

2017 COMPREHENSIVE WATER RESOURCES REPORT

FINAL Report



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EXECUTIVE SUMMARY

PREVIOUS COUNCIL ACTION

On March 4, 2013, Council received the Draft 2013 Comprehensive Water Resources Report and directed the City Manager, Ventura Water and Community Development to work together to develop a short term balance of water supply and demand; a predictable use of data to serve pending and projected development over the next 5 years; provide a recommendation for long term water supply and demand policy; and return to Council in May with the final report.

On June 10, 2013 the City Council approved the 2013 Comprehensive Water Resources Report. In addition to approving the report, the City Council directed staff to provide an annual update on the City's projected water supply and demand; and to use the local water land use demand factors for the evaluation of all development and the standardized "Water Demand Impact Summary" matrix to quantify the water supply demand of each individual project and the cumulative water supply demand of all approved projects.

On May 5, 2014, the City Council approved the 2014 Comprehensive Water Resources Report.

On May 18, 2015 the City Council approved the 2015 Comprehensive Water Resources Report.

On June 13, 2016, the City Council approved the 2016 Comprehensive Water Resources Report.

2015 CWRR UPDATES

Understanding and monitoring our water supply and demand is essential to planning for and managing a stable and reliable water system to support our community and economic growth. The City's supply and demand plays an important role and dramatically influences the planning for, development of and investment of significant dollars in capital improvements, maintaining our current water supply and investing in new water supplies. Council approved the 2013 Comprehensive Water Resources Report (2013 CWRR) in June 2013 and directed staff to provide an annual update on the City's projected water supply and demand.

Council approved the 2014 CWRR in May 2014.

Council approved the 2015 CWRR in May 2015.

Council approved the 2016 CWRR in June 2016.

Below is, a summary, Table ES-1, of the most current and best information available on our water supply and demand.

Table ES-1
Summary of Water Supply and Demand

Projected	2017 Drought (AFY)	2018 Drought (AFY)	2018 (AFY)	2020 (AFY)	2030 (AFY)
Supply	14,988 – 16,847	14,965 – 16,824	18,385 – 20,244	19,313 – 23,672	22,400 – 28,276
Demand*	17,270	17,429	17,429	17,747	19,034
Available Supply	(2,282) – (423)	(2,464) – (605)	956 – 2,815	1,566 – 5,925	3,366 – 9,242

**Demand equals baseline 10 year average (17,111 AF) plus the estimated demand from 350 units built annually from the approved projects list for future years fully vested in 2025 and using a 0.55% growth rate to 2030 (Table 3-8 & 5-1). Assumes a new supply source (Direct Potable Reuse) in future years.*

As shown in the table above, the projected 2017 and 2018 drought water supply numbers are less than the projected water demand numbers. This indicates that if the continued drought condition persists, the City's customers will need to continue to increase their water conservation and comply with the Stage 3 water shortage emergency conservation measures. In addition to continued conservation, the City may be required to use water in excess of the anticipated amounts from the City's water supply sources which could result in the payment of penalties, (i.e. extraction of groundwater from the Oxnard Plain Groundwater Basin in excess of the City's extraction allocation).

Changes from the 2016 CWRR to the 2017 CWRR are summarized below.

Baseline Demand

The baseline water demand of 16,693 acre feet (AF) in the 2016 CWRR was established utilizing the previous 5-year City annual average. The City had been comfortable using the most recent 5-year average as the baseline demand condition in the previous CWRRs. However, it was recommended in the 2016 CWRR that the City reconsider using the 5-year average and use the 10-year average in the 2017 CWRR. Utilizing the previous 10-year City annual average, the baseline water demand for the 2017 CWRR is 17,111 AF, an increase of 418 AF over the 2016 CWRR baseline water demand. In the previous CWRRs the baseline water demand had been decreasing each year and was a result of approved water rate increases as well as the Council approving, in June 2015, a four-tiered (drought) water rate structure and the February 2014 City call for 10% voluntary conservation, followed by the

September 2014 City declaration of a Stage 3 Water Emergency requiring customers to reduce their use by 20% due to the prolonged drought.

The annual water consumption figures for the past ten years are provided in subsection 3.D.

Future Demand Projections (Year 2030)

The future demand projections in the previous CWRR included approved projects only at an estimated annual growth rate of 350 units per year (and an equivalent absorption rate is used for the non-residential development). The growth rate was used to project out when the estimated demand (based on approved projects only) would be fully vested. The 2017 CWRR projects out the demands to the Year 2030 which is beyond the year that the approved projects would be fully vested. In order to project out the estimated demand to the Year 2030, a growth rate of 0.55% (Department of Finance historical data for population) was used to estimate the increase in demand from the time all approved projects were fully vested (Year 2025) to the Year 2030.

Supply

Current Water Supply

The City's current water supply is known as the normal (non-drought) water supply in the City's March 2015 Water Shortage Contingency Plan (Plan). The Plan references Table 4-1 of the City's current Comprehensive Water Resource Report. Table 4-1 in the 2013, 2014 and 2015 CWRR's indicate that the City's current water supply is 19,600 AFY. Current supplies include Casitas Municipal Water District (Casitas), Ventura River, Mound Groundwater Basin, Oxnard Plain Groundwater Basin, Recycled Water and the Santa Paula Groundwater Basin.

Table 4-1 in the 2016 CWRR was revised to 21,006 AFY (from the previous 19,600 AFY) to account for the completion of Saticoy Well No. 3 which increased the water supply from the Santa Paula Basin from 1,600 AFY to 3,006 AFY. Table 4-1 in the 2016 CWRR indicated that the supply from the Santa Paula Basin was 3,006 AFY which included 5.8 AF of water rights acquired for the past development of Tract 4632. The City recently acquired 12.0 AF of water rights for the development of Phase I of Tract 5632 and 23.1 AF of water rights for the development of Tract 5774 within the Santa Paula Basin. Therefore, the City's current water supply from the Santa Paula Basin has been revised from 3,006 AFY to 3,041 AFY.

The previous CWRRs indicated the Casitas water supply during a normal (non-drought) year as 5,000 AFY. The City has been renegotiating the existing July 1995 water service agreement with Casitas. The draft agreement is nearly final and based on the draft agreement the normal water supply from Casitas in 2017 is estimated to be 5,251 AFY and therefore the City's normal water supply from Casitas has been revised from 5,000 AFY to 5,251 AFY.

The City launched the Mobile Reuse Program in June 2016 which served approximately 8 AF of recycled water through December 2016. This demand is not included in Table 4-1 as normal water supply.

The City's normal water supply portfolio is summarized in Table 4-1 and has been revised from 21,006 AFY to 21,292 AFY.

Projected Future Water Supply

The 2016 CWRR projected future water supply numbers were revised in the 2017 CWRR to reflect changes to the City's existing supply sources that have come up over the past year including the

continued drought condition and the projection of the drought through 2018. The water supply sources revisions are due to the following water supply issues:

- Casitas: In past CWRRs an estimated reduction of 20% was included in the Casitas supply for the projection of the current drought. As mentioned previously, the City has been renegotiating the existing July 1995 water service agreement with Casitas. Therefore, the information regarding Casitas water supply now reflects the draft agreement. The draft agreement indicates that in the event that Casitas must enact its Water Efficiency and Allocation Program (WEAP) due to a water shortage, Casitas may adjust the City's allocation consistent with the percentage reduction for the WEAP stage. Casitas is currently in a Stage 3 water supply condition per Casitas Resolution No. 16-09. For purposes of this report an estimated reduction of 30% to the City Casitas supply has been included for the projection of the current drought through 2018 (2018 Supply Drought Impact). The Casitas supply is based on existing and approved projects within the Casitas boundary.
- Ventura River/Foster Park: Due to the continued drought conditions and heightened environmental requirements, the City's ability to draw water from the Ventura River continues to be significantly challenged and impacted. The drought supply in Table 4-2 reflects the supply anticipated from the Ventura River for the projection of the current drought through 2018 and is based on the average of 2015 and 2016 operations at a production of 1,574 AF. The 2018 future supply in Table 4-2 is based on the highest historical production value in the past 10 years (2007-2016) at a production of 3,428 AF.
- Mound Groundwater Basin: No revisions were made to this supply source.
- Oxnard Plain Groundwater Basin (Fox Canyon Aquifer): No revisions were made to this supply source.
- Santa Paula Groundwater Basin (Santa Paula Basin): No revisions were made to this supply source.
- Recycled Water: The Mobile Reuse Program was launched in 2016 and will potentially provide some offset of potable water in the future. However, the volume is unknown at this time.

Potential Additional Future Supply

No revisions were made to potential additional future supply sources.

RECOMMENDATIONS

The results of this Report indicate that the spread between the current water demand and the current water supply is very tight, and if the drought persists the supply could be less than the demand. This presents significant challenges for the City moving forward in the ability to allocate water supply to development projects that will generate additional water demands. The recommendations for the City moving forward include:

1. Track the total water consumption on an annual basis.
2. Re-calculate the 3-year, 5-year and 10-year water consumption averages on an annual basis.
3. Update the water supply portfolio on an annual basis.
4. Update the existing land use data on an annual basis. This can be done through a system that tracks the development projects as they transition from “Approved” to “Under Construction” and “Under Construction” to “Existing”.
5. All future development projects should be evaluated based on current supply and demand conditions.
6. Consider adding a new project type in the land use tracking spreadsheet for approved projects under CIP or other City approval processes.
7. Use the City-specific water usage factors to calculate the water demand of all development projects as the projects proceed through the City process prior to approval.
8. Continue to develop water supply through demand side management, securing water rights, administer the Water Rights Dedication and Water Resource Net Zero Ordinance as approved in July 2016 and continue to integrate the new water supply sources into the City’s water supply portfolio.

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APPENDIX *[See 2013 Comprehensive Water Resources Report]*

Demand Factors from Other Agencies

LAFCo 13-01S Sphere of Influence Report

2005 General Plan Tables & Figures

2005 General Plan FEIR Tables

2010 UWMP Tables

2011 Water Master Plan Tables

LAFCo MSR Report

2005 General Plan FEIR Water Demand Factors (email correspondence)

2005-2012 Built Projects – Background Data

1. INTRODUCTION

A. INTRODUCTION

In 2013, Ventura Water initiated the development of an annual water management tool entitled the Comprehensive Water Resources Report (CWRR). The CWRR is intended to be a tool in the development review process as it pertains to water supply and demand. The CWRR is intended to provide an annual look at the City's water demand trends, current water demands, demand projections, and the current and future supply picture. The 2013 CWRR was approved by City Council in June 2013.

The 2013 CWRR was the first annual version of this report; therefore, the 2013 CWRR included more historical information related to the genesis of this report and previous studies prepared. This document, the 2017 CWRR, and all previous year CWRR's are intended to be a supplement to the previous year's document. Any information provided in the 2013 CWRR that has not changed will not be included in the 2017 CWRR. The intent of the 2017 CWRR is to provide updated water demand data based on the previous calendar year's data (2016) being available and an update on the City's future water supply portfolio based on the best available information regarding the City's existing and potential future supply sources. The water demand figures will be modified on an annual basis in order to capture the current water use patterns within the City.

It should be noted that the water demand factors calculated in the 2013 CWRR will not be updated on an annual basis. The water demand factors will be re-visited every ten (10) years, unless there is a significant change in the year-over-year annual demand (quantified as a 30% change in two-year period).

As the 2016 CWRR did, the 2017 CWRR will maintain the same outline as the 2013 CWRR. For any sections, tables or exhibits where data has changed, a revised section, table or exhibit will be provided herein. If there are no changes to the section, table or exhibit, it will be noted with "*No changes from the 2013 CWRR.*"

B. PURPOSE OF REPORT

No changes from the 2013 CWRR.

C. STUDY AREA

No changes from the 2013 CWRR.

EXHIBIT 1-1: *No changes from the 2013 CWRR.*

D. DOCUMENT COMPARISON

No changes from the 2013 CWRR

E. DEMAND FACTOR COMPARISON (from previous documents)

No changes from the 2013 CWRR

TABLE 1-1: *No changes from the 2013 CWRR.*

TABLE 1-2: *No changes from the 2013 CWRR.*

TABLE 1-3: *No changes from the 2013 CWRR.*

F. CURRENT PLANNING DATA

The City Planning Department provided actual development data ("Built" projects) for the year ending December 2016, and data on all projects that are under construction or have received all planning approvals ("Approved" projects) for development, as of December 31, 2016. This report will consider the estimated water demand impacts of those projects that are under construction or have received all planning approvals. Projects listed in the Pending Project database that had not received all approvals from the City as of December 31, 2016 were not considered in the future water demand projections for this Report.

G. 2012 LAFCo MUNICIPAL SERVICE REVIEW

No changes from the 2013 CWRR

H. REFERENCE DOCUMENTS

The following documents were referenced in the 2013 CWRR:

- 2004 Biennial Water Supply Report
- 2005 Ventura General Plan (August 2005), City of San Buenaventura
- 2005 Ventura General Plan Final EIR, Volumes I and II (August 2005), City of San Buenaventura
- 2007 General Plan FEIR Supplement
- 2010 Urban Water Management Plan (June 2011), Kennedy/Jenks Consultants
- Water Master Plan (March 2011), RBF Consulting
- Municipal Service Reviews for Nine Ventura County Cities (November 14, 2012), Ventura Local Agency Formation Commission (LAFCo)

Specific excerpts and data sources from the following documents were used in preparation of the 2013 CWRR and included in the Appendix of the 2013 CWRR, as follows:

- Demand Factors from Other Agencies
- LAFCo 13-01S Sphere of Influence Report
- 2005 General Plan Tables & Figures
- 2005 General Plan FEIR Tables
- 2010 UWMP Tables
- 2011 Water Master Plan Tables
- 2012 LAFCo MSR Report
- 2005 General Plan FEIR Water Demand Factors (email correspondence)
- 2005-2012 Built Projects – Background Data

The following references were used in addition to the references listed above in the preparation of the 2013 CWRR and/or used in the preparation of subsequent updates up to and including the 2017 CWRR:

- Amended and Restated Judgment Entered August 24, 2010: Original Judgment Entered March 7, 1996 - Santa Paula Groundwater Basin
- Technical Memorandum, City of San Buenaventura Recycled Water Market Assessment by Kennedy/Jenks Consultants for the City of Ventura, dated April 18, 2007
- Feasibility Study on the Reuse of Ojai Valley Sanitary District Effluent- Final Facilities Planning Report by Nautilus Environmental, et al for the City of Ventura, dated Sept. 21, 2007

- “Desalination With a Grain of Salt – A California Perspective”, Pacific Institute, 2006
- “Key Issues of Desalination in California: Cost and Financing”, Pacific Institute – Heather Cooley and Newsha Ajami, November 2012
- Treatment Wetlands Feasibility Study Final Report by Carollo Engineers and Stillwater Sciences for City of Ventura, dated March 2010
- Groundwater Treatment Study Final Report by AECOM for the City of Ventura, dated March 2011
- Estuary Subwatershed Study Assessment of the Physical and Biological Condition of the Santa Clara River Estuary, Ventura County, California – Amended Final Report by Stillwater Sciences for the City of Ventura, dated September 2011
- City of Ventura Water Efficiency Ethics Plan – Ventura Water, Sept. 2011
- Estuary Special Studies Phase 2: Facilities Planning Study for Expanding Recycled Water Delivery Final Report by Carollo for the City of Ventura, dated March 2013
- Fox Canyon Groundwater Management Agency (FCGMA) Emergency Ordinance – E, Adopted by the FCGMA Board on April 11, 2014
- City of Ventura Water Shortage Event Contingency Plan, dated March 2015
- Amended Estuary Special Studies Phase 2: Facilities Planning Study for Expanding Recycled Water Delivery by Carollo Engineers dated May 2014.
- Agenda Item No. 5, Net Zero Policy Continued with Emphasis on the City’s Water Supply and Demand Administrative Report to Water Commission Meeting of October 27, 2015
- Agenda Item No. 3, Net Zero Policy Continued with Emphasis on the Net Zero Policy Fee to Water Commission Meeting of December 22, 2015.
- Agenda Item No. 10, Groundwater Sustainability Agency Formation – Memorandums of Understanding for the Mound and Upper Ventura River Basins Administrative Report to City Council Meeting of March 16, 2015
- Agenda Item No. 6, Groundwater Sustainability Agency Update Administrative Report to City Council Meeting of March 14, 2016
- Agenda Item No. 13, Water Rights Dedication and Water Resource Net Zero Fee Ordinance Administrative Report to City Council Meeting of April 11, 2016
- City of Ventura’s Adopted Capital Improvement Plan 2016 – 2022, April 21, 2016
- 2015 Urban Water Management Plan (June 2016), Kennedy/Jenks Consultants
- Agenda Item No. 3 Recycled Water Mobile Reuse Program Update Administrative Report to Water Commission Meeting of September 27, 2016

- Phase 3 Stakeholder Workshop - PowerPoint Presentation on November 17, 2016 by City of Ventura, Carollo Engineers, and Stillwater Sciences
- Agenda Item No. 6 Water Rights Dedication and Water Resource Net Zero Fee Ordinance and Resolution, First Reading Administrative Report to City Council Meeting of June 6, 2016
- Agenda Item No. 2 Water Rights Dedication and Water Resource Net Zero Fee Ordinance, Second Reading Administrative Report to City Council Meeting of July 11, 2016
- Agenda Item No. 6 Groundwater Sustainability Agency Joint Powers Agreement and Director Appointment for the Upper Ventura River Basin Administrative Report to City Council Meeting of November 21, 2016
- Agenda Item No. 10 Advanced Metering Infrastructure – Authorization to Purchase Meters and Fixed Network System Administrative Report to City Council Meeting of December 5, 2016
- Agenda Item No. 10 State Water Project Interconnection Alignment Study Approval of Professional Services Agreement Administrative Report to City Council Meeting of January 23, 2017
- Agenda Item No. 2 Presentation of Santa Clara River Estuary Phase 3 Studies Update Administrative Report to Water Commission Meeting of January 24, 2017
- Agenda Item No. 4 Water Rights Dedication and Water Resource Net Zero Policy Update Administrative Report to Water Commission Meeting of January 24, 2017

2. LAND USE

A. EXISTING LAND USE

For the purposes of this Report, the “existing” land use picture is considered the year-end of 2016. In order to determine the existing land use make-up within the City’s water service area as of year-end 2016, all known development projects constructed and utilizing water within Calendar Year 2016 were added to the land use data published in the 2016 CWRR for the year-end 2015. An updated Table 2-3 provides a summarized total of the existing (year-end 2016) land use within the City service area. It should be noted that Table 2-3 only includes projects/units that were constructed and utilizing water as of the end of the recent calendar year.

Table 2-1: *No changes from the 2013 CWRR*

Exhibit 2-1: *No changes from the 2013 CWRR*

Table 2-2: *No changes from the 2013 CWRR*

Table 2-3
Summary of Existing Land Use - December 2016

	Residential Single-Family (units)	Residential Multi- Family (units)	Non-Residential (sf)
Existing (as of 2005 General Plan) ^[1]	22,034	17,142	15,923,154
Constructed (Built Projects 2005 - 2012) ^[2]	543	1,369	1,394,442
Constructed (Built Projects 2013) ^[3]	28	0	4,356
Constructed (Built Projects 2014) ^[4]	0	0	147,060
Constructed (Built Projects 2015) ^[5]	59	114	0.00
Constructed (Built Projects 2016) ^[6]	0	40	7,360
Total Existing Land Use (through 2016)	22,664	18,665	17,476,372

[1] Per Table 2-1

[2] Per Table 2-2

[3] Per data provided by Ventura Water, Built Projects part of CY 2013 water demand (Aldea Hermosa: 28 SFDU and Chick-Fil-A: 4,356 SF).

[4] Per data provided by Ventura Water, Built Projects part of CY 2014 water demand:

- PROJ-04282 4,829 SF Office Bldg.
- PROJ-2695 7,434 SF Bank Office Bldg.
- PROJ-5097 134,797 SF Beverage Distribution Center (Commercial)

[5] Per data provided by Ventura Water, Built Projects part of CY 2015 water demand:

- PROJ-5211 Citrus Apartments; 54 Multi-Family Residential Units
- PROJ-6355 Orchard Collection; 59 Single-Family and 60 Multi-Family Residential Units

[6] Per data provided by Ventura Water, Built Projects part of CY 2016 water demand:

- PROJ-7286 Union Bank; 4,860 SF
- PROJ-6187 Castillo Del Sol; 40 Affordable Housing Units and 2,500 SF Commercial

Note: This table only includes projects/units that were built and utilized water during the noted calendar year. The projects/units were included in the previous CWRR Table 2-4 and have been removed from the current CWRR Table 2-4.

B. FUTURE LAND USE

The City maintains a database of projects that are in a phase of the planning process. The database includes all projects from those that are in the conceptual phase to those that are in construction. For the purposes of this Report, the priority was to determine those projects that the City has made commitments to, and to determine the water resources required to meet the anticipated water demand of the projects.

1. Under Construction and Approved Projects

The City Planning Department provided a listing of all the development projects within the City that are “In Planning Process,” “In Plan Check,” “Under Construction,” or have “All Planning Approvals.” The list was narrowed down to those projects that are either “Under Construction,” or have “All Planning Approvals.” Some modifications and adjustments were made based on review and data provided by Ventura Water and City Planning staff. The Under Construction and Approved Projects as of December 31, 2016 are shown on an updated Table 2-4. Table 2-4 provides specific data about each project, including the project number, type, name, status, description and land use details. The table also identifies if the project is located within the boundary of the Casitas Municipal Water District. Exhibit 2-2 identifies the location of each Project that is “Under Construction” or has “All Planning Approvals.”

2. Future Potential (per 2005 General Plan)

Table 3-2 of the 2005 General Plan, identifies the predicted development intensity and pattern that was anticipated to occur within the General Plan boundary through the planning horizon of year 2025. As mentioned previously, the City provided information as to the development areas that have been constructed, are currently under construction, or are approved for development since the 2005 General Plan through the end of year 2012. Table 2-5 provides a summary of the 2005 General Plan predicted development, a summary of the projects constructed from 2005-2013, a summary of the projects that are under construction or approved, and calculates the remaining developable land through the 2025 planning horizon. It should be noted that the residential unit count is not divided up by the density.

Table 2-4
Summary of Approved and Under Construction Projects - as of December 2016

Project ID	Project Type	Project Name	Project Status	Located in Casitas Municipal Water District (Y or N)	Description of Project	Non-Residential									Residential			Total Daily Demand (GPD)	Total Annual Demand (AFY)
						Commercial (SF)	Hotel (SF)	Industrial (SF)	Institutional (SF)	Office (SF)	Total (SF)	Hospital (beds)	Hotel (Rooms)	Park / Irrig. Area (ac)	Single- Family (Units)	Multi- Family (Units)	Total (Units)		
PROJ-00687 ^{[2][3]}	Mixed Use	VILLA SAN CLEMENTE (STAJEN)	All Planning Approvals	YES	Mixed Use - Condominiums/Commercial	5,554	0	0	0	0	5,554	0	0			10	10	3,972	4.45
PROJ-00756	Mixed Use	ANASTASI - HARBOR & SEAWARD	All Planning Approvals	NO	Mixed Use - Commercial/Residential	20,230	0	0	0	0	20,230	0	0			138	138	39,861	44.65
PROJ-7910 ^[6] (was PROJ-01520)	Mixed Use	THOMPSON VILLAGE - CDRC (V2V Ventures)	All Planning Approvals	YES	Mixed Use - Condominiums/Commerical	0	0	0	0	0	0	0	0			29	29	7,250	8.12
PROJ-7813 ^[3]	Mixed Use	WESTSIDE VILLAS (Previously PROJ-02225)	All Planning Approvals	YES	Mixed Use - Condominiums/Commercial	1,573	0	0	0	0	1,573	0	0			40	40	10,417	11.67
PROJ-03198	Residential	REXFORD	All Planning Approvals	YES	25 Condominiums	0	0	0	0	0	0	0	0			25	25	6,250	7.00
PROJ-03617 ^[2]	Industrial	FPA LAND DEV/VICTORIA CORP C	All Planning Approvals	NO	7 industrial office buildings	0	0	158,984	0	0	158,984	0	0				0	42,131	47.19
PROJ-03676	Mixed Use	PALM & POLI ASSOC	All Planning Approvals	YES	Mixed Use - 16 Condominium Units & 1200 sf Commerical	1,200	0	0	0	0	1,200	0	0			16	16	4,318	4.84
PROJ-03743 ^{[1][10]}	Mixed Use	CANNERY ROW LLC	Under Construction	YES	Mixed Use - Condominiums/Commercial	2,156	0	0	0	0	2,156	0	0			78	78	20,071	22.48
PROJ-8446 ^{[3][4]}	Residential	UC HANSEN TRUST SP	All Planning Approvals	NO	131 Single Family, 34 Condominiums	0	0	0	0	0	0	0	0		131	34	165	56,970	63.81
PROJ-03829	Residential	WESTWOOD/PARKLANDS	All Planning Approvals	NO	216 detached homes; 110 attached homes	0	0	0	0	0	0	0	0		216	110	326	107,420	120.31
PROJ-03864	Commercial	VOOV	All Planning Approvals	NO	New 2-story office building	0	0	0	0	6,400	6,400	0	0				0	1,696	1.90
PROJ-03865	Residential	MATILIJIA	All Planning Approvals	YES	28 Condominiums	0	0	0	0	0	0	0	0			28	28	7,000	7.84
PROJ-04154	Residential	SOLANA HEIGHTS (Previously Westside Renaissance)	All Planning Approvals	YES	120 Single Family Residence, 36 Condominiums, 2.55 AC Parks	0	0	0	0	0	0	0	0	2.55	120	36	156	58,500	65.52
PROJ-04296	Residential	GOLDBERG	All Planning Approvals	YES	5 Condominiums	0	0	0	0	0	0	0	0			5	5	1,250	1.40
PROJ-04315 ^{[6][10]}	Residential	MATLIJA INVESTMENT GROUP (11 S. Ash)	Under Construction	YES	15 Condonimiums	0	0	0	0	0	0	0	0			15	15	3,750	4.20
PROJ-6237 ^[2]	Mixed Use	SONDERMANN-RING-Amendment	All Planning Approvals	NO	Mixed Use: 300 apartments Units; 20,292 sq ft commercial/retail; private indoor and outdoor recreational facilities incl 2.44 acre park and waterfront promenade	20,292	0	0	0	0	20,292	0	0	2.44		300	300	85,257	95.49
PROJ-01857 ^[1]	Residential	HEARTHSIDE - JENVEN VILLAGE LLC	Under Construction	NO	51 Condominiums (was 23,691 sf commercial & 83 condos)	0	0	0	0	0	0	0	0			51	51	12,750	14.28
PROJ-04691	Residential	CHAPMAN, MIKE	All Planning Approvals	YES	7 Apartments approved (duplex constructed, 5 additional units pending construction)	0	0	0	0	0	0	0	0			7	7	1,750	1.96
PROJ-1126	Residential	HEMLOCK APARTMENTS	All Planning Approvals	YES	23 Apartments	0	0	0	0	0	0	0	0			23	23	5,750	6.44
PROJ-7125 ^[3] (was PROJ-1200)	Mixed Use	LOGUE	All Planning Approvals	YES	Mixed Use - 125 Condominium Units & 7300 sf commerical	7,300	0	0	0	0	7,300	0	0			125	125	33,185	37.17
PROJ-1678 ^[10]	Institutional	CMH - NEW HOSPITAL	Under Construction	YES	New hospital building adaptive reuse of existing hospital (121,000 sf) for non-essential hospital support services & 104,000 sf for new backfill medical office reuse, new street extensions & new public plaza (320,000 sf -new and 230 beds)	0	0	0	320,000	0	320,000	230	0				0	125,350	140.40
PROJ-7215 ^{[1][10]}	Institutional	CMH PARKING STRUCTURE	Under Construction	YES	5-1/2 Story parking structure w/571 parking spaces and 1,399 sf retail liner				1,399		1,399						0	371	0.42
PROJ-2008	Residential	ISLAND VIEW APARTMENTS - WESTWOOD COMMUNITIES	Under Construction	NO	154 Apartments	0	0	0	0	0	0	0	0			154	154	38,500	43.12
PROJ-5616	Commercial	MARRIOT RESIDENCE INN	All Planning Approvals	NO	128 room Residence Inn	0	87,000	0	0	0	87,000	0	128				0	23,055	25.82
PROJ-4154 ^[1]	Residential	EAST VILLAGE RESIDENTIAL - CEDC Apartments	Under Construction	NO	50 Low Income Apartments	0	0	0	0	0	0	0	0			50	50	12,500	14.00
PROJ-4222 ^[3]	Residential	PARKLANDS APARTMENTS	Under Construction	NO	173 Apartments with Community Building	0	0	0	0	0	0	0	0			173	173	43,250	48.44
PROJ-4184	Residential	ENCLAVE AT NORTHBANK - WATT COMMUNITIES	Under Construction	NO	84 residential lots; Density Bonus Concessions for 98 residential units consisting of 84 single-family units and 14 multi-family (7 duplexes)	0	0	0	0	0	0	0	0	2.52	84	14	98	39,620	44.38
PROJ-7290 ^{[1][10]} (was PROJ-04263)	Residential	SANTA CLARA COURTS (DALY) 72 W. Santa Clara St.	Under Construction	YES	24 Condominium Units: *Note: Not occupied yet	0	0	0	0	0	0	0	0			24	24	6,000	6.72
PROJ-6098 ^[1]	Residential	LA BARRANCA-5533 Foothill Rd.	Under Construction	NO	9 Single Family Residences	0	0	0	0	0	0	0	0		9		9	3,330	3.73
PROJ-6263	Residential	SANTA CLARA APTS - 1254 & 1268 E. Santa Clara St.	All Planning Approvals	YES	8 Apartments	0	0	0	0	0	0	0	0			8	8	2,000	2.24
PROJ-7213 ^[10]	Commercial	398 ASH ST - TRAILER HOTEL	Under Construction	YES	New airstream trailer park (34 units)	0	0	0	0	0	0	0	0		34		34	12,580	14.09
PROJ-7323 (was PROJ-04543)	Mixed Use	2200 E MAIN ST - ANASTASI (ASBELL) (formerly Renaissance Holdings)	All Planning Approvals	YES	Mixed Use: 26 Condominium Units & 3896 sf Commerical	3,896	0	0	0	0	3,896	0	0			26	26	7,532	8.44

Table 2-4
Summary of Approved and Under Construction Projects - as of December 2016

Project ID	Project Type	Project Name	Project Status	Located in Casitas Municipal Water District (Y or N)	Description of Project	Non-Residential									Residential			Total Daily Demand (GPD)	Total Annual Demand (AFY)
						Commercial (SF)	Hotel (SF)	Industrial (SF)	Institutional (SF)	Office (SF)	Total (SF)	Hospital (beds)	Hotel (Rooms)	Park / Irrig. Area (ac)	Single- Family (Units)	Multi- Family (Units)	Total (Units)		
PROJ-6702	Commercial	BEST WESTERN - 708 E THOMPSON BL- REMODEL	All Planning Approvals	YES	Remodel 2 existing motel rooms into a gym and meeting room and replace the 2 rooms within a new 2nd story addition (555sf)	0	555	0	0	0	555	0	0				0	147	0.16
PROJ-04469	Commercial	PACIFIC MIDWEST DEV	All Planning Approvals	NO	4 Commerical buildings	3,000	0	0	0	0	3,000	0	0				0	795	0.89
PROJ-5810 ^[5]	Institutional	VENTURA BOTANICAL GARDENS	Under Construction	YES	Botanical Gardens and support facilities within Grant Park	-	-	-	-	-	-	-	-	-	-	-	-	-	134.05
PROJ-6984 (was PROJ-00823)	Mixed Use	MAR-Y-CEL	All Planning Approvals	YES	Mixed Use: 138 Units & 6,142 sf commerical	6,142	0	0	0	0	6,142	0	0			138	138	36,128	40.46
PROJ-7166	Mixed Use	DARLING APARTMENTS	All Planning Approvals	NO	Mixed Use: 43 Apartments & 2 Live/Work Units & 2100 sf Commerical/Retail	2,100	0	0	0	0	2,100	0	0			45	45	11,807	13.22
PROJ-7951	Residential	WESTVIEW VILLAGE -Housing Authority	All Planning Approvals	YES	Redevelopment of 180 public housing apartments and the addition of 140 new apartments	0	0	0	0	0	0	0	0			140	140	35,000	39.20
PROJ-5085	Residential	VENTURA DOWNTOWN HOUSING	All Planning Approvals	YES	255 Apartments	0	0	0	0	0	0	0	0			255	255	63,750	71.40
PROJ-7224	Residential	SANJON VILLAGE - 1230 E THOMPSON BL	All Planning Approvals	YES	34 Condominium Units	0	0	0	0	0	0	0	0			34	34	8,500	9.52
PROJ-10123	Commercial	NEW VOLKSWAGON DEALERSHIP	Under Construction	NO	6,396 SF Showroom; 5,643 SF administration; 9,935 SF parts department	21,975	0	0	0	0	21,975	0	0				0	5,823	6.52
PROJ-9502	Commercial	CENTRAL SHOPPING CENTER ADDITION	All Planning Approvals	NO	4,880 SF Addition to existing shopping center	4,880	0	0	0	0	4,880	0	0				0	1,293	1.45
PROJ-10278	Commercial	SUBARU DEALERSHIP	Under Construction	NO	Addition of a 1,500 SF service bay and 1238 SF wash bay to existing Subaru dealership	2,783	0	0	0	0	2,783	0	0				0	737	0.83
PROJ-8794	Commercial	Uncle Don's Liquor	All Planning Approvals	YES	725 SF Additon to an existing commercial building	725	0	0	0	0	725	0	0				0	192	0.22
PROJ-8641	Commercial	6424 AUTO CENTER DR. - KIA ADDITION	Under Construction	NO	Kia showroom 3,382 SF addition and building remodel	3,382	0	0	0	0	3,382	0	0				0	896	1.00
PROJ-7630	Commercial	HOLIDAY INN EXPRESS & SUITES HOTEL - 1080 NAVIGATOR WAY	All Planning Approvals	NO	40 Room addition to existing Holiday Inn Express & Suites	0	23961	0	0	0	23,961	0	0				0	6,350	7.11
PROJ-8479	Commercial	KAISER - NWC MARKET & VALENTINE	Under Construction	NO	72,000 SF Medical Center	72,000	0	0		0	72,000	0	0				0	19,080	21.37
PROJ-10172	Commercial	VENTURA OPHTHALMOLOGY	All Planning Approvals	NO	2-Story, 11,208 SF medical office building	11,208	0	0	0	0	11,208	0	0				0	2,970	3.33
PROJ-8096	Industrial	VICTORIA CORPORATE	All Planning Approvals	NO	43,470 SF, one-story industrial office building	0	0	0	43,470	0	43,470	0	0				0	11,520	12.90
PROJ-8647 ^[9]	Commerical	GOLF COURSE SELF STORAGE	All Planning Approvals	NO	New self stoarge facility	914	0	0	0	0	914	0	0				0	242	0.27
PROJ-10085	Institutional	KELLOGG PARK - CITY	All Planning Approvals	YES	Kellogg park General Plan amendment and zone change	0	0	0	0	0	0	0	0				0	-	0.00
PROJ-4677	Residential	WESTSIDE RENAISSANCE	All Planning Approvals	YES	50 Affordable senior apartments	0	0	0	0	0	0	0	0			50	50	12,500	14.00
PROJ-10410	Residential	RANCHO VERDE	All Planning Approvals	NO	24 Farmworker housing apartment units	0	0	0	0	0	0	0	0			24	24	6,000	6.72
PROJ-9523	Residential	RIVERSIDE ST MULTI-FAMILY	All Planning Approvals	YES	New multi-family: 6 buildings, 23 units,100% affordable	0	0	0	0	0	0	0	0			23	23	5,750	6.44
PROJ-10256 ^[3] (was PROJ-04182)	Mixed Use	DEANZA COURTS_1995 N. VENTURA AVE (Previously New Urban Ventures)	All Planning Approvals	YES	Modification of an approved project- 80 residential units and 1,779 SF of retail within three buildings.	1,779	0	0	0	0	1,779	0	0			80	80	20,471	22.93
PROJ-6270 ^[7]	Residential	NORTHBANK - VINCE DALY	All Planning Approvals	NO	117 Single family; 31 affordable for sale triplex/quadplex; 50 apartments	0	0	0	0	0	0	0	0		117	81	198	63,540	71.17
TOTAL						193,089	111,516	158,984	364,869	6,400	834,858	230	128	7.51	711	2,389	3,100	1,137,127	1,408

[1] Not part of CY 2016 water consumption (connected to City water, no established water usage).

[2] Approved and/or revised projects during CY 2016 per Community Development Planning Projects List dated Febuary 13, 2017.

[3] Projects previously approved and/or revised.

[4] PROJ-03826 was the affordable component of the project and consisted of 24 farmworker apartments. It is now moving forward as PROJ-10410.

[5] Total Annual Demand Value as reported in the memo Water System Alternatives Evaluation, Water System Hydraulic Evaluation, and Supply Discussion for the Ventura Botanical Gardens in the City of Ventura, dated November 2014

[6] Approved project, not on current Community Development Planning Projects List dated February 13, 2017.

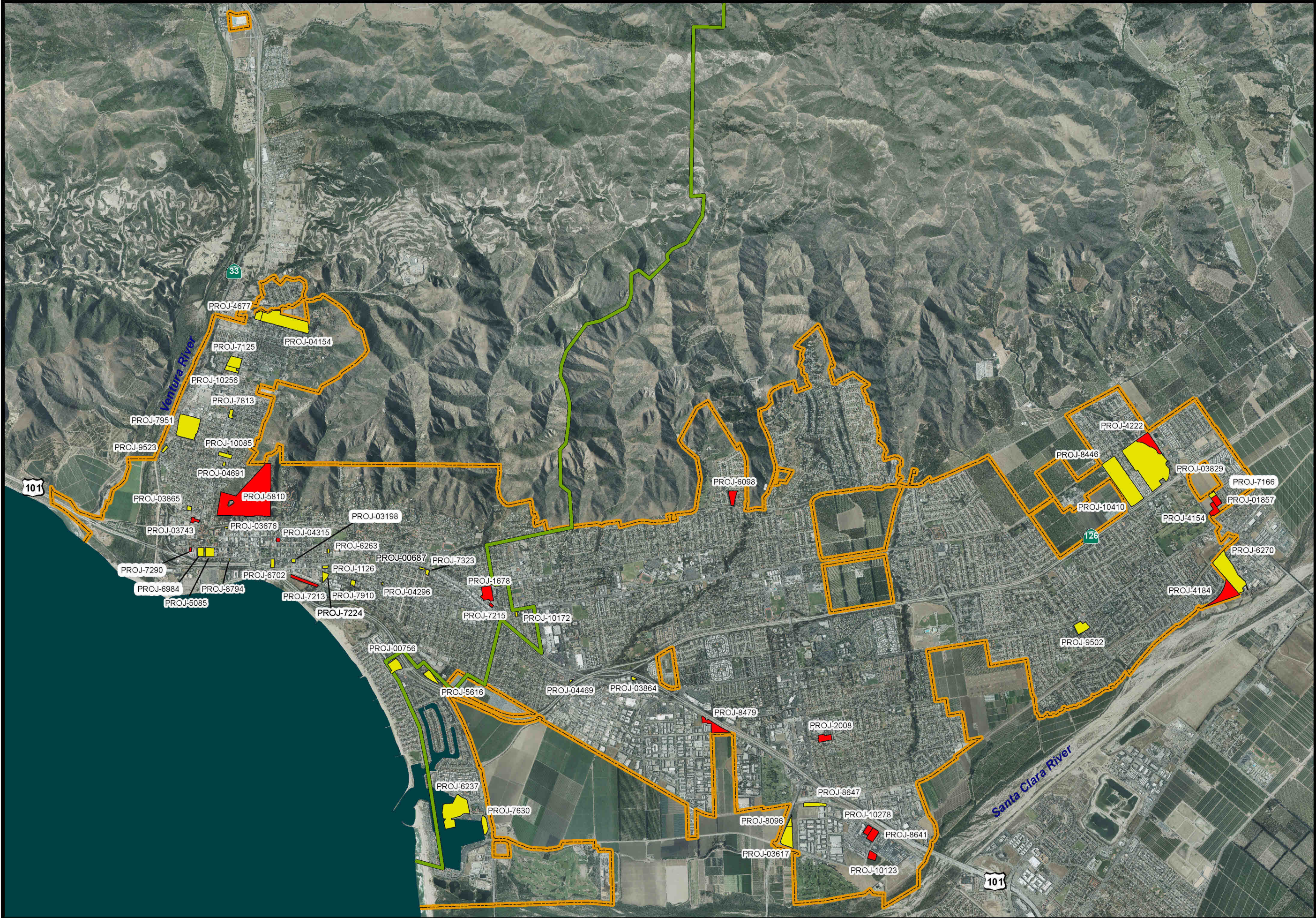
[7] Project entitled through City and pending annexation by LAFCo

[8] Project includes 15 new condominiums and conversion of existing commercial space to 18 unit Boutique B&B

[9] Projected demand based only on square footage of office component of project, not each individual storage unit.

[10] Projects that are within Casitas MWD boundary and currently under construction and anticipated to be completed in FY 2017-2018, with the exclusion of the Ventura Botanical Gardens.

Total within Casitas Boundary	30,325	555	0	321,399	0	352,279	230	0	2.6	154	1,215	1,369	499,734	694
Total not in Casitas Boundary	162,764	110,961	158,984	43,470	6,400	482,579	0	128	5.0	557	1,174	1,731	637,393	714



VENTURA WATER



**Projects Approved
and
Under Construction
(as of December 2016)**

Legend

- Casitas Municipal Water District Boundary
- Ventura City Limit
- Project Status**
- All Planning Approvals
- Under Construction

Note: See Table 2-4 for project and water demand information for each project shown on this exhibit.

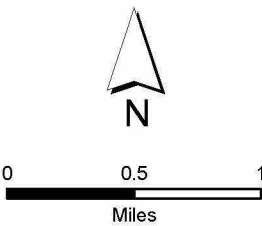


Exhibit 2-2

This map is a product of the City of San Buenaventura, California. While reasonable efforts have been made to ensure the accuracy of this map, the City of San Buenaventura cannot guarantee its accuracy.

Table 2-5
Summary of Predicted, Actual and Remaining Development

	Residential Development (units)	Non-Residential				Total (sf)
		Retail (sf)	Office (sf)	Industrial (sf)	Hotel (sf)	
2005 General Plan Prediction ^[1]	8,318	1,241,377	1,213,214	2,235,133	530,000	5,219,724
Actual Development (Built 2005-2012) ^[2]	1,912	320,102	320,102	754,239	0	1,394,442
Constructed (Built 2013) ^[4]	28	4,356	0	0	0	4,356
Constructed (Built 2014) ^[4]	0	0	147,060	0	0	147,060
Constructed (Built 2015) ^[4]	173	0	0	0	0	0
Constructed (Built 2016) ^[4]	40	0	7,360	0	0	7,360
Remaining Developable Land (as of end 2016)	6,165	916,920	738,693	1,480,894	530,000	3,666,506
Approved & Under Construction Projects ^[3]	3,100	193,089	6,400	523,853	111,516	834,858
Remaining Developable Land (through 2025)	3,065	723,831	732,293	957,041	418,484	2,831,648

[1] Source: Table 3-2 of 2005 General Plan.

[2] Per Table 2-2. The "Retail/Office" square footage listed in Table 2-2 was split evenly for the purposes of this table.

[3] Per Table 2-4. Square footage for the "Institutional" Category was added to the "Industrial" category.

[4] Per Table 2-3.

3. WATER DEMANDS

A. EXISTING DEMAND CONDITION

Ventura Water staff provided a summary of the meter consumption data for the entire service area for the calendar years (CY) 2007 - 2016 (Historical Water Consumption). Table 3-1 summarizes the total water consumption for each consumption category within the City's water service area for the most recent complete year of data, CY 2016. As shown in Table 3-1, the total water consumption for CY 2016 was 14,262 AFY (including the 6.5% water loss factor), up from CY 2015 by less than one percent. In the previous CWRRs the baseline water demand had been decreasing each year and was a result of approved water rate increases as well as the Council approving, in June 2015, a four-tiered (drought) water rate structure and the February 2014 City call for 10% voluntary conservation, followed by the September 2014 City declaration of a Stage 3 Water Emergency requiring customers to reduce their use by 20% due to the prolonged drought. The annual water consumption figures for the past ten years are provided in subsection 3.D.

Table 3-1
Summary of Existing Water Consumption for CY 2016

City Consumption Category	Water Consumption (HCF) ^[1]	Water Consumption (gpm)	Water Consumption (gpd)	Water Consumption (AFY)	Water Consumption + 6.5% Loss (AFY)
Single Family	2,284,479	3,251.12	4,681,617	5,244	5,585
Multi Family	1,413,123	2,011.07	2,895,934	3,244	3,455
Commercial/Retail/Industrial/Hotel	1,264,294	1,799.26	2,590,937	2,902	3,091
Public/Institutional (Municipal/Church/School)	204,055	290.40	418,173	468	499
Hospitals	74,849	106.52	153,389	172	183
Parks/Landscape/Irrigation	399,989	569.24	819,703	918	978
Other ^[2]	192,497	273.95	394,487	442	471
Total	5,833,286	8,301.56	11,954,241	13,391	14,262

[1] Source: HCF Consumption Data Tables (CY 2016)

[2] "Other" category includes all other accounted-for water such as construction water, water/sewer system maintenance, measured leakage. In addition, this includes 'grandfathered' users with water entitlements requiring special service conditions and oil industry use. Fireline consumption and temporary meter use is not included in this or any other category.

B. CONSUMPTION AND USAGE FACTORS

No changes from the 2013 CWRR.

Table 3-2: *No changes from the 2013 CWRR.*

Table 3-3: *No changes from the 2013 CWRR.*

C. USAGE FACTOR COMPARISON

No changes from the 2013 CWRR.

Table 3-4: *No changes from the 2013 CWRR.*

D. HISTORICAL WATER CONSUMPTION (BASELINE DEMAND CONDITION)

To calculate the total near-term water demand, the projected demands must be added to a baseline demand condition. The baseline demand should consider the historical water usage of the entire service area over an extended duration, in order to account for the year-to-year anomalies that can occur. City-wide water demands will vary from year to year based on several factors, including climate, water rates, the local economy, drought conditions, voluntary and mandatory conservation efforts, and environmental restrictions among other factors. To determine a recommended baseline, the historical water data was gathered for the past 10-year period. Table 3-5 provides a summary of the City-wide water consumption for each year from 2007 to 2016. The consumption numbers are also depicted graphically on Figure 3-1.

As noted in the table, the average annual water consumption for Years 2007-2011 (17,986 AFY) was significantly higher than the average annual consumption for Years 2012-2016 (16,236 AFY). The drop in consumption is likely due to several factors, including improvements to the City's distribution system to control water loss, more aggressive water conservation measures and less construction activity. Some of the water use reduction trends may revert back to previous habits; however, some will remain. With the State's passing of SB x7-7, all agencies are required to maintain a reduced urban water use target. This bill will result in water municipalities maintaining aggressive water conservation programs. Due to the prolonged drought, in February 2014 the City requested its customers to voluntarily reduce their water usage by at least 10%, and in September 2014 the City implemented a 20% mandatory reduction.

The historical data was used to develop the baseline demand condition, which is identified in Table 3-5. The City experienced a steady decline in total water consumption from its peak year of 2007 (19,931 AF) to a low year in 2011 (16,550 AF). The City experienced another decline in water consumption with a high in 2012 (18,004 AF) to a low year in 2015 (14,194 AF). Over the most recent 5-year period, the average annual water consumption was 16,236 AFY, with the lowest year (2015) approximately 12.6% lower than the 5-year average and the highest year (2012) approximately 10.9% above the 5-year average. Over the 10-year period, the average annual water consumption was 17,111 AFY, with the lowest year (2015) approximately 17% lower than the 10-year average and the highest year (2007) approximately 16.5% above the 10-year average.

RBF Consulting (RBF) was commissioned to complete the original 2013 CWRR. RBF indicated in the 2013 CWRR that for the purposes of establishing a baseline average annual water demand

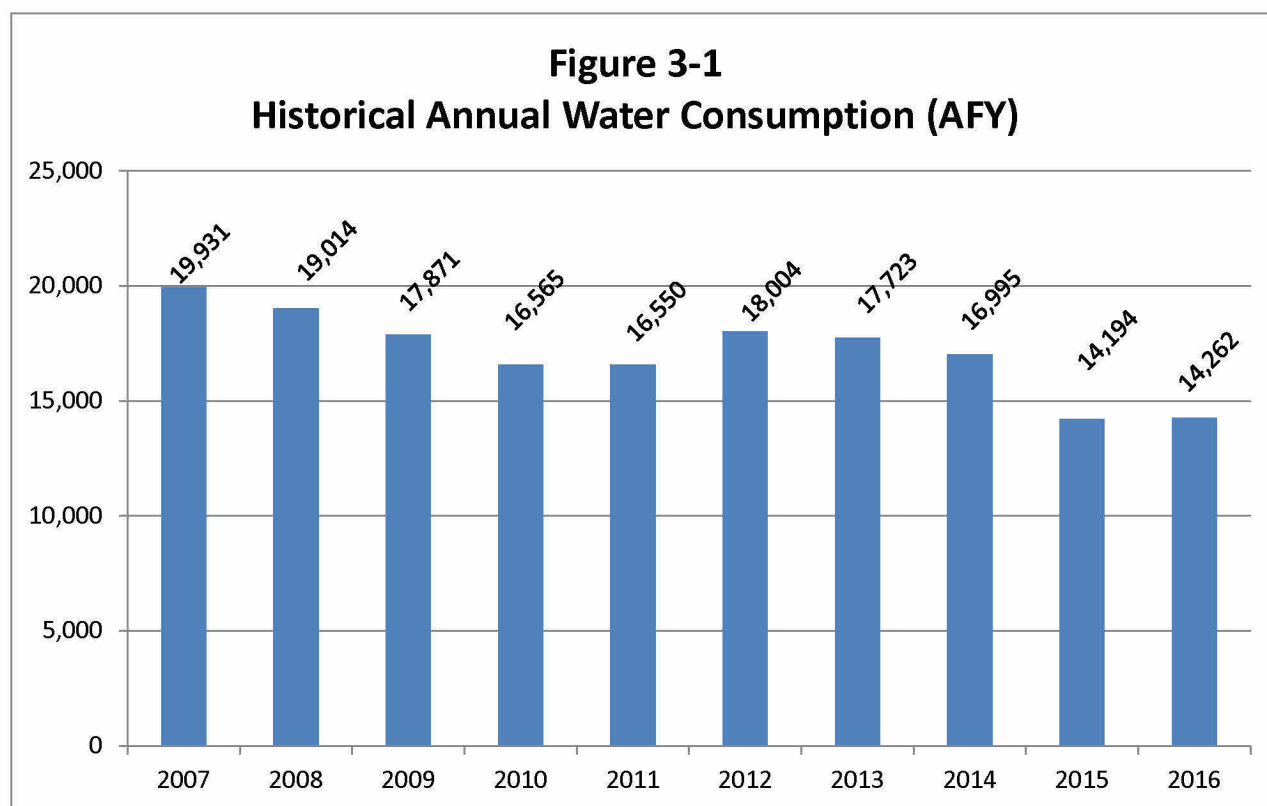
for the existing condition, it is recommended to use the 10-year average from the preceding ten years of data in order to capture the various factors influencing water consumption over the period. Due to the prolonged economic downturn, increased regulations, and persistent drought conditions, it was determined that a longer period was necessary to determine a baseline demand condition that is more reflective of a typical demand year. However, the City identified a large industrial water user that had been significantly reducing their potable water consumption since the late 2000s. The City had seen their reduced dependence on the potable water system to be a permanent condition since 2008; therefore the City had been comfortable using the most recent 5-year average as the baseline demand condition. The previous CWRRs used a 5-year average and indicated that due to the continued drought the City may need to revisit using the 10-year average sooner than previously believed. Furthermore, it was recommended in the 2016 CWRR that the City reconsider using the 5-year average and use the 10-year average in the 2017 CWRR.

The recommendation to use the 10-year average in the 2017 CWRR was made due to the continued decrease in the 5-year average which may provide the City with an inaccurate figure for normal demand given the high levels of customer conservation during the drought. Therefore, the baseline water demand established for this report is the 10-year average of 17,111 AFY.

Table 3-5
Historical Annual Water Consumption

Calendar Year	Consumption ^[1] (AF)	Averages, AFY		
		3-year	5-year	10-year
2007	19,931		17,986	17,111
2008	19,014			
2009	17,871			
2010	16,565			
2011	16,550			
2012	18,004	15,150	16,236	
2013	17,723			
2014	16,995			
2015	14,194			
2016	14,262			

[1] Provided by Ventura Water. Includes 6.5% water loss factor.



E. FUTURE DEMAND PROJECTIONS (Approved Projects Only)

This Report will focus only on the near-term demand growth projections. The near-term growth consists of the proposed development projects that have been approved by the City but are not yet connected to the City's water system. This includes projects that are currently under construction, or were under construction in December 2016, and projects that have all City approvals, but have yet to begin construction (Table 2-4).

The future average annual water demand for the near-term growth projects were calculated utilizing the City-specific usage factors calculated above (Table 3-3). The factors were applied to each project in Table 2-4, per the detailed land use breakdown. Table 3-6 summarizes the calculations for the future water demand potential. The increased water demand using the City-specific factors is predicated to be 1,408 acre-feet/year (AFY). Table 3-6 also identifies the portion of the near-term demands, which are predicted to be within the service area of the Casitas Municipal Water District (694 AFY). The projected demands are considered a fully-committed allocation of the water supply.

Under the baseline demand condition, and utilizing the City-specific water usage factors developed herein for the approved development projects, the total near-term water demand is predicted to be 18,519 AFY, as shown on Table 3-7.

In order to estimate the growth of the future water demands, an absorption rate of 350 dwelling units per year (units/year) was utilized (and an equivalent absorption rate for the non-residential development). Based on historical growth data provided by the City, an estimated annual growth of 350 units/year is considered conservative. Assuming the 350 units/year growth rate, the City can expect the projected water demand for the under construction and approved projects to be fully vested by Year 2025, per Table 3-8.

F. FUTURE DEMAND PROJECTIONS (Year 2030)

The 2016 CWRR projects out the demands to the Year 2030 which is beyond the year that the approved projects would be fully vested. In order to project out the estimated demands to the Year 2030 a growth rate of 0.55% (Department of Finance historical data for population) was used to estimate the increase in demand from the time all approved projects were fully vested (Year 2025) to the Year 2030.

Table 3-6
Total Estimated Demands for Under Construction and Approved Projects - as of December 2016

Water Demand Factor Classification	Quantity ^[1]	Usage Factor ^[2]	Estimated Future Water Demand	
Residential (0-8 du/ac)	711 du	370 gpd/du	263,070 gpd	295 AFY
Residential (9-20 du/ac)	2,389 du	250 gpd/du	597,250 gpd	669 AFY
Residential (21+ du/ac)				
Commercial/Retail/Industrial/Hotel Public/Institutional	514.9 ksf ^[3]	265 gpd/ksf	136,449 gpd	153 AFY
Park/Landscape/Irrigation	7.5 ac	2,000 gpd/ac	15,020 gpd	17 AFY
Hospital/Assisted Living	230 bed	545 gpd/bed	125,350 gpd	140 AFY
PROJ-5810 Ventura Botanical Gardens ^{[4][5]}	-	-	-	134 AFY
Total			1,137,139 gpd	1,408 AFY

Quantity ^[4]	Estimated Average Water Demand (within Casitas Boundary)	
154 du	56,980 gpd	64 AFY
1,215 du	303,750 gpd	340 AFY
32.3 ksf ^[3]	8,554 gpd	10 AFY
2.6 ac	5,200 gpd	6 AFY
230 bed	125,350 gpd	140 AFY
-	-	134 AFY
	499,834 gpd	694 AFY

[1] Per Table 2-4

[2] Per Table 3-3

[3] Excludes 320,000 SF for the Hospital PROJ-1678. Hospital demand calculated "per bed" since an appropriate factor was developed. Includes Hotel SF.

[4] Within Casitas Boundary, per Table 2-4 (included in the total).

[5] Total Annual Demand Value as reported in the memo Water System Alternatives Evaluation, Water System Hydraulic Evaluation, and Supply Discussion for the Ventura Botanical Gardens in the City of Ventura, dated November 2014

Table 3-7
Projected Total Water Demands Including Under
Construction and Approved Projects - Various Baselines

Baseline Demand Condition	Baseline Water Demand	Projected Water Demand ^[1] 1,408 AFY
1-Year: 2016	14,262 AFY	15,670 AFY
3-Year Average: 2014-2016	15,150	16,558
5-Year Average: 2012-2016	16,236	17,644
10-Year Average: 2007-2016	17,111	18,519
Past 5-Year Period: Annual High Year	18,004	19,412
Past 10-Year Period: Annual High Year	19,931	21,339

[1] Based on Calculated Consumption (Usage) Factors, See Table 2-4.

Note: The previous CWRR's utilized a 5-year average baseline water demand. It was recommended in the 2016 CWRR that a 10-year average baseline water demand should be used for the 2017 CWRR.

Table 3-8
Projected Water Demand Growth per Absorption Rate

Year	Total Units ^[1]	Absorption Rate ^[2]	Projected Water Demand ^[3]
2016			17,111 AFY
2017		350	17,270
2018		350	17,429
2019		350	17,588
2020		350	17,747
2021		350	17,906
2022		350	18,065
2023		350	18,224
2024		350	18,383
2025		300	18,519
Totals	3,100	3,100	18,519 AFY

[1] Per Table 2-4.

[2] Based on City's experience with peak rates of construction activity of approximately 350 residential units per year. Absorption rate of Commercial, Retail, Industrial, Hotel and Public/Institutional assumed to correlate with the residential absorption rate.

[3] Projections based on Baseline Demand Condition, per Table 3-7.

4. WATER SUPPLY

A. INTRODUCTION

No changes from 2013 CWRR.

Exhibit 4-1: *No changes from the 2013 CWRR.*

B. CURRENT WATER SUPPLY SOURCES

1. Casitas Municipal Water District (Casitas)

The previous CWRRs have had no changes to the normal (non-drought) water supply from Casitas. As indicated in the previous CWRRs City customers were using approximately 5,000 AFY within the Casitas service area during a normal year. The City has been renegotiating the existing July 1995 water service agreement with Casitas. The draft agreement is nearly final and has been vetted through both parties and is anticipated to be signed by both parties in the near future. Therefore, the information regarding Casitas water supply will now reflect the terms of the draft agreement.

The following definitions are taken from the draft agreement.

- Actual In-District Demand - The water purchased and utilized by the City within Casitas boundaries as certified by the City on an annual basis. The annual certification calculation for Actual In-District Demand is as follows:
 - $\text{Actual In-District Demand} = (\text{City Metered Water within Casitas Boundaries}) + (\text{Water Loss} \times \text{Purchased Water})$
- Fiscal Year – The period from July 1st of the current year to June 30th of the following year for each year of the contract.
- Projected Water Demand – Total amount of water needed to meet the City's water needs within Casitas boundaries. Demand projections are based on the City's Comprehensive Water Resources Report (CWRR) or similar best management practice.
- Purchased Water – Water purchased by the City from Casitas as determined by City and Casitas meters.
- Water Loss – The ratio of water lost from systems operations, non-revenue water, leaks, etc. Water Loss shall be determined based on the following calculation:
 - $\text{Water Loss} = (\text{Citywide Water Production} - \text{Citywide Metered Sales}) / \text{Citywide Water Production}$
 - The Water Loss calculation will be made each year by the City and may be revised to meet State-prescribed definitions and/or standards.

In order to estimate the normal year supply from Casitas the following assumptions were made:

The amount of City metered water within the Casitas boundaries and purchased water was taken from the past five fiscal year (FY 09-10 to FY 13-14) certification letters from the City to Casitas. Fiscal Year 09-10 through Fiscal Year 13-14 were considered non-drought years.

The percent used for water loss calculations is 6.5 percent based on the City's 2010 Urban Water Management Plan. The 2015 Urban Water Management Plan (2015 UWMP) required water loss to be estimated based on the Department of Water Resources Water Audit Method. As noted in the 2015 UWMP, the water loss estimate of 9 percent is elevated; a simple comparison of production versus sales does not support the high level of loss. Therefore, the five year average normal (non-drought) water supply from Casitas is estimated to be 5,062 AFY.

To calculate the current (2017) normal water supply from Casitas, the proposed development projects that are listed in Table 2-4 as within the Casitas service area boundary with the status of under construction are anticipated to be utilizing water by Fiscal Year 2017-2018 and therefore their estimated demands are added to the estimated water supply of 5,062 AFY. The normal water supply from Casitas is estimated to be 5,251 AFY and is reflected in Table 4-1.

2. Ventura River Surface Water Intake and Upper Ventura River Groundwater Basin/Subsurface Intake and Wells (Foster Park)

No changes from 2016 CWRR, see below.

The following new information on this current supply source is in addition to what is reported in the 2013 CWRR and is as follows. Santa Barbara Channelkeeper filed a lawsuit in September 2014 against the City alleging that the City had been over-pumping water from the Ventura River.

3. Mound Ground Water Basin (Mound Basin)

No changes from the 2013 CWRR.

4. Oxnard Plain Groundwater Basin (Fox Canyon Aquifer)

No changes from the 2013 CWRR.

5. Santa Paula Groundwater Basin (Santa Paula Basin)

The following new information on this current supply source will replace the last paragraph on what was reported in the 2013 CWRR and 2016 CWRR as follows. Construction of Saticoy Well No. 3 was completed in 2015 and Saticoy Well No. 2 remains active as a back-up well. The City acquired 35.1 acre-feet of water rights in the Santa Paula Basin in 2016 (see Table 4-1). Therefore, the City's current reliable water supply from the Santa Paula Basin is 3,041 AFY.

6. Recycled Water

The following new information on this current supply source is in addition to what is reported in the 2013 CWRR and is as follows. With continuing drought conditions and shortages in water supply, the City sought to expand the use of recycled water. There was limited use under the City's current permit originally issued in 1987 by the Los Angeles Regional Water Quality Control Board (LARWQCB) for water reclamation. Therefore, the City was directed by the LARWQCB and the State Water Resources Control Board (SWRCB) to submit a Change Petition to add dust control and residential irrigation use as permitted uses as well as account for reduced discharges of treated wastewater to the Santa Clara River Estuary. The City filed a Wastewater Change Petition with the SWRCB Division of Water Rights on April 17, 2015.

A mobile Reuse Program was created and submitted to the LARWQCB and the SWRCB Division of Drinking Water for approval on August 19, 2015. The City was given permission by LARWQCB to begin hauling recycled water from the Water Reclamation Facility to use on City trees, but not for use by residents and the other designated non-residential customers until the Change Petition and CEQA process was completed. Approval for the Wastewater Change Petition WW0083 was given on May 6, 2016. It increased the amount of available recycled water use from 0.67 million gallons per day (MGD) to 2.0 MGD. The approved uses for recycled water were for landscape irrigation and dust control at locations specified in the petition and CEQA Initial Study and Negative Declaration document. A total of approximately 8 acre-feet of recycled water was served from the Recycled Water Fill Station in CY 2016. This demand is not included in Table 4-1.

The City's Normal Water Supply portfolio is summarized in Table 4-1.

Table 4-1
Summary of Normal Water Supply

Water Supply Source	Current Supply AFY
Casitas Municipal Water District ^[1]	5,251
Ventura River / Foster Park	4,200
Mound Groundwater Basin	4,000
Oxnard Plain Groundwater Basin	4,100
Santa Paula Groundwater Basin ^[2]	3,006
City Acquired Water Rights in 2016 ^[3]	35.1
Recycled Water	700
TOTAL	21,292 AF
<p>[1] Demand within Casitas service area is based on the 2017 Draft Agreement. The five year average normal water supply from Casitas is estimated to be 5,062 AFY. Adding in development under construction (estimated to be 189 AFY) brings the total normal year supply to 5,251 AFY.</p> <p>[2] Includes 3,000 AF of original City allocation and 5.8 AF of water rights acquired for the past development of Tract 4632</p> <p>[3] 12.0 AF of water rights acquired for the development of Phase 1 of Tract 5632 in 2016 and 23.1 AF of water rights acquired for the development of Tract 5774 in 2016.</p>	

It is noted that the current water supply (Table 4-1) is known as the normal water supply (non-drought) in the City's March 2015 Water Shortage Event Contingency Plan.

C. FUTURE WATER SUPPLY

1. Casitas Municipal Water District (Casitas)

The current annual supply used within the Casitas District boundary of the City service system is 5,062 AFY.

As discussed in Section 3, and shown on Table 3-6, it is estimated that the added water supply required to meet the demand of the under construction and approved projects that are located within the Casitas boundary is 694 AFY. Therefore, the anticipated future water supply from Casitas will increase by an equivalent amount, to approximately 5,375 AFY by Year 2020. Using the absorption rate discussed in Section 3, the estimated supply from Casitas is estimated to increase by 157 AFY in year 2018.

Casitas has been stating that Lake Casitas is at risk due to persistent drought conditions and depletion of the Lake Casitas water supply to minimum pool. In the May 2016 CWRR, the storage in Lake Casitas was at approximately 42% of capacity and went to a low of 35% of capacity in early January 2017. Due to recent rain events in 2017 the storage in Lake Casitas is currently (mid-March 2017) 43.9% of capacity.

In past CWRRs an estimated reduction of 20% was included in the Casitas supply for the projection of the current drought through 2018 (2018 Supply Drought Impact). As mentioned in the Current Water Supply section, the City has been renegotiating the existing July 1995 water service agreement with Casitas. The draft agreement is nearly final and has been vetted through both parties and is anticipated to be signed by both parties in the near future. Therefore, the information regarding Casitas water supply will now reflect the terms of the draft agreement. The draft agreement indicates that in the event that Casitas must enact its Water Efficiency and Allocation Program (WEAP) due to a water shortage, Casitas may adjust the City's allocation consistent with the percentage reduction for the WEAP stage.

Casitas is currently in a Stage 3 water supply condition per Casitas Resolution No. 16-09. For purposes of this report an estimated reduction of 30% to the City's Casitas supply has been included for the projection of the current drought through 2018 (2018 Supply Drought Impact).

2. Ventura River Surface Water Intake and Upper Ventura River Groundwater Basin/Subsurface Intake and Wells (Foster Park)

Due to the continued drought conditions and heightened environmental requirements, the City's ability to draw water from the Ventura River continues to be significantly challenged and impacted. Therefore, the supply anticipated from the Ventura River for the projection of the current drought through 2018 (2018 Supply Drought Impact) is based on the average of the 2015 and 2016 operations at a production of 1,574 AF.

The 2018 supply is based on the highest historical production in the past 10 years (2007-2016) at a production of 3,428 AF.

The Sustainable Groundwater Management Act (SGMA) may impact future groundwater supply. For updates on the Upper Ventura River Groundwater Basin Groundwater Sustainability Agency (GSA), refer to the SGMA section below.

3. Mound Groundwater Basin (Mound Basin)

No changes from the 2013 CWRR.

SGMA may impact future groundwater supply. For updates on the Mound Basin GSA, refer to the SGMA section below.

4. Oxnard Plain Groundwater Basin (Fox Canyon Aquifer)

After several special meetings in the first few months of 2014 and several iterations of an emergency ordinance, the Fox Canyon Groundwater Management Agency (FCGMA) Board approved Emergency Ordinance E at a Special Meeting on April 11, 2014. The emergency ordinance limits extractions from groundwater extraction facilities within the FCGMA boundary, suspends use of credits and prohibits the construction of any groundwater extraction facilities and/or the issuance of any groundwater extraction facilities permit. The City's allocation has been limited to 3,862 AFY. The City may pay surcharges for exceeding its allocation because the City may not rely on its conservation credits that were set aside during wet years. Prior to approval of Ordinance E, the City was relying on approximately 25,000 AF of conservation credits that have now been suspended. The City was utilizing approximately 1,000 AF of conservation credits annually. On June 14, 2014, the City requested a variance to our allocation per Ordinance E and was denied by FCGMA staff. The City then made an appeal to the FCGMA Board on January 28, 2015, and was denied by the FCGMA Board.

Key points presented by FCGMA for Emergency Ordinance E were as follows:

- The FCGMA Act goal of safe yield by 2010 not being met,
- The 2007 Groundwater Management Plan Basin Management Objectives not being met,
- Water level declines in all basins,
- The unsustainability of the current Agency allocation scheme,
- Increase in time of planted acres of water intensive crops, and
- The continued unabated threats to the resource (seawater intrusion, water quality degradation, land subsidence).

For all Municipal and Industrial (M&I) Operators the Temporary Extraction Allocation (TEA) is based on an operators average annual reported extractions, for CY 2003 through 2012. Phased reductions were set

beginning July 1, 2014 with a 20% total reduction of the TEA on January 1, 2016. The City's TEA is 4,827 AFY and with the phased reductions will be 3,862 AFY on January 1, 2016. This equates to a reduction of approximately 29% from the previous historical baseline allocation of 5,472 AFY.

The duration of the ordinance remains in effect from the date of adoption and reviewed every eighteen months, unless superseded or rescinded by action of the FCGMA Board or a finding by the FCGMA Board that the drought or emergency condition no longer exists.

Refer to the SGMA section below for an update on FCGMA's role as a GSA for the Oxnard Plain Basin.

5. Santa Paula Groundwater Basin (Santa Paula Basin)

The low range of this water supply remains at 1,141 AF for the projection of the drought through 2018. This is based on an assumed worst case scenario that the basin will be determined to be in a Stage 2 overdraft per the Court's Stipulated Judgment. Additional water rights of 12 AF and 23.1 AF were acquired for the development of Phase I of Tract 5632 and Tract 5774 respectively within the Santa Paula Basin area; therefore the City's acquired water rights increased from 5.8 AF to a total of 35.1 AF.

Refer to the SGMA section below as it pertains to the Santa Paula Basin.

6. Recycled Water

The estimated anticipated future water supply for recycled water is based on the 2015 Urban Water Management Plan projections for recycled water.

The City's projected future water supply portfolio is summarized in Table 4-2.

7. Sustainable Groundwater Management Act

In September 2014, the State legislature passed the Sustainable Groundwater Management Act (SGMA), to improve management of groundwater resources in California. Groundwater Sustainability Agencies (GSAs) must be formed for regions where groundwater basins are designated medium or high priority by the Department of Water Resources (DWR). Medium or high priority ranking groundwater basins are at risk of overdraft and/or a decline in water quality. The intent of the legislation is to manage groundwater sustainably; to require reporting related to hydrogeological conditions, water balance trends, sustainable yield and beneficial uses; to prevent the deterioration of water quality and environmental damage and irreversible land subsidence; and to increase groundwater recharge and storage; amongst additional guidelines. SGMA also provides the GSA with a range of authorities including but not limited to adopting rules, regulations, ordinances, and resolutions to implement SGMA; monitoring compliance and enforcement; requiring registration of groundwater extraction wells; investigating, appropriating, and acquiring surface water rights, groundwater, and groundwater rights into the GSA; acquiring or

augmenting local water supplies to enhance the sustainability of the groundwater basin; and adopting and funding a Groundwater Sustainability Plan (GSP).

The City of Ventura (City) is involved with the creation of the Upper Ventura River Basin GSA and Mound Basin GSA. Both basins are designated medium-priority by DWR. On March 16, 2015 City Council approved a Memorandum of Understanding (MOU) for the formation of a GSA for the Upper Ventura River amongst Ventura River Water District, Meiners Oaks Water District, Casitas Municipal Water District, Ventura County Watershed Protection District (VCWPD), and the City. An MOU was also approved for the formation of a GSA for the Mound Basin amongst United Water Conservation District, the City of Ventura, and VCWPD. Through the MOUs, the aforementioned agencies “have agreed to negotiate diligently and in good faith with one another in order to develop a mutually acceptable agreement to form a groundwater sustainability agency...This effort will include preparation of governance structures, assignment of roles and responsibility, preparation of bylaws, preparation of financial cost sharing, and the publication of notices”¹.

The City extracts groundwater from two other basins (the Oxnard Plain Basin and Santa Paula Basin). The Fox Canyon Groundwater Management Agency (FCGMA) was named as the GSA for the Oxnard Plain Basin (designated as high-priority) and the City is participating in the development of the GSP for the Oxnard Plain Basin. The Santa Paula Basin is adjudicated, and is currently only subject to annual reporting requirements to DWR under SGMA.

Upper Ventura River GSA

On November 21, 2016, City Council approved the Joint Powers Agreement (JPA) for the Upper Ventura River Basin GSA. The major components of the JPA include authority, power, membership, directors, voting paradigms and financing. These items were negotiated with the assistance of the Center for Collaborative Policy and included three stakeholder meetings. In addition to representatives from each of the five member agencies, the Board of Directors includes an agricultural stakeholder director and environmental stakeholder director.

DWR has until June 30, 2017 to confirm the newly formed GSA. The work begins to develop the GSP by January 1, 2022 and DWR expects this basin to reach sustainability by January 1, 2042.

¹ 2015 Urban Water Management Plan for City of Ventura

Mound Basin GSA

The development of this JPA will follow the Upper Ventura River GSA process. The Mound Basin JPA is nearly complete and will be scheduled for City Council in the near future.

Groundwater Basin	Critical Overdraft	GSA Status
Santa Paula	Medium	Exempt from GSA process
Mound	Medium	JPA pending City Council adoption
Oxnard Plain	High	FCGMA named as GSA for this basin
Upper Ventura River	Medium	JPA established between five agencies. Waiting for DWR approval June 2017.

Table 4-2
Summary of Projected Future Water Supply from
Existing and Potential New Sources

	Existing	Future			
Water Supply Source ^[1]	2017 Supply Drought Impact (AFY)	2018 Supply Drought Impact (AFY)	2018 Supply (AFY)	2020 Supply (AFY)	2030 Supply (AFY)
Casitas Municipal Water District	3,676 ^[2]	3,653 ^[3]	5,219 ^[4]	5,375 ^[4]	5,916 ^[5]
Ventura River / Foster Park	1,574 ^[3]	1,574 ^[3]	3,428 ^[6]	4,200- 6,700 ^[7]	4,200- 6,700 ^[7]
Mound Groundwater Basin	4,000	4,000	4,000	4,000	4,000
Oxnard Plain Groundwater Basin ^[8]	3,862	3,862	3,862	3,862	3,862
<u>Santa Paula Groundwater Basin</u>					
Original City Allocation ^[9]	1,141-3,000	1,141-3,000	1,141- 3,000	1,141- 3,000	1,141- 3,000
City Acquired Water Rights ^[10]	35.1	35.1	35.1	35.1	35.1
Recycled Water	700	700	700	700	865 ^[11]
Direct Potable Reuse ^[12]	0	0	0	0	2,381- 3,898
TOTAL	14,988 – 16,847	14,965 – 16,824	18,385 - 20,244	19,313 – 23,672	22,400 – 28,276

Note: Projected supply values do not take into account water quality for all sources or account for loss of one source.

[1] None of these numbers preclude the City's water rights.

[2] 2017 Casitas water supply from Table 4-1, 30% drought impact based on draft 2017 agreement with Casitas.

[3] A lower supply range reflects the current drought conditions continuing through 2018; supply from Ventura River/Foster Park based on the average of 2015 and 2016 operations and potential cutbacks from Casitas (estimated to be 30% based on the 2017 draft agreement).

[4] Casitas future supply is adjusted as demand increases within the Casitas service area based on the absorption rate in Table 3-8.

[5] Casitas supply increase estimated based on demand in Casitas area in 2025 at 5,756 AF using 0.55% growth rate to 2030.

[6] Based on the highest historical City production value in the past 10 years (2007-2016).

[7] Increase in supply assumed new well facilities by 2020.

[8] Fox Canyon Groundwater Management Agency (FCGMA) Emergency Ordinance E allocations were adopted by FCGMA Board on April 11, 2014. Temporary extraction allocation for FY 2016 = 3,862 AFY.

[9] The Santa Paula Basin Judgment allows the City to utilize on average 3,000 AF annually. Assumes the worst case scenario that the basin is determined to be in a Stage 2 overdraft per the Court's Stipulated Judgment and the City is reduced to an allocation of 1,141 AFY during drought conditions. Saticoy Well No. 3 was completed in CY2015 and is now on-line and Saticoy Well No. 2 is used as a back-up well so the City can utilize its 3,000 AFY allocation.

[10] Water rights acquired for the past development of Tract 4632 and development of Phase 1 of Tract 5632 and Tract 5774.

[11] From 2015 Urban Water Management Plan projection for recycled water.

[12] Direct Potable Reuse based on Estuary Special Studies. Range of 2,381 AFY to 3,898 AFY depending on the Maximum Ecologically Protective Diversion Volume (MEPDV). Estimated volumes account for water quality, capacity and operations.

D. POTENTIAL ADDITIONAL FUTURE SUPPLY SOURCES

1. *State Water Project*

As discussed in the 2013 CWRR, the City has a 10,000 acre-foot per year allocation from the California State Water Project (SWP). Per the 1971 agreements executed between the City, Casitas Municipal Water District (Casitas), and the Department of Water Resources (DWR), the City has an annual entitlement of 10,000 acre-feet. In the contract with Casitas, the City retains full authority and responsibility for determining the point and method of delivery of the allocation. To date, the City has not constructed the improvements necessary to receive delivery of its allocation.

On March 1, 2016, City Council adopted the 2016-2022 Capital Improvement Program which includes Program Number 97949 – Waterline – Ventura/Oxnard Emergency Water Intertie. This project was recommended in a joint agency study prepared in 2003 to increase system reliability within the two water systems. In lieu of the Ventura/Oxnard emergency connection, Ventura Water is pursuing the State Water connection with Calleguas Municipal Water District (Calleguas) to provide an additional water supply. As a possible future use by the City, State Water may also be used to serve as a required emergency/backup connection for Ventura Water’s future Potable Reuse system.

Ventura Water is currently working with Calleguas on an agreement to provide for a connection to their potable water system. The connection would allow for water conveyance through and between both water systems. Ventura Water is also negotiating a wheeling agreement with Metropolitan Water District of Southern California (MWD) for the conveyance of State Water to Calleguas. Although the details of these agreements have not yet been finalized, both MWD and Calleguas as State Water Purveyors have an obligation to wheel water through their conveyance systems when they have capacity. The City is confident that agreements with both agencies will be attainable.

On January 23, 2017, City Council authorized an alignment study by Kennedy/Jenks to determine how the intertie project can be designed and operated to supply water to serve the regional needs of the City, Calleguas, and United Water Conservation District (United). The alignment study will be used to determine project benefits to each agency and, in turn, how much the City may be able to leverage each agency to share costs for the design and construction of the pipeline. The alignment study will determine the amount of water that Calleguas can wheel through its system without adversely affecting its customers. At this time, MWD does not anticipate limiting the wheeling amount through its system due to capacity. The City Council also voted to revise the project description of Project Number 97949 from “Ventura/Oxnard Emergency Water Intertie” to “State Water Project Interconnection”.

Benefits to the City include making up for losses in annual yield from existing supply sources (Lake Casitas, Ventura River and groundwater), improving water quality, and providing an emergency/backup connection for Ventura Water’s future Potable Reuse system.

The alignment study is underway and is anticipated for completion August 2017.

2. Saticoy County Yard Well

No changes from the 2013 CWRR.

3. Recycled Water and Reuse

a. Ventura Water Reclamation Facility (VWRF)

The City's Water Reclamation Facility (VWRF) treats the wastewater generated by the City's 30,000 homes and businesses to stringent standards before releasing the clean water to the Santa Clara River Estuary (Estuary) with approximately 700 acre-feet per year (AFY) diverted as recycled water for landscape irrigation by several users.

This water is regulated with a permit issued by the Los Angeles Regional Water Quality Control Board (RWQCB), which is renewed every five years. During the 2008 re-issuance process, controversy arose on whether or not the City should be permitted to continue its current volume of water released into the Estuary.

While some parties wanted the RWQCB to revoke the existing exemption to State water policy, which allows the discharge, others, including resource agencies such as NOAA Fisheries and California Department of Fish and Game, did not want any decrease in the amount of the current discharge until all alternatives were evaluated thoroughly to allow for the best ecologically sustainable alternative since the discharge supports the Estuary's endangered species and enhancement of its habitat value.

Therefore, the Discharge Permit issued by the RWQCB allowed continuation of the discharge but required Ventura Water to perform three extensive studies which include:

- Estuary Subwatershed Study
- Recycled Water Market Study
- Treatment Wetlands Feasibility Study

In April 2009, the City hired the consulting team of Carollo Engineers and Stillwater Sciences to perform the special studies. The consulting team spent several months collecting data to determine what information was missing in order to create a monitoring plan to addresses needed information.

A series of five workshops were held from 2009 to February 2011, in which the results of the three studies noted above were discussed. The Phase I Recycled Water Market Study and the Treatment Wetlands Feasibility Study were submitted to the RWQCB in March of 2010 as

required by the NPDES permit. Additional studies were being completed related to the Estuary Subwatershed Study.

It was anticipated that the Estuary Subwatershed Study – Draft Synthesis Report would be submitted to the RWQCB on March 6, 2011. At the request of stakeholders, the RWQCB extended the deadline for comments on the Estuary Subwatershed Study – Draft Synthesis Report until July 15, 2011. A revised Synthesis Report was due to RWQCB by September 15, 2011. A stakeholder workshop was held on August 18, 2011 to present the results of the Draft Estuary Study and for the stakeholders to provide input into the preliminary recommendations. The revised Estuary Study and Recommendations Memo were then submitted to the RWQCB.

At the July 18, 2012 stakeholder workshop, the project team presented potential alternatives. Discussions focused on reuse alternatives, groundwater recharge alternatives and wetlands alternatives.

At the October 31, 2012 stakeholder workshop, the project team presented the screening of alternatives to divert water from the Estuary for use as recycled water in the region. Stakeholders provided input on the alternatives and on the recommendations developed in the final report. At the conclusion of the Phase 2 Studies, several unanswered questions were identified. The main uncertainty was determining exactly how much wastewater effluent could be diverted for reuse without impacting endangered species in the Estuary.

Phase 3 of the Special Studies started with a November 19, 2014 kick-off/stakeholder workshop. The project team presented the Phase 3 scope and study elements. The scope of work for Phase 3 includes additional sampling of water in and near the estuary over a two year period and evaluating data to answer some of the remaining questions from the Phase 2 Study. Phase 3 also includes looking at 100% diversion of the VWRP effluent, brine disposal options and the selection of a preferred alternative for the amount of effluent that could be diverted for reuse. In addition, it was anticipated that a direct potable reuse pilot would be constructed and run at the Ventura Water Reclamation Facility in 2015.

Ventura Water unveiled its VenturaWaterPure Demonstration Facility on July 16, 2015. VenturaWaterPure is a small-scale pilot project commissioned to investigate the feasibility of potable reuse purification technologies at the Ventura Water Reclamation Facility to extend Ventura's use of local water sources. The 20 gallon per minute facility demonstrates the possibilities for converting wastewater effluent to drinking water standards by passing it through a highly advanced water treatment system.

On November 3, 2015 a stakeholder workshop was held at the City's VenturaWaterPure Demonstration Facility. At this workshop, an update on activities conducted in 2015 including

estuary monitoring, evaluation of 100% diversion scenarios, and brine disposal options were presented.

Data collection and monitoring activities as part of the Phase 3 Special Studies continued through 2016. An update on activities was provided at the November 17, 2016 stakeholder workshop. The focus of this workshop included a discussion of preliminary results from estuary monitoring (water balance, water quality, and habitat suitability evaluations), diversion scenarios, brine disposal options, and an update on the regulatory framework for direct potable reuse.

In December 2016, the State Water Resources Control Board (SWRCB) provided a report to legislature on the “Investigation on the Feasibility of Developing Uniform Water Recycling Criteria for Direct Potable Reuse”. The report indicated that it is technically feasible to develop Direct Potable Reuse regulations that can provide a level of public health protection equal to or greater than current conventional drinking water supplies.

The data collection and monitoring was completed December 2016 and the Phase 3 report is anticipated for completion in 2017. The Phase 3 Studies are due to the RWQCB January 2018.

The special studies along with the associated stakeholder processes are designed to provide information necessary to support development of a sustainable discharge regime. In the end, these studies will result in the issuance of a Discharge Permit for the future that will allow the City to utilize its recycled water as a valuable resource, balancing this benefit with the additional environmental benefits of sustaining the critical habitat for endangered species in the Estuary.

The Preferred Project at this time is direct potable reuse for City future water supply from the range of 3.6 million gallons per day (mgd) up to 6.3 mgd (approximately 4,000 to 7,000 AFY, does not consider water quality, capacity or operations).

4. Ocean Desalination

In 2013, City staff was engaged in discussions with local water agencies in regard to potential regional desalination projects. From 2014 to 2016, City staff received input from the Water Commission and consultants on the development of a Water Rights Dedication and Water Resource Net Zero Fee Ordinance and Resolution. The intent of the Ordinance is to establish a policy for new or intensified demand to offset their projected water demand on the City's water supply. As part of the development of the Ordinance, Water Consultancy prepared the “Evaluation of a Water Resource Net Zero Fee Report” dated May 11, 2016. The report describes potential additional water supplies identified in the City's Capital Improvement Program (CIP). The City's proposed 2016-2022 CIP includes seawater desalination as a potential water supply project. Specifically, the City is looking at desalination as a permanent part of the City's long term water supply portfolio and as an additional water supply during times of drought and

emergency. The facility would incorporate the latest state of the art treatment technology for the desalination process. Desalination will likely be required if other water sources are no longer reliable. The desalination project's anticipated delivery capacity is 2.7 million gallons a day or 3,000 acre-feet per year. The desalination plant is identified as a potential project that would not come online until sometime after 2030.

On October 25, 2016, Water Commission received a presentation on Ocean Desalination Options from Calleguas Municipal Water District.

At this time, Project 74070 Advanced Wastewater Treatment Plan Land Acquisition is listed in the City's Adopted 2016-2022 CIP. The land acquisition is for the expansion of the City's water supply for the construction of the Advanced Water Treatment Plant for potable reuse and/or desalination. The project's time schedule includes planning from 2016 to 2018.

5. Water Conservation Measures/Water Efficiency Plan

In 2011, City Council adopted a five-year Water Efficiency Plan that focuses on efforts including educating youth, reducing outdoor landscape watering, optimizing operational practices, expansion of recycled water usage, and utilizing storm water resources. Implementation of Year Five of the Water Efficiency Plan included the following:

- **Washing Machine Rebates** – In January 2016, the City launched a rebate program for Ventura Water customers who purchase a more water-and-energy efficient washing machine. A total of 34 rebates were issued in 2016. Benefits of the program include reduced indoor water use.
- **Mobile Reuse Program** – On May 6, 2016, approval was granted by the LARWQCB and SWRCB for the Wastewater Change Petition WW0083. It increased the amount of recycled water use available from 0.67 MGD to 2.0 MGD. In June 2016, the City launched a program which provides high quality recycled water for local residents and commercial businesses. The recycled water can be picked up at the Fill Station located at the Ventura Water Reclamation Facility. Residents and City Parks and State Parks utilize the water for landscape irrigation while AERA Energy and Ventura County Transportation Department utilize the water for dust control. As of December 31, 2016, a total of 2,718,796 gallons (8.34 acre-feet) of recycled water have been served from the Fill Station for a total 33 participants. Benefits of the program included expanded recycled water usage in the City and conservation of potable water.
- **Green Street Project** – In August 2016, a project was completed on Hartman Drive which includes permeable concrete gutters, bio-retention cells, and bioswales. The stormwater infiltration project is designed to capture stormwater runoff and recharge groundwater.
- **Advanced Metering Infrastructure (AMI)** – In December 2016, City Council approved the AMI project which includes replacing approximately 32,000 manually-read water meters with new

meters over a three-year period. Benefits of AMI include advanced leak detection notification capabilities and improved accuracy in readings and customer service.

In February 2014, in response to the current drought, Council approved a voluntary 10% conservation cutback for Ventura customers. Subsequently in September 2014 the City Council declared that Ventura was in a Stage 3 Water Shortage Emergency calling for 20% mandatory conservation cutback as local water supplies continued to drop during the third year of California's historic drought. In addition to water waste prohibitions, Ventura Water instituted several mandatory water conservation measures including the following:

- Do not allow water to run and be wasted during outdoor use
- Limit the use of potable water irrigation systems to two days per week
- Do not allow leaks to persist for more than 48 hours
- Do not use a handheld hose without an automatic shutoff nozzle
- Do not operate fountains unless the water is recirculating
- Do not wash or hose down hardscape surfaces such as driveways and sidewalks
- Restaurant water service is by customer request only
- Do not knowingly waste water in any way

The City offers free water conservation aids and on-site residential water surveys to help customers save water and hosts outreach events and contests to promote conservation. In addition several classes related to water conservation are offered or sponsored in part by the City as follows:

- Water Wise Gardening Classes
- Ocean Friendly Gardens and Integrated Design
- CA Natives, Mediterranean, Drought Tolerant? Right Plant: Right Place

In March 2015 as a recommendation by the Water Shortage Task Force, City Council approved the Water Wise Incentive Program for customers who reduce outside water use. The incentive plan focused on providing more efficient irrigation devices and turf removal for property owners to install low-water turf alternatives. From July 2015 to December 2015, funds were reserved for 331 projects resulting in up to 1,000 acre-feet of water savings over a 20-year period.

In June 2016, City Council approved the Water Wise Incentive Program 2.0 and Free Sprinkler Nozzle Program which provides incentives for turf removal, discounted Smart Irrigation Controllers and free high efficiency nozzles to participants. Water Wise 2.0 was launched September 2016 and over 100,000 square feet of turf has been approved for removal as of January 2017.

2016 marked the fifth year of California's historic drought. The City remained in a Stage 3 Water Shortage Emergency and the Governor's drought mandate remained in effect. Demand was met through

implementation of mandatory conservation measures and Ventura Water's customers' responses to conservation.

6. *Water Shortage Task Force*

The City Council created the Water Supply Strategy Task Force, later functionally renamed the Water Shortage Task Force (Task Force), on July 21, 2014 to advise the City Council as actions were needed to respond to dwindling water supplies due to the prolonged drought. The Task Force addressed revisions to the City's Water Shortage Event Contingency Plan, the development of an incentive program to assist residents in their drought response and proposed a drought rate structure to assist Ventura Water with a full cost recovery of revenue loss during a water shortage.

In June 2015 Council approved the four-tiered (drought) water rate structure recommended by the Task Force that sends a strong message for conservation of Ventura's local resources. The rates increased to achieve full revenue recovery within each tier or customer class, and by doing so, further encourage conservation.

7. *Water Shortage Event Contingency Plan*

It was proposed at the July 7, 2014 City Council Meeting that the existing Water Shortage Event Contingency Plan, a required section of the City's 2010 Urban Water Management Plan, be updated with community input to provide a framework to address a range of potential events that could result in serious water shortages, including drought, earthquakes or water supply failures. In response, the City Council asked that a Task Force be created to make recommendations to the revision of the Water Shortage Event Contingency Plan to establish what water shortage actions should be undertaken by the City and its water customers that would be most acceptable and appropriate for Ventura. In addition, the Task Force members were asked to provide a customer perspective of the perceived effectiveness of different incentives to reduce water usage, as well as potential rate options to reduce water use. On March 9, 2015, the City Council approved the Water Shortage Event Contingency Plan prepared by the members of the Water Shortage Task Force which incorporates the agreed policy considerations by the members of the Task Force.

The Water Shortage Contingency Plan (WSCP) includes stages of action to respond to water shortage events. The City developed a six-stage contingency plan to reduce demand up to 60% during a severe or extended water shortage event including both voluntary and mandatory stages. As mentioned in Section 5. Water Conservation Measures/Water Efficiently Plan, in September 2014, the City Council declared that Ventura was in a Stage 3 Water Shortage Emergency calling for 20% mandatory conservation cutback. The Stage 3 trigger indicates that annual supply projection is between 20% and 29% below normal year supply projection. The annual supply projection is from Table 4-2 of the most recent CWRR

and the normal year supply is identified from Table 4-1 of the most recent CWRR. However, it is noted that the baseline supply value will not change through the duration of the event. Therefore, the City is still in the current drought and Table 4-1 of the 2013 CWRR is utilized for the baseline supply value. The annual supply projection from Table 4-2 of this report for 2017 supply drought impact is 14,988 AFY. The normal year supply projection from Table 4-1 of the 2013 CWRR is 19,600 AFY. Therefore, the annual supply projection is 23.5% below normal year supply and the City remains in a Stage 3 Water Shortage Emergency.

8. Establish Water Rights Dedication and Water Resource Net Zero (In Lieu) Fee Ordinance and Resolution

As stated in the 2013 CWRR, Ventura Water took the concept of a water rights ordinance to Council in September 2012. Council directed staff to prepare a draft water rights ordinance and return to Council. Public Workshops on the concept of a water rights ordinance were held in July and October of 2013 and several presentations were made at public meetings. In March 2014 staff gave a presentation to Council at a special workshop on the proposed Water Dedication and In-Lieu Fee Ordinance and Resolution. The Ordinance to Establish Water Dedication and In-Lieu Fee Requirements for New or Intensified Development and its associated resolution establishes a mechanism whereby developers can dedicate adequate water supplies to support a proposed new or intensified development or pay an in-lieu fee so that the City can develop the necessary water supplies. In addition, if a developer is able to demonstrate extraordinary efficiency they can receive credit for the water savings, and thereby reduce the in-lieu fee they would be required to pay. Ventura Water returned to Council in June 2014 and recommended that Council approve the proposed Water Dedication and In-Lieu Fee Ordinance and Resolution. Rather than approve the ordinance at that time the Council discussed the formation of a Water Commission to investigate the topic. The Water Commission worked diligently on the draft Water Rights Dedication and Water Resource Net Zero Fee Ordinance and Resolution ("Ordinance") from September 2015 to March 2016. The Water Commission approved a final draft at the March 22, 2016 meeting for recommendation to Council in April 2016.

Public meetings on the draft Ordinance were held April 2016 through June 2016 with the Chamber of Commerce Group, City Planning Commission, Midtown Community Council, Building Industry Association (BIA) and developers, Eastside Community Council, and Westside Community Council. On June 6, 2016, City Council voted 6-1 to adopt the Ordinance and Resolution. On August 11, 2016, the Ordinance became effective and requires all new and intensified development to offset the demand associated with its impact on the water system. The Ordinance does not apply to projects for which entitlements have been approved or building permits issued prior to the effective date of the Ordinance.

9. *Water Commission*

The City Council approved in January 2015 an ordinance establishing a Water Commission to serve in an advisory capacity to the Council on various policy topics related to water resources. The Council further amended the ordinance in May 2015 and a seven member Water Commission with two alternate members was formed as part of Ventura Water's ongoing public outreach and education effort, and to help with long term planning.

The Water Commission reviews and makes advisory recommendations regarding water rates; water resource infrastructure projects in the five-year capital improvement program; the integrated water resource management plan; water supply options; the Urban Water Management Plan approval process; a water dedication and net zero fee requirement; and other water resources issues.

The Water Commission has reviewed and discussed the following topics noted below since their initial meeting in June 2015 through March 2016.

- Overview of the City's Water Resources and Production for Past Ten Years
- Overview of the Santa Clara River Estuary Studies
- History and Development of Water Rights Dedication and Water Resource Net Zero Fee Ordinance and Resolution
- Status of Water Wise Incentive Program
- Public Outreach Program
- Sustainable Groundwater Management Act (SGMA)
- Overview of Local Groundwater Basins
- Model Water Efficient Landscape Ordinance
- Overview of Capital Improvement Program
- Water Shortage Rate Implementation Progress Report
- Proposed 2016-2022 Capital Improvement Program
- Planning Process
- Final Proposed 2016-2022 Capital Improvement Program
- Upper Ventura River GSA Boundaries
- Recycled Water Program
- Implementation of Water Wise Incentive Program
- 2016 Draft CWRR
- Water Resource Net Zero Policy Ordinance – Final Draft
- Draft 2015 Urban Water Management Plan
- Final Draft 2015 Urban Water Management Plan
- Drought Update, Conservation Goals, and Rates for FY 16-17

- Summer 2016 Public Outreach Programs
- Recycled Water Mobile Reuse Update
- Ocean Desalination Options
- Ventura Water Reclamation Facility Process Evaluation and CIP Deliverable Study by Dudek
- 2016-2022 Capital Improvement Program – Status of Projects
- Waterwise 2.0 Status
- Santa Clara River Estuary Phase 2 Studies Update
- Water Rights Dedication and Water Resource Net Zero Policy Update
- 2016-2022 Capital Improvement Program Update
- Status on the Santa Paula Basin Hydrogeological Characterization and Safe Yield Study
- State Water Interconnect Project
- Pending Development Projects Update

5. CONCLUSIONS & RECOMMENDATIONS

A. CONCLUSIONS

The City's total water demand for the most recent calendar year (2016) of data was 14,262 AFY. Over the past five years (2012-2016), the City experienced an average annual water demand of 16,236 AFY, and over the past ten years (2007-2016), the annual average water demand was 17,111 AFY. Although there have been extenuating circumstances that have occurred over the previous five year period, including an extended economic downturn, significant restrictions to the imported water supply to southern California, legal challenges to the Ventura River water supply and multiple years of drought conditions, it was recommended by RBF Consulting who was commissioned to compete the original 2013 CWRR to include a larger data set to predict a "typical" average annual water demand. However, at that time the City had identified a large industrial user that had significantly, and permanently, reduced their dependence on potable water in recent years. Therefore, the City had been comfortable using the most recent 5-year average as the baseline demand condition in the previous CWRRs. However, it was recommended in the 2016 CWRR that the City reconsider using the 5-year average and use the 10-year average in the 2017 CWRR. Utilizing the previous 10-year City annual average, the baseline water demand for the 2017 CWRR is 17,111 AF, an increase of 418 AF over the 2016 CWRR baseline water demand. In the previous CWRRs the baseline water demand had been decreasing each year and was a result of approved water rate increases as well as the Council approving, in June 2015, a four-tiered (drought) water rate structure and the February 2014 City call for 10% voluntary conservation, followed by the September 2014 City declaration of a Stage 3 Water Emergency requiring customers to reduce their use by 20% due to the prolonged drought.

The City has a total of 56 projects that are under construction or approved for development that are not utilizing water and are not included in the current baseline water demands. These projects include an additional 834,858 SF of non-residential development and 3,100 residential dwelling units. By developing water usage factors based on recent consumption data, the City can more accurately predict the additional future water demand for the approved development projects. Using the City-specific water usage factors, the under construction and approved development projects will generate an additional annual average water demand of 1,408 AFY. Therefore, the estimated water demand that the City is committed to supply totals 18,519 AFY. Assuming an average absorption rate of 350 dwelling units per (and the equivalent growth in non-

residential development), it is anticipated that the currently under construction and approved projects will be completed by year 2025.

The 2017 CWRR projects out the demands to the Year 2030 which is beyond the year that the approved projects would be fully vested. In order to project out the estimated demand to the Year 2030 a growth rate of 0.55% (Department of Finance historical data for population) was used to estimate the increase in demand from the time all approved projects were fully vested (Year 2024) to the Year 2030.

The City's projected available water supply is constantly changing, depending upon environmental and legal constraints. The City's current (normal year) water supply is 21,292 AFY, however with drought conditions persisting in 2017, the available water supply may drop to 14,988 AFY in 2017 and could drop to 14,965 AFY in 2018.

The near-term water supply picture to meet the needs of the development projects that are under construction and approved will remain relatively the same as the existing condition, however the City can expect to increase the water supply from Casitas by 694 AFY (by 2025) to meet the additional water demand in the Casitas boundary.

Table 5-1 provides a comparison of the existing water demand and supply, and the near-term water demand and supply. It should be noted that the low end of the water supply range is less than the anticipated demand beginning in year 2016 (Drought).

The water supply range and demand projections are also depicted graphically in Figure 5-1.

**Table 5-1
Demand vs. Supply Comparison**

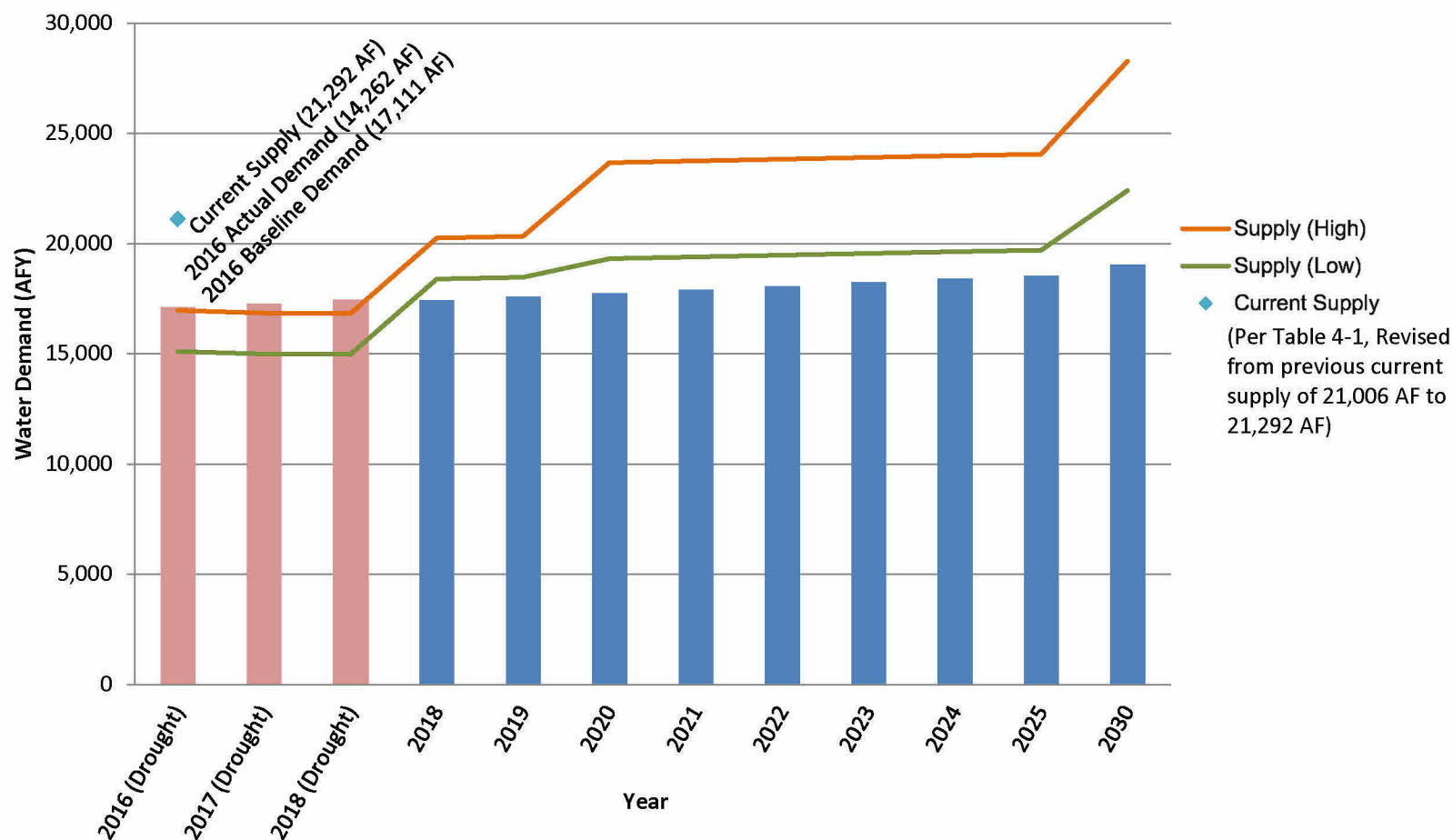
Year	Demand ^[1] AFY	Supply Range ^[2]			
		Low		High	
		AFY	% Diff.	AFY	% Diff.
2016 (Drought)	17,111	15,100	-11.8%	16,959	-0.9%
2017 (Drought)	17,270	14,988	-13.2%	16,847	-2.4%
2018 (Drought)	17,429	14,965	-14.1%	16,824	-3.5%
2018	17,429	18,385	5.2%	20,244	13.9%
2019	17,588	18,463	4.7%	20,322	13.5%
2020	17,747	19,313	8.1%	23,672	25.0%
2021	17,906	19,392	7.7%	23,751	24.6%
2022	18,065	19,470	7.2%	23,829	24.2%
2023	18,224	19,548	6.8%	23,907	23.8%
2024	18,383	19,627	6.3%	23,986	23.4%
2025	18,519	19,694	6.0%	24,053	23.0%
2030 ^[3]	19,034	22,400	15.0%	28,276	32.7%

[1] Per Table 3-8.

[2] Per Table 4-2, 2016 (Drought) supply range from 2016 CWRR.

[3] Projected demand using 0.55% growth rate to 2030. The 0.55% growth rate per the Department of Finance historical data was used to estimate the increase in demand.

Figure 5-1
Demand vs. Supply Comparison



B. RECOMMENDATIONS

The results of this Report indicate that the spread between the current water demand and the current water supply is very tight, and if the drought persists the supply could be less than the demand. This presents significant challenges for the City moving forward in the ability to allocate water supply to development projects that will generate additional water demands. The recommendations for the City moving forward include:

1. Track the total water consumption on an annual basis.
2. Re-calculate the 3-year, 5-year and 10-year water consumption averages on an annual basis.
3. Update the water supply portfolio on an annual basis.
4. Update the existing land use data on an annual basis. This can be done through a system that tracks the development projects as they transition from “Under Construction” to “Existing,” and “Approved” to “Under Construction.”
5. All future development projects should be evaluated based on current supply and demand conditions.
6. Consider adding a new project type in the land use tracking spreadsheet for approved projects under CIP or other City approval processes.
7. Use the City-specific water usage factors to calculate the water demand of all development projects as the projects proceed through the City process prior to approval.
8. Continue to develop water supply through demand side management, securing water rights, administer the Water Rights Dedication and Water Resource Net Zero Ordinance approved in July 2016 and continue to integrate the new water supply sources into the City’s water supply portfolio.