ALBERT A. WEBB ASSOCIATES

WATER SUPPLY ASSESSMENT

COLONY COMMERCE CENTER EAST SPECIFIC PLAN

Prepared for

CITY OF ONTARIO
SOUTHERN CALIFORNIA

May 1, 2017

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W.O. No. 2017-0017

May 1, 2017

Mr. Sheldon Yu, P.E.
Sr. Associate Civil Engineer
Ontario Municipal Utilities Company
1425 S. Bon View Avenue
Ontario, CA 91761

Re: Water Supply Assessment for
Colony Commerce Center East Specific Plan

Dear Mr. Yu,

Pursuant to your Notice to Proceed on January 24, 2017 and our proposal dated October 19, 2016 transmitted herewith is the Water Supply Assessment of the subject project pursuant to SB 610. Please note that the Appendices are provided electronically on the enclosed CD.

Sincerely,

ALBERT A. WEBB ASSOCIATES

Sam I. Gershon, RCE
Senior Vice President

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C. Inland Empire Utilities Agency and Water Facilities Authority. *2015 Urban Water Management Plan.* June 2016.

D. Chino Basin Desalter Authority. *2015 Urban Water Management Plan.* Prepared by Water Resources Planning. June 2016.

E. San Antonio Water Company. *2015 Urban Water Management Plan.* Prepared by Civiltec Engineering, Inc. June 2016.

F. City of Ontario Ordinance No. 2689 (Chapter 8C: Recycled Water Use of City Municipal Code).

G. December 2014 Purchase Order Agreement between MWD and IEUA, and IEUA Resolution No. 2014-12-1.

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J. April 2003 Local Agency Agreement between IEUA and City of Ontario in relation to the Dry year Yield Program.

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L. City of Ontario. *Water Master Plan*. Prepared by AKM Consulting Engineers, April 2012.

M. Chino Basin 1995 amendments to Judgment and 1978 Judgment.

N. August 1999 California Department of Health Services letter to WFA.

O. City of Ontario. *Recycled Water Master Plan Update.* April 2012.

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SECTION 1 - INTRODUCTION

1.1 Purpose

In October of 2001, Senate Bill 610 (SB 610) was signed into California state law with an effective date of January 1, 2002. SB 610 amended existing legal requirements for confirmation of water supply sufficiency as a condition of approval for development projects. The confirmation of water supply sufficiency is achieved through an analysis of the water purveyor's existing and future water sources and existing and projected water demand in relation to a "project" as defined by SB 610, resulting in the production of a project-specific Water Supply Assessment ("WSA" or "Assessment"). The WSA also requires additional analysis if any portion of the water purveyor's water supplies include groundwater.

Section 1 of this Assessment describes the existing and proposed land use designations of the project site, the proposed project's relation to the water supplier's Urban Water Management Plan, a review of statewide conservation requirements, and Assessment methodology. Section 2 provides the water demand analysis of both the project site and the City, Section 3 reviews the projected water supplies for the project and the City; Section 4 contains the required discussion of the City's groundwater supplies; and Section 5 concludes the Assessment by answering the primary question at hand.

The SB 610 Assessment is triggered for projects that are subject to the California Environmental Quality Act (CEQA) and that meet the definition of "project" as defined in Water Code Section 10912.

Law

> Water Code Section 10910: *(a) Any city or county that determines that a project, as defined in Section 10912, is subject to the California Environmental Quality Act*

(Division 13 (commencing with Section 21000) of the Public Resources Code) under Section 21080 of the Public Resources Code shall comply with this part.

Water Code Section 10912: *For the purpose of this part, the following terms have the following meanings:*

(a) "Project" means any of the following:

(1) A proposed residential development of more than 500 dwelling units.

(2) A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.

(3) A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.

(4) A proposed hotel or motel, or both, having more than 500 rooms.

(5) A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.

(6) A mixed-use project that includes one or more of the projects specified in this subdivision.

(7) A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

1.2 Proposed Project

The "Colony Commerce Center East Specific Plan" ("Project") proposes to develop 94.49 acres (gross) into industrial, business and office building uses, which would result in a maximum cumulative building area of 2,362,215 square feet. Therefore, the proposed floor area square footage of this project triggers the need for preparation of a WSA pursuant to SB 610.

The project will be supplied by a public water system operated by the City of Ontario. As CEQA Lead Agency and water supplier for the Project, the City of Ontario commissioned this Assessment from Albert A. WEBB Associates on January 24, 2016

to answer the following key question per SB 610: whether the projected supply for the next 20 years, based on normal, single dry, and multiple dry years, will meet the demand projected for the project plus existing and planned future uses, including agricultural and manufacturing uses.

Project Location

The Colony Commerce Center East Specific Plan is located in the City of Ontario within San Bernardino County. Specifically, the Project site is located on the southern boundary of the City within "Ontario Ranch" (formerly, New Model Colony), adjacent to the City of Eastvale and the Riverside/San Bernardino County line. The Project site consists of six parcels bounded by Merrill Avenue on the north, Archibald Avenue to the east, County Line Channel to the south, and Cucamonga Creek to the west. Both of these drainage features are San Bernardino County Flood Control facilities. Please refer to **Figure 1-1**, "Regional Location," **Figure 1-2**, "Project Vicinity," and **Figure 1-3**, "Ontario Ranch."

Existing Site Description

The Project site consists of 94.49 acres (gross) that are currently occupied by agricultural uses, including a dairy farm and field crop farming. Surrounding properties to the north, west and south also support dairy farms, row crops, and to the east a residential neighborhood (**Figure 1-2**). The City's General Plan, called the "The Ontario Plan" ("TOP") has designated the surrounding areas in Ontario Ranch for business park, industrial, and residential uses. Several approved Specific Plans with a mix of residential/commercial/open space uses surround the site as well, including several industrial projects in-progress and with pending applications.

The site topography is relatively flat and slopes gently to the south, at a gradient of one to two percent. Site elevation is estimated at 650 feet above mean sea level, on average. There is an approximately 30-foot change in elevation across the Project area. Please refer to **Figure 1-4**, "Site Topography."

Project Land Use Designations

The Colony Commerce Center East Specific Plan is the regulatory document for the "Colony Commerce Center East," consisting of a maximum 2,362,215 square feet allowing for the development of business park and light industrial uses on approximately 94.49 acres (gross) of land. The Project consists of three Planning Areas that could accommodate a variety of commercial, office, light manufacturing, and warehouse/distribution uses.

The existing land use designations from The Ontario Plan are shown on **Figure 1-5** and the proposed Project land use plan is shown on **Figure 1-6.** The land use details for each Planning Area are summarized in **Table 1-1**.

Table 1-1: Colony Commerce Center East Specific Plan Land Use Summary[1]

Planning Area	Maximum Floor Area Ratio (FAR)	TOP Land Use Designation	Existing Site Acreage	Proposed Acreage	Maximum Potential Intensity (gross floor area, SF)
PA-1: Business Park	0.60	Business Park	45.19	45.19	1,181,085
PA-2: Industrial	0.55	Industrial	49.3	39.65	949,935
PA-3 Industrial	0.55	Industrial		9.65	231,195
		Total	**94.49**	**94.49**	**2,362,215**

Definitions: FAR = floor area ratio, which is the amount of building square feet in relation to the size of the lot. SF = square feet. TOP = The Ontario Plan (General Plan).

The maximum FAR permitted in each Planning Area conforms to the maximum FAR permitted in The Ontario Plan. This Assessment will assume the maximum potential square footage allowed by The Ontario Plan for calculating the Project's future water use.

[1] From City of Ontario, *Colony Commerce Center East Specific Plan,* May 2016 Screencheck #1.

The Project is anticipated to be developed in two phases; the first being a combination of PA-1 (business park) and PA-2 (industrial), the second phase would be development of PA-3 (industrial). There is currently no conceptual site plan available.

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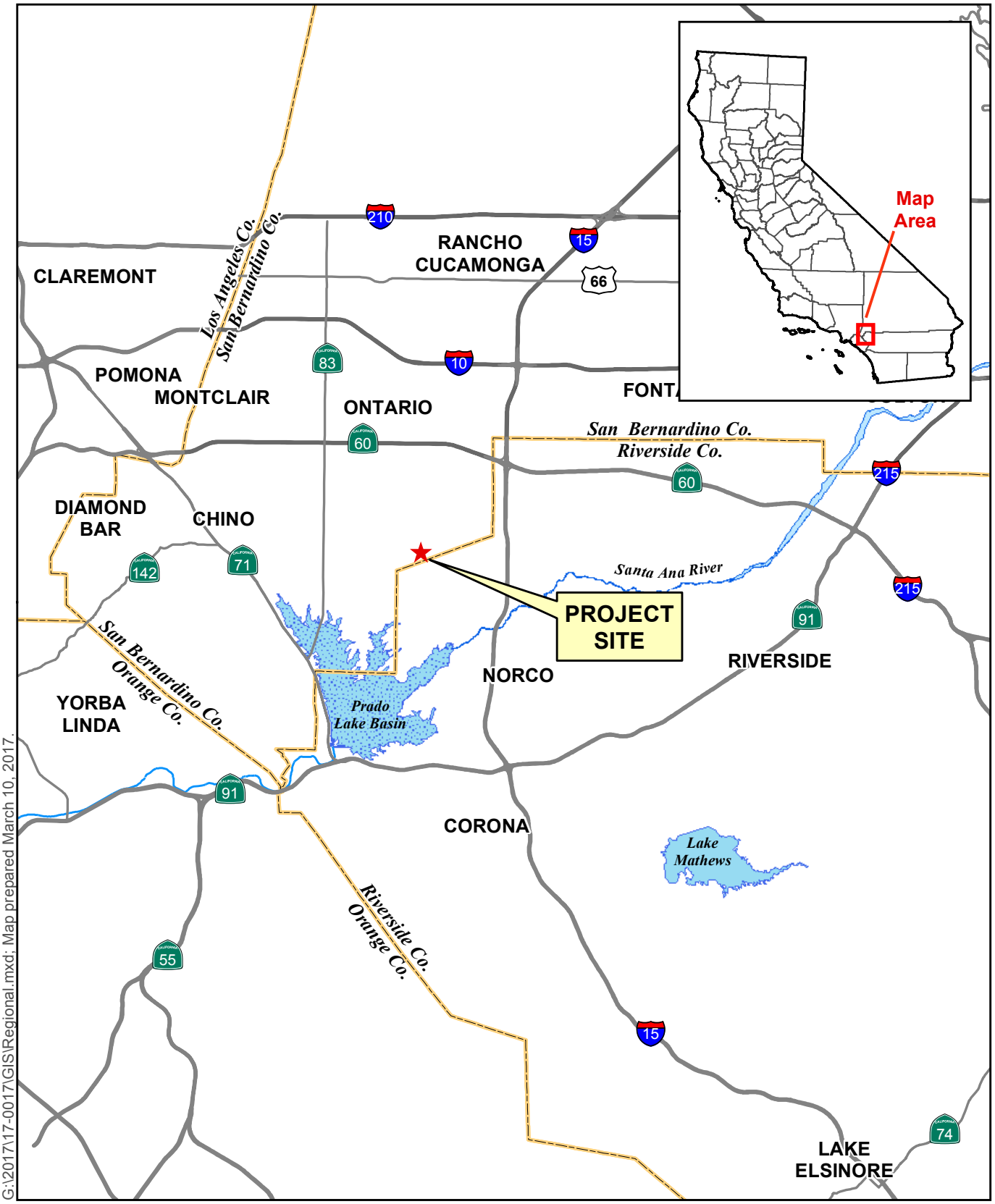
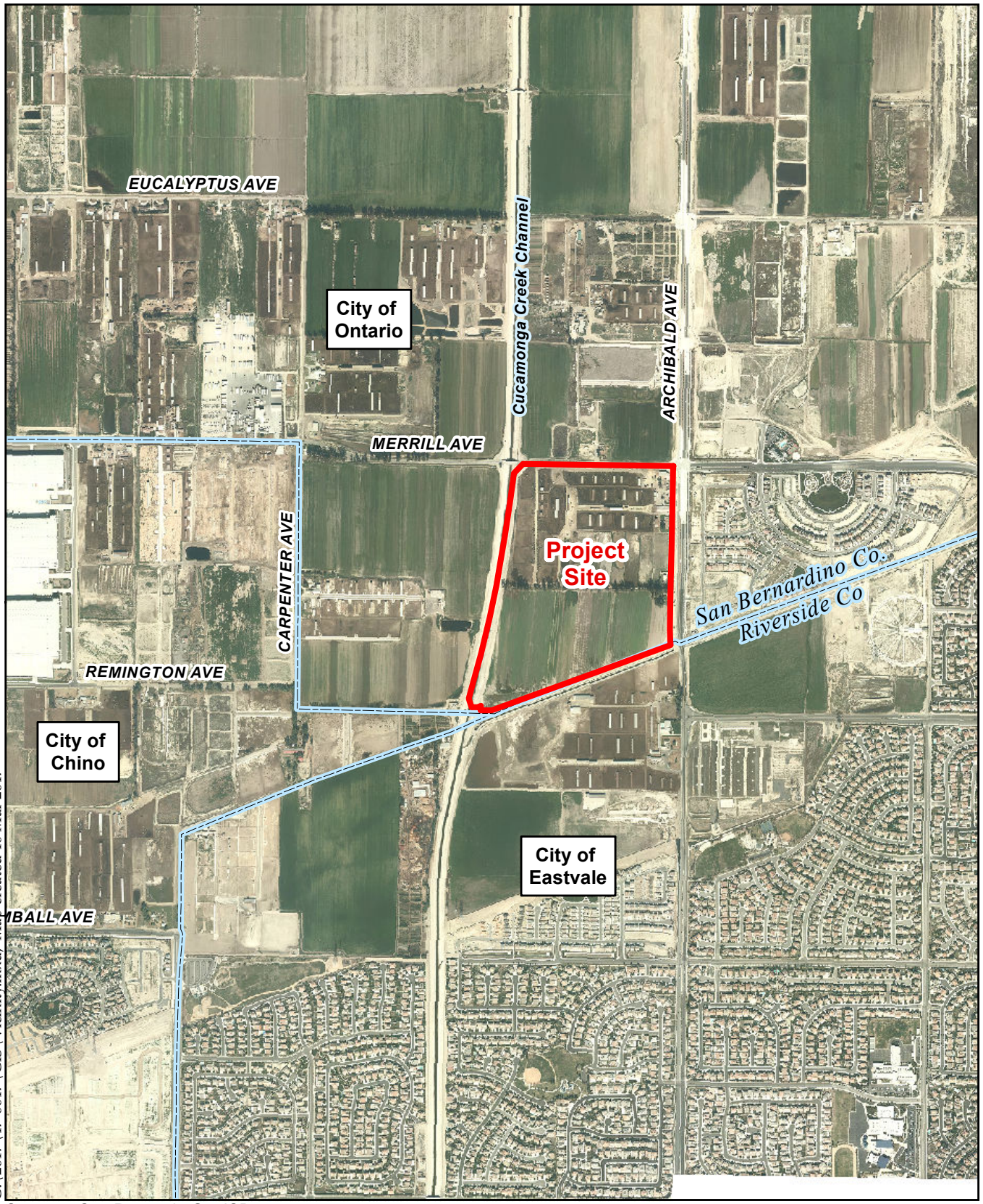


G:\2017\17-0017\GIS\Regional.mxd; Map prepared March 10, 2017.

Figure 1-1 – Regional Location

Colony Commerce Center East WSA

ALBERT A. WEBB ASSOCIATES



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Sources: San Bernardo Co. ISD, 2016.

Figure 1-2 - Project Vicinity

Colony Commerce Center East WSA

0 1,500 3,000 Feet

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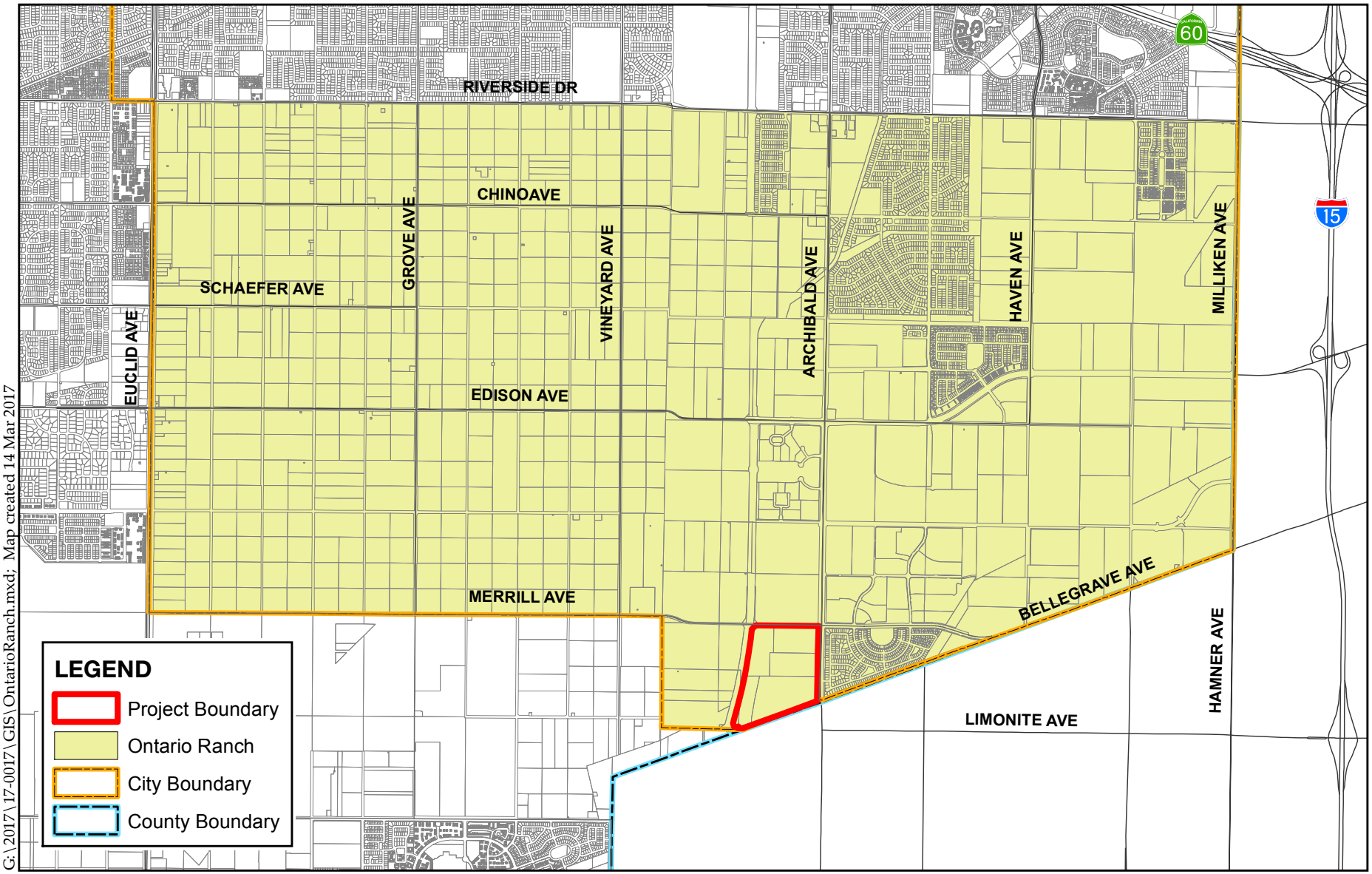

Figure 1-3 - Ontario Ranch

Colony Commerce Center East WSA

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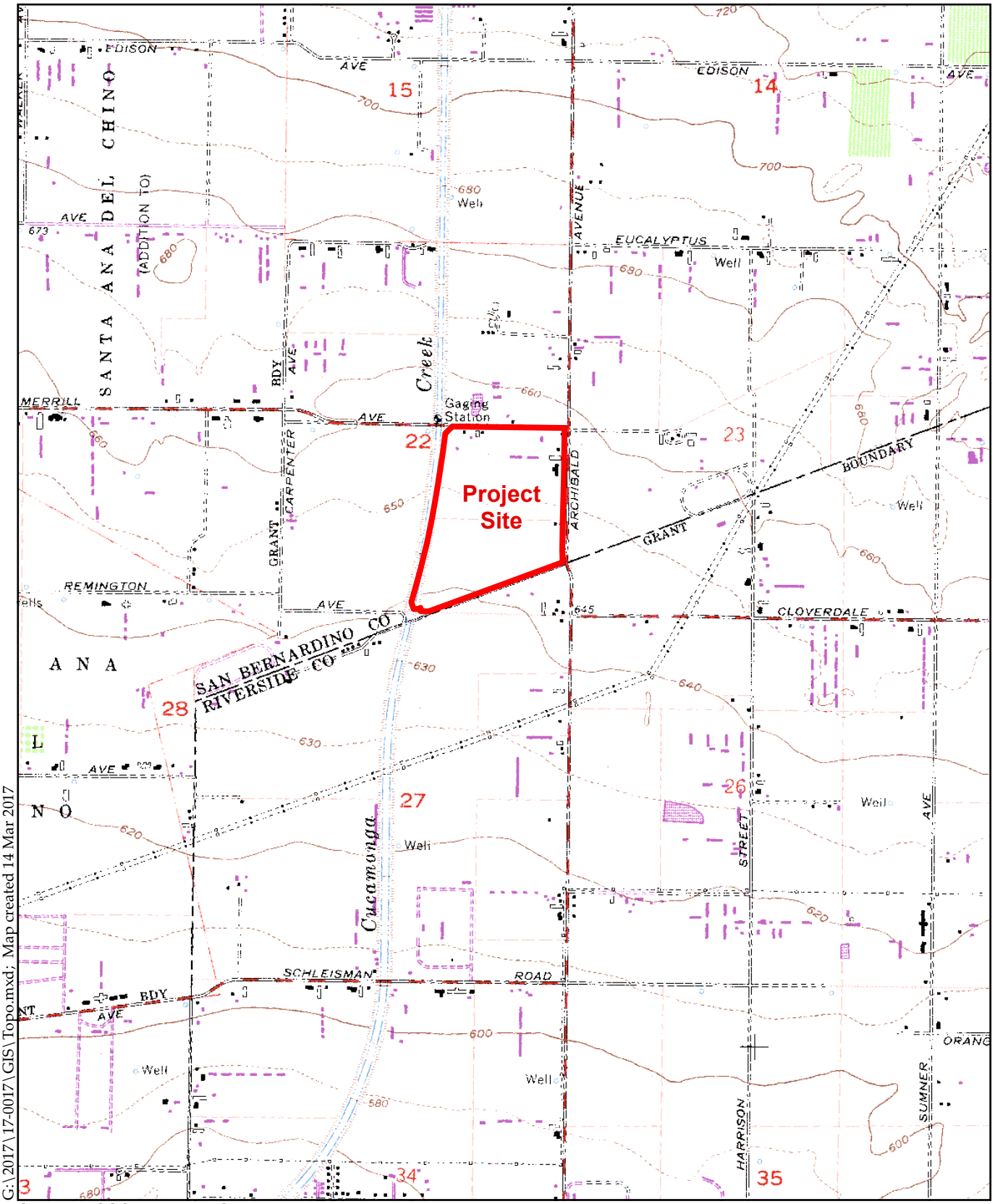

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Source: USGS 7.5min DRG

Figure 1-4 - Site Topography

Colony Commerce Center East WSA

0 2,000 4,000 Feet

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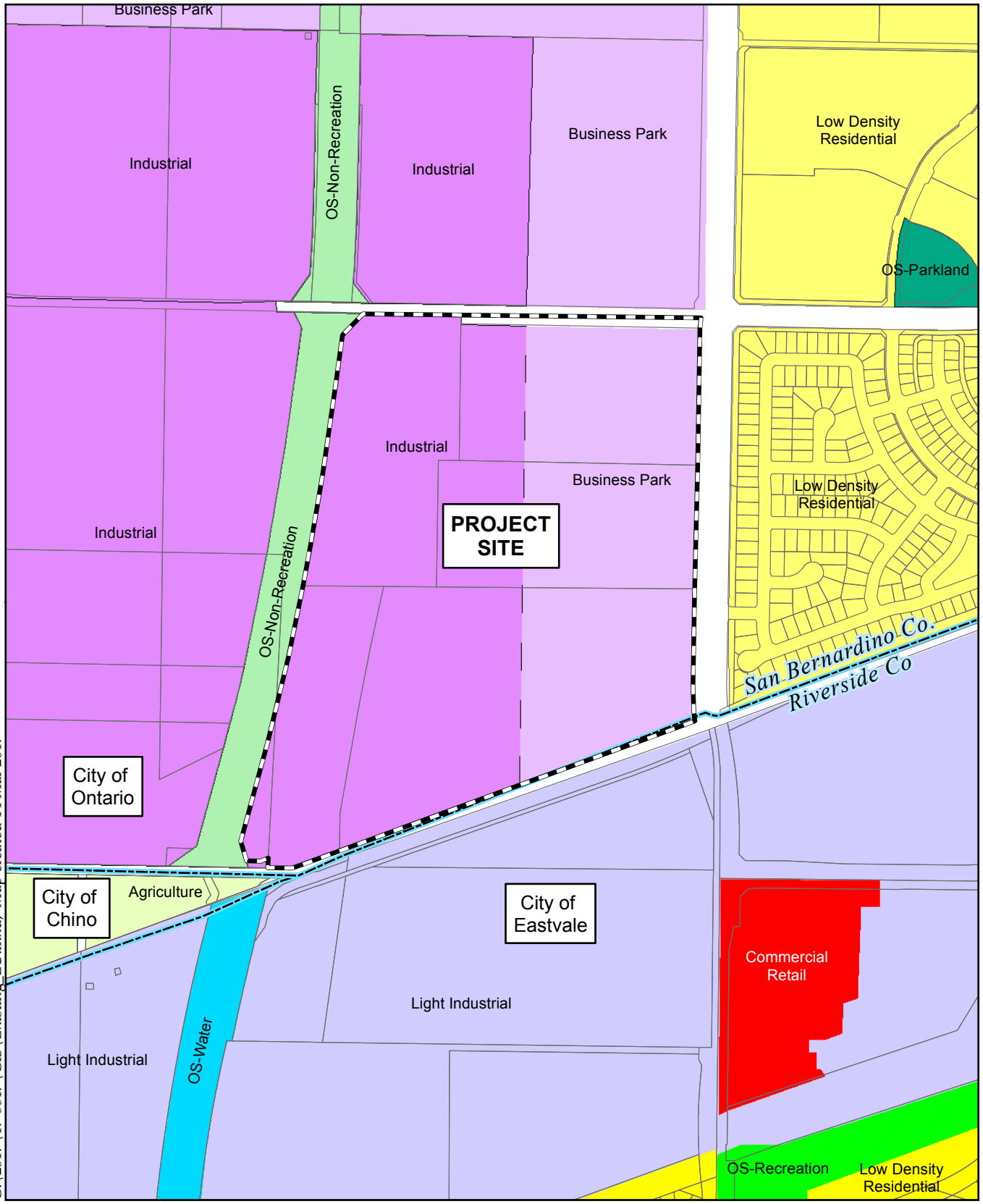

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Sources: City of Ontario General Plan (2010);
City of Eastvale General Plan (2015);
City of Chino General Plan, 2010.

0 300 600 900 1,200 Feet

Figure 1-5 - Existing Land Use Designations

Colony Commerce Center East WSA

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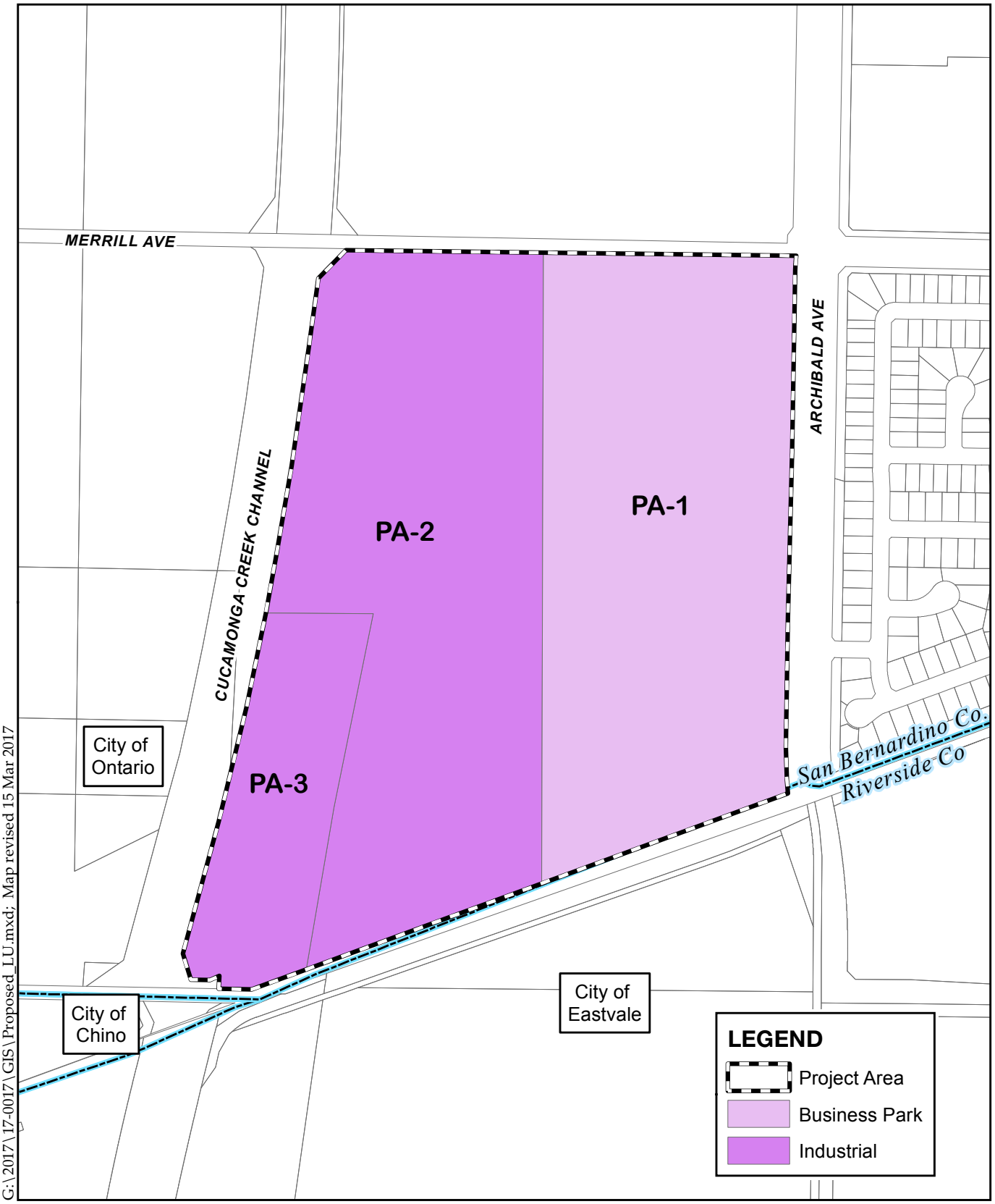

Source: Colony Commerce Center East Specific Plan, May 2016

Figure 1-6 - Proposed Land Use Designations

Colony Commerce Center East WSA

ALBERT A. WEBB ASSOCIATES

1.3 Project Relation to Urban Water Management Plan

Law

Water Code Section 10910. *(c) (1) The city or county, at the time it makes the determination required under Section 21080.1 of the Public Resources Code* [CEQA]*, shall request each public water system identified pursuant to subdivision (b) to determine whether the projected water demand associated with a proposed project was included as part of the most recently adopted urban water management plan adopted pursuant to Part 2.6 (commencing with Section 10610).*

(2) If the projected water demand associated with the proposed project was accounted for in the most recently adopted urban water management plan, the public water system may incorporate the requested information from the urban water management plan in preparing the elements of the assessment required to comply with subdivisions (d), (e), (f), and (g).

(3) If the projected water demand associated with the proposed project was not accounted for in the most recently adopted urban water management plan, or the public water system has no urban water management plan, the water supply assessment for the project shall include a discussion with regard to whether the public water system's total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses.

(4) If the city or county is required to comply with this part pursuant to subdivision (b), the water supply assessment for the project shall include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand

associated with the proposed project, in addition to existing and planned future uses, including agricultural and manufacturing uses.

The City of Ontario is the water supplier for the Project and has prepared a 2015 Urban Water Management Plan (UWMP, Appendix A), that was adopted by City Council on July 21, 2016 (currently pending approval from California Department of Water Resources). Ontario's 2015 UWMP references several other planning documents prepared in 2012, including: the City's Water Master Plan (Appendix L), Recycled Water Master Plan (Appendix O), and a Sewer Master Plan.[2] In addition, the Ontario 2015 UWMP assumptions on ultimate water demand are based on recently revised land use-based demand factors, which build on the foundations laid out by the "The Ontario Plan" (Technical Memorandum dated May 2016 by AKM Consulting Engineers, provided in Appendix A).

Ontario is a member of the Inland Empire Utilities Agency (IEUA), which is the local distributor of recycled water and local wholesale supplier of untreated imported water (State Water Project) from The Metropolitan Water District of Southern California (MWD). The City is also a member of the Water Facilities Authority (WFA), a Joint Powers Authority from which Ontario purchases treated imported water received from IEUA. In addition, the City is a member of the Chino Basin Desalter Authority (CDA), a Joint Exercise of Powers Agency from which the City purchases treated groundwater. The City also owns shares of the San Antonio Water Company (SAWCo), a mutual water company that provides potable water to the City through the WFA. Lastly, the City owns and operates groundwater wells within the City boundary.

MWD has prepared a 2015 UWMP (**Appendix B**) that includes IEUA and its member agencies; IEUA and WFA have prepared a 2015 Regional UWMP (**Appendix C**); CDA has prepared a 2015 UWMP (**Appendix D**); and SAWCo prepared a modified 2015 UWMP (**Appendix E**).

[2] City of Ontario, *Old Model Colony and New Model Colony Sewer Master Plan Update,* April 2012. Available from City of Ontario Engineering Department. http://www.ontarioca.gov/engineering.

According to the City's 2015 UWMP (Appendix A, p. 4-2):

> *The projected potable and recycled water demands were determined based upon the existing demands, the land use planning adopted by the City (The Ontario Plan), and the unit demand factors developed for future development. Appendix B (Technical Memorandum – Ultimate Citywide Water Demand Estimate) includes detailed descriptions, for both New Model Colony and Ontario Ranch, on how each land use category unit demand factors and projections were developed (including water losses).*

Table 2 from the above-referenced Technical Memorandum (Appendix A) provides the Future Domestic Water Unit Demand Factors (based on "buildout" of the City in 2040), as reproduced below in **Table 1-2**, which will be referenced for the Assessment herein.

Table 1-2: Future Domestic Water Unit Demand Factors[3]

	Potable Water Demand Factor (gpd/job)	Potable Water Demand Factor (gpd/acre)	Recycled Water Demand Factor (gpd/acre)	Total Water Unit Demand Factors (gpd/acre)
Business Park (w/o RW)	103	3,140	-	3,140
Business Park (w/ RW)	59	1,800	1,340	3,140
Industrial (w/o RW)	110	2,290	-	2,290
Industrial (w/ RW)	67	1,400	890	2,290

Definitions: w/o RW = without recycled water; w/ RW = with recycled water; gpd = gallons per day. These demand factors represent average day demand. Maximum day demand (in New Model Colony/Ontario Ranch) = 1.5 x average day demand.

Since the areas on the Project site slated for recycled water use is not yet known, this Assessment will assume the "Total Water Unit Demand Factors" to estimate future demand for water.

[3] From Technical Memorandum, City of Ontario-Ultimate Citywide Water Demand Estimate, by AKM Consulting Engineers, May 2016 (Appendix B of Ontario's 2015 UWMP, located in Appendix A).

City of Ontario Ordinance No. 2689 (**Appendix F**) requires all new development in Ontario Ranch (which includes the Project site) to connect to, and use recycled water for all approved uses, including but not limited to landscape irrigation (codified in City Municipal Code Section 6-8.7 to 6-8.279). The Project will utilize the existing recycled water lines and connect where required to serve the project site for approved uses, including irrigation of offsite and onsite landscaping and common areas.

1.4 Statewide Mandatory Water Conservation Requirements

The Governor proclaimed a statewide State of Emergency due to ongoing drought conditions on January 17, 2014. Since then, the Governor has issued at least six Executive Orders and other Proclamations in response to impacts from extended statewide drought conditions. Executive Order B-37-16 issued on May 9, 2016, established a new water use efficiency framework for California. The order established longer-term water conservation measures that include permanent monthly water use reporting, new urban water use targets, reducing system leaks and eliminating wasteful practices, strengthening urban drought contingency plans and improving agricultural water management and drought plans.

The City of Ontario adopted Ordinance No. 3027 on September 1, 2015 in response to the Emergency Conservation Regulations mandated by the State Water Resources Control Board. The Ordinance updated the City's Water Conservation Plan that is codified in Chapter 8A, Title 6 of the City's Municipal Code. Updates included more stringent prohibitions and penalties, a voluntary conservation stage that is always in effect, and mandatory water shortage stages 1 through 4 that target a strict enforcement of water conservation routines following a water crisis (Appendix A, p. 8-1). In addition, the City's Water Shortage Contingency Plan describes the methods to achieve and the implications of reducing water supplies up to 50% (Appendix A, Chapter 8). Lastly, the City implements various programs to reduce water consumption, identified as Demand Management Measures in the UWMP, which include the Best Management Practices recommended by the California Urban Water

Conservation Council, of which the City is a member. Currently, Ontario is in "Stage 2" water restrictions, which sets a goal to reduce water use anywhere between 11 to 20%. Since June 1, 2015 the City has achieved a 20% water savings.

On April 7, 2017 the Governor issued Executive Order B-40-17 that ended the drought state of emergency in all California counties except Fresno, Kings, Tulare, and Tuolumne. The Executive Order maintains the mandatory water reporting requirements and prohibitions on wasteful practices contained in Executive Order B-37-16, as described previously.[4] In a related action, state agencies released a plan to implement Executive Order B-37-16 titled, "Making Water Conservation a California Way of Life."[5]

1.5 Methodologies of Analysis

This Assessment follows the report outline suggested by the California Department of Water Resources' *Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001*. The projected potable water demands published in the water suppliers' 2015 Urban Water Management Plan were determined based upon water use data for sample commercial and industrial areas with recycled water throughout the City, the land use planning adopted by the City (The Ontario Plan), and the unit demand factors developed for future development (Appendix A).

[4] State of California, Executive Order B-40-17 can be found at https://www.gov.ca.gov/docs/4.7.17_Exec_Order_B-40-17.pdf.
[5] April 2017 Final Report, available at http://www.water.ca.gov/wateruseefficiency/conservation/docs/20170407_EO_B-37-16_Final_Report.pdf.

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SECTION 2 - WATER DEMAND ANALYSIS

The purpose of this section is to evaluate whether the proposed Project was considered in the water supplier's planning for water demand. This section will: 1) identify the various water use sectors, 2) identify water demand by those sectors for the next twenty years, and 3) compare the Colony Commerce Center East Specific Plan's water demand to the water demand for the Project site that was included in the Ontario 2015 Urban Water Management Plan (UWMP, located in Appendix A).

Law

Water Code Section 10910: *(c) (2) (2) If the projected water demand associated with the proposed project was accounted for in the most recently adopted urban water management plan, the public water system may incorporate the requested information from the urban water management plan in preparing the elements of the assessment required to comply with subdivisions (d), (e), (f), and (g).*

(3) If the projected water demand associated with the proposed project was not accounted for in the most recently adopted urban water management plan, or the public water system has no urban water management plan, the water supply assessment for the project shall include a discussion with regard to whether the public water system's total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses.

2.1 Citywide Demographic Factors

A variety of demographic factors may affect water use. The Urban Water Management Planning Act lists several demographic factors to be detailed including climate, current

and projected population, density, and the mix of customer types (or sectors).[1] As suggested by the Department of Water Resources' *Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001*, these data are provided herein are taken generally from the City's latest UWMP.

The climate of Ontario can be described as generally mild temperatures, virtually no days below freezing, and approximately 312 days of sunshine per year. The average annual high temperature is approximately 78°F, and the average annual low temperature is 53.2°F. The average annual rainfall is roughly 11.3 inches, which occurs between October and April (Appendix A, p. 3-8).

The population of Ontario as of 2015 is estimated at 168,777 persons. Based on The Ontario Plan and anticipated development patterns, population at buildout (2040) is estimated at 368,239 persons – an increase of more than 118% in the next 20 years. Most of the anticipated growth will occur through infill, densification in the Old Model Colony, and development in Ontario Ranch (**Figure 1-3**).

Table 2-1: City of Ontario Population Estimates, 2010-2040[2]

	2010	2015	2020	2025	2030	2035	2040**
Population Served*	163,924	168,777	180,591	202,262	236,647	288,709	368,239

*Includes 5,328 people located within the City of Ontario but receive water service from Cucamonga Valley Water District.
**2040 is considered buildout.

The number of housing units as of 2015 is estimated at 47,871 units with a 5.3% vacancy rate. The population per household is currently estimated at 3.7 persons. The City aims to have a full range of housing types and community services that meet the special housing needs for all its residents, regardless of income level, age, or other status (Appendix A, p. 3-8).

[1] California Water Code Sections 10631 (e)(1) and (2).
[2] From Appendix A, p. 3-8.

2.2 City of Ontario's Current and Future Water Demand

The City of Ontario's total potable water demand in 2015 was 28,945 acre-feet per year (AFY) and the recycled water demand was 7,208 AFY, for a total water demand of 36,153 AFY (Appendix A, p. 4-1). The current and future water demands by water-use sector (or "customer class") are reproduced below in **Table 2-2.**

Table 2-2: City of Ontario Current and Future Water Demand (AFY)[3]

Customer Class	2010	2015	2020	2025	2030	2035	2040
	Actual		Projected				
Single-family residential	13,253	10,941	11,488	12,063	13,271	14,864	16,557
Multi-family residential	5,425	4,839	6,050	7,563	9,832	13,273	17,699
Commercial*	6,692	6,584	7,271	7,635	8,398	9,406	10,277
Industrial	2,044	1,471	1,839	2,298	2,988	3,884	5,138
Landscape (potable)	7,170	4,564	4,792	5,032	5,535	6,365	7,422
Other	819	340	-	-	-	-	-
Sales/transfers/ exchanges to other agencies	-	206	-	-	-	-	-
Potable Total	**35,403**	**28,945**	**31,440**	**34,591**	**40,024**	**47,792**	**57,093**
Recycled Water	-	7,208	7,929	9,118	10,942	13,677	16,547
Total Demand	**-**	**36,153**	**39,369**	**43,709**	**50,966**	**61,469**	**73,640**

*Business Park is included in the "Commercial" customer class.
**Water loss assumed at 7% of water into the system.

Currently, the two most common land use types in the City are residential (8,762 acres or 28%) and industrial (4,671 acres or 15%), followed by undeveloped land (3,290 acres or 11%). The planned future uses (or "ultimate" land uses) are described in The Ontario Plan, which plans for an increase of residential to 10,915 acres (34% of total), and the combination of commercial, business parks, and industrial land uses would

[3] Data for 2015 Actual through 2040 are from Appendix A, p.4-2. Data for 2010 Actual from Table 3-3 of the City of Ontario *2010 Urban Water Management Plan*, June 2011.

cover about 8,103 acres (25% of total). A comparison of acreages for existing (2015) and ultimate land uses according to The Ontario Plan is reproduced below in **Table 2-3**.

Table 2-3: City of Ontario Current and Ultimate Land Uses[4]

	Existing Land Uses (acres)	Ultimate Land Uses (acres)	Percent change
Rural residential	566	453	-20%
Single-family residential	7,074	7,466	6%
Multi-family residential	1,122	2,996	167%
Sub-total residential:	**8,762**	**10,915**	**25%**
Commercial	1,821	3,321	82%
Industrial	4,671	8,103	73%
Open Space	734	2,293	212%
Public	341	99	-71%
Schools	457	627	37%
Airport	1,500	1,422	-5%
Landfill	209	137	-34%
Agriculture	2,939	-	-
Infrastructure	954	-	-
Right-of-ways	4,734	4,794	1%
Undeveloped	3,290	-	-
Unknown	735	-	-
Vacant buildings	198	-	-
Sub-total Non-Residential:	**22,583**	**20,796**	**-8%**
TOTAL	**31,345**	**31,711**	**1%**

The Ontario Plan anticipates "buildout" or ultimate future land uses of the City, at some time around 2040. The land use types with the greatest increase in acreage from 2015 to buildout is planned to be in Open Space and Multi-Family Residential. Conversely, the City is planning for a reduction in the areas dedicated to Rural Residential, Public,

[4] From Appendix A, p. 3-6.

Airport, and Landfill. Areas currently used by agriculture, infrastructure, undeveloped, unknown, and vacant buildings are expected to convert to other land use types. Overall, residential land uses may increase 25% from current, and non-residential land uses are expected to decrease moderately.

2.3 Project Water Demand

Water service to the Project will be provided by the City of Ontario. As shown in **Figure 1-5**,[5] The Ontario Plan has designated the Project site as roughly half Business Park (45.19 acres) and half Industrial (49.3 acres). The Project proposes to keep the same land use designations for the same areas, albeit splitting the industrial area into two industrial Planning Areas (see **Table 1-1**). Therefore, the existing land use designations and acreages are considered equivalent in this Assessment to the proposed land use designations and acreages as part of the Project.

The potable, recycled, and total water demands of the site land uses as proposed by the Project (**Figure 1-6**), is shown in **Table 2-4**. The Water Demand Factors (gpd/acre) provided in **Table 1-2** are used to calculate the various demand types. Notably, the sum of potable water demand and recycled water equals total water demand.

[5] Reproduced from the Project's Specific Plan Exhibit 2.2 that matches The Ontario Plan Exhibit LU-01.

Table 2-4: Water Demand for Colony Commerce Center East Specific Plan

	Acres	Water Use Factor (gpd/acre)	Daily Water Demand (gpd)	Total Annual Demand (AFY)
Potable Water Demand (applicable if recycled water also used on site)				
Business Park	45.19	1,800	81,342	91
Industrial	39.65	1,400	55,510	62
Industrial	9.65	1,400	13,510	15
Total	**94.49**	**-**	**150,362 gpd**	**168 AFY**
Recycled Water Demand (applicable if recycled water also used on site)				
Business Park	45.19	1,340	60,555	68
Industrial	39.65	890	35,289	40
Industrial	9.65	890	8,589	10
Total	**94.49**	**-**	**104,432 gpd**	**117 AFY**
Total Water Demand (recycled and potable combined, or applicable when no recycled water used on site)				
Business Park	45.19	3,140	141,897	159
Industrial	39.65	2,290	90,799	102
Industrial	9.65	2,290	22,099	25
Total	**94.49**	**-**	**254,794 gpd**	**285 AFY**

Definitions: gpd = gallons per day; AFY = acre-feet per year.

The Ontario 2015 UWMP used The Ontario Plan land use designations in its water demand projections, as evidenced in the Technical Memorandum located in Appendix B to the 2015 UWMP (Appendix A). Therefore, the Project site with a combination of Business Park and Industrial land use designations has been included in the water demand (and indirectly, water supply) projections of the latest UWMP.

The projected total annual water demand for the Colony Commerce Center East Specific Plan depicted on **Figure 1-6** is 285 AFY (254,794 gpd), based on the City's current water unit demand factors updated as part of the 2015 UWMP (**Table 2-4**). Since the Project's planning areas align with the land use designations shown in The Ontario Plan (see **Table 1-1**), which was the basis for the demand projections in the UWMP, it can be assumed the water demand of the proposed Project has been included in the water demand projections of the current UWMP.

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SECTION 3 - WATER SUPPLY ANALYSIS

This section identifies the sources of potable water utilized and available to the City of Ontario. The purpose of this section is to evaluate the water supplies that could be utilized by the proposed Project during normal, single-dry and multiple-dry water years during a 20-year projection.

Law

Water Code Section 10910 (d)(1)*: The assessment required by this section shall include an identification of any exiting water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project, and a description of the quantities of water received in prior years by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), under the existing water supply entitlements, water rights, or water service contracts.*

(2) An identification of existing water supply entitlements, water rights, or water service contracts held by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), shall be demonstrated by providing information related to all of the following:

(A) Written contracts or other proof of entitlement to an identified water supply.

(B) Copies of a capital outlay program for financing the delivery of a water supply that has been adopted by the public water system.

(C) Federal, state, and local permits for construction of necessary infrastructure associated with delivering the water supply.

(D) Any necessary regulatory approvals that are required in order to be able to convey or deliver the water supply.

3.1. Documenting Wholesale Water Supplies

Many retail water suppliers in California, including the City of Ontario, receive supplies from one or more water wholesalers. SB 610 requires this Assessment to document wholesale supplies received by: i) describing the quantities of water received from each wholesaler in prior years; ii) identifying existing entitlements, water rights, and/or water service contracts held by the City for the wholesale supply; iii) provide proof of entitlements, water rights, service contracts, relevant capital outlay programs, and construction permits for necessary infrastructure to deliver wholesale supplies, if any; and iv) regulatory approvals required to convey or deliver the wholesale supply.

Wholesale Supplies Received

The City of Ontario receives wholesale water supplies from the Water Facilities Authority (WFA) who purchases untreated imported water from Inland Empire Utilities Agency (IEUA), who in turn obtains it from The Metropolitan Water District of Southern California (MWD). WFA and IEUA are both wholesale water suppliers; WFA receives its supply from IEUA and IEUA is a member agency of MWD. MWD is a contractor for State Water Project water, and imports it from northern California. State Water Project water is available as stipulated by the Department of Water Resources in response to the hydrology and environmental regulations at the time of delivery, which can change the volume supplied.[1] Therefore, imported water supplies to southern California can be highly variable; in January 2014 for example, the allocation of State Water Project water was reduced to 0% due to persistent drought conditions. Nonetheless, MWD has projected 100% water supply reliability over the next 20 years in average, single-dry, and multiple-dry years in its 2015 UWMP (Appendix B, p. 2-15 to 2-17).

The amount of imported water purchased by IEUA from MWD is limited by a purchase order agreement (Appendix G) that allows IEUA to purchase up to 93,283 acre-feet per year (AFY) at its lowest (Tier I) rate. Of this amount, IEUA wholesales 69,752 AFY to the

[1] Department of Water Resources, *State Water Project Delivery Capability Report*, published every 2 years as well as "Notice to State Water Project Contractors" issued as often as needed.

WFA, Cucamonga Valley Water District, and the Fontana Water Company. The purchase order agreement includes an annual minimum purchase commitment of 39,835 AFY, which is consistent with the minimum operational needs of the four water treatment plants that treat the imported water from MWD (Appendix C, p. 3-10).[2]

The WFA was formed in 1980 as a Joint Powers Authority by the cities of Chino, Chino Hills, Ontario and Upland, and Monte Vista Water District in order to construct and operate water treatment facilities for providing supplemental potable water to the member agencies. In 1985, Ontario established an agreement to purchase capacity in the WFA treatment plant (Appendix H). In 1988, the WFA finished construction of the Agua de Lejos Treatment Plant in Upland to treat the imported water from IEUA and MWD to meet drinking water standards. The treatment plant capacity is currently rated at 81 million gallons per day (mgd, Appendix N). Recorded flows through the treatment plant have ranged from 30 to 40 mgd during the peak summer months and can be as low as 12 mgd during winter months (Appendix C, p. 1-11). As documented in Water Facilities Authority Ordinance No. 99-07-02, the City of Ontario owns 31.4% of the plant capacity of the Agua de Lejos treatment plant (Appendix I). Currently, that proportion is equivalent to approximately 25.4 mgd (Appendix A, p. 6-14).

The 2010 and 2015 actual supplies and the projected wholesale water supplies that are expected to be available to IEUA and WFA through 2040 are shown in **Table 3-1**.

[2] Carbon Canyon Wastewater Reclamation Facility, Regional Plant No. 1 (RP-1), RP-4, and RP-5.

Table 3-1: IEUA and WFA Actual and Projected Wholesale Water Supplies (AF)[3]

Imported Water	2010	2015	2020	2025	2030	2035	2040
	Actual		Projected				
IEUA (raw)	54,934	58,906	69,752	69,752	69,752	69,752	69,752
WFA (potable)*	14,864	27,606	32,783	32,783	32,783	32,783	32,783

*Assume 47% of IEUA's imported supply is for WFA for all future years beginning in 2020.

IEUA and WFA jointly prepared a 2015 Regional UWMP which states the following in terms of future water supply reliability (Appendix C, p. 1-1):

> The water resources management strat0egies detailed in this 2015 UWMP illustrate that despite past periods of extraordinary growth and prolonged drought, the region is well positioned to ensure adequate water supplies, reduce dependence on imported supplies and increase drought resilient water sources, while addressing water quality management challenges. This 2015 Regional UWMP is reflective of IEUA's holistic water resources management strategies to prepare for future uncertainty and to ensure sufficient water resources for the region.

To reduce dependence on imported water supplies, the City joined the "Dry Year Yield Storage Program," described below.

Dry Year Yield Storage Program

The Dry Year Yield (DYY) storage program is a cooperative Conjunctive Use Program Agreement (No. 49960) between MWD, IEUA, Chino Basin Watermaster, Three Valleys Municipal Water District, and the Chino Basin groundwater producers. Under the DYY

[3] Data for 2015 Actual through 2040 from Appendix C, pp. 3-9 – 3-10. Data for 2010 Actual from Inland Empire Utilities Agency, *Urban Water Management Plan 2010*, June 1, 2011, Table 3-2; and Water Facilities Authority, *2010 Urban Water Management Plan*, 2011, Table 3-1.

program, MWD is allowed to store up to 100,000 AFY of water in the Chino Basin during wet years when surplus water is available, and to reduce imported water deliveries up to 33,000 AFY in dry, drought, or emergency periods, but not to exceed the amount of water in the MWD storage account.

The City of Ontario authorized execution of an agreement with IEUA to participate in the DYY program in 2003. The DYY Agreement was amended in September 2014 to clarify storage measurement and extraction from the MWD storage account, define baseline conditions in calculations of performance targets, define procedures for variances in performance targets, revise administrative milestones, and make miscellaneous updates (refer to Appendix J for original agreement and amendments). The 2014 DYY amendments also provided for a minimum imported water delivery of 40,000 AFY during "call" years, establishing minimum needs for direct deliveries from MWD. As of 2015, MWD's storage account in the Chino Basin has not been replenished since it was emptied in the last set of calls during the last drought condition (2008-2011). Therefore, performance by the DYY Program participants is not required at this time. (Appendix C, p. 3 of WFA *Contingency Operations Plan*).

Participation in the DYY program obligates the City to reduce its use of imported water (purchased from WFA) by a fixed amount, known as the "shift obligation," when MWD makes a "call" for their water stored in the Chino Basin. The City's shift obligation is currently 8,076 AFY, which is the amount the City purchases from WFA during a baseline year. The City of Ontario purchases an additional 2,000 AFY from WFA that is then sold to Jurupa Community Services District (JCSD) who does not have an imported water connection. JCSD entered into an agreement in 2014 with the City of Ontario to participate in the DYY program (Appendix K). During years when MWD makes a "call" for the water in their storage account, the City will decrease its purchase of WFA imported water by a combined total of 10,076 AF (8,076 AF plus 2,000 AF) compared to the previous year. To meet its obligation in the DYY program during a "call" year, JCSD will deliver 2,000 AF to Ontario from CDA (assuming JCSD's

imported water baseline is 2,000 AFY; refer to Appendix K for agreement between Ontario and JCSD).

DYY funds (from DWR local assistance grants) were used for the construction of three groundwater wells (Wells 45, 46, and 47) and an ion-exchange facility located at John Galvin Park in Ontario to treat water extracted from Wells 44 and 52. When MWD makes a "call" for its stored water, the City can operate these facilities to meet its shift obligation. MWD will then pay for the cost of operations and the City would pay MWD (through IEUA) the full service water rate. The City can use the DYY facilities to meet its normal water demands during other periods but is responsible for the well operation and maintenance costs.

The additional groundwater capacity provided by this program allows the City to increase the percentage supply used to meet peak demands, and allow the City to be less reliant upon imported water supplies.

3.2. Documenting Water Supplies

The City of Ontario has five sources of supply: City wells in the Chino Basin; treated groundwater from the Chino Desalter Authority (CDA); recycled water from the Inland Empire Utilities Agency (IEUA); purchased water from San Antonio Water Company (SAWCo); and – as already discussed in Section 3.1 – imported water from the Water Facilities Authority (WFA). In 2015, approximately 69% of Ontario's water supply came from groundwater, 20% of supply was available from imported water, and 11% was recycled water (Appendix A, p. 6-16).

The average supply for the last 10 year period (2005-2015), the actual 2015 supply, and the normal year projections are listed in **Table 3-2.** In addition, each supply source is identified as a water supply entitlement, water right, or water service contract per SB 610 guidance.

Table 3-2: Historic, Current, and Projected Water Supplies for Ontario (AFY)

Supply	2005-2015 Average	2015	2020	2025	2030	2035	2040	Form of right
	Actual		Projected					
1. Chino Basin groundwater pumped by City wells	23,408	19,544	11,782	13,465	16,234	21,627	30,795	Right
2. Imported water purchased from WFA	10,724	6,413	10,000	11,000	13,000	15,000	17,000	Capacity ownership
3. Recycled water purchased from IEUA	2,458	3,859*	8,289	9,947	12,434	15,545	16,547	Contract
4. Treated Chino Basin groundwater purchased from CDA	4,733	3,543	8,533	8,533	8,533	8,533	8,533	Contract
5. Purchased potable water from SAWCo	n/a	443	765	765	765	765	765	Shareholder entitlement
Total	**41,323**	**33,802***	**39,369**	**43,710**	**50,966**	**61,470**	**73,640**	-

*Does not include recycled water for agriculture deliveries (3,349 AF).

The City anticipates to increase its total water supply from 33,802 AFY to 73,640 AFY in 2040, by pursuing the following: i) full utilization of the City's groundwater rights in the Chino Basin allowed under the Judgment (including increased groundwater recharge with stormwater and recycled water described in Section 4); ii) expanding use of recycled water; and iii) expanding use of desalter water (Appendix A, p. 6-16).

Water Supply Capacities

The capacity of each source of supply available to the City of Ontario is provided in the City's *2012 Water Master Plan* (Appendix L). The capacity of the supply system differs from the supplies presented in **Table 3-2** in that "capacity" presents the maximum output possible. For example, the capacity of the City's groundwater wells refers to a pumping rate based on running the pumps at full utilization, 24-hours a day, 7 days a week. Although this maximum rate of pumping is assumed in terms of comparing capacities, pumps are rarely used at more than two-thirds capacity. Knowing the system capacity is important to ensure the City can meet all demands imposed upon the system, specifically meeting "average day demand" and "maximum day demand." Demand can be met with multiple supply sources, storage, or a combination of both. The City's reservoirs are not discussed in this Assessment, however, they are used to regulate hourly fluctuations in demand, provide fire flow, and supplement supply during an extended outage of a source (Appendix L, p. 9-1).

The City is required to meet the following water supply criterion from the California Code of Regulations: "a source of supply equal to one maximum day demand, with one average day demand from local sources (Appendix L, p. 9-1)." As the City land uses and population changes, so does the average and maximum day demands.

The full capacities of existing sources of supply, as of 2012, are reproduced below in **Table 3-3**. Per the criterion described previously, the City's source of supply as of 2012 should be greater or equal to 37,409 gpm for maximum day demand, with 23,380 gpm from local sources (i.e., existing wells) to meet average day demand (Appendix L, p.9-1).

Table 3-3: Existing Source of Supply - Capacities[4]

Source	AFY	mgd	gpm
Existing Wells	82,403	73.57	51,093[5]
WFA at Aqua de Lejos WTP	28,000	25	17,361
CDA from Chino I	1,500	1.34	930
CDA from Chino II	3,500	3.13	2,170
Total	**115,403**	**103.04**	**71,554**

The full capacities of the 'ultimate' sources of supply, as of projections made in 2012, are reproduced below in **Table 3-4**. Per the criterion mentioned previously, the City's ultimate source of supply would need to be greater or equal to 72,315 gpm for maximum day demand, with 46,339 gpm from local sources (i.e., existing wells) to meet average day demand (Appendix L, p. 9-2).

Table 3-4: Ultimate Source of Supply – Capacity[6]

Source	AFY	mgd	gpm
Existing Wells	82,403	73.57	51,093[7]
Future Wells[8]	36,288	32.40	22,500
Wells Sub-total	**118,691**	**105.97**	**73,593**
WFA at Aqua de Lejos WTP	28,000	25	17,361
CDA from Chino I	1,500	1.34	930
CDA from Chino II	7,033	6.28	4,361
Total	**155,224**	**138.59**	**96,245**

[4] From Table 9-1 of Appendix L.
[5] As of 2017, existing capacity is slightly less at 49,235 gpm (70.8 mgd, assuming pumping 24-hours a day, 7 days a week) (per email dated March 7, 2017 from Tom O'Neill, Utilities Operations Director, City of Ontario).
[6] From Table 9-3 of Appendix L.
[7] As of 2017, existing capacity is slightly less at 49,235 gpm (70.8 mgd, assuming pumping 24-hours a day, 7 days a week) (per email dated March 7, 2017 from Tom O'Neill, Utilities Operations Director, City of Ontario).
[8] Future well capacities assumed to 2,500 gpm each. 9 wells planned.

As stated in the *2012 Water Master Plan*, the existing supply capacity of the City's groundwater wells alone meets the water supply criterion mentioned previously for both average day demand under existing and ultimate conditions, as well as maximum day demand for existing conditions (Appendix L, p. 9-2). However, under ultimate conditions the supply capacity will require a total of nine additional "future wells," as shown in **Table 3-4** to meet the water supply criterion for maximum day demand.

3.3. Descriptions of All Water Supply Projects

City Well Production:

The City of Ontario currently owns 26 groundwater wells in the Chino Groundwater Basin; 22 of which are active and four are currently inactive (Appendix A, p. 6-5). The Chino Basin is the City's only source of groundwater and one of the largest groundwater basins in southern California. It currently holds an estimated 5 million AF, with another 1 million AF in additional storage capacity. In addition to the nine new wells proposed in the City's 2012 Water Master Plan (Appendix L) to supply the "Ontario Ranch" area in which the Project is located, the City has also prepared a long-range replacement plan for older wells that lose production and for wells that may have water quality concerns in the future. Replacement wells can be expected to have higher flow capacities than the well they are replacing.

The City of Ontario pumped 19,544 AF in 2015 and, as shown in **Table 3-2**, plans to increase pumping supply to 30,795 AFY by 2040. The amount of groundwater pumped by the City's wells over the past five years is shown in **Table 3-5.**

Table 3-5: Groundwater Pumped by City, 2011-2015 (AFY)

Supply	2011	2012	2013	2014	2015
City wells in Chino Basin (alluvial basin)	20,442	20,226	19,967	20,274	19,544

As of 2015, approximately 58% of the City's water supply came from groundwater pumped by its own wells in the Chino Basin. The City strives to maximize local water supplies, and minimize the need for imported water from other regions (Appendix A, p. 7-1). A thorough description of the City's groundwater rights pursuant to SB 610 guidance is provided in Section 4.

Chino Basin Desalter Authority (CDA) Groundwater Production:

The City of Ontario is a member of the Chino Basin Desalter Authority (CDA), a joint exercise of powers agency created on September 25, 2001, along with Jurupa Community Services District, Santa Ana River Water Company, IEUA and the Cities of Chino, Chino Hills, and Norco. Western Municipal Water District joined CDA on April 2, 2009. CDA's goals include:

- Achieve hydraulic control of the Chino Basin to prevent contaminated Chino Basin groundwater from entering Santa Ana River;
- Remove contamination (primarily nitrates, as well as TCE, PCE, and TCP) from groundwater in the southern portion of the Basin; and
- Deliver the treated water to member agencies to offset the need for imported water.

CDA provides a high quality drinking water from two desalters ('salt removers') that pump and treat approximately 28,000 AFY of Chino Basin groundwater, which is sold to CDA members through "take or pay" contracts. The Chino I Desalter, located at 6905 Kimball Avenue in Chino, was completed in 2000 and expanded in August 2005 to its current rated capacity of 15,906 AFY (14.2 mgd). However, the Chino I Desalter cannot provide this rated capacity due to the high total dissolved solids in the raw

water supply. The Chino II Desalter was completed in 2006 and is located at 11202 Harrel Street in the City of Jurupa Valley. The current rated capacity is 11,201 AFY (10 mgd, permitted capacity is 15 mgd or 16,802 AFY), including 5,600 AFY (5 mgd) raw water bypass. However, the plant has not achieved the permitted capacity as a result of insufficient raw water supply. CDA is currently expanding the Chino II Desalter to a rated capacity of 25,427 AFY (22.7 mgd).

Although Chino Desalter I capacity will not be increased, additional raw water capacity will be provided by five new wells in the Chino Creek Well Field. All five wells have been drilled and three have been equipped thus far. CDA is currently (2015) equipping the last two Chino Creek Wells (I-20 and I-21). Once all five wells are operational, the data will be evaluated to determine if hydraulic control of the basin is achieved. In addition, CDA is currently drilling additional wells (II-10 and II-11) that supply the Chino II Desalter.

The Optimum Basin Management Program (OBMP) for the Chino Basin has guided the Chino Basin Watermaster's activities since its adoption in 1998.[9] One of the stipulations of the OBMP requires the member agencies to extract and treat approximately 40,000 AFY of groundwater from the southern portion of the Basin, treat it to potable water standards, and deliver it to the member agencies. When the Chino II Desalter expansion is complete, CDA is expected to meet this requirement.

As previously shown in **Table 3-2**, the City purchased 3,543 AF from CDA in 2015 (10% of City's total supply). The City of Ontario has 1,500 AFY capacity rights in the Chino I Desalter and 3,500 AFY capacity rights in the Chino II Desalter (5,000 AFY total). When the desalter expansion is completed, the City's capacity rights in Chino II Desalter will increase by 2,033 AFY for a total capacity right of 8,533 AFY (Appendix A, p. 6-15). As shown in **Table 3-2**, the water supply from CDA to the City is projected to stabilize at 8,533 AFY by 2020, which would be roughly 12% of the City's total 2040 water supply portfolio.

[9] Available at Chino Basin Watermaster, www.cbwm.org

Inland Empire Utilities Agency (IEUA) Recycled Water Supply:

Recycled water is provided to Ontario by IEUA, which treats wastewater at four regional wastewater reclamation plants.[10] The 2015 actual and projected supplies of recycled water from IEUA are shown in **Table 3-2.** The City of Ontario has been using recycled water produced by IEUA since 1972. Currently, recycled water is used in the City for agricultural irrigation, landscape irrigation, golf course irrigation and industrial purposes.

In fiscal year 2014-2015, IEUA's wastewater plants produced approximately 60,200 AF of recycled water. IEUA projects supplies to increase to approximately 83,000 AFY by 2040 (which includes 17,000 AFY dedicated to discharge obligation of treated effluent into the Santa Ana River). In 2015, there was 12,131 AF of recycled water supply available to the City and 7,208 AF of recycled water supplied to the uses listed in **Table 3-6** (Appendix A, p. 6-10). This represents roughly 60% utilization of available supply. The recycled water projections from the City's 2015 UWMP (Appendix A, p. 6-12) are also shown in **Table 3-6**.

[10] Carbon Canyon Wastewater Reclamation Facility, Regional Plant No. 1 (RP-1), RP-4, and RP-5.

Table 3-6: Current and Projected City of Ontario Recycled Water Uses (AFY)

Beneficial Use Type	2015 Actual	2020	2025	2030	2035	2040
Agricultural irrigation	3,349	2,177	1,372	1,118	529	295
Landscape irrigation	2,330	4,195	6,174	8,297	11,491	14,575
Golf course irrigation	540	600	615	570	700	720
Industrial use	989	957	957	957	957	957
Total	**7,208**	**7,929**	**9,118**	**10,942**	**13,677**	**16,547**

Over the next 20 years, landscape irrigation is projected to have the greatest increase in demand for treated effluent. Agricultural properties are expected to convert to more urban land uses, while supplies to golf course and industrial uses are expected to remain relatively stable.

IEUA has prepared several recycled water studies, plans, and strategy documents to bring a regional recycled water delivery system to fruition. The City updated their Recycled Water Master Plan in 2012 (Appendix O) to fully coordinate with IEUA's recycled water planning efforts. The City is currently updating the 2012 Recycled Water Master Plan (Appendix A, p. 6-8).

San Antonio Water Company (SAWCo) Potable Water Supply:

SAWCo is a mutual water company and corporation located in Upland, and has provided water service to its active shareholders for over 130 years. Although SAWCo does not technically meet the threshold as a retailer or wholesale water agency that needs to prepare an Urban Water Management Plan (UWMP), they have done so nonetheless in 2015; albeit modified from the State's format (Appendix E).

SAWCo supplies water to its shareholders based on entitlement only, which is based on the number of shares held. The number of shares is finite and considered a commodity that can be divided or sold. The "entire water of the company" and the current entitlement for 2015 is equivalent to 11,552 AFY, which distributed among the 6,389 shares. The volume per share is variable. SAWCo has therefore determined, "…water use projections related to population growth and density, land use, zoning, development, and other typical indicators have no bearing on supply (Appendix E, p. 11)." Notably, SAWCo expects to reduce entitlement to 9,819 AFY in the future based on supply trends, and uses this amount for supply projections (Appendix E, p. 36).

Ontario owns 295 shares of SAWCo, which equates to a current entitlement of 765 AFY of potable water to the City (Appendix A, p. 6-8). In 2015, the City received an actual volume of 443 AF. Ontario has forecasted future supplies at 765 AFY from 2020 to 2040 (**Table 3-2**). SAWCo has an existing transfer agreement with the City of Ontario for transfer of up to 545.157 AFY until 2018 (Appendix E, p. 33). Ontario receives water from SAWCo indirectly through a connection made in 2015 from SAWCo to the WFA.

SAWCo water supplies are a mixture of surface water from San Antonio Creek, groundwater from the San Antonio Tunnel and three groundwater basins: Chino Basin, Cucamonga Basin and Six Basins (Appendix E, p. 22). No new sources of supply are anticipated to be developed by SAWCo over the planning horizon. The 2015 actual and projected water productions (assume water produced equals water demand) estimated by SAWCo are reproduced in **Table 3-7.**

Table 3-7: Current and Projected SAWCo Water Production (AFY)

Source	2015l	2020	2025	2030	2035
	Actual	Projected			
Chino Basin	1,143.84	1,232.00	1,232.00	1,232.00	1,232.00
Cucamonga Basin	4,427.94	4,500.00	4,500.00	4,500.00	4,500.00
Six Basin	738.02	945.62	945.62	945.62	945.62
San Antonio Tunnel	696.80	949.52	949.52	949.52	949.52
Groundwater Sub-total	**7,006.60**	**7,627.14**	**7,627.14**	**7,627.14**	**7,627.14**
Surface Water (San Antonio Creek)	2,024.01	1,962.88	1,962.88	1,962.88	1,962.88
Total	**9,030.61**	**9,590.02**	**9,590.02**	**9,590.02**	**9,590.02**

*Reproduced from Appendix E, Table 9, p. 22.

In terms of future reliability, SAWCo has stated the following in its 2015 UWMP (Appendix E, p. 32): "SAWCo has sufficient supplies to meet all obligations to its shareholders through the planning horizon." In addition, SAWCo has future transfer and exchange projects planned to mutually benefit certain shareholders during an emergency, including the City of Ontario. The exact location, capacity and implementation schedule of these interconnections are under review (Appendix E, p. 35).

3.4. Documenting Normal Year Supply and Demand for Ontario

The City has assumed that demand and supply are equal during "normal" precipitation years. However, the City has documented more than 100% of supply available during normal years, a single-dry year (2001), and multiple-dry years (2006-2008 drought) according to Table 7-1 in the 2015 Ontario UWMP (Appendix A).

To summarize the above discussion, the normal year supply available to the City as well as the normal year demand projections from Section 2 are compared in **Table 3-8**. The City has estimated that sufficient supply will be available during a normal year between 2020 and 2040.

Table 3-8: Projected Normal Year City of Ontario Supply and Demand (AFY)

	2020	2025	2030	2035	2040
Supply	39,369	43,710	50,966	61,470	73,640
Demand	39,369	43,710	50,966	61,470	73,640
Difference	0	0	0	0	0

*Reproduced from Appendix A, Table 7-2.

3.5 Documenting Dry Year Supply and Demand for Ontario

The City has made the following assumptions in their 2015 UWMP to estimate future water supplies and demands during a single dry year (Appendix A, p. 7-5):

- The provisions of a Stage 1 water shortage will be implemented, and customers will be subjected to a 10% consumption reduction.
- The supply of recycled water will be the same as in normal years and dry years.
- The reduction in WFA imported water supplies (equal to the shift obligation of 8,076 AFY) will be compensated by the extra groundwater production from the designated DYY wells during dry years. The DYY Program will expire in 2025 (unless renewed or replaced).
- The groundwater supply will be the same as in a normal year. The City has rights, storage and leases and can also purchase replenishment water.[11]
- Water losses have been included in the potable water demands as 7% of the annual demand.

[11] Replenishment water, which is obtained by the Chino Basin Watermaster on behalf of all parties, can consist of reclaimed water, State water, and local import supplies.

The City has estimated that surplus supply will be available during a single dry year that could occur anytime from 2020 to 2040, as shown in **Table 3-9**.

Table 3-9: Projected Single Dry Year City of Ontario Supply and Demand (AFY)

	2020	2025	2030	2035	2040
Supply	39,369	43,710	50,966	61,470	73,640
Demand	35,432	39,339	45,869	55,323	66,276
Difference	+3,937	+4,371	+5,097	+6,147	+7,364

*Reproduced from Appendix A, Table 7-3.

3.6 Documenting Multiple Dry Year Supply and Demand for Ontario

The City has made the following assumptions in their 2015 UWMP to estimate future water supplies and demands during a three-year drought (Appendix A, p. 7-6):

- The first dry year is similar to a single dry year, in which customers voluntarily reduce consumption by 10%.
- The second dry year is considered a Stage 2 water shortage, and a 15% reduction in consumption is made mandatory. This will be imposed at the City Council's discretion.
- The third dry year is considered a Stage 3 water shortage, and a minimum of 20% consumption reduction is required. This will be imposed at the City Council's discretion.
- The supply of recycled water will be the same in normal years and dry years.
- The reduction in WFA supplies (8,076 AFY) will be compensated by extra groundwater production from the designated DYY wells during dry years. The DYY will expire in 2025 (unless renewed or replaced).
- The groundwater supply will be the same as in a normal year. The City has rights, storage and leases. The City can also purchase replenishment water.

- Water losses have been included in the potable water demands as 7% of the annual demand.

The City has estimated that surplus supply will be available during each year of a three-year drought that could occur anytime from 2020 to 2040, as shown in **Table 3-10.**

Table 3-10: Projected Multiple Dry Year City of Ontario Supply and Demand (AFY)

		2020	2025	2030	2035	2040
First Year	**Supply**	39,369	43,710	50,966	61,470	73,640
	Demand	35,432	39,339	45,869	55,323	66,276
	Difference	**+3,937**	**+4,371**	**+5,097**	**+6,147**	**+7,364**
Second Year	**Supply**	39,369	43,710	50,966	61,470	73,640
	Demand	33,464	37,154	43,321	52,250	62,594
	Difference	**+5,905**	**+6,557**	**+7,645**	**+9,221**	**+11,046**
Third Year	**Supply**	39,369	43,710	50,966	61,470	73,640
	Demand	31,495	34,968	40,773	49,176	58,192
	Difference	**+7,874**	**+8,742**	**+10,193**	**+12,294**	**+14,728**

*Reproduced from Appendix A, Table 7-4.

3.7 Comparison of Ontario's Projected Supply and Demand

As explained previously in Section 2, the annual water demand for Colony Commerce Center East Specific Plan is estimated at 285 AFY, which is consistent with the anticipated water demand for the site used in the 2015 Ontario UWMP (Appendix A).

To reiterate, California Water Code Section 10910(c)(2) states:

> If the project water demand associated with the proposed project was accounted for in the most recently adopted urban water management plan, the public water system may incorporate the requested information from the urban water management plan in preparing the elements of the assessment required to comply with subdivisions (d), (e), (f), and (g).

Because the City's water demand projections assumed the same proportions of business park and industrial land uses that the proposed Project Planning Areas' assume, it can be deduced that the Project's water demand has been accounted for in the most recently adopted UWMP (Appendix A).

In conclusion, the City of Ontario projected water supply (potable and recycled) that is available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the Colony Commerce Center East Specific Plan in addition to the City's existing and planned future uses including agricultural and manufacturing uses.

SECTION 4 - GROUNDWATER ANALYSIS

As discussed in Section 3, groundwater is one of the sources of supply for the Colony Commerce Center East Specific Plan. SB 610 requires specific groundwater information to be included in the Assessment if groundwater will be a source of water for the proposed project.

Law

Water Code Section 10910 (f): *If a water supply for a proposed project includes groundwater, the following additional information shall be included in the water supply assessment:*

(1) A review of any information contained in the urban water management plan relevant to the identified water supply for the proposed project.

(2) A description of any groundwater basin or basins from which the proposed project will be supplied. For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has the legal right to pump under the order or decree. For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as over drafted or has projected that the basin will become over drafted if present management conditions continue, in the most current bulletin of the department that characterizes the condition of the groundwater basin, and a detailed description by the public water system or the city or county if either is required to comply with this part pursuant to subdivision (b), of the efforts being undertaken in the basin or basins to eliminate the long-term overdraft condition.

(3) A detailed description and analysis of the amount and location of groundwater pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), for the past five years from any groundwater basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), from any basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(5) An analysis of the sufficiency of the groundwater from the basin or basins from which the proposed project will be supplied to meet the projected water demand associated with the proposed project. A water supply assessment shall not be required to include the information required by this paragraph if the public water system determines, as part of the review required by paragraph (1), that the sufficiency of groundwater necessary to meet the initial and projected water demand associated with the project was addressed in the description and analysis required by paragraph (4) of subdivision (b) of Section 10631.

4.1 Review of Urban Water Management Plan (CWC Section 10910 (f)(1))

The *2015 Urban Water Management Plan* (UWMP), prepared by AKM on behalf of the City of Ontario was adopted by the City Council by Resolution 2016-072 on June 21, 2016. The UWMP includes information relevant to the identified water supply for the proposed project and is incorporated herein (Appendix A). This information includes:

current and projected water demands (*System Water Use*)[1] through year 2040; a description of the Chino Groundwater Basin (*System Supplies*); the reliability of the water supply, projected supply and demand comparisons, and water shortage plans (*Water Supply Reliability* and *Water Shortage Contingency Planning*); and water demand management efforts (*Demand Management Measures*).

Notably, Appendix B to the 2015 UWMP (located in Appendix A herein) is the *Technical Memorandum* prepared by AKM in May 2016 to explain the methods and calculations of the "Ultimate Citywide Water Demand Estimate" included in the UWMP. The memo describes how the City's land use designations from the General Plan ("The Ontario Plan") are used to calculate future demand by buildout in approximately 2040.

4.2 Groundwater Basin Descriptions (CWC Section 10910 (f)(2))

The Chino Groundwater Basin is the City's only direct source of groundwater. As discussed in Section 3, water supplied to the City from SAWCo may include a combination of groundwater from other basins (San Antonio Tunnel, Cucamonga Basin, and Six Basins), which are described in the 2015 SAWCo UWMP (Appendix E).

Chino Basin Description

The Chino Basin covers approximately 235 square miles in the upper Santa Ana River Watershed, and underlies parts of Los Angeles, San Bernardino, and Riverside Counties. The California Department of Water Resources (DWR) identifies the basin as No. 8-002.01, a sub-basin of the Upper Santa Ana Valley (Bulletin 118).[2] While still considered a single basin for hydrologic purposes, the Basin is divided into five management zones, based on similar hydrologic conditions (**Figure 4-1**).

[1] Words and phrases italicized parenthetically are in reference to chapters so titled in the "2015 Urban Water Management Plan."
[2] DWR collects, summarizes, and evaluates groundwater data in the "Bulletin 118" series, which present the results of basin evaluations and defines the boundaries of California's 515 alluvial groundwater basins. An update was provided in 2016. In Bulletin 118, DWR identifies each basin and sub-basin with a number code.

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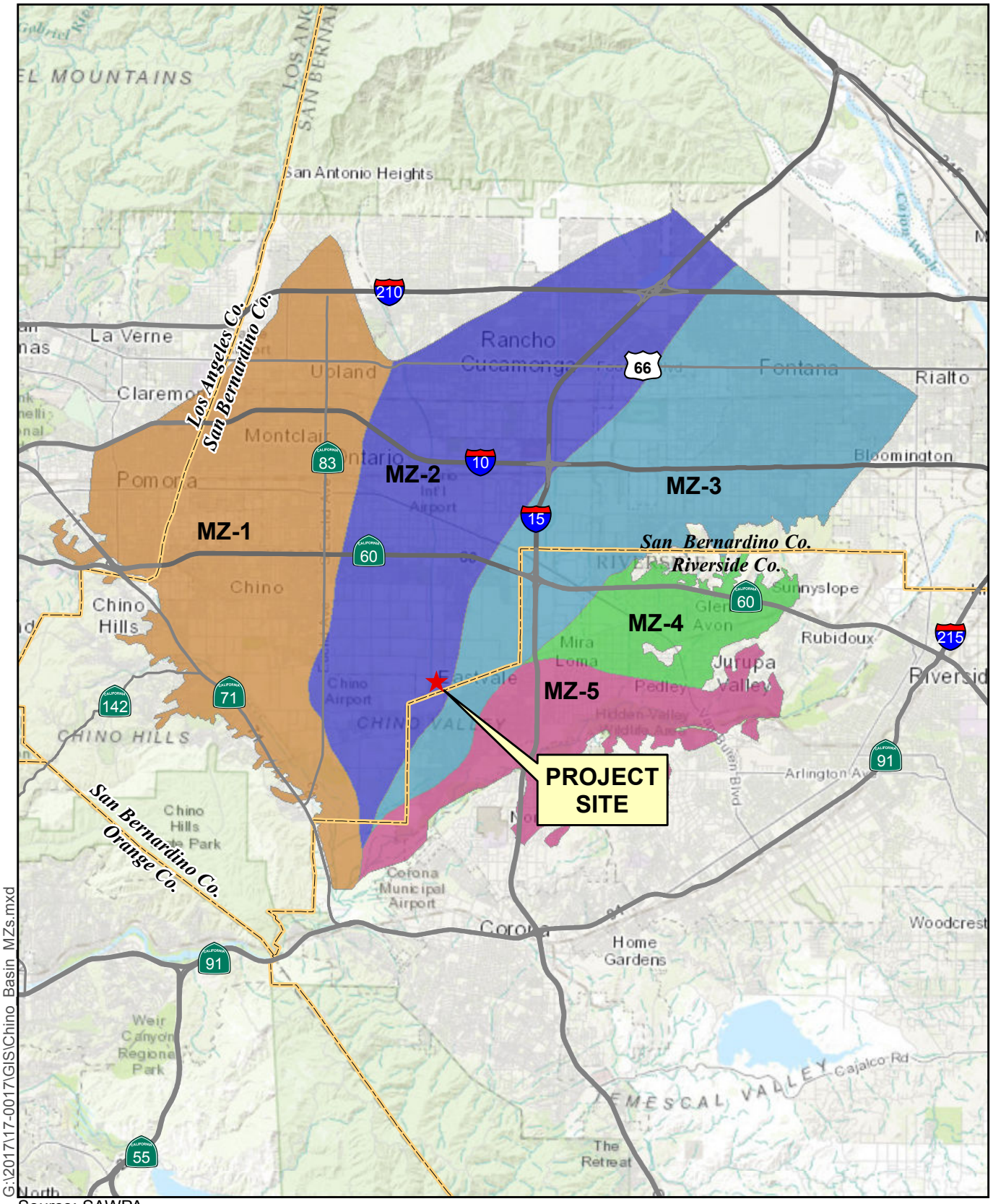

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Source: SAWPA

Figure 4-1 – Chino Basin Management Zones

Colony Commerce Center East WSA

0 2 4 6 Miles

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It is estimated the Chino Basin has approximately 5 million AF of water in storage, and an estimated 1 million AF of additional unused storage capacity (Appendix A, p. 6-2).

DWR Bulletin 118 (updated 12/22/16) describes the basin as follows:

> The Chino Basin is bound on the northwest by the San Jose fault, on the north by the Cucamonga fault and impermeable rocks of the San Gabriel Mountains, and on the east by the Rialto-Colton fault. The basin is bound on the southeast by the Jurupa Mountains, Pedley Hills, La Sierra Hills, and the approximate location of the Santa Ana River. The Chino fault and impermeable rocks of the Chino Hills and Puente Hills bound the southwest side of the basin. In some areas, the basin boundary coincides with the Chino Basin (1978) groundwater adjudication boundary.

The Chino Basin has been extensively studied by the Chino Basin Watermaster, with reports available at www.cbwm.org. The following is an excerpt that describes the basin geology from the Watermaster's management plan called the "Optimum Basin Management Program" or "OBMP" (1999, p. 2-2):

> Chino Basin was formed when eroded sediments from the San Gabriel Mountains, the Chino Hills, Puente Hills, and the San Bernardino Mountains filled a structural depression. The bottom of the Basin – the effective base of the freshwater aquifer – consists of impermeable sedimentary and igneous rocks. The base of the aquifer is overlain by older alluvium of the Pleistocene period followed by younger alluvium of the Holocene period. The younger alluvium varies in thickness from over 100 feet near the mountains to a just few feet, south of Interstate 10 and generally covers most of the north half of the Basin in undisturbed areas. The younger alluvium is not saturated and thus does not yield water directly to wells. Water percolates readily in the younger alluvium and most of the large spreading basins are located in the younger alluvium. The older alluvium varies in thickness from about 200 feet thick near the

southwestern end of the Basin to over 1,100 feet thick southwest of Fontana, and averages about 500 feet throughout the Basin.

Geographically speaking, the City is located in the approximate center of the basin.

Legal Right to Pump from the Chino Basin

Water rights to the Chino Basin were adjudicated by the Superior Court of the State of California for the County of San Bernardino in 1978 (a copy of the Judgment and recent amendments are provided in Appendix M). The court's Judgment declared the safe yield[3] of the Chino Basin at 140,000 AFY. Withdrawal in excess of safe yield is termed overdraft. The Chino Basin Watermaster may determine that the "operating" safe yield (or "OSY")[4] can be higher from year-to-year depending on factors including favorable precipitation and management efforts that maximize the beneficial use of the groundwater Basin. Watermaster is currently undertaking a safe yield redetermination.

The Watermaster is comprised of three stakeholder groups (or "pools"): the Overlying Agricultural Pool Committee (representing dairymen, farmers, and the State of California); the Overlying Non-Agricultural Pool Committee (representing businesses and industries); and the Appropriative Pool Committee (representing local cities, public water districts and private water companies). The Watermaster carries out the provisions of the Judgment including monitoring of the basin and files an annual report on pumping and replenishment.

The City of Ontario is a member of both the Overlying Non-Agricultural Pool and the Appropriative Pool, and therefore subject to the regulations imposed by the Watermaster. The Judgment allocates the operating safe yield as 7,366 AFY to the Overlying Non-Agricultural Pool and 54,834 AFY to the Appropriative Pool. Per the

[3] Judgment (1978) defines Safe Yield as, "The long-term average annual quantity of groundwater (excluding replenishment or stored water but including return flow to the Basin from use of replenishment or stored water), which can be produced from the basin under cultural conditions of a particular year without causing an undesirable result."

[4] Judgment (1978) defines Operating Safe Yield as, "The annual amount of groundwater which Watermaster shall determine, pursuant to criteria specified in Exhibit "I", can be produced from Chino Basin by the Appropriative Pool parties free of replenishment obligation under the physical solution herein."

Judgment, the City has appropriative rights to 20.742% of the operating safe yield allocated to the Appropriative Pool. Ontario's current appropriative right is therefore 11,373.82 AFY. However, as the long-term operating safe yield is estimated by the Watermaster at 49,834 AFY, the City's appropriative right will be 10,337 AFY in the future (Appendix A, p. 6-7).

In addition to appropriative groundwater rights, the City has purchased and has rights to 2,911 AF of Overlying Non-Agricultural Pool groundwater (Appendix A, p. 6-7).

The Judgment allocates safe yield of the Basin according to the three pools as described above (Appendix M, Paragraph 13). The members of each pool are then enjoined from producing water from the Basin in excess of such allocated amount "except pursuant to the provisions of the Physical Solution" (Appendix M, Paragraph 13(a)-(c)).

The Physical Solution of the Judgment is described in broad terms by Paragraphs 39 through 57 of the Judgment (Appendix M). Paragraph 45 provides Watermaster with the authority to levy and collect assessments for the purchase of water necessary to balance the production by any party in excess of that party's allocated share of safe yield of the Basin. Paragraphs 49 and 50 then describe the sources of water which are authorized to function as sources of replenishment water and methods by which water can be replenished to the Basin. Exhibit H, Paragraph 7, of the Judgment describes the way in which costs for replenishment water will spread among the members of the Appropriative Pool, which includes the City of Ontario.

The afore-cited paragraphs of the Judgment evince a clear expectation that parties, including the City of Ontario, would produce water in excess of their adjudicated production rights. The injunction in Paragraph 13 of the Judgment should thus be interpreted to mean that parties are enjoined from producing water in excess of their adjudicated rights except to the extent that they will pay a replenishment assessment.

The ability to produce water from the Basin is accordingly not a matter of availability, as contemplated and sanctioned by the Judgment for the reasons discussed above, but rather a matter of cost. Water produced in excess of production rights will cost more than water produced within a party's production rights. Thus, the quantity and reliability of groundwater supplies under the Judgment for purposes of this Assessment is a matter of cost of the water produced from the Basin rather than limitations on production which may otherwise operate to reduce the sufficiency of the groundwater supply.

In addition to the Appropriative Pool and Overlying Non-Agricultural Pool water rights owned by the City, as well as the entitlements to SAWCo water and the contract obligations in the Dry Year Yield Program described in Section 3, the following is a summary of other groundwater rights held in the Chino Basin (from Appendix A, section 6.1.4).

- **Land Use Conversions.** The City has rights to 2,041 AFY of Chino Basin groundwater as a result of land use conversions from agricultural to non-agricultural. The City expects the right to increase to 16,602 AFY in the future; however, annual adjustments may be made by the Watermaster to rights obtained through land use conversions.

- **Annual Early Transfers.** The Watermaster can approve an "Early Transfer" of water to the Appropriative Pool in an amount not less than 32,800 AFY; which is the expected quantity of water not produced by the Overlying Agricultural Pool (pursuant to the Peace Agreement, 2000).[5] The quantity of water subject to Early Transfer is the greater of 32,800 acre-feet or 32,800 acre-feet plus the actual quantity of water not produced by the Overlying Agricultural Pool (if any). The

[5] In 2007, the parties to the Chino Basin Judgement approved the "Peace Agreement" which is a set of measures proposed by Chino Basin Watermaster to supplement the OBMP Implementation Plan. Focus for the measures were placed on achieving hydraulic control (reduction of groundwater discharge from the Chino North Management Zone to the Santa Ana River). To achieve hydraulic control, re-operation (controlled overdraft) of the groundwater basin is proposed. Strategically placed wells would be constructed in the basin and the groundwater would be pumped to the Desalter to improve the long term reliability of the basin.

Early Transfer Water is annually allocated among the Appropriative Pool members in accordance with their pro-rata share of the initial Safe Yield. For the City, this is 6,803 AFY (20.74% of 32,800 AF).

- **Groundwater Recharge Credits.** The City is entitled to water rights due groundwater recharge with stormwater and recycled water in accordance with the OBMP. Stormwater recharge credit is assigned based on operating safe yield percentage. Recycled water recharge credit is assigned based on wastewater contribution percentage. Based on the year 2035 total recharge estimate of 35,000 AFY (20,000 AFY of recycled water and 15,000 AFY of stormwater), estimated by IEUA, Ontario would be entitled to approximately 9,600 AFY in the future.

- **Fontana Recycled Water Rights.** Additionally, the City has a long-term contract to purchase up to 3,000 AFY of recharged recycled water rights from the City of Fontana, which does not operate a water system.

- **City Groundwater Storage Accounts.** The City has rights to store water in the Chino Basin (Appropriative and Overlying Non-Agricultural) and has been increasing its various storage accounts in recent years. The City holds water in both local storage accounts and supplemental accounts. Local storage accounts hold un-pumped operating safe yield groundwater rights and stormwater that has been recharged into the Chino Basin.

  Supplemental accounts hold both imported water and recycled water that has been recharged into the Chino Basin. Currently, the City has a total of 68,176 AF in storage. This consists of 31,466 AF in local storage accounts and 36,710 AF in supplemental accounts. As of 2015, there is enough water in the City's storage accounts to meet more than two years of total demands, should its other water supply sources be unavailable. The City's groundwater storage accounts are projected to increase by 2,000 AFY to 5,000 AFY.

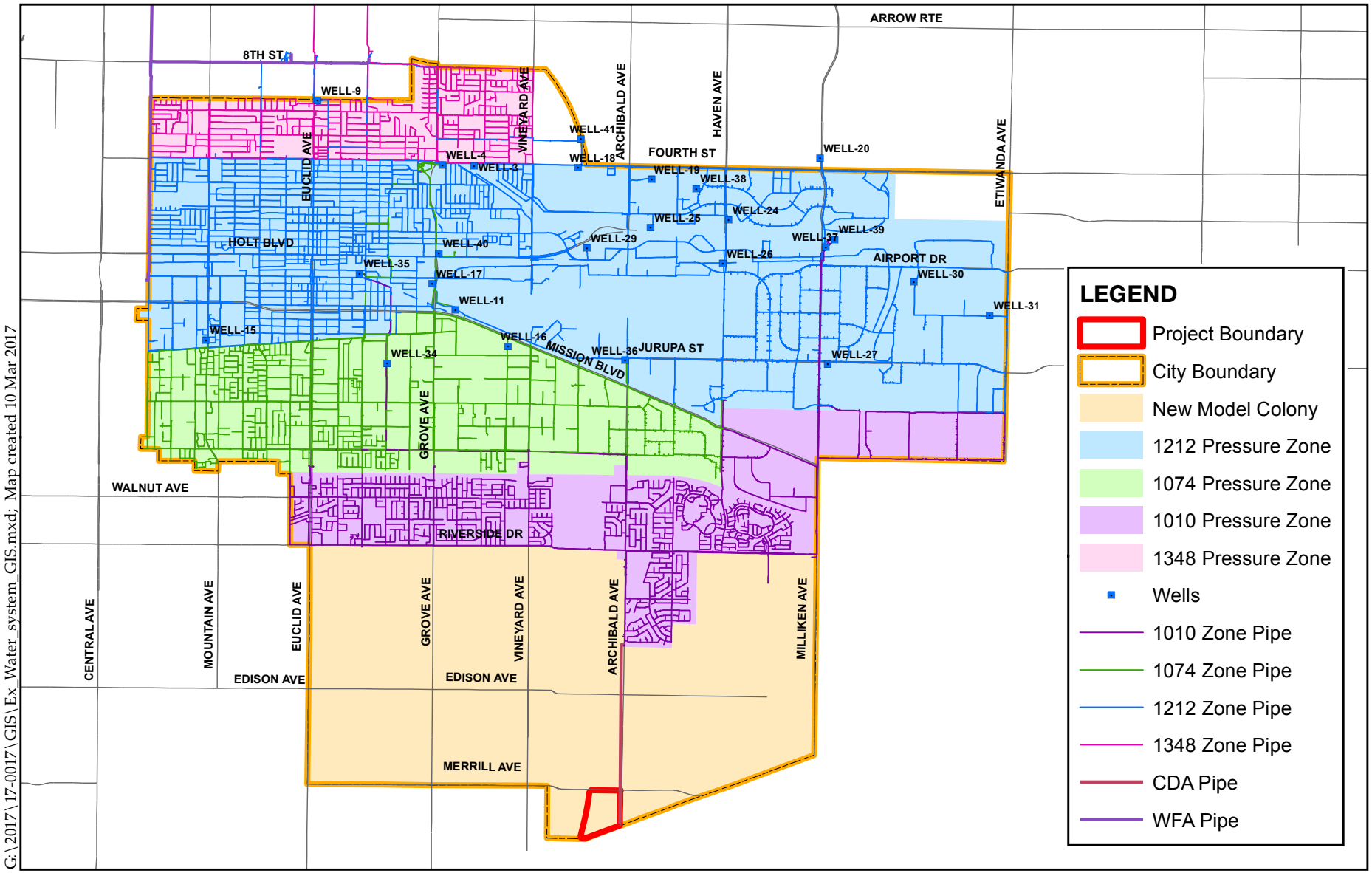
Table 4-1: City Groundwater Rights Summary

	Current (AFY)	Future (AFY)	Notes
Dry Year Yield Storage Program	8,076	8,076	Changes to groundwater from JCSD during MWD "call" year
Appropriative Pool	20.742% of OSY* = 11,373.82	20.742% of OSY = 10,337	OSY determined by Watermaster
Overlying Non-Agricultural Pool	2,911	At least 2,911	-
Land Use Conversions	2,041	16,602	Volume-per-acre converted subject to change.
Annual Early Transfer	6,803	At least 6,803	Subject to change by Overlying Ag. Pool level of demand.
Groundwater Recharge Credits	unknown	9,600 (2035 estimate)	Based on volume of stormwater and/or recycled water recharged.
Fontana Recycled Water Rights	Max. 3,000	at least 3,000	Contracted to purchase
SAWCo groundwater	765	At least 765	Entitlement. Volume per share subject to change.
Groundwater Storage Accounts	Local Account: 31,466	Local: 33,500 to 36,500	Dependent on availability of un-pumped OSY water, stormwater recharge, imported water, and recycled water.
	Supplemental Account: 36,710	Supplemental: 38,700 to 41,700	

*OSY = operating safe yield.

4.3. Historic Use of Groundwater by the City of Ontario (CWC Section 10910 (f)(3))

Ontario's groundwater supply comes from their 22 active groundwater wells located throughout their service area. The City also has four inactive wells. The general location of these wells is shown on **Figure 4-2** (from Appendix L).



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Source: City of Ontario/AKM
2010 Urban Water Management Plan

0 1 2 3 Miles

Figure 4-2 - Existing Water System

Colony Commerce Center East WSA

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The amount of groundwater pumped by the City of Ontario from the Chino Groundwater Basin since 2000 is listed below in **Table 4-2**.

Table 4-2: City of Ontario Historic Groundwater Production

Calendar Year	Groundwater Produced (AFY)[6]
2000	36,842
2001	35,105
2002	35,444
2003	30,240
2004	27,824
2005	28,799
2006	28,793
2007	26,946
2008	27,064
2009	28,996
2010	20,955
2011	20,442
2012	20,226
2013	19,967
2014	20,274
2015	19,544
Average	**26,716**

[6] Groundwater production data from 2000-2009 was obtained from Ontario's Water Master Plan (Appendix L). Data from 2010 and later came from City of Ontario's annual production reports, and UWMP (Appendix A).

4.4. Projected Use of Groundwater by the City of Ontario (CWC Section 10910 (f)(4))

The proposed Project will receive water from a combination of the City's groundwater wells, purchases of imported water from WFA, purchases of treated groundwater from CDA, and recycled water from IEUA (Appendix L, Table 6-8).

The City of Ontario's projected groundwater use is dependent upon the cost of extracting, treating, and transporting the water to its customers. Groundwater from the Chino Groundwater Basin will be utilized by the City of Ontario either directly by pumping into its distribution system or by treating the groundwater (Wells 44 and 52) at the John Galvin Ion Exchange Plant and then pumping the treated groundwater into the City of Ontario's distribution system. The City's current (2017) well capacity is estimated at 49,235 gpm (70.8 mgd).[7] The ultimate capacity of Ontario's existing and future wells is projected to be about 73,593 gpm (105.97 mgd), resulting from the production of nine future wells that are planned with assumed capacities of 2,500 gpm each (Appendix L, p. 9-2).[8]

In addition to its well production, the City of Ontario will also purchase treated Chino Basin groundwater from CDA's Desalters. As discussed previously, Ontario's contracted groundwater supply from the Chino Desalters – once the Desalter II expansion is complete - will be 8,533 AFY.

The amount of water that the City of Ontario expects to withdraw from the Chino Basin via their well field or from the Chino Desalters is well within appropriate right pursuant to the Chino Basin Adjudication of 1978 (Appendix M). Therefore, the projected supplies needed to meet future demands are easily met from the various sources discussed in this report.

[7] 2017 City well capacity provided per email dated March 7, 2017 from Tom O'Neill, Utilities Operations Director, City of Ontario.
[8] Existing and Ultimate capacities assume the wells are operating on a 24-hour basis, seven days a week. Actual annual well production in acre-feet per year is significantly less since on an annual basis, wells typically operate two-thirds of the time.

4.5. Sufficiency of Groundwater Basin (CWC Section 10910 (f)(5))

The City of Ontario's legal right to pump water in an amount necessary to meet all demands as sanctioned and protected by the Judgment as discussed above, is buttressed by a number of programs and projects directed to ensuring the sufficiency of groundwater supplies from the Basin, particularly during dry years. An adjudicated water right has perhaps the most substantial indicia of reliability of any water right that currently exists in California. An adjudicated right is based upon long-term studies whose purpose it is to protect the long-term functionality of the water source. These rights are coordinated in an established and binding manner with all the other users of the Basin and are overseen by Watermaster which has the authority to mandate and proscribe activities whose purpose is to protect the water source and maximize its long-term beneficial use.

Basin management activities include objectives, projects and programs identified in the Peace Agreement, entered into between Judgment parties on June 29, 2000, which are more specifically described in the OBMP that implements the provisions of the Peace Agreement. All Watermaster processes are governed by Rules and Regulations and receive active oversight from the Court which, as noted above, retains continuing jurisdiction over the administration of the Judgment. Consequently, the sufficiency of the groundwater is not only directed by rigorous Watermaster management processes, but validated and ensured by continuing Court oversight.

Watermaster-led OBMP projects directed to ensuring the maximization of safe yield and operating safe yield of the Basin are reported in Annual Reports, biennial and triennial reports. The key programs include:

1) a comprehensive monitoring program;
2) a comprehensive recharge program;
3) development and implementation of a water supply plan for impaired areas of the Basin;

4) development and implementation of a comprehensive groundwater management plan for Management Zone 1;
5) development and implementation of a regional supplemental water program;
6) development and implementation of cooperative programs with the California Regional Water Quality Control Board – Santa Ana Region and other agencies to improve Basin management;
7) development and implementation of a salt management program;
8) development and implementation of a groundwater storage program; and
9) development and implementation of storage and recovery programs.

As stated, the referenced elements of the OBMP collectively comprise a comprehensive regimen directed to ensuring and maximizing the long-term beneficial use of water in the Basin. In particular, and specific to the location of current and future groundwater production facilities upon which Ontario relies or will rely to provide water to meet all demands within its service area, OBMP Program Element No. 3, "Develop and Implement Water Supply Plan for the Impaired Areas of the Basin" and Program Element No. 5, "Develop and Implement Regional Supplemental Water Program", address the sufficiency of groundwater from the Basin. Fundamentally, the goal of Program Elements 3 and 5 is to develop a regional, long range, cost-effective, equitable, water supply plan for producers in the Chino Basin that incorporates sound basin management (OBMP 1999, p. 4-16).

The "water demand planning assumptions" used to develop and evaluate water supply plans for Program Element Nos. 3 and 5 of the OBMP are described below (OBMP 1999, p. 4-17):

> ***Available Water Supply from the Impaired Area.*** *As urbanization of the agricultural areas of San Bernardino and Riverside counties in the southern half of the Basin occurs, the agricultural water demands will decrease and urban water demands will increase significantly. Future development in these areas is expected to be a combination of urban uses (residential,*

commercial, and industrial). The cities of Chino, Chino Hills, and Ontario, and the Jurupa Community Services District (JCSD) are expected to experience significant new demand as these purveyors begin serving urban customers in the former agricultural area. For planning purposes, the agricultural area is assumed to be fully developed by the year 2020.

Based on current [1999] *estimates of overlying agricultural pool production, it is expected that at least 40,000 acre-ft/yr of groundwater will need to* [be] *produced in the southern part of the Basin to maintain the safe yield.*

Water Supply Plans. *Based on the data presented in Section 2* [OBMP, 1999]*, the municipal and industrial demands are projected to increase 30 percent between 2000 and 2020. Several agencies will experience increases in demand exceeding 30 percent over the next 20 years, including the cities of Chino, Chino Hills, Norco, Ontario, Cucamonga County Water District* [now Cucamonga Valley Water District]*, Fontana Water Company (FWC), JCSD, and the West San Bernardino County Water District* [now West Valley Water District]*. Forecasts from municipal and industrial entities indicate that water supply sources for the Chino Basin in 2020 will consist predominantly of Chino Basin wells through direct use or treatment and use, groundwater and treated surface water from other basins, and MWDSC* [West Valley Water District] *supplies.*

For the purpose of this analysis, it was assumed that there is approximately 48,000 acre-ft/yr of agricultural production in the southern part of the Chino Basin in the year 2000, and that this production will reduce to about 8,000 acre-ft/yr in the year 2020. This decline in agricultural production must be matched by new production in the southern part of the Basin or the safe yield in the Basin will be reduced.

Recommended Water Supply Plan for the OBMP. *Considerable discussion of the alternative water supply plans occurred at the OBMP*

workshops in February through May of 1999. The discussions focused, in part, on the assumption and details of each alternative and cost. Based on technical, environmental, and cost considerations, the stakeholders selected Alternative 4A for detailed review and refinement. Alternative 6A was developed based on Alternative 4A and 5C, includes an accelerated desalting schedule and has no future supplemental water deliveries to the southern part of the Basin. The Alternative 6A water supply plan consists of the following key elements.

Groundwater Production Pattern. *Groundwater production for municipal use will be increased in the southern part of the Basin to: meet the emerging demand for municipal supplies in the Chino Basin, maintain safe yield, and to protect water quality in the Santa Ana River. All new southern Basin production will require desalting prior to use. The cities of Chino, Chino Hills, Ontario and Norco, and the JCSD will maximize their use of groundwater from the southern part of the Basin prior to using other supplies.*[9]

Imported Water. *Imported water use will increase to meet emerging demands for municipal and industrial supplies in the Chino Basin area, Watermaster replenishment, and conjunctive use. Expanded use of imported water in the northern part of the Basin will have a lower priority than maintaining groundwater production in the southern part of the Basin.*

Recycled Water. *Recycled water use (direct use and recharge) will increase to meet emerging demands for non-potable water and artificial recharge. Under the current Basin Plan, all new recycled water use will require mitigation for TDS and nitrogen impacts. Recycled water use will be expanded as soon as practical. The two new desalters described above and*

[9] Detailed discussion continues in this paragraph concerning the production capacity of the desalters and construction/expansion projects.

the increase in storm water recharge will provide mitigation for the expanded use of recycled water.

As indicated in the foregoing quoted OBMP text, the City of Ontario overlies groundwater supplies in the southern part of the Basin which must be pumped for purposes of meeting new demands, maintain safe yield and to protect water quality in the Santa Ana River. As agricultural production in the southern part of the Basin declines, it will be necessary for these reasons to increase production for municipal uses. This is being achieved through the Chino I and Chino II Desalters, of which the City of Ontario has a contractual right to purchase 8,533 AFY pursuant to the 2001 "Joint Exercise of Powers Agreement Creating the Chino Basin Desalter Authority" and subsequent agreements. Thus, not only was increased Chino Basin water production by the City of Ontario foreseen in the OBMP, but actually sanctioned and encouraged for purposes of achieving OBMP objectives.

The sufficiency of the City of Ontario's groundwater supply is assured due to the abundance of groundwater which it overlies in the central and southern portion of the Basin, OBMP objectives that prioritize and assure production from the southern Basin, coupled with desalting and ion-exchange treatment facilities that enable the use of this abundant supply for municipal (potable) purposes. As indicated in the quoted text of the OBMP, southern basin production, where the City of Ontario is partially located, is the linchpin of several critical OBMP objectives. Thus the sufficiency of groundwater is heightened and prioritized by the necessity of continued pumping from the southern Basin under the OBMP which is administered by the Watermaster and ultimately enforced by continuing Court jurisdiction over the Judgment.

The other referenced OBMP Program Elements are collectively directed to ensuring the sufficiency of Basin groundwater supplies, particularly during dry years, and comprehensively address water quality and quantity, thus maximizing beneficial use over the long-term. Sufficiency of groundwater from the Basin is further assured for the following reasons:

- IEUA is a member agency of MWD, which provides imported water from the State Water Project for direct use by parties to the Judgment in the Basin and for Basin recharge purposes (when supplies are available). IEUA has also reviewed the sufficiency of supplies for its service territory that includes the Basin in connection with its 2015 UWMP.

- IEUA's UWMP is consistent with, and reiterative of, OBMP projects and programs (see Section 7.4 of Appendix C). IEUA anticipates increased limitations for imported water for direct and recharge use while noting reductions during dry years (due to increased reliance on groundwater from the Basin) and in the higher amount otherwise required in the absence of OBMP projects and programs. The UWMP also analyzes the sufficiency of water supplies for single and multiple year drought scenarios and concludes the region is expected to meet 100% of its dry year demand under every scenario. Key assumptions included:

    - Reliance on assurances provided by MWD in its 2015 UWMP that it could meet 100% of projected supplemental full service water supply demands through 2040;
    - Implementation of MWD's Chino Basin Dry Year Yield Storage Program consistent with the contractual shift obligations of the participating agencies of up to 33,000 AF in a twelve month period; and
    - Sustain per capita water use reductions of 10 percent by 2015 and 20 percent by 2020.

IEUA concluded in its 2015 UWMP that the projected available supply will meet projected demand due to diversified supply and conservation measures. Based on IEUA supply projections, there are sufficient supplies to meet normal year demands and single dry year demands. However, a multiple dry year scenario identified a local supply gap of 283 AF projected for 2040. IEUA and retail agencies plan to close the supply gap through utilizing local supplemental supply opportunities and securing

additional imported water as needed to accommodate for the variability in supply from the State Water Project (Appendix C, p. 3-16).

California Water Code Section 10631(j) provides that urban water suppliers, such as IEUA, that rely upon a wholesale agency for a source of water may rely upon water supply information provided by the wholesale agency in fulfilling UWMP informational requirements.

IEUA's independent analysis of contemporary regional water conditions in conjunction with MWD's most recent report, provide additional and reliable assurances concerning the sufficiency of imported water supplies that comprise a portion of overall Chino Basin supply sufficiency. As stated in the above-quoted OBMP text, however, "expanded use of imported water in the northern part of the Basin will have a lower priority than maintaining groundwater production in the southern part of the Basin."

The City's participation in the Dry Year Yield Storage Program described in Section 3, along with future storage and recovery projects will drought-proof the Basin and all other appropriative pool members from imported water shortages. This program is consistent with OBMP Program Element No. 9, "Develop and Implement Storage and Recovery Program." Benefits to the Basin associated with this program include the construction of facilities to enhance imported water deliveries and the production of water from the Basin. Further demonstrating the sufficiency of Basin groundwater is MWD's program to use the Basin for dry year supply purposes, thus underscoring that sufficient Basin groundwater is available during dry years not only for local use by agencies such as the City of Ontario but also in connection with MWD's regional reliability programs.

In conclusion, the sufficiency of groundwater supplies available to the City is assured because of the OBMP programs overseen by the Chino Basin Watermaster, and conducted under the auspices of continuing Court jurisdiction that specifically direct and assure the long-term production of water pursuant to the City's legal rights to produce such water necessary to meet ultimate demands.

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SECTION 5 - PRIMARY ISSUE FOR ASSESSMENT

As cited below, the lead agency "…shall determine, based on the entire record, whether projected water supplies will be sufficient to satisfy demands of the project, in addition to existing and planned future uses." The lead agency is expected to approve or disapprove the project based on a number of factors, including but not limited to the Water Supply Assessment.

Law

Water Code Section 10910(g)(1): *Subject to paragraph (2), the governing body of each public water system shall submit the assessment to the city or county not later than 90 days from the date on which the request was received. The governing body of each public water system, or the city or county if either is required to comply with this act pursuant to subdivision (b), shall approve the assessment prepared pursuant to this section at a regular or special meeting.*

Water Code Section 10911(b): *The city or county shall include the water assessment provided pursuant to Section 10910, and any information provided pursuant to subdivision 9a), in any environmental document prepared for the project pursuant to Division 13 (commencing with Section 21000) of the Public Resources Code.*

(c) The city or county may include in any environmental document an evaluation of any information included in that environmental document provided pursuant to subdivision (b). The city or county shall determine, based on the entire record, whether projected water supplies will be sufficient to satisfy the demands of the project, in addition to existing and planned future uses. If the city or county determines that water supplies will not be sufficient, the city or county shall include that determination in its findings for the project.

The lead agency is expected to review the Assessment and decide whether additional water supply information is needed for its consideration of the proposed project.

5.1 Findings

Whereas:

1. The City of Ontario has been identified as the water supplier for the Colony Commerce Center East Specific Plan ("Project").
2. The projected total water demand for the Project is 285 acre-feet per year (AFY, or 254,794 gallons per day, gpd).
3. The water demand for the Project was included in the "2015 Urban Water Management Plan" dated July 2016, which was adopted by the City of Ontario City Council by Resolution 2016-072 on July 21, 2016.
4. The City of Ontario's water supply capacity from City wells, as of 2012, was 73.57 mgd (51,093 gpm or 82,403 AFY).[1] The City's "Ultimate Source of Supply" under buildout conditions is anticipated to have full capacity estimated at 138.59 mgd (155,224 gpm or 155,224 AFY).[2]
5. The City of Ontario's potable and recycled water demand, as of 2015, is 36,153 AFY (32 mgd). The City estimates an ultimate potable water demand of 73,640 AFY (66 mgd) by 2040.[3] The City's current groundwater pumping capacity is greater than needed to meet the average day demands under buildout conditions. Additional wells are planned to supply the anticipated ultimate maximum day demand.[4]
6. The City of Ontario has water rights in the Chino Groundwater Basin, shareholder entitlements to San Antonio Water Company, and capacity rights in the WFA Agua de Lejos Treatment Plant. The City also has contracted for 8,533

[1] This is the most recently published source for this data. See Appendix L, Table 9-1. However, as of 2017, existing capacity is slightly less at 49,235 gpm (gallons per minute) or 70.8 mgd (million gallons per day, assuming pumping 24-hours a day, 7 days a week, per email dated March 7, 2017 from Tom O'Neill, Utilities Operations Director, City of Ontario).
[2] See Appendix L, Table 9-3. This is the most recently published source for this data.
[3] See Table 4 in Appendix B of Appendix A herein.
[4] See Appendix L, p. 9-2.

acre-feet per year from the Chino Desalter Authority. The projected recycled water supply for the City of Ontario is 16,547 acre-feet per year by 2040.

7. The total projected water supplies available to the City of Ontario during normal, single dry, and multiple dry water years during a 20-year projection are sufficient to meet the projected water demand associated with the proposed Project, in addition to the City's existing and planned future uses, including agricultural and manufacturing uses, as described in Section 7.3 of Appendix A.

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