are environmentally superior, and both would meet most of the overall project objectives. (AR: tab 196, pp. 5576, 5578.) They were both rejected however, because they would allegedly result in “increased costs per housing unit” which would reduce “housing affordability.” (AR: tab 196, pp. 5576, 5578.)

Respondents do not point to sufficient evidence that would support any of these conclusions. It is far from clear why increased costs would necessarily impact housing affordability. Perhaps, the developer could make less money per house rather than passing on increased costs. Where an alternative is found infeasible because it is not as economically viable as the proposed project, comparative data must be presented to support respondent’s analysis of costs or profitability. (See e.g. *Save Round Valley Alliance v. County of Inyo* (2007) 157 Cal.App.4th 1437; *Uphold Our Heritage v. Town of Woodside* (2007) 147 Cal.App.4th 587.) No such data was contained in the EIR regarding the Project to support the rejection of the alternatives.

4) Overriding Considerations:

The City’s overriding considerations violate CEQA.

As mentioned above, a project with unavoidable adverse environmental effects may nevertheless be approved if specific economic, legal, social, technological or other benefits of the project are found to outweigh the adverse effects. (Guidelines §15093.) The Statement of Overriding Considerations must be supported by substantial evidence in the record. (Guidelines §15093(b); *Sierra Club v. Contra Costa* (1992) 10 Cal.App.4th 1212.)

Respondent City's Statement of Overriding Consideration is found at AR: tab 196, vol. 22, pp. 5579-5580. There are seven project benefits listed as the basis for the override. Petitioner correctly points out that the "benefits" are simply not proper "economic, legal, social, technological or other benefits" within the meaning of Guidelines 15093. All of them are nothing more than design features, characteristics, or requirements for the project e.g., "the project includes protection of wildlife migration corridors," "provides for permanent open space, protects ridgelines." The "benefit" from the fact that the project "adhered to the City's hillside ordinance" is particularly incomprehensible, as all projects would ordinarily have to comply with the City's ordinance. All of the alleged "benefits" would be available through any permitted development of the property. The rejected project alternatives incorporated all, if not better, "benefits."

DISPOSITION

The petition for writ of mandate is granted. A writ of mandate shall issue requiring respondent City to set aside approval of the Project and suspend all activity on the Project until it has taken the actions necessary to bring the Project into compliance with CEQA. Petitioners are hereby directed to submit and serve a proposed judgment and a proposed peremptory writ in conformity with this Statement of Decision. Respondents shall have 15 days from service to file and serve objections to the proposed judgment and proposed peremptory writ.

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13 ENVIRONMENTAL PLANNING
14 GROUP

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SUPERIOR COURT OF THE STATE OF CALIFORNIA
COUNTY OF RIVERSIDE
RIVERSIDE BRANCH

13 CHERRY VALLEY PASS ACRES AND
14 NEIGHBORS, a California non-profit
15 corporation; and CHERRY VALLEY
16 ENVIRONMENTAL PLANNING GROUP,
17 a California non-profit corporation,

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Petitioners,

vs.

13 CITY OF BEAUMONT, a municipal
14 corporation,

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Respondent.

THE PRESERVE, LLC; and ROES 1 to
100; inclusive,

Real Parties in Interest.

Case No. RIC 492830

Case Filed Under the Environmental Quality
Act

**~~PROPOSED~~ PEREMPTORY WRIT OF
MANDATE**

[Cal. Pub. Res. Code § 21168.5; Cal. Civ.
Proc. Code § 1085]

Dept.: 6
Judge: Honorable Mac R. Fisher

Judgment having been entered in this proceeding in favor of Petitioners Cherry
Valley Pass Acres and Neighbors and Cherry Valley Environmental Planning Group,
ordering that a peremptory writ of mandate be issued from this Court,

1 IT IS SO ORDERED that, immediately on service of this writ, Respondent
2 City of Beaumont ("Respondent") shall:

3 1. Set aside and vacate its adoption of Resolution No. 2008-05 certifying
4 the Final Environmental Impact Report for the Legacy Highlands Specific Plan, adopting
5 Findings of Facts and a Statement of Overriding Considerations, and adopting the Mitigation
6 Monitoring Program pursuant to the California Environmental Quality Act ("CEQA");

7 2. Set aside and vacate its approvals of the Legacy Highlands Project,
8 including the Legacy Highlands Specific Plan, and its adoption of Resolution No. 2008-06,
9 Resolution 2008-07, Ordinance 924, Ordinance 925.

10 Respondent is further ordered to suspend all grading, construction, or any other
11 physical implementation of the Legacy Highlands Project that could result in an adverse
12 change or alteration to the physical environment, unless and until such time as Respondent
13 has certified and adopted an environmental impact report that complies with CEQA.

14 Under Public Resources Code section 21168.9(c), this Court does not direct
15 Respondent to exercise its lawful discretion in any particular way.

16 Under Public Resources Code section 21168.9(b), this Court will retain
17 jurisdiction over Respondent's proceedings by way of a return to this peremptory writ of
18 mandate until the Court has determined that respondent has complied with the provisions of
19 CEQA.

20 Respondent shall file a preliminary return to this writ no later than sixty (60)
21 days from the date this writ is issued setting forth what Respondent has done to comply with
22 the writ set forth herein.

23 LET THE WRIT OF MANDATE ISSUE.

24
25 Dated: _____

26 S/
Honorable Mac R. Fisher
JUDGE OF THE SUPERIOR COURT

1 ROGERS JOSEPH O'DONNELL
2 ROBERT C. GOODMAN (State Bar No. 111554)
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12 NEIGHBORS AND CHERRY VALLEY
13 ENVIRONMENTAL PLANNING
14 GROUP

9 SUPERIOR COURT OF THE STATE OF CALIFORNIA
10 COUNTY OF RIVERSIDE
11 RIVERSIDE BRANCH
12

13 CHERRY VALLEY PASS ACRES AND
14 NEIGHBORS, a California non-profit
15 corporation; and CHERRY VALLEY
16 ENVIRONMENTAL PLANNING GROUP,
17 a California non-profit corporation,

18 Petitioners,

19 vs.

20 CITY OF BEAUMONT, a municipal
21 corporation,

22 Respondent.

23 THE PRESERVE, LLC; and ROES 1 to
24 100; inclusive,

25 Real Party in Interest.

Case No. RIC 492830

Case Filed Under the Environmental Quality
Act

~~PROPOSED~~ JUDGMENT

[Cal. Pub. Res. Code § 21168.5; Cal. Civ.
Proc. Code § 1085]

Dept.: 6
Judge: Honorable Mac R. Fisher

26 This matter came on regularly for hearing on January 23, 2009, in Department
27 6 of this Court. Robert C. Goodman appeared on behalf of Petitioners Cherry Valley Pass
28 Acres and Neighbors and Cherry Valley Environmental Planning Group (collectively referred
to hereinafter as "CVAN"). Respondent City of Beaumont ("Respondent") and Real Party in

1 Interest The Preserve, LLC ("Real Party") appeared through attorneys John C. Nolan and
2 Jennifer M. Guenther.

3 The Court having reviewed the administrative record and the written and oral
4 arguments of counsel; the matter having been submitted for decision; and the Court having
5 issued an order that judgment and a peremptory writ of mandate issue in this proceeding,

6 IT IS ORDERED that:

7 1. Judgment be entered in favor of Petitioners Cherry Valley Pass Acres
8 and Neighbors and Cherry Valley Environmental Planning Group in this proceeding.

9 2. A peremptory writ of mandate directed to Respondent issue under seal
10 of this Court, ordering Respondent to:

11 a. Set aside and vacate its adoption of Resolution No. 2008-05
12 certifying the Final Environmental Impact Report for the Legacy Highlands Specific Plan,
13 adopting Findings of Facts and a Statement of Overriding Considerations, and adopting the
14 Mitigation Monitoring Program pursuant to the California Environmental Quality Act
15 ("CEQA");

16 b. Set aside and vacate its approvals of the Legacy Highlands
17 Project, including the Legacy Highlands Specific Plan, and its adoption of Resolution No.
18 2008-06, Resolution 2008-07, Ordinance 924, Ordinance 925.

19 3. The Respondent and the Real Party are enjoined from proceeding with
20 grading, construction, or any other physical implementation of the Legacy Highlands Project
21 that could result in an adverse change or alteration to the physical environment, unless and
22 until such time as the City has certified and adopted an environmental impact report that
23 complies with CEQA.

24 4. The court shall retain jurisdiction over the proceedings pursuant to
25 Public Resources Code §21168.9(b) and (c). Nevertheless, the Court intends this to be a
26 final, appealable judgment.

27 5. Costs and attorneys fees may be claimed pursuant to California Rules of
28 Court Rules 870 and 870.2.

1 6. Petitioner CVAN, as prevailing party, is entitled to costs as established
2 by appropriate post-judgment procedures pursuant to Code of Civil Procedure Section 1033.5

3 7. Petitioner CVAN, as prevailing party, is entitled to apply for attorney's
4 fees and costs through appropriate noticed motions after entry of this Judgment pursuant to
5 Code of Civil Procedure Section 1021.5.

6 8. Under Public Resources Code §21168.9(c), the Court does not direct
7 Respondent to exercise its lawful discretion, in any particular way. Nothing in the judgment
8 or peremptory writ should be construed as requiring Respondent or Real Party to go forward
9 with the project, or to reapprove the project, or to take any particular action other than as
10 specifically set forth herein.

11 9. Respondent shall file a preliminary return to the peremptory writ no
12 later than sixty (60) days after the date of the issuance of the peremptory writ which shall
13 state that an appeal from the judgment has or will be filed or that it has complied with the
14 order to set aside its approval of the project.

15
16 Dated: _____

17 S/
Honorable Mac R. Fisher
JUDGE OF THE SUPERIOR COURT

APPENDIX B-1

RESOLUTION 2020-15

**A RESOLUTION OF THE BOARD OF DIRECTORS
OF THE BEAUMONT-CHERRY VALLEY WATER DISTRICT
TO APPROVE THE WATER SUPPLY ASSESSMENT (WSA) FOR
THE LEGACY HIGHLANDS DEVELOPMENT PROJECT**

WHEREAS, the Legacy Highlands Development Project (Tentative Tract Map 31570) is a proposed mixed use development consisting of commercial-industrial development, single family residential, and a gated active adult residential community, occupying approximately 1,600 acres of land, having more than 2,800 dwelling units, and therefore qualifies as a "Project" under the Water Code, 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, which includes any and all WSA addendums; and

WHEREAS, the WSA relied on existing information in the Urban Water Management Plan and more recent District water planning analysis and sets forth the existing and planned water supplies necessary to provide the existing and planned developments within the District's Sphere of Influence; 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 accurately sets forth the existing and planned water supplies necessary to provide the existing and planned developments within the District's Sphere of Influence.

NOW THEREFORE, BE IT FURTHER RESOLVED that, in the exercise of independent judgment, and taking onto consideration the WSA and engaging in due deliberations, the Board does hereby adopt the TTM 31570 – The Legacy Highlands Development Project Water Supply Assessment.

//

//

//

Signatures on next page

ADOPTED this 10th day of June, 2020, by the following vote:

AYES: Covington, Hoffman, Ramirez, Slawson, Williams

NOES:

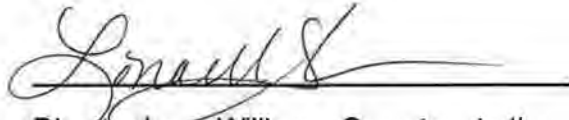
ABSTAIN:

ABSENT:



Director John Covington, President of the
Board of Directors of the
Beaumont-Cherry Valley Water District

ATTEST:



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

Attachment: Water Supply Assessment (Revised June 2020) for TTM 31570 – The Legacy Highlands

BEAUMONT-CHERRY VALLEY WATER DISTRICT

560 MAGNOLIA AVENUE
BEAUMONT, CALIFORNIA 92223

www.bcvwd.org

**WATER SUPPLY ASSESSMENT
(REVISED)**

for

TTM 31570 - THE LEGACY HIGHLANDS

City of Beaumont, CA

APRIL 2019, REVISED JUNE 2020



Prepared by

BEAUMONT-CHERRY VALLEY WATER DISTRICT

560 MAGNOLIA AVENUE
BEAUMONT, CALIFORNIA 92223

(951) 845-9581

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1. INTRODUCTION

The Legacy Highlands development (Legacy Highlands or “Project”) is proposed to be constructed in the City of Beaumont (City), CA on an approximately 1,600 gross acre site, south of Highway 60 and west of Beaumont Ave (Highway 79). The project is a mixed use development consisting of commercial-industrial development, single family residential, and a gated, active adult residential community. A total of 2,868 dwelling units are proposed, consisting of 1,107 single family residential, 1.2 million sq. ft. of commercial/industrial, and 1,761 active adult, low density residential. A 20-acre school site, several neighborhood parks, and open space are planned. The project is anticipated to be constructed in six phases:

- Phase 1 – 897 single family residential lots with 16.9 acres of “active” parks and 3.5 acres of “passive” parks.
- Phase 2 – 1.2 million sq. ft. of commercial/industrial which is anticipated to consist of warehouse space.
- Phase 3 – 424 Equivalent Dwelling Units (EDUs), active adult residences, in a gated community.
- Phase 4 – 343 EDUs, active adult residences, and 4.4 acres of “active” parks in a gated community.
- Phase 5 – 994 EDUs, active adult residences, in a gated community with 638.9 acres of natural open space
- Phase 6 – 20 acre school, 210 single family residential lots with 111.2 acres of natural open space

In the above phasing, “active” parks are assumed to be turfed and irrigated with non-potable water; “passive” parks are assumed to have low water using planting irrigated with non-potable water. The “open” space will not be irrigated. The developer anticipates constructing about 200 dwelling units per year and projects a 15-year build-out period.

Fourth St., west of Beaumont Ave., extends through the Project on the north side and connects to Potrero Blvd. Potrero Blvd. extends north to Oak Valley Parkway. The commercial/industrial portion of the Project will be between 4th St. and State Route 60 – an extension of the existing commercial-industrial area westerly along 4th St. The Project site is within the Beaumont Cherry Valley Water District (BCVWD) sphere of influence but not within BCVWD’s service boundary.

The original project, proposed as Willow Springs with the name changed later to Legacy Highlands, started in 2003 with 3,000 proposed single family residential lots, 40 acres of commercial, two school sites totaling 60 acres, and 50 acres of parks and open space. The project site requested to be annexed to the City and BCVWD. **Currently, the Project has not been annexed to the City or BCVWD.** An EIR, to comply with the California Environmental Quality Act (CEQA) was completed in March 2008. A plan of service was prepared by BCVWD. The economic downturn

that began in 2007 along with EIR litigation stalled the project. The project was subsequently modified to the current plan.

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 (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 house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 sq. ft. of floor area.*
- (6) A mixed-use project that includes one or more of the projects specified in this subdivision.*
- (7) A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.¹*

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

1. Discussion regarding whether the public water system's total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses.
2. Identification of existing water supply entitlements, water rights, or water service contracts secured by the purveying agency and water received in prior years pursuant to those entitlements, rights, and contracts.
3. Description of the quantities of water received in prior years by the public water system under the existing water supply entitlements, water rights or water service contracts.
4. 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.
5. 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.
6. 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 overdrafted or has projected that the basin will become overdrafted 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 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.

- d. Analysis of sufficiency of the groundwater from the basin(s) from which the proposed project will be supplied.
7. The water supply assessment shall be included in any environmental document prepared for the project.

SB 610 prescribes a timeframe within which a public water system is required to submit the assessment to the city or county and authorizes the city or county to seek a writ of mandamus to compel the public water system to comply with requirements relating to the submission of the assessment.

SB 610 requires the public water system, or the city or county, as applicable, if that entity concludes that water supplies are, or will be, insufficient, to submit the plans for acquiring additional water supplies.

SB 610 requires the city or county to include the water supply assessment and certain other information in any environmental document prepared for the project pursuant to the act.

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 Legacy Highlands 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 Project includes a residential subdivision greater than 500 dwelling units and a proposed business establishment having more than 500,000 square feet of floor space. For the Project, the water purveyor is the Beaumont-Cherry Valley Water District (BCVWD).

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.

“A plan is intended to function as a planning tool to guide broad-perspective decision making” by water agency managers and directors.² 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 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.

Overall, the demands for the Project have been refined herein based upon a specific water demand projection based upon the most recent proposed land uses of the development.

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

² *Sonoma County Water Coalition v. Sonoma County Water Agency* (2010) 189 Cal. App. 4th 33, 39, taken from SGPWA 2015 UWMP.

³ *Ibid.*

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. The Legacy Highlands Project, (at 3,412 housing units at the time), was included in Table 3-6 of BCVWD's 2015 UWMP as well as the 2013 UWMP. (The Project has since been reduced to 2,868 residential units as part of this WSA.) In late 2017 and 2018, BCVWD prepared a set of "White Papers" that evaluated the growth in demand within the San Geronio Pass Water Agency (SGPWA) and the current and future water supply from the SGPWA on a regional basis. The result of this evaluation is a reduction in the rate of growth and a refinement in the imported water supply. This is discussed later in this WSA.

3.2 San Geronio Pass Water Agency 2015 UWMP

The Legacy Highlands Project is located within the service area of the SGPWA service area. 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 2015 UWMP. Table 2-4, extracted from SGPWA's 2015 UWMP, is shown below. SGPWA's 2015 UWMP states the "retail purveyor demands that reflect reasonably anticipated demands on SGPWA through the planning periods" and take into account non-SGPWA supplies available to the retail purveyors, such as local groundwater, recycled water, etc.

**TABLE 2-4
PROJECTED WATER DEMANDS ON SGPWA (AF)**

Agency Name	2020	2025	2030	2035	2040
BCVWD ^(a)	10,860	12,476	14,087	15,886	17,334
City of Banning ^(b)	-	501	1,344	2,237	2,718
YVWD ^(c)	1,809	1,967	2,162	2,391	2,644
Other ^(d)	500	1,600	2,800	3,900	5,000
Total Water Demands	13,169	16,544	20,393	24,414	27,696

The "other" demands in Table 2-4 reflect the demand from other agencies in SGPWA service area not currently receiving imported water from SGPWA.

Since the Legacy Highlands development project was included in the demands in BCVWD's 2015 UWMP and supplied to SGPWA for their UWMP, it is considered included in the 2015 SGPWA UWMP, adopted by SGPWA Board of Directors as Resolution No. 2017-03, on March 20, 2017.

In the introductory section of the SGPWA's 2015 UWMP, the SGPWA reviewed the water supply and demand requirements on a regional basis and did not focus on specific conditions within the service area of the retail water agencies.

"It is the stated goal of SGPWA to import supplemental water and to protect and enhance local water supplies for use by present and future water users and to sell imported water at wholesale to local retail water purveyors within its service area. Based on conservative water supply and

demand assumptions over the next 25 years in combination with conservation of non-essential demand during certain dry years, the [Urban Water Management] Plan successfully achieves this goal. It is important to note that this document 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, but SGPWA has coordinated with the retailers during development of this Plan to ensure a level of consistency with the retailers to the extent possible.⁴ [Emphasis added]

BCVWD recognizes and acknowledges the disclaimer statement within the 2015 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 Pass area. 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 Gorgonio Pass Water Agency, Ordinance No. 8, An Ordinance Establishing Rules and Regulations for SGPWA Water Service, February 7, 2005;
- San Gorgonio Pass Water Agency Strategic Plan, May 2012;
- San Gorgonio Pass Water Agency, Resolution No. 2014-02, A Resolution of the San Gorgonio Pass Water Agency Establishing a Policy for Meeting Future Water Demands, February 18, 2014;
- San Gorgonio Pass Water Agency, Ordinance No. 10, Ordinance Establishing Water Shortage Plan, July 21, 2014;
- San Gorgonio Pass Water Agency, Resolution No. 2015-05, Resolution of the Board of Directors of the San Gorgonio Pass Water Agency to Adopt Facility Capacity Fees for Facilities and Water, July 27, 2015;
- San Gorgonio Pass Water Agency, State of the Supply PowerPoint Presentation, September 30, 2016;
- San Gorgonio Pass Water Agency, Ordinance No. 13, An Ordinance Amending Rules and Regulations Regarding Authorization for Service, June 5, 2017.
- San Gorgonio Pass Water Agency Resolution 2019-03, A Resolution of the San Gorgonio Pass Water Agency Establishing a Policy for the Sale of Water which Agency may have in Groundwater Storage, May 6, 2019.

⁴ SGPWA 2015 UWMP

3.3 BCVWD's 2015 UWMP

There were some minor differences between the projections in BCVWD's 2015 UWMP and the projections provided to SGPWA for their 2015 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 Table 6-26 of BCVWD's 2015 UWMP and are repeated in Table 1 below. Table 1 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 1 versus those shown above (Table 2-4) from SGPWA's 2015 UWMP.

Table 1
BCVWD Imported Water Needs from BCVWD 2015 UWMP (Table 6-26)*

	2020	2025	2030	2035	2040
BCVWD Drinking Water Demand, AFY	10,313**	11,407**	12,503	13,843	15,362
Banking Demands, AFY	1,000	1,500	2,000	2,500	2,500
Total BCVWD Imported Water Demand, AFY	11,313	12,907	14,503	16,343	17,862

*Taken from BCVWD 2015 UWMP, Table 6-26 and is equal to purchased imported water for recharge plus make-up to not-potable system plus water for banking

** included imported water to non-potable water system since non-potable water system supplied with potable groundwater.

4. LEGACY HIGHLANDS DEVELOPMENT PROJECT DESCRIPTION

The Legacy Highlands development is a mixed use single family and active adult residential and commercial/industrial project located in the City of Beaumont on approximately 1,600 gross acres, south of Highway 60 and west of Beaumont Ave (Highway 79). The project is primarily in Sections 8, 16, 17, 20 and 21, T3S, R1W, SBB&M.

4.1 Project Description

A total of 2,868 dwelling units are proposed, consisting of 1,107 single family residential, 1.2 million sq. ft. of commercial/industrial, and 1,761 active adult, low density residential. A 20-acre school site, several neighborhood parks, and open space are planned. The Legacy Highlands will be accessed from 4th Street, Potrero Blvd., and State Route 60 on the north and a connector road to Highway 79 (Lamb Canyon Rd./Beaumont Ave.) on the east.

Figure 1 shows the general location of the Legacy Highlands development; Figure 2 is a preliminary layout showing main streets and development plan.

The project is required to adhere to the landscaping standards in “Guide to California Friendly Landscaping” and the City Landscaping Ordinance (Chapter 17.06 Landscaping Standards, latest edition) which requires water efficient landscaping. Landscaping in non-turf areas shall be drought tolerant and irrigated with drip or bubbler type heads (BCVWD requirement).



Figure 1
Legacy Highlands Development General Location

4.1.1 Existing On-site Wells

The Project Site has five existing shallow wells, (Wells 1 through 5), constructed along Cooper's Creek in the northerly portion of the site; three of wells have been pump tested and sampled (Wells 1 through 3). The wells were used by the land owner to irrigate crops and trees on the Project Site. The wells are not located in the Adjudicated Beaumont Groundwater Basin but rather the unadjudicated San Timoteo Subbasin. The San Timoteo Sustainable Groundwater Management Agency (San Timoteo SGMA) was formed in 2017 in response to the 2014 Sustainable Groundwater Management Act.

The Project land is riparian to Cooper's Creek and overlies groundwater which can be pumped regardless of whether the groundwater is part of, or separate from the subsurface flow beneath Cooper's Creek. The groundwater is not adjudicated and the landowner has an overlying right to

produce groundwater to be used for reasonable and beneficial uses on the riparian/overlying land. The key is use on the “overlying land.” The “rights” go with the land. These rights are equal in priority among other riparian or overlying owners regardless of date of first use. Overlying and riparian rights are superior to appropriative rights. (BCVWD is an “appropriator” and could not pump and use the water elsewhere.)⁵ In summary, the existing wells could be used to supply water to the Project, but with limitations.

Pump tests and water quality analyses were presented in a report prepared by a consultant for Legacy Highlands⁶ for Well Nos. 1, 2, and 3. The wells were test pumped for 24 hours at 300, 275, and 80 gallons per minute (gpm), respectively. These production rates are 484, 444, and 129 AFY, respectively. Well drawdown levels stabilized at 45, 160, and 126 ft below ground surface based on the pump data included in the report. Long term water levels from a well about a mile away (State Well No. 03S01W05Q001S) showed a relatively stable water level from the mid 1980s to 2010. It should be noted the area of the wells has numerous faults, so water levels in nearby wells may fluctuate.

Water quality analysis for the wells indicates elevated Total Dissolved Solids (430 to 560 mg/L); very high hardness, some nitrates (but well below the primary Maximum Contaminant Level (MCL), pH about 8, and concentrations of iron and manganese significantly above the secondary MCL. Detailed Title 22 drinking water analysis has not been performed, so it is not known if there are other substances in the water exceeding potable drinking water standards. The iron and manganese are aesthetic concerns. Iron and manganese will form slimes in pipes, potentially clogging irrigation systems and staining sidewalks with a rust color. Iron and manganese will need to be removed prior to even non-potable uses.

Another concern of BCVWD is the blending of potable or recycled water with the well water and the potential for scaling or corrosion since the chemical makeup of the well water and the recycled or potable water is so different. As such, BCVWD does not recommend supplementing the well water with its potable supply or the City’s recycled water. The well water could be used on the Project Site by the Home Owners’ Association (HOA) or the developer to meet non-potable water needs and construction water, if treated for iron and manganese removal.

4.1.2 Proposed Stormwater Capture and Detention Basins

The Project will have two detention/infiltration basins for stormwater capture, treatment, and infiltration. The basins will be located on the north and south sides of Cooper’s Creek to capture, treat, and infiltrate the runoff from the developed areas of the Project. Data on the two basins are:

⁵ Personal Communication, Kidman to Golkar (2020). Letter from A. Kidman of Kidman, Gagan Law LLP, to D. Golkar, March 31.

⁶ Stetson Engineers, Inc. (2020). Potential Groundwater Production, The Legacy Highlands Development, May 21.

Basin No	Developed Watershed Area, ac	Basin Volume, AF	2-yr Storm Runoff, AF	100-yr Storm Runoff, AF
1	232.9	124	24.2	95.5
2	107.4	58.9	11.2	49.8

The total watershed area is 340 acres; the average annual rainfall in Beaumont is about 18.5 inches, so the rainfall volume is 510 AFY. Typically about 30% or so is runoff on an annual basis, so the amount of stormwater capture is 150 AFY. The developer claims an infiltration rate of 3.48 ft/day, with a factor of safety of 3. Specifics on how the infiltration rates were tested were not provided. BCVWD does not believe that infiltration rate can be maintained without frequent maintenance.

BCVWD cannot get credit for any captured storm runoff since the basins do not overly the adjudicated portion of the Beaumont Groundwater Basin. Since the groundwater basin where the basins are located (San Timoteo Basin), is not adjudicated, the percolated runoff is owned by no one and becomes part of the common pool for the benefit of the overlying parties and cannot be considered to offset any project demands.⁷

4.2 Estimated Water Demand

BCVWD has historically used a water demand of 580 gal/day/EDU, equivalent to 0.65 AFY/EDU, in its “Regulations for Water Service.” Recently, BCVWD has analyzed the potable water demand in thirty-two residential tracts constructed in the District from late 2006 through early 2018. The study reviewed the potable water demands, by customer meter, for all of 2016 and 2017 and through summer 2018. The total demand for all of 2018 was projected based on historic consumption. The study encompassed 3,116 services. Tracts which were included in the analysis included Tournament Hills, Fairway Canyon, K-Hov Four- Seasons, Pardee Sundance, and Seneca Springs. The draft analysis included a very preliminary evaluation of potable water demand (AF/EDU) versus pad or lot size (sq ft) and potable water demand (AF/EDU) versus residential density (EDU/Acre) in Pardee Sundance. The analysis indicated that larger lot or pad sizes had greater water demand than smaller lots and, as density increased, the potable water use (AF/EDU) decreased. This was not unexpected. However, the draft data and analysis is limited and more data is needed before any firm correlations can be developed. District staff hopes to improve the draft analysis as part of the District’s ongoing 2020 UWMP activities.

⁷ Personal Communication, Kidman to Golkar (2020). Letter from A. Kidman of Kidman, Gagan Law LLP, to D. Golkar, March 31.

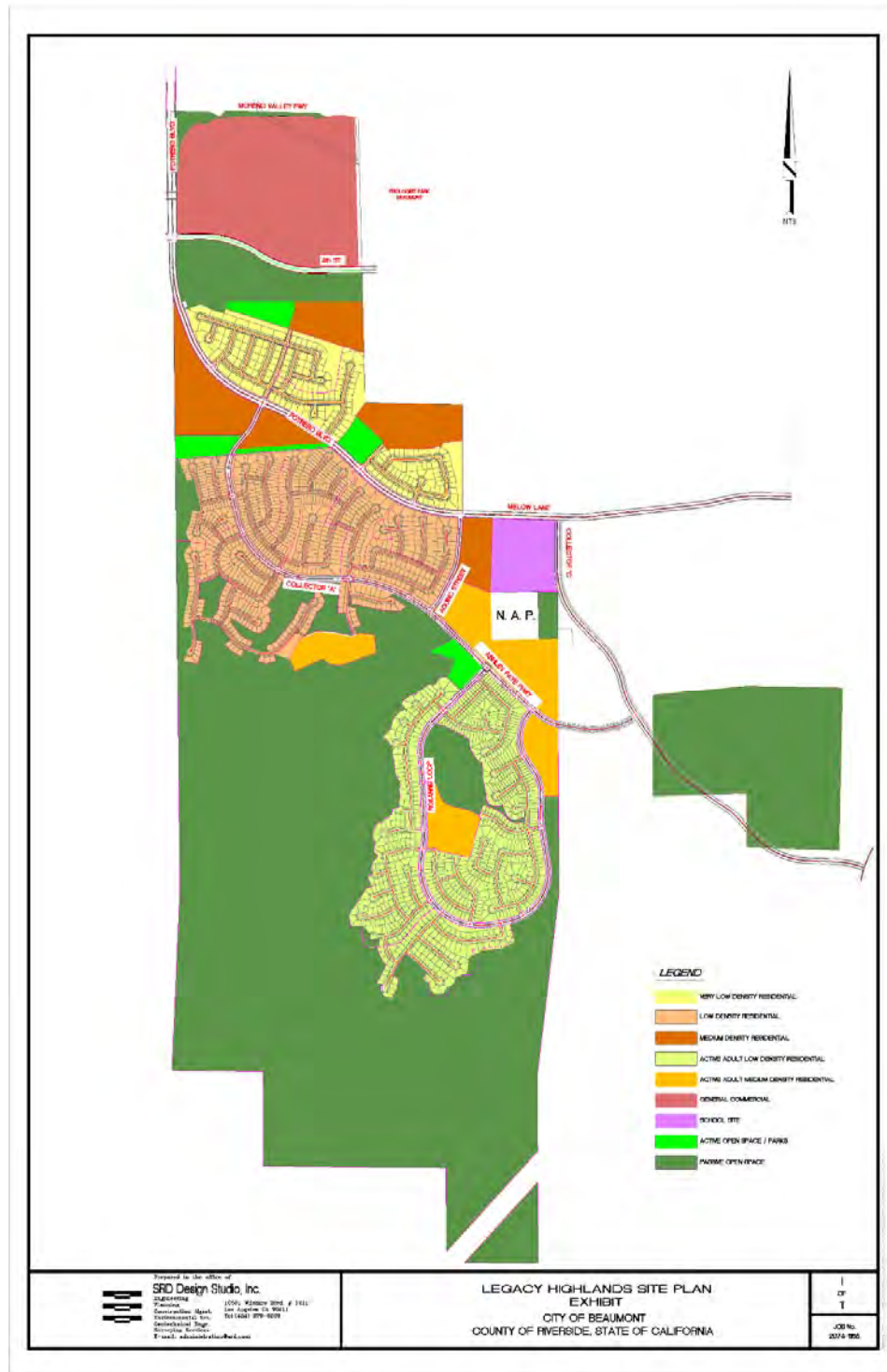


Figure 2
Legacy Highlands Development Plan

For the purposes of this WSA, and until more definitive data can be developed, the following EDU potable water demands will be used. It is important to understand that these unit potable water

demands are for water demand planning and forecasting and not for determination of connection, impact, or other fees.

The potable and non-potable water demands for Legacy Highlands development are based on the following criteria:

- Single Family Residential Equivalent Dwelling Unit (EDU) on lots or pads 10,000 sq. ft. or larger, potable water demand equal to 0.65 acre-ft/year/EDU (AFY/EDU), same as used in the District's Regulations for Water Service. The unit water demand includes the outdoor demand and incidental demand of the associated commercial and institutional facilities which support the development.
- Single Family Residential Equivalent Dwelling Unit (EDU) on lots less than 10,000 sq. ft., potable water demand equal to 0.546 acre-ft/year/EDU (AFY/EDU). The unit water demand includes the outdoor demand and incidental demand of the associated commercial and institutional facilities which support the development. The commercial, industrial, and institutional (CII) demand is about 13.6% of the daily demand based on the amount of BCVWD reports to the Department of Water Resources, annually. The 0.546 AFY is based on ongoing BCVWD analysis of new residences, as discussed above.
- Active Adult Residential EDU potable water demand equal to 0.470 AFY/EDU. This reduced demand is identical to that used for active adult residential EDUs in other District developments. The unit water demand includes the outdoor demand and incidental demand of the associated commercial and institutional facilities which support the development as stated above.
- Commercial/Industrial demand is based on the total floor area of the building(s) using 1,500 sq. ft of building area per employee and 15 gal/day/employee typical of the types of distribution center, warehousing projects being developed in the City and other Inland Empire areas⁸. The annual demand is based on 260 operating days per year. Data provided by the developer indicated a total of 1 million sq. ft. of industrial buildings and 150,000 sq. ft commercial on the 100 acre site, about or about 26% of the site area. This is lower than similar industrial warehousing buildings in Beaumont on nearby property where the total building area occupies about 38% of the total site area. The landscaped area represented about 23% of the total building area and 9.2% of the total site area. For purposes of calculation water demands, an occupied area of 40% is believed to be more appropriate than the 26% stated by Legacy Highlands
- School potable water demands are included with the residential planning demands. Separate determination of the non-potable water demands is provided.

⁸ NAIOP Research Foundation (2010). Logistics Trends and Specific Industries that Will Drive Warehouse and Distribution Growth and Demand for Space, L. Nicolas Ronderos, Director, Urban Development Programs Regional Plan Association, March

- Active Open Space Parks potable water demands are included with the residential planning demands. Separate determination of the non-potable water demands is provided.
- Passive Open Space areas are anticipated to remain natural and will not be irrigated with either potable or non-potable water.

For comparison, the SGPWA, in their Revised Capacity Fee Nexus Study, used a water demand factor of 0.548 AFY/Single Family Home; multi-family was 0.267 AFY/EDU. Slightly larger water use factors were used by SGPWA for the unincorporated County portion of their service area. Commercial and industrial water use equivalents were determined separately.⁹

Table 2 presents a summary of the Legacy Highlands Residential Potable Water Demand. Total Residential Potable Water Demand is projected to be 1,436 AFY at build-out. It is noted that this demand includes the commercial and institutional demands associated with residential development, i.e., schools, shops, malls, etc.

Commercial/Industrial development is proposed for Legacy Highlands Phase 2 and consists of 100 acres of commercial/industrial area and 34.2 acres of passive open space. Water demand calculations for the Commercial/Industrial Area are presented in Table 3.

Table 4 presents a summary of the Non-potable water demands for the industrial/commercial site, active open spaces, the school site, and major street medians and parkways. The landscape demand estimates were developed following the City's, Landscaping Standard, Chapter 17.06 of the City Ordinance. The procedure follows the Riverside County Landscape Ordinance. The analysis uses a CIMIS¹⁰ Zone 9 reference evapotranspiration of 55.1 in/year and recommended irrigation efficiency of 0.71 per the City's Ordinance. The non-potable water use is the Maximum Applied Water Allowance (MAWA) which represents the upper limit of annual applied water allowed for established landscaped area. No data is available relative to the actual landscaping plant mix to develop a more accurate estimate.

For the commercial/industrial area two approaches were used to determine the landscaped areas: 1) City of Beaumont Landscape Ordinance for landscape buffers around the periphery of industrial sites and the requirement for 15% of the parking area to be landscaped. For the site, the landscaped area was determined to be just over 300,000 sq. ft. This was compared to the analysis performed on a neighboring industrial warehousing site, where the total landscaped area was 9.2% of the total site area. Using this percentage, an area of 400,800 sq. ft was determined. For calculation purposes, a landscaped area of 350,000 sq. ft was used. The landscaping was assumed to be all low water using, with no turf. The total non-potable water demand was 36.2 AFY.

⁹ SGPWA 2015. Capacity Fee Study for San Geronio Pass Water Agency, prepared by David Taussig and Associates, Inc., July 15.

¹⁰ CIMIS (2012). Reference Evapotranspiration Zones, California Irrigation Management Information System, California Department of Water Resources, January.

Table 2
Legacy Highlands Development Projected Residential Potable Water Demand

Planning Area/Neighborhood	Land Use Designation	Zoning	Gross Acres	Minimum Lot sizes, Sq Ft	Number of Lots	Max Density EDU/Acre	Home Sizes	Unit Water Demand, AF/EDU	Projected Water Demand, AFY
Planning Area 1									
Neighborhood 1.1	Low Density Residential	R-SF	25.1	10,000	30	1.2	3000-3400	0.65	19.49
Neighborhood 1.2	Low Density Residential	R-SF	31.2	8,000	76	2.4	2250-2800	0.546	41.50
Neighborhood 1.3	Low Density Residential	R-SF	30.5	7,000	64	2.1	2050-2400	0.546	34.94
Neighborhood 1.4	Medium Density Residential	PUD	12.5	PUD	136	10.9	900-1250	0.546	74.26
Neighborhood 1.6	Medium Density Residential	PUD	16.1	PUD	202	12.5	1000-1250	0.546	110.29
Neighborhood 1.8	Medium Density Residential	PUD	19.1	PUD	254	13.3	1000-1300	0.546	138.68
Neighborhood 1.9	High Density Residential	PUD	8.9	PUD	118	13.3	850-1250	0.546	64.43
Neighborhood 1.12	Low Density Residential	R-SF	12	20,000	17	1.4	3200-4000	0.65	11.05
Subtotal Planning Area 1 Residential			155.4		897				494.64
Planning Area 6									
Neighborhood 6.3	Medium Density Residential	PUD	14.8	PUD	210	14.2	1000-1250	0.546	114.66
Subtotal Planning Area 6 Residential			14.8		210				114.66
Subtotal Conventional Housing			170.2		1107				609.3
Planning Area 3									
Neighborhood 3.1	Low Density Residential	R-SF	39	4,000	196	5.0	1850-2200	0.470	92.03
Neighborhood 3.2	Low Density Residential	R-SF	28.3	5,000	112	4.0	1300-2000	0.470	52.59
Neighborhood 3.3	Medium Density Residential	PUD	32.7	6,000	116	3.5	1850-2200	0.470	54.47
Subtotal Planning Area 3 Residential			100		424				199.09
Planning Area 4									
Neighborhood 4.1	Low Density Residential	R-SF	29.9	4,000	82	2.7	900-1200	0.47	38.50
Neighborhood 4.2	Low Density Residential	R-SF	37.5	5,000	147	3.9	1650-2200	0.47	69.03
Neighborhood 4.3	Low Density Residential	R-SF	22	6,000	52	2.4	1850-2200	0.47	24.42
Neighborhood 4.4	High Density Residential	PUD	9.7	PUD	62	6.4	850-1200	0.47	29.11
Subtotal Planning Area 4 Residential			99		343				161.06
Planning Area 5									
Neighborhood 5.1	Low Density Residential	R-SF	31.8	4,000	195	6.1	1100-2200	0.47	91.56
Neighborhood 5.2	Low Density Residential	R-SF	33.8	5,000	197	5.8	1300-2000	0.47	92.50
Neighborhood 5.3	Low Density Residential	R-SF	51.7	7,000	84	1.6	3600-4200	0.47	39.44
Neighborhood 5.4	Low Density Residential	R-SF	72.7	6,000	205	2.8	1850-2200	0.47	96.26
Neighborhood 5.5	High Density Residential	PUD	29	PUD	107	3.7	850-1200	0.47	50.24
Neighborhood 5.6	Open Space	OS	638.9	Natural		9		0.47	0.00
Neighborhood 5.7	Low Density Residential	PUD	8.9	PUD	54	6.1	900-1300	0.47	25.36
Neighborhood 5.8	Low Density Residential	PUD	28.5	PUD	152	5.3	1900-1300	0.47	71.37
Subtotal Planning Area 5 Residential			895		994				466.74
Subtotal Active Adult Housing			1,094		1,761				826.90
Total Residential			1,265		2,868				1,436

Table 3
Legacy Highlands Commercial Industrial Potable Water Demand

Commercial/Industrial Area (Planning Area 2), acres	100
Building Area per Legacy Highlands, sq ft	1,150,000
Building Area/Site Area	0.26
Building Area/Site Area for Planning Purposes	0.40
Total Building Area for Planning Purposes, sq ft	1,742,400
Employees/sq ft of Building Area	1,500
Gal/day/employee for warehouse type facility	15
Operating days/year	260
Projected number of employees	1,162, Round to 1,200
Indoor water demand, gal/day	18,000
Indoor water demand, AFY	14.4

Table 4
**Summary of Water Demands at Build-out,
 Legacy Highlands Development**

	Acre-ft/yr (AFY)
Potable Water Demand	
Residential Conventional Housing	609
Residential Active Adults	827
Commercial/Industrial	14.4
Total Potable Water Demand (rounded)	1,450
Non-potable Water Demand	
Commercial/Industrial	36.2
School Site	21.9
Active Open Space	63.8
Street Medians	56.3
Total Non-potable Water Demand (rounded)	178

The school site was estimated to have a landscaped area of 50% based on an analysis of four recently constructed schools in the City, of which 90% was turf and 10% low water using plantings. The non-potable water demand for the school site was estimated to be 21.9 AFY.

There are five active open spaces (parks) proposed for the Legacy Highlands development, totaling 24.8 acres. These active open spaces are assumed to be 75% turf and 25% low water using landscaping which have a total annual non-potable demand of 63.8 AFY. Other open space is not irrigated and has no recycled or potable water demand.

Low water using landscaping for medians and parkways is assumed to be in place with major streets (Potrero, Collector "A", Collector "C", Ashley Faye Parkway shown on Figure 2 presented previously). For purposes of estimating the non-potable water demands, an irrigated width of 24 ft is assumed based on the City's General Plan Circulation Element street cross-sections. The total estimated length of streets with irrigated parkways and medians is 4.3 miles; the estimated annual non-potable water use is 56.3 AFY

5. BCVWD WATER SYSTEM

BCVWD owns and operates the potable and non-potable water system which would serve the Legacy Highlands Development. 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 Gorgonio Creek, (also known as Edgar Canyon), and Noble Creek. There are two stream diversion locations within Little San Gorgonio 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 1800's. Currently, BCVWD diverts water from Little San Gorgonio 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 about 10.5 percent 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 gaps in service, unnecessary duplication of costs, and inefficiencies associated with overlapping service.

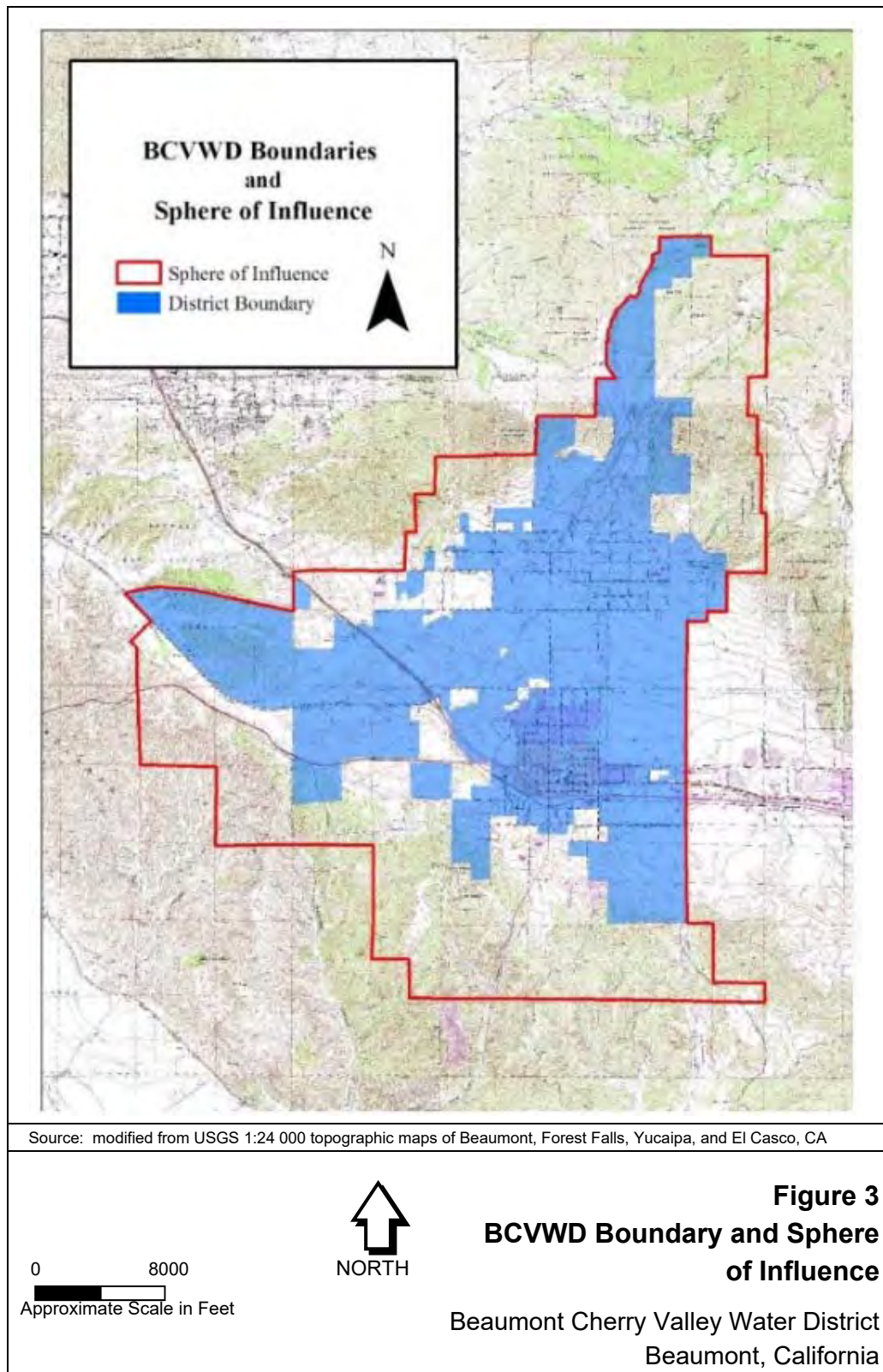


Figure 3
BCVWD Boundary and Sphere Of Influence

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 one-mile south of the BCVWD's southerly SOI boundary. The area between EMWD and the BCVWD's SOI is not within any SOI and could be annexed to either BCVWD or EMWD. BCVWD's SOI in Little San Gorgonio Canyon follows Oak Glen Road. The area west of Oak Glen Road is generally within YVWD's SOI; east of Oak Glen Road is generally 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 / State Highway 60 corridor.

5.1 Overview of BCVWD's Water System and Operation

BCVWD owns and operates both a potable and a non-potable water distribution system. BCVWD provides potable water and scheduled 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 presents BCVWD's 2019 potable and non-potable water connections and pumping amounts. The number of connections increased from 5,600 in the year 2000, before the housing boom that encompassed Western Riverside County and particularly, Beaumont.

Table 5
BCVWD Potable and Non-potable Water Connections and Deliveries 2019

	Potable Water	Non-potable Water (Landscape)	Total
Number of Connections	19,339 ^(a)	309	19,648
Water Pumped, AFY	11,447 ^(b)	1,547	12,994
Average Annual, mgd	10.2	1.4	11.6
Maximum Day, mgd	19.2 ^(c)	4.3	NA

a) 45 of these connections are agricultural water connections on potable water system.

b) 260AF was transferred into Non-potable System for make-up.

c) Historic maximum day demand was 22.1 mgd in 2009.

5.2 Potable Water System

BCVWD's potable water system is supplied by wells in Little San Gorgonio Creek (Edgar Canyon) and the Beaumont Groundwater Basin (sometimes called the Beaumont Storage Unit or the Beaumont Management Zone). BCVWD has a total of 24 wells; 1 well is a standby. Only 20 of the wells are used to any great extent. Twelve of the wells have auxiliary engine drives, a portable generator connection, or an in-place standby generator. BCVWD has 3 portable generators capable of operating 50, 350 and 500 horsepower (HP) motors. The Beaumont Groundwater

Basin is adjudicated and managed by the Beaumont Basin Watermaster¹¹. BCVWD augments its groundwater supply with imported State Project Water (SPW) from the SGPWA which is recharged at BCVWD's recharge facility at the northeast intersection of Brookside Ave. and Beaumont Ave. Overall, the water quality from BCVWD's wells is excellent. Total Dissolved Solids (TDS) is usually below 250 mg/L. Nitrates are only a sporadic problem in a few wells at present. BCVWD continues to monitor these wells per State Water Resources Control Board, (SWRCB) Division of Drinking Water (CDDW) requirements. No wells have had to be taken out of service because of water quality concerns.

Wells in Edgar Canyon have limited yield, particularly in dry years, and take water from shallow alluvial and 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; however, those wells are not able to meet the average day demand and need to be supplemented with the Beaumont Basin wells. The Edgar Canyon wells pump to a gravity transmission main that extends the full length of the BCVWD-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, can be released to lower pressure zones, if needed.

During 2019, the Edgar Canyon Wells provided about 10.5 percent of BCVWD's total annual potable water supply; the rest is pumped from wells in the Beaumont Basin. BCVWD's total well capacity (Edgar Canyon and Beaumont Basin) is about 33 million gallons per day (mgd). BCVWD is easily able to meet the maximum day demand (historic maximum about 22 mgd) with the largest well out of service. Wells with auxiliary power can supply up to 21.4 mgd.

Because of the range of topographic elevations in the BCVWD's service area, 11 pressure zones are needed to provide reasonable operating pressures for customers.

BCVWD has 14 reservoirs ranging in size from 0.5 million gallons (MG) to 5 MG. Total storage is approximately 22 MG, slightly more than 2 average days or 1 maximum day. The reservoirs provide gravity supply to their respective pressure zones. BCVWD's 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 that allow water to be pumped up from a lower pressure zone to a higher pressure zone also. This provides great flexibility in system operations. Sufficient reservoir redundancy exists permitting reservoirs to be taken out of service for maintenance.

The backbone transmission system in the main pressure zones is primarily 24-in diameter though there are some 30-in diameter pipelines leading from some reservoirs. The bulk of the backbone transmission and distribution pipe is ductile iron, with cement mortar lining, that was installed in the last 10 to 15 years. There are a number of small, older, distribution lines in the system that

¹¹ San Timoteo Watershed Management Authority vs. City of Banning et al, Superior Court of the State of California, for the County of Riverside, Riverside Court, Stipulation for Entry of Judgement Adjudicating Groundwater Rights in the Beaumont Basin, RIC 389197, February 4, 2004.

are gradually being replaced with minimum 8-in diameter ductile iron pipe. The BCVWD potable water distribution system is capable of providing over 4,000 gpm fire flow in the industrial/commercial areas of the service area.

5.3 *Imported Water and Recharge Facilities*

BCVWD imported and storm water recharge facility consists of a 78-acre site on the east side of Beaumont Ave., between Brookside Ave. and Cherry Valley Blvd., where only imported water and incidental storm runoff is currently recharged. The recharge project site was selected after extensive hydrogeologic studies and pilot testing over a multi-year period. Phase 1 of the recharge facility, on the westerly half of the site, went on-line in late summer 2006. Phase 2 of the recharge facility was completed in 2014. This site has excellent recharge capability. Since its operation in 2006 through the end of 2018, BCVWD has recharged a total of 84,242 acre-ft (27.4 billion gallons) of imported water. The capacity of the recharge site is conservatively estimated at 25,000 to 30,000 AFY, based on short term studies. With more aggressive maintenance, the capacity may be as much as 35,000 AFY.

BCVWD and Riverside County Flood Control and Water Conservation District (RCFC&WCD) are jointly in design of Beaumont MDP-Line16, a large diameter storm drain in Grand Ave., which drains a watershed area of 505 acres to BCVWD's recharge site. This project should be operational by 2022 and storm water from the project will be recharged. BCVWD also envisions recharging recycled water, not needed for irrigation, at the recharge site in the future, with appropriate treatment and permits.

The SGPWA imports State Project Water (SPW) through the East Branch Extension (EBX) of the California State Water Project (Governor Edmund G. Brown California Aqueduct). EBX Phase I was completed in 2003; EBX Phase II was completed in 2018. The completion of EBX Phase II improvements brings SGPWA's imported water delivery capacity to the Pass Area to 48 cubic feet per second (cfs) or 34,750 AFY if it was operational continuously all year.

BCVWD takes water from a 20-in diameter turnout and metering station at the current end of the EBX at Orchard Ave. and Noble Creek in Cherry Valley. The turnout was expanded to 34 cfs, (24,600 AFY if operated continuously), which became operational in 2019. Water from the turnout is metered by the Department of Water Resources (DWR) and then enters a 3,500-ft long, 24-in diameter gravity pipeline, constructed by BCVWD, which conveys the water to BCVWD's groundwater recharge site.

The 24-in diameter pipeline was constructed in 2006 and at 34 cfs would have a velocity of 10.8 ft/second – a reasonable velocity for a mortar-lined pipeline. If operated eleven months out of the year at that rate, the pipeline could convey 22,500 acre-ft per year. Higher velocities could be tolerated for short periods of time which would result in increased short-term delivery capacity.

5.4 *Non-potable (Recycled) Water System*

Currently, BCVWD has over 44 miles of non-potable water transmission and distribution system in place. The backbone transmission system forms a loop around the City and is comprised of

primarily 24-in diameter cement mortar lined, ductile iron pipe, all installed after year 2000. The system includes a 2 million gallon recycled (non-potable) water reservoir which provides gravity storage and pressurization for the system. As shown in Table 5, presented previously, at the end of 2019, there were approximately 309 connections delivering 1,547 AFY of non-potable water. There are three major non-potable water pressure zones (2800 Zone, 2600 Zone and 2520 Zone); potentially there could be two additional pressure zones (3040 Zone, 2370 Zone).

A 2 MG non-potable reservoir, (2800 Zone Non-potable Water Tank), was constructed at the BCVWD Groundwater Recharge Site and is piped to receive potable water or untreated SPW through air gap connections. The non-potable water system can have a blend of recycled water, filtered imported and otherwise untreated SPW, and potable water.

The 2800 Non-potable Water Zone is currently separated from the 2600 and lower pressure zones. The 2800 Non-potable Water Zone is currently supplied with water from Well 26, supplemented by potable groundwater introduced into the system through an air gap at the 2800 Zone Non-potable water tank. The 2600 and lower non-potable water pressure zones are supplied with potable water through interconnections between the potable and non-potable water system. BCVWD has a capital project approved to provide fine screening of SPW prior to entering the 2800 Zone Non-potable Water Reservoir. This project will be implemented when demands increase and/or the non-potable water system is tested and approved for recycled water use.

BCVWD is working with the City to secure recycled water for use in the non-potable water system. The City is under construction with expansion and upgrade of their existing wastewater treatment facility to bring it to 6 mgd capacity and will be installing a new membrane bioreactor (MBR) treatment units followed by reverse osmosis membrane treatment. A brine line from the treatment plant to the Inland Empire Brine Line (IEBL) in San Bernardino is also under construction. A memorandum of understanding (MOU) 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 of City Council members and BCVWD Board Members.

The Regional Water Quality Control Board (RWQCB)¹² has ordered the City to be in compliance with the maximum benefit provisions, which include providing recycled water for beneficial use, by March 1, 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 the 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 Adjudication.

¹² RWQCB (2015). Waste Discharge Requirements and Master Reclamation Permit for the City of Beaumont, Beaumont Wastewater Treatment Plant, Riverside County, Order No. R8-2015-0026, NPDES No. CA0105376, July 24.

6. UPDATED WATER DEMANDS IN SAN GORGONIO 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 both regionally and within BCVWD's service area. The results of this series of White Papers indicated that the regional imported water demands in BCVWD's 2015 UWMP and the SGPWA 2015 UWMP may be overstated, primarily because of over-aggressive growth in demand, limited consideration of recent state-mandated conservation and indoor water use requirements, etc.

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 in the current spreadsheet modeling, based on their demand data in SGPWA's 2015 UWMP.

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

- New EDU Water Demand, AFY/EDU
- Existing EDU Water Demand, AFY/EDU
- Infill EDUs/year
- Commercial & Institutional EDUs/yr, as a % of Residential EDUs
- Commercial & Institutional EDUs, Minimum EDUs/yr
- Water Conservation, % Reduction on Existing Demands
- Water Conservation, % Reduction on New Demands going forward
- 2017 Year Ending Potable Water Demand, AF
- Beaumont Basin Groundwater Storage Account Maximum, AF
- Beaumont Basin Groundwater Storage Account 2017 Ending Balance, AF

The demand worksheets included the major development projects in each of the retailer's service area, 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/institutional

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.

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 Pass Area. These spreadsheets, and the criteria are summarized below but are described in detail in White Paper No. 6.

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.

Table 6
Major Development Projects in City of Banning

Project Name	Projected EDUs	Estimated Start-up Year	Build-out Years
Butterfield Ranch (Atwell)	4,862	2020	30
Rancho San Gorgonio	3,385	2019	17
Diversified Pacific	98	2021	5
St. Boniface	171	2023	10

The data in Table 6 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 (now 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 sometime in 2020. There are 4,862 EDUs proposed, or an average of 160 EDUs per year over the 30 year build-out period. Rancho San Gorgonio is planned for 3,385 EDUs and 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). This project has not yet started and probably will not start until sometime in after 2022 or later.

The spreadsheet for Banning included two other projects:

- Diversified Pacific (98 EDUs)
- St. Boniface (171 EDUs)

Specific years when these projects are to begin were not stated, nor were the buildout years. The spreadsheet assumes 2021 and 2023, respectively, for starting and build out years of 5 and 10 years, respectively. This may be optimistic.

In the development of the spreadsheet model for the City of Banning, the San Gorgonio Integrated Regional Water Management Plan (SGIRWMP), May 2, 2018 (Revised August 1, 2018) was analyzed in addition to the City's 2015 UWMP. The SGIRWMP covered the SGPWA service area generally east of Highland Springs Avenue. The SGIRWMP integrated three separate studies:

- Water Supply Reliability Study
- San Gorgonio Region Recycled Water Study
- San Gorgonio Integrated Watershed and Groundwater Model Technical Memorandum

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 9,675 AFY.¹³

¹³ Extracted from Table 5-4 in Banning 2015 UWMP.

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 of unused overlieer rights for years 2018 through 2022 that are included in the spreadsheet. The amount of unused pumping rights varies from year to year, depending on hydrologic conditions and other factors, and is evaluated by Watermaster, annually. The 2017 Annual Watermaster Report (Final) indicates that Banning's reallocated unused overlieer pumping amount for 2020 is 1,450 AFY, slightly more than that reported in the City of Banning's 2015 UWMP. As some of the overlying parties develop their properties, the overlieer 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. BCVWD made an estimate of the unused overlieer pumping rights under a "developed" or "build-out" condition and estimated the total unused overlieer amount would be 1,800 AFY under full buildout. The City of Banning's share (31.43%) would be 560 AFY (rounded) at buildout. The spreadsheet allows for the gradual reduction of the unused overlieer pumping rights over time. It is projected by BCVWD to decrease to 560 AFY by 2030 or so as the overlying properties develop.

The City of Banning has 51,961 AF banked in their Beaumont Basin Storage account at the end of 2017 per Watermaster. At year-end 2018, the amount in storage had increased to 52,320 AF. For the period 2008 through 2017, the City of Banning has recharged an average of 1,294 AFY of SPW in BCVWD's recharge facility. The City can store up to 80,000 AF.

Table 7 presents a summary on the Supply-Demand Spreadsheet Model for the City of Banning. The year 2040 data was projected from previous years since the model currently only extends to 2035.

Table 7 was based on the following criteria:

- 2017 Ending Potable Water Demand: 7,500 AFY
- New EDU water demand: 0.52 AFY/EDU
- Existing EDU water demand: 0.62 AFY/EDU
- No demand reduction due to conservation on either existing or new EDUs

This was reviewed by the City of Banning. Table 7 indicates that the City of Banning has adequate local supply until 2035. Note that Banning's Beaumont Basin Groundwater Storage Account is full in 2030. (Per the spreadsheet model it actually fills in 2027). This indicates that the City of Banning has minimal imported water needs from SGPWA until 2040.

Table 7
Summary of Spreadsheet Supply-Demand Model for City of Banning

Demand or Supply	Year					
	2018	2020	2025	2030	2035	2040
Total New EDUs/year		218	388	706	220	220
Potable Water Demand, AFY	7,504	7,678	8,406	9,902	10,832	11,400
Banning/Cabazon Groundwater, AFY	9,675	9,675	9,675	9,675	9,675	9,675
Beaumont Reallocated Overlier Rights, AFY	2,001	1,450	1,100	600	560	560
Total Local Supply, AFY	11,676	11,125	10,775	10,275	10,235	10,235
Surplus/(Deficiency)	4,172	3,447	2,369	373	(597)	(1,165)
Imported Water, AFY						1,000
Groundwater Storage Account, AF	56,133	63,100	77,573	80,000	78,415	76,510

6.1.2 YVWD/City of Calimesa

Major development projects in the YVWD service area within SGPWA (principally the City of Calimesa) which are included in the Regional Spreadsheet Model are shown in Table 8.

Table 8
Major Development Projects in YVWD in SGPWA (City of Calimesa)

Project Name	Projected EDUs	Estimated Start-up Year	Build-out Years
Summerwind Ranch	3,841	2019	20
Mesa Verde	3,650	2022	20
JP Ranch ^(a)	500	2025	10

(a) Per discussions with J. Zoba, General Manager, YVWD.

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:

- 2015 SGPWA UWMP
- 2015 San Bernardino Valley Regional UWMP
- Mesa Verde Water Supply Assessment (WSA) – Draft August 11, 2017
- YVWD Strategic Plan For Sustainable Future (Adopted August 20, 2008)

The EDUs for Summerwind Ranch and Mesa Verde were taken from the Specific Plans for these projects. Grading for street and utility work and model construction is underway for Summerwind Ranch, with first homes coming “on-line” sometime in 2019. Mesa Verde is estimated to start in

2022. An estimated 20 year build-out time for Summerwind Ranch and Mesa Verde was assumed, resulting in an average of 192 and 183 EDUs per year, respectively. Per YVWD, future phases of JP Ranch will likely not start until 2025 with a 10-year build-out period (about 50 EDUs per year). It should be noted there will be additional EDUs associated with the developments for related commercial and retail developments, schools, parks, restaurants, etc.

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 overlie pumping right was determined by Watermaster for 2018 through 2022 and reported in the 2017 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 overlie parcels as shown on the worksheet in the spreadsheet. BCVWD believes the total unused overlie right at build-out will be about 1,800 AFY; YVWD's share will be about 240 AFY (rounded).

Both Mesa Verde and Summerwind Ranch are part of the original Oak Valley Development that started with the Landmark Land Company of California in the 1980s. The original Landmark Project was a master planned golf/recreational development. Oak Valley Partners (OVP) took over the project and were involved in the Beaumont Basin Adjudication. OVP has overlying groundwater rights in the Beaumont Basin [originally 1,806 AFY but reduced to 1,398.9 AFY, (round to 1,399 AFY), after the safe yield was reduced in 2014]. These overlie groundwater rights will be transferred to YVWD to serve the Summerwind Ranch development only per YVWD.

YVWD uses 700 gal/day/EDU (0.78 AFY/EDU) for total water demand for existing EDUs; but requires all new development to be dual-plumbed and requires the use of recycled water outside. Potable water demands are estimated by YVWD to be 40% of the total water demand, i.e. 280 gal/day/EDU (0.37 AFY/EDU) with the remainder, i.e., 420 gal/day/EDU to be recycled water. It is BCVWD's opinion that the Adjudication requires OVP to forebear the pumping of their 1,399 AFY overlie pumping right, on an acre-ft by acre-ft basis, for both potable and recycled water received for a project development.

YVWD has groundwater banked in the Beaumont Basin; at the end of 2017, per Watermaster, the amount in storage was 15,776 AF. This had grown to 16,633 AF by the end of 2018. YVWD has a 50,000 AF storage account.

The following Table (Table 9) was extracted from the Mesa Verde WSA. The Mesa Verde WSA indicates 1,200 AFY is proposed to be recharged (banked) by YVWD from 2020 through 2040. YVWD developed a Strategic Plan for a Sustainable Future, The Integration and Preservation of Resources for a Sustainable Future (adopted August 2008) identified a groundwater banking program for future reliability for droughts and disruption in the SPW supply as shown in Table 9.

The Plan indicates a Board Policy of banking of 15 percent of the total water supply used by the YVWD's customers. Data was not available to confirm the 1,200 AFY in Table 9; but 1,200 AFY is used in the spreadsheet model.

The total of the drinking water demands for the Water Filtration Facility plus the Conjunctive Use Demands match with the projected imported water demands in the SGPWA 2015 UWMP as shown in Table 2-4 presented previously.

Table 9
YVWD SGPWA Imported Water Demands

Imported Water Demands from the San Geronio Pass Water Agency (Acre-feet)	2015	2020	2025	2030	2035	2040
Drinking Water Demands: Yucaipa Valley Water Filtration Facility	454	609	767	962	1,191	1,444
Conjunctive Use Demands -Local Water Banking	0	1,200	1,200	1,200	1,200	1,200
New Development Long-Term Supply - Sustainability Program	0	2,504	3,040	3,596	4,344	3,407
Purchase from SGPWA	454	4,313	5,007	5,758	6,735	6,051

Source: Mesa Verde Project WSA Draft August 11, 2017, page 25

Table 9 also identified “New Development Long-Term Supply—Sustainability Program which relates to YVWD’s Strategic Plan for a Sustainable Future, mentioned above. YVWD requires all new developments to provide funding to secure 7.0 AF of supplemental imported water per EDU. This amount of water is sufficient to meet the drinking water demands generated by each new EDU for a period of 20 years. YVWD also offers a Crystal Status Development Program whereby the developer provides funding for 15.68 AF of supplemental imported water per EDU which is sufficient to meet the potable and non-potable (recycled) water demands of the new EDU for 20 years. The difference between the two programs is that under the standard (7.0 AF/EDU) program, development will be restricted, (i.e., no grading or building permits will be issued), when a Stage 2 water shortage is declared (10% cutback). However, Crystal Status Development can continue through a Stage 4 Shortage (35% cutback). The 7.0 AF/EDU will not need to be replenished for 20 years. For this spreadsheet, the Standard 7.0 AF/EDU imported water purchase and storage was used, since it is difficult to determine how many new developments will purchase Crystal status. This is conservative.

The spreadsheet assumes that 7.0 AF/EDU will be applied to all new developments (Mesa Verde and JP Ranch) in YVWD, except for Summerwind Ranch, which has overlie pumping rights available to meet its projected demands.

Table 10 presents a summary on the Supply-Demand Spreadsheet Model for YVWD in the SGPWA service area, i.e., principally the City of Calimesa. Year 2040 data was projected from previous years since the model currently only extends to 2035.

Table 10 was based on the following criteria:

- 2017 Ending Potable Water Demand: 500 AFY

- New EDU potable water demand: 0.37 AFY/EDU
- Existing EDU water demand: 0.78 AFY/EDU
- Water demand reduction from conservation on new EDUs: 10%
- Water demand reduction from conservation on existing EDUs: none

Table 10 indicates that YVWD, in SGPWA service area, has sufficient local supply to meet demands until 2025, at which time imported water will be needed unless YVWD plans on withdrawing water from their storage account. The YVWD Beaumont Basin Groundwater Storage Account is full in 2030 primarily because of the “Sustainability Water” which is banked. YVWD’s total imported water demands reported in the Mesa Verde WSA differs from YVWD’s imported water demands in the SGPWA 2015 UWMP presented earlier.

Table 10
Summary of Spreadsheet Supply-Demand Model for YVWD (City of Calimesa)

Demand or Supply	Year					
	2018	2020	2025	2030	2035	2040
Total New EDUs/year		83	464	551	551	500
Potable Water Demand, AFY	503	544	1,065	2,054	3,058	4,062
Oak Valley Partners Earmark Transfer, AFY	3	50	586	1,399	1,399	1,399
Beaumont Reallocated Overlier Rights, AFY	864	627	400	240	240	240
Total Local Supply, AFY	867	677	986	1,639	1,639	1,639
Surplus/(Deficiency)	364	133	(79)	(415)	(1,419)	(2,423)
Imported Water for Regional Filtration Facility, AFY (a)	500	609	767	962	1,191	1,444
Imported Water for Banking, AFY (a)		1,200	1,200	1,200	1,200	1,200
Imported Water for Sustainability, AFY	49	51	1,655	2,260	2,260	2,260
Total Imported Water, AFY	549	1,860	3,622	4,422	4,651	4,880
To (From) Storage, AFY	913	1,993	3,542	4,007	3,232	2,457
Groundwater Storage Account, AF	16,689	19,397	32,825	50,000	50,000	50,000

(a) Source: YVWD’s Mesa Verde WSA, pg. 25, SGPWA SPW or equivalent used at Filtration Plant

6.1.3 BCVWD

6.1.3.1 City of Beaumont Development

Major development projects in the BCVWD service area, which are included in the Regional Spreadsheet Model, are shown in Table 11. The projected EDUs planned, or yet to be built, are estimated and may vary slightly from City of Beaumont Project Status Report estimates.

Figure 4 shows the number of single family home building permits issued in the City of Beaumont for the years 2000 through 2019. Although not shown in the Figure, the permit applications started to increase in 1999-2000 and reached their peak in 2005 with 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, permits averaged 455 per year, and 577 over the last 5 years. The 19-year average was 684 per year. Future growth will likely be in the range of 450 to 650 permits per year, although some developers have projected slightly higher amounts in their build-out forecasts. It should be noted that not all Single Family Permits in a given year turn in to “occupancy” during that year.

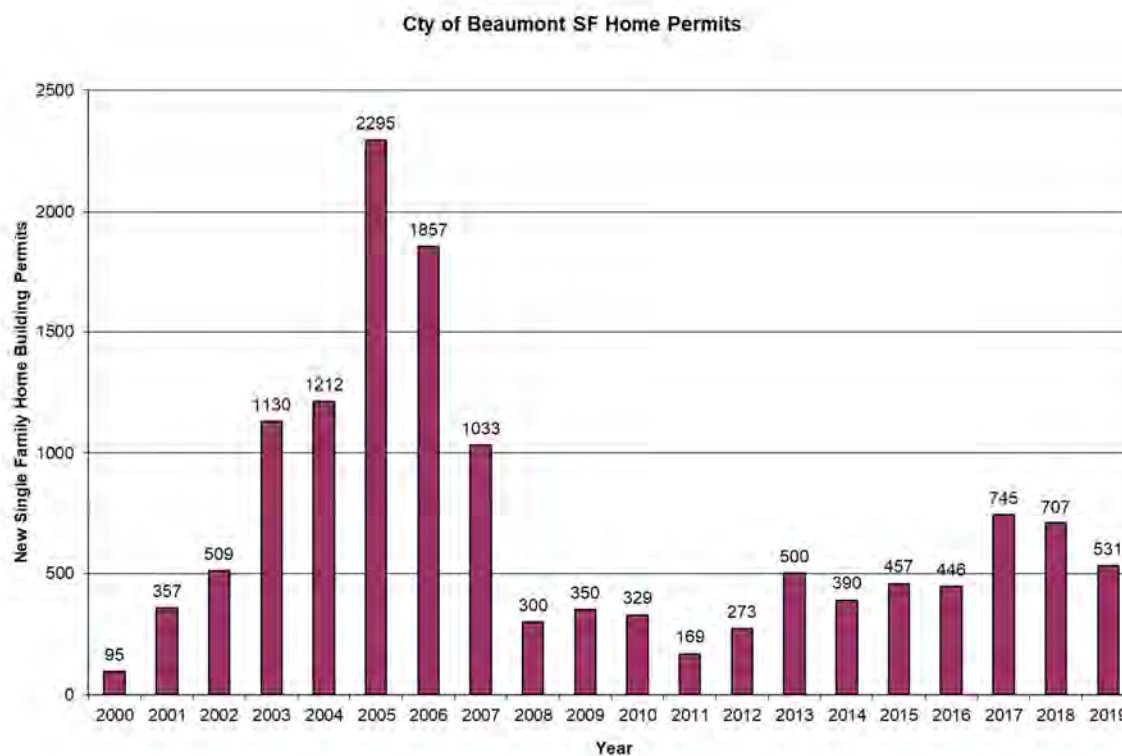


Figure 4
City of Beaumont Single Family Home Permits

The EDUs in Table 11 total 12,545; at the rate of 480 to 500 EDUs/year, it would take about 25 years to construct these units or about 2040 or slightly beyond.

Table 11
Major Development Projects in Planning or Construction Stages
(from BCVWD 2015 UWMP)

Project Name	Projected EDUs (Planned or Yet to be Built End 2017)	Estimated Start-up Year	Build-out Years
Tournament Hills Ph 4	281	2020	4
Sundance ^(a)	1,262	2018	5
Fairway Canyon ^(a)	1,810	2019	20
Heartland Olivewood ^(a)	1,081	2018	20
Four Seasons ^(b)	203	2018	3
Kirkwood Ranch	391	2022	12
Potrero Creek Estates	700	2025	10
Noble Creek Meadows	648	2021	15
Hidden Canyon Industrial ^(a)	82	2019	5
Sunny Cal Egg Ranch	529	2019	10
Jack Rabbit Trail	2,000	2030	25
The Preserve/Legacy Highlands	3,218	2025	25
Taurek	244	2022	20
TR 32950 Manzanita	95	2022	10
Other Projects on City of Beaumont's Project Status List (10/18/2018)			
Sundance Corporate Center ^(a)	---	2018	2019
Rolling Hills Ranch Industrial Ph 2 ^(b)	---	2020	2021
Centerpointe Commercial ^(b)	---	2018	2019
San Gorgonio Village Ph 2 ^(a)	---	2020	2021
Total EDUs	12,545		

(a) Under construction;

(b) Recently completed.

6.1.3.2 Cherry Valley Growth and Development

The ultimate build-out population for that portion of Cherry Valley served by BCVWD, based on the Pass Area Land Use Plan^{14 15} densities, was estimated to be 21,700 people or about 7,750 EDUs. This was BCVWD's estimate in 2009, developed by BCVWD, using GIS land use data from Riverside County and typical development densities for the various land uses in the General Plan. The 21,700 people included 6,736 people in the City of Calimesa. BCVWD will not be serving the City of Calimesa as this is within YVWD's service area. As a result, the 21,700 population estimate, to be served by BCVWD, may be overestimated. BCVWD now believes it to be closer to 15,000 people at build-out, or about 5,350 EDUs. The build-out population is based on an increase from 2.43 persons per EDU, currently, to 2.8 persons per EDU projected at build-out.

There were 2,874 housing units in Cherry Valley in 2010 per the census data, but 26.6% of those are mobile homes. Adjusting for the reduced water use in mobile homes, the 2,874 housing units are equivalent to about 2,485 EDUs. The Sunny Cal Egg Ranch Development, (529 EDUs from Table 11 below), is included with the City of Beaumont's development projects, but is actually within the current Cherry Valley census area. The 529 Sunny Cal EDUs and would have been included in the projected 2,865 EDU increase for Cherry Valley, (5,350 EDUs – 2,485 EDUs). To avoid "double counting EDUs," the Sunny Cal Egg Ranch EDUs were deducted from the 2,865 EDUs, resulting in a net projected 2,336 EDU increase for Cherry Valley to build-out. The buildout population and EDUs will be revised in future updates of the BCVWD Potable Water Master Plan and UWMPs.

BCVWD believes Cherry Valley will be growing at a low rate keeping with its character of residential rural community; growth rate is estimated to be less than 10 EDUs/year until the City of Beaumont's currently planned projects are developed. Once the City of Beaumont has developed, Cherry Valley will likely begin to be developed at a gradually increasing rate, perhaps increasing to 30 to 50 EDUs/year; but this is not expected to occur until after 2040.

Table 11 shows Jack Rabbit Trail as 2,000 EDUs; the current proposed development concept by a developer is to construct major commercial/industrial buildings with a resulting reduction in EDUs. However, this is uncertain and plans could change. For planning purposes for water supply, Jack Rabbit Trail is assumed to be 2000 EDUs until firmed up by the City of Beaumont.

6.1.3.3 Supply Demand Model for BCVWD

Table 12 presents a summary of the spreadsheet model for BCVWD's demand which was based on the following criteria:

- 2017 Ending Potable and Non-potable Water Demand: 12,981AFY
- New EDU water demand: 0.546 AFY/EDU
- Existing EDU water demand: 0.62 AFY/EDU
- Water demand reduction from conservation on new EDUs: 5%

¹⁴ Pass Area Land Use Plan, October 7, 2003, Part of Riverside County General Plan.

¹⁵ The Pass Area Plan, County of Riverside General Plan Amendment 960, Draft March 2014.

- Water demand reduction from conservation on existing EDUs: 5%

BCVWD's source of supply consists of:

- **Edgar Canyon (Little San Geronio Creek) Groundwater.** The annual yield for Edgar Canyon is based on 37 years of pumping records. The average annual production for the period 1983 – 2019 was 2,094 AFY, which was rounded to 2,100 AFY in the spreadsheet. However, for 2018, the production was reduced to 1,700 AFY to account for the reduced production in some wells due to reduced pump efficiency. These pumps have been refurbished and are fully operational. They will be refurbished on a regular basis from now on.
- **Beaumont Basin**
 - Reallocated Unused Overlier Pumping Rights – Watermaster provided the amount of reallocated overlier rights in the 2017 Draft Annual Report for each year up to 2022. BCVWD was allocated 2,706 AF in 2018 and 1,962 AF in 2020. Thereafter, BCVWD made an estimate based on production and development of the overlies' property. BCVWD estimated the long-term, fully developed, unused overlying party pumping rights would be about 1,800 AFY. BCVWD gets 42.51% of the unused overlier pool each year. At full development, BCVWD estimates its share is 760 AFY.

Table 12
Summary of Spreadsheet Supply-Demand Model for BCVWD

Demand or Supply	Year					
	2018	2020	2025	2030	2035	2040
Total New EDUs/year	381	580	460	552	458	297
Potable and Non-potable Water Demand, AFY	13,129	13,668	14,841	16,032	17,192	18,100
Edgar Canyon, AFY	1,700	2,100	2,100	2,100	2,100	2,100
Beaumont Reallocated Overlier Rights, AFY	2,706	1,962	1,200	760	760	760
Forbearance Water (Sunny Cal Egg Ranch), AFY	0	50	200	340	340	340
Recycled Water City of Beaumont, AFY (to be realized in 2021)	0	1,556	2,188	2,840	3,487	3,930
Stormwater Capture, AFY	0	0	250	250	250	250
Other Local Water Resource Projects, AFY	0	0	250	250	250	250
Total Local Supply, AFY	4,406	5,668	6,188	6,540	7,187	7,630
Surplus/(Deficiency), AFY	(8,723)	(8,000)	(8,653)	(9,492)	(10,005)	(10,470)
Imported Water for Replenishment, AFY	8,723	8,000	8,653	9,492	10,005	10,470
Imported Water for Drought proofing, AFY	1,000	1,000	2,000	2,500	2,500	2,500
Total Imported Water, AFY	9,723	9,000	10,653	11,992	12,506	12,970
To (From) Storage, AFY	1,000	1,000	2,000	2,500	2,500	2,500
Groundwater Storage Account, AF	33,296*	35,296	41,296	51,796	64,296	76,796

*2018 Groundwater Storage Account Volume in Table 12 is estimated. The actual is 34,794 AF.

- **Forbearance Water** is credited to a water supplier by Watermaster for any potable and/or recycled water provided to an overlier when the overlier's property develops. The overlier forbears pumping the equivalent amount of water supplied. BCVWD will be supplying the Sunny Cal Egg Ranch Development with both potable and recycled water at some point. Sunny Cal Egg Ranch and associated partners are overlying parties and have pumping rights. BCVWD estimates that fully developed demand from recycled and potable water is about 340 AFY. The amount of forbearance water will increase over time from zero AFY to 340 AFY as the project develops to anticipated buildout in 2030.
- **Water from Groundwater Storage** – BCVWD has an 80,000 AF storage account in the Beaumont Basin. As of the end of 2017, there were 32,296 AF in storage per Watermaster's 2017 Annual Report. The amount in storage increased to 34,794

AF at the end of 2018. BCVWD's plan, which is shown in BCVWD's 2015 UWMP, envisions banking from 1,000 AFY to 2,500 AFY to drought proof BCVWD. This is accounted for in the spreadsheet each year. Should there be a year when the projected amount cannot be delivered by SGPWA, any deficiency will be made up in successive years when adequate supply is available. Table 12 shows that for average water supply conditions, banking is anticipated every year and no water will be withdrawn from storage.

- **Recycled Water from the City of Beaumont** – The City is required by Regional Water Quality Control Board (RWQCB) Order No. R8 -2015-0026 to have recycled water put to beneficial reuse by March 1, 2020. The City started the construction of the new wastewater treatment plant, reverse osmosis desalting unit, and the required brine line from the wastewater treatment plant to the Inland Empire Brine Line (IEBL), in San Bernardino. The City has completed Title 22 Engineering Report for the new Treatment Facilities which is under review by the RWQCB and CDDW. BCVWD's water supply is premised on the basis that 1.8 mgd habitat mitigation, previously negotiated with U. S. Fish and Wildlife in 2008 will not change. The City and BCVWD signed a Memorandum of Understanding (MOU) in July 2019 which will form the basis for an agreement on the sale and reuse of recycled water from the new treatment plant. The City and BCVWD are in the process of developing a recycled water purchase agreement. BCVWD and the City are working jointly on coordinating the pumping and storage requirements at the treatment plant. The City will be the recycled water producer; BCVWD the distributor. BCVWD is in process of completing their Title 22 Engineering Report for the Distribution and Reuse Applications. BCVWD has developed draft rules and regulation for recycled water use and developed a cross-connection testing and control plan which has been previously approved by the CDDW. However, that was some time ago and BCVWD will be submitting the draft rules and regulations again, in the event there have been some changes in the requirements. At this time, recycled water is assumed to only be used for non-potable uses and to be available in 2021. In the future, as more recycled water becomes available during the late fall, winter, and early spring, BCVWD anticipates developing, with the City, an advanced treatment facility and secure permits for groundwater recharge of the surplus effluent. BCVWD and City anticipate providing recycled water to the Oak Valley Greens and/or Tukwet Canyon Golf Courses in exchange for forbearance water which would then increase BCVWD's potable water supply.

The BCVWD spreadsheet model is based on 0.25 AFY wastewater/EDU (225 gallons/day/EDU) connected to the City's wastewater system. The City is obligated to maintain a 1.8 mgd discharge to Cooper's Creek for habitat maintenance; the available recycled water accounts for this 1.8 mgd "loss." A capacity factor 75% is applied to the available wastewater to account for brine discharge, recycled water used on the plant site for maintenance, and water contained in the biosolids which is hauled off-site. This results in a net of 0.20 AFY of recycled water generated per EDU.

- **Storm Water Capture** – BCVWD and Riverside County Flood Control and Water Conservation District (RCFC&WCD) are jointly working on a Santa Ana Watershed Project

Authority (SAWPA) Grant Project to design and construct Beaumont MDP-Line 16 storm water capture project, also known as the Grand Avenue Storm Drain in Cherry Valley. The project is partially funded under the Integrated Regional Water Management Implementation Grant Program under Proposition 84. A detailed analysis of the runoff potential was performed using 77 years of daily rainfall records from the Beaumont Rain Gage with the runoff determined for each storm using the Natural Resources Conservation Service (NRCS) curve number method. An estimated 200 to 230 AFY can be captured with MDP-Line 16 project. Other projects, in and around the BCVWD recharge facility, will capture excess flow in both Brookside Ave and Beaumont Ave to increase the annual capture (long term average) to 250 AFY, perhaps more. The MDP-Line 16 is in the final stages of design with construction to start in 2021.

- **Other Local Water Resource Projects** – BCVWD has several other local water resource projects which can be implemented including:
 - High nitrate groundwater at the mouth of Edgar Canyon. This groundwater 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 Canyon Extraction Wells to capture groundwater from the Beaumont Basin flowing into San Timoteo Canyon and also to capture City's 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 help meet summertime demands. High groundwater has been observed along Oak Valley Parkway in the vicinity of Palmer Drive and was encountered in the construction of the City's brine line. This water can be captured and used to supplement the recycled water during the high demand summer time.
 - For purposes of this WSA, 250 AFY are assumed to be available with the initial phases of these projects.
- **Imported Water from SGPWA** -- The amount of imported water which BCVWD is able to purchase and recharge is 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.

6.2 ***Summary of Member Agency Imported Water Demands on SGPWA***

Table 13 presents a consolidated summary of the spreadsheet model demands for the City of Banning, YVWD/Calimesa, and BCVWD from Tables 7, 10, and 12 presented previously. The imported water demands include from 4,792 to 7,912 AFY for banking and drought proofing. Table 13 also 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 2015 UWMP. BCVWD believes these amounts are very conservative considering the growth rates in the Pass Area.

Table 13
Regional Summary of Spreadsheet Supply-Demand Model for SGPWA

Demand or Supply	Year					
	2018	2020	2025	2030	2035	2040
Potable Water Demand, Banning YVWD/Calimesa, BCVWD (Potable and Non-potable), AFY	21,135	21,890	24,312	27,987	31,083	33,562
Local Supply, Banning YVWD/Calimesa, BCVWD, AFY	16,949	17,470	17,949	18,454	19,061	19,404
Imported Water Demand, incl. drought proofing, etc., AFY	10,272	10,860	14,274	16,414	17,157	18,950
Total Imported and Local Supply, AFY	27,221	28,330	32,223	34,868	36,218	38,354
Total to (from) Regional Groundwater Storage, AF	6,085	6,440	7,912	6,881	5,135	4,792
Regional Groundwater Storage, not incl. SGPWA, AF	106,118	117,793	151,694	181,796	192,711	217,529
SGPWA Imported Water Demands for those agencies not currently taking imported water, from SGPWA 2015 UWMP, AFY		500	1,600	2,800	3,900	5,000
Total Imported Water Demand, AFY	10,272	11,360	15,874	19,214	21,057	23,950
Total Imported Water Demand, without banking or drought proofing, AFY	9,223	9,109	11,019	13,254	15,097	17,914

7. SGPWA AVAILABLE IMPORTED WATER

At the present time (2019) the “firm” supplies of imported water available to SGPWA, (or in the final stages of being finalized), between now (2019) and 2040 are:

- Table A
- Yuba Accord Water
- SBVMWD Surplus Water
- AVEK (Nickel Water)
- Ventura/Casitas Water Lease/Purchase (exchange agreements currently being executed on a year by year basis)

Other sources which are in various stages of implementation are:

- Delta Conveyance Project (DCP) [formerly California Water Fix (CWF)]
- Sites Reservoir (Sites)
- Purchase of State Water Project Contractors Incremental Delta Conveyance Facility Reliability Benefits

- Purchase or Leasing of Metropolitan's Delta Conveyance Project Phase 2 Water, if available.
- Other Sources Available through SWP such as Article 21 Water and Turn-back Pool Water

These are discussed in White Paper No. 6, but reiterated here.

7.1 State Water Project (SWP) Table A

SGPWA's contract with the Department of Water Resources (DWR) states a Table A amount of 17,300 AFY. Table A is the maximum amount of water the SGPWA can convey through the SWP facilities. This amount of water is not available consistently every year. In fall of each year, DWR provides an initial delivery allocation as a percent of Table A depending on amount of water in reservoir storage and anticipated hydrologic conditions. The allocation can be increased or decreased depending on the precipitation during the winter; a final allocation is usually issued in spring and sets the amount of water available, as a percentage of Table A, from the SWP. Since 1992, the allocation has averaged about 65%. DWR has prepared a reliability study¹⁶ which indicated the SWP can deliver only about 62% of Table A (10,726 AF to SGPWA) in any one year. Table B-5B, in DWR's Bulletin 132-17, forecasts the amount of SPW delivered to SGPWA in future years at 10,380 AFY (60% reliability). For consistency purposes 10,380 AFY is the amount which SGPWA can rely on at the present time.

In the discussions over the Delta Conveyance Project (DCP) [formerly California Water Fix (CWF)], experts believe the current SWP reliability of about 62% will decrease over time to 48%, or possibly even lower, due to anticipated additional regulatory constraints to protect threatened and endangered fish within the Delta. The length of time over which this decline in reliability will occur is not certain, but to be conservative, it is assumed that by 2035, the SWP reliability will decrease to 48%. Implementation of DCP by 2030 to 2035 will restore reliability to the current 60% to 62% reliability.

For planning purposes in this WSA, the SWP delivery reliability is assumed to decline at rate of linearly from 2018 to 2035. So by the year 2035, with a delivery reliability of 48%, the SGPWA can expect only about 8,300 AFY from the SWP. Once the CWF is in place, the reliability will be restored.

7.2 Yuba Accord Water

Through the Yuba Dry Year Transfer Program, the official name for Yuba Accord Water, SGPWA can purchase additional supplemental water from Yuba County Water District under an agreement.¹⁷ The amount of water available from the Yuba Accord varies year to year depending on hydrologic conditions. Yuba Accord Water has only been available, for purchase by State Water

¹⁶ DWR (2012). State Water Project Delivery Reliability Report 2011. State of California Dept. of Water Resources, June.

¹⁷ DWR (2008). Agreement for the Supply and Conveyance of Water by the Department of Water Resources for the state of California to the Participating State Water Contractors under the Dry Year Water Purchase Program, March 31.

Contractors (SWCs) since about 2009. There are delivery “losses,” (termed “carriage cost” in DWR’s Bulletin 132 series), in the Delta. The amount is typically assumed by DWR to be 20% of the delivered amount, adjusted as needed based on water quality considerations, plus another 2 to 3% Delta Conveyance “loss.” Records in the Bulletin 132 series indicate that SGPWA purchased Yuba Accord Water in four years since 2009 although Yuba Accord Water was available every year from 2009 through 2015 except 2011. Purchases by SGPWA averaged 374 AFY, with deliveries averaging 280 AFY (factoring in the 25% loss).

The amount of Yuba Accord Water available depends on the calculated Sacramento Valley Water Year Index. Between 75,000 AFY (Dry Years) and 140,000 AFY may be available depending on the Water Year Index. If all 22 SWCs who elected to participate, decide to participate in a given year, SGPWA’s share of the Accord Water is 0.21%, based on the proportion of SGPWA’s Table A and the Total Table A of all 22 participants. If some SWCs do not want to participate in a given year, the allocation to each SWC is adjusted upward. SGPWA would normally get 158 AFY during a dry year and a maximum of about 294 AFY

The SGPWA estimates that about 300 AFY, on the average, of Yuba Accord Water can be obtained.¹⁸ For purposes of this WSA, a conservative 30% total loss is assumed, which will reduce the amount that can be actually delivered to the Pass Area to 200 AFY. This is reasonable considering the past experience.

7.3 San Bernardino Valley Municipal Water District (SBVMWD Water)

The SGPWA Board of Directors authorized the General Manager to sign the Surplus Water Sale agreement with SBVMWD to purchase up to 5,000 AFY of SBVMWD’s Table A water in years that SBVMWD’s Board of Directors declares a surplus¹⁹. The availability of SBVMWD surplus water depends on hydrologic and groundwater conditions within SBVMWD’s service area per SBVMWD Ordinance 79. SGPWA has the right of first refusal on the first 5,000 AFY of surplus water. Assuming SGPWA exercises the right, the agreement states that SBVMWD must first offer 50% of the available supply to one or both agencies that are in both SBVMWD and SGPWA, i.e., YVWD and South Mesa Water Company. Fifty percent of the water and any additional water “left over,” can be offered to other SGPWA retailers. The agreement is for a term of 15 years from the date of execution (terminates in 2033), but SGPWA intends to renegotiate the terms and extend to some point in the future.

SGPWA estimates, based on past hydrologic conditions, this is likely to occur about two years out of every five, or 40% of the time. This is equivalent to 2,000 AFY in any one year. The term of this agreement will be at least 15 years from now or until about 2032.²⁰ For purposes of this WSA, the amount of water available from SBVMWD is 2,000 AFY until 2032.

¹⁸ Refer to Table 3-1 of SGPWA 2015 UWMP

¹⁹ SGPWA Regular Board Meeting Minutes, October 16, 2017, page 4.

²⁰ SGPWA 2015 UWMP

7.4 AVEK-Nickel Water

In June 2017, SGPWA Board of Directors approved an agreement with the Antelope Valley-East Kern Water Agency (AVEK) for 1,700 AFY for 20 years (to 2037) with the right of first refusal to extend it for a second 20 years. The water rights on the Kern River originally belonged to the Nickel Family, LLC that were sold to Kern County Water Agency (KCWA) and subsequently leased to other parties in various amounts. One portion (1,700 AFY) is under the control of AVEK, which offered the water to SGPWA. This water is not subject to the reliability issues of the SWP. Per the agreement, SGPWA must take all of the 1,700 AF each year or pay for 1,700 AF if the SGPWA does not take all of it in any one year.

7.5 City of Ventura and Casitas Municipal Water District (Ventura Water) and Other Exchanges

The Ventura County Watershed Protection District is one of 29 State Water Contractors, but the agency lacks the infrastructure at present to be able to take its 20,000 AFY of Table A water. The County's Table A is allocated to three entities: City of Ventura (10,000 AFY), United Water Conservation District (5,000 AFY), and Casitas Municipal Water District (5,000 AFY). Up until 2018, these agencies sold their Table A water back to the "Turn-back Pool" (discussed later in this WSA). In 2018, the City of Ventura (Ventura) and Casitas Municipal Water District (Casitas MWD) entered into an agreement to exchanging Table A water with SGPWA. BCVWD understands the SGPWA is also negotiating to enact an exchange of Table A water with the City of Ventura (and Possibly Casitas MWD) for 2020, also.

The SGPWA appears to be considering extending it to a more long-term arrangement. The SGPWA Board of Directors, at the May 4, 2020 meeting, authorized the General Manager to sign the draft agreement presented at the board meeting authorized staff to complete any and all action required to document the CEQA exemption, including the filing of the Notice of Exemption, develop and execute any agreements or documentation with DWR for the one year deal.

Under the terms of the 2018 agreement, SGPWA received all of Ventura's and Casitas MWD's Table A water allocation for 2018, or 5,250 AF considering the Department of Water Resources' year 2018, final 35% allocation, (up from the original 30% in the draft agreement). SGPWA paid all of the Transportation Capital, Transportation Minimum, Conservation Capital and Conservation minimum charges. Finally, each party to the agreement would be responsible for paying the variable costs for pumping the water to their respective service areas.

The SGPWA is obligated to return 40 percent of the Table A water taken from Ventura and Casitas MWD within 10-years, no later than the end of calendar year 2028. This amount would be from SGPWA's future Table A allocation, presumably during a "wet year." Ventura and Casitas MWD must initiate the request for return of the 40%, except they may not request return in any year that DWR has a Table A allocation of 30% or less. If the Table A allocation is between 30 and 50%, the two agencies will negotiate the delivery amount for that year. If there is any "balance" remaining after the 10-year period, the two agencies and SGPWA will negotiate alternative delivery methods which could include extension of the 10-year period by five years, rolling the balance into a long-term exchange, should that develop.

The SGPWA is also considering a more long-term water transfer with a State Water Contractor for a portion of their unused SWP Table A as identified in the SGPWA's September 2018 Board discussion related to imported water demands. Based upon information published by SGPWA, it appears that supply would potentially start at approximately 6,000 AF on an average year in 2020 and might decline to 3,500 AF in 2040 as that partner Agency utilizes more of their Table A supplies.

There is a one-year "deal" in process at present, and it is believed that the SGPWA is still pursuing a longer term arrangement, but for purposes of this WSA, a conservative approach will be taken and no long term arrangement will be in place.

7.6 Delta Conveyance [formerly California Water Fix (CWF)]

The SWP was authorized in the Burns-Porter Act, also known as the California Water Resources Development Bond Act, passed by vote of the people in November, 1960 (Proposition 1). Construction on most of the basic facilities of the SWP was completed by 1975. Due to cost considerations, and the fact that initial project water demands lower than design capacity, a number of the originally planned facilities were "scaled down" or deferred. Many have not been constructed to date for various reasons. One of those projects was the Cross-delta Facility known as the Peripheral Canal. As a result of the scaling down and facility deferments/cancellations, the SWP is not able to live up to its original delivery capacity. A number of other facilities were scaled down, deferred, or not constructed.

The Sacramento-San Joaquin Delta levees are vulnerable to seismic shaking; the Delta ecosystem continues to decline; flooding and saline water intrusion into the Delta impacts the water quality delivered to municipal and agricultural users during dry years; climate change, whether short-term (50 or 100 years) or long term (500 or more years), will cause increased water levels in the Delta further stressing vulnerable levees. The SWP dams and reservoirs were designed about 50 years ago with the hydrology of the times. Climate change will impact the operation of the SWP. Precipitation, which used to fall as snow and be stored in snowpack and slowly released into streams and reservoirs, will be in the form of rain which the reservoirs were not designed to accommodate. More water will be lost to the ocean in future years because of increased runoff and less storage.

The Delta Conveyance Project (DCP), intended to address some of these issues, proposed a dual, gravity tunnel conveyance system from north of the Delta extending south to the Clifton Court Forebay. This project has been scaled back by the current governor to a single tunnel. At the southerly end of the tunnel, a new Clifton Court Pumping Facility would lift water from the tunnels into Clifton Court Forebay. The water would be pumped from Clifton Court Forebay by the State and Federal Central Valley Project pumps as they now do. Water, ranging from 3,500 to 7,500 cfs, would be diverted from the Sacramento River into the tunnel and around (below) the Delta improving water supply reliability and export water quality TDS. The cost for the DCP was anticipated to be shared 55% by the State Water Contractors and 45% by federal Central Valley Project Contractors. This allocation share may change depending on the number of State and Central Valley Project Contractor participants.

Governor Newsom has stated his support for a “one-tunnel” (DCP) in his “State of the State” address, February 12, 2019, originally planned as Phase I of CWF.

The Delta Conveyance Project (DCP) is moving forward; on January 15, 2020 DWR issued a Notice of Preparation (NOP) for the environmental work on the reduced-size project which started the scoping comment phase. The scoping comment period ended on April 17, 2020; DWR will be considering the comments when the Environmental Impact Report (EIR) is prepared. The draft EIR is expected to be out for review and comment in early 2021.

A Delta Conveyance Project Authority has been established for the design and construction of the DCP; a Delta Conveyance Financing Authority has been established to develop the financing. The DCP is anticipated to be funded by revenue bonds issued by the State or a Joint Powers Financing Agency with payment by State Water Contractors south of the Delta through their existing contracts with the DWR – extended as needed into the future. In addition to other federal, State, and local permits, DCP requires changes to the water rights permits for the SWP and Federal Central Valley Project to authorize the proposed new points of diversion and their recombination. The DCP would most likely be funded by SGPWA through their State Water Project (SWP) Debt Service taxes. White Papers No. 3 and 6 provide more details on the funding etc. The DCP is not expected to be operational until about 2035. From now till 2035, the reliability of the SWP would gradually degrade over time to 48% without the Delta Conveyance Project due to a variety of reasons as described previously in this WSA.

The original CWF with its two tunnel approach was projected to increase the future reliability of the SWP by 14% (DWR study) to 17.62% (Metropolitan study) resulting in an increase of the overall reliability to 62% or, in the best case, 65.62%. This is about or slightly above the current reliability. It is not known to what amount of reliability increase will result from the new DCP but to be conservative, it is assumed the reliability will be restored to the current 60 to 62%.

Without CWF, SGPWA’s reliable Table A would be 8,300 AFY (rounded, based on 48% of 17,300 AFY). The reliable Table A supply for SGPWA would increase to 10,380 AFY to 10,726 AFY at 60% and 62% reliability, respectively.

7.7 Sites Reservoir

Sites Reservoir is a proposed reservoir that would be located at the site of a cattle ranch in the eastern foothills of the Central Valley about 78 miles northwest of Sacramento and north of the Sacramento-San Joaquin Delta near the town of Maxwell, CA. Sites Reservoir is not on any major stream; all water must be pumped into the reservoir. Sites Reservoir was part of the original California Water Project, but was deferred. The reservoir in the original project proposal would have a surface area of about 14,000 acres and store between 1.27 and 1.81 million acre-feet. The estimated water yield would be between 470,000 to 640,000 acre-feet per year, depending on yearly rainfall and environmental regulations, according to DWR. The original project cost was over \$5 billion.

The Sites Project Authority, a Joint Powers Agency, was formed in 2010 to be a proponent and facilitator, to design and potentially acquire, construct, manage, govern, and operate Sites

Reservoir and related facilities. Flood flows in the Sacramento River, over and above that needed to meet the demands of existing water rights holders, would be captured and pumped into Sites Reservoir. The Authority undertook a “Value Planning Study in October 2019 to identify alternatives which would make the project more affordable to the project participants. The Value Planning Report was completed in April 2020 and the original project was scaled down.

A very preliminary analysis indicated that reservoir sizes of 1.3 to 1.5 million acre-ft (MAF) with assumed diversion criteria would be able to provide enough water to meet current participant demands. The Tehama-Colusa Canal and the Colusa Basin Drain would be used as the conveyance systems. A recommended project with 1.5 MAF of storage, with 1,000 cfs of release into the Sacramento River or to the Colusa Basin Drain at Dunnigan. The cost in 2019 dollars is estimated to be \$3.0 billion and 243,000 AFY long term yield.

The Project Authority stated that 21 agencies put up \$27 million for planning and studies with another \$19 million due this October to continue the process. Sites Reservoir was approved by the California Water Commission (CWC) for \$816 million of Proposition 1 funding on July 24, 2018; the CWC also agreed to provide \$40.8 million in early funding to assist in completing the needed environmental analyses and to obtain permits.

SGPWA has made a financial commitment of 10,000 AF and BVCWD committed to 4,000 AF (total 14,000 AF) to the Sites Project Authority to fund Phase 1 of the Sites Reservoir Study. Reliability is between 65% (worst case) to 100%²¹. The result is, 9,100 AFY at 65% reliability as a worst case.

Sites Reservoir will not produce water until about 2030 or so; however, there will be costs incurred by project participants moving forward. For purposes of this analysis it is assumed that water would not be available until 2035. The Sites Project Authority’s current plan will finance Phase 2 costs on a year-by-year basis.

The Sites Authority is working closely with the federal Bureau of Reclamation to secure Bureau participation and funding which will reduce the cost to the current participants. It is believed the Sites Project Authority would be responsible for 60% of the project cost with the rest from the State and federal agencies. This may change since the Sites Authority anticipated slightly more Proposition 1 funding than the \$816 million.

It is important to understand that although Sites Reservoir will not be delivering water for another 15 years, at this time the project is moving forward and is named in the Governors Water Resiliency Plan. The project has been awarded a substantial CWC Proposition 1 grant. The Sites Project Authority is continuing to refine its financing plan to fund the follow-on phases. The reservoir is an “off-stream” reservoir and so has a reduced environmental footprint. Although there is some risk in the implementation, with each step forward, the risk becomes less and the project is more certain.

²¹ See White Paper No.1, Table 3

7.8 Sale of State Water Project Contractors Restoration of DCP Reliability Benefits

All south of the Delta, SWP Contractors pay their proportionate share of the DCP costs. With the implementation of the DCP, there will be restoration of SWP reliability. Although all of the “South of the Delta” SWP Contractors will be paying their proportionate share of the DCP, for various reasons, a few SWP Contractors may not need the benefits of the increased yield and may be interested in transferring (selling) their incremental yield to other interested SWP Contractors, such as SGPWA. At this point in time, not enough is known about the sale of incremental reliability yield and this will not be considered further until it is better defined.

7.9 Purchase or Leasing of Metropolitan’s Original CWF Phase 2 Water

With original CWF 2-tunnel, 2-phase concept, the Metropolitan Water District of Southern California (Metropolitan) Board of Directors voted to fund their share of the original CWF plus agreeing to fund the second phase of the CWF (second tunnel), i.e., the Central Valley Project share. This would have made water available for Metropolitan to sell/lease to other interested parties, e.g., SGPWA. With the DCP scaled down to one tunnel, this does not appear to be an option any longer.

7.10 Other Sources of Imported Water

There are other sources of water available through the SWP which include:

7.10.1 Article 21 Water

Article 21 Water is water that is offered for purchase by DWR resulting from reservoir releases needed to accommodate impending storm or snowmelt runoff when water is still available after operational requirements for SWP water deliveries, water quality and Sacramento-San Joaquin Delta requirements are met. This water is available only on short notice and must be taken immediately. The cost for Article 21 Water is the variable transportation cost. BCVWD has capacity in its groundwater recharge facility to accommodate Article 21 Water. SGPWA constructed their own Fiesta Recharge Facility which can be used for Article 21 Water. Article 21 Water is in addition to the State Water Contractor’s Table A amount.

An analysis of Article 21 Water availability indicated the amount available is highly variable and there is competition for the water. If the requests for purchase are greater than the available amount, it is typically allocated proportional to the requestors’ Table A. A review of recent purchases from 2002 to 2015, with up to 17 “buyers,” indicated that if SGPWA were a purchaser, their share would be about 0.5% of the total available. (The large agencies tend to dominate the purchases.) Table 14 presents an analysis of Article 21 Water availability to SGPWA based on DWR records from 1967 – 2015. Two periods of time were analyzed: total record and recent record.

The results in Table 14 indicate that 800 AFY, on the average of Article 21 could be obtained by SGPWA.

Table 14
Estimated Amount of Article 21 Water Available to SGPWA
Based on 0.5% of Total Available AF

	1969-2015	2001- 2015
Average, AFY	939	824
Median, AFY	362	216
Maximum, AFY	4,542	3,655
75 th Percentile, AFY	1,544	1,550

Article 21 water was available during the heavy snowfall year, 2018-19 although the SGPWA was not able to take advantage of this since the BCVWD connection was out of service due to construction of the expanded turnout and the SGPWA's Fiesta Recharge Facility was not operational.

7.10.2 Turn-back Pool Water

Turn-back Pool Water is water that other State Water Contractors have ordered from DWR as part of their Table A, but decided they did not need the water that particular year and sold it back to DWR. DWR in-turn offers it for purchase at a set price, (quite inexpensive), to other State Water Contractors. Turn-back Pool Water has only been available since 1996 or so – after the Monterey Amendments to the State Water Contracts. Analysis of the data from 1997 through 2015, shows SWCs sold an average of 59,000 AFY of water back to the “pool” for purchase by other interested SWCs. (The median value was 29,770 AFY). Purchase of Turn-back pool water is also competitive, depending on hydrologic conditions. Assuming SGPWA's share is 0.5% based on the analysis of Article 21 Water, 295 AFY on the average could be purchased, (149 AFY median). It would be reasonable that SGPWA could rely on about 200 AFY of Turn-back pool water.

7.10.3 Short-term or Long-term Water Transfers or Exchanges

Short-term or Long-term Water Transfers or Exchanges is water that can be obtained through exchanges and transfers from other State Water Contractors who do not need all of their Table A water in a given year or years. There are opportunities almost every year. The City of Ventura/Casitas MWD exchange described previously is an example of such an exchange.

7.10.4 Recommendations for SGPWA

There is considerable competition for the Turn-back Pool and Article 21 Water and its availability is uncertain from year to year. SGPWA should take advantage of this water whenever it is available, and should be looking at short term transfers whenever water is available. It must be pointed out that transfers of SWC Table A is subject to the delivery SWP reliability.

7.11 Summary of Available Imported Water Supplies

Table 15 summarizes the range of available imported water supplies available to SGPWA based on the current and potential sources presented above. Agreements are in place for Ventura-Casitas (for 2018, 2019 and possibly 2020), AVEK-Nickel Water, and SBVMWD Surplus Water.

Per Staff reports presented to the Board of Directors of the SGPWA, SGPWA appears to be in discussions with Ventura-Casitas and other agencies for future exchanges. SGPWA is one of the 22 SWCs that has signed on to the Yuba Accord. Their share of the Yuba Accord Water is 0.21% of the available water. In addition, through their State Water Contract, SGPWA can purchase Article 21 Water and Turn-back Pool Water.

The Agency Board has agreed to support and participate in the original CWF; it is assumed the Agency will support the DCP. BCVWD and SGPWA have made financial commitments to Sites Reservoir, and currently planning to contribute to future phases of the Sites Project.

Table 16 presents a summary of current and projected SGPWA imported water supplies through 2040 in 5-year increments based on the yields in Table 15.

Table 15
SGPWA Current and Projected Available Imported Water Supply through 2040

Source	Low Yield Case, Annual Amount, AFY	High Yield Case, Annual Amount, AFY	Comment
Existing Table A	8,300	10,380	17,300 AFY but only 60% reliable (10,380 AFY) per Bulletin 132; to degrade to approximately 48% (8,300 AFY) without Delta Conveyance Project by 2035
Yuba Accord	200	200	When available, represents average per year
San Bernardino Valley MWD Surplus Table A Water (SBVMWD Water)	2,000	2,000	Up to 5,000 AFY available estimated 2 out of every 5 years (40%) of time = 2,000 AFY; agreement terminates in 2032, but can be extended.
Antelope Valley East Kern Water Agency (AVEK) Nickel Water, (AVEK Nickel Water)	1,700	1,700	20 year agreement terminates in 2037 with option for a 20 year extension
Additional Table A SGPWA Partner Agency	500	3,000	Looking at extended exchange agreement with Additional Table A SGPWA Partner Agency to utilize unused Table A. Estimated to be net 3,000 AFY initially to 500 AFY by 2040.
Article 21 Water Purchase	800	800	Variable, represents average per year
Turn-back Pool Purchases	200	200	Variable, represents average per year
Delta Conveyance Project (DCP)	0	0	Will increase reliability of State Water Project (SWP) back to 60 to 62%
Sites Reservoir	9,100	14,000	Worst case with 65% assumed reliability. (BCVWD has committed to 4,000 AFY of the 14,000 AFY)
Total Imported Water Potentially Available	22,800	32,280	

Table 16
Regional Summary of SGPWA Imported Water Supply, AFY

Source	Year					
	2018	2020	2025	2030	2035	2040
Imported Water Demand Table 13	10,272	11,360	15,874	19,214	21,057	23,950
Imported Water Demand, Table 13, without banking or drought proofing	9,223	9,109	11,019	13,254	15,097	17,914
Table A	10,380	10,135	9,524	8,912	8,300	8,300
Yuba Accord	200	200	200	200	200	200
AVEK Nickel	1,700	1,700	1,700	1,700	1,700	
SBVMWD	2,000	2,000	2,000	2,000		
Ventura-Casitas	5,250		(2,100)			
Subtotal	19,530	14,035	11,324	12,812	10,200	8,500
Extension of SBVMWD Agreement (Potential Extension)					2,000	2,000
Extension of AVEK Nickel Agreement						1,700
Article 21 Water Purchases		800	800	800	800	800
Turn-back Pool Water Purchases		200	200	200	200	200
Additional Table A SGPWA Partner Agency Side Deal (Potential Water Supply)		3,000	2,500	2,000	1,500	500
Subtotal	19,530	18,035	14,824	15,812	14,700	13,700
Delta Conveyance Project Reliability Recovery to 60% (worst case)					2,080	2,080
Sites Reservoir (worst case)					9,100	9,100
Total Potential Imported Water Supply	19,530	18,035	14,824	15,812	25,880	24,880

In Table 16, it was assumed the agreement with SBVMWD and AVEK Nickel would be extended due to the uncertainties in the yield of the Sites Reservoir and the Delta Conveyance Project. It was further assumed that there would continue to be Table A transfers and exchanges among SWCs; however, the potential amount is assumed to decrease over time as more of the SWCs require more of their Table A for their own use. Table 16 includes an amount for Article 21 and Turnback Pool purchases by SGPWA. It is also possible that a longer term arrangement can be worked out with Ventura-Casitas which would make more imported water available in the critical 2025 to 2035 period.

Figure 5 shows the SGPWA imported water demands, with and without banking, along with the amount of imported water potentially available taken from Table 16.

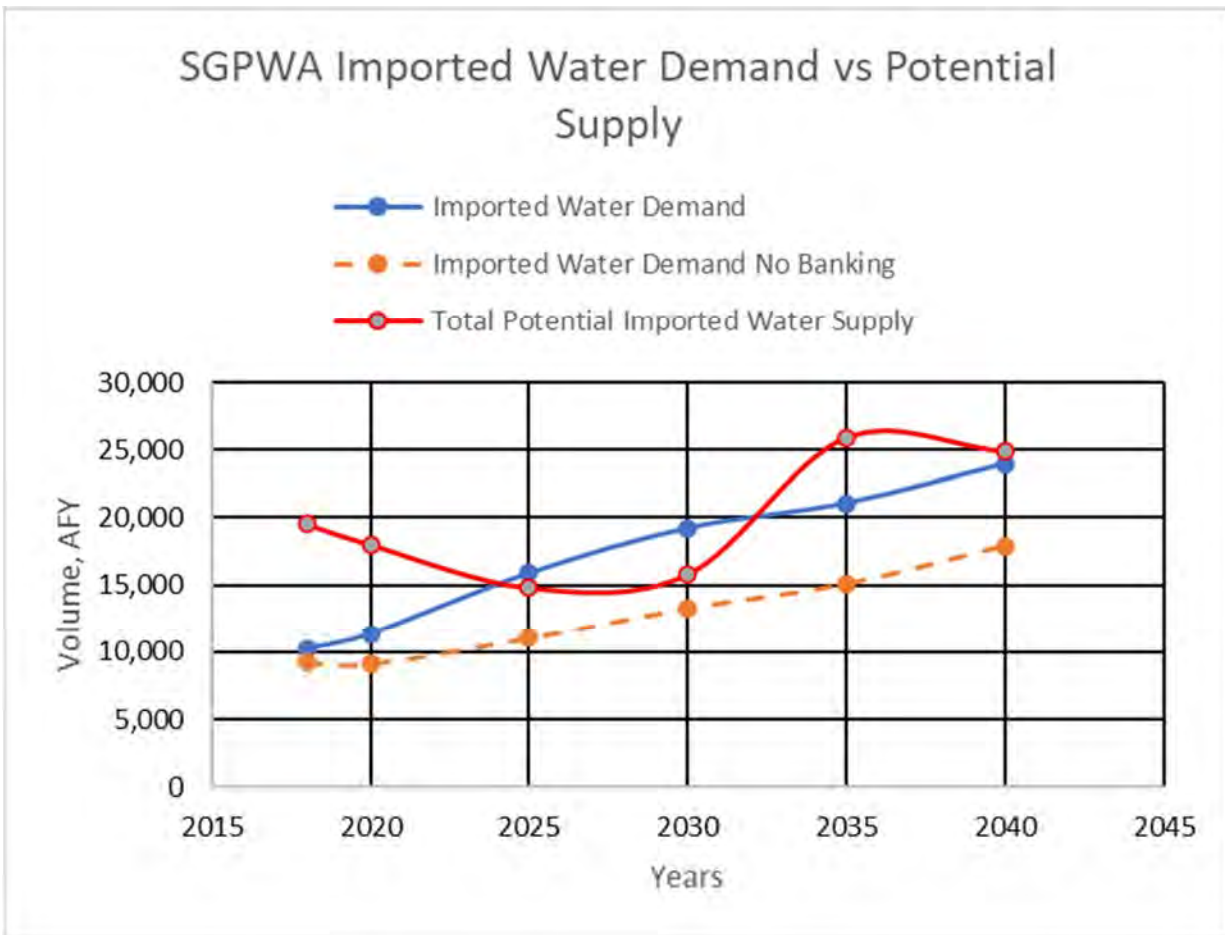


Figure 5

SGPWA Imported Water Demand vs Potential Imported Water Supply

Looking at Table 16, until 2025, SGPWA has sufficient imported water to meet the demands of the City of Banning, BCVWD, YVWD/Calimesa as well as the demands from those SGPWA members currently not taking imported water (called “other agencies”). BCVWD believes these other agency demands are very conservative and believes it is unlikely these areas will be developing to require those demands within the timeframe shown. It would be reasonable to believe that the Yucaipa/Calimesa to Banning area will develop more fully before development moves into these outlying areas. Beyond 2025 to about 2032 or so, when Sites Reservoir and the Delta Conveyance Project come on-line, there is sufficient imported water supply available except that not all of the banking demands will be met. BCVWD believes the increase in imported water demand shown in Figure 5 is aggressive and likely will not occur at the pace shown.

One of the uncertainties in Table 16 and Figure 5 is the yield from Sites Reservoir. BCVWD and the SGPWA have participated to 14,000 AFY; but only 65% of that was used in Table 16 and Figure 5 to account for reliability and uncertainty. If the full 14,000 AFY can be realized, the total imported water supply. Another 3,900 AFY can be realized. At the growth rate in imported water demand shown in Figure 5, this would provide imported water supply to beyond 2045 with banking and drought proofing.

Beyond 2025, the SGPWA will have to aggressively secure additional Table A from partner SWP agencies or other agencies on a short term basis until Sites Reservoir and the DCP are on line. With Sites Reservoir and DCP on line, the SGPWA will have more than ample imported water supply to 2040. As the Sites Reservoir and DCP become more firm in terms of the estimated yield, it may be necessary for SGPWA to plan on securing more water supply. This could consist of:

- Temporary or permanent transfers of other SWCs' Table A.
- Participating in other local/regional water supply projects with transfers and exchanges to ensure water supply well beyond 2040

Nevertheless, Table 13, presented previously, shows that about 6,000 AFY will be banked regionally by the water suppliers, including BCVWD, between now and 2025, i.e. about 45,000 AF of additional water is projected to be in storage than the current 106,000 AF. (See Table 13 presented previously). This would result in over 151,000 AF banked in regional storage. This storage could possibly be used to meet short term demands.

7.12 Contingency Plan

Once DCP and Sites Reservoir are operational there will be adequate water supply to meet the SGPWA imported water demands beyond 2040; just how long will depend on the rate of growth. It is recognized that there is some risk that DCP and Sites will be delayed or perhaps further reduced in size and capacity, but as these projects go through the design and permitting process over the next 5 years or so, there will be time to assess the risk. SGPWA can take action to supplement their existing supply with short-term exchanges and transfers from other agencies. If it is evident that DCP and/or Sites Reservoir will not move forward, the short-term exchanges and transfers can be converted to long-term transfers. Table 16 and Figure 5 assume the AVEK-Nickel Water Agreement will be extended for another 20 years to 2057 as allowed in the existing agreement. Another option is participating with other local agencies in other water resource projects such as groundwater, brackish water, or even sea water desalination projects with water exchanges.

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. It is clear from the discussion at the end of Section 7, and Figure 5, presented above, that SGPWA will have enough imported water or has made commitments for, or taken steps to acquire additional imported water supply to meet its needs to year 2040 and beyond. However, there is risk that Sites Reservoir and the DCP may be delayed or may not be implemented. The projects are moving forward through the design and permitting process, but there is always a chance that the projects could be stalled.

Since BCVWD's demands and imported water requirements are included in SGPWA's imported water demands, it can be concluded that BCVWD has firm supply including imported water to meet demands to 2025 under average demand and supply conditions based on the growth rates and water consumption rates presented previously in this WSA, so long as Recycled Water is implemented and planned SGPWA water supply projects are finalized. Beyond 2025 BCVWD will rely on the SGPWA to secure short term water transfers, purchase of Turn-back Pool Water, and Article 21 Water to the time when DCP and Sites Reservoir are on line.

It should be noted that 28.6%, (4000 AF/14,000 AF), of the Sites Reservoir Project Yield, indicated in Table 15 for SGPWA, is committed to BCVWD by virtue of BCVWD's financial commitment to the Sites Reservoir Project Phase 1 and Phase 2 - 2019.

Figure 6 shows BCVWD's total potable and non-potable water supply and demand. Figure 6 shows BCVWD is able to meet its demands, providing recycled water and imported water supplies are available. Of note is the significant contribution from recycled water, shown in magenta in Figure 6. Without recycled water, BCVWD would not be able to meet future demands. The imported water demands in Figure 6 include the banking demands for drought proofing.

Figure 6 shows BCVWD's demand is less than the available supply. Figure 6 is based on the data from Table 12, presented previously, and assumes that all of BCVWD's needed imported water is available. Availability depends on the development and imported water needs of those agencies in SGPWA service area that are now not taking imported water.

Figure 7 shows the accumulated volume in BCVWD's Beaumont Basin groundwater storage account, and by 2040, the storage account is almost full (76,796 AF in storage). Table 12, presented previously, indicated that BCVWD's imported water demand was 10,470 AFY in 2040; this means that BCVWD is projected to have 7.3 years of imported water demand in storage which can be used to supply water during drought periods even if no SPW is available.

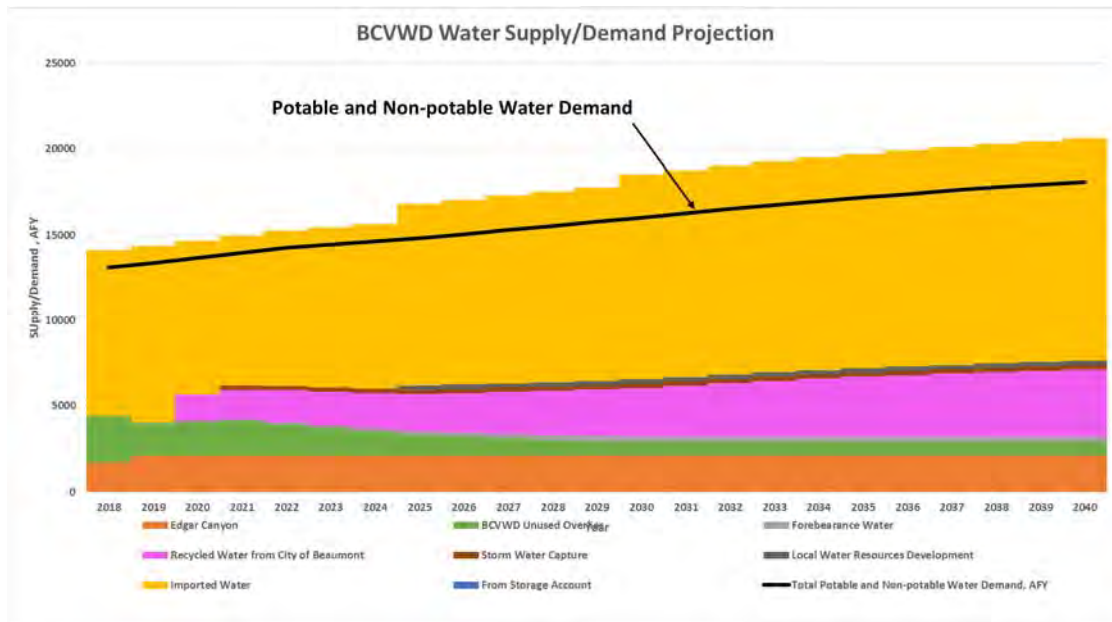


Figure 6
BCVWD's Water Supply and Demand Projection to 2040

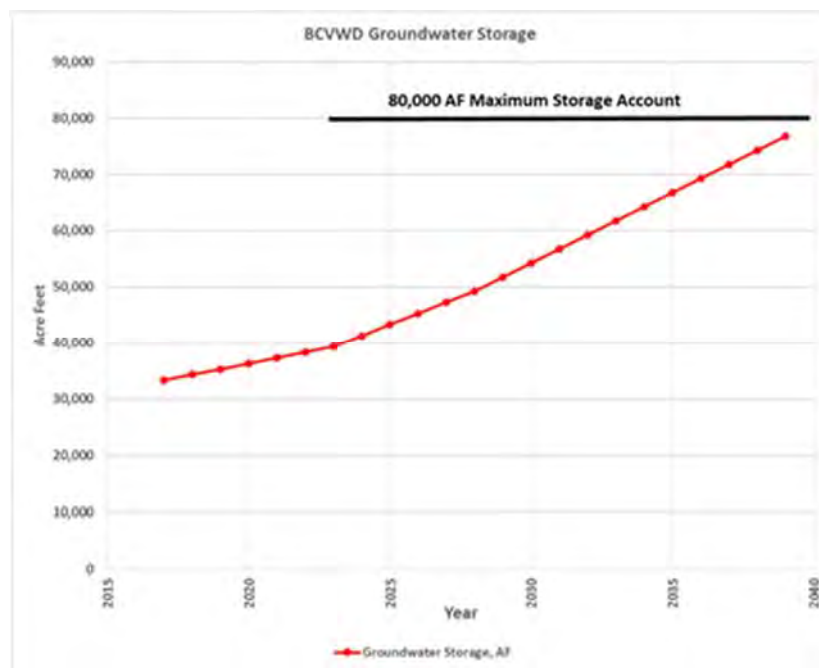


Figure 7
BCVWD's Groundwater Storage Balance to 2040

9. WATER SUPPLY SINGLE AND MULTIPLE DRY PERIOD ANALYSIS

The previous sections in this WSA analyzed a typical, normal or average, water supply year. The previous sections demonstrated there is adequate water supply both regionally and for BCVWD to meet the needs provided that the projects and agreements identified are implemented. But, in addition to a “normal” year, the WSA requires a supply sufficiency analysis for critical dry year and multiple dry year conditions. The water supply conditions for these periods are presented in BCVWD’s 2015 UWMP, Section 7, Water Supply Reliability Assessment. Key tables and information are extracted from the 2015 UWMP to support the analysis presented herein and updated. The scenarios evaluated in this section include:

- Single Critical Dry Year -- the lowest water supply available to BCVWD, a worst case condition
- 2 Consecutive Dry Years -- the lowest average available water supply over a continuous 2-year period
- 3 Consecutive Dry Years-- the lowest average available water supply over a continuous 3-year period
- 6 Consecutive Dry Years-- the lowest average available water supply over a continuous 6-year period

BCVWD will be relying on banked water to provide the major portion of the supply during these periods.

BCVWD enjoys the benefits of a groundwater basin, (Beaumont Basin), with very large storage capacity. BCVWD and its neighboring agencies in the San Geronio Pass Area take advantage of this by banking imported water during wet years for use during extended droughts. Complementing the large storage capacity is the fact that percolation and recharge occur at relatively high rates. It is very easy to “bank” water in the Beaumont Basin. It is retained in the Basin due to well-managed groundwater levels, and the ample storage capacity. Figure 8 shows the amount of water BCVWD has accumulated in its storage account since 2003. Imported water began to be spread in 2006. As of the end of 2018, there were 34,794 AF in storage. BCVWD’s current maximum storage capacity is 80,000 AF. Figure 8 shows the drop in storage in response to the drought in 2015 when there was very little imported water available for recharge and banking.

9.1 Water Source Availability

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

9.1.1 Groundwater

9.1.1.1 Beaumont Basin

The Beaumont Basin is managed by the Beaumont Basin Watermaster under the principles of the Adjudication.

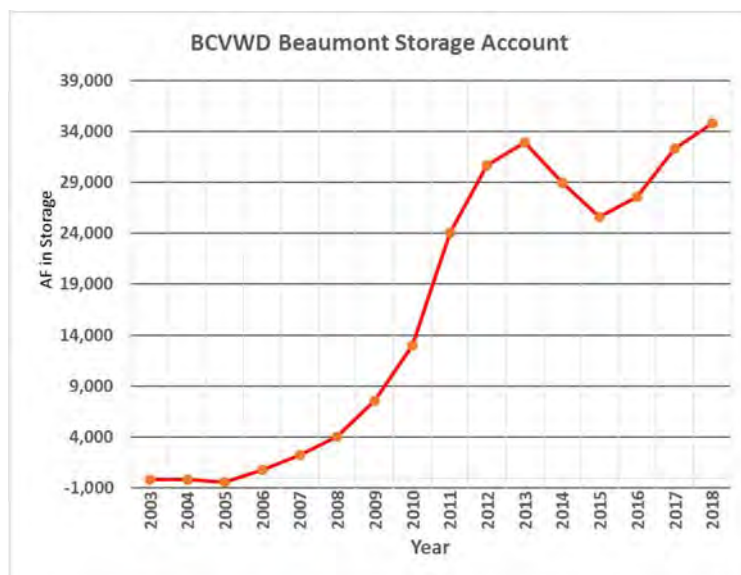


Figure 8
BCVWD Historic Beaumont Basin Groundwater Storage Account

In any 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, and imported water when available. Recharge, using advanced treated recycled water from the City, is proposed to occur in the future. The amount of imported water that can be recharged in any year depends on DWR's SWP allocation. This varies from year to year depending on the weather.

The amount of unused Overlying Party rights is determined by the Watermaster and is based on a 5-year moving average and could decrease slightly during drought periods as the Overlying Parties use more groundwater to compensate for the lack of rainfall. The forbearance water will also decrease during dry periods as users reduce water consumption.

Table 17 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 17, 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.

9.1.1.2 Edgar Canyon

Groundwater from Edgar Canyon is affected to some degree by climate. The average annual extraction from Edgar Canyon is 2,094 AFY, (rounded to 2,100 AFY), based on records from 1983-2019. 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, and 6-year moving averages for the extractions from 1983 -2019 were determined and are presented in Table 18 along with the Base Period for moving averages.

Table 17
Summary of BCVWD's Forbearance and Reallocated Overlie Pumping Rights

Item	2018	2020	2025	2030	2035	2040
Total Allocated Overlying Party Rights, and Forbearance Water from Table 12, AFY	2,706	2,012	1,400	800	800	800
Expected to be Available for Single and Multiple Dry Year Analysis, AFY	2,300	1,710	1,190	680	680	680

Table 18
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
6 Consecutive Dry Years (1987 – 92)	1,367

9.1.2 Imported Water

The amount of imported water available from the SGPWA via the State Water Project is climate dependent. A spreadsheet was developed using the 2015 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-, 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 19.

The percentages in Table 19 were compared to actual SWP delivery allocations for the period 1992 to 2020, a 28-year period:

Minimum year	5% (2014)
Minimum 2 consecutive years	12.5% (2014-15)
Minimum 3 consecutive years	20% (2013 – 15)
Minimum 6 consecutive years	40% (2013 – 18)

As can be seen, the actual minimum year and minimum 2- and 3-consecutive year allocation percentages are less than those reported in the 2015 DWR SWP Delivery Capability Report. So,

for the reliability analysis in this WSA, the allocation percentages shown in Table 20 below will be used, except for the 6-year dry period where 28% will be used, to be conservative.

Table 19
SGPWA SWP Delivery Capability as Percent of Table A
(Based on 2015 DWR SWP Delivery Capability Report)

Dry Year(s)	Single	2-year	3-year	6-year
Table A Annual Delivery Average Over the Drought Period, %	8	19	22	28

Table 20
SGPWA SWP Delivery Capability as Percent of Table A
(Used for WSA Reliability Analysis)

Dry Year(s)	Single	2-year	3-year	6-year
Table A Annual Delivery Average Over the Drought Period, %	5	12.5	20	40

Previously, in this WSA, a number of imported water sources available to SGPWA were presented. Not all of these will be available during extended dry periods, however.

Yuba Accord Water is a dry year program and SGPWA can expect 200 AFY even during dry years. AVEK-Nickel Water is “south of the Delta” water and is not affected by DWR’s SWP reliability issues and is available every year until termination of the existing agreement in 2037. The DCP reliability recovery water would be available during extended dry periods but is subject to the average Table A delivery percentages as SPW in Table 20, above.

During dry periods, San Bernardino Valley MWD Surplus Water, Article 21 water, and Turnback Pool Water would likely not be available and should not be counted on for supply. Similarly, the availability of water during short and long term exchanges is unlikely, which would also include any additional Table A Water should SGPWA be able to secure a long-term exchange contract with a Partner Agency.

The Sites Reservoir Project was designed to be a dry period flow augmentation project. Excess storm flows in the Sacramento River are diverted and pumped into Sites Reservoir, stored, and released back into the Sacramento River during dry periods. Data from the Sites Project Authority submitted with their application to the California Water Commission for Proposition 1 Funding was used to determine the amount of water which could be depended on during dry periods. Figure 9 below, extracted from the Sites Reservoir Project Authority’s Proposition 1 Application Executive

Summary shows the dry year benefits based on 82 years of hydrologic simulation using the CalSim II Model.²²

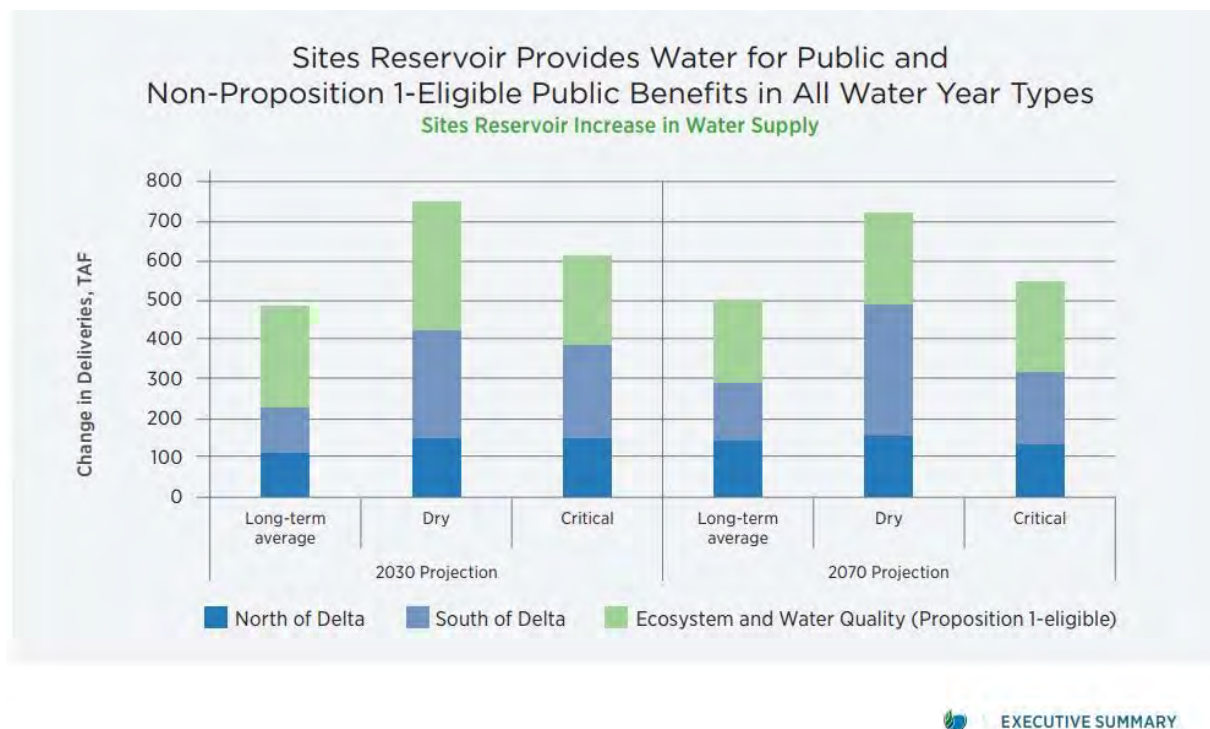


Figure 9
Sites Reservoir Available Water 2030 and 2070

Attachment D9, prepared by the Sites Project Authority, in response to questions from the California Water Commission, February 23, 2018, provided a breakdown of the estimated amounts of Sites Project Water which would be delivered to the project participants. Table 21 presents a summary of the preliminary estimates of Sites Reservoir Water available to SGPWA. It is important to note this is a preliminary estimate developed prior to the “Value Planning Analysis described previously. No new information is available at this time and this WSA will rely on the data in Sites Attachment D9

The modeling that was performed for the application was prescribed by the California Water Commission and includes the effects of climate change. For the analysis in this WSA, the year 2030 values will be used for 2030 through 2040. The “critical” volume will be used for all of the dry period analyses to be conservative.

²² Sites Project Authority (2017). Sites Project Executive Summary for California’s Water Storage Investment Program, August 14.

Table 21
SGPWA Preliminary Amount of Sites Reservoir Water Available, AFY

Development Condition	82-year Simulation (Average)	Water Year Type				
		Wet	Above Normal	Below Normal	Dry	Critical
Current	8,400	2,700	2,900	5,600	19,000	13,800
2030	9,500	3,000	7,700	7,400	18,000	16,400
2070	11,400	5,400	7,300	11,500	17,900	17,200

Source: Attachment D9 of Sites Project Authority response to California Water Commission comments on Proposition 1 Application February 23, 2018.

Tables 22 through 25 present a summary of the imported water supply to the SGPWA for the single dry year, and 2-, 3- and 6- consecutive year dry periods.

Table 22
Regional Summary of SGPWA Imported Water Supply Single Dry Year, AFY

Source	Year				
	2020	2025	2030	2035	2040
Table A	17,300	17,300	17,300	17,300	17,300
Allocation (5%)	865	865	865	865	865
Yuba Accord (Dry Year Program)	200	200	200	200	200
AVEK Nickel (Not Affected and extended)	1,700	1,700	1,700	1,700	1,700
Subtotal	2,765	2,765	2,765	2,765	2,765
DCP (worst case)					
DCP Allocation (5% of reliability recovery, 2,080 AFY)				104	104
Sites Reservoir Critical Dry Period (From Table 21)				16,400	16,400
Total Imported Water Supply	2,765	2,765	2,765	19,269	19,269

Table 23
Regional Summary of SGPWA Imported Water Supply
Two Consecutive Dry Years, AFY

Source	Year				
	2020	2025	2030	2035	2040
Table A	17,300	17,300	17,300	17,300	17,300
Allocation (12.5%)	2,163	2,163	2,163	2,163	2,163
Yuba Accord (Dry Year Program)	200	200	200	200	200
AVEK Nickel (Not Affected and extended)	1,700	1,700	1,700	1,700	1,700
Subtotal	4,063	4,063	4,063	4,063	4,063
DCP Allocation (12.5% of reliability recovery, 2,080 AFY)				260	260
Sites Reservoir Critical Dry Period (From Table 21)				16,400	16,400
Total Imported Water Supply	4,063	4,063	4,063	20,723	20,723

Table 24
Regional Summary of SGPWA Imported Water Supply
Three Consecutive Dry Years, AFY

Source	Year				
	2020	2025	2030	2035	2040
Table A	17,300	17,300	17,300	17,300	17,300
Allocation (20%)	3,460	3,460	3,460	3,460	3,460
Yuba Accord (Dry Year Program)	200	200	200	200	200
AVEK Nickel (Not Affected and extended)	1,700	1,700	1,700	1,700	1,700
Subtotal	5,360	5,360	5,360	5,360	5,360
DCP Allocation (20% of reliability recovery, 2,080 AFY)				416	416
Sites Reservoir Critical Dry Period (From Table 21)				16,400	16,400
Total Imported Water Supply	5,360	5,360	5,360	22,176	22,176

Table 25
Regional Summary of SGPWA Imported Water Supply
Six Consecutive Dry Years, AFY

Source	Year				
	2020	2025	2030	2035	2040
Table A	17,300	17,300	17,300	17,300	17,300
Allocation (28%)	4,844	4,844	4,844	4,844	4,844
Yuba Accord (Dry Year Program)	200	200	200	200	200
AVEK Nickel (Not Affected and extended)	1,700	1,700	1,700	1,700	1,700
Subtotal	6,744	6,744	6,744	6,744	6,744
DCP Allocation (28% of reliability recovery, 2,080 AFY)				582	582
Sites Reservoir Critical Dry Period (From Table 21)				16,400	16,400
Total Imported Water Supply	6,744	6,744	6,744	23,726	23,726

Table 26 presents a summary of total SGPWA regional imported water demand and the imported water supply available during the single and multiple dry years. The demand does not include the “banking” demand, since “banking” would not be occurring during years when imported water supply is reduced. Table 26 shows the conditions when the imported water demand exceeds the supply which will require SGPWA’s member agencies, like BCVWD to withdraw water from their storage account. The supply of imported water is less than the demand until Sites Reservoir comes on line about year 2035.

Table 26
Summary of SGPWA Regional Imported Water Supply and Demand
Single and Multiple Dry Years

Source	Year				
	2020	2025	2030	2035	2040
Demand without Banking or drought proofing (Table 13, 16), AFY	9,109	11,019	13,254	15,097	17,924
Total Supply					
Single Dry Year (Table 22), AFY	2,765	2,765	2,765	19,269	19,269
2 Consecutive Dry Years (Table 23), AFY	4,063	4,063	4,063	20,723	20,723
3 Consecutive Dry Years (Table 24), AFY	5,360	5,360	5,360	22,176	22,176
6 Consecutive Dry Years (Table 25), AFY	6,744	6,744	6,744	23,726	23,726

When the demand for imported water exceeds the supply, it is reasonable to assume the imported water will be allocated in proportion to the member agency's fraction of the total imported water demand without banking. Table 27 shows the allocation percentages.

Table 27
Member Agency's Percent of Available Imported Water
When Demand Exceeds Supply

Agency	Year				
	2020	2025	2030	2035	2040
City of Banning	0	0	0	0	5.6%
YVWD/Calimesa	6.7%	7.0%	7.3%	7.9%	8.1%
BCVWD	87.8%	78.5%	71.6%	66.3%	58.4%
Other Member Agencies	5.5%	14.5%	21.1%	25.8%	27.9%
Total	100%	100%	100%	100%	100%

Water demand quantities for each agency are from Table 7 (Banning), Table 9 (YVWD), Table 12 (BCVWD), and SGPWA UWMP Table 2-4 (Other Member Agencies)

Table 28 shows the estimated amount of imported water BCVWD can expect during single and multiple dry year periods based on the amount of imported water presented in Table 28 and the allocation percentages in Table 27.

Table 28
BCVWD Available Imported Water
Single and Multiple Dry Year Periods*

Agency	Year				
	2020	2025	2030	2035	2040
Single Dry Year, AFY	2,400	2,100	2,000	12,800	11,300
2 Consecutive Dry Years, AFY	3,500	3,200	2,900	13,700	12,100
3 Consecutive Dry Years, AFY	4,700	4,200	3,800	14,700	13,000
6 Consecutive Dry Years, AFY	5,900	5,300	4,800	15,700	13,800
* Values are Rounded					

9.1.3 Recycled Water

Recycled water from the City is considered to be consistently available; although during droughts, consumers are more aware of water conservation and reduce their indoor water consumption somewhat. 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 most recent drought.

The average year amount of recycled water from the City is taken from Table 12 presented previously. As stated in the discussion for Table 12, the total wastewater produced by the City is reduced by 1.8 mgd for habitat maintenance, and a capacity factor of 75% was applied to the

remaining water to account for brine and other losses. 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 29 provides an estimate of the available recycled water during extended dry periods from the City.

Table 29
BCVWD Available Recycled Water
During Single and Multiple Dry Year Periods

Agency	Year				
	2020	2025	2030	2035	2040
Average Year (Table 12), AFY	1,556	2,188	2,840	3,487	3,930
Single Dry Year (90%), AFY	1,400	1,970	2,555	3,135	3,535
2-, 3-, and 6- Consecutive Dry Years (85%), AFY	1,320	1,860	2,415	2,960	3,340

9.1.4 Storm Water and Other Local Water Resources

Storm water and Urban Runoff quantities are dependent on rainfall. Review of the rainfall record at Beaumont for the period 1888 – 2006 resulted in the data shown in Table 30. To determine the multiple dry year rainfall as a percent of the average rainfall, the 2-, 3-, and 6-year moving averages of the annual rainfall was determined.

Table 30
Ratio of Dry Period Precipitation to Average Precipitation at Beaumont
and Estimated New Water from Storm Water Capture
and Local Water Resource Projects

Dry Year(s)	Single	2-year	3-year	6-year
% of Annual Average	36%	45%	45%	65%
Total Storm water Capture, beginning 2021, 250 AFY	90	110	110	160
Total Local Water Resource Projects, beginning 2025, 250 AFY	90	110	110	160

9.2 Water Demands During Critical and Multi-year Dry Periods

Table 12, presented previously, showed the average BCVWD water demands (potable and non-potable). These demands are used in the Dry Period Reliability Analysis below for the 1-, 2-, and 3- consecutive year dry periods, primarily because there may not be enough time to implement water demand restrictions and see the effect of these restrictions on demand. However, for the 6-consecutive year dry period, it is assumed the water shortage contingency planning actions set forth in Section 8 of BCVWD's 2015 UWMP would be in effect and at least a 15% reduction in

demand would be obtained. This is over and above the nominal water conservation efforts envisioned in the development of the average demands in Table 12 presented previously.

Water supply for single dry year, 2- consecutive dry years, 3- consecutive dry years, and 6 consecutive dry years are presented in Tables 31 through 34 respectively.

Tables 31 through 34 demonstrate BCVWD can provide water to the planned developments listed in Table 11 (presented previously) which included the Legacy Highlands Development during critical dry year and multiple dry year periods by relying on BCVWD's Beaumont Basin Groundwater Storage assuming DCP and Sites are on-line as planned. BCVWD will need to maintain 25,111 AF of water banked in storage to meet the 6-year dry period by the time Sites Reservoir and the DCF are "on-line." This is not an unreasonable amount of storage considering BCVWD has an 80,000 AF storage account and as of the end of 2018, 34,794 AF in storage.

Table 12, presented previously, provided BCVWD's Beaumont Basin storage account balance under the basis of average water supply conditions assuming the development projects listed in Table 11 (presented previously) were constructed. Table 12 shows a steady increase in projected groundwater storage from 35,296 AF in 2020 to almost 76,800 AF in the year 2040. To achieve this level of storage, BCVWD will be banking additional water for drought proofing to able to supply water during critical and multiple dry year period.

Table 31
BCVWD Water Supply Summary – Critical Dry Year

Single Dry Year					
	YEAR				
	2020	2025	2030	2035	2040
DEMAND					
Total Water Demand	13,668	14,841	16,032	19,192	18,100
SUPPLY					
Groundwater					
Edgar Canyon, AFY	1,117	1,117	1,117	1,117	1,117
Beaumont Basin,Allocated Overlier Pumping Rights and Forbearance Water, AFY AFY	1,710	1,190	680	680	680
Storm Water, AFY	90	90	90	90	90
Other Local Water Resource Projects, AFY	90	90	90	90	90
Recycled Water, AFY	1,400	1,970	2,555	3,135	3,535
Imported SPW,AFY	2,400	2,100	2,000	12,800	11,300
Subtotal Supply, AFY	6,807	6,557	6,532	17,912	16,812
From Banked Beaumont Basin Storage, AF	6,861	8,284	9,500	1,280	1,288

Table 32
BCVWD Water Supply Summary – 2 Consecutive Dry Years

2 Consecutive Dry Years					
	YEAR				
	2020	2025	2030	2035	2040
DEMAND					
Total Water Demand	13,668	14,841	16,032	19,192	18,100
SUPPLY					
Groundwater					
Edgar Canyon, AFY	1,173	1,173	1,173	1,173	1,173
Pumping					
Rights and Forbearance Water, AFY AFY	1,710	1,190	680	680	680
Storm Water, AFY	90	90	90	90	90
Other Local Water Resource Projects, AFY	90	90	90	90	90
Recycled Water, AFY	1,320	1,860	2,415	2,960	3,340
Imported SPW,AFY	3,500	3,200	2,900	13,700	12,100
Subtotal Supply, AFY	7,883	7,603	7,348	18,693	17,473
From Banked Beaumont Basin Storage, AFY	5,785	7,238	8,684	499	627
Total Volume Withdrawn from Storage, AF	11,570	14,476	17,368	998	1,254

Table 33
BCVWD Water Supply Summary – 3 Consecutive Dry Years

3 Consecutive Dry Years					
	YEAR				
	2020	2025	2030	2035	2040
DEMAND					
Total Water Demand	13,668	14,841	16,032	19,192	18,100
SUPPLY					
Groundwater					
Edgar Canyon, AFY	1,230	1,230	1,230	1,230	1,230
Beaumont Basin,Allocated Overlier Pumping					
Rights and Forbearance Water, AFY AFY	1,710	1,190	680	680	680
Storm Water, AFY	90	90	90	90	90
Other Local Water Resource Projects, AFY	90	90	90	90	90
Recycled Water, AFY	1,320	1,860	2,415	2,960	3,340
Imported SPW,AFY	4,700	4,200	3,800	14,700	13,000
Subtotal Supply, AFY	9,140	8,660	8,305	19,750	18,430
From Banked Beaumont Basin Storage, AFY	4,528	6,181	7,727	-558	-330
Total Volume Withdrawn from Storage, AF	13,584	18,543	23,181	-1,674	-990

Table 34
BCVWD Water Supply Summary – 6 Consecutive Dry Years

6 Consecutive Dry Years					
	YEAR				
	2020	2025	2030	2035	2040
DEMAND					
Total Water Demand	11,618	12,615	13,627	16,313	15,385
SUPPLY					
Groundwater					
Edgar Canyon, AFY	1,367	1,367	1,367	1,367	1,367
Beaumont Basin,Allocated Overlier Pumping Rights and Forbearance Water, AFY AFY	1,710	1,190	680	680	680
Storm Water, AFY	90	90	90	90	90
Other Local Water Resource Projects, AFY	90	90	90	90	90
Recycled Water, AFY	1,320	1,860	2,415	2,960	3,340
Imported SPW,AFY	5,900	5,300	4,800	15,700	13,800
Subtotal Supply, AFY	10,477	9,897	9,442	20,887	19,367
From Banked Beaumont Basin Storage, AFY	1,141	2,718	4,185	-4,574	-3,982
Total Volume Withdrawn from Storage, AF (6 Year Period)	6,845	16,307	25,111	-27,443	-23,892

The water banking is clearly stated in BCVWD's 2015 UWMP:

BCVWD's plan, which is shown in BCVWD's 2015 UWMP envisions banking anywhere from 1,000 AFY to 2,500 AFY to drought proof new development. This is accounted for in the spreadsheet each year. Should there be a year when the projected amount cannot be delivered by SGPWA, any deficiency will be made up in successive years when adequate supply is available. As stated in BCVWD's 2105 UWMP²³

In addition to BCVWD, YVWD/Calimesa and the City of Banning have storage accounts which when combined with BCVWD's have 103,748 AF in storage as of the end of 2018. Previous Tables 7 and 10 presented previously, show that the storage accounts for YVWD/Calimesa and the City of Banning are projected to have 50,000 and nearly 76,510 AF in storage by 2040. When combined with BCVWD's projected storage account balance, on a regional basis there will be over 200,000 AF in banked storage – more than ample to meet the needs during short-term droughts.

10. CONCLUSIONS

1. BCVWD has complied with §10910 of the California Water Code (SB 610) and California Government Code Section 66473.7, (SB 221) requirements to prepare a Water Supply Assessment. This WSA was prepared for Legacy Highlands Development based on information provided by the Developer supplemented with analyses by BCVWD.

²³ BCVWD (2015). UWMP, pg 7-4

2. BCVWD prepared a series of White Papers which analyzed the regional (SGPWA) imported water supply requirements and funding requirements. These White Papers provided a starting point for the preparation of 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.
3. The projected potable water demand from the Legacy Highlands Development is approximately 1,450 AFY; non-potable water demand is estimated to be 178 AFY. This is about 11% of BCVWD's current demand of 13,129 AFY.
4. The Legacy Highlands Development was included in the list of planned development projects in BCVWD's 2015 UWMP. In the 2015 UWMP, Legacy Highlands was anticipated to have 3,218 EDUs at 0.65 AFY/EDU for a total demand of 2,092 AFY. This is more than the current 2,868 residential EDUs requiring 1,628 AFY (potable plus non-potable) total water demand.
5. Legacy Highlands Development, when fully developed at 2,868 residential EDUs will generate an estimated 524 AFY of recycled water, (which includes a 25% loss for brine and in-plant losses), which could be recycled and which could supply all of the estimated 178 AFY of Legacy Highlands Development's non-potable demand and provide 346 AFY available to meet the non-potable demands in other areas of BCVWD's system or be advance treated and recharged to augment BCVWD's potable water supply. Thus the net increase in water demand for Legacy Highlands Development is approximately 1,104 AFY.
6. Based on comparison of the SGPWA Imported Water Demands in Table 13 and the Imported Water Supply in Table 16, and summarized below, the SGPWA has sufficient imported water to meet the regional demands, including the demands of those member agencies currently not taking imported water, until 2040.

	Year					
	2018	2020	2025	2030	2035	2040
Total Potential Imported Water Supply (Table 16), AFY	19,530	18,035	14,824	15,812	25,880	24,880
Total Firm Imported Water Supply, no Partner Agency Side Deals, Article 21 Water, Turn-back Pool Water, etc. (derived from Table 16), AFY	19,530	14,035	11,324	12,812	10,200	8,500*
Total Imported Water Demand (Table 13 and 16), AFY	10,272	11,360	15,874	19,214	21,057	23,950
Total Imported Water Demand, No Banking or Drought proofing, (Table 13 and 16), AFY	9,223	9,109	11,019	13,254	15,097	17,924

*10,200 AFY with Nickel Extension

However, not all of those supplies are firm with agreements in place. Beyond 2025, SGPWA and BCVWD will be relying on the reliability of Table A, the availability of Article 21 and Turnback Pool Water, short term water transfers which are not yet agreed to, and the DCP and Sites Reservoir. Both DCP and Sites Reservoir are moving forward, and there is more than reasonable probability these projects will come to fruition. But there is always some risk. This risk will decrease over time as design and permitting progress, but nevertheless, there is risk, which BCVWD believes is low.

7. Figure 6 shows the importance of recycled water from the City of Beaumont for BCVWD to be able to meet future demands. The BCVWD 2015 UWMP as well as previous UWMPs and water master plans since 2000 identified recycled water from the City for non-potable water irrigation with a plan for the recharge of surplus recycled water with appropriate treatment and permits. A Memorandum of Understanding (MOU was executed in July 2019) by the City and BCVWD. The City and BCVWD are working on a recycled water purchase agreement and have been coordinating on the location of pumping and storage facilities on or adjacent to the City's wastewater treatment plant. Construction on the new treatment facility is nearing completion. Although there is some risk, that recycled water may not be available to BCVWD, that risk is small.
8. In light of the importance of recycled water in BCVWD's ability to meet projected demands and the delays in securing recycled water for BCVWD's non-potable water supply, as a condition for approval, Legacy Highlands will be required to use their on-site wells to supply the required non-potable water distribution system until such time as recycled water is available from the City to BCVWD and facilities have been installed to deliver BCVWD non-potable water to Legacy Highlands. BCVWD shall inspect the installation of the non-potable water distribution system. Legacy Highlands shall be required to provide treatment of all of the well water for iron and manganese removal. Sequestration is not an acceptable treatment technology. Prior to dedicating the non-potable water system to BCVWD, the system, including all irrigation laterals and piping, shall be thoroughly flushed and shock chlorinated. Upon dedication of the non-potable water system, Legacy Highlands shall transfer and/or convey all wells and related facilities to BCVWD for its full ownership and control as per the conditions set forth by the City of Beaumont.
9. BCVWD prepared and adopted a Potable Water Master Plan in January 2016 which identified water supply needs, facility needs and funding requirements to build-out. The Master Plan included consideration of Legacy Highlands Development.
10. Storm water capture and other local water resource projects were identified in BCVWD's 2015 UWMP and Water Master Plan and in this WSA. One of these projects, MDP-Line 16, (Grand Avenue Storm Drain) is currently nearing design completion 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.

11. SGPWA and BCVWD have made financial commitments to the Sites Reservoir project Phase 1 studies and Phase 2-2019 and anticipates committing funds for the continuation of Phase 2 and future phases.
12. Pursuant to §10910 of the California Water Code (SB 610) and information provided in this WSA, BCVWD has determined that sufficient currently available and planned supplies exist to meet the water demands of the proposed Legacy Highlands Development in addition to the existing and other projected demands during normal, single dry and multiple dry years over the next 20 years, providing imported water and recycled water projects and agreements move forward. BCVWD will supplement their existing supply sources during these dry periods with banked water in BCVWD's Beaumont Basin Groundwater Storage Account.
13. 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 a long-term needs of the Legacy Highlands Development in addition to the existing and other projected demands during normal, single dry and multiple dry years over the next 20 years, provided imported water projects and imported water supply agreements move forward.

11. RECOMMENDATIONS

Because of the risk in the implementation of Sites Reservoir and DCF, extended dry periods occurring over the next 10 to 15 years reducing the imported water levels before these projects come on line, the uncertainty of executing short term water transfers and purchases, the Board may want to consider:

1. Condition the approval of Legacy Highlands for water service to a time when recycled water is actually delivered to, and received by BCVWD from the City.
2. Condition the approval of Legacy Highlands for water service on the basis of Legacy Highlands using their on-site wells, with full treatment for iron and manganese until recycled water is available as discussed in this WSA.
3. Conditionally approve the Legacy Highlands Development in Phases until the implementation Sites Reservoir, the DCP, and other necessary agreements are in place.
4. Hold off approval until critical water supply projects, such as Sites Reservoir and DCP, are more certain, additional water supply opportunities being considered by the SGPWA and formalized, and recycled water is actually being delivered to BCVWD.

12. ACKNOWLEDGEMENTS

This WSA was prepared by Senior Engineer, Joseph C. Reichenberger PE with support from Dan Jagers, PE, General Manager, and Mark Swanson, PE, Senior Engineer. The WSA was based on White Papers prepared, in part, by Kaden Johnsen, Civil Engineering Assistant.

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APPENDIX C-1

LEGACY HIGHLANDS
(BEAUMONT, CA)
ESTIMATES OF FINANCIAL PERFORMANCE OF
IDENTIFIED PROJECT ALTERNATIVES TO THE PROPOSED PROJECT

Prepared for:
The Preserve, LLC

November 9, 2020



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Appendix A. Pro forma work sheets

Appendix B. Single-family sample tract for analysis of costs by alternative

Appendix C. Multifamily sample tract for analysis of costs by alternative

Appendix D. Commercial sample tract for analysis of costs by alternative

Introduction

The **Proposed Project, Legacy Highlands**, encompasses approximately 1,500 acres of land in Beaumont, California and would include the following development components:

- 2,868 dwelling units (including single-family residential and a gated active adult community); and
- 1.25 million square feet of commercial/industrial space.

In addition to the Proposed Project, the original EIR for Legacy Highlands evaluated three project alternatives:

No Project Alternative – site would be developed under current Riverside County General Plan Land Use designations, resulting in total development of approximately 170 dwelling units on minimum lot sizes of 5 to 10 acres.

Reduced Intensity Alternative – reflecting a 57 percent reduction in development intensity (based on original estimated number of dwelling units) achieved uniformly throughout the subject site. This would yield a total development of approximately 0.54 million square feet of commercial/industrial space and 1,291 residential units.

Biological Preserve Alternative – precludes development within the Project's proposed Planning Area 5, thereby preserving approximately 225 additional acres of open space. The remainder of the overall site would be developed as proposed under the Project. Under the Biological Preserve Alternative, total residential development would be reduced by approximately one-third.

The intent of this study is to expand the original CEQA documentation for this Project to include evidence to refute or substantiate the original finding of infeasibility for the three project alternatives described above. To accomplish this, The Natelson Dale Group, Inc. (TNDG) conducted a pro forma financial analysis to estimate the potential financial performance of each of the project alternatives. TNDG's study is not intended to be a fully developed project feasibility analysis, but to provide a sufficient level of detail to assess the relative financial feasibility of the project alternatives. The financial model constitutes a static projection based on the financial performance of each alternative at full buildout.

Methodology

TNDG's study relied on information from a variety of sources:

- Project program and cost-estimate data provided by the Applicant, and
- Data and factors generated through analysis of provided data and data generated through TNDG's independent research.

The Process Diagram on the following page summarizes these key analysis procedures and assumptions. Applicant-provided cost data (for the Proposed Project) facilitated the estimation of development and infrastructure costs for the project alternatives. In particular, cost elements were defined as being on a per-unit (housing unit or square footage of commercial and industrial) or per-quantity basis, or lump sum costs (i.e., fixed costs for some elements of land development infrastructure and fees that would not decrease proportionately to reductions in development densities). The segmentation of these costs by type was quantified through analyzing typical tract examples projected to be developed in single-family, multifamily, and commercial/industrial uses (see Appendices B through D¹ for these details).

¹ Note that these tables do not include reference to the Biological Preserve alternative, which does not require special cost/revenue considerations by land use, as it is simply the elimination of a portion of the base project.

Legacy Highlands:

Estimates of Financial Performance of Identified Project Alternatives to the Proposed Project

The Natelson Dale Group, Inc.

Process Diagram

Data Collection and Compilation:

Project Program Details and Cost Estimates

1. As received from Client
2. Derived by Consultant

Comparable-Data Research on prices, rents, etc.

1. Single family
2. Multifamily
3. Commercial
 - a. Industrial
 - b. Retail



Key Assumptions:

For lower-density alternatives: Single family home prices increase and lot sizes increase in the analysis model based on:

1. Single family average lots sizes will be larger, because of:
 - a. Ability to take advantage of a similar-sized subdivision area with fewer units, while recognizing the potential for some cost reduction through clustering development, and
 - b. Consideration of the value trade-off between large individual lots and increased common area within the subdivision.

Land development costs are not directly proportional to the number of units in lower-density alternatives, because of both larger lot sizes and the fact that some costs are incurred on a lump sum basis (as noted above).

Commercial land will be divided between retail and industrial, with retail sized proportionately to the number of households in the Project under alternative scenarios.

Financial performance for each of the land uses is evaluated on the basis of single-family homes being sold and other uses being sold upon lease-up and capitalization of revenues.

Land value, as a cost to be covered through project revenues, is derived based on multiple factors. Costs for land used for public circulation is assumed to be incorporated into the land for the developed parcels.



Processed Assumptions and Factors incorporated into analysis model:

Research

1. Through market research:
 - a. Establish ceiling prices for single family homes in low-density scenarios, and
 - b. Generate estimates for multifamily and commercial/industrial rents, capitalization rates, and other factors.
2. Using the market and other data, generate pro forma models for the different land uses, by alternative (see Appendix A*).

Using cost-estimate data:

3. Select typical prototype unit type and examine cost breakdowns in detail to derive typical cost variation models
 - a. Single family tract units
 - b. Multifamily tract units
4. Development cost adjustments by scenario based on:
 - a. Per-unit costs reduced on a unit-for-unit basis
 - b. Lump sum costs carried over intact
 - c. Quantity reductions for relevant line items generated by factors for changes in acreage, by scenario

*Note that these tables do not include reference to the Biological Preserve alternative, which does not require special cost/revenue considerations by land use, as it is simply the elimination of a portion of the base project.

Legacy Highlands:

Estimates of Financial Performance of Identified Project Alternatives to the Proposed Project

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Findings

The findings of the analysis are summarized on the following table.

The summary analysis shows that both the No Project and the Reduced Intensity Alternatives produce negative returns (expressed as a percent of profit on the total investment), indicating that they are fundamentally infeasible from a development/investment perspective.

The Biological Preserve Alternative shows a positive rate of return, but below 2%, and therefore far below what would constitute the feasibility threshold for a project of this type.

In addition to the usual investment risks associated with large-scale land development, including the potential for market downturns, changing regulatory environments, and emerging competition, investments in property improvements in this case must occur before any reimbursements from a Community Facilities District, according to the developer of the Proposed Project. These conditions, which are not specifically quantified in TNDG's analysis, would further reduce the feasibility of all three project alternatives.

Interpretation of Study Findings. The conclusion of financial infeasibility for all three of the project alternatives reflects the following conditions applicable to lower-density development in this location:

- Development of this property (regardless of density) would require substantial investment in “backbone” and other infrastructure and fees that are essentially fixed costs to the developer. Whereas some development costs (especially construction of individual housing units and certain tract-level infrastructure) would decrease in direct proportion to reductions in unit counts, some land development infrastructure requirements would not change proportionately with reduced development densities. Thus, infrastructure costs contribute to the financial impediment to lower-density development for conditions in which the same fixed costs need to be allocated over a smaller number of dwelling units (or commercial square feet).
- Although the lower-density residential development under the alternative scenarios would support higher home sales prices than the Proposed Project, the potential price premiums associated with lower-density development (i.e., larger lot sizes) are subject to practical limits based on the characteristics of the local market. In this location, the price premiums would not be sufficient to offset the inherent cost inefficiencies noted above².
- Analysis of the No Project Alternative assumed site development conditions similar to the proposed project, except for cost reductions as noted elsewhere in this document to reflect the

² Based on available market data, TNDG's analysis assumes the following average single-family home sales prices for each development scenario: Proposed Project \$349,000; No Project - \$655,000; Reduced Intensity - \$435,500. The Biological Preserve Alternative is assumed to have the same home sales prices as the Proposed Project (since the portion of the site that would be developed would be developed with the same densities/product types as the Proposed Project). Prices for alternatives were derived in part from an assessment of residential sales prices in the region over the last few years (data from Redfin).

Legacy Highlands:

Estimates of Financial Performance of Identified Project Alternatives to the Proposed Project

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reduced number of units and density, rather than a complete re-redesign and reconceptualization of what this project could be.

Legacy Highlands Project Summary Analysis

No Project Alternative /2				
Total Profit			-\$169,633,144	-\$169,633,144
Total project investment, land-related			\$216,956,894	\$248,044,182
Total project investment, retail/ind. buildings			\$0	\$0
Total project investment, residential buildings	\$64,026,250		\$64,026,250	\$64,026,250
Total project investment, land + buildings			\$280,983,144	\$312,070,432
Profit as % of total investment			-60.4%	-54.4%
Reduced Intensity Alternative				
Total Profit			-\$38,789,236	-\$38,789,236
Total project investment, land-related			\$275,256,088	\$344,837,527
Total project investment, retail/ind. buildings	\$12,165,795	\$75,275,857	\$87,441,652	\$87,441,652
Total project investment, residential buildings	\$177,583,230	\$112,745,433	\$290,328,663	\$290,328,663
Total project investment, land + buildings			\$653,026,403	\$722,607,842
Profit as % of total investment			-5.9%	-5.4%
Biological Preserve Alternative				
Total Profit			\$15,658,047	\$15,658,047
Total project investment, land-related			\$304,030,307	\$409,358,321
Total project investment, retail/ind. buildings	\$17,572,815	\$180,205,838	\$197,778,653	\$197,778,653
Total project investment, residential buildings	\$178,846,000	\$181,994,594	\$360,840,594	\$360,840,594
Total project investment, land + buildings			\$862,649,554	\$967,977,569
Profit as % of total investment			1.8%	1.6%

Table Notes:

1. When cash flow is negative, return on investment is a "lower negative" when *costs are higher*, the reverse of what happens with a positive profit line.
2. Table figures do not fully capture the negative value of this scenario (would require "negative profit" at the pro forma stage of the analysis).

Qualifications of The Natelson Dale Group, Inc.

The Natelson Dale Group, Inc. (TNDG) is an economic, financial and real estate consulting firm established in southern California in 1974. TNDG serves public and private sector clients on a broad range of assignments related to real estate economics and land use planning, including:

- Real estate market analysis / land use demand forecasts
- Project feasibility studies
- Pro forma financial analysis
- Fiscal/socioeconomic impact analysis for proposed development projects
- Regional economic analysis
- Economic development strategies for local governments

The firm has completed over 100 economic analyses as part of CEQA processes.

TNDG is highly familiar with economic and real estate market conditions in the Inland Empire region, having completed previous assignments in Corona, Lake Elsinore, Norco, Jurupa Valley, Eastvale, Temecula, Menifee, Wildomar, Canyon Lake, Hemet, San Jacinto, Perris, Moreno Valley, Beaumont, Riverside, Ontario, Chino, Chino Hills, Rancho Cucamonga, Fontana, Rialto, Colton, San Bernardino, Redlands, Highland, Yucaipa, and various parts of unincorporated Riverside and San Bernardino counties. In TNDG, 2019 prepared a comprehensive Economic Development Strategic Plan on behalf of the City of Beaumont.

The analysts for this assignment – Roger A. Dale and Joseph E. McClure – each have more than 30 years' experience in real estate project feasibility analysis.

Legacy Highlands:

Estimates of Financial Performance of Identified Project Alternatives to the Proposed Project

The Natelson Dale Group, Inc.

Appendix A. Pro forma work sheets

	NO PROJECT		REDUCED INTENSITY	
Single Family				
	Per-Single Fam. unit		Per-Single Fam. unit	
Pro-Forma (from client)	avgs.	Allocation %	avgs.	Allocation %
Average Home Prices	\$655,000	100.0%	\$435,600	100.0%
Average Home Size				
Direct Construction Cost	\$330,775	50.5%	\$219,978	50.5%
[Other] Indirect Construction Cost	\$45,850	7.0%	\$30,492	7.0%
Gross Profit	\$0	0.0%	\$43,560	10.0%
Land Development Cost	\$262,000	40.0%	\$108,900	25.0%
Total Cost	\$638,625	97.5%	\$402,930	92.5%
Land Residual	\$16,375	2.5%	\$32,670	7.5%
		100.0%		100.0%
Receipts to offset land dev and cost ests.	\$278,375		\$185,130	
Multifamily	[NO MULTIFAMILY IN NO-PROJECT ALTERNATIVE]		Calculating factors	Allocating factors
Common factors:				
Avg unit size (SF)			1,200	4.35%
Vacancy factor			5.0%	
Net income factor			35.0%	
Capitalization rate			4.6%	
% of land development costs in hard constr.			35%	
Gross rent receipts/unit			\$2,035	
Estimated total value/unit				\$327,777
Development costs				
Land constr. development costs/unit			\$983	0.3%
Land development fees/unit			\$59,000	18.0%
Hard construction costs/unit			\$168,805	51.5%
Other soft costs/unit (as % of value)			\$24,583	7.5%
Total development costs and fees/unit			\$253,372	77.3%
Land cost			\$40,972	12.5%
Value minus costs (gross profit)			\$33,433	10.2%
				100.0%
Receipts to offset land dev and cost ests.			\$134,389	
Cap Rates:				
CBRE North America, US Multifamily Cap Rate Survey, second half 2019				

Retail	NO PROJECT	REDUCED INTENSITY	
	[NO COMMERCIAL / INDUSTRIAL IN NO-PROJECT ALTERNATIVE]	Calculating factors	Allocating factors
<i>Common factors:</i>			
Vacancy factor		5%	
Net income factor (NNN leases)		7%	
Capitalization rate		6.0%	
% of land development costs in hard constr.			
Total SF		45,000	
Gross income/SF/mo		\$2.00	
Estimated total value/SF			\$353.40
<i>Development costs</i>			
Land constr. development costs/SF		\$0.42	0.12%
Land development fees/SF		\$1.59	0.45%
Hard construction costs/SF		\$212	60.0%
Soft costs/SF (as % of value)		\$58	16.5%
Total development costs and fees/SF		\$272	77.1%
Land cost		\$44	12.5%
Value minus costs (gross profit on sale)		\$37	10.4%
			100.0%
Receipts to offset land dev and cost ests.		\$83	
 Industrial			
		Calculating factors	Allocating factors
<i>Common factors:</i>			
Vacancy factor		5%	
Net income factor (NNN leases)		7%	
Capitalization rate		4.0%	
% of land development costs in hard constr.		35%	
Total SF		495,000	
Gross income/SF		\$0.75	
Estimated total value/SF			\$198.79
<i>Development costs</i>			
Land constr. development costs/SF		\$0.40	0.2%
Land development fees/SF		\$1.59	0.8%
Hard construction costs/SF		\$119	60.0%
Soft costs/SF (as % of value)		\$33	16.5%
Total development costs and fees/SF		\$154	77.5%
Land cost		\$25	12.5%
Value minus costs (gross profit)		\$20	10.0%
			100.0%
Receipts to offset land dev and cost ests.		\$47	
Cap Rates:			
CBRE North America, US Retail Cap Rate Survey, second half 2019			
CBRE North America, US Industrial Cap Rate Survey, second half 2019			

Appendix B. Single-family sample tract for analysis of costs by alternative

Development Scenario (Single Fam)	Initial Inputs	No Project Alternative
No. of Units	50	5.4037
Factor for Changing Quantities (given in sq. ft., etc.)	1	0.8116
Factor for Changing Unit Quantities (Rounded nearest Whole Unit)	1	0.1081
Developed Area		
Average Lot Size		

Typical single family tract selected for modeling

LEGACY HIGHLANDS	Initial Inputs					No Project Alternative			
Tract Map No. 31570-11 Estimate (SF Example)	50 Units		18.8 Acres			5.404 Units		18.8 Acres	
	Standardized Unit Measure (per TNDG)								
Construction Costs	Qty.	Unit		Unit Cost	Total Cost	Cost on a Per Unit Basis	Cost on a Per DU Basis	Lump Sum	Total Cost
Street Improvements									
Asphalt Concrete Paving (3")	89,500	SF	Each	\$2.00	\$179,000	\$145,283.63			\$145,284
Class II Aggregate Base (6")	89,500	SF	Each	\$0.15	\$13,425	\$10,896.27			\$10,896
Fog Seal	91,502	SF	Each	\$0.15	\$13,725	\$11,140.01			\$11,140
6" Curb and Gutter, Type A-6	4,737	LF	Each	\$10.00	\$47,370	\$38,447.41			\$38,447
Cross-Gutter	840	SF	Each	\$5.00	\$4,200	\$3,408.89			\$3,409
Gutter Depression	5	Each	Each	\$1,650.00	\$8,250	\$6,696.03			\$6,696
Sidewalk (W=6')	29,262	SF	Each	\$2.50	\$73,155	\$59,375.55			\$59,376
Handicap Ramps	6	SF	Each	\$4.00	\$24	\$19.48			\$19
Driveway Approaches (W=18')	50	Each	Each	\$150.00	\$7,500	\$6,087.30			\$6,087
Landscaping (R/W and Lots)	118,425	SF	Each	\$3.00	\$355,275	\$288,355.55			\$288,356
Perimeter Block Wall	3,200	LF	Each	\$72.00	\$230,400	\$187,001.95			\$187,002
Street Lights	5	Each	Each	\$3,500.00	\$17,500	\$14,203.71			\$14,204
Dry Utilities	50	Lot	DU	\$2,600.00	\$130,000		\$14,049.59		\$14,050
Street Name Signs	3	Each	Each	\$400.00	\$1,200	\$973.97			\$974
Street Stop Sign	4	Each	Each	\$175.00	\$700	\$568.15			\$568
Street Trees*	50	Each	DU	\$175.00	\$8,750		\$945.65		\$946
Perimeter View Fence	0	LF	Each	\$28.00	\$0	\$0.00			\$0
Subtotal Street Improvements					\$1,090,474	\$772,457.90	\$14,995.23	\$0.00	\$787,453
*Quantity assumes one street tree per lot									
Rough Grading									
Erosion Control	50	EA	Each	\$350.00	\$17,500	\$14,203.71			\$14,204
R & R	50	EA	Each	\$550.00	\$27,500	\$22,320.11			\$22,320
Subtotal Rough Grading					\$45,000	\$36,523.82	\$0.00	\$0.00	\$36,524

LEGACY HIGHLANDS	Initial Inputs					No Project Alternative			
Tract Map No. 31570-11 Estimate (SF Example)	50 Units		18.8 Acres			5.404 Units		18.8 Acres	
	Standardized Unit Measure (per TNDG)								
Construction Costs	Qty.	Unit		Unit Cost	Total Cost	Cost on a Per Unit Basis	Cost on a Per DU Basis	Lump Sum	Total Cost
Sanitary Sewer									
Main Line (8" PVC)	2,360	LF	Each	\$23.00	\$54,280	\$44,055.84			\$44,056
Services (4" PVC)	50	Each	Each	\$500.00	\$25,000	\$20,291.01			\$20,291
Manholes	10	Each	Each	\$3,600.00	\$36,000	\$29,219.05			\$29,219
Install Back Flow Water Valve	50	Each	Each	\$2,000.00	\$100,000	\$81,164.04			\$81,164
Remove Plug and Join Existing	0	Each	Each	\$1,000.00	\$0	\$0.00			\$0
Subtotal Sewer					\$215,280	\$174,729.95	\$0.00	\$0.00	\$174,730
Domestic Water									
Main Line (8" DIP)	2,414	LF	Each	\$32.00	\$77,248	\$62,697.60			\$62,698
8" Gate Valves	9	Each	Each	\$1,000.00	\$9,000	\$7,304.76			\$7,305
8" D.I. Flanged X Mechanical Adapter	9	Each	Each	\$350.00	\$3,150	\$2,556.67			\$2,557
8" D.I. Tee	3	Each	Each	\$750.00	\$2,250	\$1,826.19			\$1,826
8" D.I. Cross	0	Each	Each	\$470.00	\$0	\$0.00			\$0
8" D.I. Elbow	0	Each	Each	\$450.00	\$0	\$0.00			\$0
Services (1" DIP)	50	Each	Each	\$500.00	\$25,000	\$20,291.01			\$20,291
4" Blowoff	1	Each	Each	\$2,400.00	\$2,400	\$1,947.94			\$1,948
2" Air Release and Vacuum Valve	3	Each	Each	\$2,000.00	\$6,000	\$4,869.84			\$4,870
Fire Hydrants (Steel)	9	Each	Each	\$3,500.00	\$31,500	\$25,566.67			\$25,567
Install 8" Water Cap & Restrained Joint	2	Each	Each	\$350.00	\$700	\$568.15			\$568
Remove Water Cap and Join Existing Main	5	Each	Each	\$2,000.00	\$10,000	\$8,116.40			\$8,116
Install 8" Restrained Joint	28	Each	Each	\$200.00	\$5,600	\$4,545.19			\$4,545
Subtotal Water					\$172,848	\$140,290.42	\$0.00	\$0.00	\$140,290
Reclaimed Water									
Main Line (8" DIP)	2,414	LF	Each	\$32.00	\$77,248	\$62,697.60			\$62,698
8" Gate Valves	9	Each	Each	\$1,000.00	\$9,000	\$7,304.76			\$7,305
8" D.I. Flanged X Mechanical Adapter	9	Each	Each	\$350.00	\$3,150	\$2,556.67			\$2,557
8" D.I. Tee	3	Each	Each	\$750.00	\$2,250	\$1,826.19			\$1,826
8" D.I. Cross	0	Each	Each	\$470.00	\$0	\$0.00			\$0
8" D.I. Elbow	0	Each	Each	\$450.00	\$0	\$0.00			\$0
Services (1" DIP)	50	Each	Each	\$500.00	\$25,000	\$20,291.01			\$20,291
4" Blowoff	1	Each	Each	\$2,400.00	\$2,400	\$1,947.94			\$1,948
2" Air Release and Vacuum Valve	3	Each	Each	\$2,000.00	\$6,000	\$4,869.84			\$4,870
Install 8" Water Cap & Restrained Joint	2	Each	Each	\$350.00	\$700	\$568.15			\$568
Remove Water Cap and Join Existing Main	5	Each	Each	\$2,000.00	\$10,000	\$8,116.40			\$8,116
Install 8" Restrained Joint	28	Each	Each	\$200.00	\$5,600	\$4,545.19			\$4,545
Subtotal Reclaimed Water					\$141,348	\$114,723.75	\$0.00	\$0.00	\$114,724

LEGACY HIGHLANDS	Initial Inputs					No Project Alternative			
Tract Map No. 31570-11 Estimate (SF Example)	50 Units		18.8 Acres			5.404 Units		18.8 Acres	
	Standardized Unit Measure (per					Cost on a Per		Cost on a Per	
	Qty.	Unit	TNDG)	Unit Cost	Total Cost	Unit Basis	DU Basis	Lump Sum	Total Cost
Construction Costs									
Storm Drain									
18" RCP	360	LF	Each	\$35.00	\$12,600	\$10,226.67			\$10,227
24" RCP	204	LF	Each	\$45.00	\$9,180	\$7,450.86			\$7,451
30" RCP	500	LF	Each	\$58.00	\$29,000	\$23,537.57			\$23,538
36" RCP	513	LF	Each	\$68.00	\$34,884	\$28,313.26			\$28,313
42" RCP	985	LF	Each	\$78.00	\$76,830	\$62,358.33			\$62,358
48" RCP	150	LF	Each	\$85.00	\$12,750	\$10,348.42			\$10,348
Catch Basin (W=4')	1	Each	Each	\$1,800.00	\$1,800	\$1,460.95			\$1,461
Catch Basin (W=7')	1	Each	Each	\$3,100.00	\$3,100	\$2,516.09			\$2,516
Catch Basin (W=10')	2	Each	Each	\$4,500.00	\$9,000	\$7,304.76			\$7,305
Catch Basin (W=14')	1	Each	Each	\$6,200.00	\$6,200	\$5,032.17			\$5,032
Catch Basin (W=21')	0	Each	Each	\$7,200.00	\$0	\$0.00			\$0
Junction/Transfer Structure	0	Each	Each	\$3,500.00	\$0	\$0.00			\$0
Manhole (48")	4	Each	Each	\$3,800.00	\$15,200	\$12,336.93			\$12,337
Construct Drywell	0	LF	Each	\$20,000.00	\$0	\$0.00			\$0
Construct Headwall	0	LF	Each	\$13,200.00	\$0	\$0.00			\$0
Construct 1/2 Ton Rip-Rap	0	CY	Each	\$88.00	\$0	\$0.00			\$0
Subtotal Storm Drain					\$210,544	\$170,886.02	\$0.00	\$0.00	\$170,886
Subtotal Construction					\$1,875,494	\$1,409,612	\$14,995	\$0	\$1,424,607

LEGACY HIGHLANDS Tract Map No. 31570-11 Estimate (SF Example)	Initial Inputs					No Project Alternative			
	50 Units		18.8 Acres			5.404 Units		18.8 Acres	
	Qty.	Unit	Standardized Unit Measure	Unit Cost	Total Cost	Cost on a Per Unit Basis	Cost on a Per DU Basis	Lump Sum	Total Cost
Associated Fees									
City of Beaumont									
Planning									
Specific Plan	18.80	AC	Each	\$50.00	\$3,626.00	\$3,448.94			\$3,449
Tentative Tract Map	50	Unit	DU	\$25.00	\$5,640.00		\$4,525.09		\$4,525
Landscape Inspection Fees	50	EA	DU	\$81.60	\$4,823.69		\$1,184.63		\$1,185
Landscape Plan - Plan Check	5	SHT	Lump Sum	\$411.09	\$2,055.45			\$2,055.45	\$2,055
Sign Program	1	Unit	Lump Sum	\$1,652.64	\$1,652.64			\$1,652.64	\$1,653
Engineering									
Improvement Plan Check	2%	LS	Lump Sum		\$252.00			\$252.00	\$252
Inspection	3%	LS	Lump Sum		\$378.00			\$378.00	\$378
Bond Premium	1%	LS	Lump Sum		\$126.00			\$126.00	\$126
Final Tract Map Review	50	Unit	DU	\$50.00	\$5,000.00		\$2,770.18		\$2,770
Final Parcel Map Review	1	Unit	Lump Sum	\$2,500.00	\$2,500.00			\$2,500.00	\$2,500
SWPPP Plan - Pre & Final Review	1	EA	Lump Sum	\$5,533.25	\$5,533.25			\$5,533.25	\$5,533
Wall & Fence Plan - Plan Check	5	SHT	Lump Sum	\$273.72	\$1,368.60			\$1,368.60	\$1,369
Final Monument Setting and Inspection Fee	1	Unit	Lump Sum	\$2,582.00	\$2,582.00			\$2,582.00	\$2,582
Onsite Grading Review (includes: hardscape, sd & sewer)	5	SHT	Lump Sum	\$812.99	\$4,064.95			\$4,064.95	\$4,065
Onsite Grading Permit (includes: hardscape, sd & sewer)	50	Unit	Each	\$75.40	\$3,770.00	\$3,059.88			\$3,060
Water Quality Management Plan - Pre & Final Review	1	EA	Lump Sum	\$5,533.25	\$5,533.25			\$5,533.25	\$5,533
Final Survey Staking Guarantee	1	LS	Lump Sum	\$1,000.00	\$1,000.00			\$1,000.00	\$1,000
Street Improvement/Inspection	3%	LS	Lump Sum	\$0.00	\$0.00			\$0.00	\$0
Sewer									
Sewer Capacity Fee	50	Unit	DU	\$5,468.58	\$273,429.00		\$29,550.50		\$29,550
Sewer Application Fee	50	Unit	DU	\$25.00	\$1,250.00		\$135.09		\$135
Sewer Capacity "Connection" Fee	0	SF	Lump Sum	\$1.77	\$0.00			\$0.00	\$0
Mitigation and Area Benefit Fees	50		DU						\$0
Traffic Signals	50	EA	DU	\$32.19	\$1,609.50		\$173.94		\$174
Railroad Crossings	50	EA	DU	\$34.56	\$1,728.00		\$186.75		\$187
Fire Station	50	EA	DU	\$134.24	\$6,712.00		\$725.39		\$725
Public Facilities	50	EA	DU	\$38.26	\$1,913.00		\$206.75		\$207
Police Station	50	EA	DU	\$44.87	\$2,243.50		\$242.46		\$242
Recreation Facilities	50	EA	DU	\$721.16	\$36,058.00		\$3,896.92		\$3,897
Community Park	50	EA	DU	\$2,359.35	\$117,967.50		\$12,749.19		\$12,749
Neighborhood Park	50	EA	DU	\$2,855.21	\$142,760.50		\$15,428.66		\$15,429
Emergency Preparedness	50	EA	DU	\$0.22	\$11.00		\$1.19		\$1
Recycled Water Fees	50	EA	DU	\$786.64	\$39,332.00		\$4,250.76		\$4,251
General Plan	50	EA	DU	\$0.05	\$2.50		\$0.27		\$0
Local Streets and Bridge Fee	50	EA	DU	\$295.96	\$14,798.00		\$1,599.28		\$1,599
Transportation Uniform Mitigation	50	EA	DU	\$1,770.00	\$88,500.00		\$9,564.53		\$9,565
Multiple Species Habitat Conservation Plan (MSHCP)	50	EA	DU	\$7,382.00	\$369,100.00		\$39,890.02		\$39,890
Southwest Properties Water	50	EA	DU	\$0.00	\$0.00		\$0.00		\$0
Legacy Highlands Sewer	50	EA	DU	\$0.00	\$0.00		\$0.00		\$0
Eastside Sewer	50	EA	DU	\$0.00	\$0.00		\$0.00		\$0
San Timoteo Sewer Facility	50	EA	DU	\$0.00	\$0.00		\$0.00		\$0
Willow Spring Sewer Capacity Fee	50	EA	DU	\$453.83	\$22,691.50		\$2,452.36		\$2,452

LEGACY HIGHLANDS	Initial Inputs					No Project Alternative			
Tract Map No. 31570-11 Estimate (SF Example)	50 Units		18.8 Acres			5.404 Units		18.8 Acres	
			Standardized Unit			Cost on a Per	Cost on a Per		
Associated Fees	Qty.	Unit	Measure	Unit Cost	Total Cost	Unit Basis	DU Basis	Lump Sum	Total Cost
Beaumont Cherry Valley Water District									
Potable Water Fees	50	EA	DU	\$7,059.00	\$352,950.00		\$38,144.63		\$38,145
Plan Check & Inspection	1	Unit	Lump Sum	\$15,000.00	\$15,000.00			\$15,000.00	\$15,000
Frontage Fee	1	LF	Lump Sum	\$35.00	\$35.00			\$35.00	\$35
Water Facilities Fee	50	EA	DU	\$10,122.00	\$506,100.00		\$54,696.12		\$54,696
Water Meter Installation (Dom. Or Irri.) - 2"	50	EA	DU	\$5,587.00	\$279,350.00		\$30,190.40		\$30,190
Fire Service Installation	1	Unit	Lump Sum	\$31,300.00	\$31,300.00			\$31,300.00	\$31,300
New Source Water Fee	50	EA	DU	\$1,414.00	\$70,700.00		\$7,640.81		\$7,641
Beaumont Unified School District									
School Fee	50	EA	DU	\$4,050.00	\$202,500.00		\$21,884.93		\$21,885
County of Riverside Fees									
Environmental Health Map Check	1	LS	Lump Sum	\$528.00	\$528.00			\$528.00	\$528
Fire Department Tract Map Check	1	LS	Lump Sum	\$1,063.00	\$1,063.00			\$1,063.00	\$1,063
Fuel Modification Zone Fee	50	EA	DU	\$386.30	\$19,315.00		\$2,087.44		\$2,087
Surveyor Office Tract Map Check	1	LS	Lump Sum	\$15,000.00	\$15,000.00			\$15,000.00	\$15,000
Flood Control ADP Review	1	LS	Lump Sum	\$15,000.00	\$15,000.00			\$15,000.00	\$15,000
Fish and Game Fees	1	LS	Lump Sum	\$3,168.00	\$3,168.00			\$3,168.00	\$3,168
Consultant Fees									
Civil	50	EA	Each	\$1,500.00	\$75,000.00	\$60,873.03			\$60,873
Staking	50	EA	Each	\$1,500.00	\$75,000.00	\$60,873.03			\$60,873
Geotechnical	50	EA	Each	\$750.00	\$37,500.00	\$30,436.52			\$30,437
Landscape	50	EA	Each	\$500.00	\$25,000.00	\$20,291.01			\$20,291
Arch/Paleo	50	EA	Each	\$200.00	\$10,000.00	\$8,116.40			\$8,116
Arch/Paleo	50	EA	Each	\$200.00	\$10,000.00	\$8,116.40			\$8,116
Subtotal Fees					\$2,914,520.83	\$195,215.22	\$284,178.30	\$108,140.14	\$587,533.66
Total Gross Costs (Construction Costs and Fees)					\$4,790,015.13	\$1,604,827.07	\$299,173.53	\$108,140.14	\$2,012,140.74

Construction Costs Per Unit	\$37,509.89	\$263,636.11
Fee Costs Per Unit	\$58,290.42	\$108,728.29
Total Gross Costs Per Unit	\$95,800.30	\$372,364.40
Percent variation from base case		388.69%
Constr as % of total	39.2%	70.8%

Application of costs of land development and fees to entire project

Costs/unit by this tract example (SFCosts)	\$95,800	\$372,364
Percent variation from base case		388.7%

Development Scenario (Single Fam)	Initial Inputs	Reduced Intensity Alternative
No. of Units	50	22.51
Factor for Changing Quantities (given in sq. ft., etc.)	1	0.7004
Factor for Changing Unit Quantities (Rounded nearest Whole Unit)	1	0.4501
Developed Area		
Average Lot Size		

Typical single family tract selected for modeling

LEGACY HIGHLANDS	Initial Inputs					Reduced Intensity Alternative			
Tract Map No. 31570-11 Estimate (SF Example)	50 Units		18.8 Acres			22.507 Units		18.8 Acres	
	Standardized Unit Measure (per TNDG)					Cost on a Per Unit Basis	Cost on a Per DU Basis	Lump Sum	Total Cost
Construction Costs	Qty.	Unit		Unit Cost	Total Cost				
Street Improvements									
Asphalt Concrete Paving (3")	89,500	SF	Each	\$2.00	\$179,000	\$125,375.11			\$125,375
Class II Aggregate Base (6")	89,500	SF	Each	\$0.15	\$13,425	\$9,403.13			\$9,403
Fog Seal	91,502	SF	Each	\$0.15	\$13,725	\$9,613.47			\$9,613
6" Curb and Gutter, Type A-6	4,737	LF	Each	\$10.00	\$47,370	\$33,178.88			\$33,179
Cross-Gutter	840	SF	Each	\$5.00	\$4,200	\$2,941.76			\$2,942
Gutter Depression	5	Each	Each	\$1,650.00	\$8,250	\$5,778.46			\$5,778
Sidewalk (W=6')	29,262	SF	Each	\$2.50	\$73,155	\$51,239.20			\$51,239
Handicap Ramps	6	SF	Each	\$4.00	\$24	\$16.81			\$17
Driveway Approaches (W=18')	50	Each	Each	\$150.00	\$7,500	\$5,253.15			\$5,253
Landscaping (R/W and Lots)	118,425	SF	Each	\$3.00	\$355,275	\$248,841.58			\$248,842
Perimeter Block Wall	3,200	LF	Each	\$72.00	\$230,400	\$161,376.68			\$161,377
Street Lights	5	Each	Each	\$3,500.00	\$17,500	\$12,257.34			\$12,257
Dry Utilities	50	Lot	DU	\$2,600.00	\$130,000		\$58,518.13		\$58,518
Street Name Signs	3	Each	Each	\$400.00	\$1,200	\$840.50			\$841
Street Stop Sign	4	Each	Each	\$175.00	\$700	\$490.29			\$490
Street Trees*	50	Each	DU	\$175.00	\$8,750		\$3,938.72		\$3,939
Perimeter View Fence	0	LF	Each	\$28.00	\$0	\$0.00			\$0
Subtotal Street Improvements					\$1,090,474	\$666,606.38	\$62,456.85	\$0.00	\$729,063
*Quantity assumes one street tree per lot									
Rough Grading									
Erosion Control	50	EA	Each	\$350.00	\$17,500	\$12,257.34			\$12,257
R & R	50	EA	Each	\$550.00	\$27,500	\$19,261.54			\$19,262
Subtotal Rough Grading					\$45,000	\$31,518.88	\$0.00	\$0.00	\$31,519

LEGACY HIGHLANDS	Initial Inputs					Reduced Intensity Alternative			
Tract Map No. 31570-11 Estimate (SF Example)	50 Units		18.8 Acres			22.507 Units		18.8 Acres	
	Standardized Unit Measure (per					Cost on a Per	Cost on a Per		
Construction Costs	Qty.	Unit	TNDG)	Unit Cost	Total Cost	Unit Basis	DU Basis	Lump Sum	Total Cost
Sanitary Sewer									
Main Line (8" PVC)	2,360	LF	Each	\$23.00	\$54,280	\$38,018.78			\$38,019
Services (4" PVC)	50	Each	Each	\$500.00	\$25,000	\$17,510.49			\$17,510
Manholes	10	Each	Each	\$3,600.00	\$36,000	\$25,215.11			\$25,215
Install Back Flow Water Valve	50	Each	Each	\$2,000.00	\$100,000	\$70,041.96			\$70,042
Remove Plug and Join Existing	0	Each	Each	\$1,000.00	\$0	\$0.00			\$0
Subtotal Sewer					\$215,280	\$150,786.34	\$0.00	\$0.00	\$150,786
Domestic Water									
Main Line (8" DIP)	2,414	LF	Each	\$32.00	\$77,248	\$54,106.02			\$54,106
8" Gate Valves	9	Each	Each	\$1,000.00	\$9,000	\$6,303.78			\$6,304
8" D.I. Flanged X Mechanical Adapter	9	Each	Each	\$350.00	\$3,150	\$2,206.32			\$2,206
8" D.I. Tee	3	Each	Each	\$750.00	\$2,250	\$1,575.94			\$1,576
8" D.I. Cross	0	Each	Each	\$470.00	\$0	\$0.00			\$0
8" D.I. Elbow	0	Each	Each	\$450.00	\$0	\$0.00			\$0
Services (1" DIP)	50	Each	Each	\$500.00	\$25,000	\$17,510.49			\$17,510
4" Blowoff	1	Each	Each	\$2,400.00	\$2,400	\$1,681.01			\$1,681
2" Air Release and Vacuum Valve	3	Each	Each	\$2,000.00	\$6,000	\$4,202.52			\$4,203
Fire Hydrants (Steel)	9	Each	Each	\$3,500.00	\$31,500	\$22,063.22			\$22,063
Install 8" Water Cap & Restrained Joint	2	Each	Each	\$350.00	\$700	\$490.29			\$490
Remove Water Cap and Join Existing Main	5	Each	Each	\$2,000.00	\$10,000	\$7,004.20			\$7,004
Install 8" Restrained Joint	28	Each	Each	\$200.00	\$5,600	\$3,922.35			\$3,922
Subtotal Water					\$172,848	\$121,066.13	\$0.00	\$0.00	\$121,066
Reclaimed Water									
Main Line (8" DIP)	2,414	LF	Each	\$32.00	\$77,248	\$54,106.02			\$54,106
8" Gate Valves	9	Each	Each	\$1,000.00	\$9,000	\$6,303.78			\$6,304
8" D.I. Flanged X Mechanical Adapter	9	Each	Each	\$350.00	\$3,150	\$2,206.32			\$2,206
8" D.I. Tee	3	Each	Each	\$750.00	\$2,250	\$1,575.94			\$1,576
8" D.I. Cross	0	Each	Each	\$470.00	\$0	\$0.00			\$0
8" D.I. Elbow	0	Each	Each	\$450.00	\$0	\$0.00			\$0
Services (1" DIP)	50	Each	Each	\$500.00	\$25,000	\$17,510.49			\$17,510
4" Blowoff	1	Each	Each	\$2,400.00	\$2,400	\$1,681.01			\$1,681
2" Air Release and Vacuum Valve	3	Each	Each	\$2,000.00	\$6,000	\$4,202.52			\$4,203
Install 8" Water Cap & Restrained Joint	2	Each	Each	\$350.00	\$700	\$490.29			\$490
Remove Water Cap and Join Existing Main	5	Each	Each	\$2,000.00	\$10,000	\$7,004.20			\$7,004
Install 8" Restrained Joint	28	Each	Each	\$200.00	\$5,600	\$3,922.35			\$3,922
Subtotal Reclaimed Water					\$141,348	\$99,002.91	\$0.00	\$0.00	\$99,003

LEGACY HIGHLANDS	Initial Inputs					Reduced Intensity Alternative			
Tract Map No. 31570-11 Estimate (SF Example)	50 Units		18.8 Acres			22.507 Units		18.8 Acres	
	Standardized Unit Measure (per					Cost on a Per		Cost on a Per	
	Qty.	Unit	TNDG)	Unit Cost	Total Cost	Unit Basis	DU Basis	Lump Sum	Total Cost
Construction Costs									
Storm Drain									
18" RCP	360	LF	Each	\$35.00	\$12,600	\$8,825.29			\$8,825
24" RCP	204	LF	Each	\$45.00	\$9,180	\$6,429.85			\$6,430
30" RCP	500	LF	Each	\$58.00	\$29,000	\$20,312.17			\$20,312
36" RCP	513	LF	Each	\$68.00	\$34,884	\$24,433.44			\$24,433
42" RCP	985	LF	Each	\$78.00	\$76,830	\$53,813.24			\$53,813
48" RCP	150	LF	Each	\$85.00	\$12,750	\$8,930.35			\$8,930
Catch Basin (W=4')	1	Each	Each	\$1,800.00	\$1,800	\$1,260.76			\$1,261
Catch Basin (W=7')	1	Each	Each	\$3,100.00	\$3,100	\$2,171.30			\$2,171
Catch Basin (W=10')	2	Each	Each	\$4,500.00	\$9,000	\$6,303.78			\$6,304
Catch Basin (W=14')	1	Each	Each	\$6,200.00	\$6,200	\$4,342.60			\$4,343
Catch Basin (W=21')	0	Each	Each	\$7,200.00	\$0	\$0.00			\$0
Junction/Transfer Structure	0	Each	Each	\$3,500.00	\$0	\$0.00			\$0
Manhole (48")	4	Each	Each	\$3,800.00	\$15,200	\$10,646.38			\$10,646
Construct Drywell	0	LF	Each	\$20,000.00	\$0	\$0.00			\$0
Construct Headwall	0	LF	Each	\$13,200.00	\$0	\$0.00			\$0
Construct 1/2 Ton Rip-Rap	0	CY	Each	\$88.00	\$0	\$0.00			\$0
Subtotal Storm Drain					\$210,544	\$147,469.15	\$0.00	\$0.00	\$147,469
Subtotal Construction					\$1,875,494	\$1,216,450	\$62,457	\$0	\$1,278,907

LEGACY HIGHLANDS	Initial Inputs				Reduced Intensity Alternative				
Tract Map No. 31570-11 Estimate (SF Example)	50 Units		18.8 Acres		22.507 Units		18.8 Acres		
	Qty.	Unit	Standardized Unit Measure	Unit Cost	Total Cost	Cost on a Per Unit Basis	Cost on a Per DU Basis	Lump Sum	Total Cost
Associated Fees									
City of Beaumont									
Planning									
Specific Plan	18.80	AC	Each	\$50.00	\$3,626.00	\$3,344.39			\$3,344
Tentative Tract Map	50	Unit	DU	\$25.00	\$5,640.00		\$4,952.67		\$4,953
Landscape Inspection Fees	50	EA	DU	\$81.60	\$4,823.69		\$2,580.26		\$2,580
Landscape Plan - Plan Check	5	SHT	Lump Sum	\$411.09	\$2,055.45			\$2,055.45	\$2,055
Sign Program	1	Unit	Lump Sum	\$1,652.64	\$1,652.64			\$1,652.64	\$1,653
Engineering									
	\$12,600.00 Project Estimate								
Improvement Plan Check	2%	LS	Lump Sum		\$252.00			\$252.00	\$252
Inspection	3%	LS	Lump Sum		\$378.00			\$378.00	\$378
Bond Premium	1%	LS	Lump Sum		\$126.00			\$126.00	\$126
Final Tract Map Review	50	Unit	DU	\$50.00	\$5,000.00		\$3,625.35		\$3,625
Final Parcel Map Review	1	Unit	Lump Sum	\$2,500.00	\$2,500.00			\$2,500.00	\$2,500
SWPPP Plan - Pre & Final Review	1	EA	Lump Sum	\$5,533.25	\$5,533.25			\$5,533.25	\$5,533
Wall & Fence Plan - Plan Check	5	SHT	Lump Sum	\$273.72	\$1,368.60			\$1,368.60	\$1,369
Final Monument Setting and Inspection Fee	1	Unit	Lump Sum	\$2,582.00	\$2,582.00			\$2,582.00	\$2,582
Onsite Grading Review (includes: hardscape, sd & sewer)	5	SHT	Lump Sum	\$812.99	\$4,064.95			\$4,064.95	\$4,065
Onsite Grading Permit (includes: hardscape, sd & sewer)	50	Unit	Each	\$75.40	\$3,770.00	\$2,640.58			\$2,641
Water Quality Management Plan - Pre & Final Review	1	EA	Lump Sum	\$5,533.25	\$5,533.25			\$5,533.25	\$5,533
Final Survey Staking Guarantee	1	LS	Lump Sum	\$1,000.00	\$1,000.00			\$1,000.00	\$1,000
Street Improvement/Inspection	3%	LS	Lump Sum	\$0.00	\$0.00			\$0.00	\$0
Sewer									
Sewer Capacity Fee	50	Unit	DU	\$5,468.58	\$273,429.00		\$123,081.19		\$123,081
Sewer Application Fee	50	Unit	DU	\$25.00	\$1,250.00		\$562.67		\$563
Sewer Capacity "Connection" Fee	0	SF	Lump Sum	\$1.77	\$0.00			\$0.00	\$0
Mitigation and Area Benefit Fees	50		DU						\$0
Traffic Signals	50	EA	DU	\$32.19	\$1,609.50		\$724.50		\$724
Railroad Crossings	50	EA	DU	\$34.56	\$1,728.00		\$777.84		\$778
Fire Station	50	EA	DU	\$134.24	\$6,712.00		\$3,021.34		\$3,021
Public Facilities	50	EA	DU	\$38.26	\$1,913.00		\$861.12		\$861
Police Station	50	EA	DU	\$44.87	\$2,243.50		\$1,009.89		\$1,010
Recreation Facilities	50	EA	DU	\$721.16	\$36,058.00		\$16,231.13		\$16,231
Community Park	50	EA	DU	\$2,359.35	\$117,967.50		\$53,101.83		\$53,102
Neighborhood Park	50	EA	DU	\$2,855.21	\$142,760.50		\$64,262.14		\$64,262
Emergency Preparedness	50	EA	DU	\$0.22	\$11.00		\$4.95		\$5
Recycled Water Fees	50	EA	DU	\$786.64	\$39,332.00		\$17,704.89		\$17,705
General Plan	50	EA	DU	\$0.05	\$2.50		\$1.13		\$1
Local Streets and Bridge Fee	50	EA	DU	\$295.96	\$14,798.00		\$6,661.16		\$6,661
Transportation Uniform Mitigation	50	EA	DU	\$1,770.00	\$88,500.00		\$39,837.34		\$39,837
Multiple Species Habitat Conservation Plan (MSHCP)	50	EA	DU	\$7,382.00	\$369,100.00		\$166,146.48		\$166,146
Southwest Properties Water	50	EA	DU	\$0.00	\$0.00		\$0.00		\$0
Legacy Highlands Sewer	50	EA	DU	\$0.00	\$0.00		\$0.00		\$0
Eastside Sewer	50	EA	DU	\$0.00	\$0.00		\$0.00		\$0
San Timoteo Sewer Facility	50	EA	DU	\$0.00	\$0.00		\$0.00		\$0
Willow Spring Sewer Capacity Fee	50	EA	DU	\$453.83	\$22,691.50		\$10,214.34		\$10,214

LEGACY HIGHLANDS	Initial Inputs					Reduced Intensity Alternative			
Tract Map No. 31570-11 Estimate (SF Example)	50 Units		18.8 Acres			22.507 Units		18.8 Acres	
			Standardized Unit			Cost on a Per	Cost on a Per		
Associated Fees	Qty.	Unit	Measure	Unit Cost	Total Cost	Unit Basis	DU Basis	Lump Sum	Total Cost
Beaumont Cherry Valley Water District									
Potable Water Fees	50	EA	DU	\$7,059.00	\$352,950.00		\$158,876.73		\$158,877
Plan Check & Inspection	1	Unit	Lump Sum	\$15,000.00	\$15,000.00			\$15,000.00	\$15,000
Frontage Fee	1	LF	Lump Sum	\$35.00	\$35.00			\$35.00	\$35
Water Facilities Fee	50	EA	DU	\$10,122.00	\$506,100.00		\$227,815.59		\$227,816
Water Meter Installation (Dom. Or Irri.) - 2"	50	EA	DU	\$5,587.00	\$279,350.00		\$125,746.46		\$125,746
Fire Service Installation	1	Unit	Lump Sum	\$31,300.00	\$31,300.00			\$31,300.00	\$31,300
New Source Water Fee	50	EA	DU	\$1,414.00	\$70,700.00		\$31,824.86		\$31,825
Beaumont Unified School District									
School Fee	50	EA	DU	\$4,050.00	\$202,500.00		\$91,153.24		\$91,153
County of Riverside Fees									
Environmental Health Map Check	1	LS	Lump Sum	\$528.00	\$528.00			\$528.00	\$528
Fire Department Tract Map Check	1	LS	Lump Sum	\$1,063.00	\$1,063.00			\$1,063.00	\$1,063
Fuel Modification Zone Fee	50	EA	DU	\$386.30	\$19,315.00		\$8,694.44		\$8,694
Surveyor Office Tract Map Check	1	LS	Lump Sum	\$15,000.00	\$15,000.00			\$15,000.00	\$15,000
Flood Control ADP Review	1	LS	Lump Sum	\$15,000.00	\$15,000.00			\$15,000.00	\$15,000
Fish and Game Fees	1	LS	Lump Sum	\$3,168.00	\$3,168.00			\$3,168.00	\$3,168
Consultant Fees									
Civil	50	EA	Each	\$1,500.00	\$75,000.00	\$52,531.47			\$52,531
Staking	50	EA	Each	\$1,500.00	\$75,000.00	\$52,531.47			\$52,531
Geotechnical	50	EA	Each	\$750.00	\$37,500.00	\$26,265.74			\$26,266
Landscape	50	EA	Each	\$500.00	\$25,000.00	\$17,510.49			\$17,510
Arch/Paleo	50	EA	Each	\$200.00	\$10,000.00	\$7,004.20			\$7,004
Arch/Paleo	50	EA	Each	\$200.00	\$10,000.00	\$7,004.20			\$7,004
Subtotal Fees					\$2,914,520.83	\$168,832.54	\$1,159,473.52	\$108,140.14	\$1,436,446.20
Total Gross Costs (Construction Costs and Fees)					\$4,790,015.13	\$1,385,282.34	\$1,221,930.37	\$108,140.14	\$2,715,352.85

Construction Costs Per Unit	\$37,509.89	\$56,822.68
Fee Costs Per Unit	\$58,290.42	\$63,822.27
Total Gross Costs Per Unit	\$95,800.30	\$120,644.96
Percent variation from base case		125.93%
Constr as % of total	39.2%	47.1%

Application of costs of land development and fees to entire project

Costs/unit by this tract example (SFCosts)	\$95,800	\$120,645
Percent variation from base case		125.9%

Appendix C. Multifamily sample tract for analysis of costs by alternative

Development Scenario (MF)	Initial Inputs	Reduced Intensity Alternative	Biological Preserve Alternative
No. of Units	118	53.12	118
Factor for Changing Quantities	1	0.4697	
Factor for Changing Unit Quantities (Rounded nearest Whole Unit)	1	0.4501	
Developed Area			
Average Lot Size			

Note: There are no costs associated with the No Project Alternative

LEGACY HIGHLANDS	Initial Inputs					Reduced Intensity Alternative			
Tract Map No. 31570-17 (Ph II) Estimate (MF Example)	118 Units		10.1 Acres			53 Units		10.1 Acres	
	Standardized Unit Measure					Cost on a Per		Cost on a Per	
Construction Costs	Qty.	Unit	(per TNDG)	Unit Cost	Total Cost	Unit Basis	DU Basis	Lump Sum	Total Cost
Street Improvements									
Asphalt Concrete Paving (3")	0	SF	Each	\$2.00	\$0	\$0.00			\$0
Class II Aggregate Base (6")	0	SF	Each	\$0.15	\$0	\$0.00			\$0
Fog Seal	0	SF	Each	\$0.15	\$0	\$0.00			\$0
6" Curb and Gutter, Type A-6	0	LF	Each	\$10.00	\$0	\$0.00			\$0
Cross-Gutter	0	SF	Each	\$5.00	\$0	\$0.00			\$0
Gutter Depression	0	Each	Each	\$1,650.00	\$0	\$0.00			\$0
Sidewalk (W=6')	0	SF	Each	\$2.50	\$0	\$0.00			\$0
Handicap Ramps	0	SF	Each	\$4.00	\$0	\$0.00			\$0
Driveway Approaches (W=18')	0	Each	Each	\$150.00	\$0	\$0.00			\$0
Landscaping (R/W and Lots)	0	SF	Each	\$3.00	\$0	\$0.00			\$0
Perimeter Block Wall	0	LF	Each	\$72.00	\$0	\$0.00			\$0
Street Lights	0	Each	Each	\$3,500.00	\$0	\$0.00			\$0
Dry Utilities	0	Lot	DU	\$2,600.00	\$0		\$0.00		\$0
Street Name Signs	0	Each	Each	\$400.00	\$0	\$0.00			\$0
Street Stop Sign	0	Each	Each	\$175.00	\$0	\$0.00			\$0
Street Trees*	0	Each	DU	\$175.00	\$0		\$0.00		\$0
Perimeter View Fence	0	LF	Each	\$28.00	\$0	\$0.00			\$0
Subtotal Street Improvements					\$0	\$0.00	\$0.00	\$0.00	\$0
*Quantity assumes one street tree per lot									
Rough Grading									
Erosion Control	118	EA	Each	\$350.00	\$41,300	\$19,399.05			\$19,399
R & R	118	EA	Each	\$550.00	\$64,900	\$30,484.23			\$30,484
Subtotal Rough Grading					\$106,200	\$49,883.28	\$0.00	\$0.00	\$49,883

LEGACY HIGHLANDS	Initial Inputs					Reduced Intensity Alternative			
Tract Map No. 31570-17 (Ph II) Estimate (MF Example)	118 Units		10.1 Acres			53 Units		10.1 Acres	
	Standardized Unit Measure (per TNDG)								
Construction Costs	Qty.	Unit		Unit Cost	Total Cost	Cost on a Per Unit Basis	Cost on a Per DU Basis	Lump Sum	Total Cost
Sanitary Sewer									
Main Line (8" PVC)	0	LF	Each	\$23.00	\$0	\$0.00			\$0
Services (4" PVC)	0	Each	Each	\$500.00	\$0	\$0.00			\$0
Manholes	0	Each	Each	\$3,600.00	\$0	\$0.00			\$0
Install Back Flow Water Valve	0	Each	Each	\$2,000.00	\$0	\$0.00			\$0
Remove Plug and Join Existing	0	Each	Each	\$1,000.00	\$0	\$0.00			\$0
Subtotal Sewer					\$0	\$0.00	\$0.00	\$0.00	\$0
Domestic Water									
Main Line (8" DIP)	0	LF	Each	\$32.00	\$0	\$0.00			\$0
8" Gate Valves	0	Each	Each	\$1,000.00	\$0	\$0.00			\$0
8" D.I. Flanged X Mechanical Adapter	0	Each	Each	\$350.00	\$0	\$0.00			\$0
8" D.I. Tee	0	Each	Each	\$750.00	\$0	\$0.00			\$0
8" D.I. Cross	0	Each	Each	\$470.00	\$0	\$0.00			\$0
8" D.I. Elbow	0	Each	Each	\$450.00	\$0	\$0.00			\$0
Services (1" DIP)	0	Each	Each	\$500.00	\$0	\$0.00			\$0
4" Blowoff	0	Each	Each	\$2,400.00	\$0	\$0.00			\$0
2" Air Release and Vacuum Valve	0	Each	Each	\$2,000.00	\$0	\$0.00			\$0
Fire Hydrants (Steel)	0	Each	Each	\$3,500.00	\$0	\$0.00			\$0
Install 8" Water Cap & Restrained Joint	0	Each	Each	\$350.00	\$0	\$0.00			\$0
Remove Water Cap and Join Existing Main	0	Each	Each	\$2,000.00	\$0	\$0.00			\$0
Install 8" Restrained Joint	0	Each	Each	\$200.00	\$0	\$0.00			\$0
Subtotal Water					\$0	\$0.00	\$0.00	\$0.00	\$0
Storm Drain									
18" RCP	0	LF	Each	\$35.00	\$0	\$0.00			\$0
24" RCP	0	LF	Each	\$45.00	\$0	\$0.00			\$0
30" RCP	0	LF	Each	\$58.00	\$0	\$0.00			\$0
36" RCP	0	LF	Each	\$68.00	\$0	\$0.00			\$0
42" RCP	0	LF	Each	\$78.00	\$0	\$0.00			\$0
48" RCP	0	LF	Each	\$85.00	\$0	\$0.00			\$0
Catch Basin (W=4')	0	Each	Each	\$6,200.00	\$0	\$0.00			\$0
Catch Basin (W=21')	0	Each	Each	\$7,200.00	\$0	\$0.00			\$0
Junction/Transfer Structure	0	Each	Each	\$3,500.00	\$0	\$0.00			\$0
Manhole (48")	0	Each	Each	\$3,800.00	\$0	\$0.00			\$0
Construct Drywell	0	LF	Each	\$20,000.00	\$0	\$0.00			\$0
Construct Headwall	0	LF	Each	\$13,200.00	\$0	\$0.00			\$0
Construct 1/2 Ton Rip-Rap	0	CY	Each	\$88.00	\$0	\$0.00			\$0
Subtotal Storm Drain					\$0	\$0.00	\$0.00	\$0.00	\$0
Subtotal Construction					\$106,200	\$49,883	\$0	\$0	\$49,883

LEGACY HIGHLANDS						Reduced Intensity Alternative			
Tract Map No. 31570-17 Estimate (MF Example)	118 Units		10.1 Acres			53 Units		10.1 Acres	
			Standardized Unit Measure (per TNDG)	Unit Cost	Total Cost	Cost on a Per Unit Basis	Cost on a Per DU Basis	Lump Sum	Total Cost
Associated Fees	Qty.	Unit							
City of Beaumont									
Planning									
Specific Plan	10.1	AC	Each	\$50.00	\$3,191.00	\$2,923.20			\$2,923
Tentative Tract Map	118	Unit	DU	\$25.00	\$7,340.00		\$5,717.91		\$5,718
Landscape Inspection Fees	118	EA	DU	\$81.60	\$10,372.49		\$5,077.99		\$5,078
Landscape Plan - Plan Check	4	SHT	Lump Sum	\$411.09	\$1,644.36			\$1,644.36	\$1,644
Sign Program	1	Unit	Lump Sum	\$1,652.64	\$1,652.64			\$1,652.64	\$1,653
Engineering	\$106,200.00 Project Estimate								
Improvement Plan Check	2%	LS	Lump Sum		\$2,124.00			\$2,124.00	\$2,124
Inspection	3%	LS	Lump Sum		\$3,186.00			\$3,186.00	\$3,186
Bond Premium	1%	LS	Lump Sum		\$1,062.00			\$1,062.00	\$1,062
Final Tract Map Review	118	Unit	Each	\$50.00	\$8,400.00	\$5,271.29			\$5,271
Final Parcel Map Review	1	Unit	Lump Sum	\$2,500.00	\$2,500.00			\$2,500.00	\$2,500
SWPPP Plan - Pre & Final Review	1	EA	Lump Sum	\$5,533.25	\$5,533.25			\$5,533.25	\$5,533
Wall & Fence Plan - Plan Check	4	SHT	Lump Sum	\$273.72	\$1,094.88			\$1,094.88	\$1,095
Final Monument Setting and Inspection Fee	1	Unit	Lump Sum	\$2,582.00	\$2,582.00			\$2,582.00	\$2,582
Onsite Grading Review (includes: hardscape, sd & sewer)	4	SHT	Lump Sum	\$812.99	\$3,251.96			\$3,251.96	\$3,252
Onsite Grading Permit (includes: hardscape, sd & sewer)	118	Unit	Each	\$75.40	\$8,897.20	\$4,179.11			\$4,179
Water Quality Management Plan - Pre & Final Review	1	EA	Lump Sum	\$5,533.25	\$5,533.25			\$5,533.25	\$5,533
Final Survey Staking Guarantee	1	LS	Lump Sum	\$1,000.00	\$1,000.00			\$1,000.00	\$1,000
Street Improvement/Inspection	3%	LS	Lump Sum	\$0.00	\$0.00			\$0.00	\$0
Sewer									
Sewer Capacity Fee	118	Unit	DU	\$5,468.58	\$645,292.44		\$290,471.60		\$290,472
Sewer Application Fee	118	Unit	DU	\$25.00	\$2,950.00		\$1,327.91		\$1,328
Sewer Capacity "Connection" Fee	0	SF	Lump Sum	\$1.77	\$0.00			\$0.00	\$0
Mitigation and Area Benefit Fees	118		DU						\$0
Traffic Signals	118	EA	DU	\$32.19	\$3,798.42		\$1,709.82		\$1,710
Railroad Crossings	118	EA	DU	\$34.56	\$4,078.08		\$1,835.70		\$1,836
Fire Station	118	EA	DU	\$134.24	\$15,840.32		\$7,130.35		\$7,130
Public Facilities	118	EA	DU	\$38.26	\$4,514.68		\$2,032.24		\$2,032
Police Station	118	EA	DU	\$44.87	\$5,294.66		\$2,383.34		\$2,383
Recreation Facilities	118	EA	DU	\$721.16	\$85,096.88		\$38,305.46		\$38,305
Community Park	118	EA	DU	\$2,359.35	\$278,403.30		\$125,320.31		\$125,320
Neighborhood Park	118	EA	DU	\$2,855.21	\$336,914.78		\$151,658.64		\$151,659
Emergency Preparedness	118	EA	DU	\$0.22	\$25.96		\$11.69		\$12
Recycled Water Fees	118	EA	DU	\$786.64	\$92,823.52		\$41,783.53		\$41,784
General Plan	118	EA	DU	\$0.05	\$5.90		\$2.66		\$3
Local Streets and Bridge Fee	118	EA	DU	\$295.96	\$34,923.28		\$15,720.35		\$15,720
Transportation Uniform Mitigation	118	EA	DU	\$1,770.00	\$208,860.00		\$94,016.13		\$94,016
Multiple Species Habitat Conservation Plan (MSHCP)	118	EA	DU	\$7,382.00	\$871,076.00		\$392,105.69		\$392,106
Southwest Properties Water	118	EA	DU	\$0.00	\$0.00		\$0.00		\$0
Legacy Highlands Sewer	118	EA	DU	\$0.00	\$0.00		\$0.00		\$0
Eastside Sewer	118	EA	DU	\$0.00	\$0.00		\$0.00		\$0
San Timoteo Sewer Facility	118	EA	DU	\$0.00	\$0.00		\$0.00		\$0
Willow Spring Sewer Capacity Fee	118	EA	DU	\$453.83	\$53,551.94		\$24,105.84		\$24,106

LEGACY HIGHLANDS	118 Units		10.1 Acres		Reduced Intensity Alternative				
Tract Map No. 31570-17 Estimate (MF Example)					53 Units		10.1 Acres		
		Standardized							
		Unit Measure							
Associated Fees	Qty.	Unit	(per TNDG)	Unit Cost	Total Cost	Cost on a Per Unit Basis	Cost on a Per DU Basis	Lump Sum	Total Cost
Beaumont Cherry Valley Water District									
Potable Water Fees	118	EA DU		\$7,059.00	\$832,962.00		\$374,949.07		\$374,949
Plan Check & Inspection	1	Unit Lump Sum		\$15,000.00	\$15,000.00			\$15,000.00	\$15,000
Frontage Fee	1	LF Lump Sum		\$35.00	\$35.00			\$35.00	\$35
Water Facilities Fee	118	EA DU		\$10,122.00	\$1,194,396.00		\$537,644.78		\$537,645
Water Meter Installation (Dom. Or Irri.) - 2"	118	EA DU		\$5,587.00	\$659,266.00		\$296,761.65		\$296,762
Fire Service Installation	1	Unit Lump Sum		\$31,300.00	\$31,300.00			\$31,300.00	\$31,300
New Source Water Fee	118	EA DU		\$1,414.00	\$166,852.00		\$75,106.67		\$75,107
Beaumont Unified School District									
School Fee	118	EA DU		\$4,050.00	\$477,900.00		\$215,121.65		\$215,122
County of Riverside Fees									
Environmental Health Map Check	1	LS Lump Sum		\$528.00	\$528.00			\$528.00	\$528
Fire Department Tract Map Check	1	LS Lump Sum		\$1,063.00	\$1,063.00			\$1,063.00	\$1,063
Fuel Modification Zone Fee	118	EA DU		\$386.00	\$45,548.00		\$20,502.95		\$20,503
Surveyor Office Tract Map Check	1	LS Lump Sum		\$15,000.00	\$15,000.00			\$15,000.00	\$15,000
Flood Control ADP Review	1	LS Lump Sum		\$15,000.00	\$15,000.00			\$15,000.00	\$15,000
Fish and Game Fees	1	LS Lump Sum		\$3,168.00	\$3,168.00			\$3,168.00	\$3,168
Consultant Fees									
Civil	118	EA Each		\$1,500.00	\$177,000.00	\$83,138.80			\$83,139
Staking	118	EA Each		\$1,500.00	\$177,000.00	\$83,138.80			\$83,139
Geotechnical	118	EA Each		\$750.00	\$88,500.00	\$41,569.40			\$41,569
Landscape	118	EA Each		\$500.00	\$59,000.00	\$27,712.93			\$27,713
Arch/Paleo	118	EA Each		\$200.00	\$23,600.00	\$11,085.17			\$11,085
Arch/Paleo	118	EA Each		\$200.00	\$23,600.00	\$11,085.17			\$11,085
Subtotal Fees					\$6,719,533.19	\$270,103.90	\$2,720,803.94	\$112,258.34	\$3,103,166.18
Total Gross Costs (Construction Costs and Fees)					\$6,825,733.19	\$319,987.18	\$2,720,803.94	\$112,258.34	\$3,153,049.46

Construction Costs Per Unit	\$900.00	\$939.13
Fee Costs Per Unit	\$56,945.20	\$58,421.93
Total Gross Costs Per Unit	\$57,845.20	\$59,361.06
Percent variation from base case		102.62%

Appendix D. Commercial sample tract for analysis of costs by alternative

Development Scenario (Commercial)	Initial Inputs	Reduced Intensity Alternative	Biological Preserve
Square feet retail	100,000	45,000	65,000
Square feet industrial	1,150,000	495,000	1,185,000
Total retail/industrial	1,250,000	540,000	1,250,000
% of Base		43.2%	
No. of Units	N/A		
Factor for Changing Quantities (given in sq. ft., etc.)			
Developed Area			
Average Lot Size	N/A		
Note: There are no costs associated with the No Project Alternative			

LEGACY HIGHLANDS	Initial Inputs					Reduced Intensity Alternative			
Tract Map No. 31570-1 Estimate (Commercial Example)	1,250,000 SF		45.00 Acres			540,000 SF		45.00 Acres	
	Standardized Unit Measure (per TNDG)								
Construction Costs	Qty.	Unit		Unit Cost	Total Cost	Cost on a Per Unit Basis	Cost on a Per DU Basis	Lump Sum	Total Cost
Street Improvements									
Asphalt Concrete Paving (3")	0 SF	Each		\$2.00	\$0	\$0.00			\$0
Class II Aggregate Base (6")	0 SF	Each		\$0.15	\$0	\$0.00			\$0
Fog Seal	0 SF	Each		\$0.15	\$0	\$0.00			\$0
6" Curb and Gutter, Type A-6	0 LF	Each		\$10.00	\$0	\$0.00			\$0
Cross-Gutter	0 SF	Each		\$5.00	\$0	\$0.00			\$0
Gutter Depression	0 Each	Each		\$1,650.00	\$0	\$0.00			\$0
Sidewalk (W=6')	0 SF	Each		\$2.50	\$0	\$0.00			\$0
Handicap Ramps	0 SF	Each		\$4.00	\$0	\$0.00			\$0
Driveway Approaches (W=18')	0 Each	Each		\$150.00	\$0	\$0.00			\$0
Landscaping (R/W and Lots)	0 SF	Each		\$3.00	\$0	\$0.00			\$0
Perimeter Block Wall	0 LF	Each		\$72.00	\$0	\$0.00			\$0
Street Lights	0 Each	Each		\$3,500.00	\$0	\$0.00			\$0
Dry Utilities	0 Lot	DU		\$2,600.00	\$0		\$0.00		\$0
Street Name Signs	0 Each	Each		\$400.00	\$0	\$0.00			\$0
Street Stop Sign	0 Each	Each		\$175.00	\$0	\$0.00			\$0
Street Trees*	0 Each	DU		\$175.00	\$0		\$0.00		\$0
Perimeter View Fence	0 LF	Each		\$28.00	\$0	\$0.00			\$0
Subtotal Street Improvements					\$0	\$0.00	\$0.00	\$0.00	\$0
<i>*Quantity assumes one street tree per lot</i>									
Rough Grading									
Erosion Control	0 EA	Each		\$350.00	\$0	\$0.00			\$0
R & R	0 EA	Each		\$550.00	\$0	\$0.00			\$0
Subtotal Rough Grading					\$0	\$0.00	\$0.00	\$0.00	\$0

LEGACY HIGHLANDS	Initial Inputs					Reduced Intensity Alternative			
Tract Map No. 31570-1 Estimate (Commercial Example)	1,250,000 SF		45.00 Acres			540,000 SF		45.00 Acres	
	Standardized Unit Measure (per								
Construction Costs	Qty.	Unit	TNDG)	Unit Cost	Total Cost	Cost on a Per Unit Basis	Cost on a Per DU Basis	Lump Sum	Total Cost
Sanitary Sewer									
Main Line (8" PVC)	0	LF	Each	\$23.00	\$0	\$0.00			\$0
Services (4" PVC)	0	Each	Each	\$500.00	\$0	\$0.00			\$0
Manholes	0	Each	Each	\$3,600.00	\$0	\$0.00			\$0
Install Back Flow Water Valve	0	Each	Each	\$2,000.00	\$0	\$0.00			\$0
Remove Plug and Join Existing	0	Each	Each	\$1,000.00	\$0	\$0.00			\$0
Subtotal Sewer					\$0	\$0.00	\$0.00	\$0.00	\$0
Domestic Water									
Main Line (8" DIP)	0	LF	Each	\$32.00	\$0	\$0.00			\$0
8" Gate Valves	0	Each	Each	\$1,000.00	\$0	\$0.00			\$0
8" D.I. Flanged X Mechanical Adapter	0	Each	Each	\$350.00	\$0	\$0.00			\$0
8" X 8" X 8" D.I. Tee	0	Each	Each	\$750.00	\$0	\$0.00			\$0
Services (1" DIP)	0	Each	Each	\$500.00	\$0	\$0.00			\$0
4" Blowoff	0	Each	Each	\$2,400.00	\$0	\$0.00			\$0
2" Air Release and Vacuum Valve	0	Each	Each	\$2,000.00	\$0	\$0.00			\$0
Fire Hydrants (Steel)	0	Each	Each	\$3,500.00	\$0	\$0.00			\$0
Install 8" Water Cap & Restrained Joint	0	Each	Each	\$350.00	\$0	\$0.00			\$0
Remove Water Cap and Join Existing Main	0	Each	Each	\$2,000.00	\$0	\$0.00			\$0
Install 8" Restrained Joint	0	Each	Each	\$200.00	\$0	\$0.00			\$0
Subtotal Water					\$0	\$0	\$0	\$0	\$0
Storm Drain									
18" RCP	0	LF	Each	\$35.00	\$0	\$0			\$0
24" RCP	0	LF	Each	\$45.00	\$0	\$0			\$0
42" RCP	0	LF	Each	\$78.00	\$0	\$0			\$0
48" RCP	4,380	LF	Each	\$85.00	\$372,300	\$160,834			\$160,834
Catch Basin (W=14')	0	Each	Each	\$6,200.00	\$0	\$0			\$0
Catch Basin (W=21')	0	Each	Each	\$7,200.00	\$0	\$0			\$0
Junction/Transfer Structure	4	Each	Each	\$3,500.00	\$14,000	\$6,048			\$6,048
Manhole (48")	10	Each	Each	\$3,800.00	\$38,000	\$16,416			\$16,416
Construct Drywell	0	LF	Each	\$20,000.00	\$0	\$0			\$0
Construct Headwall	0	LF	Each	\$13,200.00	\$0	\$0			\$0
Remove Existing Headwall	1	Each	Each	\$8,500.00	\$8,500	\$3,672			\$3,672
Construct 1/2 Ton Rip-Rap	0	CY	Each	\$88.00	\$0	\$0			\$0
Subtotal Storm Drain					\$432,800	\$186,970	\$0	\$0	\$186,970
Landscaping									
Landscape Slopes	600,000	SF	Each	\$2.50	\$1,500,000	\$648,000			\$648,000
Subtotal Landscaping					\$1,500,000	\$648,000	\$0	\$0	\$648,000
Subtotal Construction and Landscaping					\$1,932,800	\$834,970	\$0	\$0	\$834,970

LEGACY HIGHLANDS Tract Map No. 31570-1 Estimate (Commercial Example)	1,250,000 SF		45.00 Acres		Reduced Intensity Alternative			
					540,000 SF	45.00 Acres		
Associated Fees	Qty.	Unit	Unit Cost		Cost on a Per Unit Basis	Cost on a Per DU Basis	Lump Sum	Total Cost
City of Beaumont								
Planning								
Specific Plan	45.00	AC	Each	\$50.00	\$4,936.00	\$3,658		\$3,658
Tentative Tract Map	0	Unit	DU	\$25.00	\$4,390.00		\$4,390	\$4,390
Landscape Inspection Fees	0	EA	DU	\$81.60	\$743.69		\$744	\$744
Landscape Plan - Plan Check	11	SHT	Lump Sum	\$411.09	\$4,521.99		\$4,522	\$4,522
Sign Program	1	Unit	Lump Sum	\$1,652.64	\$1,652.64		\$1,653	\$1,653
Engineering								
	\$1,500,000 Project Estimate							
Improvement Plan Check	2%	LS	Lump Sum		\$30,000.00		\$30,000	\$30,000
Inspection	3%	LS	Lump Sum		\$45,000.00		\$45,000	\$45,000
Bond Premium	1%	LS	Lump Sum		\$15,000.00		\$15,000	\$15,000
Final Tract Map Review	0	Unit	Each	\$50.00	\$2,500.00	\$2,500		\$2,500
Final Parcel Map Review	1	Unit	Lump Sum	\$2,500.00	\$2,500.00		\$2,500	\$2,500
SWPPP Plan - Pre & Final Review	1	EA	Lump Sum	\$5,533.25	\$5,533.25		\$5,533	\$5,533
Wall & Fence Plan - Plan Check	11	SHT	Lump Sum	\$273.72	\$3,010.92		\$3,011	\$3,011
Final Monument Setting and Inspection Fee	1	Unit	Lump Sum	\$2,582.00	\$2,582.00		\$2,582	\$2,582
Onsite Grading Review (includes: hardscape, sd & sewer)	11	SHT	Lump Sum	\$812.99	\$8,942.89		\$8,943	\$8,943
Onsite Grading Permit (includes: hardscape, sd & sewer)	0	Unit	Each	\$75.40	\$0.00	\$0		\$0
Water Quality Management Plan - Pre & Final Review	1	EA	Lump Sum	\$5,533.25	\$5,533.25		\$5,533	\$5,533
Final Survey Staking Guarantee	1	LS	Lump Sum	\$1,000.00	\$1,000.00		\$1,000	\$1,000
Street Improvement/Inspection	3%	LS	Lump Sum	\$0.00	\$0.00		\$0	\$0
Sewer								
Sewer Capacity Fee	0	Unit	DU	\$5,468.58	\$0.00		\$0	\$0
Sewer Application Fee	0	Unit	DU	\$25.00	\$0.00		\$0	\$0
Sewer Capacity "Connection" Fee	0	SF	Lump Sum	\$1.77	\$0.00		\$0	\$0
Mitigation and Area Benefit Fees	0		DU					\$0
Traffic Signals	0	EA	DU	\$32.19	\$0.00		\$0	\$0
Railroad Crossings	0	EA	DU	\$34.56	\$0.00		\$0	\$0
Fire Station	0	EA	DU	\$134.24	\$0.00		\$0	\$0
Public Facilities	0	EA	DU	\$38.26	\$0.00		\$0	\$0
Police Station	0	EA	DU	\$44.87	\$0.00		\$0	\$0
Recreation Facilities	0	EA	DU	\$721.16	\$0.00		\$0	\$0
Community Park	0	EA	DU	\$2,359.35	\$0.00		\$0	\$0
Neighborhood Park	0	EA	DU	\$2,855.21	\$0.00		\$0	\$0
Emergency Preparedness	0	EA	DU	\$0.22	\$0.00		\$0	\$0
Recycled Water Fees	0	EA	DU	\$786.64	\$0.00		\$0	\$0
General Plan	0	EA	DU	\$0.05	\$0.00		\$0	\$0
Local Streets and Bridge Fee	0	EA	DU	\$295.96	\$0.00		\$0	\$0
Transportation Uniform Mitigation	0	EA	DU	\$1,770.00	\$0.00		\$0	\$0
Multiple Species Habitat Conservation Plan (MSHCP)	0	EA	DU	\$7,382.00	\$0.00		\$0	\$0
Southwest Properties Water	0	EA	DU	\$0.00	\$0.00		\$0	\$0
Legacy Highlands Sewer	0	EA	DU	\$0.00	\$0.00		\$0	\$0
Eastside Sewer	0	EA	DU	\$0.00	\$0.00		\$0	\$0
San Timoteo Sewer Facility	0	EA	DU	\$0.00	\$0.00		\$0	\$0
Willow Spring Sewer Capacity Fee	0	EA	DU	\$453.83	\$0.00		\$0	\$0

LEGACY HIGHLANDS Tract Map No. 31570-1 Estimate (Commercial Example)	1,250,000 SF		45.00 Acres		Reduced Intensity Alternative			
					540,000 SF	45.00 Acres		
Associated Fees	Qty.	Unit	Unit Cost		Cost on a Per Unit Basis	Cost on a Per DU Basis	Lump Sum	Total Cost
Beaumont Cherry Valley Water District								
Potable Water Fees	0 EA	DU	\$7,059.00	\$0.00		\$0		\$0
Plan Check & Inspection	1 Unit	Lump Sum	\$15,000.00	\$15,000.00			\$15,000	\$15,000
Frontage Fee	1 LF	Lump Sum	\$35.00	\$35.00			\$35	\$35
Water Facilities Fee	0 EA	DU	\$10,122.00	\$0.00		\$0		\$0
Water Meter Installation (Dom. Or Irri.) - 2"	0 EA	DU	\$5,587.00	\$0.00		\$0		\$0
Fire Service Installation	1 Unit	Lump Sum	\$31,300.00	\$31,300.00			\$31,300	\$31,300
New Source Water Fee	0 EA	DU	\$1,414.00	\$0.00		\$0		\$0
Beaumont Unified School District								
School Fee	0 EA	DU	\$4,050.00	\$0.00		\$0		\$0
County of Riverside Fees								
Environmental Health Map Check	1 LS	Lump Sum	\$528.00	\$528.00			\$528	\$528
Fire Department Tract Map Check	1 LS	Lump Sum	\$1,063.00	\$1,063.00			\$1,063	\$1,063
Fuel Modification Zone Fee	0 EA	DU	\$386.30	\$0.00		\$0		\$0
Surveyor Office Tract Map Check	1 LS	Lump Sum	\$15,000.00	\$15,000.00			\$15,000	\$15,000
Flood Control ADP Review	1 LS	Lump Sum	\$15,000.00	\$15,000.00			\$15,000	\$15,000
Fish and Game Fees	1 LS	Lump Sum	\$3,168.00	\$3,168.00			\$3,168	\$3,168
Consultant Fees								
Civil	0 EA	Each	\$1,500.00	\$0.00	\$0			\$0
Staking	0 EA	Each	\$1,500.00	\$0.00	\$0			\$0
Geotechnical	0 EA	Each	\$750.00	\$0.00	\$0			\$0
Landscape	0 EA	Each	\$500.00	\$0.00	\$0			\$0
Arch/Paleo	0 EA	Each	\$200.00	\$0.00	\$0			\$0
Subtotal Fees			\$218,940.63		\$6,158	\$5,134	\$206,371	\$217,663
Total Gross Costs (Construction Costs and Fees)			\$2,151,740.63		\$654,158	\$5,134	\$206,371	\$865,663

Construction Costs Per Unit	\$1.55	\$1.55
Fee Costs Per Unit	\$0.18	\$0.40
Total Gross Costs Per Unit	\$1.72	\$1.95
Percent variation from base case		113.2%