Appendix Q Water Supply Assessment

Appendices

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Yucaipa Valley Water District

12770 Second Street, Yucaipa, California 92399

Water Supply Assessment and Written Verification of Supply for the Interstate 10 Freeway Corridor Specific Plan

January 16, 2024

Table of Contents

1.0 Introduction and Purpose of Report

1.1 Purpose of the Water Supply Assessment

This Water Supply Assessment (WSA) describes the relationship between projected water demands on the Yucaipa Valley Water District's water supply and the availability of that supply under normal and dry years for the Interstate 10 Freeway Corridor Specific Plan (the "Project").

On October 9, 2001, Governor Gray Davis signed into law Senate Bills 610 (Costa) and 221 (Kuehl) that require the preparation of a water supply assessment in conjunction with development projects under the California Environmental Quality Act (CEQA), and a written verification of water supply where a development is proposed for approval. Subsequent legislation has broadened the requirements for analyzing and verifying that a sufficient water supply exists for a variety of projects.

This water supply assessment and written verification of water supply will serve to assist policy makers to make informed decisions related to water supply over a twenty year period and clearly communicate the water supply availability to the City of Yucaipa land use officials for consideration as part of an environmental evaluation.

Just like a financial investment portfolio, the Yucaipa Valley Water District ("District") has implemented a diversified portfolio of available water resources as a strategy to maintain a reliable water supply for existing and future customers. Specifically, the District has access to the following water supplies to meet existing and future water demands within the sphere of influence:

- Unadjudicated Ground Water Supplies as part of the Yucaipa Sustainable Groundwater Management Plan
  - Crafton Subbasin
  - Gateway Subbasin
  - Triple Falls Subbasin
  - Oak Glen Subbasin
  - Wilson Creek Subbasin
  - Calimesa Subbasin
  - Singleton Canyon Subbasin
  - San Timoteo Subbasin
  - Western Heights Subbasin
  - Wildwood Subbasin
- Adjudicated Groundwater Supplies
  - Beaumont Storage Unit
- Surface Water Supplies
  - Oak Glen Surface Water
- Supplemental Water Supplies
  - Direct Delivery to the Yucaipa Valley Regional Water Filtration Facility
    - San Bernardino Valley Municipal Water District (City of Yucaipa and San Bernardino County area)

    - San Gorgonio Pass Water Agency (City of Calimesa and Riverside County area)
  - Direct Delivery to the Wilson Creek Spreading Basins
    - San Bernardino Valley Municipal Water District (City of Yucaipa and San Bernardino County area)
  - Direct Delivery to the Brookside Recharge Facility
    - San Gorgonio Pass Water Agency (City of Calimesa and Riverside County area)
- Recycled Water Supplies
  - Henry N. Wochholz Regional Water Recycling Facility
- Aquifer Storage and Recovery System (To be completed in 2026)
  - High Purity Recycled Water from the Yucaipa Valley Recycled Pure Facility
- Non-Potable Water Supplies - Augmented Recycled Water Supplies and Augmented Recharge
  - Various Groundwater Sources Not Suitable for Drinking Water
  - Untreated Imported Supplies - San Bernardino Valley Municipal Water District (City of Yucaipa and San Bernardino County area)
  - Untreated Imported Supplies - San Gorgonio Pass Water Agency (City of Calimesa and Riverside County area)

On March 7, 2007, the Board of Directors of the Yucaipa Valley Water District considered and approved Resolution No. 09-2007 Adopting the Water Supply Assessment and Written Verification of Supply for the Interstate 10 Freeway Corridor Specific Plan [Director Memorandum No. 07-016]. Due to a variety of changes associated with the Project, the Yucaipa Valley Water District received a request to re-evaluate and update the previously approved Water Supply Assessment.

The following table identifies the net change in dwelling units and nonresidential square footage between the Water Supply Assessment approved by the Yucaipa Valley Water District in 2007 versus this current document. In summary, the new proposed Project would result in an increase of 25 dwelling units and 69 people, a reduction of approximately 2.28 million square feet of Regional Commercial (RC), an increase of approximately 2.79 million square feet of Business Park (BP), and a reduction of 317 employees.

Buildout Comparison of the Proposed Project to the Approved Project

	Dwelling Units	Population	Regional Commercial (RC) SF	Business Park (BP) SF	Total Non-residential SF	Employees
Approved Project	2,447	6,754	3,379,737	1,206,042	4,585,779	2,999
Proposed Project	2,472	6,823	1,100,761	3,992,503	5,093,265	2,682
Net Change	**25**	**69**	**-2,278,976**	**2,786,461**	**507,486**	**-317**

Notes: SF = square feet; RC = Regional Commercial; BP = Business Park. There is no change associated with the existing pumpkin farm.

The overall increase in water demands is negligible for the Project when compared to the increase in availability of water resources and water supplies available to the Yucaipa Valley Water District over the past sixteen years.

1.2 Scope of Analysis

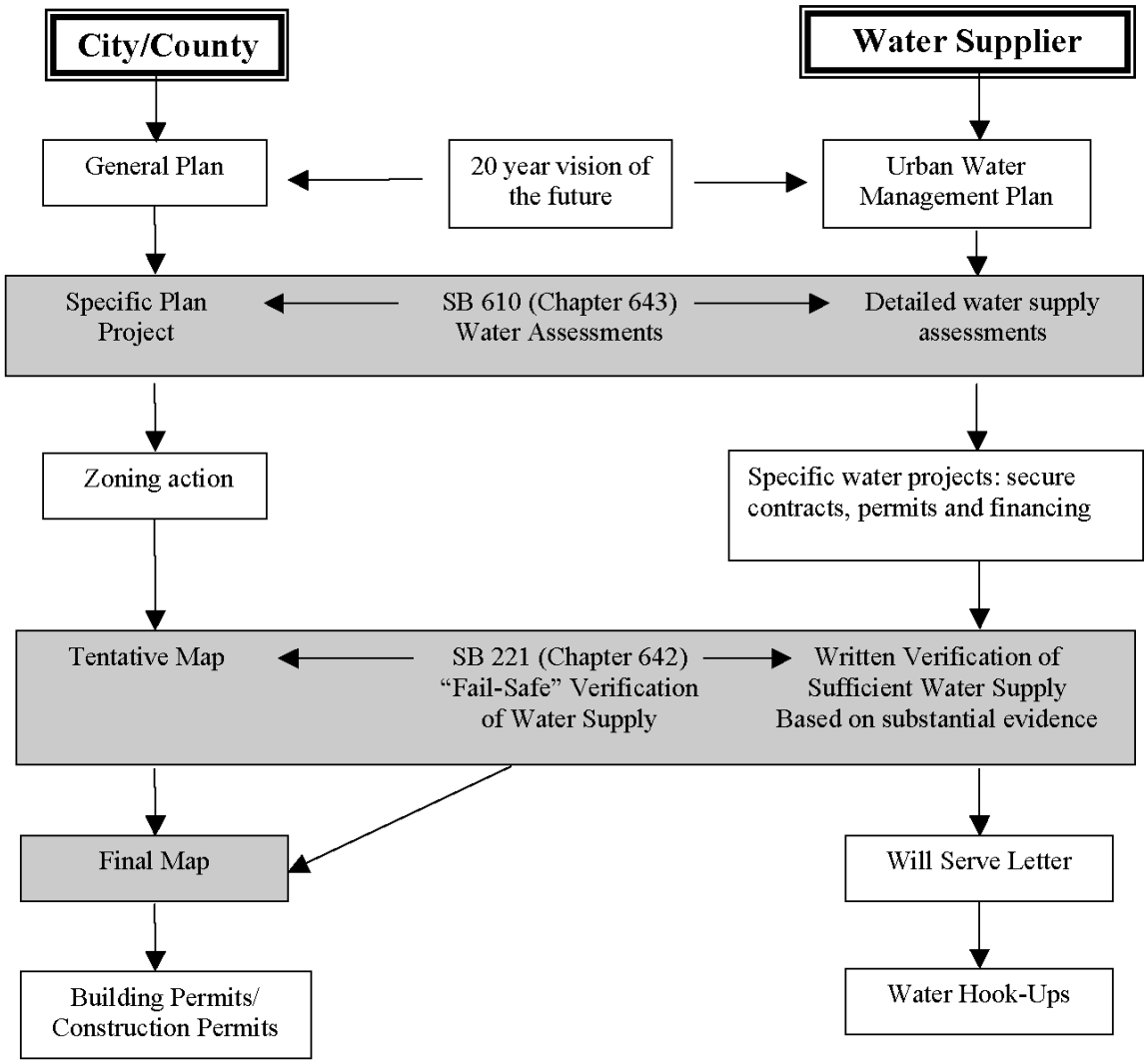
This Water Supply Assessment includes a review of the Yucaipa Valley Water District's water supplies and demands for existing and future development as described in the District's Master Plan, Urban Water Management Plan, and Integrated Regional Water Management Plan, all of which are based on the land use plans prepared by the City of Yucaipa and the City of Calimesa. This report will analyze the specific water supplies to meet the water demands of the Project in normal, single dry, and multiple dry years.

The Yucaipa Valley Water District Board of Directors considered this Water Supply Assessment and Written Verification at the regular meeting on December 5, 2023, where after hearing all testimony and evidence presented, the board members will determine whether projected water supplies will be sufficient to satisfy the demands of the proposed Project, in addition to existing and planned future uses. With minor modifications to the proposed water supply and demand calculations, the Board of Directors considered an updated Water Supply Assessment on January 16, 2024. If approved, the District staff will forward a copy of the final Water Supply Assessment to the City of Yucaipa for inclusion as part of the environmental documents prepared for the Interstate 10 Freeway Corridor Specific Plan pursuant to the requirements of the California Environmental Quality Act.

2.0 Requirements of Senate Bill 221 and Senate Bill 610

The general intent of Senate Bill 221 and Senate Bill 610 was to create additional assurance that certain new developments could be provided a reliable supply of water and that the effect of new developments upon existing water users, both within the service area of the public water provider and those dependent on common sources of water, were informed regarding the proposed water use, its impacts, and plans to maintain reliable supplies. The legislation also serves to better inform decision makers regarding the water supply implications of development addressed by the measures.

The following chart illustrates the relationship between a local land use agency and the water supplier in their planning processes. The General Plan, prepared by a city or county planning department, and the Urban Water Management Plan prepared by a water supplier are the critical source documents used to substantiate the information required by Senate Bill 221 and Senate Bill 610 at the local level.

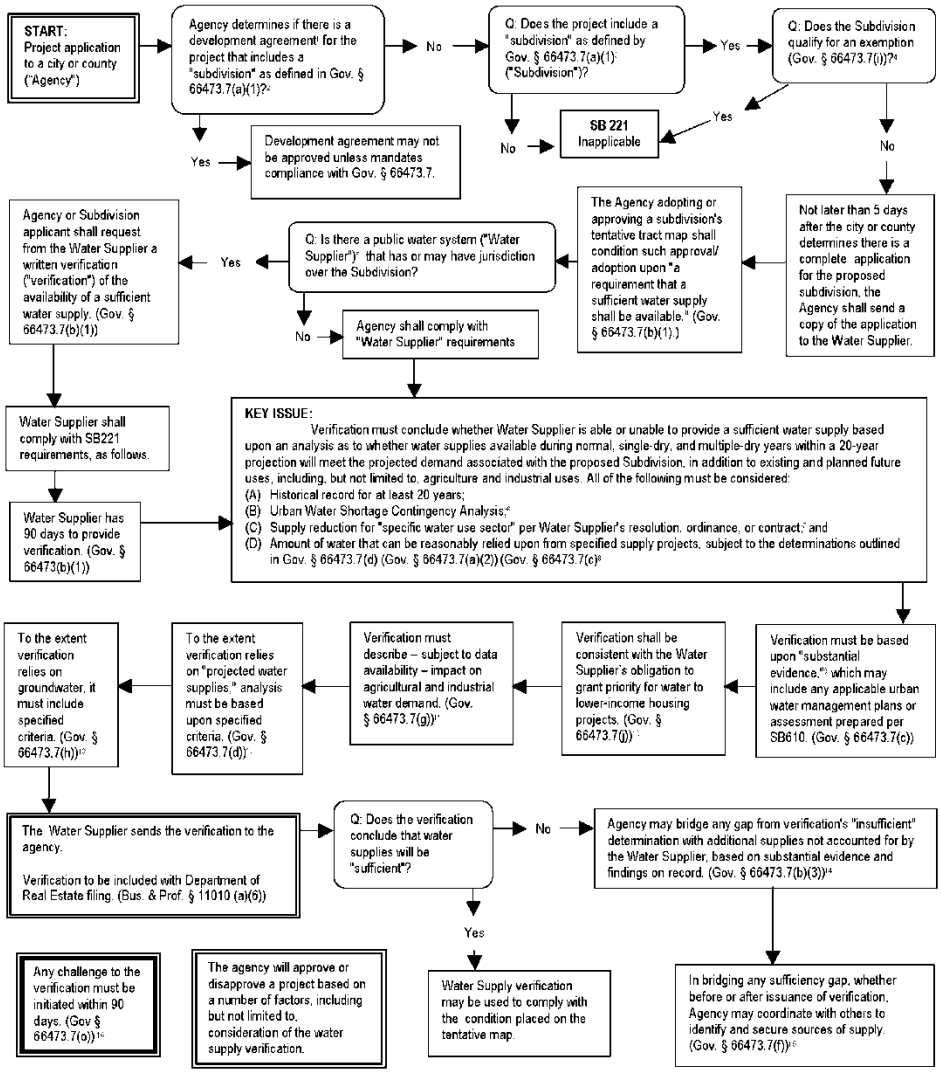


Source: Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001, California Department of Water Resources, October 8, 2003, page v.

2.1 Senate Bill 221

Senate Bill 221 creates a specific requirement for a written verification that a sufficient supply of water exists for any residential developments of 500 or greater units as a condition of approval of a tentative tract or parcel map. Local land use approval authorities may not approve such maps if a sufficient supply cannot be demonstrated. Under the statute, a sufficient supply is defined as the total water supply available during normal, single dry and multiple dry years within a 20-year projection that will meet the water suppliers existing and planned future uses (Government Code 66473.7(a)(2). 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 any impact on the service level of existing customers. A "sufficient water supply" may be found to exist for a proposed 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 (ACWA, 2002).

SB 221 Flowchart

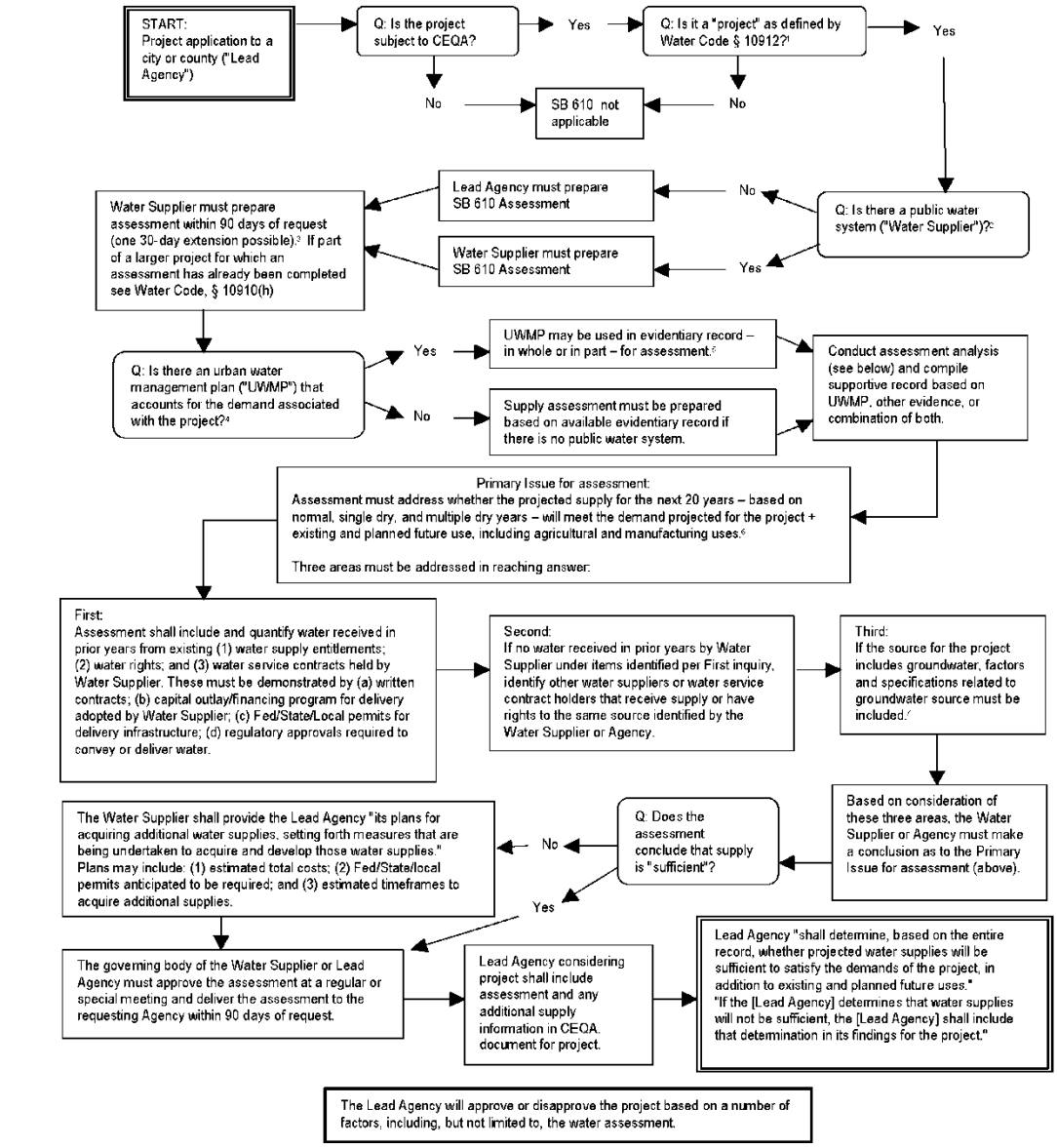


Source: Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001, California Department of Water Resources, October 8, 2003, page viii (chart courtesy of the Building Industry Legal Defense Foundation.

2.2 Senate Bill 610

Senate Bill 610 became effective January 1, 2002. The stated intent of SB 610 is to strengthen the process by which local agencies determine the adequacy and sufficiency of current and future water supplies to meet current and future demands. SB 610 amended the California Public Resources Code to incorporate Water Code findings within the CEQA process for certain types of projects, amended the Water Code to broaden the types of information included in Urban Water Management Plans ((UWMP) – Water Code Section 10620 et. seq.) and added to Water Code Part 2.10 Water Supply Planning to Support Existing and Planned Future Uses (Section 10910 et. seq.). Part 2.10 clarifies the roles and responsibilities of the Lead Agency under CEQA and the "water supplier" with respect to describing current and future supplies compared to current and future demands.

SB 610 Flowchart



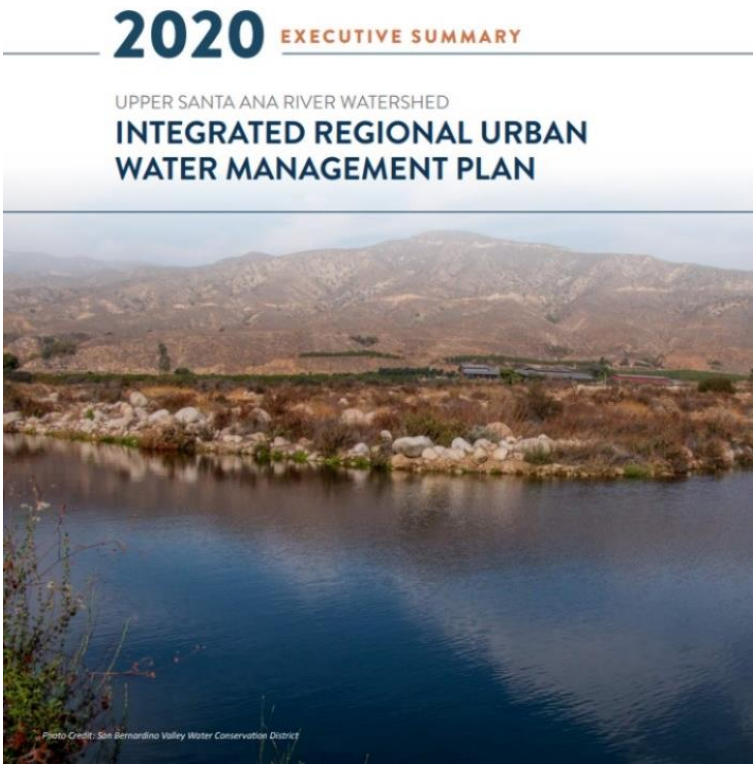
Source: Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001, California Department of Water Resources, October 8, 2003, page vi (chart courtesy of the Building Industry Legal Defense Foundation.

Overall, Senate Bill 610 requires that a water supply assessment be prepared for certain developments, including commercial development of more than 250,000 square feet of floor space, a retail center with more than 500,000 square feet of floor space, or more than 500 dwelling units. The requirement is one that adds a specific water supply assessment protocol for land use jurisdictions to follow and consider in evaluating the environmental impacts for a proposed project.

The Water Supply Assessment must be included in any CEQA document prepared for the project. For the Interstate 10 Freeway Corridor Specific Plan, the City of Yucaipa must determine, based on the entire record, whether projected water supplies will be sufficient to satisfy the demands of the project, in addition to existing and planned future uses.

3.0 The Urban Water Management Planning Act

The Urban Water Management Planning Act requires municipal water providers serving over 3,000 acre-feet (AF) of water (1 AF = 325,900 gallons) or having at least 3,000 service connections to prepare plans (urban water management plans) 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. These plans also require the assessment of urban water conservation measures, recycling, and a water shortage contingency plan. The requirements for Urban Water Management Plans are found in two sections of California Water Code, §10610-10656 and §10608.



Within the documented Urban Water Management Plan, urban water suppliers must:

- Assess the reliability of water sources over a 20-year planning time frame;
- Describe demand management measures and water shortage contingency plans;
- Report progress toward meeting a targeted 20 percent reduction in per-capita (per-person) urban water consumption by the year 2020; and
- Discuss the use and planned use of recycled water;

The Yucaipa Valley Water District coordinates our urban water management plan with several other local water agencies. The compilation of the Urban Water Management Plan is available at: https://www.yvwd.us/services/urban_water_management_plan.php.

Like Senate Bill 610 and Senate Bill 221, specific levels of supply reliability are not mandated (i.e., whether a specific level of demand can be met over a designated frequency); rather, the law provides that it is a local policy decision of the water provider as part of the planning process. The Yucaipa Valley Water District's most recent Urban Water Management Plan describes the reliability of water supplies that the District relies upon to meet existing and future demands.

As provided for in the law, this report incorporates by reference and relies upon the planning assumptions and projections of the Yucaipa Valley Water District's Urban Water Management Plan in assessing the water demand of the proposed project relative to the overall increase in demands expected by the District. Overall, the water demands for the Interstate 10 Freeway Corridor Specific Plan have been refined herein based upon specific water demand projections for the proposed development.

As discussed above, the Urban Water Management Planning Act requires the supplier to document water supplies available during normal, single dry, and multiple dry water years during 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. In order to comply with SB 610 requirements, the Water Supply Assessment is based on the information analyzed as part of the District's latest Urban Water Management Plan.

4.0 Description of the Interstate 10 Freeway Corridor Specific Plan

The 1,238-acre Interstate 10 Freeway Corridor Specific Plan area is in the City of Yucaipa in San Bernardino County. The plan area is bisected by Interstate 10 (I-10) and abuts the Riverside County boundary to the south. As shown in the following table, the Interstate 10 Freeway Corridor Specific Plan would result in a total of 2,472 residential units and 5,093,265 square feet of nonresidential uses.

Proposed Project Buildout Statistical Summary

Designation	Acres	Dwelling Units	Population[1]	Non-residential SF[2]	Employees[3]
Residential	225.8	2,472	6,823	NA	NA
Regional Commercial (RC)[3]	72.2	NA	NA	1,100,761	791
Business Park (BP)[4]	223.1	NA	NA	3,992,503	1,891
Agricultural Tourism (AG)[4]	48.8	NA	NA	NA	NA
Open Space (OS)[5]	338.5	NA	NA	NA	NA
Open Space – Conservation (OS-C)[5]	159.5	NA	NA	NA	NA
Existing ROW	15.1	NA	NA	NA	NA
Not a Part (N.A.P)[6]	154.6	NA	NA	NA	NA
Total	**1,238[7]**	**2,472**	**6,823**	**5,093,265**	**2,682**

Notes: Totals may not add to 100 percent due to rounding. SF = square feet; ROW = right-of-way.

1 Based on 2.76 people per unit (DOF 2022).

2 Acres to square feet based on the maximum FAR allowed in the proposed FCSP of 0.35 for RC. Planning areas BP 2, BP 3, and 19.32 acres of BP 6 are based on the project-level data for the Pacific Oak Commerce Center project (2,054,000 square feet) and the County Line Warehouse project (366,423 square feet). The remaining acreage for planning area BP 6 (9.68 acres) and planning areas BP 1 and BP 4 is based on a maximum FAR of 0.5. It should be noted that planning area BP 4 is the Caltrans rest stop and would remain a rest stop at buildout, as Caltrans currently owns this property.

However, there is an agreement that should Caltrans close the rest stop, this property would revert to the Robinson Properties ownership. As a result, square footage associated with this acreage is accounted for to provide a conservative estimate of the potential BP land uses at buildout.

[3] Based on 1,392 square feet per employee for RC uses and 2,111 square feet per employee for BP uses (SCAG 2001).

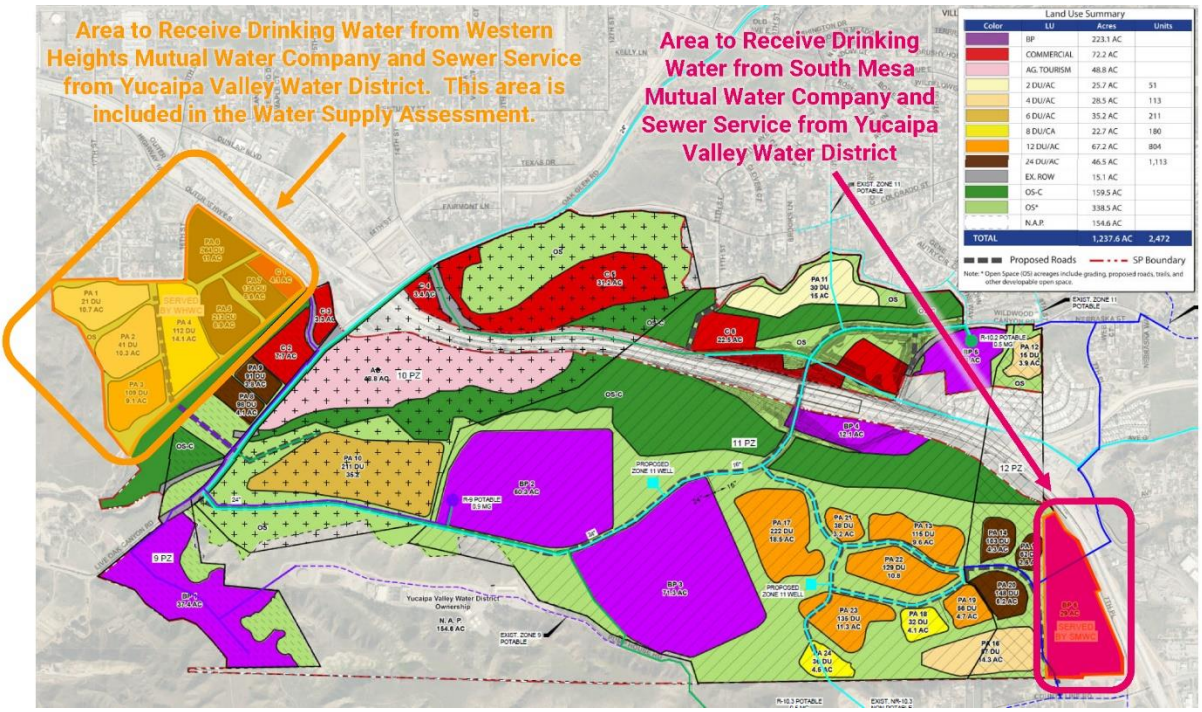
[4] The Live Oak Canyon Pumpkin Farm has associated employment, but there are no changes to this land use between existing conditions and the Proposed Project scenarios. The Live Oak Canyon Pumpkin Patch and Christmas Tree Farm is seasonal and employment fluctuates, with peak employment during the fall.

[5] Open Space (OS) and Open Space-Conservation (OS-C) acreage is estimated based on the conceptual grading plan.

[6] The WRF is identified as Not a Part in the FCSP Update because it is solely owned by the YVWD.

[7] Acreage for the FCSP Update based on GIS. This four-acre difference between the 2008 Specific Plan acreage (1,242 acres) and the Specific Plan Update acreage (1,238 acres) is based on minor differences in how the boundary was mapped in 2008 and attributed to existing ROW.

Drinking water service will be provided by Yucaipa Valley Water District, Western Heights Mutual Water Company, and South Mesa Mutual Water Company. Connections to existing water lines in the adjacent neighborhoods would be necessary to provide water service to the Interstate 10 Freeway Corridor Specific Plan area. Recycled water pipelines would generally parallel potable water pipelines and will only be available for the Project within the service territory of the Yucaipa Valley Water District.



This Water Supply Assessment provides a holistic view of the entire Project as if it were to be served by Yucaipa Valley Water District, but separate development agreements will be required by each water retailer prior to the issuance of building permits. In summary, the Yucaipa Valley Water District will provide drinking water and recycled water in areas outside of the mutually agreed service territory of Western Heights Mutual Water Company and South Mesa Mutual Water Company. The Yucaipa Valley Water District will provide sewer service to the entire Interstate 10 Freeway Corridor Specific Plan area. Since the Yucaipa Valley Water District will enter into a long-term water supply agreement with Western Heights Mutual Water Company, the water demands within the area to be served by Western Heights are included in this assessment.

Additional water supplies for this project are also expected to be secured by water rights acquired by Yucaipa Valley Water District from the South Mountain Water Company to further enhance the water supplies for this area.

Any portion of the Project outside of the Yucaipa Valley Water District service territory must be annexed to Yucaipa Valley Water District prior to the issuance of grading permits by the City of Yucaipa.

Table 3-4, *Buildout Comparison of the Proposed Project to the Approved Project*, identifies the net change in dwelling units and nonresidential square footage associated with the update to the FCSP. The Proposed Project would result in increases of 25 dwelling units and 69 people, a reduction of approximately 2.28 million square feet of Regional Commercial (RC), an increase of approximately 2.79 million square feet of Business Park (BP), and a reduction of 317 employees.

Buildout Comparison of the Proposed Project to the Approved Project

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Notes: SF = square feet; RC = Regional Commercial; BP = Business Park. There is no change associated with the existing pumpkin farm.

5.0 Water Demand Projections

The Yucaipa Valley Water District has analyzed the proposed project based on bundled drinking water, sewer, and recycled water service provided by Yucaipa Valley Water District for a majority of the Project area. Bundled services are a critical component in order for the Yucaipa Valley Water District to make a firm commitment of water service to the Project. This requirement is further discussed in Section 13. Recycled water will not be available in areas served by Western Heights Mutual Water Company or South Mesa Mutual Water Company.

The Yucaipa Valley Water District's water facilities are designed to serve single family, multi-family, commercial, and industrial properties. To evaluate the demands of the proposed Project, the proposed Project water use is converted to an equivalent of a single family residence, referred to as one Equivalent Dwelling Unit (EDU). Every service connection and demand are evaluated on an EDU based on meter size and historical consumption data of similar projects. In some cases, commercial and industrial demands require a water demand calculation based on the number of on-site fixture units.

Water demand criteria for new development was updated by the Board of Directors and included as the basis for the most recently adopted Water Master Plan. Resolution No. 32-2002 set demand requirements for facility design as follows:

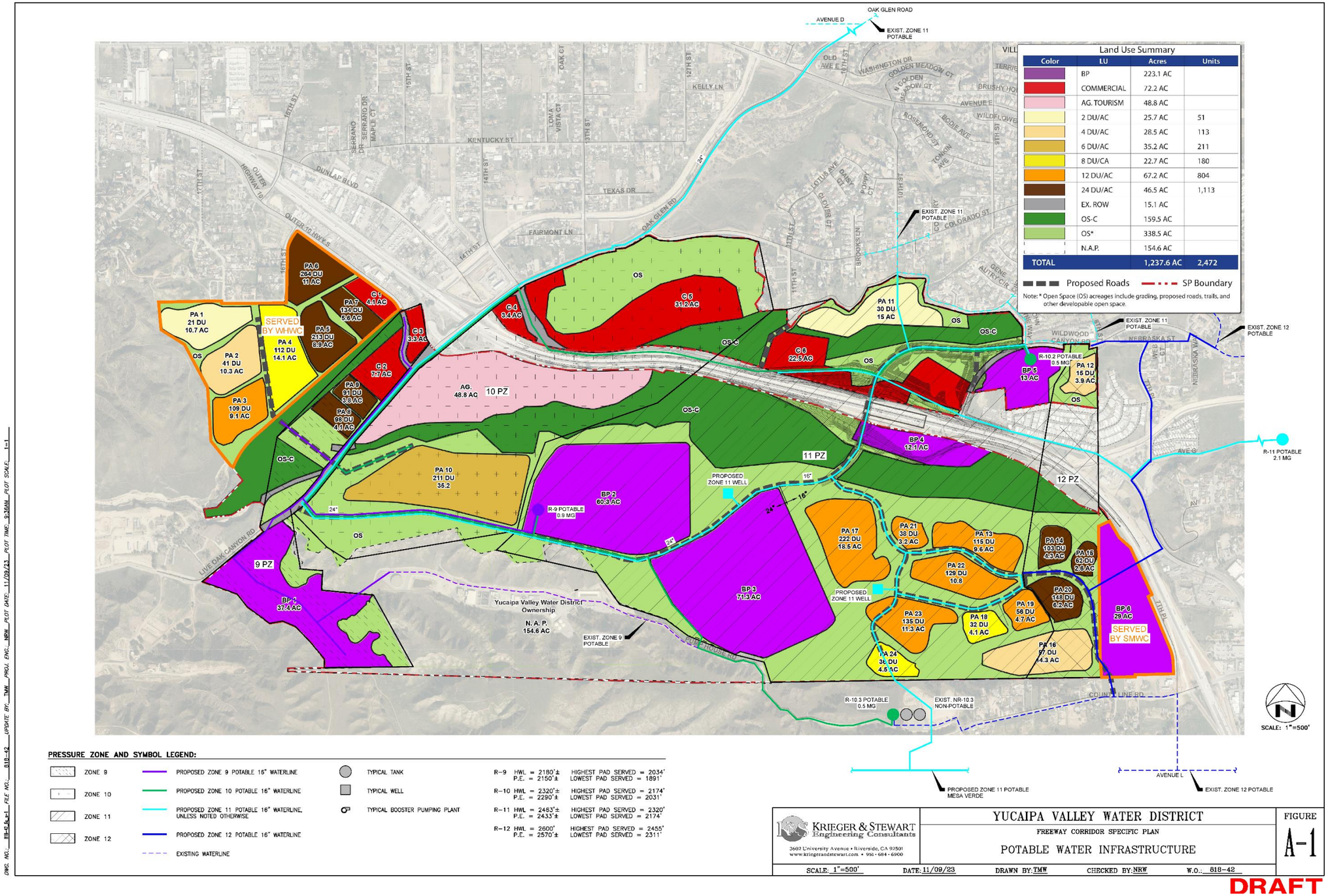
- Average Day Demand (gallons) = (Number of EDU's) x (700 gallons per day per EDU)
- Maximum Day Demand = 2.5 times the Average Day Demand
- Peak Hour Demand = 2.7 times the Maximum Day Demand

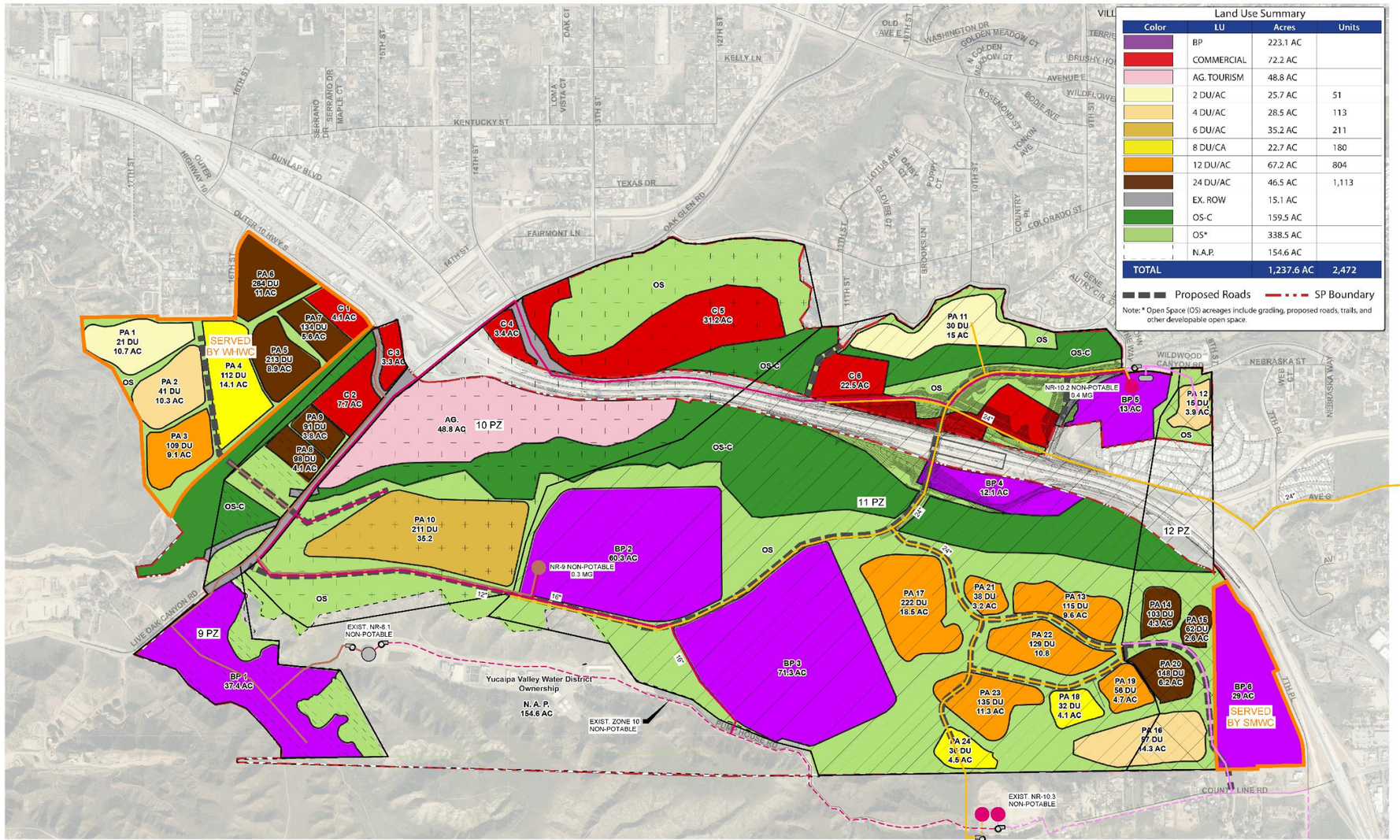
A key component within the planning philosophy of the Yucaipa Valley Water District is to maximize the use of recycled water. The Board of Director's adopted a policy stating "…recycled or other non-potable water be used, for any purpose approved for non-domestic water use, to the maximum extent possible." Use of recycled water will have the following direct benefits:

- Reduced dependency on high quality ground water;

- Preservation of ground water supplies for potable use;
- Reduced dependency on imported water from Northern California; and
- Reduced operating cost of the Yucaipa Valley Regional Water Filtration Facility.

Based on this policy, the Interstate 10 Freeway Corridor Specific Plan area served by Yucaipa Valley Water District will utilize recycled water to irrigate all greenbelt areas, landscaped areas, and front yard / rear yard irrigation of residential units.


OAK GLEN ROAD
AVENUE D
EXIST. ZONE 11 POTABLE
Land Use Summary
Color | LU | Acres | Units
BP | 223.1 AC |
COMMERCIAL | 72.2 AC |
AG. TOURISM | 48.8 AC |
2 DU/AC | 25.7 AC | 51
4 DU/AC | 28.5 AC | 113
6 DU/AC | 35.2 AC | 211
8 DU/CA | 22.7 AC | 180
12 DU/AC | 67.2 AC | 804
24 DU/AC | 46.5 AC | 1,113
EX. ROW | 15.1 AC |
OS-C | 159.5 AC |
OS* | 338.5 AC |
N.A.P. | 154.6 AC |
TOTAL | 1,237.6 AC | 2,472
Proposed Roads
SP Boundary
Note: * Open Space (OS) acreages include grading, proposed roads, trails, and other developable open space.
PA 6 264 DU 11 AC
PA 1 21 DU 10.7 AC
SERVED BY WHWC
PA 4 112 DU 14.1 AC
PA 5 213 DU 8.9 AC
PA 2 41 DU 10.3 AC
PA 3 109 DU 9.1 AC
C 1 4.1 AC
PA 7 134 DU 5.6 AC
C 3 3.3 AC
C 2 7.7 AC
PA 9 91 DU 3.8 AC
PA 8 98 DU 4.1 AC
C 4 3.4 AC
OS
C 5 31.2 AC
OS-C
AG. 48.8 AC
10 PZ
PA 10 211 DU 35.2
BP 2 60.3 AC
R-9 POTABLE 0.9 MG
PROPOSED ZONE 11 WELL
11 PZ
C 6 22.5 AC
PA 11 30 DU 15 AC
BP 5 13 AC
R-10.2 POTABLE 0.5 MG
PA 12 15 DU 3.9 AC
EXIST. ZONE 12 POTABLE
R-11 POTABLE 2.1 MG
BP 4 12.1 AC
12 PZ
9 PZ
BP 1 37.4 AC
BP 3 71.3 AC
Yucaipa Valley Water District Ownership
N. A. P. 154.6 AC
EXIST. ZONE 9 POTABLE
PA 17 222 DU 18.5 AC
PA 21 38 DU 3.2 AC
PA 13 115 DU 9.6 AC
PA 22 129 DU 10.8
PA 14 103 DU 4.3 AC
PA 15 62 DU 2.6 AC
PA 20 148 DU 6.2 AC
PA 19 56 DU 4.7 AC
PA 23 135 DU 11.3 AC
PA 18 32 DU 4.1 AC
PA 24 36 DU 4.5 AC
PA 16 97 DU 14.3 AC
BP 6 29 AC
SERVED BY SMWC
R-10.3 POTABLE 0.5 MG
EXIST. NR-10.3 NON-POTABLE
PROPOSED ZONE 11 POTABLE MESA VERDE
AVENUE L
EXIST. ZONE 12 POTABLE
SCALE: 1"=500'
PRESSURE ZONE AND SYMBOL LEGEND:
ZONE 9
ZONE 10
ZONE 11
ZONE 12
PROPOSED ZONE 9 POTABLE 16" WATERLINE
PROPOSED ZONE 10 POTABLE 16" WATERLINE
PROPOSED ZONE 11 POTABLE 16" WATERLINE, UNLESS NOTED OTHERWISE
PROPOSED ZONE 12 POTABLE 16" WATERLINE
EXISTING WATERLINE
TYPICAL TANK
TYPICAL WELL
TYPICAL BOOSTER PUMPING PLANT
R-9 HWL = 2180'± P.E. = 2150'± HIGHEST PAD SERVED = 2034' LOWEST PAD SERVED = 1891'
R-10 HWL = 2320'± P.E. = 2290'± HIGHEST PAD SERVED = 2174' LOWEST PAD SERVED = 2031'
R-11 HWL = 2483'± P.E. = 2433'± HIGHEST PAD SERVED = 2320' LOWEST PAD SERVED = 2174'
R-12 HWL = 2600' P.E. = 2570'± HIGHEST PAD SERVED = 2455' LOWEST PAD SERVED = 2311'
KRIEGER & STEWART Engineering Consultants
3602 University Avenue • Riverside, CA 92501
www.kriegerandstewart.com • 951-684-6900
YUCAIPA VALLEY WATER DISTRICT
FREEWAY CORRIDOR SPECIFIC PLAN
POTABLE WATER INFRASTRUCTURE
FIGURE A-1
SCALE: 1"=500' DATE: 11/09/23 DRAWN BY: TMW CHECKED BY: NRW W.O.: 818-42
DRAFT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Proposed Roads
SP Boundary
Note: * Open Space (OS) acreages include grading, proposed roads, trails, and other developable open space.
PA 1 21 DU 10.7 AC
PA 2 41 DU 10.3 AC
PA 3 109 DU 9.1 AC
PA 4 112 DU 14.1 AC
PA 5 213 DU 8.9 AC
PA 6 264 DU 11 AC
PA 7 134 DU 5.6 AC
PA 8 98 DU 4.1 AC
PA 9 91 DU 3.8 AC
PA 10 211 DU 35.2
PA 11 30 DU 15 AC
PA 12 15 DU 3.9 AC
PA 13 115 DU 9.6 AC
PA 14 103 DU 4.3 AC
PA 15 62 DU 2.6 AC
PA 16 57 DU 4.3 AC
PA 17 222 DU 18.5 AC
PA 18 32 DU 4.1 AC
PA 19 56 DU 4.7 AC
PA 20 148 DU 6.2 AC
PA 21 38 DU 3.2 AC
PA 22 129 DU 10.8
PA 23 135 DU 11.3 AC
PA 24 36 DU 4.5 AC
C 1 4.1 AC
C 2 7.7 AC
C 3 3.3 AC
C 4 3.4 AC
C 5 31.2 AC
C 6 22.5 AC
BP 1 37.4 AC
BP 2 60.3 AC
BP 3 71.3 AC
BP 4 12.1 AC
BP 5 13 AC
BP 6 29 AC
AG. 48.8 AC
N.A.P. 154.6 AC
Yucaipa Valley Water District Ownership
SERVED BY WHWC
SERVED BY SMWC
9 PZ
10 PZ
11 PZ
12 PZ
NR-9 NON-POTABLE 0.3 MG
NR-10.2 NON-POTABLE 0.4 MG
NR-11 NON-POTABLE 1.1 MG
NR-12.5 NON-POTABLE 0.4 MG
EXIST. NR-8.1 NON-POTABLE
EXIST. ZONE 10 NON-POTABLE
EXIST. NR-10.3 NON-POTABLE
PROPOSED ZONE 11 NON-POTABLE MESA VERDE
EXIST. ZONE 12 NON-POTABLE
SCALE: 1"=500'
PRESSURE ZONE AND SYMBOL LEGEND:
ZONE 9
ZONE 10
ZONE 11
ZONE 12
PROPOSED ZONE 9 NON-POTABLE 12" WATERLINE
PROPOSED ZONE 10 NON-POTABLE 12" WATERLINE UNLESS NOTED OTHERWISE
PROPOSED ZONE 11 NON-POTABLE 12" WATERLINE UNLESS NOTED OTHERWISE
PROPOSED ZONE 12 NON-POTABLE 12" WATERLINE
EXISTING WATERLINE
TYPICAL TANK
TYPICAL WELL
TYPICAL BOOSTER PUMPING PLANT
TYPICAL HYDROPNEUMATIC TANK
R-9 HWL = 2180'± P.E. = 2150'± HIGHEST PAD SERVED = 2034' LOWEST PAD SERVED = 1891'
R-10 HWL = 2320'± P.E. = 2290'± HIGHEST PAD SERVED = 2174' LOWEST PAD SERVED = 2031'
R-11 HWL = 2483'± P.E. = 2433'± HIGHEST PAD SERVED = 2320' LOWEST PAD SERVED = 2174'
R-12 HWL = 2600' P.E. = 2570'± HIGHEST PAD SERVED = 2455' LOWEST PAD SERVED = 2311'
KRIEGER & STEWART Engineering Consultants
3602 University Avenue • Riverside, CA 92501
www.kriegerandstewart.com • 951-684-6900
YUCAIPA VALLEY WATER DISTRICT
FREEWAY CORRIDOR SPECIFIC PLAN
NON-POTABLE WATER INFRASTRUCTURE
FIGURE A-2
SCALE: 1"=500' DATE: 11/09/23 DRAWN BY: TMW CHECKED BY: NRW W.O.: 818-42
DRAFT

6.0 Water Demand Analysis

The proposed Interstate 10 Freeway Corridor Specific Plan demand analysis was based on the following drinking water demands:

Drinking Water	Average Day Demand (GPM)	Annual Demand (AFY)
Pressure Zone 9	92	148
Pressure Zone 10	107	173
Pressure Zone 11	356	574
Pressure Zone 12	70	113
Total	625	1,008

Based on a maximum of 2,574 Equivalent Dwelling Units for the Project, the District anticipates that this will result in an annual drinking water demand of 328,457,808 gallons per year, or about 1,008 acre feet per year. An additional quantity of drinking water will be required for the development within the Western Heights Mutual Water Company for domestic and irrigation demands. This additional supply will generally be provided by groundwater within the Western Heights Mutual Water Company service territory and imported water provided by a separate agreement with Yucaipa Valley Water District.

The proposed Interstate 10 Freeway Corridor Specific Plan demand analysis was based on the following recycled water demands:

Recycled Water	Average Day Demand (GPM)	Annual Demand (AFY)
Pressure Zone 9	69	111
Pressure Zone 10	180	290
Pressure Zone 11	292	471
Pressure Zone 12	105	169
Streetscapes/Slopes	65	105
Total	711	1,147

Based on the projected recycled water demands for the Project, the District anticipates that this will result in an annual recycled water demand of 373,751,097 gallons per year, or about 1,147 acre feet per year. The Project is expected to generate a minimum of 720 acre feet per year of recycled water from the Wochholz Regional Water Recycling Facility.

Based on the Project requirements included in the Development Agreement and this document, there are sufficient supplies of drinking water from the Yucaipa Valley Regional Water Filtration Facility and recycled water from the Wochholz Regional Water Recycling Facility for this Project. This assessment includes any additional water supply needed to augment the existing groundwater supplies of Western Heights Mutual Water Company.

YUCAIPA FREEWAY CORRIDOR SPECIFIC PLAN
POTABLE WATER DEMAND ANALYSIS
OCTOBER, 2023

ZONE	PLANNING AREA	LAND USE	AREA (AC)	EDU'S PER AC	MAX EDU'S	ADD (GPM)	MDD (GPM)	PK HR (GPM)	FIREFLOW** (GPM)
ZONE 9	PA 8	RES	4.10	24.00	98	19	38	76	1,500
	PA 9	RES	3.80	24.00	91	18	36	72	1,500
	C-2	COMM	7.70	2.85	22	9	18	36	3,000
	C-3	COMM	3.30	2.85	9	4	8	16	3,000
	BP 1	BUS PARK	37.40	2.85	107	42	84	168	3,000
	ZONE 9 TOTAL		56.30		328	92	184	368	
ZONE 10	AG	AG TOUR	48.80	5.71	279	27	54	108	1,500
	PA 10	RES	35.20	6.00	211	41	82	164	1,500
	C 4	COMM	3.40	2.85	10	4	8	16	3,000
	C 5	COMM	31.20	2.85	89	35	70	140	3,000
	ZONE 10 TOTAL		118.60		588	107	214	428	
ZONE 11	PA 11	RES	15.00	2.00	30	6	12	24	1,500
	PA 13	RES	9.60	12.00	115	22	44	88	1,500
	PA 16*	RES	7.00	4.00	28	5	10	20	1,500
	PA 17	RES	18.50	12.00	222	43	86	172	1,500
	PA 18	RES	4.10	8.00	33	6	12	24	1,500
	PA 19	RES	4.70	12.00	56	11	22	44	1,500
	PA 21	RES	3.20	12.00	38	7	14	28	1,500
	PA 22	RES	10.80	12.00	130	25	50	100	1,500
	PA 23	RES	11.30	12.00	136	26	52	104	1,500
	PA 24	RES	4.50	8.00	36	7	14	28	1,500
	C 6	COMM	22.50	2.85	64	25	50	100	3,000
	BP 2	BUS PARK	60.30	2.85	172	67	134	268	4,000
	BP 3	BUS PARK	71.30	2.85	203	79	158	316	4,000
	BP 4	BUS PARK	12.10	2.85	34	13	26	52	3,000
	BP 5	BUS PARK	13.00	2.85	37	14	28	56	3,000
	ZONE 11 TOTAL		267.90		1,335	356	712	1,424	
ZONE 12	PA 12	RES	3.90	4.00	16	3	6	12	1,500
	PA 14	RES	4.30	24.00	103	20	40	80	3,000
	PA 15	RES	2.60	24.00	62	12	24	48	3,000
	PA 16*	RES	7.30	4.00	29	6	12	24	1,500
	PA 20	RES	6.20	24.00	149	29	58	116	3,000
	ZONE 12 TOTAL		24.30		359	70	140	280	
YUCAIPA FREEWAY CORRIDOR TOTAL					**2,610**	**625**	**1,250**	**2,500**	

ADD for RES based on a consumption rate of 700 gallons per day per EDU with 40% being potable.
ADD for COMM and BUS PARK based on a consumption rate of 2,000 gallons per day per acre (2.85 EDUs) with 80% being potable.
ADD for AG TOUR based on a consumption rate of 4,000 gallons per day per acre (5.71 EDUs) with 20% being potable.

Maximum Day Demand equal to twice the Average Day Demand.
Peak Hour Demand equal to twice the Maximum Day Demand

*PA 16 is spread across two pressure zones
**Fireflow shown is minimum YVWD standard. Local Fire Agency may require higher.

TABLE III-1
YUCAIPA FREEWAY CORRIDOR SPECIFIC PLAN
NON-POTABLE WATER DEMAND ANALYSIS
OCTOBER 2023

ZONE	PLANNING AREA	LAND USE	AREA (AC)	EDU'S PER AC	MAX EDU'S	ADD (GPM)	MDD (GPM)	PK HR (GPM)
ZONE 9	PA 8	RES	4.10	24.00	98	29	73	196
	PA 9	RES	3.80	24.00	91	27	68	182
	C-2	COMM	7.70	2.85	22	2	5	14
	C-3	COMM	3.30	2.85	9	1	3	7
	BP 1	BUS PARK	37.40	2.85	107	10	25	68
	ZONE 9 TOTAL		56.30		328	69	173	466
ZONE 10	AG	AG TOUR	48.80	5.71	279	108	270	729
	PA 10	RES	35.20	6.00	211	62	155	419
	C 4	COMM	3.40	2.85	10	1	3	7
	C 5	COMM	31.20	2.85	89	9	23	61
	ZONE 10 TOTAL		118.60		588	180	450	1,215
ZONE 11	PA 11	RES	15.00	2.00	30	9	23	61
	PA 13	RES	9.60	12.00	115	34	85	230
	PA 16*	RES	7.00	4.00	28	8	20	54
	PA 17	RES	18.50	12.00	222	65	163	439
	PA 18	RES	4.10	8.00	33	10	25	68
	PA 19	RES	4.70	12.00	56	16	40	108
	PA 21	RES	3.20	12.00	38	11	28	74
	PA 22	RES	10.80	12.00	130	38	95	257
	PA 23	RES	11.30	12.00	136	40	100	270
	C 6	COMM	22.50	2.85	64	6	15	41
	BP 2	BUS PARK	60.30	2.85	172	17	43	115
	BP 3	BUS PARK	71.30	2.85	203	20	50	135
	BP 4	BUS PARK	12.10	2.85	34	3	8	20
	BP 5	BUS PARK	13.00	2.85	37	4	10	27
	ZONE 11 TOTAL		263.40		1,299	281	703	1,897
ZONE 12	PA 12	RES	3.90	4.00	16	5	13	34
	PA 14	RES	4.30	24.00	103	30	75	203
	PA 15	RES	2.60	24.00	62	18	45	122
	PA 16*	RES	7.30	4.00	29	9	23	61
	PA 20	RES	6.20	24.00	149	43	108	290
	ZONE 12 TOTAL		24.30		359	105	263	709
PLANNING AREAS TOTAL					**2,574**	**635**	**1,588**	**4,286**
Irrigation for streetscapes and common area slopes equal to 10% of Total						**64**	**159**	**429**
YUCAIPA FREEWAY CORRIDOR TOTAL						**699**	**1,746**	**4,715**

ADD for RES based on a consumption rate of 700 gallons per day per EDU with 60% being non-potable.
ADD for COMM and BUS PARK based on a consumption rate of 2,000 gallons per day per acre (2.85 EDUs) with 20% being non-potable.
ADD for AG TOUR based on a consumption rate of 4,000 gallons per day per acre (5.71 EDUs) with 80% being non-potable.

Maximum Day Demand equal to 2.5 times the Average Day Demand.
Peak Hour Demand equal to 2.7 times the Maximum Day Demand

7.0 Availability of Water Supply

The Yucaipa Valley Water District will have sufficient water supplies to serve the proposed Interstate 10 Freeway Corridor Specific Plan.

Just like a financial investment portfolio, the Yucaipa Valley Water District has implemented a diversified portfolio of available water resources as a strategy to maintain a reliable water supply for existing and future customers. Specifically, the District has access to the following water supplies to meet existing and future water demands within the sphere of influence:

- Unadjudicated Ground Water Supplies as part of the Yucaipa Sustainable Groundwater Management Plan
  - Crafton Subbasin
  - Gateway Subbasin
  - Triple Falls Subbasin
  - Oak Glen Subbasin
  - Wilson Creek Subbasin
  - Calimesa Subbasin
  - Singleton Canyon Subbasin
  - San Timoteo Subbasin
  - Western Heights Subbasin
  - Wildwood Subbasin

- Adjudicated Groundwater Supplies
  - Beaumont Storage Unit

- Surface Water Supplies
  - Oak Glen Surface Water

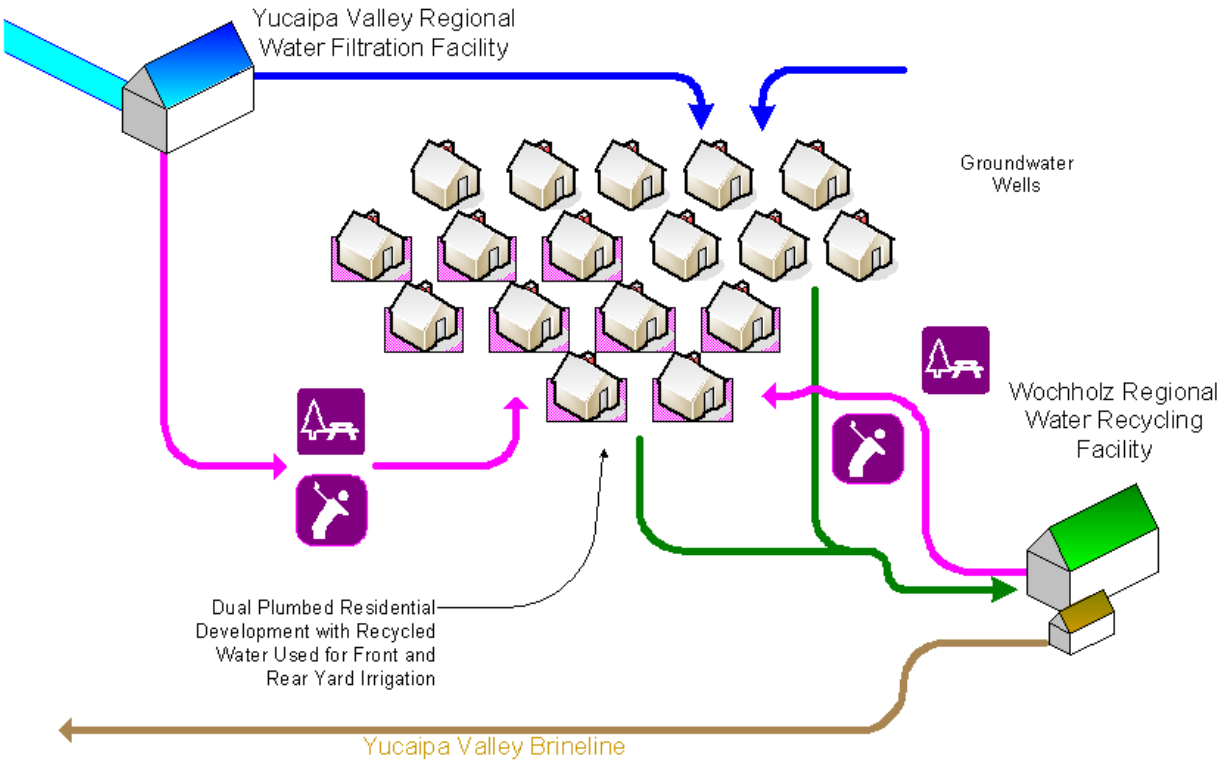
- Supplemental Water Supplies
  - Direct Delivery to the Yucaipa Valley Regional Water Filtration Facility
    - San Bernardino Valley Municipal Water District (City of Yucaipa and San Bernardino County area)
    - San Gorgonio Pass Water Agency (City of Calimesa and Riverside County area)
  - Direct Delivery to the Wilson Creek Spreading Basins
    - San Bernardino Valley Municipal Water District (City of Yucaipa and San Bernardino County area)
  - Direct Delivery to the Brookside Recharge Facility
    - San Gorgonio Pass Water Agency (City of Calimesa and Riverside County area)

- Recycled Water Supplies
  - Henry N. Wochholz Regional Water Recycling Facility

- Aquifer Storage and Recovery System (To be completed in 2026)
  - High Purity Recycled Water from the Yucaipa Valley Recycled Pure Facility
- Groundwater Rights Acquired from the South Mountain Water Company
- Non-Potable Water Supplies - Augmented Recycled Water Supplies and Augmented Recharge
  - Various Groundwater Sources Not Suitable for Drinking Water
  - Untreated Imported Supplies - San Bernardino Valley Municipal Water District (City of Yucaipa and San Bernardino County area)
  - Untreated Imported Supplies - San Gorgonio Pass Water Agency (City of Calimesa and Riverside County area)

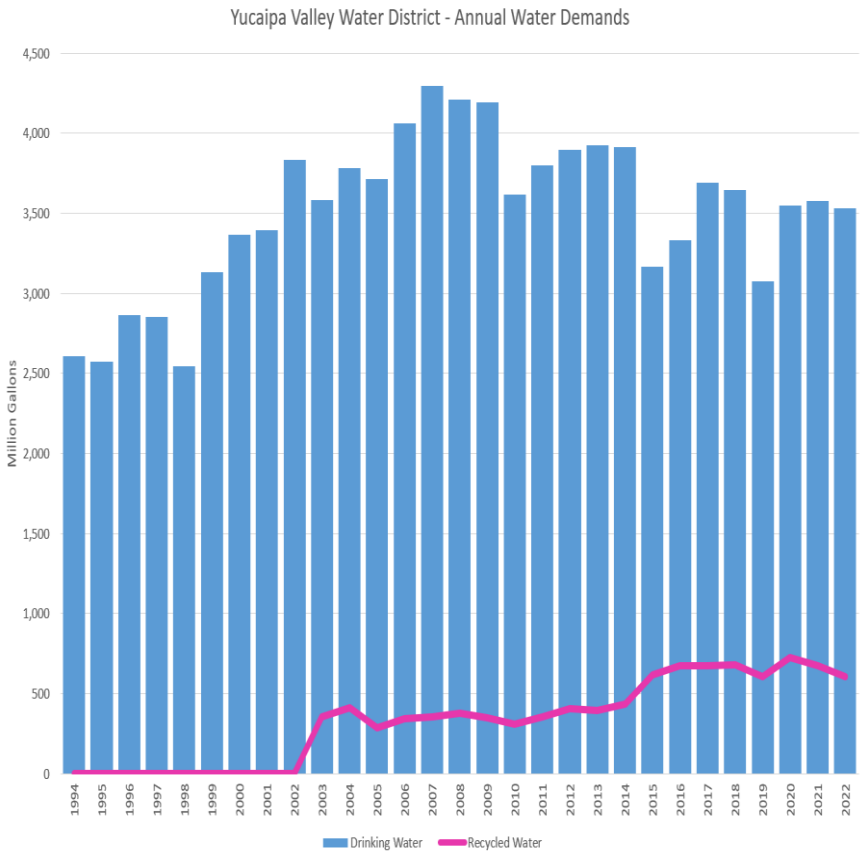
7.1 Existing Water Supplies

Over the past several decades, the Yucaipa Valley Water District has taken a series of proactive steps to preserve and protect our water resources. The illustration below shows a simple overview of how the Yucaipa Valley Water District fully integrates the drinking water system (blue); the sewer system (green); the recycled water system (purple); and the salt removal system (brown).



By carefully planning and constructing an integrated system, the Yucaipa Valley Water District has been able to store over two billion gallons of high quality water in our local groundwater basin.

This additional water supply will be used to help protect our community from future water shortages and long-term droughts.



Yucaipa Valley Water District continues to develop a robust portfolio of water resources. In 2005, ninety five percent (95%) of the District's drinking water supply was from groundwater sources and the remaining five percent (5%) was from local surface water sources. Infrastructure investments by the community have improved the flexibility and redundancy of the water system. The Yucaipa Valley Water District now carefully manages our local groundwater water supplies with supplemental imported water from water sources outside of the District. By balancing different water supply sources, the water supply is more sustainable and dependable to local droughts and shortages.

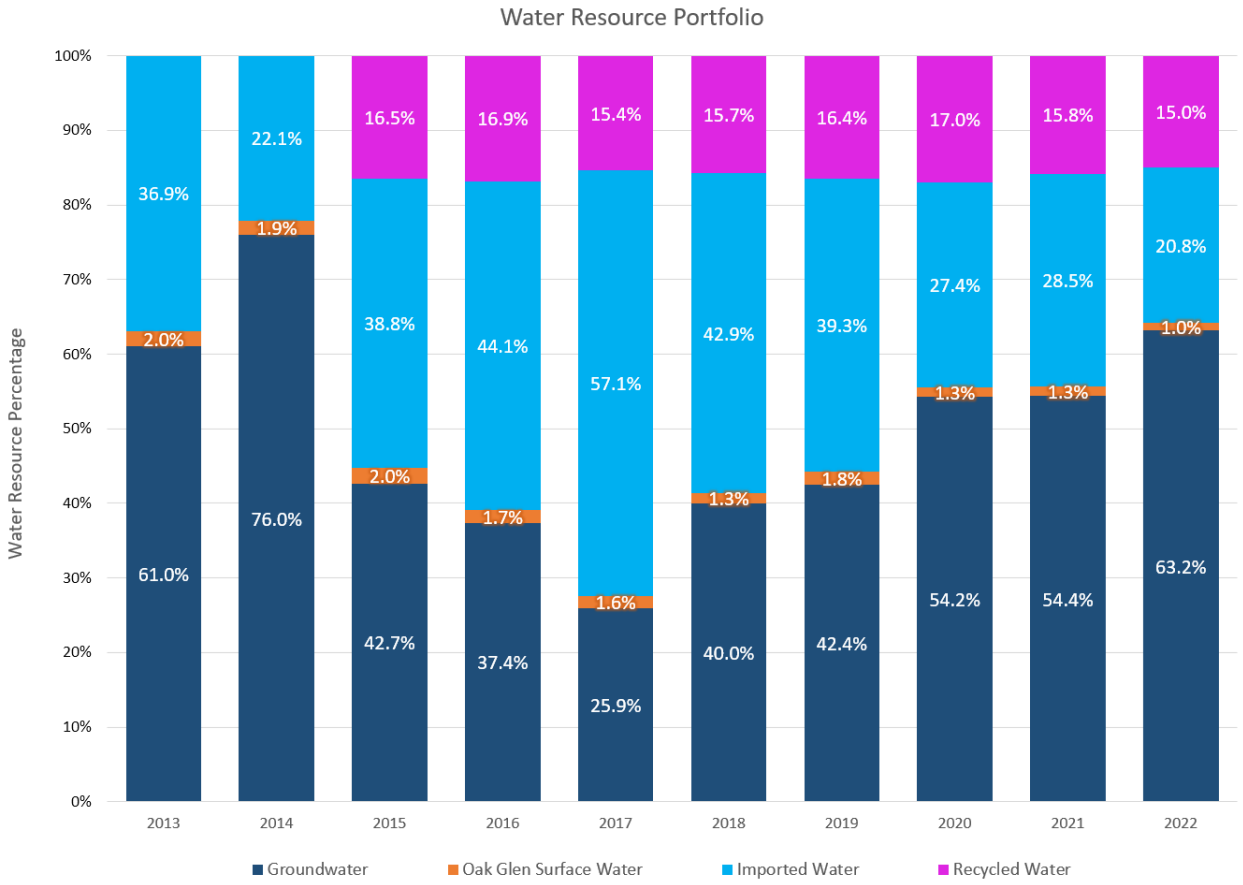
The Wochholz Regional Water Recycling Facility is capable of producing exceptionally high quality recycled water to further drought-proof our community. This facility allows the Yucaipa Valley Water District to maximize the use of recycled water throughout the community for the irrigation of parks, schools, and golf courses.

The District is now requiring two water meters to every new home – one drinking water meter is used for drinking water in the home and the second recycled water meter connected to a separate pipeline system that provides recycled water for the irrigation of front and rear yards. The implementation of this plan is expected to reduce the amount of drinking water demands for some new homes by 60 to 70%.

7.2 Recycled Water System Supply

The Yucaipa Valley Water District has constructed backbone recycled water pipelines, reservoirs, and boosters to support the growing use of recycled water throughout the community. The illustration below shows the reduction in drinking water demands since the peak year of 2007 and the comparable amount of recycled water use in the District's service area. The implementation of an aggressive recycled water program has significantly reduced the District's dependency on groundwater basins and imported water needed to meet drinking water demands in the Yucaipa Valley.

On average, the Yucaipa Valley Water District is able to consistently offset about 15% of the total annual water demand with recycled water.



The recycled water system has reduced groundwater production by the Yucaipa Valley Water District by over two million gallons per day since January 2016. Two million gallons per day is comparable to the average daily demand of 2,857 equivalent dwelling units.

7.3 Surface Water Supplies

7.3.1 Local Surface Water Sources

The District traditionally received about 1,000 acre feet of surface water supplies from the Oak Glen watershed. Production from this watershed has declined to about 250 acre feet annually. These sources are both minor and relatively unreliable due to their greater availability only in wet periods.

7.3.1.1 Mill Creek Supply

Through the Santa Ana – Mill Creek Cooperative Water Project Agreement, Yucaipa Valley Water District is able to exchange up to 32 cubic feet per second (cfs) of water from the State Water Project for Mill Creek water when available. This water can be delivered by gravity to the Wilson Creek spreading grounds and the Yucaipa Valley Regional Water Filtration Plant for direct delivery. In exchange for the Mill Creek supply, the District can deliver water to the City of Redlands Hinckley or Tate water treatment plants. This source is variable and dependent on local

hydrology. Flows in the creek can range from 10,000 to 120,000 acre feet per year with the bulk of high water flows in the winter months.

7.3.1.2 Santa Ana River Supply

In addition to the Mill Creek surface water supply, the District will be able to receive exchange water from Santa Ana River water rights holders for delivery to the Yucaipa Valley Regional Water Filtration Plant. Santa Ana River water availability to the Yucaipa Valley Water District would be subject to availability and exchange of SWP water, which is provided under an exchange plan administered by the San Bernardino Valley Municipal Water District.

7.3.1.3 Seven Oaks Dam Supply

The Seven Oaks Dam operated by the U.S. Army Corps of Engineers will operate with a conservation pool available to recharge the Bunker Hill Basin. This water source enables the Yucaipa Valley Water District to work cooperatively with other local water agencies to expand the conjunctive use operations in the region. Flow from this conservation pool would be available to the San Bernardino Valley Municipal Water District generally from late spring through early fall, after the prime flood control obligations of the facility have ended each year.

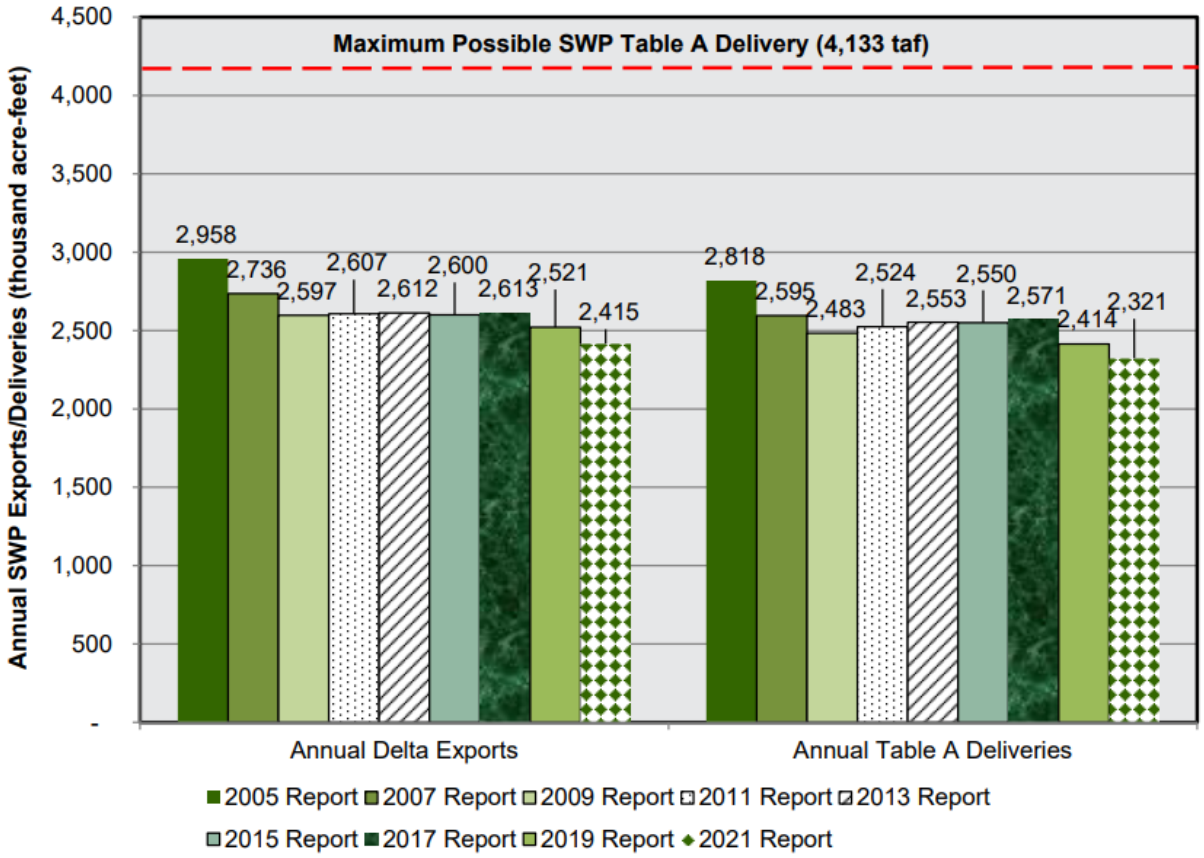
7.3.2 State Water Project Supply

The San Bernardino Valley Municipal Water District and the San Gorgonio Pass Water Agency are the wholesale water agencies delivering imported water to retail purveyors such as Yucaipa Valley Water District. The San Bernardino Valley Municipal Water District encompasses much of the District and holds an entitlement to water from the State Water Project in the amount of 102,600 acre feet annually. The San Gorgonio Pass Water Agency serves the remainder of Yucaipa Valley Water District's service area in Riverside County through its State Water Project entitlement of 17,300 acre feet per year. The Yucaipa Valley Regional Water Filtration Plant provides treated drinking water from the State Water Project supply for direct delivery to Yucaipa, Calimesa and unincorporated areas of San Bernardino and Riverside counties.

Yucaipa Valley Water District recognizes that the SWP will not be able to reliably deliver its full State Water Contractor deliveries (basic contracted amounts of water from the SWP) to the San Bernardino Valley Municipal Water District or San Gorgonio Pass Water Agency. Accordingly, the Yucaipa Valley Water District plans to utilize State Water Project surface water when available in average or wet years in gradually increasing amounts as capacity of the Yucaipa Valley Regional Water Filtration Plant is increased from its initial capacity of 12 million gallons per day (mgd) (13.4 taf) to 30 mgd (33.5 taf).

To coordinate the imported water supplies, the Yucaipa Valley Water District participated in the preparation of the 2020 San Bernardino Valley Regional Urban Water Management Plan as well as the 2020 San Gorgonio Pass Water Agency Urban Water Management Plan. The preparation of these plans provided a 20-year analysis based on the guidance documents published by the Department of Water Resources.

The following illustration from the 2021 Department of Water Resources Delivery Capability Report and Studies shows the average annual State Water Project exports and Table A deliveries from the 2005 through 2021 Reports. Exports and deliveries decreased from 2005 to 2009 due to Delta regulations which constrained exports.



While the primary supply of water available from the State Water Project is allocated Table A supply, State Water Project supplies in addition to Table A water are periodically available, including “Article 56C” carryover water, “Article 21” water, “Turnback Pool” water, and DWR “Dry Year Purchase Programs”.

Pursuant to the long-term water supply contracts, State Water Project contractors can carry over a portion of their allocated water approved for delivery in the current year for delivery during the next year. Contractors can also “carry over” water under Article 56C of the State Water Project long-term water supply contract with advance notice when they submit their initial request for Table A water, or within the last three months of the delivery year. The carry over program was designed to encourage the most efficient and beneficial use of water and to avoid obligating the contractors to “use or lose” the water by December 31 of each year. The water supply contracts state the criteria for carrying over Table A water from one year to the next. Normally, carry over water is water that has been exported during the year, has not been delivered to the contractor during that year, and has remained stored in the State Water Project share of San Luis Reservoir to be delivered during the following year. Storage for carryover water no longer becomes available to the contractors if it interferes with storage of State Water Project water for project needs.

Article 21 water (which refers to the State Water Project contract provision defining this supply) is water that may be made available by the Department of Water Resources when excess flows are available in the Delta (i.e., when Delta outflow requirements have been met, State Water Project

storage south of the Delta is full, and conveyance capacity is available beyond that being used for State Water Project operations and delivery of allocated and scheduled Table A supplies). Article 21 water is made available on an unscheduled and interruptible basis and is typically available only in average to wet years, generally only for a limited time in the late winter.

The Turnback Pool is a program available to State Water Contractors who signed the "Monterey Amendment." The program helps facilitate the sale of excess Table A supplies and establishes a sale price for the water.

As urban water demands increase in the future, the amount of water turned back and available for purchase will likely diminish. In critical dry years, the Department of Water Resources has facilitated Dry Year Water Purchase Programs for contractors needing additional supplies. Through these programs water is purchased by the Department of Water Resources from willing sellers in areas that have available supplies and is then sold to contractors willing to purchase those supplies. Because the availability of these supplies is somewhat uncertain, they are not included as supplies in this Plan.

7.4 Recycled Water

Recycled water meeting Title 22 requirements is available at the Wochholz Regional Water Recycling Facility and treated backwash supplies are available from the Yucaipa Valley Regional Water Filtration Facility. In 2022, the District delivered about 2,000 acre feet of recycled water. The available supply of recycled water from the Wochholz Regional Water Recycling Facility is approximately 4,500 acre feet plus about 750 acre feet from the Yucaipa Valley Regional Water Filtration Facility for a total available supply of 5,250 acre feet per year.

The Interstate 10 Freeway Corridor Specific Plan will be required to use recycled water for irrigation purposes for which there is a sufficient quantity of recycled water available.

7.5 Water Conservation

Yucaipa Valley Water District conducted an analysis of implementing the Best Management Practices (BMPs) for Urban Water Conservation in California as part of its Urban Water Management Plan and found a number of the BMPs to be cost-effective. Through State grant funding under Proposition 13, the District has refined this analysis to look at the financial benefits of water conservation in deferring and lowering its need for infrastructure investments, refining the cost-effectiveness analysis in the Urban Water Management Plan. In summary, Yucaipa Valley Water District found that investments in indoor conservation have a value of $352/acre foot, small outdoor landscape conservation $292/acre foot, and large outdoor turf conservation, which would otherwise have availability of recycled water, has a value of $138/acre foot. This means that the District could spend up to these amounts on the diverse types of conservation and have a net economic benefit.

Yucaipa Valley Water District will continue to evaluate BMP program alternatives and consider implementing those that can be performed at costs at or below these thresholds.

7.6 Water Resource Sustainability Plan

Over the past three decades, the Yucaipa Valley Water District has been actively taking steps to improve the social, economic, and environmental sustainability of our community. These actions have included the purchase of valuable watershed properties, protection of local water supplies and management of environmental corridors. While the decisions to embark on these actions have been generally unrelated, a look back in time indicates that the District has been taking significant strides towards a more independent, flexible, and sustainable future.

The proactive steps taken by the District to protect and conserve our resources have been based on the fundamental concepts that: (1) resources are not limitless and therefore need to be conserved, nurtured, and renewed; and (2) resources that are used to generate short-term gains result in an inefficient and inequitable consumption of resources that are not beneficial for a long-term strategy. Both of these concepts help to guide the District to make decisions that are conservative, careful, and conscious of the role we currently play in a long-term strategy to protect the community.

On August 20, 2008, the Board of Directors adopted A Strategic Plan for a Sustainable Future - The Integration and Preservation of Resources. The development of this document was based upon suggestions from the board members, staff, the public and interested stakeholders. The constructive feedback received provides a valuable dialogue for a sustainable future.

The purpose of pursuing a strategic plan for a sustainable future is twofold.

- First, the sustainability plan has been designed to establish the policies and guidelines necessary to protect and preserve the natural resources entrusted to the District for our customers. It is our business to maximize the use of our limited natural resources for the long-term economic growth and expansion of the local economy. In the arid southwest, the basic fuel to create and maintain a local economy is water.

- Secondly, the sustainability policy has been designed to provide a means to measure the performance of the organization. While performance monitoring or benchmarking is not normally associated with sustainability, this document has been created with the intention that the goals and reporting requirements are designed around performance management across a wide range of disciplines.

The Yucaipa Valley Water District projected water use scenarios described in the Urban Water Management Plan represent viable options for the Districts future water use based on planning documents and projected water needs. A series of projects have already been implemented throughout the District and others planned as part of the annual Capital Improvement Budget adopted by the Yucaipa Valley Water District Board of Directors each year.

One of the most important components of the strategic planning documents is the adopted prioritization of water to ensure the Yucaipa Valley Water District does not provide an opportunity

for new development if water supplies are not available. The priorities for water supply allocation are as follows:

- Priority One – Direct Delivery for Existing Customers. The direct delivery of imported water to meet the needs of existing potable water and non-potable water demands will be the highest priority of the District. This priority ensures sufficient water supply is allocated to meet current water demands. If the supply of imported water exceeds the existing direct delivery demand, imported water will be allocated to the next priority.

- Priority Two – Groundwater Adjudication Obligations. The District is responsible for meeting the obligations of groundwater adjudications in the Beaumont and Yucaipa Basins. This is the second highest priority to ensure sufficient storage and replenishment obligations under court orders have been achieved. This priority also ensures sufficient water supply is allocated to meet current water demands. If the supply of imported water exceeds the first and second priorities, imported water will be allocated to the following priority.

- Priority Three – Groundwater Banking for Future Reliability. The Board of Directors will establish a groundwater banking of 15% of the total water used by District customers to recover our groundwater basins for future reliability. Each month customers will be charged the cost for importing an additional 15% of the water consumed. The water will be stored in the groundwater basins to establish a credit and future drinking water supply to allow the community to use this local source during times of droughts and disruptions to the State Water Project. As with the first two priorities, this third priority also ensures sufficient water supply is allocated to meet current water demands and is different from the Parcel Development Process needed for new development to occur. If the available supply of imported water exceeds the first, second and third priorities, imported water will be allocated to the following priority.

- Priority Four – Parcel Development Process. The Parcel Development Process provides for the storage of 7.0 acre feet per EDU for new residential developments and 15.68 acre feet per EDU of imported water for the Crystal Status Development Program. This water is sufficient to clearly demonstrate a 20 year supply of water is available for the development to occur. The cost of imported supplemental water is linked directly to the availability and cost for water delivered by either the San Bernardino Valley Municipal Water District or the San Gorgonio Pass Water Agency as established by the Yucaipa Valley Water District.

Based on this strategy, new developments will contribute to the capital assets of the District as well as the water supply strategy to ensure a long-term and reliable water supply is available. This strategy allows the District to serve its customer's water demands through groundwater, surface water, and recycled water allowing the District to insulate itself from periodic drought by utilizing available surface waters in wetter years relying more on groundwater in dryer years when surface water is less available. The District is able to switch between these sources, or use the sources simultaneously, depending on hydrology and water availability.

7.7 Beaumont Basin Adjudication

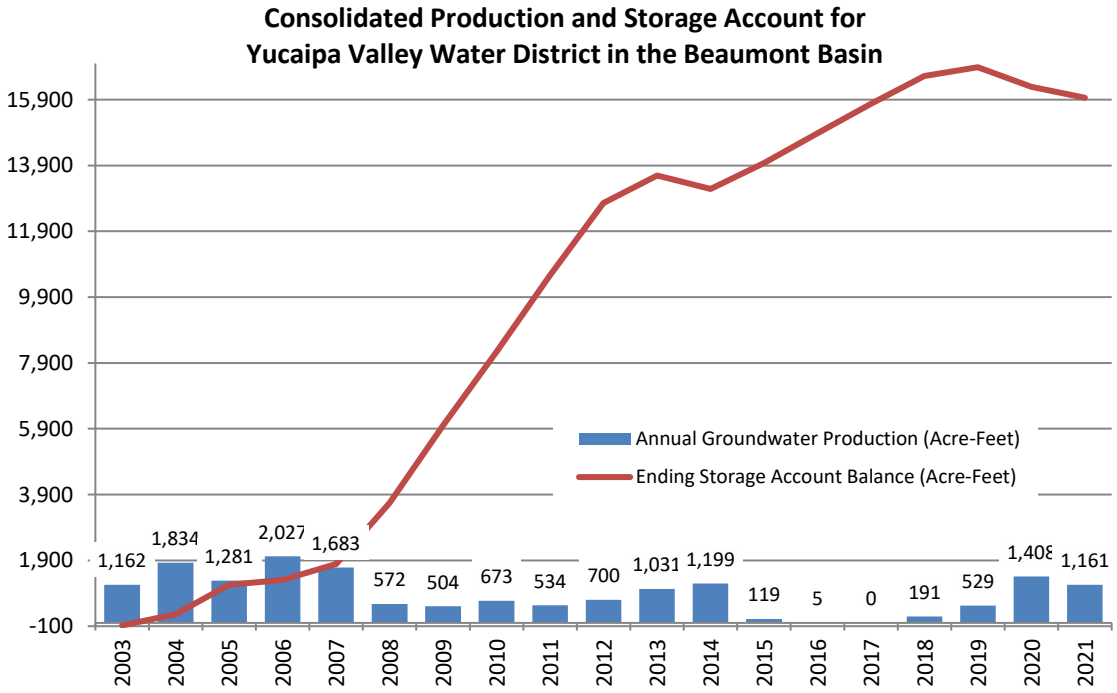
On February 4, 2004, Judge Gary Tranbarger of the Superior Court of the State of California for the County of Riverside signed the Agreement titled, "San Timoteo Watershed Management

Authority vs. City of Banning, et. al. (Case No. RIC 389197) that provided the authority and responsibility for managing the Beaumont groundwater basin to the Beaumont Basin Watermaster ("Watermaster").

The court appointed Watermaster committee consists of representatives from the five Appropriator producers: the City of Banning; the City of Beaumont; Beaumont Cherry Valley Water District; South Mesa Mutual Water Company and the Yucaipa Valley Water District. The amount of water each appropriator produces in any given year, without incurring a replenishment obligation, varies from year to year and results from a combination of:

- Their share of the Operating Yield, based on the Temporary Surplus of 16,000 acre feet per year for all Appropriators;
- Transfers from other Appropriators;
- Transfers from unused production for Overlying Producers;
- Water withdrawn from their storage account; and
- New yield created by the Appropriator.

During the first ten years of the Beaumont Basin adjudication, the Yucaipa Valley Water District has reduced groundwater production to accumulate nearly 16,000 acre feet of water in a Watermaster authorized water storage account of up to 50,000 acre feet. Water from the adjudicated area in Calimesa can be used throughout the District's service area.



8.0 Water Supply Reliability Strategy

Through build-out, Yucaipa Valley Water District maintains a resilient, robust, and reliable drinking water and recycled water supply for the community, including the proposed Project. In the near term, Yucaipa Valley Water District will continue to stabilize its demand on the local groundwater

basins while continuing to develop recycled water infrastructure, regional conjunctive use programs, and aquifer storage and recovery projects. This allows the District to insulate itself from periodic drought by utilizing available surface waters in wetter years and relying more on groundwater in dryer years when surface water is scarce.

As with all new developments, the Yucaipa Valley Water District will require capital-funding contributions though facility capacity charges to offset the demand for drinking water, recycled water, and sewer infrastructure.

The District will maximize the use of surface water supplies from the State Water Project, the San Bernardino Basin Bunker Hill Pressure Zone, Seven Oaks Dam, Mill Creek, and Santa Ana River which all can be used interchangeably, depending upon local and statewide hydrology, to supplement a stable local groundwater yield.

Additionally, the Yucaipa Valley Water District will incorporate recycled water delivery systems into new developments to provide irrigation demands with recycled water. Recycled water will give the District a drought proof local source of water of high reliability, which will lessen the dependence on imported sources and increase the reliability of our total supply. Overall, as noted in the District's Urban Water Management Plan, there are sufficient water resources to meet its current and projected growth in demands, including the Project and other projected development through 2060.

9.0 Water Supply Sufficiency Analysis

When considering the annual water supply for the Interstate 10 Freeway Corridor Specific Plan, the Yucaipa Valley Water District has included in the quantity of water saved from the implementation of the Recycled Water Project, available imported water supplies, conjunctive use programs, available production capacity from the Yucaipa subbasins, and applicable water rights and/or water held in storage as part of the Beaumont Basin adjudication. In summary, the Yucaipa Valley Water District is well positioned to provide a safe and secure water supply to the Interstate 10 Freeway Corridor Specific Plan.

10. Availability of Water Filtration and Delivery System Capacity

10.1 Yucaipa Valley Regional Water Filtration Facility

The first phase of the Yucaipa Valley Regional Water Filtration Facility provides up to 12 million gallons per day of drinking water filtration capacity in addition to the 0.8 million gallons per day of capacity at the Oak Glen filtration plant. Additional increments of drinking water filtration capacity will be constructed at the Yucaipa Valley Regional Water Filtration Facility bringing the ultimate capacity to 30 million gallons per day as needed to meet future demands.

Phase II facilities are expected to be constructed by the end of 2026 to increase the capacity of the Yucaipa Valley Regional Water Filtration Facility to 16 million gallons per day.

10.2 Water Distribution System Analysis

The District has evaluated the backbone infrastructure needed for the project. Any improvements needed to the backbone pipelines, reservoirs, and related facilities will be included in a future development agreement and required to provide service to the Project.

11.0 Regulatory Permits Necessary for Water Supply Delivery

Yucaipa Valley Water District's local and supplemental imported surface water supplies from the State Water Project are fully permitted. Imported supplemental supplies can be delivered in accordance with the rules and regulations of the San Bernardino Valley Municipal Water District and the San Gorgonio Pass Water Agency.

Additionally, the District is exempt from local building codes with respect to construction of water treatment and delivery facilities. However, Yucaipa Valley Water District does have to comply with State Fish and Game and U.S. Army Corps of Engineers requirements where construction will require streambed alteration agreements or placement of fill materials in waters of the United States, respectively.

At this time, there are no permits anticipated to be acquired by the Yucaipa Valley Water District for the Interstate 10 Freeway Corridor Specific Plan.

12.0 Effect on Agricultural and Industrial Users Not Supplied by Yucaipa Valley Water District But Reliant on the Same Natural Sources

Yucaipa Valley Water District plans to begin utilization of State Water Project supplies to effectively manage demands on the Yucaipa and Beaumont groundwater basins, allowing for management of the basins to a safe yield. As such, any adverse effect by the District pumping in these basins upon other agricultural users of the basins will be eliminated as the current basin overdraft can be halted and the basin managed for sustained yield, benefiting all its users. The adjudication within the Beaumont Basin protects existing agricultural supplies from any impacts which might be created by additional use of this basin.

Yucaipa Valley Water District's utilization of State Water Project water as part of the San Bernardino Valley Municipal Water District and the San Gorgonio Pass Water Agency's entitlements will tend to make less State Water Project water available to others, including agricultural users. However, this outcome has been a planned event for the past 60 years since the conception of the State Water Project and agricultural users have expected gradual diminution of such surplus supplies. The fact that the State Water Project is not expected to consistently supply its maximum contractual entitlement supplies to its users has created additional stress on all State Water Project customers to develop alternate supplies to meet their needs.

The District's ability to begin utilization of the Yucaipa, Beaumont, and San Timoteo groundwater basins conjunctively with State Water Project water creates opportunities for the State or other water districts to engage in storage agreements with the District that could make additional

supplies available to agricultural or urban users outside the District. Additionally, access to high quality recycled water can be provided to local agricultural interests as an alternative water supply.

13.0 Requirements of Water Supply Sufficiency

The allocation of water in California has always long been a contentious issue. The requirement of a water supply analysis to commit limited local and regional water supplies to new development is an arduous task that places a great deal of responsibility upon the District. As part of the analysis, the District has established the following requirements to make this firm water supply commitment.

13.1 Interstate 10 Freeway Corridor Specific Plan Service Requirements

The long-term dedication of water resources to meet the needs of this project requires the commitment of local, regional, and statewide water supplies and infrastructure. This study focuses on the commitment of water resources and not the infrastructure required to provide service to the project. While the drinking water supply, recycled water supply, and sewer demands have all been carefully evaluated as part of this project, the specific infrastructure requirements need to be evaluated on a project-by-project basis to determine the best method for providing drinking water, recycled water, and sewer service. Any modification or change of the following requirements may invalidate this analysis and will require a new water supply analysis to be completed.

13.1.1 Bundled Services. Drinking water, recycled water, and sewer service shall be provided to each parcel within the Interstate 10 Freeway Corridor Specific Plan served by the Yucaipa Valley Water District.

13.1.2 Annexation. Any parcel within the Interstate 10 Freeway Corridor Specific Plan not currently annexed to the Yucaipa Valley Water District shall be annexed at the sole cost of the property owner prior to receiving service from the District.

13.1.3 Construction of Two Groundwater Injection/Extraction Wells. The Project shall dedicate sufficient property (location, grading, and size) subject to District approval and construct two groundwater injection/extraction wells for the storage and extraction of drinking water for the Project. The dedication of the groundwater well sites (as shown on page 14) will be discussed in future development agreements with property deeded to the District in fee title prior to the issuance of building permits for either Planning Area BP2 / BP3 and any Planning Area east of PA 17. Additional details regarding the construction of the groundwater wells will be discussed in future development agreements.

13.1.4 Recycled Water Use / Dual Plumbed Requirement. Recycled water shall be used to irrigate all greenbelt areas, landscape areas, and roadway medians. The use of recycled water shall also be required for non-potable uses on-site such as cooling and processing water for the applicable commercial/industrial facilities.

13.1.5 Construction of Surface Water Detention Basins. The District will require the construction of soft bottom detention basins appropriately placed throughout the Project area to maintain the percolation to the extent possible on-site within the service

territory of the Yucaipa Valley Water District. The Yucaipa Valley Water District reserves the right to accept deeded property associated with stormwater capture basins for operation and maintenance based on discussions with individual property owners.

13.1.6 Construction of Infrastructure. Any infrastructure constructed for this Project shall adhere to District requirements to meet functional, operational, and aesthetic criteria.

13.1.7 Temporary Facilities. The District recognizes that temporary facilities may be constructed to allow for the initial phasing of the Project. The District will provide time dependent limitations on all temporary facilities, regardless of economic conditions and phasing schedules.

13.1.8 Agricultural Use Conversion to Recycled Water. Any agricultural practices on the Project site that rely on groundwater sources shall be converted to recycled water use consistent with Yucaipa Valley Water District policies which state:

> *"It shall hereafter be District policy that recycled or other non-potable water be used, for any purpose approved for non-domestic water use, to the maximum extent possible. Use of potable water for non-domestic uses shall be considered contrary to District policy, shall not be considered the most beneficial use of a natural resource, and shall be avoided to the maximum extent possible.*
>
> *It is the policy of the District that recycled or other non-potable water shall be used within the jurisdiction wherever its use is economically, financially, and technically feasible, and consistent with legal requirements, preservation of public health, safety and welfare, and the environment. Uses of recycled water may include, but are not limited to, greenbelt irrigation, agricultural irrigation, industrial process and commercial uses, landscape or recreational impoundments, wildlife habitat and groundwater recharge."*

13.1.9 Fixture Unit Calculations. The Project owner shall revise and update the fixture unit counts prior to construction and prior to occupancy to verify the facility capacity charges and other related costs and estimates for the Project.

13.1.10 Water Recharge Assignment. Storm water recharged as a result of this Project shall be tabulated and provided to the Yucaipa Valley Water District for accrual to storage accounts of the Yucaipa Valley Water District.

13.1.11 Resolution No. 11-2008 (latest revision). Resolution No. 11-2008 entitled, "*Resolution of the Board of Directors of the Yucaipa Valley Water District Adopting a Long-Term Water Resource Sustainability Strategy Policy for the Area Served by the Yucaipa Valley Water District"*, was approved on August 20, 2008 and adopted the document, "*A Strategic Plan for a Sustainable Future – The Integration and Preservation of Resources"* ("Sustainability Plan"). The Property Owner and Developer shall comply with the District's Resolution No. 11-2008, or its successor, prior to obtaining a building permit for the Project.

13.1.12 Execution of a Development Agreement. The District will require the execution of one or more Development Agreements with the Yucaipa Valley Water District prior to the issuance of building permits by the City of Yucaipa.

13.1.13 Grading Water. Recycled Water is available immediately adjacent to the Project and will be required for all grading activity within the Project (except for areas served drinking water by Western Heights Mutual Water Company and South Mesa Mutual Water Company).

13.1.14 Applicability of Resolution No. 2023-76 (latest version). On December 5, 2023, the Board of Directors adopted Resolution No. 2023-76, *A Resolution of the Yucaipa Valley Water District Setting Forth and Updating the calculation for Facility Capacity Charges Related to the Purchase/Construction of Permanent Supplemental Water Resources for New Development*. The purpose of this resolution is to secure additional permanent sources of water supply for the District including imported water, aquifer storage and recovery water, and other available permanent sources of supply for new development. The latest version of this Resolution shall be applicable to this Project.

13.1.15 South Mountain Water Infrastructure and Land Ownership. The Yucaipa Valley Water District anticipates being a major shareholder in the South Mountain Water Company in the first quarter of 2024. All property and infrastructure owned by the South Mountain Water Company shall be maintained and protected in its entirety as of the date of this Water Supply Assessment. Conflicts associated with the proposed Wildwood Interchange and property owned by South Mountain Water Company shall be resolved in writing to the satisfaction of the Yucaipa Valley Water District to ensure that the anticipated water supplies for the Project are not negatively impacted by any reduction in land ownership of the South Mountain Water Company.

14.0 Summary of Water Supply Sufficiency Determination

Pursuant to the California Water Code and based upon the forgoing analysis, the Yucaipa Valley Water District has determined that currently available and planned sufficient supplies exist to provide the drinking water and recycled water to the Interstate 10 Freeway Corridor Specific Plan in addition to other planned demands expected by the District during normal, single dry and multiple dry years during the next twenty years.

Pursuant to California Government Code Section 66473.7 the Yucaipa Valley Water District has determined that based upon the foregoing analysis that it has sufficient water supplies available to meet the needs of the Project.

Attachment "A"

Yucaipa Valley Water District Resolution No. 2024-08

A Resolution of the Yucaipa Valley Water District Adopting the Water Supply Assessment and Written Verification of Supply for the Interstate 10 Freeway Corridor Specific Plan

RESOLUTION NO. 2024-08

A RESOLUTION OF THE YUCAIPA VALLEY WATER DISTRICT ADOPTING THE WATER SUPPLY ASSESSMENT AND WRITTEN VERIFICATION OF SUPPLY FOR THE INTERSTATE 10 FREEWAY CORRIDOR SPECIFIC PLAN

WHEREAS, the members of the Upper Santa Ana Water Resources Association formed a Technical Advisory Group in 2005 for the purpose of preparing an Integrated Regional Water Management Plan for the upper Santa Ana River watershed; and

WHEREAS, on April 16, 2008, the Yucaipa Valley Water District adopted Resolution No. 06-2008 adopting the Upper Santa Ana River Watershed Integrated Regional Water Management Plan; and

WHEREAS, the California Urban Water Management Planning Act, Water Code Section 10610 et. seq. (the Act), mandates that every urban supplier of water providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000-acre feet of water annually, prepare an Urban Water Management Plan (Plan); and

WHEREAS, as authorized by Water Code section 10620(e), the Yucaipa Valley Water District prepared a 2020 Yucaipa Valley Water District Urban Water Management Plan, and in cooperation with other governmental agencies, has utilized and relied upon industry standards and the expertise of industry professionals in preparing the 2020 Yucaipa Valley Water District Urban Water Management Plan, and has also utilized the California Department of Water Resources Guidebook to Assist Urban Water Suppliers to Prepare a 2020 Urban Water Management Plan and the California Department of Water Resources Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use; and

WHEREAS, on October 9, 2001, Governor Davis signed into law Senate Bill 221 (Kuehl) and SB 610 (Costa), effective January 1, 2002, which amends the existing requirements for confirmation of a sufficient water supply as a condition to approval of some new development projects; and

WHEREAS, water suppliers, cities, and counties have duties under SB 221 and SB 610 to confirm water availability and water supplies by preparing a written Water Supply Assessment; and

WHEREAS, the Yucaipa Valley Water District has implemented a wide variety of water related projects to manage, protect and conserve our valuable natural water resources.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF YUCAIPA VALLEY WATER DISTRICT AS FOLLOWS:

SECTION 1. The General Manager is hereby authorized and directed to include a copy of this fully executed Resolution as an attachment to the Yucaipa Valley Water District's Water Supply Assessment and Written Verification of Supply for the Interstate 10 Freeway Corridor Specific Plan.

SECTION 2. The General Manager is hereby authorized and directed to submit copies of the Yucaipa Valley Water District's Water Supply Assessment and Written Verification

of Supply for the Interstate 10 Freeway Corridor Specific Plan to the Project Applicant and the City of Yucaipa for inclusion into the environmental documentation prepared by the respective land use agency.

SECTION 3. The General Manager is hereby authorized and directed to implement the requirements of water supply sufficiency section and other pertinent requirements as identified throughout the Water Supply Assessment and Written Verification of Supply for the Interstate 10 Freeway Corridor Specific Plan.

SECTION 4. The General Manager is hereby authorized and directed to invoice the City of Yucaipa to recover the costs associated with the preparation of the Water Supply Assessment for the Interstate 10 Freeway Corridor Specific Plan.

PASSED, APPROVED and ADOPTED this 16th day of January 2024.

YUCAIPA VALLEY WATER DISTRICT

Joyce McIntire, President Board of Directors

ATTEST:

Joseph B. Zoba, General Manager

Attachment "B"

A Strategic Plan for a Sustainable Future

The Integration and Preservation of Resources

Yucaipa Valley Water District

12770 Second Street, Yucaipa, California 92399

A Strategic Plan for a Sustainable Future

The Integration and Preservation of Resources

Adopted on August 20, 2008

Board of Directors

Tom Shalhoub	Bruce Granlund	Jay Bogh	Scott Bangle	Hank Wochholz
Division 1	Divisions 2	Division 3	Division 4	Division 5

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Appendices

Section 1 - Introduction

Global Concepts

On December 19, 1983, the United Nations General Assembly adopted Resolution 161, "Process of Preparation of the Environmental Perspective to the Year 2000 and Beyond." This resolution, among other things, directed a special commission to address the growing concern "about the accelerating deterioration of the human environment and natural resources and the consequences of that deterioration for economic and social development". In establishing the Commission, the UN General Assembly recognized that environmental problems were global in nature and determined that it was in the common interest of all nations to establish policies for sustainable development. The work product of the special commission is commonly referred to as the Brundtland Report and was subsequently adopted by the United Nations General Assembly in Resolution 42/187.

The Brundtland Report deals mainly with the need to change politics on a global scale to deal with sustainable development. The report defines sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs". While considering that the Brundtland Report was primarily focused on providing global equity by redistributing resources towards poorer nations while encouraging their economic growth, the report also suggested that resource equity, environmental issues and growth are simultaneously possible and that each country is capable of achieving its full economic potential while enhancing its resource base. This report quickly became the main source for developing a global strategy of sustainability.

One of the common problems with applying the concepts described above is that sustainability exists as a value and not necessarily as an attainable principle given other societal values and demands. In general, one would believe that the future world population will require more resources than the population is currently using today. Consider the following examples of societal pressures in the world today.

World Population Facts (2007 Estimates)	
Population Growth Rate:	1.167%
Birth Rate:	20.09 births per 1,000 population
Death Rate:	8.37 deaths per 1,000 population

Source: Yahoo Reference World-Fact Book

- *Population Growth:* The pure concept of sustainability presented above is based on the current use of resources in such a manner that future generations will not be impacted. Consider the current world population growth rate of about 1.1%, which represents a doubling time of 61 years. Should the current population be expected to minimize the use of resources so as not to impact future generations, or do future generations need to use half of the resources currently used by the world population today? At this time, it is inevitable that the world population will double. Who bears the responsibility for maintaining adequate resources for these future generations?

- *Longevity:* As people continue to live longer, they use more resources over their lifetime. In the future, the demand for resources necessary to sustain the growing population will be needed for longer periods per person.

- *Use of Resources:* The ecological pressure of a US resident is believed to be at least 10 times that of a resident of India and about 20 times that of a Somali resident.[1]. Obviously, were the total human population to be reduced, it would be easier to achieve sustainability in most human systems. Just population growth alone begs the question: Have we already exceeded our available resources?

Estimated Water Use in the United States

For over 50 years the United States Geological Survey (USGS) has estimated the use of water in the United States. Data on water withdrawals by State, source of water, and category of use have been compiled at 5-year intervals since 1950. This information is useful to determine the trends in the use of water resources and is especially interesting when compared against population growth. The following excerpt provides a brief summary on the study:

USGS
science for a changing world

Excerpt from:

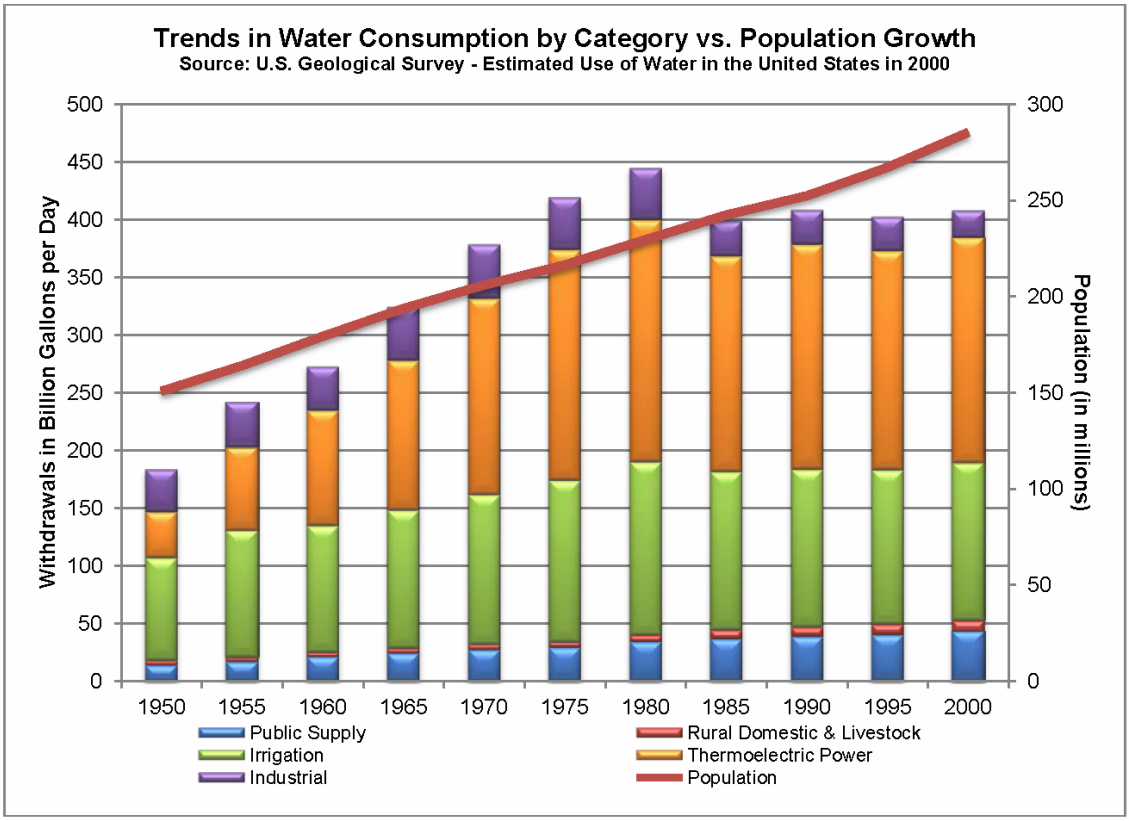
U.S. Geological Survey - Estimated Use of Water in the United States in 2000
By Susan S. Hutson, Nancy L. Barber, Joan F. Kenny, Kristin S. Linsey, Deborah S. Lumia, and Molly A. Maupin
USGS Circular 1268, 15 figures, 14 tables (released March 2004, revised April 2004, May 2004, February 2005)

Since 1950, water supplies and their uses have been affected by population growth, economic trends, legal decisions, and periodic droughts. In response to constraints on water supplies, communities have expanded their water-supply infrastructures or instituted water-conservation measures, farmers have changed crops or agricultural practices, and industries have reused or reclaimed process water. Population changes affecting water use during the time period from 1950 to 2000 include an overall growth of 90 percent, with a shift in the population of the United States from rural areas to urban areas and a continuing shift of the mean geographic center of population west and south (Hobbs and Stoops, 2002). In some geographic areas, the availability of water and improved technology have resulted in increases in irrigated acreage and irrigation water use. In other areas, increased costs and reduced water availability have led to more efficient irrigation practices and a reduction in irrigation water use. Changes in production, technology, and economic conditions have affected industrial water use. Periodic droughts have drawn attention to limits in the reliability of local and regional water supplies and influenced short-term water use for all users.

Climatic fluctuations affect water withdrawals, particularly for irrigation, power generation, public supply, and self-supplied domestic water use. However, effects of extremes in temperature and precipitation often are difficult to isolate from other factors that affect water use; thus, climatic effects cannot be identified readily based on the aggregated data contained in this report.

The information from this study has been used to develop water use trends that indicate total water withdrawals in the United States are increasing at a slower rate than population growth. This is an indication that water is being used more efficiently.

[1] Global Footprint Network "National Footprints". Downloaded National Footprint Results in .xls format. Retrieved on April 10, 2008.



Sustainability

Over the past decade, the Yucaipa Valley Water District has been actively taking steps to improve the social, economic and environmental sustainability of our community. These actions have included the purchase of valuable watershed properties, protection of local water supplies and management of environmental corridors. While the decisions to embark on these actions have been generally unrelated, a look back in time indicates that the District has been progressing towards a more independent, flexible and sustainable future.

sus·tain·able \sə-'stā-nə-bəl\ *(adjective)*: 1: capable of being sustained 2 a: of, relating to, or being a method of harvesting or using a resource so that the resource is not depleted or permanently damaged <*sustainable* techniques> <*sustainable* agriculture> b: of or relating to a lifestyle involving the use of sustainable methods <*sustainable* society>

"*The nation behaves well if it treats the natural resources as assets which it must turn over to the next generation increased, and not impaired in value.*"

- Theodore Roosevelt

The proactive steps taken by the District to protect and conserve our resources have been based on the concepts that: (1) resources are not limitless and therefore need to be conserved, nurtured and renewed; and (2) resources that are used to generate short-term gains result in an inefficient and inequitable consumption of resources that are not beneficial for a long-term strategy. Both of these concepts help to guide

the District to make decisions that are conservative, careful and conscious of the role we currently play in a long-term strategy to protect the community.

The purpose of pursuing a sustainability plan is twofold. First and foremost, the sustainability plan has been designed to establish the policies and guidelines necessary to protect and preserve the natural resources entrusted to the District for our customers. It is our business to maximize the use of our limited natural resources for the long-term economic growth and expansion of the local economy. In the arid southwest, the basic fuel to create and maintain a local economy is water. Secondly, the sustainability policy has been designed to provide a means to measure performance of the organization. While performance monitoring or benchmarking is not normally associated with sustainability, this document has been created with the intention that the goals and reporting requirements are designed around performance management across a wide range of disciplines.

> "*Sustainable development is . . . development that meets the needs of the present without compromising the ability of further generations to meet their own needs.*"
>
> - **World Commission on Environment and Development, *Our Common Future*, 1987**

With the use of this document the District is better equipped to:

- Identify the key challenges over the next five decades and assess the goals to overcome these challenges;
- Deal with the challenges of the future in a transparent manner involving stakeholders;
- Identify and manage risk in a reasonable and prudent manner with information, data and resources necessary to minimize the potential costs associated with certain scenarios; and
- Embark on a program to ensure that the generations that follow are provided with the necessary tools and resources to grow the community as the prior generation has done for us.

Why develop a sustainability plan?

The goal of this document is not to "out green" our neighbors, nor is the goal to expand our public agency into an inefficient bureaucracy. Rather, the goal of this document is to communicate with our stakeholders a strategic plan for utilizing deficient state-wide infrastructure; coping with stringent regulatory hurdles; and dealing with environmental obstacles, while providing reliable water, sewer, and recycled water to our community. Whether you are a customer, employee, business partner or other stakeholder, your involvement in the development and implementation of this plan will provide a sustainable future for generations to come. Therefore, the purpose of this plan is to:

Basic Sustainability Concepts	
Concept One:	Resources are not limitless and therefore need to be conserved, nurtured and renewed
Concept Two:	Resources that are used to generate short-term gains result in an inefficient and inequitable consumption of resources that are not beneficial for a long-term strategy.

- Communicate the supporting reasons for the direction and purpose of the organization;
- Stimulate and encourage participation and involvement in our community;
- Assist in the creation and validation of priorities and the allocation of resources;
- Create a proactive, solutions-oriented management instead of a reactive organization;
- Provide customers with the confidence that they are getting the most for their money.

The Value of Water

In 1999, the National Water Research Institute issued a report titled *The Value of Water, Recognizing and Using the Full Potential of Your Water Supply*. This report laid the foundation that decisions made by local agencies should be viewed as investments in water that subsequently build value over time, instead of a traditional short-term cost/benefit analysis. In some cases, taking a traditional approach is favored by elected officials and staff members since costs incurred now should be linked to benefits received now. To change this parochial thought process and truly shift paradigms, it is necessary to recognize that while the costs are realized now, the benefits may be realized at a future time. The report concluded with a summary of linking intrinsic values with the services and benefits provided by water agencies. The following list is an example of the list provided in the report.

Services and Benefits Provided	Value Recognized
Health benefits to customers	• Reduced medical costs • Improved school and work attendance
Reduce risk from microbiological contaminants	• Longer life span • Increased customer satisfaction
Prevent salt increases	• Lower regulatory scrutiny • Lower monitoring costs • More water recycling options
Nutrient removal	• Reduced treatment cost • Lower regulatory scrutiny • Lower monitoring costs • More sustainable ecosystem
Sediment removal / erosion prevention	• Less road / flood channel maintenance • Greater public safety / fewer traffic accidents
Flood flow retention in winter	• Less property damage
Lower complaint rate	• More staff time available to perform other functions • More resources available to provide other services
Trust	• Increased consumer confidence • Better community support for activities that provide services
Willingness to support rate changes and system improvements	• Ability to invest in assets that enhance service s • Maintain community competitiveness in economy
Enhance community supply	• Lower corrosion of household plumbing • Greater customer satisfaction • Longer life, lower medical bills, etc… • Less bottled water purchasing (more money for other things) • Increased water supply
Reclamation and reuse of wastewater	• Drought-proofing the community and its business sector • Improved watershed protection • Increased protection of receiving waters
Aesthetic value to community	• Higher property values • Greater economic productivity (commercial and industrial, tourism, commerce, agriculture, etc…
Increase recreational use	• Greater recreational sales revenue (all commerce-related expenditures) • Greater tourism expenditures / more local jobs
Wildlife habitat	• More sustainable ecosystem • Greater natural productivity (more waterfowl, fish, etc…
Landscape aesthetics	• Higher property values • Greater wildlife values • More recreational uses

Source: The National Water Research Institute, *The Value of Water, Recognizing and Using the Full Potential of Your Water Supply*, April 1999, page 13.

Section 2 – A Strategic Planning Approach

Over the past few decades, the direction of the District has been largely determined by regulatory restrictions. For example, in the 1970's the residents of the Yucaipa Valley were required to remove septic systems and install sewers, lift stations and construct a wastewater treatment plant. Following years of property acquisition, litigation, design, and construction, the District completed the wastewater infrastructure in the 1980's. Within ten years the District was required to completely upgrade the recently constructed secondary level wastewater treatment plant to a tertiary level wastewater treatment plant. A decade after placing the tertiary wastewater treatment plant into service, the District was required to minimize the amount of nitrogen and total dissolved solids in the wastewater effluent. This will lead to the construction of advanced biological treatment processes and reverse osmosis filtration.

This level of regulatory scrutiny is not uncommon in the public or private sector. As illustrated below, the growth of federal environmental law in the United States has grown exponentially over the past century. For a public agency to gain control of its destiny, it is necessary to actively participate in the rule making process to determine the impacts of regulations and determine the best course of action to achieve regulatory compliance in the most cost effective manner. It is not in the best interest of the District or our ratepayers to sit idly on the sidelines waiting for regulations to be enforced. By the time regulations are in place, the options to comply are limited and grant funding is usually unavailable due to the competitive nature of several other public agencies in the position needing the same infrastructure improvements to achieve compliance.

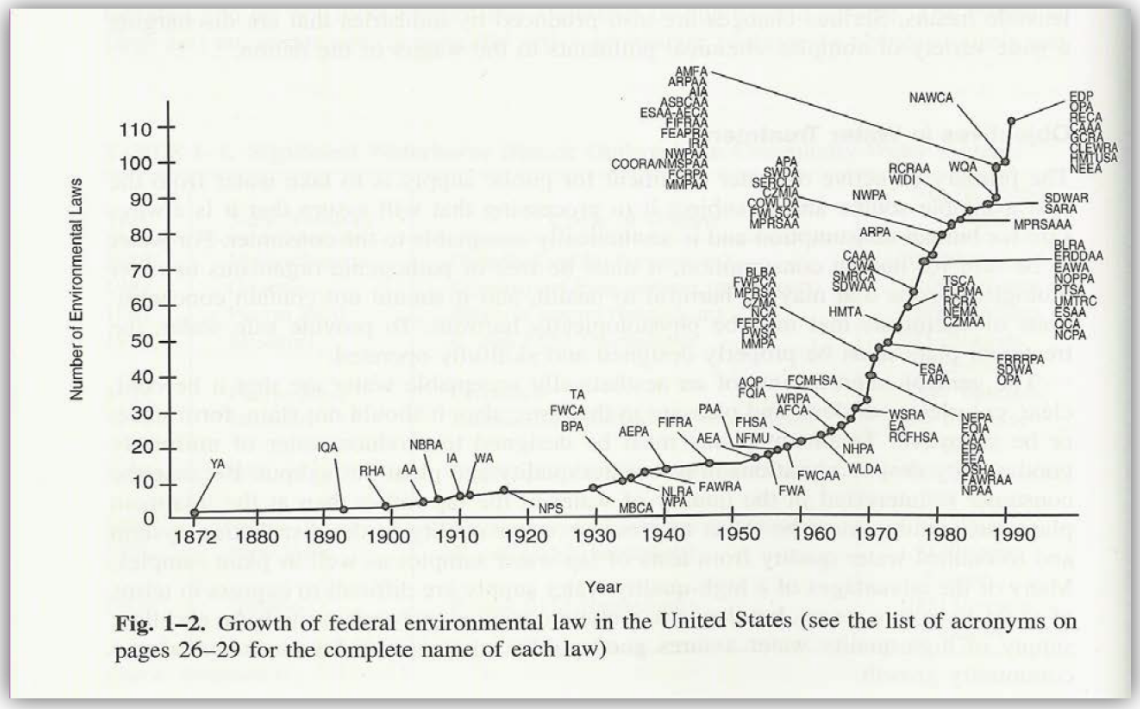
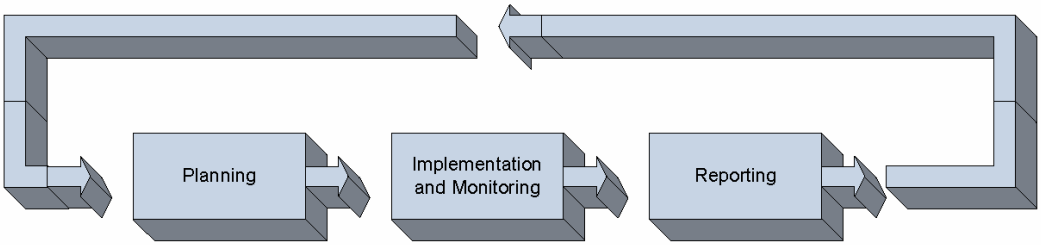


Fig. 1–2. Growth of federal environmental law in the United States (see the list of acronyms on pages 26–29 for the complete name of each law)

Even with the best internal planning, it is necessary for the Yucaipa Valley Water District to develop a strategic planning approach to solicit input to validate the projects, studies and reports that are the foundation of decisions. To build this strategic planning approach, the District cooperates with a series of professional engineers, regulators, peers and members of the public to strategize and share information about the direction of the District.

Results-Based Management

One of the best definitions of results-based management has been adapted from the Treasury Board of Canada, Secretariat which states, "Results-based management is a life-cycle approach to management that integrates strategy, people, resources, processes and measurements to improve decision-making, transparency, and accountability. The approach focuses on achieving outcomes, implementing performance measurement, learning and changing, and reporting performance."[2]



Results-Based Management – The Process of Learning and Adjusting

The elements of this system are important components in the strategic planning approach used by the District to create an integrated and sustainable future. The first element is the planning phase which involves documenting the method an organization intends to deliver on its priorities and achieve associated results. The second element is the implementation and monitoring phase which involves ongoing performance measurements and periodic evaluation to adjust in order to obtain desired results. The third phase of reporting involves summarizing the results by integrating financial and non-financial information.

In implementing a results-based management process, the District will:

- Perform those jobs and functions that it does best and use others to perform what they can do more efficiently and effectively;
- Manage its business selecting the most efficient and effective of both public and private models, utilizing appropriate techniques, cross-functional work teams, and employee involvement;
- Manage departments such that they have clearly specified non-conflicting functions, clearly defined goals and objectives;
- Expect employees to make decisions and be fully accountable for their areas of responsibility rather than relying on a centralized management structure;
- Be supportive of community planning, neighborhood involvement, and economic development;
- Utilize a diversified and well-trained work force;

[2] Information produced and/or compiled by the Treasury Board of Canada Secretariat, downloaded on May 7, 2008.

- Encourage open and effective communications among its Board, executive team, employees, and customers about its business and strategy for the future.[3]

Planning an Integrated and Diversified Future

Strategic planning has been the cornerstone for the water resource system shown below. This system maximizes the use of imported water and local water supplies to recycle as much water as possible while eliminating salinity to protect the quality of our water supplies.

Our ratepayers expect board members and staff to do what is right not what is easy. It is not an option to do nothing at all.

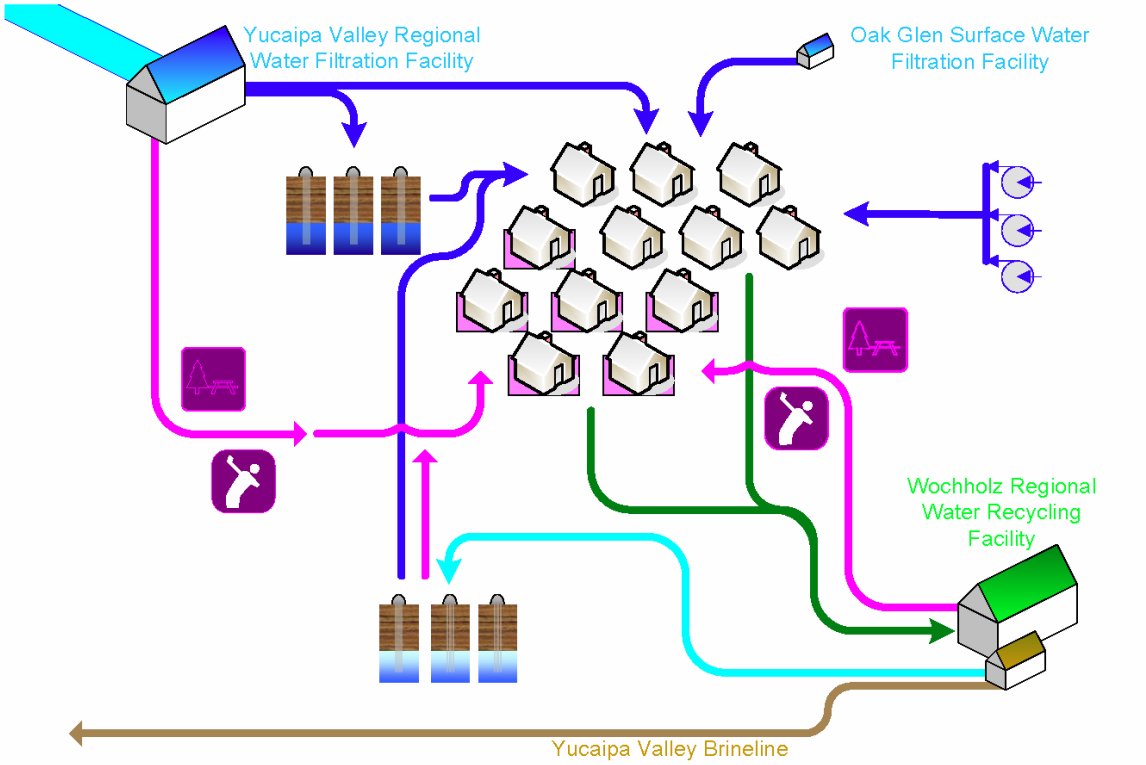


Figure 1 - A conceptual layout of the integrated projects proposed by the Yucaipa Valley Water District based on the collaborative efforts of staff members, professional engineers, regulators, local agency partners, developers and members of the public.

One of the primary goals of the District is to provide the cleanest, safest water to our customers. To accomplish this goal, it is no longer a question of whether technology is capable of producing a safe and reliable supply of water, but more a question of cost and community decision-

[3] Adapted from the Strategic Business Plan of the Louisville and Jefferson County Metropolitan Sewer District, dated September 1, 2000.

making. Therefore, it is imperative that the implications associated with the decisions made are completely understood with an open and honest dialogue between the customers we represent and interested stakeholders.

To accomplish this open dialogue, several reports and studies have been developed over the past several years that form the basis of understanding for implementing this program. Additional regulatory requirements such as the Regional Water Quality Control Basin Plan and operational requirements of capacity management are not listed below, but certainly contribute to the knowledge base that is helpful to understand the issues currently facing the District.

Summary of Knowledge Management

The following studies and reports are important elements to better understand the framework associated with the integration of District facilities and the development of sustainable concepts. Each of the documents are available for public review to components of this document. Each individual report is an important component of the overall strategic planning approach utilized by the District.

The YVWD Mission and Vision Statement

The Yucaipa Valley Water District is made up of a proactive and diverse group of elected officials and employees dedicated to providing reliable water and wastewater service in an efficient, cost effective manner that provides a high level of customer satisfaction. On May 1, 2002, the Board of Directors adopted the following mission statement to clearly reflect the vision and principles that guide the dedicated elected officials and employees of the District.

> WHEREAS, the members of the Board of Directors and District staff represent a diverse group of individuals dedicated to providing reliable water and wastewater service in an efficient, cost effective manner that provides a high level of customer satisfaction; and
>
> WHEREAS, it is important to clearly communicate the common vision and principles that guide the dedicated elected officials and employees of the District.
>
> NOW, THEREFORE, BE IT HEREBY RESOLVED AND ORDERED, that the Board of Directors of the Yucaipa Valley Water District, on behalf of the District staff, does hereby adopt the following statement of mission, values and principles.
>
> Yucaipa Valley Water District is committed to professionally managing the precious water, wastewater and recycled water resources of the Yucaipa

Valley in a reliable, efficient and cost effective manner in order to provide the finest service to our customers, both present and future.

We are entrusted to serve the public for the benefit of the community.

We believe in responsive, innovative and aggressive service, and take pride in getting the job done right the first time.

We encourage a work environment that fosters professionalism, creativity, teamwork and personal accountability.

We treat our customers and one another with fairness, dignity, respect and compassion and exhibit the utmost integrity in all we do.

We believe in enhancing the environment by following a general philosophy of eliminating waste and maximizing recycling and reuse of our natural resources.

We are committed to using the following operating principles as a guide to accomplishing our mission:

- We are proactive in our approach to issues.
- We are committed to integrity and consistently high ethical standards in all our business dealings.
- We use the strategic planning process to focus our efforts and minimize our crisis management mode.
- We make informed, rational and objective decisions.
- We aggressively pursue technological solutions to improve operations.
- We are inclusive in our decision making and delegate responsibility whenever possible.
- We design our services around customer wants and needs to the degree possible within our financial and regulatory constraints.
- We cultivate widespread commitment to common goals.

We believe our success depends on every employee knowing and sharing these values and principles

Water, Wastewater and Recycled Water Master Plans

The purpose of the water, wastewater and recycled water master plans was to evaluate existing facilities and recommend improvements pertaining to the facilities necessary to support existing customers and future growth. The adopted master plans serve as an important tool for planning the infrastructure needed in the region.

Development Related Facility Capacity Charges

In order for Yucaipa Valley Water District to provide water and wastewater service to new development, it is necessary to construct additional facilities to serve the increased demand. The District funds the construction of these additional facilities using capacity charges to be collected from each new connection to the District's water and wastewater system. In February

2007, the Board adopted revised water and wastewater facility capacity charges to fund infrastructure required by new development.

Urban Water Management Plan and Water Shortage Contingency Plan

The Urban Water Management Plans (UWMP) prepared by the District maintain conformance with the California Urban Water Management Planning Act, California Code Division 6, Part 2.6. The latest UWMP describes and evaluates the District's water supply sources, the efficient uses of that water supply, demand management measures with an implementation strategy and schedule, and other relevant information and programs.

California Urban Water Conservation Council

The California Urban Water Conservation Council was created to increase efficient water use statewide through partnerships among urban water agencies, public interest organizations, and private entities. The Council's goal is to integrate urban water conservation Best Management Practices into the planning and management of California's water resources.

The Yucaipa Valley Water District is a member of the California Urban Water Conservation Council, which is a consensus-based partnership of agencies and organizations concerned with water supply and conservation of natural resources in California.

Water Supply Assessments

On October 9, 2001 Governor Gray Davis signed into law Senate Bills 610 (Costa) and 221 (Kuehl) that require a water supply assessment in conjunction with development project reviews under the California Environmental Quality Act (CEQA), and a written verification of water supply where a development is proposed for approval. This document will serve to replace existing water supply assessments and provide a mechanism for new development to meet the provisions enacted by the California Legislature.

Urban Water Conservation Feasibility Study and Implementation Plan

In August 2003, the District adopted the Urban Water Conservation Feasibility Study and Implementation Plan to achieve the following goals:

- Develop the most feasible urban water conservation program for the District;
- Determine projected conservation program effects on District demands;
- Develop information necessary to make application for an Urban Water Conservation capital outlay loan; and
- Develop an implementation plan to execute the preferred program alternatives.

The Sustainability Resource Manager will make use of this report and its findings to implement a water conservation program to complement our overall water management program.

The State Water Project Delivery Reliability Report

The Department of Water Resources has the legal obligation to prepare biennial State Water Project delivery reliability reports as a result of a court-approved settlement agreement related to the "Monterey Amendments" case in 2000. The report is intended to assist local agencies

using water from the State Water Project to develop adequate and affordable water supplies for their communities.

In calculating the reliability of the State Water Project, the Department of Water Resources uses computer simulations based on historical data as early as 1925 to provide probability results from the smallest to the largest deliveries. The amount of water supply delivered to the state water contractors in a given year depends on the demand for the supply, amount of rainfall, snowpack, runoff, water in storage, pumping capacity from the Delta, and legal constraints on the operation of the State Water Project. In general, water delivery reliability depends on three general factors: the availability of water at the source; the ability to convey water from the source to the desired point of delivery; and the magnitude of demand for the water.[4]

In addition to the uncertainty issues identified below, the *Draft State Water Project Delivery Reliability Report 2007* identifies additional areas of significant uncertainty for the delivery of State Water Project reliability. Specifically, the findings of the Delta Vision Task Force identified that the current uses in the Delta are not sustainable in the long term based on three major growing concerns: the pelagic organism decline; impacts from climate change and sea level rise; and the vulnerability of Delta levees for failure.

Factors of Uncertainty Impacting the Delivery of Water from the State Water Project[5]

Availability of Source Water

- **Precipitation** – The inherent yearly variable location, timing, amount and form of precipitation in California creates uncertainty to the availability of State Water Project
- **Climate Change** – Current literature suggests that global warming is likely to significantly impact the hydrological cycle, changing California's precipitation pattern and amount.

Ability to Convey Source Water to the Desired Point of Delivery

- **Regulatory** – Operation of the State Water Project is closely regulated by Delta water quality standards established by the State Water Resources Control Board and set forth in Water Rights Decision 1641. Even in the time operations are left to the discretion of the Department of Water Resources, actions often require consultation with federal and state fish and wildlife agencies under its Endangered Species Act provisions.
- **Levee Failures** – Source water for the State Water Project enters the Delta through the Sacramento River and is conveyed to the Banks Pumping Plant via Delta channels lined with fragile levees. If a levee fails, depending upon the location and size of the adjacent island, pumping at the Banks Pumping Plant may have to be curtailed or ceased for a period of time to prevent drawing saline water into the south Delta.

Demand for System Water

- **State Water Contractor Assumptions** – Estimating the future demand for water requires assumptions be made about population growth, water conservation, recycling efforts, other sources of supply, and climate change.
- **Cost of Water** – The cost of water sold by State Water Contractors also impacts the demand for system water.

Pelagic Organism Decline

Pelagic (open water) fish such as the delta smelt, striped bass, longfin smelt, and threadfin shad have been declining sharply since the early 2000's. This decline in these species is believed to be due to 1) impacts of toxins, 2) exotic species effects, and 3) water project effects. The Department of Water Resources anticipates that the decline in pelagic organisms will cause additional restrictions on the operations of the State Water Project.

[4] Draft - The State Water Project Delivery Reliability Report 2007, page 6.
[5] Draft - The State Water Project Delivery Reliability Report 2007, pages 6-9.

Climate Change and Sea Level Rise

Climate change has the potential of significantly impacting the State's water resources. For the State Water Project, climate change has the potential to simultaneously affect the availability of source water, the ability to convey water, and users' demands for water.

Vulnerability of Delta Levees for Failure

Most of the Delta's levees do not meet modern engineering standards and are highly susceptible to failure. The Delta Risk Management Strategy recently analyzed the sustainability of the Delta and assessed major risks to the Delta from earthquakes, floods, seepage and subsidence. The following summary of issues provides a basic understanding of the fragile nature of the Delta's levees and the reliability of our local water supply.

A strong earthquake impacting the Delta could cause simultaneous levee failures on several islands, and there is a real possibility of multiple simultaneous island flooding. The Delta Risk Management Strategy has identified the following as possible impacts of earthquakes on the Delta:

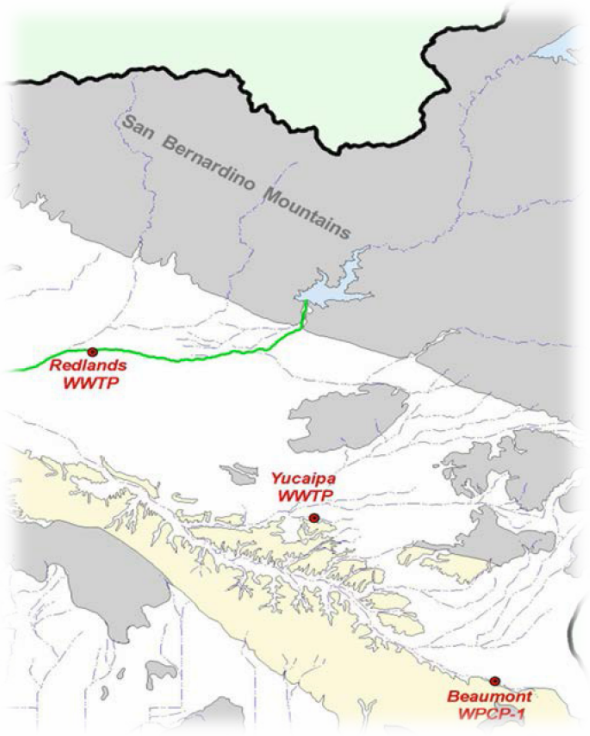
- About 115 levee failures can be expected during 100 years considering the probability of all seismic levee breaches under existing conditions;
- There is about a 28% chance of 30 or more islands simultaneously failing during a major earthquake in the next 25 years.
- A moderate to large earthquake capable of causing multiple levee failures could happen within the next 25 years. Levee repairs could take up to 6.5 years and exports from the Delta could be disrupted for up to 2 years with a loss of up to 9.3 million acre feet of water.
- By 2050, the frequency of island flooding from seismic events is expected to increase by 12 percent over 2005 conditions, if a seismic event has not occurred.

Over the long-term, many different combinations of high flood flows in the Sacramento and San Joaquin Rivers are possible because of the large geographical extent of the two rivers' watersheds and the variability in storm paths. The Delta Risk Management Strategy has identified the following impacts expected to occur by 2050 related to flood events and the Delta:

- Delta flood hazards are expected to increase 200% due to sea level rise and more frequent high flows.
- The frequency of island flooding from flood events is expected to increase over 2005 conditions.
- Flood fragility of levees is expected to increase 10% due to subsidence, and overall Delta island flood frequency is expected to increase 230%.
- The frequency of flood events is expected to increase by 50% and levees are expected to become 20% more vulnerable to flooding due to increased seepage and stability problems associated with further subsidence and sea level rise.
- The combined effects of increased levee vulnerability and flood flows indicates an expected increase in island flooding from flood flows of 80 percent.

Section 3 – Growth and Development

The Yucaipa Valley is located in the upper portion of the Santa Ana Watershed, south of Mill Creek and the Santa Ana River. By not having a significant watercourse in our Valley, the local groundwater basins do not naturally refill with precipitation and melting snowpack as compared to immediate neighboring agencies that benefit from the surface water recharge of the Santa Ana River and Mill Creek. For this reason, the Yucaipa Valley Water District has long planned to connect to the State Water Project to augment our water supplies from imported water. As a matter of fact, the 1984 Water Master Plan prepared by John Carollo Engineers identified a water filtration facility approximately two miles north of the existing Yucaipa Valley Regional Water Filtration Facility.



Water supply is clearly one of the most critical issues facing the Yucaipa Valley. In the past, the area has relied on local sources of surface and groundwater for our supply. Continued growth has caused the water demands to exceed the locally available supply. The District recognizes that in order for development to occur, there must be a reliable source of water delivered to the District to meet the new demands. The water for new development is in addition to the existing demands and replenishment required to recover the previously depleted groundwater basins.

This section is dedicated to developing a methodology to protect current customers while allowing new development to occur. It is necessary to establish priorities for imported water to ensure the continued growth and prosperity of the community. While some may view the proposed methodology as punitive, others recognize that the intent is to develop a reasonable mechanism that provides certainty to new development in spite of the failing infrastructure our imported water is dependent upon.

A Diversified Portfolio

Just like an individual's financial investment portfolio, the District maintains a diversified portfolio of available water resources as a strategy to maintain a reliable water supply for existing and future customers. Specifically, the District has access to the following water supplies to meet existing and future water demands:

- Currently Unadjudicated Ground Water Supplies
  - Crafton Subbasin
  - Gateway Subbasin

  - Triple Falls Subbasin
  - Oak Glen Subbasin
  - Wilson Creek Subbasin
  - Calimesa Subbasin
  - Singleton Canyon Subbasin
  - San Timoteo Subbasin
  - Western Heights Subbasin
  - Wildwood Subbasin
- Adjudicated Groundwater Supplies
  - Beaumont Storage Unit
- Surface Water Supplies
  - Oak Glen Surface Water
- Supplemental Water Supplies – Direct Delivery
  - Yucaipa Valley Regional Water Filtration Facility
  - Yucaipa Source - San Bernardino Valley Municipal Water District
  - Calimesa Source - San Gorgonio Pass Water Agency
- Recycled Water Supplies
  - Henry N. Wochholz Regional Water Recycling Facility
- Non-Potable Water Supplies
  - Groundwater sources not suitable for drinking water
  - Yucaipa Source - San Bernardino Valley Municipal Water District
  - Calimesa Source - San Gorgonio Pass Water Agency

While the District relies on a variety of water resources, the most significant sources of imported water from northern California has recently become less reliable. To ensure sufficient water supplies exist for new development, it is important to provide a clear roadmap for developers and builders to understand the process for demonstrating a guaranteed source of water prior to receiving a building permit for construction.

This section focuses on an implementation strategy to allow new development to occur without creating a negative impact to the existing community under wet, normal and dry year conditions. Certain development projects requiring the compliance with the California Environmental Quality Act may use this section with additional reference material discussed in this document to meet the criteria of a water supply assessment from the Yucaipa Valley Water District.

Overview of Water Supply Assessments

On October 9, 2001 Governor Gray Davis signed into law Senate Bills 610 (Costa) and 221 (Kuehl) that require a water supply assessment in conjunction with development project reviews under the California Environmental Quality Act (CEQA), and a written verification of water supply where a development is proposed for approval.

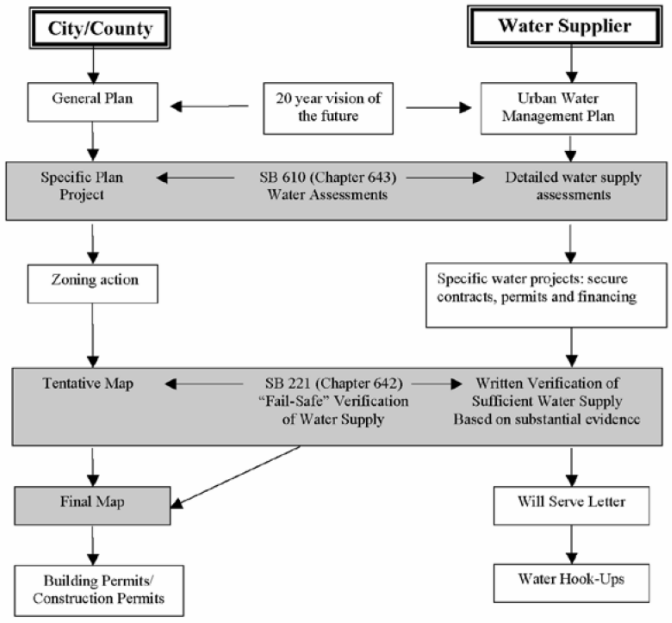
Since the implementation of Senate Bills 610 and 221, the District prepared and adopted three water supply assessments for various projects within our service area. While the District and the developers worked closely to develop a thoughtful, credible and specific strategy for the developments, the plans were quickly outdated with two of the three developments adding units following the adoption of the water supply assessments and all of the three plans being subjected to changed conditions in the reliability of imported water from the State Water Project.

Therefore, to resolve these issues, the District has developed the Water Resource Validation Program to apply to all new development within our service area. Additionally, the District reviewed the latest requirements for water supply assessments and has determined that the following program will provide a sufficient water supply to serve the needs of all new development during normal, single dry, and multiple dry water years during a 20-year projection, in addition to existing and planned future uses, including agricultural and manufacturing uses.

Requirements of Senate Bill 221 and Senate Bill 610

The intent of Senate Bill 221 and Senate Bill 610 was to create additional assurance that certain new developments could be provided a reliable supply of water and that the effect of certain new developments upon existing water users both within the service area of the public water provider and those dependent on common sources of water were informed regarding the proposed water use, its impacts and plans to maintain reliable supplies. The legislation also serves to better inform decision makers regarding the water supply implications of development addressed by the measures.

The following chart illustrates the relationship between a local land use agency and the water supplier in their planning processes. The General Plan, prepared by a city or county planning department, and the Urban Water Management Plan prepared by a water supplier are the critical source documents used to substantiate the information required by Senate Bill 221 and Senate Bill 610 at the local level.



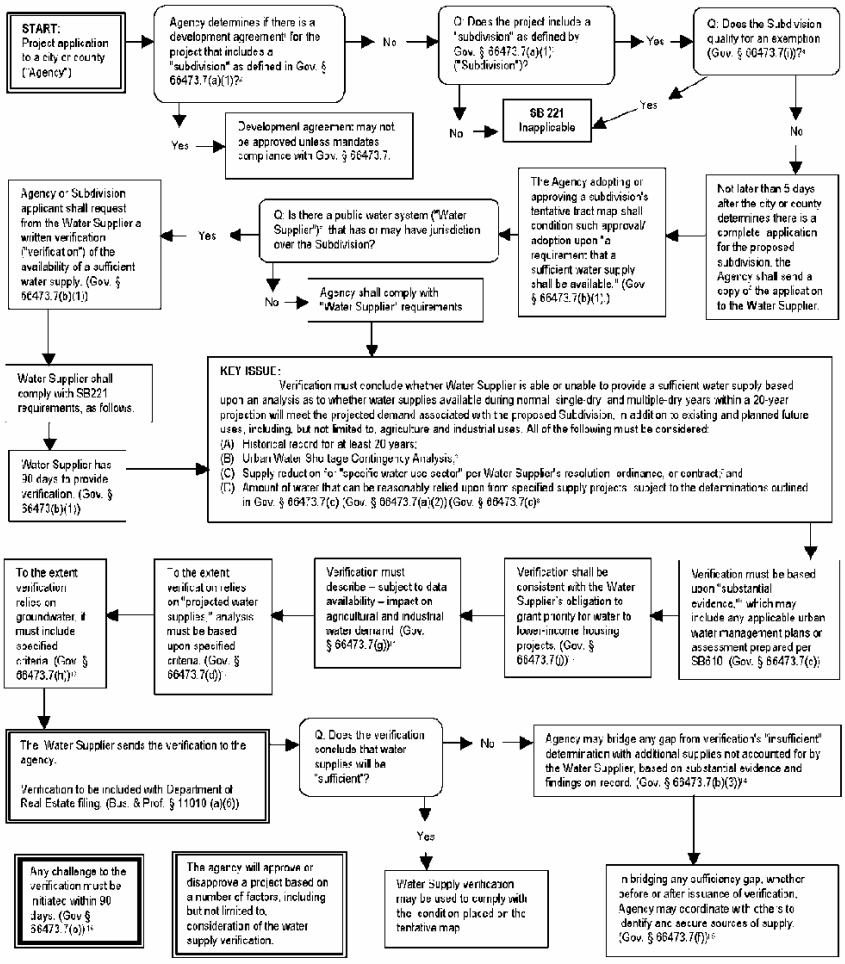
Source: Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001, California Department of Water Resources, October 8, 2003, page v.

Senate Bill 221

Senate Bill 221 creates a specific requirement for a written verification that a sufficient supply of water exists for any residential development of 500 or greater units as a condition of approval of a tentative tract or parcel map. Local land use approval authorities may not approve such maps if a sufficient supply cannot be demonstrated. Under the statute, a sufficient supply is defined as the total water supply available during normal, single dry and multiple dry years within a 20-year projection that will meet the water suppliers existing and planned future uses (Government Code 66473.7(a)(2). 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 any 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 (ACWA, 2002).

SB 221 Flowchart

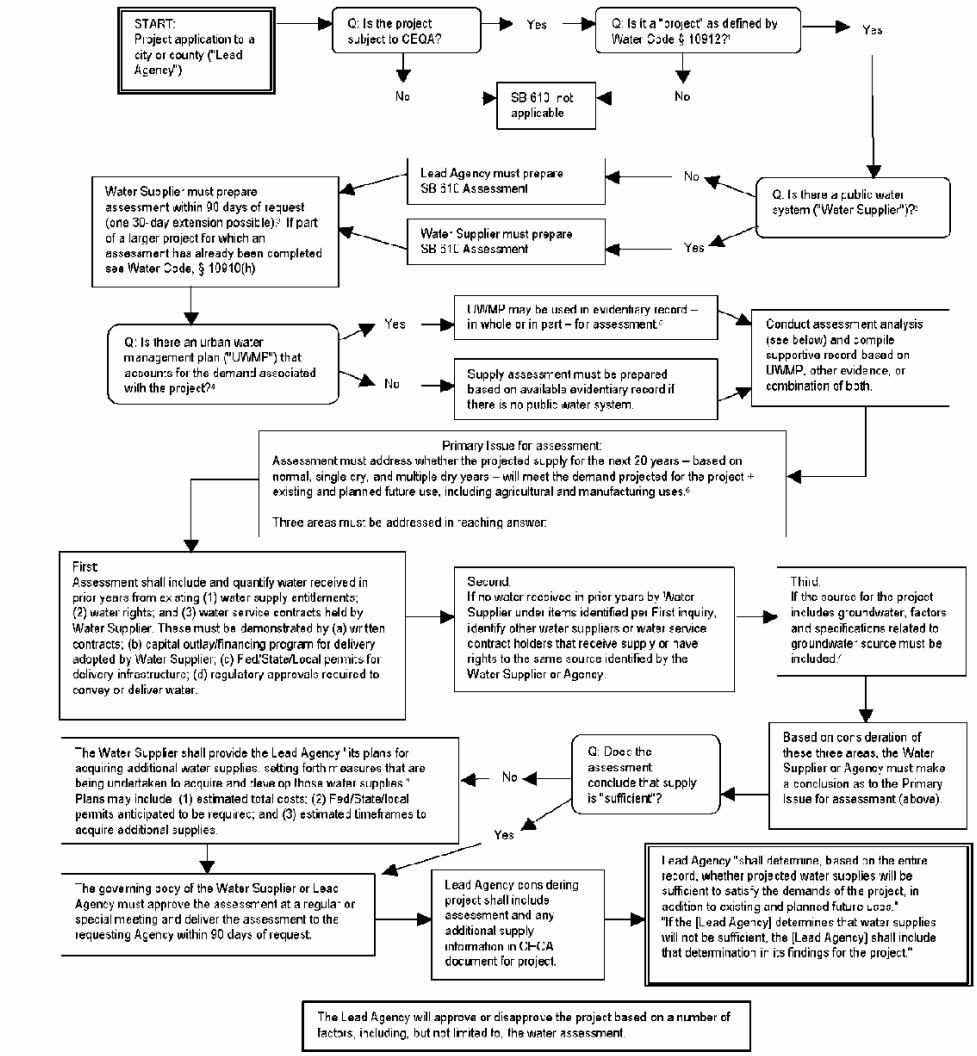


Source: Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001, California Department of Water Resources, October 8, 2003, page viii (chart courtesy of the Building Industry Legal Defense Foundation.

Senate Bill 610

Senate Bill 610 (Costa) became effective January 1, 2002. The stated intent of SB 610 is to strengthen the process by which local agencies determine the adequacy and sufficiency of current and future water supplies to meet current and future demands. SB 610 amended the California Public Resources Code to incorporate Water Code findings within the CEQA process for certain types of projects, amended the Water Code to broaden the types of information included in Urban Water Management Plans ((UWMP) – Water Code Section 10620 et. seq.) and added to Water Code Part 2.10 Water Supply Planning to Support Existing and Planned Future Uses (Section 10910 et. seq.). Part 2.10 clarifies the roles and responsibilities of the Lead Agency under CEQA and the "water supplier" with respect to describing current and future supplies compared to current and future demands.

SB 610 Flowchart



Source: Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001, California Department of Water Resources, October 8, 2003, page vi (chart courtesy of the Building Industry Legal Defense Foundation.

Overall, Senate Bill 610 requires that a water supply assessment be prepared for certain developments, including residential developments in excess of 500 units, where an environmental impact report or negative declaration is being prepared under CEQA. The requirement is one that adds a specific water supply assessment protocol for land use jurisdictions to follow and consider in evaluating the environmental impacts for a proposed project. The Water Supply Assessment must be included in any CEQA document prepared for the project.

The Urban Water Management Act

The Urban Water Management Planning Act requires municipal water providers serving over 3,000 acre-feet (AF) of water (1 AF = 325,900 gallons) or having at least 3,000 service

connections to prepare plans (urban water management plans) 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. These plans also require the assessment of urban water conservation measures and wastewater recycling, and a water shortage contingency plan, pursuant to Section 10632 of the California Water Code, outlining how the municipal water provider will manage water shortages of up to 50 percent of their normal supplies in a given year.

Like Senate Bill 610 and Senate Bill 221, specific levels of supply reliability are not mandated (i.e., whether a specific level of demand can be met over a designated frequency); rather, the law provides that it is a local policy decision of the water provider as part of the planning process. The Yucaipa Valley Water District's most recent Urban Water Management Plan describes the reliability of groundwater supplies that the District relies upon.

As discussed above, the Urban Water Management Planning Act requires the supplier to document water supplies available during normal, single dry, and multiple dry water years during 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. In order to comply with the SB 610 requirements the Water Supply Assessment is based on the information analyzed as part of the District's latest Urban Water Management Plan which, as always, is available for public review.

Water Demand Projections

The Yucaipa Valley Water District will require all new development to provide bundled water, wastewater and non-potable water services for all new construction. Bundled services are a critical component in order for the District to make a firm and guaranteed commitment of water for at least two decades. This requirement is further discussed below.

Overall, the District's water facilities are designed to serve single family, multi-family, commercial and industrial properties. The water required to serve each type of land use is related to the water required to serve one single family residence, referred to as one Equivalent Dwelling Unit (EDU). Every service connection is assigned an EDU based on meter size and historical consumption data. When meter sizes have not yet been determined, as for the commercial developments, parks, and schools, consumption is based on acreage and historical data for water use per acre. The total consumption per parcel is then converted to EDU's.

Water demand criteria for new development was updated by the Board of Directors and included as the basis for the most recently adopted Water Master Plan. Resolution No. 32-2002 set demand requirements for facility design as follows:

- Average Day Demand (gallons) = (Number of EDU's) x (700 gallons per day per EDU)
- Maximum Day Demand = 200% of Average Day Demand
- Peak Hour Demand = 400% of Average Day Demand

A key component within the 2005 Water Master Plan is the District's commitment to utilizing non-potable water. The Board of Director's have adopted a policy stating "…recycled or other non-potable water be used, for any purpose approved for non-domestic water use, to the maximum extent possible." Use of non-potable water will have the following direct benefits:

- Reduced dependency on high quality ground water;
- Preservation of ground water supplies for potable use;

- Reduced dependency on imported water from Northern California; and
- Reduced operating cost of the Yucaipa Valley Regional Water Filtration Facility.

Based on this policy, all new developments with non-potable water accessible will be required to connect to existing non-potable water (recycled water) infrastructure to irrigate all greenbelt areas, commercial landscape areas, roadway medians, front yards of individual homes and rear yards of individual homes. The benefits to the development include:

- An additional highly reliable, drought tolerant water source; and
- Reduction in the Yucaipa Valley Regional Water Filtration Facility Development Impact Fees.

Based on analyses of similar dual plumbed water systems in other water agencies, the potable water demand for a standard residential home will be estimated at 40% of the regular total water demand, reduced by 60% through the use of non-potable water for outside irrigation. Therefore, potable water facilities will be reduced from the District's standard design criteria of 700 gallons of total water per day per EDU to 280 gallons of potable water per day per residential EDU.

Dual Plumbed Home Water Allocation for a Typical Residential Dwelling Unit

Water Type	Percentage of Total Demand	Gallons per Day (per EDU)
Potable Water	40%	280
Non-Potable Water	60%	420
Total Water Demand	100%	700

Based on an analysis of similar dual plumbed water systems in other water agencies, the non-potable water demand makes up approximately 60% of the total residential water demand. Therefore, non-potable facilities will generally be sized at 420 gallons per day per residential EDU.

Water Demand Analysis

The total water demand for a standard residential unit (EDU) will require over five million gallons of water (5,100,000 gallons) per unit over a twenty year period. Considering the quantity of water needed for each new home, the Board of Directors has recognized the need to implement the Water Resource Validation Program for each new unit of residential, commercial, institutional, and industrial development.

Water Demand Analysis for a Typical Residential Dwelling Unit

Water Demand	Gallons (per EDU)	Acre Feet (per EDU)
Total water demand for one day	700	0.00215
Total water demand for one year	255,500	0.784
Total water demand for twenty years	5,100,000	15.68

Crystal Status Development Program

With the implementation of the Crystal Status Development Program, the Yucaipa Valley Water District (or District) will have sufficient water supplies to meet the needs of existing and future customers within our service area. Specifically, this program will provide sufficient water supplies to serve the needs of all new development during normal, single dry, and multiple dry water years during a 20-year period, in addition to existing and planned future uses, including agricultural and manufacturing uses.

The Crystal Status Development Program will rely upon the use of several groundwater basins currently under the management and control of the Yucaipa Valley Water District and our neighboring water providers to ensure a sufficient water supply exists for existing customers and new development. The intent of the Program is to provide the development community with a water supply that is credible, reliable, and robust such to minimize legal challenges while ensuring existing customers are not adversely impacted by the demand for water by new development.

Available Water Resources

Oak Glen Watershed

The District traditionally receives about 1,000 acre feet of surface water supplies from the Oak Glen watershed. Production from these sources has recently been declining to less than 500 acre feet annually. These sources are both minor and relatively unreliable due to their greater availability only in wet periods.

Mill Creek

Through the Santa Ana – Mill Creek Cooperative Water Project Agreement, Yucaipa Valley Water District is able to exchange up to 32 cubic feet per second (cfs) of water from the State Water Project for Mill Creek water when available. This water can be delivered by gravity to the Wilson Creek spreading grounds and when the Yucaipa Valley Regional Water Filtration Facility was completed in 2007, this water can serve direct delivery needs. In exchange for the Mill Creek supply, the District can deliver water to the City of Redlands Hinckley or Tate water treatment plants. This source is variable, however, depending upon local hydrology. Flows in the creek can range from 10,000 to 120,000 acre feet per year with the bulk of high water flows in the winter months. This is the least expensive supplemental surface water supply for the District. However, lack of storage limits the ability to exchange this water often available in wet years, for water during dry years.

Santa Ana River and Seven Oaks Dam

In addition to the Mill Creek surface water supply, the District will be able to receive exchange water from Santa Ana River water rights holders following the completion of the Yucaipa Valley Regional Water Filtration Facility. Phase II of the Department of Water Resources East Branch Extension project will expand transmission capacity to the Yucaipa area to 88 cfs, with 48 cfs of capacity rights held by San Gorgonio Pass Water Agency and 40 cfs by the San Bernardino Valley Municipal Water District (SBVMWD). Santa Ana River water availability to Yucaipa would be subject to availability and exchange of SWP water, which is provided under SBVMWD's exchange plan.

The Seven Oaks Dam operated by the U.S. Army Corps of Engineers will operate with a conservation pool of between 10,000 and 50,000 acre feet. The precise amount is the subject of ongoing negotiations. With the East Branch extension pipeline and water filtration facility complete, water from Seven Oaks could be delivered to Yucaipa for direct delivery to consumers. The long-term average yield for the 50,000 acre foot conservation pool is about 11,700 acre feet annually. Flow from this conservation pool would be available to the SBVMWD

generally from late spring through early fall, after the prime flood control obligations of the facility have ended each year.

State Water Project Supply

The San Bernardino Valley Municipal Water District is a wholesale water agency delivering water to retail purveyors such as Yucaipa Valley Water District. SBVMWD encompasses much of the District, and holds an entitlement to SWP water in the amount of 102,600 acre feet annually. The San Gorgonio Pass Water Agency serves the remainder of the District's service area in Riverside County through its SWP entitlement of 17,300 acre feet per year. SWP water is now available directly or by exchange through the East Branch extension pipeline. The Yucaipa Valley Regional Water Filtration Facility is able to provide direct delivery of State water to both cities of Yucaipa and Calimesa.

Yucaipa Valley Water District recognizes that the SWP will not be able to reliably deliver its full State Water Contractor deliveries (basic contracted amounts of water from the SWP) to the San Bernardino Valley Municipal Water District or San Gorgonio Pass Water Agency. Accordingly, the District plans to utilize SWP surface water when available in average or wetter years in gradually increasing amounts as capacity of the Yucaipa Valley Regional Water Filtration Plant is increased from its initial capacity of 12 million gallons per day (mgd) (13.4 taf) to 30 mgd (33.5 taf).

The following table reflects an assessment of State Water Project reliability by the State Department of Water Resources indicating the amount of allocation available to SWP customers in average and various drought scenarios.

State Water Project Average and Dry Year Table A Delivery from the Delta in Five-year Intervals for Studies 2007 and 2027 (in percent of Table A Allocation)

Year	Average	Single Dry Year (1977)	2-Year Drought (1976-1977)	4-Year Drought (1931-1934)	6-Year Drought (1987-1992)	6-Year Drought (1929-1934)
2007	63%	6%	34%	35%	35%	34%
2012	64-65%	6%	32%	34-36%	35%	34-35%
2017	65-66%	7%	30-31%	34-36%	34-35%	34-35%
2022	66-68%	7%	28-29%	33-37%	34-35%	33-36%
2027	66-69%	7%	26-27%	32-37%	33-35%	33-36%

Source: The State Water Project Delivery Reliability Report 2007 – Draft, page 52

This analysis above indicates that even in severe drought scenarios, the District can expect some water from the State Water Project even though under our Urban Water Management Plan, the District is assuming in some dry years no State Water Project supply is available. Additionally, the State Department of Water Resources generally operates a dry year supply program where agricultural users and others in the Central Valley sell water to the State to make up shortfalls in State Water Project supply. The District would be able to participate in such purchases. In wet years, the State Water Project is able to deliver 100 percent or more of allocation, which would allow the District to maximize surface water deliveries in those years, and reduce groundwater pumping, thus reserving groundwater supplies for dryer years as necessary.

Recycled Water

The Yucaipa Valley Water District has been implementing a recycled water project throughout the 1990s. Recycled water meeting Title 22 requirements is available through the Wochholz Regional Water Recycling Facility, and dual plumbing is currently being installed in new developments. Delivery amounts are expected to grow to about 6,700 acre feet by 2020, or about 24 percent of total agency water demands. Ultimately, the District expects to deliver about 8,000 acre feet per year of recycled water.

Water Conservation

Yucaipa Valley Water District conducted an analysis of implementing the Best Management Practices (BMPs) for Urban Water Conservation in California as part of its Urban Water Management Plan and found a number of the BMPs to be cost-effective. Through State grant funding under Proposition 13, the District has refined this analysis to look at the financial benefits of water conservation in deferring and lowering its need for infrastructure investments, refining the cost-effectiveness analysis in the Urban Water Management Plan. In summary, Yucaipa Valley Water District found that investments in indoor conservation have a value of $352/acre foot, small outdoor landscape conservation $292/acre foot, and large outdoor turf conservation, which would otherwise have availability of recycled water, has a value of $138/acre foot. This means that the District could spend up to these amounts on the various types of conservation and have a net economic benefit.

Yucaipa Valley Water District will continue to evaluate BMP program alternatives, and consider implementing those that can be performed at costs at or below these thresholds.

Water Supply Reliability Strategy

Through build-out, Yucaipa Valley Water District will provide a reliable supply of water to serve the community, despite rapidly growing water demands. This will be accomplished by prioritizing the importation of water based on availability in the following order:

- Priority One – Direct Delivery for Existing Customers. The direct delivery of imported water to meet the needs of existing potable water and non-potable water demands will be the highest priority of the District. This priority ensures sufficient water supply is allocated to meet current water demands. If the supply of imported water exceeds the existing direct delivery demand, imported water will be allocated to the next priority.

- Priority Two – Groundwater Adjudication Obligations. The District is responsible for meeting the obligations of groundwater adjudications in the Beaumont and Yucaipa Basins. This is the second highest priority to ensure sufficient storage and replenishment obligations under court orders have been achieved. This priority also ensures sufficient water supply is allocated to meet current water demands. If the supply of imported water exceeds the first and second priorities, imported water will be allocated to the following priority.

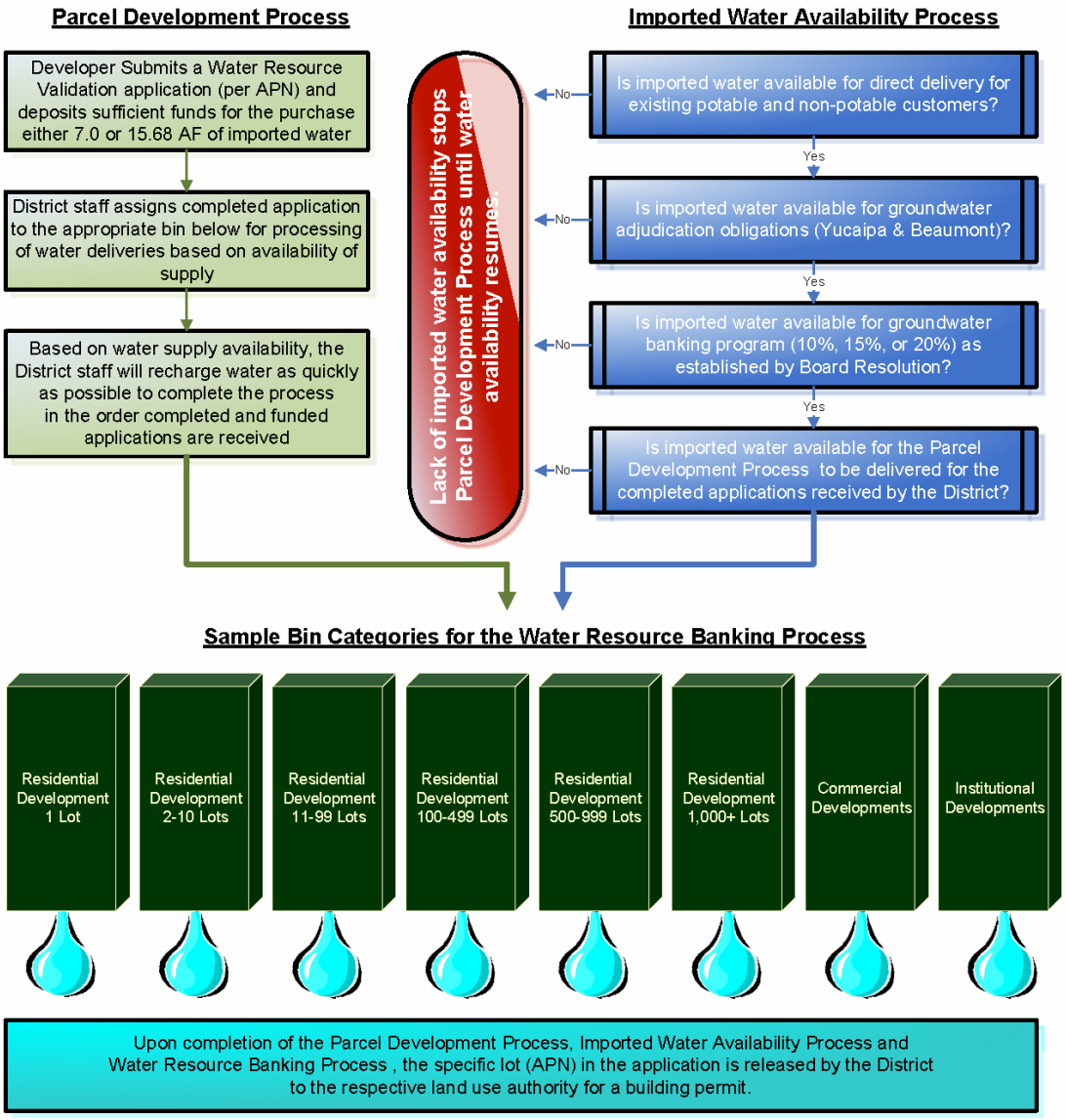
- Priority Three – Groundwater Banking for Future Reliability. The Board of Directors will establish a groundwater banking of 15% of the total water used by District customers to recover our groundwater basins for future reliability. Each month, customers will be charged the cost for importing an additional 15% of the water consumed. The water will

be stored in the groundwater basins to establish a credit and future drinking water supply to allow the community to use this local source during times of droughts and disruptions to the State Water Project. As with the first two priorities, this third priority also ensures sufficient water supply is allocated to meet current water demands, and is different from the Parcel Development Process needed for new development to occur. If the available supply of imported water exceeds the first, second and third priorities, imported water will be allocated to the following priority.

- Priority Four – Parcel Development Process. The Parcel Development Process provides for the storage of 7.0 acre feet per EDU for all new developments and 15.68 acre feet per EDU of imported water for the Crystal Status Development Program. This water is sufficient to clearly demonstrate a 20 year supply of water is available for the development to occur. The cost of imported supplemental water will be linked directly to the availability and anticipated cost for water delivered by either the San Bernardino Valley Municipal Water District or the San Gorgonio Pass Water Agency as established by the Yucaipa Valley Water District.

Based on this strategy, new development will contribute to the capital assets of the District as well as the water supply strategy to ensure a long-term and reliable water supply is available. This strategy allows the District to serve its customer's water demands entirely through groundwater or surface water allowing the District to insulate itself from periodic drought by utilizing available surface waters in wetter years relying more on groundwater in dryer years when surface water is less available. The District is able to switch between the two sources, or use both sources simultaneously, depending on hydrology and water availability.

Surface supply availability from the SWP, San Bernardino Basin Bunker Hill Pressure Zone, Seven Oaks Dam, Mill Creek and Santa Ana River can be used interchangeably, depending upon local and statewide hydrology, to supplement a stable local groundwater yield. Additionally, the District will incorporate recycled water delivery systems into new development, focusing service of new irrigation demands on recycled water. Recycled water will give the District a new local source of water of high reliability, both lessening the dependence on imported sources and increasing reliability of total supply. Overall, as noted in the District's Urban Water Management Plan, there are sufficient water resources to meet its current and projected growth in demands.



Water Supply Sufficiency Analysis

The Water Resource Validation Program will allow the Yucaipa Valley Water District to be well positioned to provide a safe and secure water supply for new development into the future.

Availability of Water Filtration and Delivery System Capacity

The first phase of the Yucaipa Valley Regional Water Filtration Facility has been completed and provides up to 12 mgd of filtration capacity of imported water in addition to the 0.8 mgd of capacity at the existing Oak Glen Surface Water Filtration Facility. Additional increments of

capacity at the Yucaipa Valley Regional Water Filtration Facility will be constructed as needed to bring the ultimate capacity to 30 mgd to meet future demands.

Water Distribution System Analysis

The District will conduct a water distribution system analysis with each new development project to determine the backbone infrastructure needs on a case-by-case basis. Any needed backbone pipelines, reservoirs and related facilities will be included in a development agreement for each project.

Regulatory Permits Necessary for Water Supply Delivery

Yucaipa Valley Water District's local and supplemental imported surface water supplies from the State Water Project are fully permitted. Imported supplemental supplies can be delivered in accordance with the rules and regulations of the San Bernardino Valley Municipal Water District and the San Gorgonio Pass Water Agency. The District is exempt from local building codes with respect to construction of water treatment and delivery facilities. However, Yucaipa Valley Water District does have to comply with State Fish and Game and U.S. Army Corps of Engineers requirements where construction will require streambed alteration agreements or placement of fill materials in waters of the United States, respectively. Generally, however, the District has some facility location flexibility, which allows infrastructure to be moved or constructed in a manner to avoid significant environmental effects.

Effect on Agricultural and Industrial Reliant on the Same Water Supply Sources

Yucaipa Valley Water District plans to begin utilization of SWP supplies to effectively manage demands on the Yucaipa and Beaumont groundwater basins, allowing for management of the basins to a safe yield. As such, any adverse effect by the District pumping in these basins upon other agricultural users of the basins will be eliminated as the current Yucaipa basin overdraft can be halted and the basin managed for sustained yield, benefiting all its users. The adjudication within the Beaumont Basin and Yucaipa Basin will protect existing agricultural user's supplies from any impacts which might be created by additional use of this basin.

Yucaipa Valley Water District's utilization of SWP water as part of the San Bernardino Valley Municipal Water District and the San Gorgonio Pass Water Agency's entitlements will tend to make fewer surpluses of SWP water available to others, including agricultural users. However, this outcome has been a planned event for the past 40 years since the conception of the State Water Project and agricultural users have expected gradual diminution of such surplus supplies. The fact that the SWP is not expected to ever consistently supply its maximum contractual entitlement supplies to its users has created additional stress on all SWP customers to develop alternate supplies to meet their needs.

The District's ability to begin utilization of the Yucaipa and Beaumont groundwater basins conjunctively with SWP water creates opportunities for the State or other water districts to engage in storage agreements with the District that could make additional supplies available to agricultural or urban users outside the District. Under such agreements, the District would agree to take another users surface water supplies in wet years, in effect storing additional water in groundwater basins in-lieu of surface deliveries. In dry years the District would forgo its surface water deliveries from the SWP allowing those deliveries to go to others, including agricultural users.

Requirements of Water Supply Sufficiency

The allocation of water in California has always been a contentious issue. The requirement of a water supply analysis to firmly commit limited local and regional water supplies to new development is an arduous task that places a great deal of responsibility upon the District. As part of the analysis, the District has established the following requirements to make this firm water supply commitment for all new development.

The long-term dedication of water resources to meet the needs of new development requires the commitment of local, regional and statewide water supplies and infrastructure. While the overall potable water supply, non-potable water supply and wastewater demands have all been carefully evaluated for the District, the specific infrastructure requirements will need to be evaluated on a project-by-project basis to determine the best method for providing potable water, non-potable water and wastewater service. Any modification or change of the following basic requirements will be included in the development agreement adopted for each project.

Bundled Services. Potable water, non-potable water, recycled water, and wastewater service as provided by the Yucaipa Valley Water District shall be bundled and supplied to each parcel within all new developments.

Dry Sewer Installation. In the first quarter of 2008, the District worked with engineers and financial consultants to convert approximately 215 homes in Calimesa from septic systems to the sewer collection system. The District pursued this project for two main reasons:

- First, several property owners requested information to connect the sewers. The District recognized that the most cost effective way for a property owner to connect to the sewer would be with the formation of a sewer assessment district to spread the costs over a larger number of units.
- Second, the District under the Basin Plan adopted by the Regional Water Quality Control Board is required to limit the amount of nitrogen and total dissolved solids that enter the groundwater basin.

Following an intensive informational campaign, the District concluded with an informational survey in March 2008 to determine the level of interest of the homeowners. The results of the survey indicated that the majority of the homeowners were not interested in sewers due primarily to the high cost of retrofitting their homes in the neighborhood.

Based on this experience, the District will require new developments to provide dry sewers within the development based on the attached resolution. The District will provide a reimbursement agreement to collect funds for the first ten years for any off-site connections to the extended sewer system at a rate established by Board resolution.

Annexation. Any parcel within a development to be served shall be annexed to the District at the sole cost of the property owner prior to entering into a development agreement with the District.

Dual Plumbed Community. Non-potable water shall be used to irrigate all greenbelt areas, commercial landscape areas, roadway medians, front yards of individual homes and rear yards of individual homes prior to occupancy.

Construction of Surface Water Detention Basins. The District will require the construction of soft bottom channels throughout the development to maintain the percolation rates currently

experienced onsite and provide flood control consistent with the authority of the respective agency. All surface water detention basins will require design approval by the District to ensure subsurface facilities are not impacted by the recharge of surface water.

Fixed Base Automatic Meter Reading. Each new development will be required to install the necessary infrastructure and facilities to provide a fixed base automatic water meter reading system for potable and non-potable water meters within the development.

Construction of Infrastructure. Any water facilities constructed for this project shall adhere to strict District requirements to meet functional, operational and aesthetic criteria.

Temporary Facilities. The District recognizes that temporary facilities may be constructed to allow for initial phasing of development projects. The District will provide time dependent limitations on all temporary facilities and unit count dependencies, regardless of economic conditions and phasing schedules.

Agricultural Use Conversion to Non-Potable Water. Any current agricultural practices on-site that relies upon groundwater sources shall be converted to non-potable use.

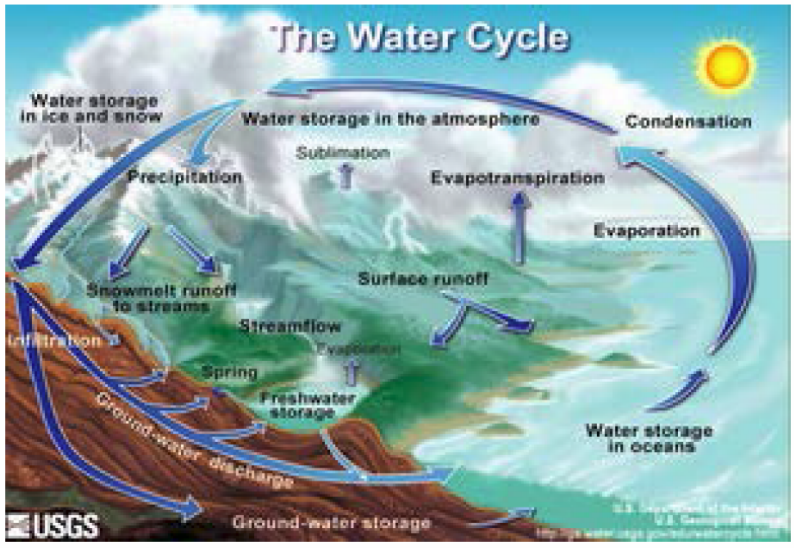
Summary of Water Supply Sufficiency Determination

Pursuant to the California Water Code and based upon the forgoing analysis, the Yucaipa Valley Water District has determined that projects adhering to these latest standards will have a sufficient supply of water for existing customers and new development during normal, single dry and multiple dry years during the next twenty years.

Pursuant to California Government Code Section 66473.7 the Yucaipa Valley Water District has determined that, based upon the foregoing analysis, it has sufficient water supplies available to meet the needs of new development.

Section 4 – Water Resources

Hydrologic Cycle



Water is always in motion above, below and on the surface of the earth. This cycle is commonly referred to as the water cycle or hydrologic cycle and is the basis of life on this planet. The phases of the hydrologic cycle, coupled with the unique properties of water, have enabled plants, animals and humans to exist on the planet for millions of years using the same supply of water.

During each phase of the hydrologic cycle, water is stored in the form of either vapor, liquid or gas. The stored water in these phases allows water to be consumed, regulate temperature, and provide a mechanism to naturally purify water. This natural phenomenon of purifying salt water for environmental uses and human consumption can now be readily duplicated with the use of advanced treatment technologies such as reverse osmosis.

Typical Residence Time of Water Stored in the Water Cycle	
Soil Moisture	1 to 2 months
Seasonal Snow Cover	2 to 6 months
Rivers	2 to 6 months
Glaciers	20 to 100 years
Lakes	50 to 100 years
Groundwater: Shallow	100 to 200 years
Groundwater: Deep	10,000 years

PhysicalGeography.net. CHAPTER 8: Introduction to the Hydrosphere. Retrieved on 4/5/08.

Of all the various stages of the water cycle, most of the water on earth is found in the oceans as salt water (97.25%). It is important to recognize that 99.3% of all water on earth is either in the oceans, ice caps or glaciers. This water is generally unavailable for human consumption. While not entirely accessible, the remaining 0.7% of the water on earth is considered fresh water and available for human consumption.

Volume of Water Stored in the Water Cycle	
Oceans	97.25%
Ice caps & glaciers	2.05%
Groundwater	0.68%
Lakes	0.01%
Soil moisture	0.005%
Atmosphere	0.001%
Streams & rivers	0.0001%
Biosphere	0.00004%

PhysicalGeography.net. CHAPTER 8: Introduction to the Hydrosphere. Retrieved on 4/5/08.

Local Topography

The Yucaipa Valley Water District sphere of influence covers approximately 68 square miles of territory, with 38.85 square miles located in San Bernardino County and 29.15 miles located in Riverside County. The District serves portions of the cities of Yucaipa, and Calimesa, and unincorporated areas of San Bernardino and Riverside counties.

The Yucaipa Valley is bounded by the San Bernardino Mountains to the north, the Yucaipa Ridge to the east and south, and the Crafton Hills to the northwest. The Valley opens to the southwest into an area commonly referred to as the badlands in the eastern San Bernardino Valley.

The foothills which surround the valley range in elevation from about 3,200 ft in the Crafton Hills to over 5,000 ft along the Yucaipa Ridge. The valley floor generally slopes from east to west and ranges in elevation from about 3,600 ft at the mouth of Potato Canyon to about 2,000 ft at the entrance of Live Oak Canyon.

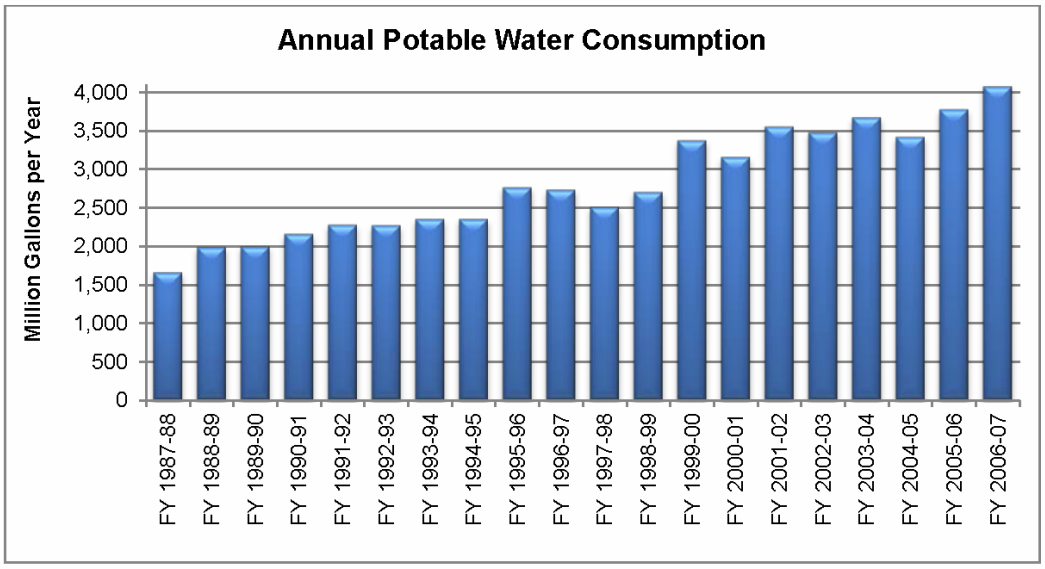
Historical Water Conditions of the Yucaipa Valley

Prior to the late 1800's, the water supply of the Yucaipa Valley was limited to surface flow in the local mountains and small quantities of naturally occurring spring flow along the Chicken Hill fault. In the 1890's and early 1900's, a number of flowing wells were completed in the western portion of the groundwater basin. Agricultural development during the period of 1900-1930 required the installation of more wells throughout the area. The increased pumping produced water-level declines and lowered the naturally occurring surface water below ground throughout the basin by the 1930's.

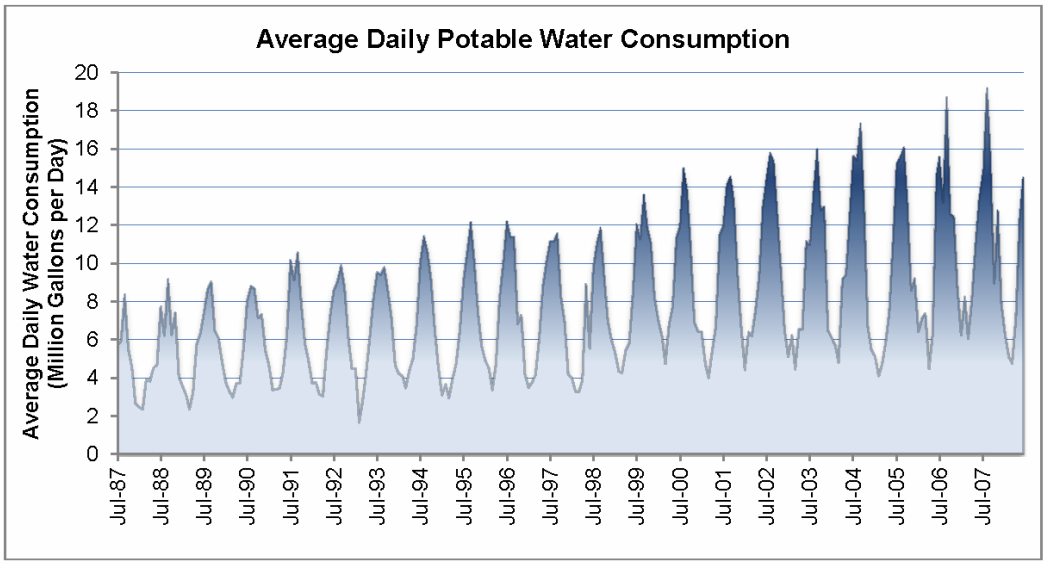
The gradual decline and elimination of continuous surface water in the Yucaipa Valley continued until the post-World War II development boom of 1945. As a result of increased groundwater extraction and reduced recharge of rain water caused by below-normal precipitation resulted in a groundwater decline of 10 to 20 feet per year. This continued into the early 1960's before the rate of decline was reduced to 5 to 10 feet per year in 1969 (Moreland, 1970). Currently, the water levels in the eastern portion of the watershed are somewhat sustained. However, the western portion of the watershed is still under groundwater decline.

Current Water Supply

Over the past two decades, the District's potable water demands increased from 1.66 billion gallons during fiscal year 1987-88 to 4.08 billion gallons during fiscal year 2006-07. This represents an increase of nearly 150% over twenty years, or about 7% per year.



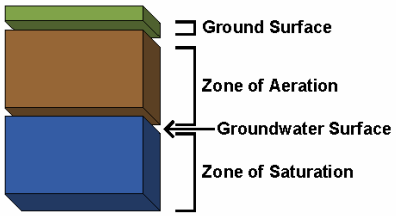
In 2007, the District's average daily demand was 11.0 million gallons per day (mgd), with a winter average daily demand of 8.3 mgd and a summer average daily demand of 14.1 mgd. The average daily demand for the minimum month of March was 6.1 mgd, and the average daily demand for the maximum month of August was 19.2 mgd.



The Yucaipa Valley Water District has traditionally met the bulk of service area customer needs from groundwater. The District currently has about 40 active and standby groundwater wells available for use. Due to the age of some of these well facilities, only 20 of the active wells are anticipated to remain in service through 2015. Most of these wells pump from the Yucaipa Groundwater Basin, with about 10% of the total groundwater production being pumped from the Beaumont Basin. Demand has grown in the last two decades to where the District alone is now pumping over 11, 000 acre feet per year. When combined with pumping by the Western

Heights Municipal Water Company and South Mesa Water Company of about 2,400 acre-feet per year for each company, the basin is technically in an overdraft situation based on some estimates of basin yield. However, groundwater elevations overall have been relatively stable with elevation recovery in the older portions of the District balanced against declines in groundwater elevations in outer reaches of the District.

Groundwater Sources of Supply



Groundwater is water that has passed through the earth's surface and is found in soil layers. The soil layer immediately below the ground surface is the "zone of aeration", where gaps between soil particles are filled with both air and water. Below this layer is the "zone of saturation", where the gaps between soil particles are filled with water. The groundwater surface, or water table, is the boundary between these two layers. As the amount of groundwater increases or decreases, the water table rises or falls accordingly. When the entire area below the ground is saturated, flooding occurs because all subsequent precipitation is forced to remain on the surface.

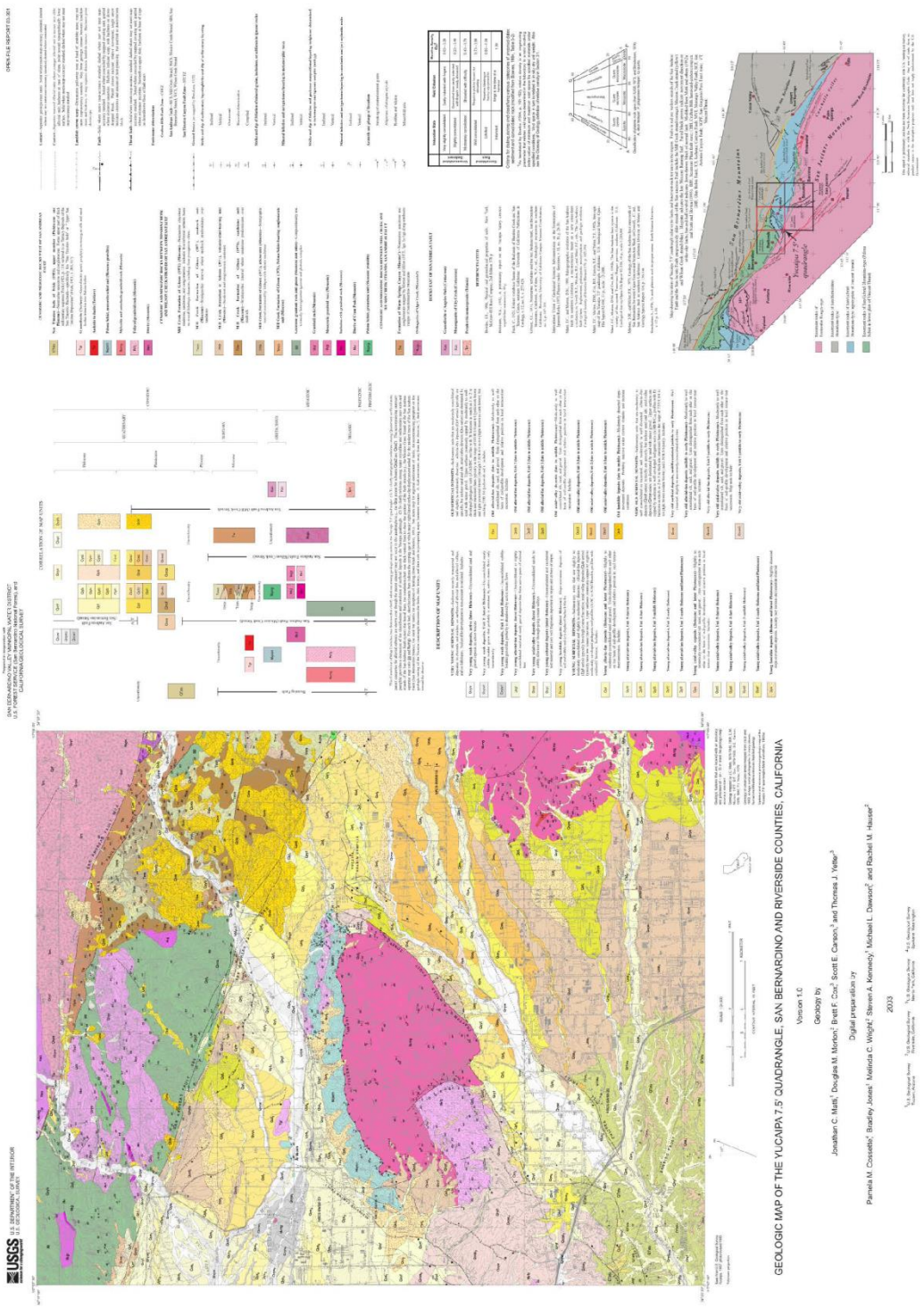
Yucaipa Basins

The geology of the Yucaipa Valley is extremely complex, yet well documented. The following geologic map of the Yucaipa 7.5' quadrangle (version 1.0) dated 2003 illustrates the complexity of the area situated within a right-step-over zone between the San Jacinto and San Andreas Fault zones. The USGS describes the quadrangle as being traversed by several faults of the San Andreas system, including (from oldest to youngest) the Banning Fault and the Wilson Creek, Mission Creek, Mill Creek, and San Bernardino Strands of the San Andreas Fault.[6]

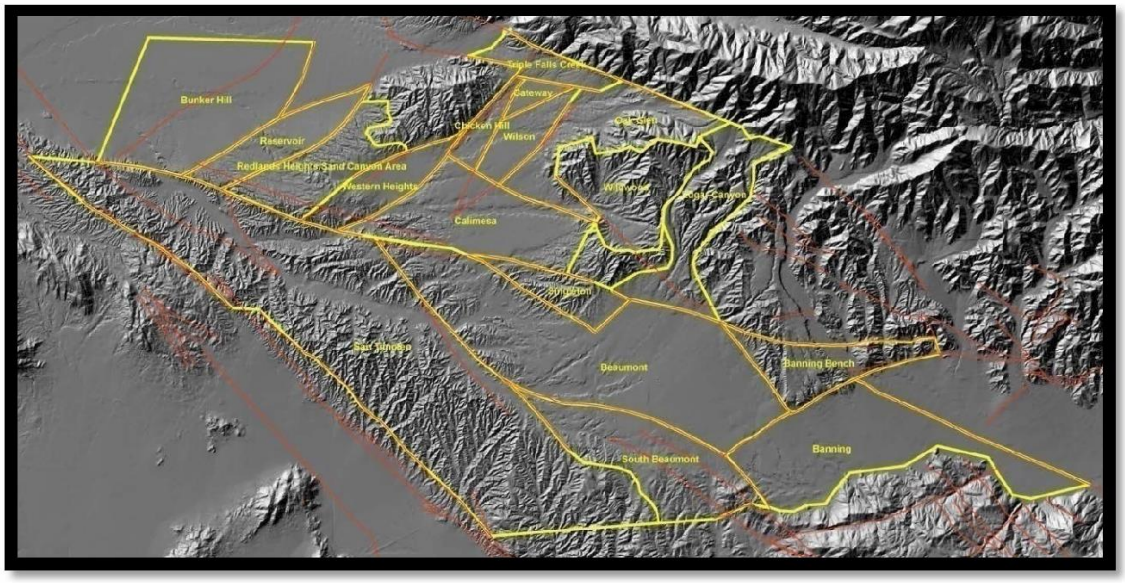
The USGS identifies the complications within the San Andreas Fault system over the last several hundred thousand years have created a landscape setting in which Quaternary surficial materials of the Yucaipa quadrangle have accumulated. Crustal extension throughout the San Bernardino Basin region led to uplift of the Crafton Hills block and down-dropping of the Yucaipa Valley region on faults of the Crafton Hills and Chicken Hill complex. Subsequent middle and late Quaternary streamflows deposited several generations of axial-valley and alluvial-fan sediment in the down-dropped lowlands. These deposits and the older San Timoteo beds they overlie record the history of Quaternary fault movements, and form reservoirs for ground water in the Yucaipa quadrangle.

The historical geology of the area has required the District to adopt a multifaceted approach to solving our water supply issues in order to maximize the use of our limited groundwater basins. The following map can be downloaded for more information from http://geo-nsdi.er.usgs.gov/metadata/open-file/03-301/metadata.faq.html.[7]

[6] USGS Geoscience Data Catalog geologic map and digital database of the Yucaipa 7.5' quadrangle, San Bernardino and Riverside Counties, California.
[7] Matti, Jonathan C. , Morton, Douglas C. , Cox, Brett F. , Carson, Scott E. , and Yetter, Thomas J. , 2003, Geologic map and digital database of the Yucaipa 7.5' quadrangle, San Bernardino and Riverside Counties, California: United States Geological Survey Open-File Report 03-301, U.S. Geological Survey, Menlo Park, California.


USGS
GEOLOGIC MAP OF THE YUCAIPA 7.5' QUADRANGLE, SAN BERNARDINO AND RIVERSIDE COUNTIES, CALIFORNIA
Version 1.0
Geology by
Jonathan C. Matti, Douglas M. Morton, Brett F. Cox, Scott E. Carson, and Thomas J. Yetter
Digital preparation by
Pamela M. Cossette, Bradley Jones, Melinda C. Wright, Steven A. Kennedy, Michael L. Dawson, and Rachel M. Hauser
2010

The extensive faults and active geology of the Yucaipa Valley creates a unique configuration of groundwater basins with hydrogeologic conditions that are fairly distinct for each subbasin within the region. Studies conducted by the USGS (Moreland, 1970) and David Keith Todd (Todd, 1988) have estimated the safe yield of the collective subbasins at 7,100 and 7,900 acre-feet/year, respectively. Both studies represent the best available estimate of the safe yield for the collective Yucaipa basins.



Historic extractions from this basin since 1949 have fluctuated between 10,000 and 12,000 acre-feet/year as reported in these studies. In general, water levels in the majority of the subbasins experienced a steady decline between the mid 1940's and 1970's. In the late 1970's, the water levels began to level off but continue to decline.

Historical records indicate that only very small amounts of local runoff have been retained in the Wilson spreading facilities since the basins have been historically used for flood control purposes. Information adapted from the 1988 Todd report indicates that during the 1934-64 period annual diversions for retention into these basins ranged from less than 10 to over 1,200 acre-feet/year, with an average of about 250 acre-feet/year.

The amount of water recharged in these basins is very small when compared to their spreading capacity and the amount of water available for recharge. The Wilson spreading basins have a recharge area of approximately 12 acres. Infiltration test conducted by Moreland (1970) indicate that the infiltration capacity of these basins is approximately 1.5 feet per day. Similar infiltration rates were calculated in the Reclaimed Water Master Plan (MacDonald Stephens, 1992) by reviewing daily inflow records of imported water from Mill Creek over a 35 day period to determine the long term infiltration rates. The results of that observation indicate an infiltration rate of 0.7 cfs per acre, which is equivalent to 1.4 feet per day.

Wildwood Canyon Basin

This small basin is a recharge source of the Oak Glen subbasin in the Yucaipa Basin. The yield of this basin has been estimated at 615 acre-feet/year. At the present time, the District has 5

wells in this basin producing approximately 180 acre-feet/year. Currently, the District does not have any plans to continue developing this basin because of the poor performance of the existing wells in the area.

In 1992, the District acquired a mutual water company which serves the upper portions of Wildwood Canyon. This system is composed of 11 wells with a minimum combined summer production of about 300 gpm. Production from this area is only enough to supply the current localized demand and does not represent a significant source of supply to the system. The majority of the wells in this area have erratic production since they extract from a layer in the aquifer composed mostly of fractured rock.

Surface Water Sources of Supply

The District currently collects surface water from several sources in the Oak Glen area. The sources include surface flows from the Oak Glen, Birch, and Back Canyon creeks and their tributaries, and subsurface flows collected in the Adams, Clark, Edward's, and Worthington tunnels. The flows from these sources are highly seasonal and depend on the amount of rainfall and snow melt in the area. Oak Glen and Birch creeks provide the majority of the surface flows, however their production has decreased significantly; production from these sources has declined from about 1,000 ac-ft/yr. in the early 1980's to today's levels of 200 to 300 ac-ft/yr.(CDM Master Plan, 1994).

Surface water collected from Ford Creek, Birch Creek, Back Creek and several tunnels is treated at the Oak Glen Surface Water Filtration Facility and delivered to the Pressure Zones 18, 17 and 16. Subsurface flows include collections from the Worthington and Adams tunnel. The Adams Tunnel has partially collapsed, but its water is now pumped by a shallow well set into the tunnel. Similar to the surface flows, production from these sources has declined over the last decade, but not at the same rate as the surface flows. In the early 1980's, production from the Adams Tunnel was in the 400 to 450 acre-feet/year range while the Worthington Tunnel produced approximately 75 acre-feet/year. Current production volumes for these two sources are in the 200 to 300 acre-feet/year for the Adams Tunnel and below 5 acre-feet/year for the Worthington facility.

Recycled Water

Recycled water represents a key source of the District's non-potable water supply. The Henry N. Wochholz Regional Water Recycling Facility produces advanced tertiary treated recycled water at a current rated capacity of 6.7 mgd, but it is anticipated that the capacity will be re-rated to 8.0 mgd based on a re-evaluation of the tertiary treatment microfiltration membranes and disinfection facilities.

The majority of the recycled water produced from this facility is now discharged to San Timoteo Creek under the current Regional Board Order No. R8-2007-0012 (NPDES CA01056190) which allows the discharge of up to 6.7 million gallons per day (mgd) or tertiary recycled water to the creek. The current discharge to the creek averages approximately 3 mgd.

Recently completed environmental studies indicate that a future discharge of 1.6 mgd will be sufficient to maintain the habitat that has become established in the creek as a result of the historical creek discharge. This 1.6 mgd flow can be provided through a combination of

recycled water, untreated imported water, or local groundwater. Consistent with the RWQCB Basin Plan and Maximum Benefit obligations, the District proposes to decrease future recycled water discharges to the creek, making more recycled water available for non-potable use.

Additional non-potable water supplies include backwash from the Yucaipa Valley Regional Water Filtration Plant and untreated imported water from the State Water Project (SWP).

Water Use Efficiency (Conservation)

Water conservation, or water use efficiency, is an important aspect of water resource management. There are several case studies of water being used more efficiently in urbanized areas. For example, from 1975 to 2005 the population of Los Angeles grew 33 percent in thirty years without an increase in total water use.[8]

By comparison, in June 2007, Los Angeles Mayor Antonio Villaraigosa called for voluntary 10% reduction in water consumption to help minimize water demand during a record dry year. Despite the public relations effort to encourage water conservation, the Los Angeles Times reported that water use remained fairly constant compared to the same period in the prior year. In fact, the article explained that according to data from the Department of Water and Power, city consumers used almost 1% more water from June through October than they did during the same period in the prior year.[9]

From a water management perspective, there appears to be a difference between the long-term water use efficiency and short-term efficiency. Arguably, the long-term water conservation may have been realized with more active conservation practices like low-flow toilets, improved irrigation systems, and education programs. While the short-term voluntary request for conservation was more passive in nature by asking customers to alter their behavior. Asking customers to reduce the number of times they water their lawn and wash their cars may show signs of an immediate reduction in water demands when news articles are printed, but this behavioral change is often not permanent

[8] Lois Wolk and Jared Huffman (2007). "California's water future – 21st century solutions", *San Francisco Chronicle* (March 23).

[9] Deborah Schooch, (2007). "L.A.'s water savings are just a drop in the bucket", *Los Angeles Times* (December 10).

Section 5 – Watershed Management

The idea of a watershed approach to water resource management is included in Section 208 of the Clean Water Act. Under this part of the Clean Water Act, each state must identify the boundaries of areas with substantial water quality control issues and designate a single representative organization to formulate a management plan for the area.

The Environmental Protection Agency's Office of Wetlands, Oceans, and Watersheds defines a watershed approach as follows:

- Is the watershed hydrologically defined?
  - Geographically focused
  - Includes all stressors
- Involves all stakeholders
  - Includes public (federal, state and local) and private sector
  - Is community based
  - Includes a coordinating framework
- Strategically addresses priority water resource goals (e.g. water quality, habitat)
  - Integrates multiple programs (regulatory and voluntary)
  - Based on sound science
  - Aided by strategic watershed plans
  - Uses adaptive management[10]

The National Association of Clean Water Agencies (NACWA) elaborated upon the EPA definition of a watershed approach as follows:

> A watershed approach is a holistic, collaborative framework that focuses water quality protection and restoration efforts within a hydrologically-defined area (i.e., a watershed). A watershed approach:
> - Considers the physical, chemical, and biological aspects of water quality;
> - Allows prioritization of watershed needs based on scientific data and available resources;
> - Involves stakeholders in prioritization and planning;
> - Provides for coordinated implementation of all water quality restoration and maintenance activities; and
> - Ensures any activities affecting water quality address established watershed priorities.[11]

Santa Ana Regional Water Quality Control Board Resolution R8-2004-0001

On January 22, 2004, the Santa Ana Regional Water Quality Control Board adopted Resolution R8-2004-0001, which amended the water quality control plan for the Santa Ana Watershed. This basin plan document established groundwater management zones to ensure historical

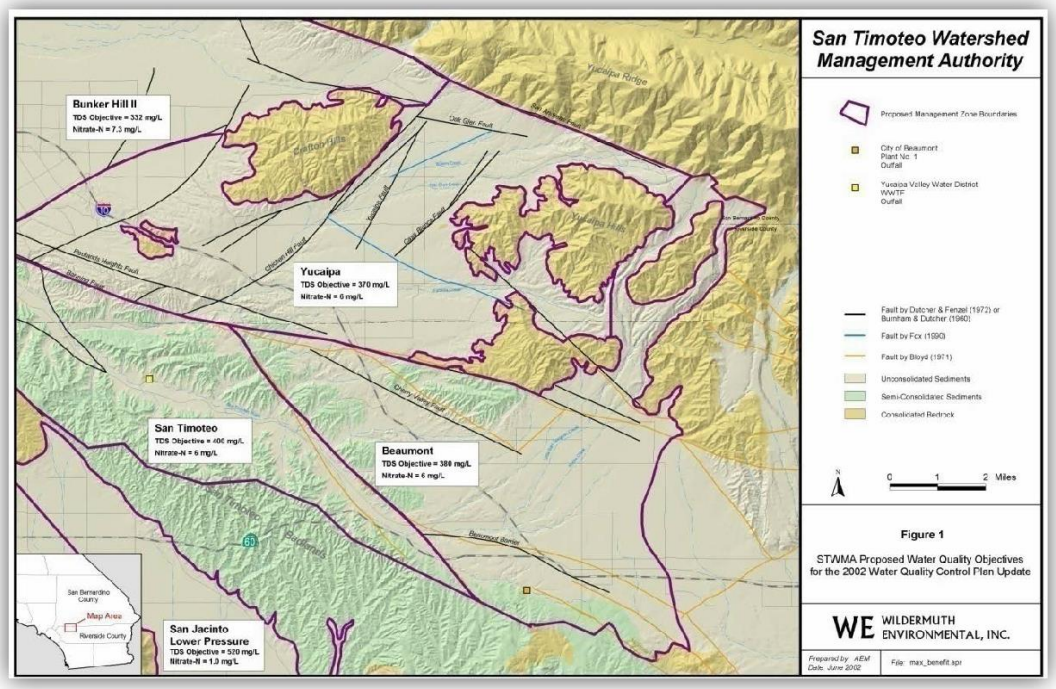
[10] http://www.epa.gov/owow/watershed/approach.

[11] National Association of Clean Water Agencies (NACWA) Strategic Watershed Task Force Report, *Recommendations for a Viable and Vital 21st Century Clean Water Policy*, October 18, 2007, page 7.

water quality is maintained, pursuant to the State of California antidegradation policy (SWRCB Resolution No. 68-16).

For Yucaipa Valley Water District and two other entities, less stringent "maximum benefit" objectives were established based on demonstrations by the agencies that antidegradation requirements were satisfied. Specifically, the Yucaipa Valley Water District demonstrated that beneficial uses would continue to be protected and showed that water quality consistent with maximum benefit to the people of the State of California would be maintained. Other factors, such as economics, the need to use recycled water, and the need to develop housing in the area were also taken into account in establishing the objectives.

The demonstration of "maximum benefit" by the Yucaipa Valley Water District is contingent on the implementation of specific projects and programs. Provided that the commitments are met, then the Yucaipa Valley Water District has demonstrated maximum benefit, and the "maximum benefit" objectives included for these waters apply for the purposes of regulating projects. However, if the Regional Board finds that these commitments are not being met and that "maximum benefit" is thus not demonstrated, then the "antidegradation" objectives for these waters will apply.



Yucaipa Valley Water District Maximum Benefit Commitments

The following is a summary of the commitments made by the Yucaipa Valley Water District as a commitment to the Regional Water Quality Control Board as discussed above. Several details have been intentionally omitted for brevity for this document. Compliance with these commitments are being monitored and implemented by the Deputy Manager of Water Resources.

Surface Water Monitoring Program. The Yucaipa Valley Water District shall develop, submit and implement a surface water monitoring program for San Timoteo Creek and the Santa Ana River Reaches 4 and 5.

Groundwater Monitoring Program. The purpose of the Groundwater Monitoring Program is to identify the effects of the implementation of the San Timoteo and Yucaipa Management Zones maximum benefit water quality objectives on water levels and water quality within the San Timoteo and Yucaipa Management Zones.

Desalters and Brine Disposal. The Yucaipa Valley Water District anticipates that demineralization of groundwater or recycled water will be necessary in the future. The District is committed to construct and operate desalting and brine disposal facilities when:

- The 5-year running average TDS concentration in recycled water produced at the YVWD wastewater treatment plant exceeds 530 mg/L; or
- The volume-weighted TDS concentration in the Yucaipa Management Zone reaches or exceeds 360 mg/L

The construction of these facilities will be in accordance with a plan and schedule such that these facilities are in place within 7 years of Regional Board approval. These facilities shall be designed to stabilize or reverse the degradation trend evidenced by effluent and/or management zone quality.

Non-Potable Water Supply Distribution System. A key element of the District's water resources management plan is the construction of a non-potable supply system to serve a mix of recycled water and untreated imported water for irrigation uses. The intent of blending these sources is to minimize the impact of recycled water use on the Yucaipa and San Timoteo Management Zones. A higher proportion of State Project water will be used in wet, surplus years, while larger amounts of recycled water will be used in dry, deficit years. YVWD will produce a non-potable supply with a running ten-year average TDS concentration less than the "maximum benefit" objective for the Yucaipa Management Zone (370 mg/L).

Recycled Water Use. The use and recharge of recycled water within the Yucaipa Management Zone is a critical component of the District's water management plan and is necessary to maximize the use of the water resources of the Yucaipa area. The demonstration of "maximum benefit" and the continued application of the "maximum benefit" objectives depends on the combined recharge (recycled water, imported water, storm water) to the Yucaipa Management Zone of a 5-year annual average (running average) TDS concentration of 370 mg/L and nitrate-nitrogen concentration of 5 mg/L.

To meet this requirement, YVWD will establish a fund to purchase imported water from local sources and/or the State Water Project and will recharge water with a TDS concentration less than 300 mg/L (recent long term historical average of water delivered from the State Project). YVWD will also pursue implementation, with the City of Yucaipa and the San Bernardino County Flood Control District, of the *Yucaipa Water Capture and Resource Management Complex* by December 31, 2010.

Accordingly, the use of recycled water for groundwater recharge in the Yucaipa or San Timoteo Management Zone shall be limited to the amount that can be blended in the management zone on a volume-weighted basis with other sources of recharge to achieve 5-year running average concentrations less than or equal to the "maximum benefit" objectives for the affected groundwater management zone. The 25% nitrogen loss coefficient will be applied in

determining the amount of recharge of other water sources that must be achieved to meet the 5-year running average nitrogen concentrations.

Ambient Groundwater Quality Determination. By July 1, 2005, and every three years thereafter, YVWD shall submit a determination of ambient TDS and nitrate-nitrogen quality in the San Timoteo and Yucaipa Management Zones. This determination shall be accomplished using methodology consistent with the calculation (20-year running averages) used by the Nitrogen/TDS Task Force to develop the TDS and nitrate-nitrogen "antidegradation" water quality objectives for groundwater management zones within the region.

Replacement of Denitrification Facilities. YVWD shall replace existing denitrification facilities to provide effluent total inorganic nitrogen quality (6 mg/L) needed to assure compliance with the "maximum benefit" nitrate-nitrogen objective of the San Timoteo and Yucaipa Management Zones.

Recycled Water Management. YVWD expects to limit the TDS concentration in its effluent to less than or equal to 540 mg/L by using a low TDS source water supply for potable uses, selective desalting of either source water and/or recycled waters, and minimizing the TDS waste increment. When necessary, YVWD will construct desalters to reduce either the TDS concentration in water supplied to customers or the TDS concentration in the effluent. YVWD will also use best efforts to enact ordinances and other requirements to minimize the TDS use increment.

Relocation of San Timoteo Creek Discharge. YVWD has established the goal of eliminating its discharge to the unlined reach of San Timoteo Creek. First priority will be given to the direct reuse and limited recharge of this recycled water in the YVWD service area (principally the area overlying the Yucaipa Management Zone). However, YVWD is obligated to maintain flows in the Creek to support existing riparian habitat (State Board Order No. WW-26) and may need to continue recycled water discharges at some level. Groundwater and imported State Project water may also be used as alternative water sources.

Whole or partial removal of the discharge from the unlined reach of San Timoteo Creek would improve the quality of groundwater in the San Timoteo Management Zone and supplement recycled water supplies available for reuse elsewhere in the service area.

Construction of Western Regional Interceptor. YVWD will construct the Western Regional Interceptor to provide wastewater collection and treatment services to Dunlap Acres in order to mitigate what has been identified as a poor quality groundwater area due to prior agricultural use and existing septic systems. The Dunlap Acres area was omitted from the Yucaipa-Calimesa septic tank subsurface disposal system prohibition established by the Regional Board in 1973. The interceptor includes the construction of a major wastewater interceptor pipeline, a force main and pump station. Regional Board action may be necessary to require connection of properties to the wastewater collection system, when it is completed.

Yucaipa Valley Brineline Project

To produce recycled water that complies with regional groundwater basin objective, the District is required to provide advanced water treatment, in the form of reverse osmosis (RO), prior to introduction of this water to the Yucaipa Management Zone. It is noted that direct use of recycled water within the District's service area does not require advanced treatment, however,

the long term management of this water resource does require the removal of salts and minerals from depositing in to the groundwater basin.

The proposed reverse osmosis system will produce a reject stream, referred to as "brine", that must be properly disposed. The Yucaipa Valley Regional Brineline Project consists of a 15-mile pipeline through which the District can safely and effectively dispose of the brine produced during specific seasons of the year. This pipeline will commence at the Wochholz Regional Water Recycling Facility and terminate at Reach IV-E of the Santa Ana Regional Interceptor (SARI) system. The SARI system extends another 73 miles traversing San Bernardino, Riverside and Orange counties to Orange County Sanitation District Wastewater Treatment Plant No. 2 in Huntington Beach, where the brine and industrial wastes are treated prior to final ocean disposal.

Appendix A –Resolution No. 11-2008

RESOLUTION OF THE BOARD OF DIRECTORS OF THE YUCAIPA VALLEY WATER DISTRICT ADOPTING A LONG-TERM WATER RESOURCE SUSTAINABILITY STRATEGY POLICY FOR THE AREA SERVED BY THE YUCAIPA VALLEY WATER DISTRICT

WHEREAS, water is a basic and essential need of every living creature, and, as such, the health, comfort, and standard of living of the citizens of the Yucaipa Valley Water District (the "District") depend on an adequate and reliable long-term supply of potable water; and

WHEREAS, water resources are recognized as a limited and precious natural resource in Southern California; and

WHEREAS, the Yucaipa Valley Water District relies upon imported water as supplemental water supplies to meet the existing and future potable water demands of our customers; and

WHEREAS, declining groundwater levels and unreliable surface water supplies have made it necessary for the District to efficiently use its available potable water supplies and to fully develop all existing water resources in order to assure a sustainable supply of water resources for future generations; and

WHEREAS, the Yucaipa Valley Water District has determined that it is prudent, practical and sensible given the uncertainty of importing supplemental water to demonstrate the adequacy of water supply availability by physically receiving supplemental water prior to the issuance of building permits for new development; and

WHEREAS, it is in the best interest of the community to provide local solutions to the regional and statewide water issues that are anticipated on impacting the water resources we rely on for our economic prosperity and quality of life; and

WHEREAS, this resolution has been prepared based on the extensive review, discussion, and public input associated with the document entitled, *A Strategic Plan for a Sustainable Future - The Integration and Preservation of Resources* adopted on August 20, 2008 (the "Strategic Plan").

NOW, THEREFORE, BE IT RESOLVED AND ORDERED, that the Board of Directors of the Yucaipa Valley Water District does hereby order as follows:

SECTION 1. Concepts of Sustainability

A. The document entitled, *A Strategic Plan for a Sustainable Future - The Integration and Preservation of Resources* adopted on August 20, 2008, is hereby adopted by the Board of Directors and posted to the District's website to provide a basic foundation for the understanding of this Resolution.

B. This Resolution has been drafted to provide the implementation strategy of the concepts contained within the *A Strategic Plan for a Sustainable Future - The Integration and Preservation of Resources*. This Strategic Plan makes known the uncertainty, unreliability and unpredictable nature of our imported water supplies while providing a route for navigating the future to protect the interests of our current and future customers. Therefore, while not a guarantee of future conditions or actions by the Board of Directors, this Resolution provides a mechanism to allow for the economic development and expansion of the region based on an understanding of the circumstances as they currently exist.

C. In the future, when imported water supplies may become unambiguous and certain, the concepts of the Strategic Plan are intended to continue as sound policy for existing customers and new development.

SECTION 2. Planning and Development

A. Financial Planning. To ensure the safety and reliability of our resources, it is important to ensure adequate finances are available to cover routine operational costs as well as the costs of maintaining and upgrading infrastructure.

1. Financial plans shall be developed every five years and include a forecast of a ten-year period that will illustrate the District's anticipated financial position, financial operations and cash flow.

2. When applicable, the District staff shall present water, wastewater and non-potable rate resolutions for consideration that provide a minimum five year projection of rates to allow customers the ability to plan accordingly for rate adjustments based on the information included in the financial plans.

3. The District staff shall maintain a financial reserve policy outlining the objectives for adequately funding an operating reserve, a capital and equipment replacement reserve, a rate stabilization reserve, and a debt service reserve.

B. Infrastructure Planning: The planning of infrastructure shall be based on the following general principles and strategies:

1. The District staff shall implement planning tools necessary to reasonably forecast a fifty (50) year planning horizon for Urban Water Management Plans, infrastructure master plans, and other related resource planning documents to ensure long-term objectives are incorporated into the planning process.

2. The District staff shall update infrastructure master planning documents every ten (10) years. Upon adoption of this Resolution, the District staff shall provide a recommendation to the Board of Directors for the completion of a master planning document.

C. Development Planning. The goal of development planning is to support development based on a diverse portfolio of water resources in order to minimize impacts related to drought, contamination, and other potential source water problems. Common planning techniques may include the following sustainable planning and development strategies:

1. Long-term water resource planning that incorporates sustainable growth principles;

2. Cooperating with other regional governing agencies and water users in the development planning process;

3. Addressing water quality and quantity issues to provide long-term protection of our natural resources;

4. The District staff shall maximize the use of non-potable water for developments with the use of dual plumbing and other measures to provide for a more reliable water supply system.

SECTION 3. Surface Water Supplies

A. Storm Water Capture. The District staff is encouraged to coordinate with local planning agencies to develop consistent guidelines for managing storm water on properties in such a manner to maximize recharge and minimize pollution.

SECTION 4. Groundwater Supplies

A. Groundwater Supplies. It is in the best interested of the District to maintain groundwater withdrawals in existing wells by:

1. Avoiding pumping of existing well fields beyond long-term recharge capability; and

2. Cooperating on a regional level in safe sustainable groundwater withdrawal.

B. Local Water Banks. The District will implement local groundwater banks ("Groundwater Banks") to store water for existing customers and new development. The Groundwater Banks shall be used in conjunction with the dual-plumbed requirements to ensure sufficient water supplies exist to serve the needs of all new development during normal, single dry, and multiple dry water years. The location of the proposed Groundwater Banks may include, but not be limited to: the Yucaipa Management Zone, Beaumont Management Zone, San Timoteo Management Zone or any other location that provides similar benefits.

1. Existing Customer Groundwater Deposits. It shall be a priority of the District to secure additional imported water supplies when available to meet the needs of existing customers. Therefore, the District shall collect sufficient funds necessary to obtain an additional 15% of the total annual potable water for future use. Funds collected for this program shall be used solely for the purchase of imported supplemental water to augment the groundwater basins for future groundwater extraction, which includes, but is not limited to: direct groundwater recharge; groundwater injection; in lieu groundwater recharge; or any other form of supplemental water deposited into a groundwater basin for future potable use.

2. New Development Groundwater Requirements. For provisions related to the requirements of new development, see Section 9.

SECTION 5. Recycled (Non-Potable) Water

A. Non-Potable Water. The District shall strive to maximize the use of non-potable water for beneficial reuse and prioritize non-potable water use over potable water use where regulations permit. This shall be accomplished by:

1. Enhancing the Wochholz Regional Water Recycling Facility to maintain an exceptional quality of recycled water to maximize the beneficial use of the water resource.

2. Developing a strategy to expand the District's existing non-potable water distribution system to provide for cost-effective delivery of non-potable water.

3. Aggressively develop and market the use of recycled water as a substitute for potable water where regulations permit.

4. The District staff shall maximize the use of non-potable water for developments with the use of dual plumbing and other measures to provide for a more reliable water supply system.

SECTION 6. Water Conservation and Use Efficiency

A. Water Use Efficiency. The District shall develop and maintain policies that reduce peak seasonal water demands and encourages the reduction of per capita/per day consumption of potable water through:

1. The use of non-potable water for residential, commercial, institutional and agricultural irrigation demands;

2. Educational programs;

3. Rate structures;

B. Statewide Conservation Efforts. The District shall participate in the California Urban Water Conservation Council and implement those best management practices (BMPs) that provide the District with a reasonable cost : benefit relationship.

C. Conservation Programs. The District shall develop and implement water conservation tools that focus on education based programs that can be implemented at the local schools and information campaigns for our current customers.

SECTION 7. Allocation of Imported Supplemental Water

A. Allocation of Supplemental Water Resources. Due to the limitations on imported supplemental water as the result of drought conditions, lawsuits, environmental regulations and possibly climate change, the District will hereby allocate supplemental water resources as follows:

1. Priority One - Direct Delivery for Existing Customers. The highest priority for supplemental water shall be for the direct delivery of filtered water delivered to our customers from the Yucaipa Valley Regional Water Filtration Facility. Upon fulfilling this priority, any remaining available supplemental water shall be allocated to the next priority.

2. Priority Two - Groundwater Adjudication Obligations. The second highest priority for supplemental water shall be for the replenishment obligations associated with any groundwater adjudication. This priority shall generally be achieved with the production of water from the Yucaipa Valley Regional Water Filtration Facility. Upon fulfilling this priority, any remaining available supplemental water shall be allocated to the next priority.

3. Priority Three - Groundwater Banking for Future Reliability. Existing residential, business and institutional customers above shall contribute 15% of their potable water consumption to the Water Bank for the next year. Delivery of this water shall be based on the ability of District staff to fulfill this priority within the following calendar year. This priority shall be required of all existing water customers and begin immediately upon establishment of water service for new customers. Upon fulfilling this priority, any remaining available supplemental water shall be allocated to the next priority.

4. Priority Four - Parcel Development Process. The Parcel Development Process is a component of the Water Resource Validation Program which accomplishes the objectives of (A) demonstrating that sufficient water supplies exist for development to occur; and (B) providing sufficient water to enhance the resource reliability and sustainability of new development. This Program requires the deposit of supplemental water to the Water Bank prior to the issuance of a building permit. The provisions for the Parcel Development Process are included below as part of the Water Resource Validation Program.

SECTION 8. Compatibility with Water Shortage Response Stages

A. Water Shortage Response Stages. The 2005 Urban Water Management Plan provides for voluntary and mandatory levels of progressively more aggressive water demand reduction requirements. The triggers for these stages will likely be those affecting imported water sources, provided the Yucaipa, Beaumont and San Timoteo Management Zones continues to be managed in a safe yield condition over the long-term. The response stages may also be invoked during an emergency to handle short-term events, such as earthquake damage, pipeline ruptures, and water quality issues.

The Board of Directors will determine the appropriate state of implementation, with authority hereby delegated to the General Manager for the implementation of Stage 1 and Stage 2 Water Shortage Response Stages.

The following Water Use Restrictions have been modified from the 2005 Urban Water Management Plan to more accurately incorporate the operation of the filtration facility and include anticipated impacts on new development based upon consideration and implementation of Water Shortage Response Stages 3, 4 and 5 by the Board of

Directors. The implementation of Water Shortage Response Stages 3, 4 and 5 shall explicitly state the allowable uses of water and impacts on new developments. The Board reserves the right to modify and implement any number of water curtailment activities based on the actual conditions at the time.

	Program Type	*Water Use Restrictions*	*Overall Goal*	*Anticipated Impact on New Development*
Stage 1	Voluntary	Up to a 10% Reduction from Selected Areas	- -	No anticipated impacts to new development.
Stage 2	Voluntary	Up to 10% District-wide	10% Reduction	New applicants for the Crystal Development Program may not be accepted under Stage 2.
Stage 3	Mandatory	Up to 20% District-wide	20% Reduction	Previously secured Crystal developments may proceed. New applicants for the Crystal Development Program may not be accepted under State 3.
Stage 4	Mandatory	Up to 35% District-wide	35% Reduction	Crystal Standard developments may be restricted. New applicants for the Crystal Development Program may not be accepted.
Stage 5	Mandatory	Up to 50% District-wide	50% Reduction	No new standard developments of Crystal development projects.

SECTION 9. Growth and Development

A. Dual Plumbing for New Developments. Each new residential, commercial, industrial and institutional development shall design and construct infrastructure sufficient to provide potable drinking water and non-potable irrigation water to each lot.

1. At a minimum, each new home shall be constructed with the necessary on-site improvements to receive potable water and non-potable water from two separate water meters. These two water service connections shall be installed per District standards and regulations to allow for non-potable irrigation service and potable water service to each property. In cases where non-potable water unavailable, the non-potable irrigation meter shall be supplied potable water in the interim.

2. For developments of ten units or more, the District shall require on-site improvements as provided above, in addition to in tract non-potable infrastructure to support the non-potable irrigation system.

3. The District staff shall consider the size of the development, the proximity to existing non-potable infrastructure, and other pertinent information when off-site non-potable water infrastructure is required as part of a development agreement.

B. Elimination of Septic Systems. The stringent water quality objectives established by the Regional Water Quality Control Board requires the Yucaipa Valley Water District to minimize the salinity impacts to the groundwater supplies in the Yucaipa Management Zone, the San Timoteo Management Zone and the Beaumont Management Zone. See Section 12 for the pollution prevention requirements associated with new development.

C. Groundwater Deposits for New Development. The District provides potable water based

on a long-term average of approximately 50% groundwater and 50% imported supplemental water to our existing customers. This average will fluctuate based on the water resource management strategies of the District.

Any supplemental imported water provided during the entitlement process shall become the property of the District at the time building permits are issued.

1. All New Developments. For all building permits issued after July 1, 2009, new development shall be required to appropriately fund the purchase of seven (7) acre feet of imported supplemental water prior to the issuance of a grading or building permit. The rate for this supplemental imported water shall be based on the anticipated imported water delivery rate charged by the State Water Project Contractor providing service to the location of the new development. The District shall accommodate the early payment of this fee for any parcel proposed to be developed.

   In response to water shortage conditions, the Board of Directors may at any time cease the authorization of grading or building permits based on the implementation of certain Water Shortage Response Stages. Based on information at the time this Resolution was prepared, the District staff anticipates recommending that the Board of Directors cease the authorization of grading and building permits for Standard Developments during Water Shortage Response Stages 3, 4 and 5, except as provided below.

2. Achieving a Crystal Status Development. Any new development may achieve the status of a Crystal Development by securing the physical delivery of 15.68 acre feet of imported supplemental water per Equivalent Dwelling Unit (EDU). The rate for this supplemental imported water shall be based on the charges to the District by the respective State Water Project Contractor.

   In response to water shortage conditions, the Board of Directors may at any time cease the authorization of grading or building permits based on the implementation of certain Water Shortage Response Stages. Based on information at the time this Resolution was prepared, the District staff anticipates recommending that the Board of Directors cease the authorization of grading and building permits for Crystal Developments during Water Shortage Response Stage 5 with possible restrictions impacting development during Water Shortage Response Stage 4.

   a. The developer shall submit an application for each parcel within the proposed development (by Assessor's Parcel Number) and deposits sufficient funds for the purchase and delivery of imported supplemental water.

   b. The District staff will assign a completed application to the appropriate processing bin for supplemental imported water deliveries based on the availability of supply and facilities required to deposit (by recharge or injection) the supplemental water into the Groundwater Bank.

   c. The availability of supplemental imported water to fulfill the requests associated with the Crystal Status Development Program shall be based on the priorities provided in the *Allocation of Supplemental Water Resources* provisions above.

d. Based on the total size of the tract, parcel map, or planning area (not including phased portions of developments), the District staff shall deposit (by recharge or injection) imported supplemental water into the Water Bank equally from each of the following categories based on the completed applications:

   i. Residential Development - 1 lot development

   ii. Residential Development - 2-10 lot development

   iii. Residential Development - 11-50 lot development

   iv. Residential Development - 51-100 lot development

   v. Residential Development - 101-150 lot development

   vi. Residential Development - 151-200 lot development

   vii. Residential Development - 200 or more lot development

   viii. Commercial Development

   ix. Institutional Development

e. The District shall charge the developer for any additional costs related to the deposit (by recharge or injection) of supplemental water into the Water Bank and payment shall be received prior to issuing the Crystal Status Achievement for the project.

f. Upon completing the deposit (by recharge or injection) of imported supplemental water into the Groundwater Bank, the District shall issue a Notice of Crystal Status Development. This Notice provides documentation of achieving one component of the development process by the District and does not relieve the developer from completing any other requirements established by the District.

g. The Board of Directors may elect to consider other creative conservation measures to be used to achieve the status of a Crystal Development. Upon adoption of a subsequent resolution that provides quantifiable comparable benefits this program may be expanded to include automatic meter reading, existing home retrofits, landscape retrofits, etc..

3. Parcel Boundary Changes (Splits and Divisions). Imported supplemental water previously paid and delivered as part of the standard development process or a Crystal Status Development shall be allocated equally to all new parcels in the event of a realignment of the parcel boundary or a division of the parcel. This may change the compliance of properties, whereby additional funds will be needed for compliance with this section. In the event new parcels results in an excess of groundwater supply, the property owner shall provide a written request for reimbursement at the cost previously paid to secure the imported supplemental water.

SECTION 10. Watershed Management

A. Management Zone Protection. Develop programs for the Yucaipa Management Zone and the Beaumont Management Zone that maintain the water quality and quantity in a manner that protects the local water supplies and is consistent with the 2004 Basin Plan adopted by the Regional Water Quality Control Board.

B. Sanitary Surveys. Conduct a routine sanitary survey of the Yucaipa Management Zone and develop a sanitary survey that identifies active and potential points of pollution.

C. Pollution Prevention. Develop methods for eliminating pollution sources related to the contribution of salinity in excess of the objectives set by the Regional Water Quality Control Board for the Yucaipa

SECTION 11. Energy Management

A. Energy Conservation. Research methods to utilize less power at District facilities and lessen dependence of bundled power generators.

SECTION 12. Pollution Prevention

A. Basin Plan Objectives. The District staff shall develop methods for eliminating pollution sources related to the contribution of salinity in excess of the objectives set by the Regional Water Quality Control Board for the Yucaipa, Beaumont and San Timoteo Management Zone in the 2004 Basin Plan.

B. Sanitary Survey. The District staff shall conduct a routine sanitary survey of the Yucaipa Management Zone and develop a sanitary survey that identifies active and potential points of pollution as required by the Department of Public Health.

C. Requirement to Connect to the Sewer System. In order to protect the Yucaipa and Beaumont Groundwater Management Zones in a manner consistent with Section 12, paragraph A above, the District shall require new developments consisting of five or more Equivalent Dwelling Units within 1,000 feet of any existing or previously agreed upon sewage collection facility must extend the public sewer line to serve said development.

D. Dry Sewer Collection System. In order to protect the groundwater quality as required by the Basin Plan adopted by the Santa Ana Regional Water Quality Control Board, the District shall require new developments to install dry sewer collection systems if existing active sewer collection facilities are not available.

1. Construction of One to Four Units or Development on Five Acres or More. Developments consisting of one to four Equivalent Dwelling Units, or a development on more than five acres (average gross) per lot shall not be required to install dry sewers or connect to the sewer collection system unless any portion of the property being developed is within 500 feet from the sewer system which could serve the parcel.

2. Installation of Dry Sewer Collection Infrastructure. The installation of a dry sewer collection system shall extend the full length of the property to the property boundary generally upstream of the parcel/development. The dry sewer collection system shall also be extended downstream offsite of the subject property a distance of 100 feet per Equivalent Dwelling Unit (EDU) after the first EDU. For example, a development of five EDUs shall extend the dry sewer collection system 400 feet downstream toward the existing sewer collection system.

E. Sewer Septic System Offset Program. Any new development not connected to an active sewer collection system shall be required to participate in a Sewer Septic System Offset Program to mitigate the pollution created by the addition of a new septic system. This Program requires the conversion/connection of existing septic systems to the sewer in the service area of the Yucaipa Valley Water District. Participation in this program does not relieve the property owner from future participation in the construction of sewer infrastructure when available or paying current fees for the property receiving the septic system offset.

SECTION 13. Infrastructure Management

A. Implement a program of sufficient detail to record the procurement, maintenance, management, and disposal of assets related to the divisions of the District.

B. Propose operating budgets and price structures that maintain full cost pricing of services provided while maintaining full depreciation funding of assets.

ADOPTED this 20th day of August 2008.

/s/ Tom Shalhoub, President of the Board of Directors

/s/ Joseph B. Zoba, Secretary of the Board of Directors

Appendix B – References and Resources

National Association of Clean Water Agencies (NACWA) Strategic Watershed Task Force Report, *Recommendations for a Viable and Vital 21st Century Clean Water Policy*, October 18, 2007

State of California, Department of Water Resources, Draft - The State Water Project Delivery Reliability Report 2007, December 2007.