Appendix N.1

Water Supply Assessment
The Altum Group, 2018

Travertine SPA
Draft EIR
SCH# 201811023
Technical Appendices

October 2023

Water Supply Assessment/Verification

For The

Travertine Specific Plan Project

Prepared for
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Acronyms and Abbreviations

AF	Acre-Feet
ACBCI	Agua Caliente Band of Cahuilla Indians
AFY	Acre-Feet per Year
AWWARF	American Water Works Association Research Foundation
CEQA	California Environmental Quality Act
CFS	Cubic Feet per Second
Ccf	100 Cubic Feet
CVP	Coachella Valley Project
CVRWMG	Coachella Valley Regional Water Management Plan
CVWD	Coachella Valley Water District
CVWMP	Coachella Valley Water Management Plan
DWA	Desert Water Agency
DWR	California Department of Water Resources
EAWA	Estimated Annual Water Applied
ETAF	Evapotranspiration Adjustment Factor
ETO	Evapotranspiration
GCS	Government Code Section
Gpcd	Gallons per capita day
Gpd	Gallons per day
GRF	Groundwater Replenishment Facility
GSP	Groundwater Sustainability Plan
HDR	High Density Residential
ID-1	Improvement District No. 1
IID	Imperial Irrigation District
IRWMP	Integrated Regional Water Management Plan
MAF	Million Acre-Feet
MAWA	Maximum Allowable Water Allocation
MHDR	Medium High Density Residential
MWELO	Model Water Efficient Landscape Ordinance
MUA	Mixed Use Areas
MU	Mixed Use
MWD	Metropolitan Water District of Southern California
NMFS	National Marine Fisheries Service
OS-P	Open Space Park OS-
R	Open Space Reserve
PF	Public Facility
PWS	Public Water System
QSA	Quantification Settlement Agreement
RCCDR	Riverside County Center for Demographic Research
RCP	Riverside County Population Projections – 2006 and 2010
SB	Senate Bill

SBx7-7	Senate Bill x7-7
SCE	Southern California Edison
SCG	Southern California Gas
SDCWA	San Diego County Water Authority
SF	Square Feet
SGMA	Sustainable Groundwater Management Act
SOI	Sphere of Influence
SWP	State Water Project
SWPDCR	State Water Project Delivery Capability Report
SWRCB	State Water Resources Control Board
TEL	Thomas E. Levy
USBR	United State Bureau of Reclamation
USFWS	United States Fish and Wildlife Service
UWMP	Urban Water Management Plan
VSD	Valley Sanitary District
WRP	Water Reclamation Plant
WSA	Water Supply Assessment
WSV	Water Supply Verification

Executive Summary

This Water Supply Assessment (WSA) and Water Supply Verification (WSV) are being prepared in conjunction with the Environmental Impact Report (EIR) for the 887.5 acre Travertine Specific Plan Project (Project) located in the southeastern portion of the City of La Quinta (City) (Exhibit 1, *Regional Location*). The WSA/WSV addresses the projected water demand and supply conditions associated with full build-out of the Project. In addition to evaluating future water demand for the Project, the WSA/WSV also evaluates the available existing and future water resources that the local water purveyor, Coachella Valley Water District (CVWD), will utilize to meet future demand for the Whitewater River Subbasin.

As shown in Exhibit 2, *Project Site and Vicinity*, the local area is characterized as "developing" with a number of golf course communities in a northerly to southerly direction toward the Santa Rosa Mountains. The Santa Rosa Mountains and their foothills and peaks are part of the Santa Rosa and San Jacinto Mountains National Monument that will remain as open space in perpetuity. Photos of Project site locations (as shown in Exhibit 2), are shown in Exhibit 3, *Site Photos*.

The original *Travertine and Green Specific Plan* – approved by the City of La Quinta in 1995 (Exhibit 4, *Approved Travertine and Green Specific Plan*) was used as the basis for developing the new Travertine Specific Plan Project (Project) and pertains only to the Travertine site, and not the Green site which is located northwest of the Travertine site.

To offer flexibility in the development of the Project, and to accommodate future market related conditions, the proposed Project includes two options for planning development. The primary option (referred hereafter as Plan A) would be developed as a residential gated community with resort related uses. The secondary option (Plan B) would be developed as a residential-only gated community. As shown in Exhibit 5A, *Proposed Planning Areas – Plan A*, Plan A would consist of a residential component (Planning Areas 3-10, 12-16), a hotel resort and a villa hotel/timeshare resort component (Planning Area 2), and a golf clubhouse and banquet facility component (Planning Area 11). As shown in Exhibit 5B, *Proposed Planning Areas – Plan B,* Plan B would instead consist of a residential component for Planning Areas 2 through 16.

With either plan, the Project will keep to a fixed number of residential dwelling units with a total of 1,200 units proposed. The only difference between the two plans would be the quantity of units distributed per Planning Area.

With the City's current projected occupancy rate of 2.64 persons per residential dwelling unit, the total population at build-out is projected to be at 3,168 persons. Under Plan A Option, the Project at build-out is expected to consume approximately 408,985,366 gallons of water per year

or 1,120,508 gallons per day. Under Plan B Option, the Project at build-out is expected to consume approximately 208,368,680 gallons of water per year or 570,873 gallons per day.

The estimated project demands under the Plan A Option would total approximately 1,255.13 acre-feet per year (AFY) or, 1.43 acre-feet (AF) per acre. Plan A water demand represents approximately 1.09 percent of the total water supply number (114,600 AFY) for 2020, and approximately 0.64 percent of the total water supply number (194,300 AFY) for 2035.

The estimated project demands under the Plan B Option would total approximately 639.46 acre-feet per year (AFY) or, 0.72 AF per acre. Plan B water demand represents approximately 0.55 percent of the total water supply number (114,600 AFY) for 2020, and approximately 0.32 percent of the total water supply number (194,300 AFY) for 2035. The projected indoor water demand under Plan A and Plan B will be approximately 280.50 AFY and 215.39 AFY respectively.

The Project site is located within the CVWD District Boundary (Exhibit 7, *Coachella Valley Water District Service Area*). The Project will obtain its domestic (potable) water supply from groundwater wells connected to the Whitewater River Subbasin in the Coachella Valley (Exhibit 8, *Coachella Valley Water District Groundwater Subbasins*). Currently, the number of groundwater wells needed to adequately supply the Project is currently under consideration by CVWD and will be determined upon analysis of this WSA/WSV.

Nonetheless, groundwater storage from the Whitewater River Subbasin will be utilized during the dry years to balance supply and demand. The groundwater basin has a storage capacity of approximately 28.8 million acre-feet (AF) and is capable of meeting the water demands of the Coachella Valley for extended normal and prolonged periods of drought.

CVWD has many programs designed to maximize the water resources available, including recharge of the basin by obtaining supplies from the Colorado River and State Water Project (SWP), desalinated agricultural drain water, conversion of groundwater-dependent uses to canal water, water conservation including budget-based tiered water rates, CVWD's landscaping ordinance (Ordinance 1302.3), rebate programs, and educational and public outreach programs. CVWD's groundwater replenishment programs represent a managed effort to eliminate the overdraft and allow CVWD to maintain the groundwater basin as its primary water supply, and to recharge the groundwater basin when other supplies are available. Since 2002, CVWD and Desert Water Agency (DWA) in the western Coachella Valley have increased their SWP Table A Allotments to 194,100 AFY and have recharged approximately 3 million AF of additional SWP Table A water since 1973, which averages approximately 70,500 AFY.

Based upon the supply/demand analyses conducted for this Project, CVWD finds that there are sufficient water supplies available to meet the demands of the proposed Project in addition to current and planned future water users including manufacturing, industrial, and agricultural

users for the 20-year period between 2020 and 2040. In addition, CVWD has and will continue to invest resources in promoting water efficient practices throughout its service area, thereby reducing overall demand. Also, through implementation of the new landscape ordinance and building code requirements, more stringent requirements will be placed on new development for all sectors, thereby further reducing future water demand.

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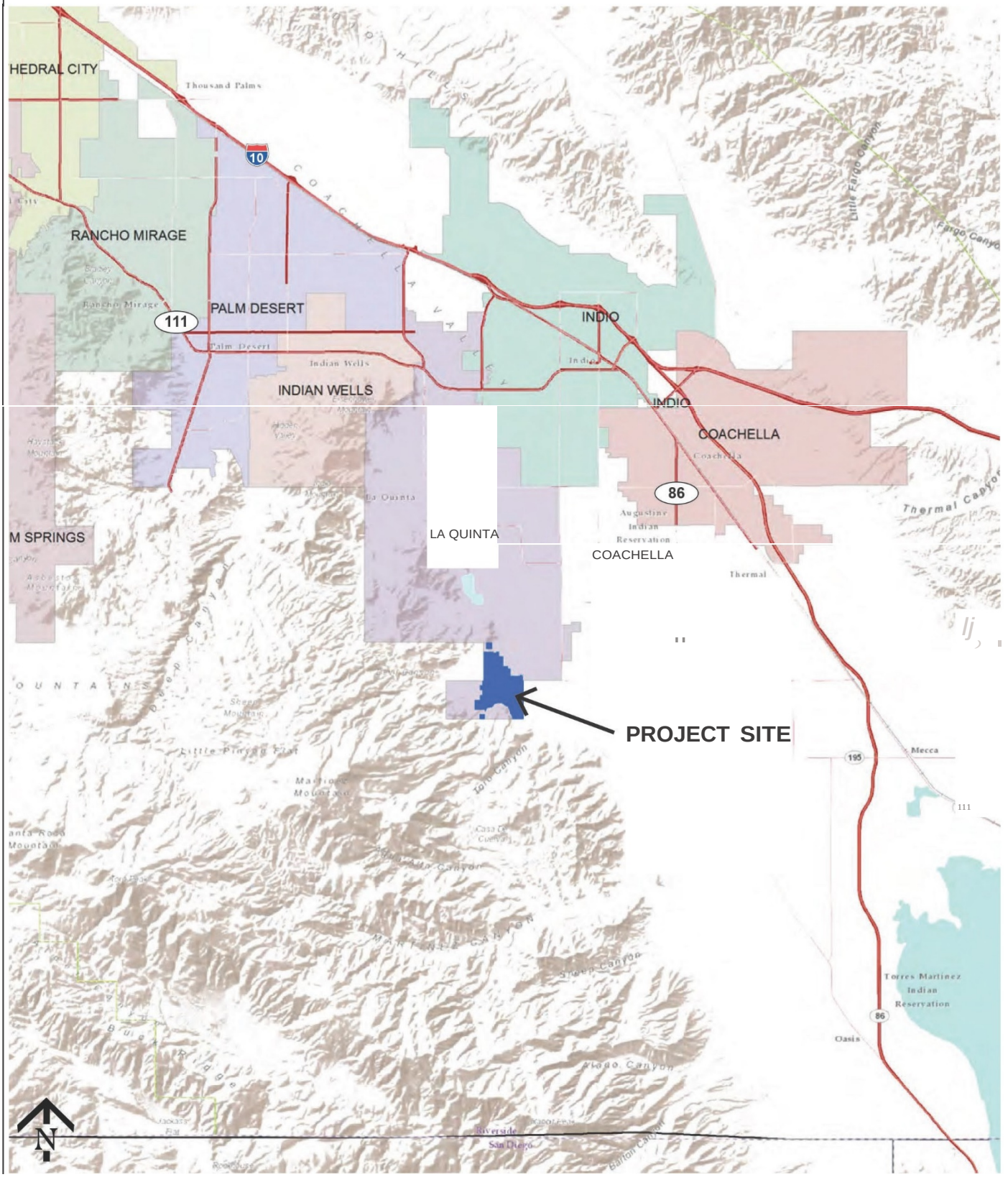

Source:Travertine Specific Plan Amendment No.1. TRG Land Development, 2017

Regional Location- Travertine Specific Plan Amendment No.1
Water Supply Assessment/Water Supply Verification

Exhibit 1

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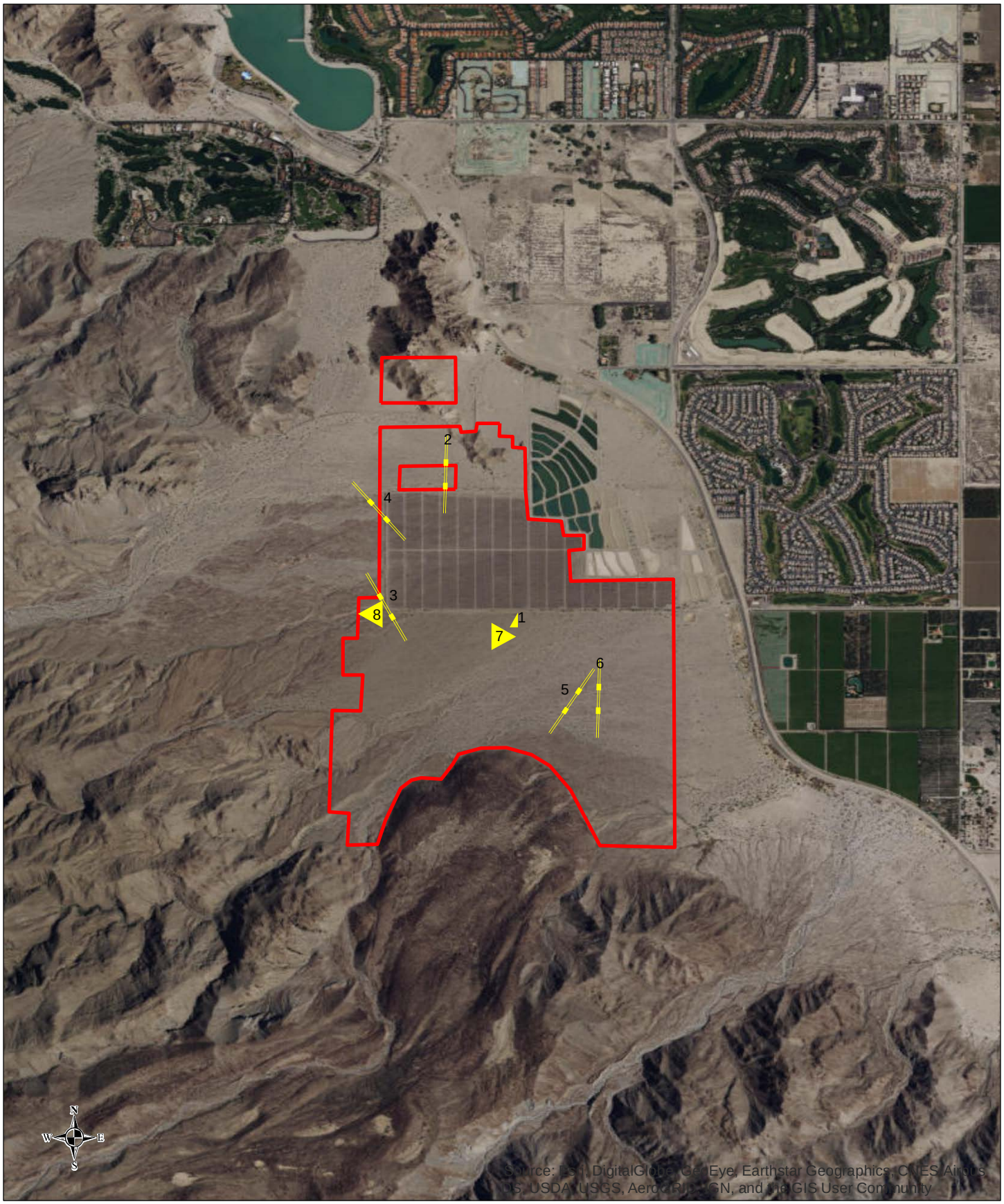

Project Site and Vicinity - Travertine Specific Plan Amendment No. 1 - Water Supply Assessment/Water Supply Verification

Exhibit 2

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Site Photos
Travertine Specific Plan EIR

Exhibit
3

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Site Photos
Travertine Specific Plan EIR

Exhibit
3

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Approved Travertine and Green Specific Plan
Travertine Specific Plan Amendment No.1
Water Supply Assessment/Water Supply Verification

Exhibit 4

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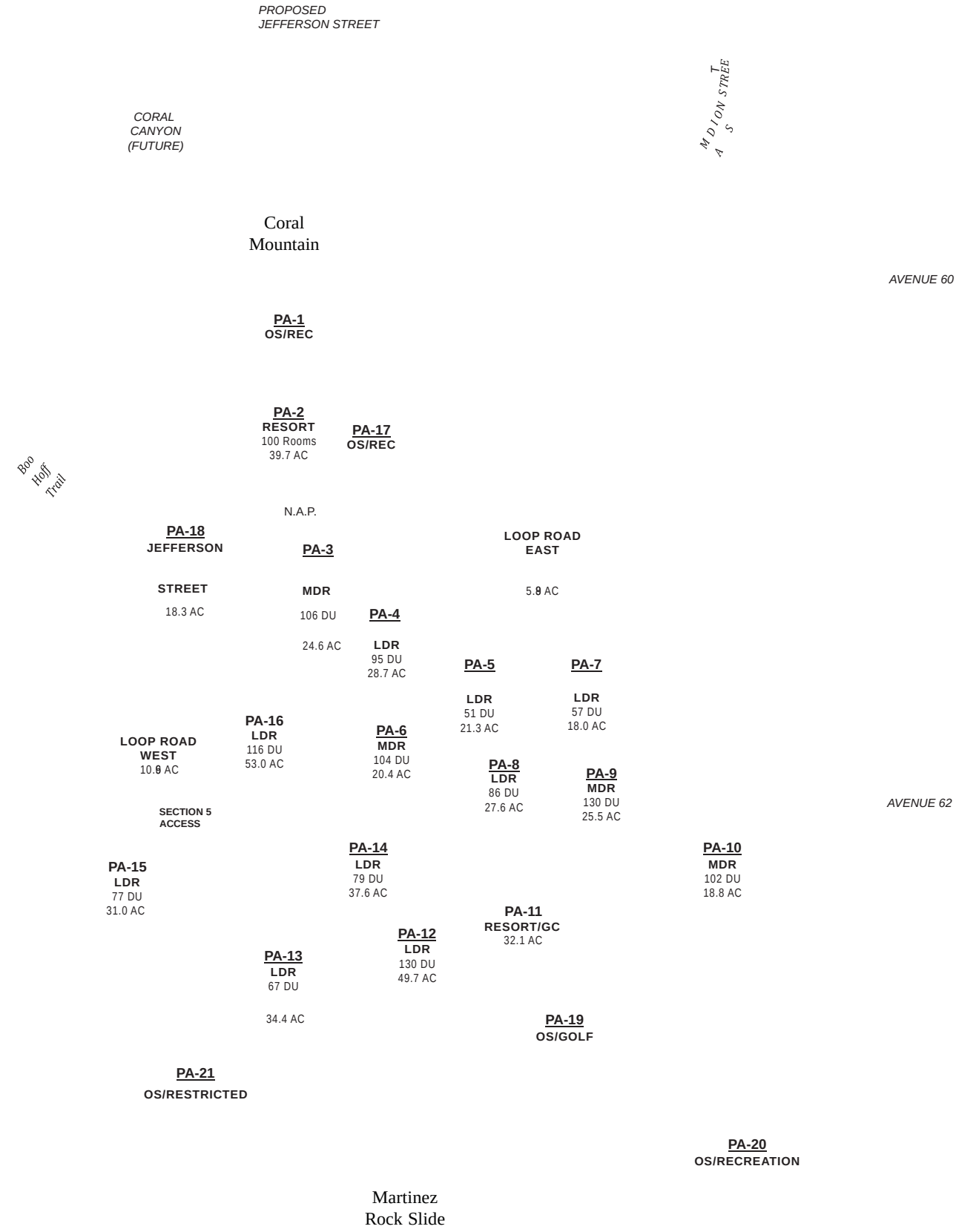
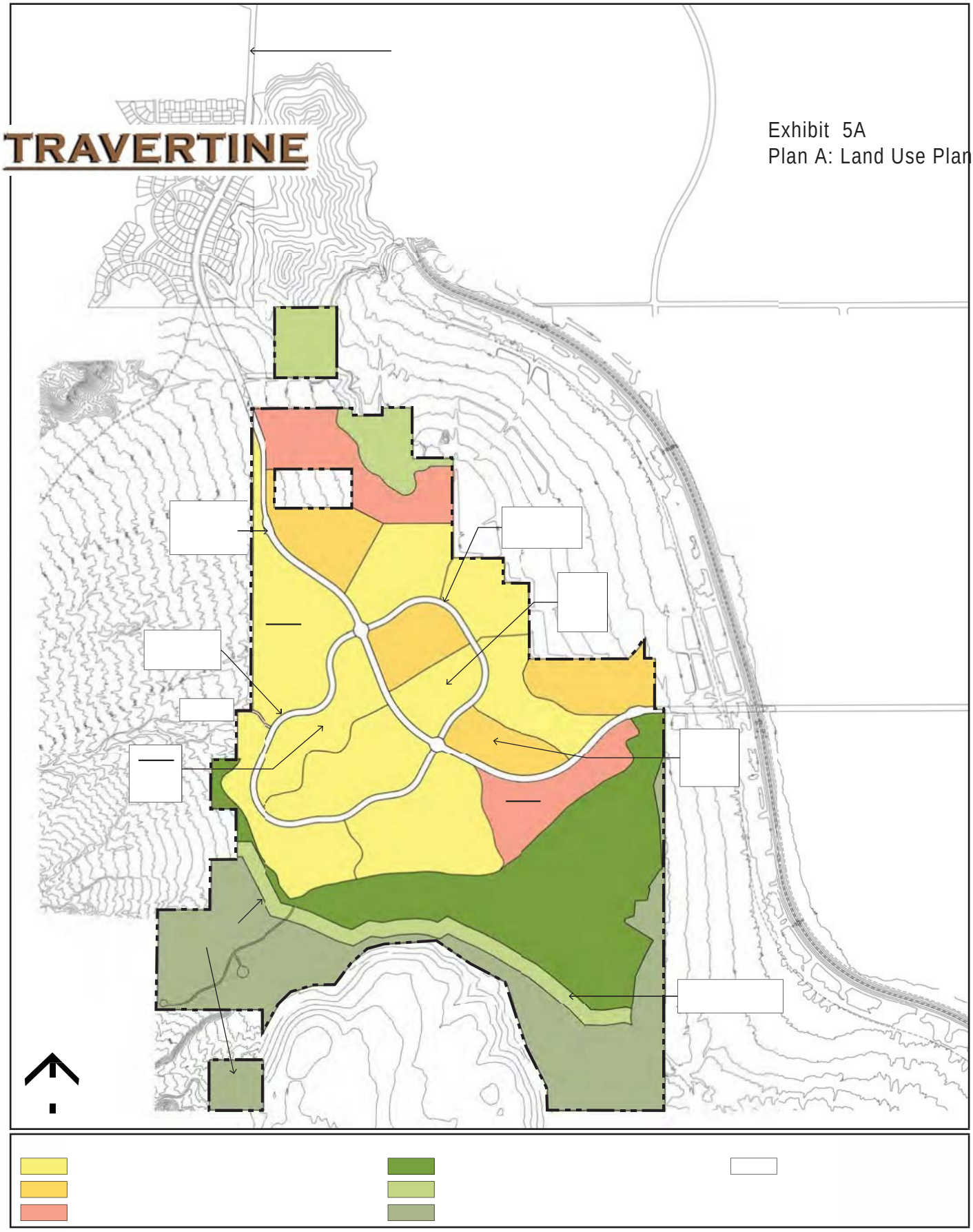

PROPOSED
JEFFERSON STREET
CORAL
CANYON
(FUTURE)
MADISON STREET
Coral
Mountain
AVENUE 60
PA-1
OS/REC
PA-2
RESORT
100 Rooms
39.7 AC
PA-17
OS/REC
Boo
Hoff
Trail
N.A.P.
PA-18
JEFFERSON
STREET
18.3 AC
PA-3
MDR
106 DU
24.6 AC
LOOP ROAD
EAST
5.9 AC
PA-4
LDR
95 DU
28.7 AC
PA-5
LDR
51 DU
21.3 AC
PA-7
LDR
57 DU
18.0 AC
PA-16
LDR
116 DU
53.0 AC
LOOP ROAD
WEST
10.6 AC
PA-6
MDR
104 DU
20.4 AC
PA-8
LDR
86 DU
27.6 AC
PA-9
MDR
130 DU
25.5 AC
AVENUE 62
SECTION 5
ACCESS
PA-14
LDR
79 DU
37.6 AC
PA-15
LDR
77 DU
31.0 AC
PA-10
MDR
102 DU
18.8 AC
PA-11
RESORT/GC
32.1 AC
PA-12
LDR
130 DU
49.7 AC
PA-13
LDR
67 DU
34.4 AC
PA-19
OS/GOLF
PA-21
OS/RESTRICTED
PA-20
OS/RECREATION
Martinez
Rock Slide
N
LEGEND
Low Density Residential
Medium Density Residential
Resort - Golf Course
Open Space / Golf
Open Space / Recreational
Open Space / Restricted
Master Plan Roadways

TRAVERTINE

Exhibit 5A
Plan A: Land Use Plan



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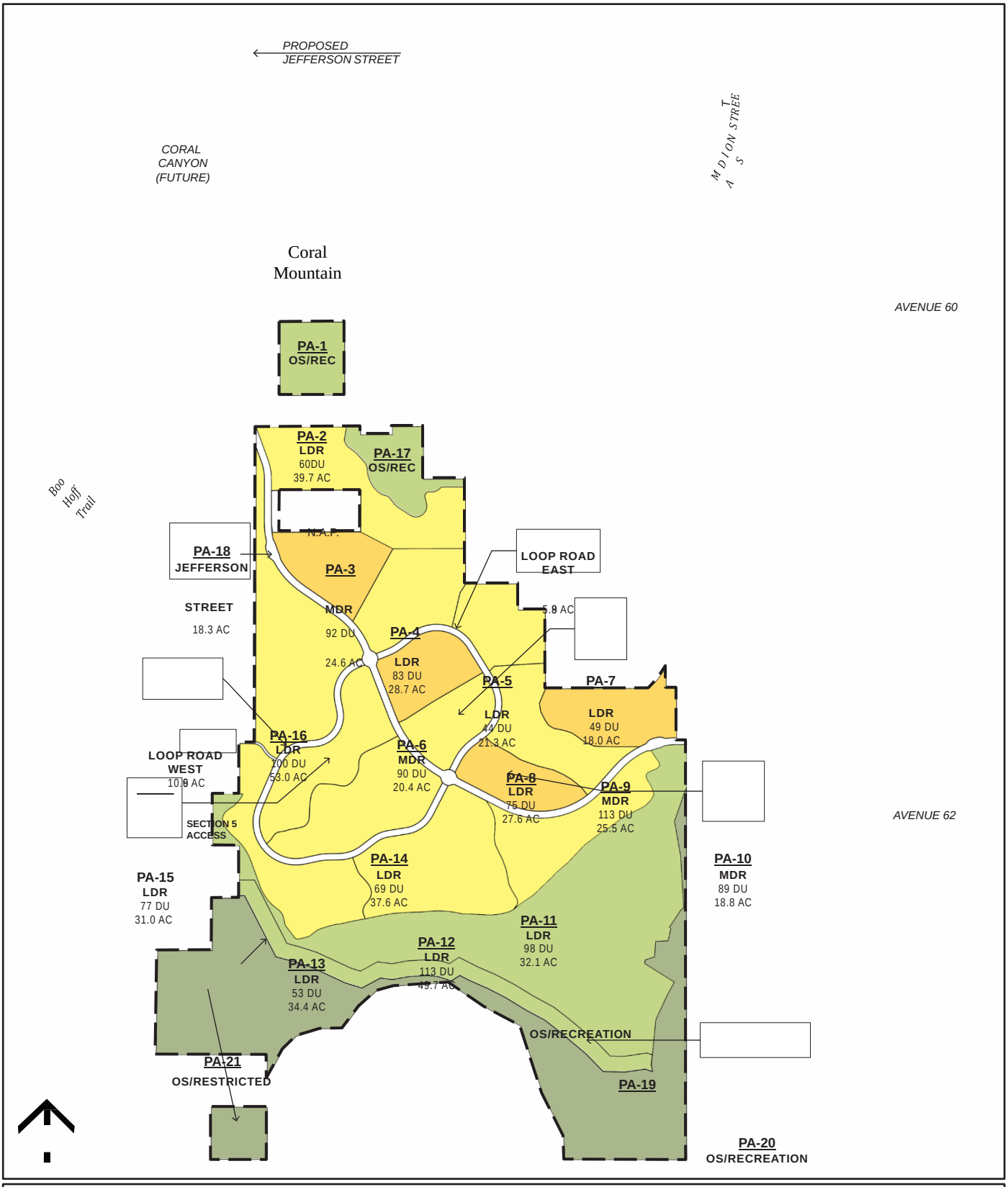

LEGEND

Low Density Residential

Medium Density Residential

Open Space / Golf

Open Space / Recreational

Open Space / Restricted

Master Plan Roadways

TRAVERTINE

Exhibit No: 5B
Plan B: Land Use Plan

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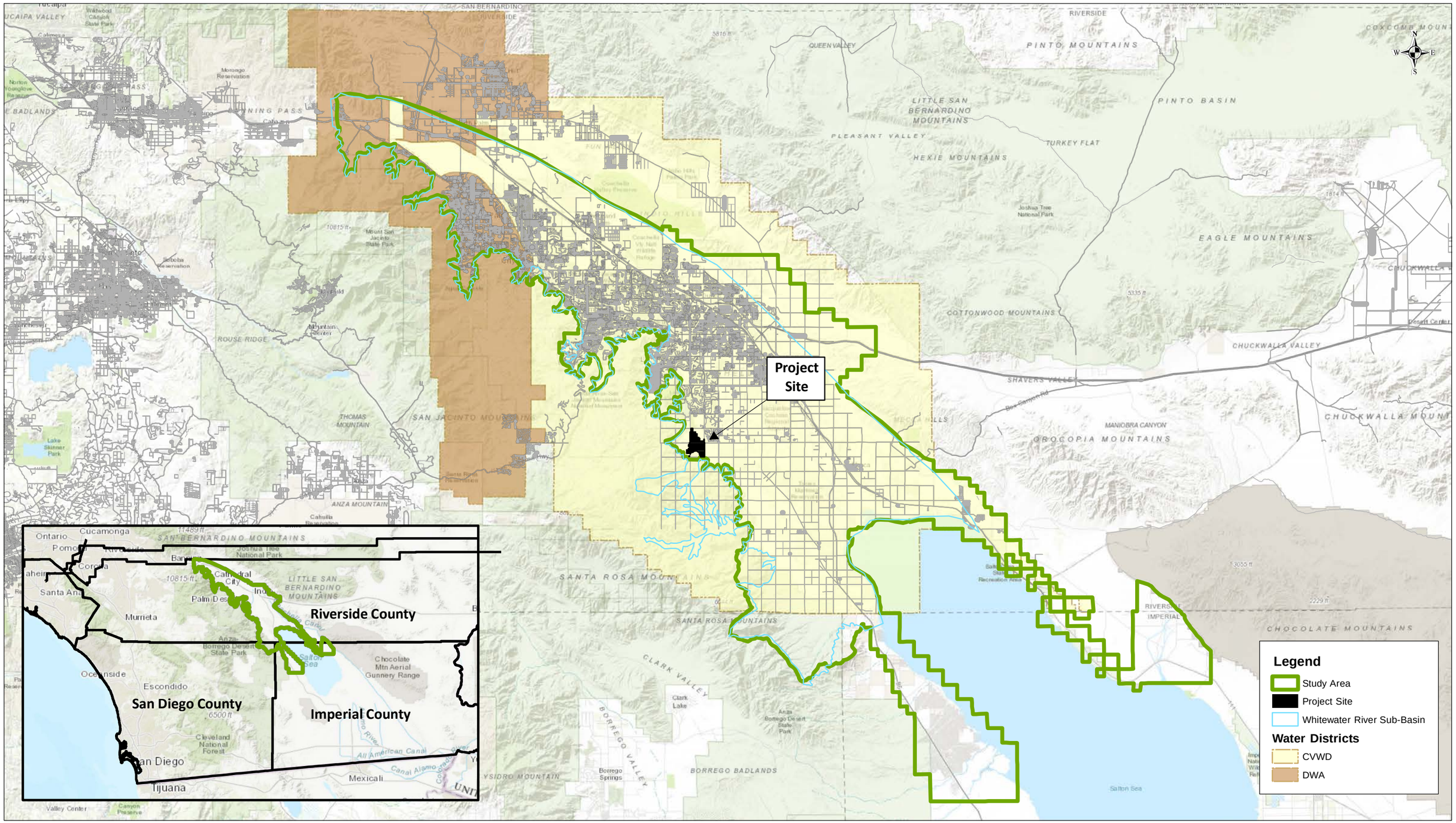

CVWD Service Area
Travertine Specific Plan Water Supply Assessment

Exhibit 6

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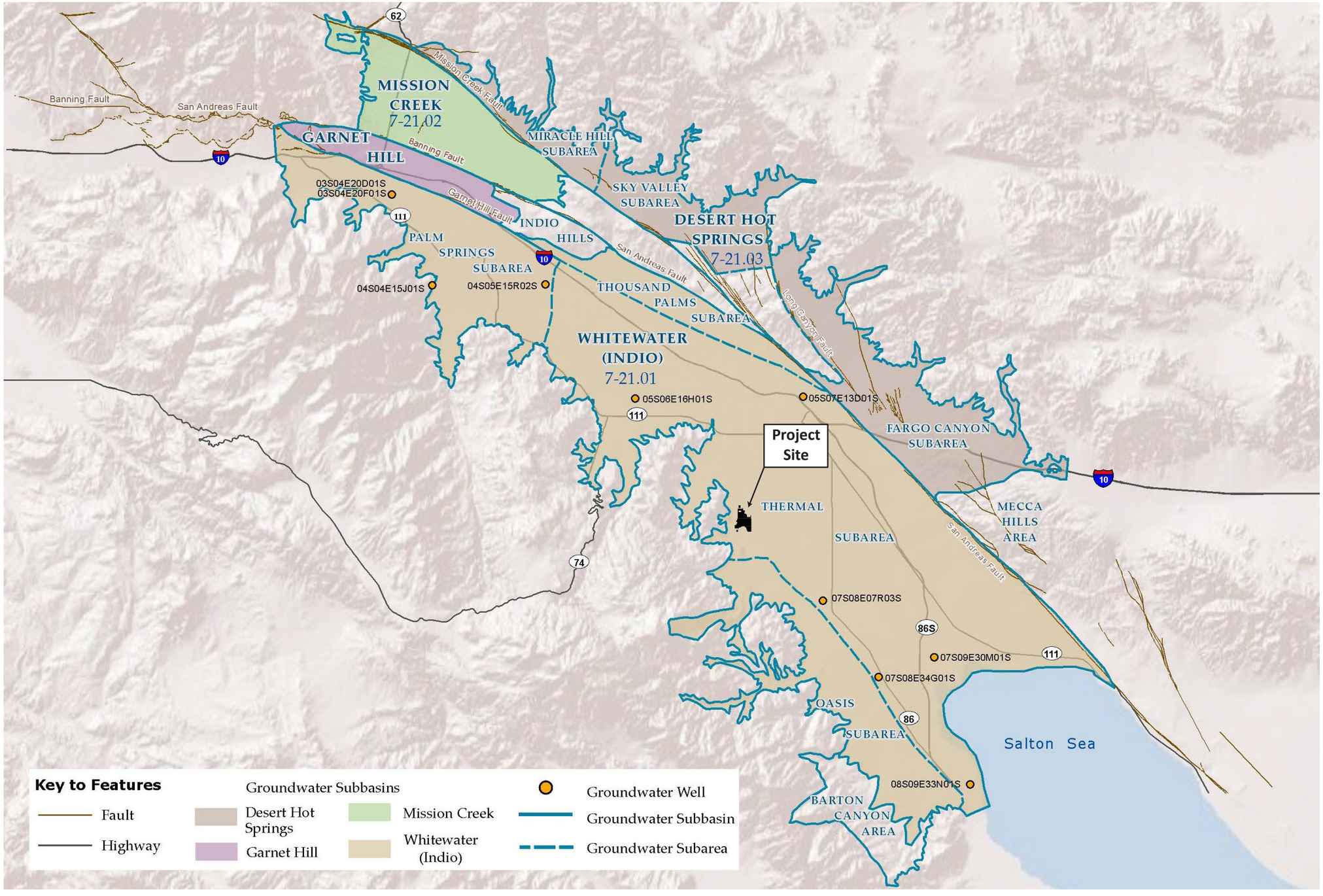

Source: MWH, 2012

CVWD Groundwater Subbasins
Travertine Specific Plan Water Supply Assessment

Exhibit 7

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1 Introduction

1.1 Project Description

The 877.5-acre Travertine Specific Plan Project (Project) site is located in the southeastern portion of the City of La Quinta (City) (see Exhibit 2, in the *Executive Summary*). The Project is generally bounded by the extension of Avenue 60 on the north; the extension of Avenue 64 to the south; Coachella Valley Water District (CVWD) Dike No. 4 on the east and the extension of Madison Street; and the extension of Jefferson Street on the west. Further, the Project is located in Section 33, Township 6 South, Range 7 East, and Sections 3 through 5 in Township 7 South, Range 7 East, San Bernardino Base Line and Meridian; Martinez Mountain and Valerie 7.5 minute quadrangles; and at Latitude 33° 35' 53" N Longitude 116° 15' 33" W (approximate geographic center of the site). The Project site consists of the following Assessor Parcel Numbers: 766-110-002, -003, -004, -005,-007, and -009; 766-120-001, -002, -003, -006, -015, -016, -018, and -021, 753-040-014, 016, and -017, 753-050-007, -013, and -029; and 753-060-003.

Project Plan A

As shown in Exhibit 5A, *Proposed Planning Areas – Plan A*, the Project layout under Plan A will consist of resort uses for Planning Areas 2 and 11, low to medium density residential uses for Planning Areas 3-10, 12-16, an open space golf course links land use type for Planning Area 19, a community park for Planning Area 15 and a community park with clubhouse for Planning Area 8, open space recreational uses for Planning Areas 1, 17 and 20, and an open space natural area use for Planning Area 21. Table 1, *Land Use Summary – Plan A*, provides a detailed description of the proposed development under the Plan A option.

Project Plan B

As shown in Exhibit 5B, *Proposed Planning Areas – Plan B,* the proposed Project layout under Plan B will consist of low to medium density residential uses for Planning Areas 2-16, an open space golf course links land use type for Planning Area 19, a community park for Planning Area 15 and a community park with clubhouse for Planning Area 8, open space recreational uses for Planning Areas 1, 17 and 20, and an open space natural area use for Planning Area 21. Table 2, *Land Use Summary – Plan B*, provides a detailed description of the proposed development under the Plan B option.

Table 1 Land Use Summary – Plan A

Land Use Summary – Plan A					
Planning Area	**Specific Plan Designation**	**Lot Size Product Type**	**Net Area (Acres)**	**Preferred Target Density Dwelling Units /Acre**	**Maximum Dwelling Units**
3	Medium Density Residential (MDR)	4,000 sq. ft. Duplex	24.6	4.3	106
4	Low Density Residential (LDR)	6,300 sq. ft. Single Family Entry	28.7	3.3	95
5	Low Density Residential (LDR)	5,775 sq. ft. Patio Homes	21.3	2.4	51
6	Medium Density Residential (MDR)	4,000 sq. ft. Duplex	20.4	5.3	104
7	Low Density Residential (LDR)	6,300 sq. ft. Single Family Entry.	18.0	3.2	57
8	Low Density Residential (LDR)	5,775 sq. ft. Patio Homes	27.6	3.1	86
9	Medium Density Residential (MDR)	4,000 sq. ft. Duplex	25.5	5.1	130
10	Medium Density Residential (MDR)	4,000 sq. ft. Duplex	18.8	5.4	102
12	Low Density Residential (LDR)	7,150 sq. ft. Single Family Mid 7,500 sq. ft. Single Family Luxury 9,600 sq. ft. Estates	49.7	2.6	130
13	Low Density Residential (LDR)	7,500 sq. ft. Single Family Luxury 9,600 sq. ft. Estates	34.4	2.0	67
14	Low Density Residential (LDR)	7,150 sq. ft. Single Family Mid 7,500 sq. ft. Single Family Luxury	37.6	2.1	79
15	Low Density Residential (LDR)	7,150 sq. ft. Single Family Mid 7,500 sq. ft. Single Family Luxury 9,600 sq. ft. Estates	31.0	2.5	77
16	Low Density Residential (LDR)	7,150 sq. ft. Single Family Mid 7,500 sq. ft. Single Family Luxury 9,600 sq. ft. Estates	53.0	2.2	116
				Residential Total	**1,200**
Resort Boutique Hotel					
2	25-Casita Villas Spa and Wellness Facility 75 Room Boutique Resort Hotel		39.7	N/A	N/A
Resort Golf Course					
11	Golf Club House and Restaurant , Pro Shop, Cart Barn and Resort Banquets Facility		32.1	N/A	N/A
Open Space /Golf Course Links					
19	Golf Course	N/A	153.4	N/A	N/A
Open Space /Recreation					
1	Open Space/Recreation	N/A	17.2	N/A	N/A
17	Open Space/Recreation	N/A	18.5	N/A	N/A
20	Open Space/Recreation	N/A	28.4	N/A	N/A
Open Space / Natural					
21	Open Space/Natural	N/A	162.5	N/A	N/A
Master Planned Roadways					
18	Master Planned Roadways	N/A	35.1	N/A	N/A
Total Area			**877.5**	**Residential Total**	**1,200**

Source: TRG Land Inc., November, 2017.

Notes: SFD=DU = Dwelling units; AC = Acre; N/A = Not applicable.

Table 2 Land Use Summary – Plan B

	Land Use Summary – Plan B				
Planning Area	**Specific Plan Designation**	**Lot Size Product Type**	**Net Area (Acres)**	**Preferred Target Density Dwelling Units /Acre**	**Maximum Dwelling Units**
2	Medium Density Residential (MDR	5,775 sq. ft. Patio Homes	39.7	1.5	60
3	Medium Density Residential (MDR)	4,000 sq. ft. Duplex	24.6	3.7	92
4	Low Density Residential (LDR)	6,300 sq. ft. Single Family Entry	28.7	2.9	83
5	Low Density Residential (LDR)	5,775 sq. ft. Patio Homes	21.3	2.1	44
6	Medium Density Residential (MDR)	4,000 sq. ft. Duplex	20.4	4.4	90
7	Low Density Residential (LDR)	6,300 sq. ft. Single Family Entry.	18.0	2.7	49
8	Low Density Residential (LDR)	5,775 sq. ft. Patio Homes	27.6	2.7	75
9	Medium Density Residential (MDR)	4,000 sq. ft. Duplex	25.5	4.4	113
10	Medium Density Residential (MDR)	4,000 sq. ft. Duplex	18.8	4.7	89
11	Low Density Residential (LDR)	6,300 sq. ft.Single Family Entry. 7,150 sq. ft. Single Family Mid	32.1	3.1	98
12	Low Density Residential (LDR)	7,150 sq. ft. Single Family Mid 7,500 sq. ft. Single Family Luxury	49.7	2.3	113
13	Low Density Residential (LDR)	7,500 sq. ft. Single Family Luxury 9,600 sq. ft. Estates	34.4	1.5	53
14	Low Density Residential (LDR)	7,150 sq. ft. Single Family Mid 7,500 sq. ft. Single Family Luxury	37.6	1.8	69
15	Low Density Residential (LDR)	7,150 sq. ft. Single Family Mid 7,500 sq. ft. Single Family Luxury	31.0	2.3	72
16	Low Density Residential (LDR)	7,150 sq. ft. Single Family Mid 7,500 sq. ft. Single Family Luxury 9,600 sq. ft. Estates	53.0	1.9	100
				Residential Total	1200
Open Space /Golf Course Links					
19	Golf Course Links	N/A	153.4	N/A	N/A
Open Space /Recreation					
1	Open Space/Recreation	N/A	17.2	N/A	N/A
17	Open Space/Recreation	N/A	18.5	N/A	N/A
20	Open Space/Recreation	N/A	28.4	N/A	N/A
Open Space / Natural					
21	Open Space/Natural	N/A	162.5	N/A	N/A
Master Planned Roadways					
18	Master Planned Roadways	N/A	35.1	N/A	N/A
		Total Area	**877.5**	**Residential Total**	**1,200**

Source: TRG Land Inc., September, 2017.
Notes: SFD=DU = Dwelling units; AC = Acre; N/A = Not applicable.

1.2 Regulatory Requirements

The Project is subject to the California Environmental Quality Act (CEQA). The Project is also a subdivision as defined by California Government Code Section 66473.7 and therefore subject to Section 66410 of the Subdivision Map Act.

CVWD, as the Public Water System (PWS) purveyor for the project, has determined that a Water Supply Assessment (WSA) is required to fulfill CEQA compliance and that a written Water Supply Verification (WSV) is required pursuant to the Subdivision Map Act.

CVWD completed its 2015 Urban Water Management Plan (UWMP) in compliance with the Urban Water Management Planning Act established in 1983. More recently, the Urban Water Management Planning Act was amended by SBx7-7, a bill that mandates a 20 percent reduction in per-capita water use by 2020. Together, SBx7-7 and the 2015 UWMP are considered the primary source document for the Project's WSA/WSV. The 2010 Coachella Valley Water Management Plan (CVWMP) Update discusses the Quantification Settlement Agreement (QSA). The QSA and related agreements were signed in 2003. A number of lawsuits have unsuccessfully challenged the QSA in State of California (State) and federal courts. Both the 2015 UWMP and 2010 CVWMP Update evaluate water supplies under the QSA and prior to implementation of the QSA. CVWD has prepared and adopted the 2015 UWMP and the demands of this Project are included in that document.

The State of California Department of Water Resources (DWR) issues its Final State Water Project Delivery Capability Report (SWPDCR) generally every two years. The 2015 SWPDCR report was utilized in the 2015 UWMP. The 2015 SWPDCR contains the most recent information and accounts for the impacts to water delivery capability through 2035 associated with climate change and recent federal litigation. Based on information from the 2015 SWPDCR, the average capability of SWP Table A deliveries through 2035 is projected to be 62 percent of SWP Table A amounts after taking into consideration the effects of climate change. In order to anticipate future reductions in capability, the 2010 CVWMP Update, and the 2015 UWMP assume an even lower long-term reliability of 50 percent.

Effective January 1, 2017, SB 1262 amends Water Code Section 10910, the WSA statute, to require that information regarding the Sustainable Groundwater Management Act (SGMA) be included in a WSA if a water supply for a proposed project includes groundwater from a basin that is not adjudicated and is designated medium or high-priority. The water supply for this Project will come from the Whitewater River (Indio) Subbasin, an un-adjudicated, medium priority subbasin. CVWD is a Groundwater Sustainability Agency (GSA) in the subbasin and has submitted the 2010 CVWMP Update to DWR as the Alternative Groundwater Sustainability Plan for the subbasin.

1.3 Purpose of Document

CVWD, as a Public Water System (PWS), is required by law to provide WSA/WSV documentation during the CEQA process, and is required by law to provide a WSV following approval of the Tentative Map(s) for the residential portion of the Project. This information is included in the CEQA documentation and becomes evidence used in the approval processes for the proposed development. It is noted that this WSA/WSV addresses the overall water supply available to CVWD to meet the demands of existing customers and other future demands. The WSA/WSV does not address the water delivery system within CVWD's system since the focus is on the overall water supply. Adequacy of the delivery system is addressed in CVWD's Water Master Plan. The WSA/WSV makes a finding of reasonable sufficiency of water supplies that are either available or will be available to CVWD to meet future demands. The Water Code requires a determination for a 20-year period (2016-2036) from the start of the project development.

The WSA/WSV must be reviewed every five years, or in the event that the water planning assumptions have changed, until the Project begins construction. The Project applicant shall notify CVWD when construction has begun. The review will ensure that the information included in the WSA/WSV remains accurate and no significant changes to either the Project or CVWD's water supply have occurred. If neither the Project applicant nor the lead agency contacts CVWD within five years of approval of this WSA/WSV, it will be assumed that the Project no longer exists, and the water supply assessment and verification provided by this documentation will become invalid.

1.3.1 Water Supply Assessment

Requirements for the preparation of a WSA are set forth in Senate Bill 610 (SB 610), which was enacted in 2001 and became effective January 1, 2002. SB 610 amended Section 21151.9 of the Public Resources Code and requires cities and counties to request specific information on water supplies from the PWS that would serve any project that is subject to CEQA and is defined as a "Project" in Water Code Section 10912. This information is to be incorporated into the environmental review documents prepared pursuant to CEQA.

State Water Code Section 10912 Defines a "Project" as any of the following:

1. A proposed residential development of more than 500 dwelling units.
2. A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet 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.

Full build-out of the Travertine Specific Plan is a "Project" as defined by Water Code Section 10912 which requires a WSA because it proposes over 500 housing units (1,501 total).

Effective January 1, 2017, SB 1262 amends Water Code Section 10910, the WSA statute, to require that SGMA-related information be included in a WSA if a water supply for a proposed project includes groundwater from a basin that is not adjudicated and is designated medium or high-priority. The proposed Project will use groundwater from the Whitewater River (Indio) Subbasin, which is designated medium priority by DWR and is not adjudicated.

1.3.2 Water Supply Verification

Senate Bill 221 (SB 221) was enacted in 2001 and became effective as of January 1, 2002. SB 221 amends Section 11010 of the Business and Professional Code, and amends Sections 66455.3 and 66473.7 to the Government Code. SB221 establishes the relationship between the WSA prepared for a Subdivision and the project approval under the Subdivision Map Act. Pursuant to California Government Code Section 66473.7, the PWS must provide a written verification of sufficient water supply prior to the approval of a new subdivision.

A Water Supply Verification (WSV) is required prior to the approval of a tentative subdivision map, or a parcel map for which a tentative map was not required, or a development agreement for a subdivision of property of more than 500 dwelling units, except as specified, including the design of the subdivision or similar type of improvement. The purpose of the WSV is to provide the legislative body of a city, county or the designated advisory agency with written verification from the applicable public water purveyor that a sufficient water supply is available or, in addition, a specified finding is made by the local agency that sufficient water supplies are, or will be, available prior to completion of the subdivision.

Therefore, a WSV is required by law since the proposed project has over 500 housing units and is a "Subdivision" as defined by Government Code Section 66473.7.

1.4 Water System and Supply

1.4.1 Water System

The CVWD public water system is the water system that will be used to supply the Project. All the in-tract water distribution facilities will be shown on subsequent improvement plans and will be designed and constructed in accordance with CVWD requirements.

CVWD's existing water supply and conveyance systems include, or will include, adequate capacity for daily demands and emergency fire protection. This includes groundwater pumping, transmission pipelines, distribution storage and surface pumping within internal roadways or other rights-of-way to provide domestic service to each residential tenant, as well as the proposed community parks, and multiple neighborhood parks within the Project.

1.4.2 Water Supply

CVWD provides services for domestic water, irrigation water, sanitation sewerage collection, wastewater reclamation and recycling, canal water, storm water protection and agricultural drainage. The CVWD service area encompasses roughly 637,000 acres and includes the central and eastern portions of the Coachella Valley within Riverside County, as well as small portions of Imperial and San Diego County (refer to Exhibit 5 in the *Executive Summary*).

CVWD currently has approximately 108,000 domestic water connections and has a groundwater production capacity of over 300,000 acre-feet per year (AFY). Areas served with domestic water by CVWD include a portion of lands near Desert Hot Springs, the Indio Hills area, and a portion of Cathedral City. CVWD serves all of Rancho Mirage, Thousand Palms, Palm Desert, Indian Wells, La Quinta, and portions of Indio and Coachella. CVWD also serves other rural communities, including Thermal, Mecca, Oasis, Desert Shores, Salton Sea Beach, Salton City, North Shore, Bombay Beach, and Hot Mineral Springs and other portions of unincorporated Riverside County (see Exhibit 6).

The Coachella Valley is bordered on the west and north by the Santa Rosa, San Jacinto and San Bernardino Mountains, which provide an effective barrier against coastal storms, and which greatly reduce the contribution of direct precipitation to recharge the valley's groundwater basin. The majority of natural recharge comes from runoff from the adjacent mountains.

Development throughout the Coachella Valley has been dependent on groundwater as a source of water supply. The demand for groundwater annually exceeds the limited natural recharge of the groundwater basin. Therefore, imported water is used to recharge the aquifer and reduce groundwater overdraft.

1.4.3 Historical Context

The need for additional water supplies in the Coachella Valley has been recognized for many years. The formation of CVWD in 1918 was a direct result of concern from local residents about a plan to export water from the Whitewater River to Imperial County. Coachella Valley residents recognized that action was needed to stem the decline of the water table, which was occurring as a result of local pumping in the eastern portion of the Coachella Valley. The decline prompted CVWD to enter into an agreement for the construction of the Coachella Branch of the All-American Canal to bring Colorado River water to the Coachella Valley. Since 1949, the Coachella Canal has been providing water for irrigation use in the area that generally encompasses Indio

and La Quinta southerly to the Salton Sea. Colorado River water is delivered by an underground irrigation distribution piping system from the 120-mile canal to farms and a growing number of golf courses in the Coachella Valley. In recent years, CVWD has begun a program of recharging the aquifer in the eastern portion of the Coachella Valley with this source.

The need for additional water supplies in the Coachella Valley has also been recognized as a result of development progression into the western portion of the Coachella Valley. As a result, in 1963 CVWD and the DWA, which serves the Palm Springs area and a portion of Cathedral City, and imports water for these areas and the Desert Hot Springs area, entered into separate contracts with the State of California (State) to ensure that SWP water would be available. Because a direct pipeline from the SWP system to the Coachella Valley does not exist, CVWD and DWA entered into an exchange agreement with the Metropolitan Water District of Southern California (MWD) to receive water from the MWD Colorado River Aqueduct, which crosses the upper portion of the Coachella Valley near Whitewater. In exchange, CVWD and DWA have their SWP water allotment delivered to MWD. Since 1973, in exchange for their SWP water, CVWD and DWA have been receiving Colorado River water from MWD's Colorado River Aqueduct turnout located at Whitewater Canyon to replenish groundwater in the Coachella Valley.

CVWD recognized the need to provide other sources of water to replenish the Coachella Valley groundwater basin. CVWD has been recycling reclaimed wastewater since 1967 and operates five water reclamation plants, two of which currently recycle water. Recycled water is currently used only for golf course and greenbelt irrigation in the Cities of Palm Desert, Indian Wells, and Indio, thereby reducing demand for groundwater supplies in the basin, and is not used to replenish the groundwater basin.

1.5 Existing Water Management Plans

1.5.1 2010 Coachella Valley Water Management Plan Update

CVWD began the first water management planning process for the early 1990s to address overdraft conditions with the Coachella Valley Aquifer and to ensure that there would be sufficient water supplies for the future. The plan serves as a 35-year blueprint for wise water management and for the basis of all CVWD's efforts to preserve the Coachella Valley's groundwater source.

The CVWMP was adopted by CVWD Board of Directors (Board) in 2002. A Programmatic Environmental Impact Report was prepared for the CVWMP and certified under CEQA. The goal of the CVWMP is to reliably sustain the water supply by meeting current and future water demands in a cost effective and sustainable manner. This goal will be met by achieving the following programmatic objectives:

- Meet current and future water demands with a 10 percent supply buffer;

- Eliminate long-term groundwater overdraft;
- Manage and protect water quality;
- Comply with State and federal laws and regulations;
- Manage future costs; and,
- Minimize adverse environmental impacts.

The Board recognized the need to update the CVWMP periodically to respond to changing external and internal conditions. The 2010 CVWMP Update meets that need. It defines how the goal will be met given changing conditions and new uncertainties regarding water supplies, water demands, and evolving federal and State regulations.

The 2010 CVWMP Update calls for a multifaceted approach including:

- Increased water conservation by all types of water users;
- Increased imported water supply from the Coachella Canal and SWP;
- Increased use of the imported supply and recycled water, instead of groundwater, for irrigation; and
- Expanded groundwater replenishment and source substitution efforts.

The 2010 CVWMP Update identifies several water conservation measures with the goal to reduce overall water consumption by 20 percent by 2020, and the goal to maintain this level of reduction through 2045. These measures include water efficient landscaping and irrigation controls, water efficient plumbing, tiered or seasonal water pricing, public information and education programs, alternative water supplies, water restrictive municipal development policies, appointing a CVWD conservation coordinator and refining the maximum water allowance budget for landscaped and recreational areas. The 2010 CVWMP Update reduces reliance on groundwater sources by fully utilizing Colorado River water, SWP water and recycled water supplies, and implementing more conservation over the long-term.

The 2010 CVWMP Update Executive Summary (Appendix B) emphasizes cooperation with municipalities, local water agencies, and tribes in regional planning and implementation. The following are among some of the recommended activities outlined in the update for the CVWD Board of Directors to consider over the next 35 years:

- Provide incentives and support to agricultural customers to conserve water, such as through converting from flood/sprinkler irrigation to more efficient micro-sprinkler/drip systems;
- Encourage existing golf courses to convert landscaping to meet the most current Landscape ordinance;
- Expand landscape conversion rebates for domestic customers to encourage less grass and more desert appropriate landscaping; and
- Complete construction of subsequent phases of the Mid-Valley Pipeline system to provide a blend of recycled and Colorado River water for golf courses in lieu of groundwater.

The 2010 CVWMP Update recognizes that groundwater storage makes up the difference between demand and supply. Other than canal water for irrigation and groundwater recharge, recycled water and desalinated drain water, all water delivered to the end users is obtained from the groundwater basin. The groundwater basin has a capacity of approximately 28.8 million acre- feet (AF). It is capable of meeting the water demands of the Coachella Valley for extended periods, thereby buffering the groundwater resource during period of varying water availability.

The 2010 CVWMP Update discusses many CVWD programs to maximize the water resources available including:

- Recharge of Colorado River and SWP supplies;
- Recycled wastewater, desalinated agricultural drain water, conversion of groundwater uses to canal water; and
- Water conservation including tiered water rates, landscaping ordinance, outreach and education.

The 2010 CVWMP Update and CVWD's Replenishment Assessment Program established a comprehensive and managed effort to eliminate overdraft. The programs allowed CVWD to maintain the groundwater basin as its primary water supply and to recharge the groundwater basin as other supplies become available. For reference, the Executive Summary of the 2010 CVWMP Update is provided in Appendix A.

CVWD prepared the 2014 and 2017 CVWMP Status Reports to evaluate the effectiveness of the 2010 CVWMP Update, including progress on eliminating overdraft. Both Status Reports demonstrated that the 2010 CVWMP Update is working and that continued implementation ensures that overdraft will be eliminated within 10 years as shown in Exhibit 8, *Status of the Overdraft – Annual Change in Storage*. The status of the *Annual Change in Storage,* is updated annually in CVWD's *Engineer's Report on Water Supply and Replenishment Assessment*. Over the ten-year period preceding 2014, there was no overdraft mainly as a result of increases in urban conservation and increases in imported water deliveries to the Coachella Valley. Between 2014 and 2017, imported water deliveries were significantly reduced as a result of the Statewide Drought, however, groundwater pumping was also significantly reduced due to the Governor's drought restrictions.

Groundwater levels have increased in the Palm Springs area and in the eastern portion of the Coachella Valley. However, water levels are still declining in the Mid-Valley areas near Rancho Mirage, Palm Desert and Indian Wells. Groundwater levels in this area will continue to decline until full implementation of Mid-Valley (between Eastern and Western Coachella Valley) programs that reduce pumping take effect. These Mid-Valley Programs include urban conservation; source substitution programs including non-potable water system expansion to

golf courses, Colorado River water treatment for municipal use; and additional recharge. The 2014 and 2017 CVWMP Status Reports are publically available at www.cvwd.org.

1.5.2 CVWD 2015 Urban Water Management Plan, SBx7-7 and Water Shortage Contingency Ordinance

The 2015 CVWD UWMP was approved by the State on September 29, 2016. Water Code Section 10910 (c)(2) states that, if demand from potential future growth is accounted for in the most recently adopted 2015 UWMP, the water supplier may incorporate the requested information from the 2015 UWMP in preparing the WSA/WSV. CVWD demand projections contained in the 2015 UWMP take into account the increased growth throughout its service area.

In November 2009, SBx7-7 was approved and adopted by the State. DWR provides alternative water use reduction targets for urban water suppliers to select, and guidance to achieve the target goal. The legislation includes requirements to improve the management of CVWD water resources by monitoring groundwater basins, developing agricultural water management plans, reducing Statewide per capita water consumption by 2015 and 2020, and reporting water diversions and uses in the Sacramento Delta.

SBx7-7 creates a framework of future planning and actions by urban and agricultural water suppliers to reduce California's water use. This bill requires the development of agricultural water management plans and requires urban per capita water consumption to be reduced by 20 percent by the year 2020.

The recent drought that began in 2013 resulted in record low precipitation both Statewide and in the Coachella Valley, and resulted in implementation of severe water use restrictions mandated by the State Water Resources Control Board (SWRCB).

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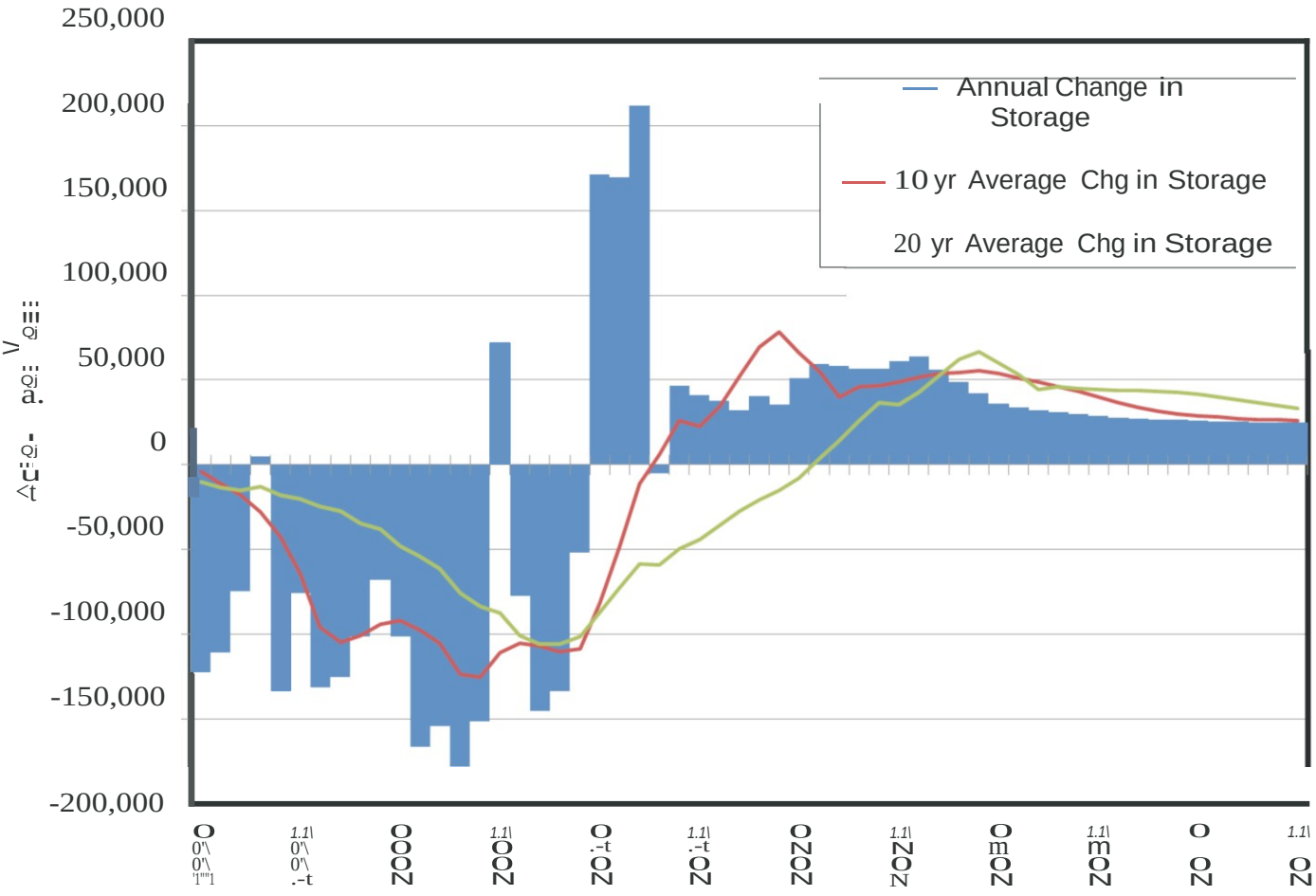

Source: CVWD: 2014 CVWMP Status Report

Status of Overdraft and Change in Storage

Exhibit 8

Travertine Specific Plan Water Supply Assessment

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On January 17, 2014, the governor proclaimed a State of Emergency and on April 1, 2015, the governor issued Executive Order B-29-15, which ordered the SWRCB to adopt emergency regulations imposing restrictions to achieve a 25 percent reduction in potable urban water usage across the State. Agencies assigned to Tier 9, including CVWD, having residential water use above 215 gallons per capita per day (gpcd), were required to reduce water use by 36 percent compared to its 2013 water use. This reduction was reduced to 32 percent in February 2016, and became locally implemented in May 2016.

Following an above normal snowpack in northern California, on May 9, 2016, Governor Brown issued Executive Order B-37-16 that focused on long-term water use efficiency. In response to that order, the SWRCB adopted revised emergency regulations in May 2016 that transition the mandates away from demand-based regulations. Under the new regulations, individual districts will self-certify the level of available water supplies assuming three additional dry years and the level of conservation necessary to assure adequate supply over that time. It is anticipated that the new self-certification process will result in a reduction in the emergency mandatory reduction target imposed on CVWD by the SWRCB.

CVWD's urban water shortage contingency planning efforts are described in detail in Section 8 of CVWD's 2015 UWMP including a description of each ordinance CVWD has adopted during Governor Brown's drought emergency declaration, stages of implementation, and restrictions and prohibitions on end users.

1.5.3 Integrated Regional Water Management Plan

Integrated Regional Water Management Planning is a collaborative approach to managing all aspects of water resources in a region and is encouraged by DWR. It involves multiple agencies, stakeholders, individuals and groups; and attempts to address the issues and differing perspectives of all the entities involved through mutually beneficial solutions. In 2008, the five public water agencies in the Coachella Valley formed the Coachella Valley Regional Water Management Group (CVRWMG); in 2010 they adopted the Coachella Valley Integrated Regional Water Management Plan (IRWMP). The IRWMP was updated in 2014 and will be updated again in 2018. These efforts ensure that the Coachella Valley as a whole will focus on sustainable water resources. All water agencies in the Coachella Valley work together, share information, discuss concerns and viewpoints, and build consensus in supporting future projects that benefit the entire region. Since its formation, the CVRWMG has added Valley Sanitary District (VSD) as a member and is working toward adding the Agua Caliente Band of Cahuilla Indians (ACBCI) as a member.

1.5.4 Sustainable Groundwater Management Act Alternative Plan

In September 2014, Governor Brown signed three-bills into law, AB 1739 (Dickinson), and SB 1319 and SB 1168 (Pavley), that became collectively known as the Sustainable Groundwater

Management Act (SGMA), creating a framework for sustainable, local groundwater management for the first time in California history. SGMA was amended in 2015 by SB 13 (Pavely).

SGMA requires local agencies to establish a new governance structure, known as Groundwater Sustainability Agencies, and to developing groundwater sustainability plans for groundwater basins or sub-basins that are designated as medium or high priority. The Whitewater River (Indio) Subbasin has been designated by DWR as a medium priority subbasin. In 2016, CVWD filed a Notice of Election with DWR to become a Groundwater Sustainability Agency within its service area over the subbasin and has submitted the 2010 CVWMP Update as an Alternative Groundwater Sustainability Plan.

2 Water Demands and Conservation Measures

2.1 Water Demand Factors

As discussed in the Executive Summary, full build-out of the Travertine Specific Plan Project (Project) offers flexibility in the development process by proposing two options: Plan A would allow development of a residential gated community with resort related uses and Plan B would allow development as a residential-only gated community. Either plan, as shown in Exhibit 9, *Landscape Structure Diagram*, will provide landscaping for proposed community parks and neighborhood pocket parks; street-scaping along Jefferson Street and along loop connector streets; and street-scaping of slope areas between community area tracts and individual interior lots. All landscaped areas will use water efficient, drought tolerant varieties of trees and shrubs and xeriscape groundcover (see Exhibit 10, *Plant Palette List*). To further enhance the water conservation objective, no decorative water features or fountains are proposed as part of the landscaping plan.

The unit water usages for this Water Supply Assessment/Water Supply Verification (WSA/WSV) are based on indoor water use performance standards of 55 gallons per capita day (gpcd) as provided in the California Water Code for residential water demand and the American Water Works Association Research Foundation (AWWARF). Outdoor landscape water demand is based off of Coachella Valley Water District (CVWD) Ordinance No. 1302.3 in accordance with the California Department of Water Resources (DWR) Model Water Efficient Landscape Ordinance (MWELO).

The overall goal of the CVWD's Ordinance 1302.3 is to reduce landscape water use, reduce or eliminate runoff in streets, and limit turf. As applicable to the proposed project, CVWD's Maximum Applied Water Allowance (MAWA), as outlined in Ordinance No. 1302.3, is a calculative tool used to estimate outdoor irrigation usage. The MAWA complies with Division 2, Title 23, California Code of Regulation, Chapter 7, Section 702 as found in Appendix D of Ordinance 1302.3.

The following factors are applicable to the proposed Project:

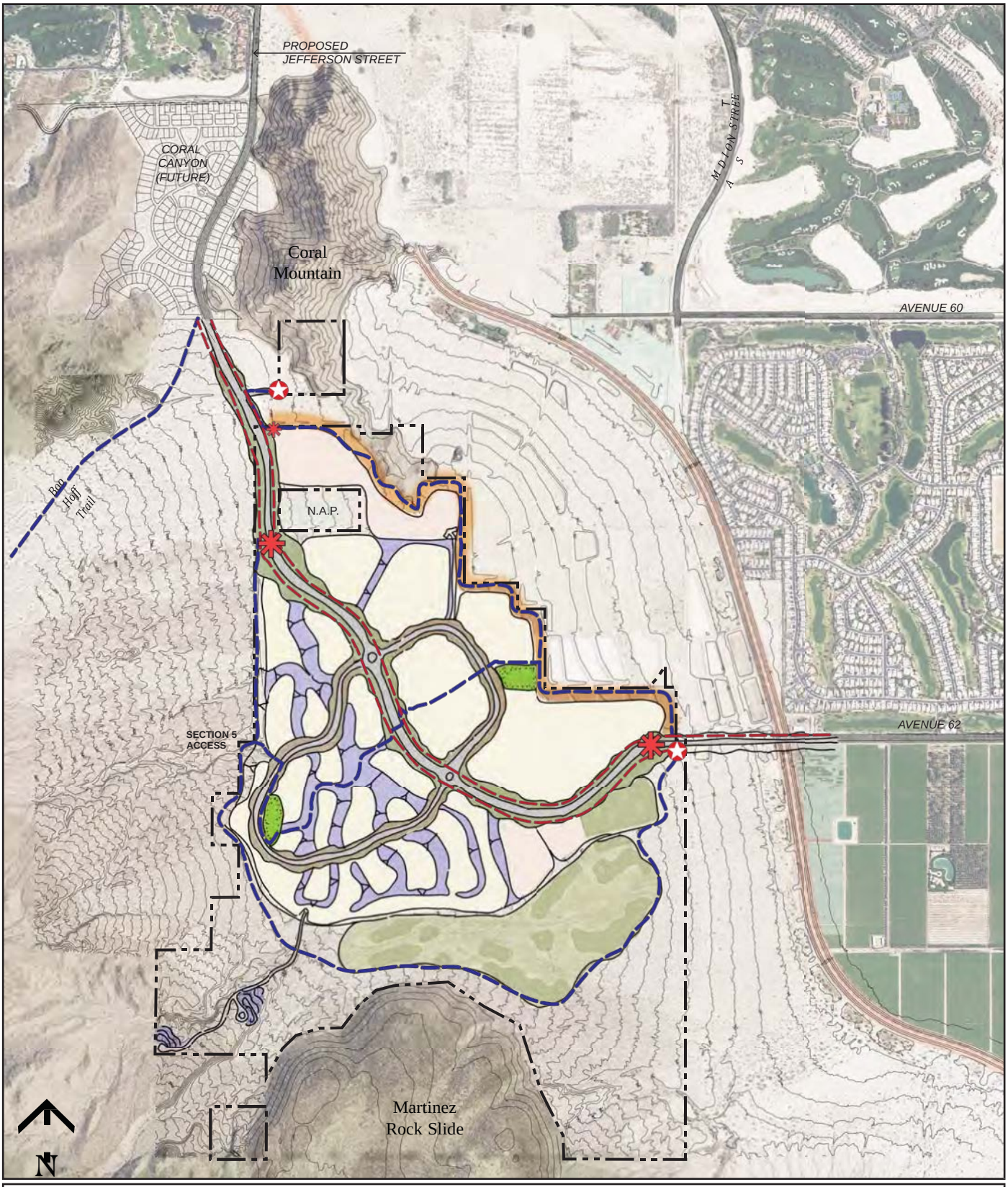
- Indoor Residential (single-family and multi-family) = 55 gallons per day (gpd)/person.
- Because the Project is located within the City of La Quinta's Sphere of Influence (SOI), the Project was assessed using the City of La Quinta average household population density of 2.64 persons/dwelling unit (per CA Department of Finance Table 2: E-5 2017) x 55 gpd/person = 145.2 gpd/dwelling unit.
- Outdoor irrigation based on CVWD's MAWA and Estimated Annual Water Applied (EAWA).

- Indoor non-residential (neighborhood commercial) for Mixed-Use Areas based on AWWARF.
- Common area landscape (parks, catchments, medians) based on MAWA.

2.2 Project Water Management Programs

Land uses within the Project development will operate under the following water management programs:

- All appliances and indoor fixtures will meet or exceed current water efficiency standards set by California Plumbing Code.
- Outdoor landscaping will comply with CVWD's model landscape ordinance 1302.3.
- Urban water users will participate in CVWD's Budget Based Tiered Rates program.
- Projects will pay CVWD's supplemental water supply charges to mitigate additional demand on existing water supplies.
- All effluent from this Project will be treated by CVWD at its Wastewater Reclamation Plant No. 10 (WRP 10). CVWD recycles approximately 95 percent of its WRP 10 effluent for non-potable irrigation use.



TRAVERTINE

Exhibit No: 9
Landscape Structure Diagram

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Exhibit 10 Plant Palette List

Botanical Name	Common Name
Trees	
Acacia smallii	Sweet Acacia*
Acacia salicina	Willow Acacia*
Acacia stenophylla	Shoestring Acacia*
Chilopsis linearis	Desert Willow
Chitalpa x tashkentensis	Chitalpa
Citrus	Citrus Tree
Cupressus arizonica	Arizona Cypress
Dalea spinosa	Smoke Tree
Fraxinus uhdei 'Majestic Beauty'	Evergreen Ash
Lysiloma thornberi	Feather Bush
Olneya tesota	Desert Ironwood
Parkinsonia 'Desert Musem'	Palo Verde
Parkisonia floridum	Blue Palo Verde
Parkinsonia praecox	Sonoran Palo Verde
Pinus eldarica	Afghan Pine
Prosopis glandulosa	Texan Honey Mesquite
Quercus virginiana 'Heritage'	Heritage Live Oak
Rhus lancea	African Sumac
Schinus molle	California Pepper
Thevetia peruviana	Yellow Oleander
Vitex angus-catus	Chaste Tree
Palms	
Butia capitata	Pindo Palm
Brahea armata	Mexican Blue Palm
Chamerops humilis	Mediterranean Fan Palm
Cycas revoluta	Sago Palm
Phoenix dactylifera	Date Palm
Phoenix roebelenii	Pigmy Date Palm
Washingtonia filifera	California Fan Palm
Washingtonia robusta	Mexican Fan Palm
Shrubs	
Alyogne huegelii	Blue Hibiscus
Bougainvillea 'Crimson Jewel'	Bougainvillea
Baileya multiradiata	Desert Marigold
Buxus microphylla japonica	Japanese Boxwood
Cassia nemophilla	Green Cassia
Cassia phyllodinea	Silvery Cassia
Calliandra californica	Fairy Duster
Callistemon viminalis 'Little John'	Dwarf Weeping Bottlebrush
Carissa macrocarpa 'boxwood beauty'	Natal Plum
Carissa macrocarpa 'Tuttlei'	Natal Plum
Dalea pulchra	Indigo Bush
Dodonea viscose	Hopseed Bush

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Botanical Name	Common Name
Shrubs	
Encelia farinosa	Brittle Bush
Euryops p. 'Viridis'	Green-leaf Euryops
Ilex vomitoria 'Stokes'	Stokes Holly
Justicia californica	Chuparosa
Justicia spicigera	Mexican Honeysuckle
Lantana montevidensis 'Trailing Purple"	Purple Spreading Lantana
Lantana monevidensis 'New Gold'	Golden Mound Lantana
Leucophyllum frutescens	Texas Ranger
Leucophyllum frutescens 'Thunder Cloud'	Texas Ranger
Leucophyllum langmaniae 'Rio Bravo'	Cinnamon Sage
Ligustrum j. 'Texanum'	Texas Privet
Myrtus communis	True Myrtle
Nandina domestica 'Compacta'	Compact Heavenly Bamboo
Nandina domestica 'Harbor Dwarf'	Dwarf Heavenly Bamboo
Nandina domestica 'Nana'	Dwarf Heavenly Bamboo
Nerium oleander 'Petite Pink'	Dwarf Oleander
Phlomis fruticosa	Jerusalem Sage
Photinia fraseri	Fraser's Photinii
Pittosporum tobira 'Variegata'	Variegated Mock Orange
Pittosporum tobira 'Wheeleri'	Dwarf Mock Orange
Rhaphiolepis i. 'Ballerina'	Indian Hawthorn
Rhaphiolepis i. 'Springtime'	Indian Hawthorn
Rosemarinus officinalis 'Prostratus'	Dwarf Rosemary
Ruellia peninsularis	Baja Ruellia
Salvia clevlandii	Cleveland Sage
Salvia greggii	Autumn Sage
Salvia leucantha	Mexican Sage
Senna artemisiodes	Feathery Cassia
Tagetis lemmonii	Mexican Marigold
Tecoma Stans	Yellow Trumpet Flower
Verbena rigida	Sandpaper Verbena
Verbena gooddingii	Goodding Verbena
Wedelia trilobata	Wedelia
Xylosma congestum	Xylosma
Espaliers and Vines	
Bougainvillea 'Barbara Karst'	Bougainvillea
Bougainvillea 'Lavender Queen'	Bougainvillea
Clytostoma callistegiodes	Lavender Trumpet Vine
Calliandra inequilatera	Pink Powder Puff
Ficus pumila	Creeping Fig
Gelsemium sempervirens	Carolina Jessamine
Lonicera japonica	Honeysuckle
Macfadeyena unguis-cati	Catclaw Vine
Tecomaria capensis	Cape Honeysuckle
Desert Accents	
Aeonium arboretum	NCN
Agave Americana	Century Plant
Agave attenuata	Fox Tail Agave
Agave gemniflora	Twin-Flowered Agave
Agave vilmoriniana	Octopus Agave

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Botanical Name	Common Name
Aloe arborescens	Tree Aloe
Aloe ferox	Cape Aloe
Aloe saponaria	Soap Aloe
Aloe striata	Coral Aloe
Caesalpina gilliesii	Yellow Bird of Paradise
Caesalpinia mexicana	Mexican Bird of Paradise
Caesalpinia pulcherrima	Red Bird of Paradise
Crassula falcata	NCN
Dasylirion wheeleri	Desert Spoon
Dracenea draco	Dragon Tree
Echinocactus grusonii	Golden Barrel Cactus
Echinocereus engelmanii	Englemann's Prickly Pear
Euphorbia rigida	Gopher Plant
Fouquleria splendens	Ocotillo
Hesperaloe parviflora	Red Yucca
Opuntia basilaris	Beavertail Cactus
Pachycereus marginatus	Mexican Pipe Organ
Penstemon parryi	Parry Penstemon
Euphorbia milli	Crown of Thorns
Yucca aloifolia	Spanish Bayonet
Yucca gloriosa	Soft Tip Yucca
Yucca whipplei	Our Lords Candle
Groundcover	
Acacia redolens	Prostrate Acacia
Baccharis p. 'Centennial'	Coyote Bush
Carissa macrocarpa 'Green Carpet'	Natal Plum
Convolvulus cneorum	Silver Bush Morning Glory
Gazania 'Mitsua Orange'	Gazania
Gazania 'Mitsua Yellow'	Gazania
Gazania rigens leucolaena	Trailing Gazania
Myoporum parviflorum	Myoporum
Oenothera berladieri	Mexican Evening Primrose
Rosmarinus officinalis 'Prostratus'	Prostrate Rosemary
Senicio manralisceae	Blue Fingers
Verbena tenuisecta	Moss Verbena
Grasses	
Muhlenbergia capillaries 'Regal Mist'	Regal Mist
Mulhemburgia rigens	Deer Grass
Festuca glauca	Blue Fescue
Helictotrichon sempervirens	Blue Oat Grass
Pennisetum s. 'Rubrum'	Red Fountain Grass
Perennials	
Cuphea llavea	Bat-Faced Cuphea
Guara lindheimeri	Guara
Hemerocalis hybrids	Daylily
Lavendula stoechas	Spanish Lavender
Oenothera beriandieri	Mexican Primrose

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Botanical Name	Common Name
Penstemon spectabilis	Showy Penstemon
Penstemon superbus	NCN
Sphaeralcea ambigua	Globe Mallow
Caesalpina gilliesii	Yellow Bird of Paradise

NCN= No Common Name

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2.3 Residential Water Demands

The proposed Project indoor water demands for Plan A and Plan B have been evaluated separately. Table 3, *Indoor Residential Water Demand – Plan A*

Table 3 Indoor Residential Water Demand – Plan A.

Planning Area	Net Area (Acres)	Estimated Total Units	Estimated[1] occupants per home	Indoor Residential Water Demand			
				Gpd[2]/ occupant	Gpd[2]/ Unit	Total Units Demand (Gpd[2])	Annual Demand (AFY[3,4])
3	24.6	106	2.64	55	145.20	15,391	17.24
4	28.7	95	2.64	55	145.20	13,794	15.45
5	21.3	51	2.64	55	145.20	7,405	8.29
6	20.4	104	2.64	55	145.20	15,101	16.92
7	18.0	57	2.64	55	145.20	8,276	9.27
8	27.6	86	2.64	55	145.20	12,487	13.99
9	25.5	130	2.64	55	145.20	18,876	21.14
10	18.8	102	2.64	55	145.20	14,810	16.59
12	49.7	130	2.64	55	145.20	18,876	21.14
13	34.4	67	2.64	55	145.20	9,728	10.90
14	37.6	79	2.64	55	145.20	11,471	12.85
15	31.0	77	2.64	55	145.20	11,180	12.52
16	53.0	116	2.64	55	145.20	16,843	18.87
Total		**1,200**			**Total**	**174,240.00**	**195.17**

Source: Altum Group March 2017; Occupancy load of 2.64 persons/dwelling unit derived from CA Department of Finance Table 2: E-5 City/County Population and Housing Estimates, 1/1/2017 for the City of La Quinta.

Notes:

1. Estimate based on 55 gpd/person x 2.64 persons/unit = 145.20 gpd/unit. Project Site located within La Quinta City Limits.
2. Gpd = gallons per day.
3. AFY = acre-feet per year.
4. Rounded to nearest one-hundredth of an acre-foot.

Table 4, *Indoor Residential Water Demand – Plan B* provide a summarization of the estimated indoor water demand for the residential component uses.

Table 4 Indoor Residential Water Demand – Plan B

Planning Area	Net Area (Acres)	Estimated Total Units	Estimated[1] occupants per home	Indoor Residential Water Demand			
				Gpd[2]/ occupant	Gpd[2]/ Unit	Total Units Demand (Gpd[2])	Annual Demand (AFY[3,4])
2	39.7	60		55	145.20	8,712.00	9.76
3	24.6	92		55	145.20	13,358.40	14.96
4	28.7	83		55	145.20	12,051.60	13.50
5	21.3	44		55	145.20	6,388.80	7.16
6	20.4	90		55	145.20	13,068.00	14.64
7	18.0	49		55	145.20	7,114.80	7.97
8	27.6	75		55	145.20	10,890.00	12.20
9	25.5	113		55	145.20	16,407.60	18.38
10	18.8	89		55	145.20	12,922.80	14.48
11	32.1	98		55	145.20	14,229.60	15.94
12	49.7	113		55	145.20	16,407.60	18.38
13	34.4	53		55	145.20	7,695.60	8.62
14	37.6	69		55	145.20	10,018.80	11.22
15	31.0	72		55	145.20	10,454.40	11.71
16	53.0	100		55	145.20	14,520.00	16.26
Total		**1,200**			**Total**	**174,240.00**	**195.17**

Source: Altum Group March 2017; Occupancy load of 2.64 persons/dwelling unit derived from CA Department of Finance Table 2: E-5 City/County Population and Housing Estimates, 1/1/2017 for the City of La Quinta.

Notes:

1. Estimate based on 55 gpd/person x 2.6452 persons/unit = 145.20 gpd/unit. Project Site located within La Quinta City Limits.
2. Gpd = gallons per day.
3. AFY = acre-feet per year.
4. Rounded to nearest one-hundredth of an acre-foot.

s shown above, indoor residential water demand under Plan A and Plan B would be equal in water demand (195.17 AFY) due to the even amount of projected dwelling units proposed for each plan. Water demand for resort uses under Plan A for Planning Areas 2 and 11 are described and calculated in detail below.

Planning Area 2

Planning Area 2 would involve construction of a 36,036 square foot building for the purpose of a 75-room Boutique Hotel to be situated among the southwestern backdrop terminus of Coral Mountain. The Boutique Hotel would include a driveway welcome entrance, a front desk registration area with meeting lounge, meeting rooms, a restaurant to accommodate a seating capacity of up to 175 seats, and two resort pools. The intent of the Hotel is to provide a 5-star branded, hospitality level of service, and is therefore expected to require approximately 150 onsite employee staff.

An 11,654 square foot building to be constructed among the southeastern backdrop terminus of Coral Mountain would serve as the Spa and Wellness Facility and would provide hospitality services including, but not limited to, spa facials, pedicures, massages, a hair salon, an indoor fitness room and an outdoor secluded private pool for spa patrons. Like the proposed Boutique Hotel, the intent of the Spa and Wellness facility is to also provide a 5-star branded, hospitality level of service, and therefore is expected to require approximately 80 onsite employee staff.

The Resort Villas would involve construction of 25 individually-spaced casita designed villas to be situated along the west side of Coral Mountain and immediately south of levee berm abutting Guadalupe Wash. Each villa would be approximately 2,100 square feet in size and be individually separated with its own private walkway entrance, private patio and open space landscaping. The total indoor area for the Resort Villas at build out would be approximately 52,500 square feet. As with the proposed Boutique Hotel and Spa and Wellness facility, the Resort Villas would provide a 5-star branded hospitality level of service and is expected to require approximately 60 onsite employee staff.

Table 5, *Planning Area 2 -Indoor Resort Demand*, provides a summary of the estimated indoor water demand for the Boutique Hotel, the Resort Villas and the Spa and Wellness facility. Calculations were based on 100 percent annual occupancy for the Boutique Hotel and Resort Villas and 100 percent annual utilization of the Spa and Wellness facility by guest visitors and residents. Indoor water demand was also based on service amenity type, restroom utilization and hospitality cleaning. Water demand benchmark multipliers were derived from the American Water Works Research Foundation (AWWARF) and are explained in detail for each note encompassed within the table.

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Table 5 Planning Area 2 -Indoor Resort Demand

Proposed Use	Estimated Indoor Area (square feet)	Total Number of Rooms[1]	Maximum Interior Floor Space per Unit	Water Demand Multiplier[3,4]	Daily Demand (Gallons/ Day)	Annual Demand (Gallons/ Year)	Overall Annual Demand (acre-feet/year)
Boutique Hotel	40,058	75	700 sq. ft.	0.26 (gallons per square foot, per unit, per day)	13,650	4,982,250	15.29
Boutique Hotel[2] (175- seat restaurant)	N/A	N/A	N/A	24.20 (gallons per seat)	4,235	1,545,775	4.74
Resort Villas	52,500	25	2,100 sq. ft.	0.26 (gallons per square foot, per unit, per day)	13,650	4,982,250	15.29
Spa and Wellness[4]	11,654	N/A	N/A	See Note 5	4,528	1,652,793	**5.07**
Total	**104,212**	**100**			**36,063**	**13,163,068**	**40.40**

Source: American Water Works Research Foundation (AWWARF), Commercial and Institutional End Uses of Water (2000).

Notes:

1. Based on an annual occupancy of 100 percent occupancy of total rooms for the Boutique Hotel and Resort Villas.
2. Based on an annual utilization of 100 percent seating attendance for Boutique Hotel Restaurant.
3. Water Demand for hotel rooms and villas based off of a multiplier of 0.26 gallons per square foot, per unit as derived from Table 2.14, *Selected commercial and institutional unit use coefficients, of the Commercial and Institutional End Uses of Water* (2000).
4. Water Demand for hotel restaurant based off of multiplier of 24.20 gallons per seat per day as derived from Table 2.14, *Selected commercial and institutional unit use coefficients, of the Commercial and Institutional End Uses of Water* (2000).
5. Water demand multipliers for Spa and Wellness Facility based on the following calculations:
   a) Beauty Shop to have six (6) beauty stations. Multiplier of 269 gallons per day, per beauty station, as obtained from Table 2.14 AWWARF's Commercial and Institutional End Uses of Water (2000). (
   b) Barber Shop to have two (2) chairs. 54.60 gallons per chair, per day as obtained from Table 2.14 AWWARF's Commercial and Institutional End Uses of Water (2000).
   c) Laundry Room Facility to be based off of a 900 square foot facility to wash and dry towels, sheets from massage and spa activities. 0.25 gallons per day per square foot of laundry facility area as obtained from Table 2.14 AWWARF's Commercial and Institutional End Uses of Water (2000).
   d) Showers based off of two (2) gallon per minute shower head with an average time of 10 minutes spent in shower, and an average of 60 persons per day in utilizing showers.
   e) Toilets based off of 3.5 gallons per flush (gpf) with six (6) toilets proposed for facility and an average of 60 persons per day in utilizing restrooms. Urinals based off of one (1) gallon per flush (gpf) with two (2) urinals proposed and an average of 60 persons per day utilizing restrooms. Multipliers for toilets and urinals obtained from Table 2.14 AWWARF's Commercial and Institutional End Uses of Water (2000).

Planning Area 11

Planning Area 11 would involve construction of three buildings totaling approximately 62,282 square feet for the purpose of a golf resort clubhouse and banquet facility. The two-story

clubhouse building totaling 15,904 square feet would provide a pro shop, a restaurant with a 100 seat capacity, and a cart barn storage room for the first floor.

The banquet facility would be used for ceremonial festivities and would consist of two buildings totaling 46,378 square feet. Each building would provide a Grand Ballroom, a Bridal Suite, Groom Rooms, a Lounge, and Catering sales office and would be able to accommodate up to 350 attendees.

Table 6, *Planning Area 11 – Indoor Resort Demand* provides a summary of the estimated indoor water demands for the golf clubhouse, the restaurant and banquet facility components. Calculations were based on maximum seating capacity, maximum attendance and maximum utilization for the banquet facility, the golf club house restaurant, the clubhouse locker room (for golfers) and the number of staff required to accommodate all activities. Water demand benchmark multipliers were derived from the American Water Works Research Foundation (AWWARF). As shown in Table 6, the overall total demand will be 24.71.

Table 6 Planning Area 11 - Indoor Resort Demand

Proposed Use	Total Interior Floor Space (square feet)	Total Staff Required	Total Seating Capacity	Maximum Seating Capacity	Water Demand Multiplier[6]	Annual Demand (Gallons/Year)	Annual Demand (acre-feet/year)
Banquet Facility[1]	46,378	124[2]	700[1]	700[4]	24.20[5] (gpd/seat)	**6,183,100**	**18.98**
Golf Clubhouse Restaurant	15,904	18[3]	100[3]	90[4]	24.20[5] (gpd/seat)	**883,300**	**2.71**
Golf Clubhouse Locker Room	2,000	8	N/A	N/A	See Footnote 6 below	**985,500**	**3.02**
Total						**8,051,900**	**24.71**

Source: American Water Works Research Foundation (AWWARF), Commercial and Institutional End Uses of Water (2000).

Notes:

1. Banquet Facility water demand based on maximum seating capacity and maximum number of events per year (365 days).
2. Total staff required for Banquet Facility based on maximum seating capacity for all events.
3. Total staff required for Golf Clubhouse Restaurant based on maximum seating capacity conditions:
   10 servers/waiters, two (2) chefs, two (2) bartenders, two (2) buspersons, two (2) dishwashers. Total = 18 employees.
4. Based on an annual utilization of 100 percent seating attendance.
5. Benchmark water demand multiplier of 24.20 gallons per day, per seat as derived from Table 2.14, *Selected commercial and institutional unit use coefficients*, contained in the *Commercial and Institutional End Uses of Water (2000)* handbook.
6. Water demand for the Golf Club House Locker room based on number of golfer visits per day (60-golfers). Locker Room water demand based on number of toilets (6 total), urinals (2 total) and showers (6 total) for Men's and Women's restrooms. Multipliers of 3.5 gallons per flush (gpf) used for toilets, 2 gpf used for urinals, and an average shower time of 10 minutes with utilization of a 2 gallon/minute showerhead were incorporated into these calculations.

2.3.1 Community Park Clubhouse – Planning Area 8

The Project would include a community clubhouse facility within Planning Area 8 with access from the east loop connector street. At a minimum of 4,000 square feet, the clubhouse would provide residents with a meeting room for social events, and a weight room fitness facility with restrooms to serve both facilities. As shown in Table 7, *Community Park Clubhouse*, the total water demand is expected to be 20.22 AFY.

Table 7 Community Park Clubhouse

Proposed Use	Total Interior Floor Space (square feet)	Percentage of Residents utilizing Clubhouse/day[2]	Number of residents utilizing Clubhouse/day[2]	Annual Demand (Gallons/Year)[3,4]	Annual Demand (acre-feet/year)
Clubhouse	4,000	15	475	**6,588,250**	**20.22**

Source: American Water Works Research Foundation (AWWARF), *Commercial and Institutional End Uses of Water (2000).*

Notes:

1. gpd = gallons per day.
2. Water demand based on 15 percent of total residents in the community (475-residents)) in utilizing the Community Park Clubhouse on a daily basis (365 days) .
3. Restroom water demand based on number of toilets (4 total) for men and women, urinals (2 total) for men, and showers (4 total) for Men's and Women's restrooms. Multipliers of 3.5 gallons per flush (gpf) used for toilets, 2 gpf used for urinals, and an average shower time of 10 minutes with utilization of a 2 gallon/minute showerhead were incorporated into these calculations.
4. Shower Demand based on 15 percent of total residents in the community (475-residents) in utilizing showers at the Community Park Clubhouse on a daily basis (365 days).

2.4 Landscape Irrigation and Outdoor Water Demands

The Coachella Valley receives an average annual precipitation of less than 6 inches (15 centimeters), extreme temperatures as high as 120 degrees Fahrenheit, and a wide daily temperature range. Annual rainfall is normally less than 5.5 inches and several maximum monthly averages temperature exceed 100 degrees Fahrenheit.

The total potential for evapotranspiration in the Coachella Valley is well above the total rainfall, and is due to extreme high temperatures, abundant availability of sunlight, and the rain shadow effect of the San Jacinto and Santa Rosa Mountains. The Coachella Valley rarely experiences a water surplus condition of precipitation when compared to evapotranspiration. Prime evapotranspiration sites in the Coachella Valley are well-watered lawns, decorative water fountains, lakes and golf courses.

The Project landscape demand was calculated using the MAWA equation in CVWD's Model Landscape Ordinance No. 1302.3. A table of Outdoor Water Demand calculations is included in Appendix C. This formula ensures that an adequate budget is provided to have a sustainable landscape that meets the criteria established in CVWD's ordinance and project Master Plan. MAWA is based on the Project area's referenced evapotranspiration (ETo) amount in inches, the

amount of landscaped area (LA) proposed in square feet, a plant factor to irrigation efficiency ratio, or otherwise known as an Evapotranspiration Adjustment Factor (ETAF) and a Conversion Factor (KC). When combined the following formula is used to calculate MAWA:

$$MAWA = ETo \times LA \times ETAF \times KC$$

or, as used an example for Planning Area 3 from the Proposed Project:

$$MAWA = 64 \times 63{,}000 \times 0.45 \times 0.62 = 1{,}135{,}642 \text{ gallons per year}$$

This calculation determines the upper limit of irrigation water allowed for the Project. To meet the ETAF of 0.45, a landscape design must use highly water efficient plant material laid out in a spare manner, and irrigated with efficient irrigation technology including drip emitters and smart controllers.

Although the landscape design is currently in the developmental stage, this method ensures that a sufficient budget is provided to have a sustainable landscape that meets the criteria established in CVWD's ordinance. Therefore, the MAWA equation for the proposed Project was used to determine Project irrigation demand. Because the Project site is located within two ETo Zones (Zone 2 and 3), an equation was applied by including the total Project area landscaping falling within ETo Zone 3 (rate of 64.22 inches or 5.35 feet). The purpose of choosing ETo Zone 3 was to allow flexibility for development of the Project and to allow changes to landscape areas under a higher water usage threshold if needed. Thus, the MAWA for the proposed Project uses the ETo Zone 3 multiplier (5.35 feet) for the total landscaped area falling within ETo Zone 3. The following demand characteristics apply to the proposed project:

- A demand multiplier of 5.35 acre feet/year/acre applied for landscaped areas under ETo Zone 3.
- ETAF of 0.45 applied to all non- turf area landscaped Planning Areas with the exception of an ETAF of 0.82 applied to golf course links (Planning Area 19).
- ETAF of 0.45 applied to irrigated xeriscape landscaping to be interspersed between golf course links.
- Low demand and moderate demand consisting of desert efficient, drought tolerant trees, shrubs and ground cover. High demand limited to active turf areas for neighborhood parks and community parks.
- Residential lots excluding building envelope landscaped with ratio of 60 percent low, 17 to 40 percent moderate and 15 to 20 percent high demand (Note: Lot coverage building footprint influences available area for moderate and high landscaping).

- Right-of-way (ROW) landscaping along roadways for Jefferson Street extension, southwest and northeast Loop Road connectors to Jefferson Street. ROW landscaped to 100 percent of net land area with ratio of 30 percent low demand and 70 percent moderate demand.
- Community Slope landscaping between leveled tract lots (See Exhibit 9).
- Community Park landscaped with ratio of 45 percent low, 30 percent moderate, 24 percent high demand (turf).

Adherence to the MAWA requirements as outlined in the CVWD ordinance assures compliance with CVWD water conservation goals and requirements. The calculated MAWA ETo Zone 3 multiplier used of 5.35 AFY/acre is inclusive of varying types of open space/landscaping uses, including all outdoor landscaping uses as part of the proposed Project.

As shown in Table 8, *Project Outdoor Water Demands – Plan A*, estimates were made in the landscaping analysis for the Project with resort uses.

Temporary Landscape Irrigation

Water demand for temporary irrigation of landscaping to proposed water tank sites and the proposed service roadway were not included in the overall annual water demand. The intent of temporary irrigation is for assisting and speeding up the growth and rooting of native planted species to a point of maturity (2-years) in order to avoid the potential for erosion created from graded slopes to tank sites and to the service roadway. Nonetheless, water demand for temporary landscaped irrigation is included in Tables 8 and 9 for a perspective of the Project's water demand during the first two years of construction.

As shown in Table 9, *Project Outdoor Water Demands – Plan B*, estimates were made in the landscaping analysis for the Project without resort uses.

Table 8 Project Outdoor Water Demands – Plan A

Planning Area	Landscaped Irrigated (sq. ft.)[2]	MAWA GPY[8]	Water Allotment (afy/acre)[1]	Annual Demand (afy)[4,6]
2	908,293	16,218,480	5.35	49.77
3	63,600	1,135,642	5.35	3.49
4	149,625	2,671,704	5.35	8.20
5	44,179	788,860	5.35	2.42
6	64,200	1,146,355	5.35	3.52
7	89,775	1,603,022	5.35	4.92
8	74,498	1,330,236	5.35	4.08
9	78,000	1,392,768	5.35	4.27
10	61,200	1,092,787	5.35	3.35
11	436,847	7,800,340	5.35	23.94
12	358,035	6,393,073	5.35	19.62
13	214,830	3,836,004	5.35	11.77
14	177,615	3,171,493	5.35	9.73
15	192,615	3,439,333	5.35	10.55
16	295,960	5,284,662	5.35	16.22
Landscaped Slope Areas				
Bordering between Planning Areas	4,791,600	85,558,810	5.35	262.57
Water Tank Landscaping[6]				
Temporary Irrigation	391,011	6,981,875	5.35	21.43[7]
Golf Course Links[5]				
19 - Irrigated Turf Areas	1,770,731[6]	57,615,337	5.35	176.81
19 - Irrigated Xeriscape Areas	4,911,373	87,697,476	5.35	269.13
Street Landscaping[7]				
Jefferson Street	367,741	6,566,383	5.35	20.15
West Loop Road	143,071	2,554,676	5.35	7.84
East Loop Road	82,663	1,476,031	5.35	4.53
Round-a-bouts	7,034	125,599	5.35	0.39
Median and Parkways	72,385	1,292,507	5.35	3.97
Community Parks[3]				
8	60,984	1,984,273	5.35	6.09
15	60,984	1,984,273	5.35	6.09
Pocket Parks[3]				
Multiple Planning Areas	112,122	3,648,273	5.35	11.20
Total	15,980,971	314,790,198		**966.06**

Source: Hermann Design Group 2017.

Notes:

1. Based on Maximum Applied Water Allowance (MAWA), ETo Zone 3 multiplier of 5.35 acre feet/year/acre. This generation rate is inclusive of the varying types of residential lotting, attached unit planning areas and open space uses associated with the proposed project.
2. Based on entire available area of landscaping excluding building unit envelope.
3. Based on entire available area of landscaping for parks.
4. Annual Demand rounded to the nearest hundredth of an acre-foot.

5. Option A: With Resort Use component includes Golf Course Links. Of the total 153.4 acres set aside for Planning Area 19, 1,770,7316 square feet., or 40.65 acres would be irrigated for the golf course links and with the remaining 4,911,373 square feet, or 112.75 acres to be set aside for irrigated xeriscape landscaped areas co-mingled in between golf course links.
6. Temporary irrigation for Water Tank Landscaping not included in the overall totals for Irrigated Landscaping, MAWA and Annual Demand.
7. Street landscaping all located within Planning Area 18: *Master Plan Roadways*.
8. ETAF of 0.45 applied to all non- turf area landscaped Planning Areas with the exception of an ETAF of 0.82 applied to golf course links (Planning Area 19), Community Parks (Planning Area 8 and 15) and for pocket parks in multiple Planning Areas. GPY = Gallons Per Year.

Table 9 Project Outdoor Water Demands – Plan B

Planning Area	Landscaped Irrigated Acreage (sq. ft.)	MAWA GPY[8]	Water Allotment (afy/acre)[1]	Annual Demand (afy)[4]
2	51,975	928,066	5.35	2.85
3	55,200	985,651	5.35	3.02
4	130,725	2,334,226	5.35	7.16
5	38,115	680,581	5.35	2.09
6	54,000	964,224	5.35	2.96
7	77,175	1,378,037	5.35	4.23
8	64,969	1,160,086	5.35	3.56
9	67,800	1,210,637	5.35	3.72
10	53,400	953,510	5.35	2.93
11	182,850	3,264,970	5.35	10.02
12	311,400	5,560,358	5.35	17.06
13	169,260	3,022,307	5.35	9.28
14	155,205	2,771,340	5.35	8.50
15	180,675	3,226,133	5.35	9.90
16	254,895	4,551,405	5.35	13.97
Landscaped Slope Areas				
Bordering between Planning Areas	4,791,600	85,558,810	5.35	262.57
Water Tank Landscaping[6]				
Temporary Irrigation	391,011	6,981,892	5.35	21.43[8]
Golf Course Links[5]				
19	N/A[6]	N/A[6]	N/A[6]	0.00
Street Landscaping[7]				
Jefferson Street	367,741	6,566,383	5.35	20.15
West Loop Road	143,071	2,554,676	5.35	7.84
East Loop Road	82,663	1,476,031	5.35	4.53
Round-a-bouts	7,034	125,599	5.35	0.39
Median and Parkways	72,385	1,292,507	5.35	3.97
Community Parks[3]				
8	60,984	1,984,273	5.35	6.09
15	60,984	1,984,273	5.35	6.09
Pocket Parks[3]				
Multiple Planning Areas	112,122	3,648,273	5.35	11.20
Total	7,937,239	145,164,155		**445.49**

Source: Hermann Design Group 2017.

Notes:

1. Based on MAWA, ETo Zone 3 multiplier of 5.35 acre feet/year/acre. Generation rate is inclusive of varying types of residential lotting, attached unit planning areas and open space uses for proposed project. Year.
2. Based on entire available area of landscaping excluding building unit envelope.
3. Based on entire available area of landscaping for parks.
4. Annual Demand rounded to the nearest hundredth of an acre foot.
5. Option B: Without Resort Use component does not include Golf Course Links. In place would serve as non-irrigated, undeveloped land designated as Open Space /Natural, with an overall area for Planning Area 19 still totaling 153.4 acres.
6. Temporary irrigation for Water Tank Landscaping not included in the overall totals for Irrigated Landscaping, MAWA and Annual Demand.
7. Street landscaping all located within Planning Area 18: *Master Plan Roadways*.
8. ETAF of 0.45 applied to all non- turf area landscaped Planning Areas with the exception of an ETAF of 0.82 applied to Community Parks (Planning Area 8 and 15) and for pocket parks in multiple Planning Areas. GPY = Gallons Per Year.

2.5 Summary of Project Water Demands

Table 10, *Summary of Water Demand Projections – Plan A* and Table 11, *Summary of Water Demand Projections – Plan B*, provide the overall projected water demand for all land uses based on the proposed Project with resort uses (Plan A) and without resort uses (Plan B).

2.6 Project Specific Water Conservation Reduction Measures

CVWD has, and continues to provide to public and private consumers, information necessary to help conserve water through the use of drought tolerant plant species native to the desert (xeriscape), efficient irrigation systems, indoor water usage rebates and turf removal rebate programs. The Project's adherence with the CVWD conservation programs will further enforce the water conservation ideology in requiring new and existing development within this portion of the County to implement water efficient measures. As discussed in Section 1.5.1, the 2010 Coachella Valley Water Management Plan (CVWMP) Update identifies conservation measures with the objective of reducing urban water demand by 20 percent by 2020. CVWD has available staffing to review all new landscape plan submittals for compliance with CVWD Ordinance 1302.3.

Based on the calculations presented in Table 10 below, the total water demand for the Project with resort uses is estimated to be approximately 1,225.13 AFY or, 1.43 acre-feet per acre.

Based on the calculations presented in Table 11 below, the total water demand for the Project without resort uses is estimated to be approximately 639.46 or, 0.72 acre-feet per acre.

Table 10 Summary of Water Demand Projections – Plan A

Planning Area	Outdoor Demand	Indoor Residential/Resort Demand [2]	Total Annual Demand (AF)[3]
2 (Resort)	49.77	40.40	**90.17**
3	3.49	17.24	**20.73**
4	8.20	15.45	**23.65**
5	2.42	8.29	**10.72**
6	3.52	16.92	**20.43**
7	4.92	9.27	**14.19**
8	4.08	13.99	**18.07**
9	4.27	21.14	**25.42**
10	3.35	16.59	**19.94**
11 (Resort)	23.94	24.71	**48.65**
12	19.62	21.14	**40.76**
13	11.77	10.90	**22.67**
14	9.73	12.85	**22.58**
15	10.55	12.52	**23.08**
16	16.22	18.87	**35.08**
Landscaped Slope Areas			
Bordering between Planning Areas	262.57	N/A	**262.57**
Water Tank Landscaping[1]			
Temporary Irrigation	21.43	N/A	N/A[4]
Golf Course Links			
19 - Irrigated Turf Areas	176.81	N/A	**176.81**
19 - Irrigated Xeriscape Areas	269.13		**269.13**
Street Landscaping[2]			
Jefferson Street	20.15	N/A	**20.15**
West Loop Road	7.84	N/A	**7.84**
East Loop Road	4.53	N/A	**4.53**
Round-a-bouts	0.39	N/A	**0.39**
Median and Parkways	3.97	N/A	**3.97**
Community Parks			
8 (with clubhouse)	6.09	20.22	**26.31**
15	6.09	N/A	**6.09**
Pocket Parks			
Multiple Planning Areas	11.20	N/A	**11.20**
Total Project Demand	**944.63**	**280.50**	**1,225.13**

Source: The Altum Group and Hermann Design Group, 2017.

Notes:

1. Temporary irrigation for Water Tank Landscaping not included in the overall totals for Irrigated Landscaping, MAWA and Annual Demand.
2. Street landscaping all located within Planning Area 18: *Master Plan Roadways.*
3. Annual Demand rounded to the nearest hundredth of an acre-foot.

Table 11 Summary of Water Demand Projections (AF/YR) – Plan B

Planning Area	Outdoor Demand	Indoor Residential/Resort Demand	Total Annual Demand (AF)[3]
2	2.85	9.76	**12.61**
3	3.02	14.96	**17.99**
4	7.16	13.50	**20.66**
5	2.09	7.16	**9.25**
6	2.96	14.64	**17.60**
7	4.23	7.97	**12.20**
8	3.56	12.20	**15.76**
9	3.72	18.38	**22.09**
10	2.93	14.48	**17.40**
11	10.02	15.94	**25.96**
12	17.06	18.38	**35.44**
13	9.28	8.62	**17.90**
14	8.50	11.22	**19.73**
15	9.90	11.71	**21.61**
16	13.97	16.26	**30.23**
Landscaped Slope Areas			
Bordering between Planning Areas	262.57	N/A	**262.57**
Water Tank Landscaping[1]			
Temporary Irrigation	21.43	N/A	N/A
Golf Course Links[4]			
19	N/A	N/A	N/A
Street Landscaping[2]			
Jefferson Street	20.15	N/A	**20.15**
West Loop Road	7.84	N/A	**7.84**
East Loop Road	4.53	N/A	**4.53**
Round-a-bouts	0.39	N/A	**0.39**
Median and Parkways	3.97	N/A	**3.97**
Community Parks			
8 (with clubhouse)	6.09	20.22	**26.31**
15	6.09	N/A	**6.09**
Pocket Parks			
Multiple Planning Areas	11.20	N/A	**11.20**
Total Project Demand	**424.07**	**215.39**	**639.46**

Source: The Altum Group and Hermann Design Group, 2017.

Notes:

1. Temporary irrigation for Water Tank Landscaping not included in the overall totals for Irrigated Landscaping, MAWA and Annual Demand.
2. Street landscaping all located within Planning Area 18: *Master Plan Roadways.*
3. Annual Demand rounded to the nearest hundredth of an acre-foot.
4. Golf Course Links not proposed in Plan Option B. Area shall remain as undeveloped open space.

3 Water Supply Assessment

3.1 General

Having established that the 2010 Coachella Valley Water Management Plan (CVWMP) Update, the 2015 Urban Water Management Plan (UWMP), Senate Bill 1262 (SB 1262) and the Indio Subbasin Alternative Groundwater Sustainability Plan (GSP) are applicable to this Project, the next requirement of a Water Supply Assessment/Water Supply Verification (WSA/WSV) is to identify and describe the water supply sources available to the Coachella Valley Water District (CVWD) that will serve the proposed Project. Water Code Section 10910(d) requires a WSA/WSV to include identification of any existing water supply: groundwater; water rights; water service contracts; State Water Project (SWP) Table A amounts; and alternate sources (recycled water and desalinated drain water), relevant to the identified water supply for the proposed Project. The WSA/WSV must also include a description of the quantities of water received in prior years by the Public Water System (PWS). According to the 2015 UWMP, the groundwater basin and other sources of supply are adequate for an average year, single dry year, and multiple dry years for a twenty-year period.

3.2 Identification of Water Sources

The primary source of water supply for this Project is groundwater from which the Project will draw potable water from groundwater wells. Currently, the number of groundwater wells needed to adequately supply the Project is currently under consideration by CVWD and will be determined upon analysis of this WSA/WSV.

The groundwater basin is recharged by Colorado River water, SWP supplies, natural runoff and potentially desalinated agricultural drain water before 2035. Colorado River water is also available for potential direct domestic use if treated. Colorado River water via the Coachella Canal supplies water for irrigation of the eastern Coachella Valley, for groundwater recharge, and for in-lieu recharge in the mid-Coachella Valley via the Mid-Valley Pipeline. The Project lies within the Improvement District No. 1 (ID-1) Boundary, a portion of CVWD's service area.

3.3 Analysis of Water Supplies and Demand

3.3.1 Groundwater

Since the early part of the 20th century, the Coachella Valley has been dependent primarily on groundwater as a source of domestic water supply. Groundwater, to be supplied to the Project, is also used to supply water for crop irrigation, fish farms, duck clubs, golf courses, greenhouses, and industrial uses in the Coachella Valley.

Water Code Section 10910(f) requires that additional information be included in the analysis when a groundwater basin is cited as the water supply source for a project. Information should include: a description of the basin; the rights of the PWS to use the basin; the overdraft status of the basin; any past or planned overdraft mitigation efforts; historical use of the basin by the PWS; projected use of the basin by the project; and a sufficiency analysis of the basin that is to supply the project.

Water Code Section 10910(f) was also amended by SB 1262 (Pavley) to require that where projects would be drawing water from basins designated as high or medium priority, a WSA/WSV shall provide information regarding the following:

- Whether the groundwater basin has been identified as being subject to critical conditions of overdraft.
- If a groundwater sustainability agency has adopted a groundwater sustainability plan or has an approved alternative.
- A copy of the alternative plan.

3.4 Description of the Aquifer

Groundwater is the principal source of municipal water supply in the Coachella Valley. CVWD serves domestic water to most of the developed portions of the Coachella Valley and along the approximately two thirds of both sides of the Salton Sea in Imperial Valley. CVWD obtains water from both the Whitewater River Subbasin and the Mission Creek Subbasin. A common groundwater source, the Whitewater River Subbasin, is shared by CVWD, Desert Water Agency (DWA), the Cities of Indio and Coachella, Myoma Dunes Water Company, and numerous private groundwater users. California Department of Water Resources (DWR) Bulletin 118 refers to the Whitewater River Subbasin as the Indio Subbasin. It is referred to as the Whitewater River Subbasin throughout this document.

The Coachella Valley Groundwater Basin, as described by the DWR, is bounded on the north and east by non-water bearing crystalline rocks of the San Bernardino and Little San Bernardino Mountains to the northeast, and on the southwest by the crystalline rocks of the Santa Rosa and San Jacinto Mountains. At the west end of the San Gorgonio Pass, between the Cities of Beaumont and Banning, the basin boundary is defined by a surface drainage divide separating the Coachella Valley Groundwater Basin from the Beaumont Groundwater Basin of the Upper Santa Ana drainage area.

The Coachella Valley Groundwater Basin can be described as a giant tilted bathtub full of sand, with the high end at the northwest edge of the Coachella Valley near the community of Whitewater, and the low end at the Salton Sea. The aquifer underlies the Cities of Palm Springs,

Cathedral City, Rancho Mirage, Palm Desert, Indian Wells, La Quinta, Indio, and Coachella, and the unincorporated communities of Thousand Palms, Thermal, Bermuda Dunes, Oasis, and Mecca.

The subbasins present in the Coachella Valley are the Mission Creek, Desert Hot Springs, Garnet Hill, and Whitewater River Subbasins. The Whitewater River Subbasin includes four subareas: Palm Springs, Thermal, Thousand Palms, and Oasis. The Palm Springs Subarea is the forebay, or main area of recharge to the subbasin, and the Thermal Subarea comprises the pressurized, or confined, area within the subbasin (see Exhibit 6, in the *Executive Summary*). The other two subareas are peripheral areas having unconfined groundwater conditions. The subbasins with their groundwater storage reservoirs are defined without regard to water quantity or quality. They delineate areas underlain by geologic formations, which readily yield the stored water through water wells and offer natural reservoirs for the regulation of water supplies.

The Whitewater River Subbasin comprises a major portion of the Coachella Valley floor and encompasses approximately 400 square miles. The historical fluctuations of water levels within the Whitewater River Subbasin indicated a steady decline in levels throughout the subbasin prior to 1949. Post 1949 levels in the lower Thermal Subarea (south of Point Happy, in La Quinta), which is where imported Colorado River water is used for crop irrigation, rose sharply. However, water levels continued to decline elsewhere in the subbasin. With the use of Colorado River water from the Coachella Branch of the All American Canal, the demand on the groundwater basin declined in the eastern Coachella Valley (generally southeast of Washington Street and Point Happy). Water levels in the deeper aquifers rose from 1950 to 1980. However, afterwards these levels began to decline again due to increasing urbanization and groundwater usage. The 2014 and 2017 Status Reports provided an analysis of progress in eliminating the overdraft and explained that although groundwater levels are declining in the Palm Desert and Rancho Mirage area, groundwater levels are increasing in the eastern Coachella Valley and in the vicinity of Palm Springs. The report further discussed how the 10-year period from 2003 to 2013 involved no occurrence of overdraft, and how it actually resulted with slightly more water being recharged back into the aquifer than what was pumped and lost through flows to the Salton Sea.

As shown in Exhibit 7, the Whitewater River Subbasin is located northwest of the Salton Sea and receives low precipitation, averaging about 6 inches per year, and a wide range of temperatures. The Banning fault bounds the subbasin on the north and the semi-permeable rocks of the Indio Hills mark the northeast boundary. Impermeable rocks of the San Jacinto and Santa Rosa Mountains bound the subbasin on the west and south. A bedrock constriction separates the Whitewater River Subbasin from the San Gorgonio Pass Subbasin on the northwest. The Salton Sea is the eastern boundary and also the subbasin's primary discharge area. A low drainage divide forms a short boundary with the West Salton Sea Groundwater Basin in the southeast.

In the western portion of the Whitewater River Subbasin, groundwater is unconfined, whereas to the south and southeast, groundwater is mostly confined except on the edges of the subbasin where unconfined conditions are found. Depth to groundwater varies widely in the southeastern part of the subbasin. Some wells near the Salton Sea historically delivered artesian flow, and returns to artesian flow output have occurred in recent years.

As shown in Table 12, *Groundwater Storage Coachella Valley Groundwater Basin*, DWR estimated that the Coachella Valley Groundwater Basin contained a total of approximately 39.2 million acre-feet (AF) of water in the first 1,000 feet below the ground surface, much of which originated from runoff from adjacent mountains. However, the amount of water in the aquifer has decreased over the years due to pumping to serve urban, rural and agricultural development in the Coachella Valley, which has withdrawn water from the aquifer at a rate faster than its natural rate of recharge.

Table 12 Groundwater Storage Coachella Valley Groundwater Basin

Subbasin	Subarea	Storage (AF)
San Gorgonio Pass		2,700,000
Mission Creek		2,600,000
Desert Hot Springs		4,100,000
Garnet Hill		1,000,000
Whitewater River	Palm Springs	4,600,000
	Thousand Palms	1,800,000
	Oasis	3,000,000
	Thermal	19,400,000
	Total	**39,200,000**

Source: California Department of Water Resources, 1964.

Although groundwater levels have been declining throughout most of the subbasins since 1945, water levels in the southeastern portion of the Coachella Valley had risen until the early 1980s because of the use of imported water from the Coachella Branch of the All American Canal and the resulting decreased pumping in that area. The rate of groundwater level decline increased from the early 1980s until about 2010 due to increased urbanization and increased groundwater use by domestic water purveyors, local farmers, golf courses and fish farms. Since 2010, groundwater levels in the southeastern portion of the Coachella Valley have risen as a result of reduced pumping in the eastern Coachella Valley combined with recharge of Colorado River water at the Thomas E. Levy (TEL) Groundwater Replenishment Facility (GRF).

The historic decline in the Whitewater River Subbasin led to a determination by CVWD and DWA that a management program would be needed in order to stabilize water levels and prevent other adverse effects including water quality degradation and land subsidence. CVWD's East and West Whitewater River Subbasin Groundwater Replenishment Programs are reducing declining water levels in this subbasin. Groundwater recharge in the West Whitewater River Subbasin Area

of Benefit (AOB) began in 1973 with results in recharge being seen in recent groundwater level measurements.

As presented in the 2010 CVWMP Update, groundwater production within the West Whitewater River Subbasin AOB was estimated to be 208,439 AF during 1999. The reported production for 2014 was 174,187 AF, and for 2015 was 147,459 AF. Groundwater production within the East Whitewater River Subbasin AOB was estimated to be 168,300 AF during 1999. The reported production for 2014 was 123,465 AF and for 2015 was 113,706 AF.

Surface runoff and subsurface inflow are significant sources of recharge for the Whitewater River Subbasin with the average historical natural recharge at approximately 49,000 AFY[1]. In addition, the Whitewater River GRF northwest of Palm Springs receives SWP exchange water through the Colorado River Aqueduct water, which has a maximum capacity of 300,000 AFY[2].

Although the Whitewater River GRF recharged only 35,699 AF in 2016, annual recharge has averaged over 66,000 acre-feet per year (AFY) since 1973.

As mentioned above, a direct recharge program is currently operating in the East Whitewater River Subbasin AOB[3]. Colorado River water is conveyed to the subbasin through the Coachella Branch of the All-American Canal, which is used primarily for agricultural irrigation use. The Coachella Canal also delivers supplies to the TEL GRF located in the southwestern part of the subbasin.

The TEL GRF is located one mile south of Lake Cahuilla and upslope of Bureau of Reclamation Dike 4, a major flood control dike, near Avenue 62 and Madison Street. This location is ideally suited for a large-scale recharge facility for the Thermal Subarea, due to its proximity to Lake Cahuilla and its relative freedom from the aquitard (clay layer), which is a barrier to groundwater recharge.

Since 1997, 271,289 AF of water has been recharged at the TEL GRF. The CVWMP indicates this facility should be able to recharge approximately 40,000 AFY. CVWD recharged 36,030 AF at this location in 2014, and 37,262 AF in 2015, and completed construction of a pilot recharge facility and several monitoring wells located at the base of the Martinez Canyon alluvial fan in March 2005. This facility is now out of service, but was designed to recharge approximately 4,000 AFY and received 665 AF of recharge water in 2012, and 441 AF in 2013. The annual amounts of water delivered for recharge over a 40 year period are shown in Table 13, *Colorado River Water*

[1] Coachella Valley Water District, 2010 CVWMP Update (December 2010).
[2] Department of Water Resources, California's Groundwater, Bulletin 118, Coachella Valley Groundwater Basin, Whitewater Subbasin, (February 27, 2004).
[3] Coachella Valley Water District Engineer's Report on Water Supply and Replenishment Assessment, Upper White Water River Subbasin Area of Benefit 2013-2014, 2014-2015.

Delivered to the Thomas E. Levy Groundwater Replenishment Facilities, East Whitewater River Subbasin Area of Benefit.

Table 13 Colorado River Water Delivered to the Thomas E. Levy Groundwater Replenishment Facility , East Whitewater River Subbasin Area Of Benefit

Year	Recharge Delivery (AF/Y)	Year	Recharge Delivery (AF/Y)	Year	Recharge Delivery (AF/Y)
1973	7,475	1988	1,096	2003	902
1974	15,396	1989	12,478	2004	13,244
1975	20,126	1990	31,721	2005	165,554
1976	13,206	1991	14	2006	98,959
1977	0	1992	40,870	2007	16,009
1978	0	1993	60,153	2008	8,008
1979	25,192	1994	36,736	2009	57,024
1980	26,341	1995	61,318	2010	228,330
1981	35,251	1996	138,266	2011	232,214
1982	27,020	1997	113,677	2012	257,267
1983	53,732	1998	132,455	2013	26,620
1984	83,708	1999	90,601	2014	3,533
1985	251,994	2000	72,450	2015	865
1986	298,201	2001	707	2016	35,699
1987	104,334	2002	33,435		
				TOTAL	**2,932,188**

Source: Coachella Valley Water District Engineer's Report on Water Supply and Replenishment Assessment, West Whitewater/Indio Subbasin Area of Benefit 2017-2018 (April 2017).

Note:

1. Delivered water quantities vary as a result of varying SWP delivery capability drought and advance deliveries associated with the exchange agreement.

3.4.1 Aquifer Adjudication

The groundwater supply of the Whitewater River Subbasin has not been adjudicated. CVWD shares a common groundwater source with other Public Water Suppliers, including DWA, the City of Coachella, the City of Indio, and the Myoma Dunes Mutual Water Company. Other groundwater users include some individual residents mostly in rural areas, farmers, golf courses, businesses, and commercial facilities. DWA and CVWD both operate groundwater replenishment programs whereby groundwater pumpers, (other than minimal pumpers), pay a per acre-foot charge that is used to pay the cost of importing water to recharge and the aquifer.

3.4.2 Status of the Aquifer

In accordance with the Sustainable Groundwater Management Act (SGMA), DWR has determined the Whitewater River Subbasin to be a medium priority groundwater basin which is not in critical overdraft.

The groundwater supply of the Whitewater River Subbasin consists of a combination of natural runoff, inflows from adjacent basins, returns from groundwater use, and imported water use. The supply is supplemented with artificial recharge using imported SWP Exchange and Colorado River water. The long-term average of natural inflow from mountain-front runoff is about 46,000 AFY. Runoff varies from about 8,000 AFY in very dry years to over 200,000 AFY in extremely wet years. For a ten-year period from 2000 through 2009, natural inflow from mountain-front runoff was below normal, averaging about 29,000 AFY.

Subsurface inflow from adjacent groundwater basins averages about 11,000 AFY and is relatively consistent from year-to-year. Returns from use vary with water demands. For the 2000 through 2009 period, returns from use are estimated to be on average about 240,000 AFY. During this same period, about 51,000 AFY of imported water was recharged into the basin. Total inflows are estimated to be approximately 331,000 AFY.

Outflows from the basin consist of pumping, flows to the agricultural drainage system, evapotranspiration by native vegetation and subsurface outflow to the Salton Sea. For the 2000 to 2009 period, groundwater pumping averaged about 389,000 AFY. Drain flows are estimated by about 48,000 AFY, while evapotranspiration and subsurface outflow averaged about 4,000 AFY. The total basin outflows for this period averaged at 441,000 AFY and the average net outflow from storage for this period was 110,000 AFY.

DWR Bulletin 108 (1964) and Bulletin 118 (2003) are the most current bulletins published by DWR that characterize the condition of the aquifer as a whole. In Bulletin 108, DWR noted that the amount of usable supply in the over-drafted aquifer was decreasing. CVWD estimates the annual overdraft in its *Engineer's Reports on Water Supply and Replenishment Assessment.* Over the last ten-year period, urban per capita water use has decreased as a result of ongoing conservation programs. In addition, imported water supplies have increased. As a result, the 2014 CVWMP Status Report shows that overdraft conditions did not occur between 2003 and 2013, and with continued implementation of the 2010 CVWMP Update Programs, overdraft is anticipated to be eliminated within the next ten years. The 2017 CVWMP Status Report confirmed this estimate.

The historical overdraft condition in the Coachella Valley has caused groundwater levels to decrease in portions of the Coachella Valley particularly in the Mid-Valley region of Rancho Mirage, Palm Desert, and Indian Wells, and has raised concerns about water quality degradation and land subsidence. Groundwater overdraft is manifested not only as a prolonged decline in groundwater storage, but also through secondary adverse effects including decreased well yields,

increased energy costs, water quality degradation and land subsidence. Groundwater levels in the western Coachella Valley near Palm Springs have also historically decreased. However, in the last ten years groundwater level increases have been seen in the Palm Springs area where artificial recharge has successfully raised water levels.

The effectiveness of the Groundwater Replenishment Programs have been demonstrated by rising water levels in the Palm Springs area, and by slowing water level declines in the Mid-Valley portion of the Whitewater River Subbasin.

3.5 Overdraft Mitigation Efforts

3.5.1 Coachella Valley Water Management Plan Update

CVWD maintains water management policies within its 2010 CVWMP Update (January 2012) to comprehensively protect and augment the groundwater supply. As discussed in the 2010 CVWMP Update, CVWD is reducing reliance on groundwater sources by fully utilizing available Colorado River water, SWP Exchange water and recycled water supplies. In addition, CVWD implements source substitution and conservation measures to reduce demands on the aquifer. The goal is to reach a 20 percent reduction in the overall water demand by 2020, pursuant to SBx7-7. CVWD anticipates this water use reduction level will be permanent. In compliance with SGMA, CVWD has submitted the 2010 CVWMP update to DWR for approval as its Alternative GSP.

3.5.2 CVWD Landscape Ordinance

CVWD's Landscape Ordinance 1302.3, revised in August 2017 in compliance with the State of California (State) drought revisions, requires a series of reduction methods, including requirements that new developments install weather-based irrigation controllers that automatically adjust water allocation. Additional requirements include setbacks of spray emitters from impervious surfaces, as well as use of porous rock and gravel buffers between grass and curbs to eliminate run-off onto streets. With the exception of turf, all landscaping, including groundcover and shrubbery, must be irrigated with a drip system. Also, the maximum water allowance for landscaped areas through CVWD's service area has been reduced. This new reduction goal requires that developers maximize the use of native and other drought-tolerant landscape materials, and minimize use of more water-intensive landscape features, including turf and fountains.

3.5.3 Source Substitution

Source substitution is the delivery of an alternate source of water to users currently pumping groundwater. The substitution of an alternate water source reduces groundwater extraction and allows the groundwater to remain in storage, thus reducing overdraft. Alternative sources of water include municipal recycled water from Water Reclamation Plants (WRP)-7 and WRP-10,

and the City of Palm Springs Wastewater Treatment Plant; Colorado River Water, desalinated agricultural drain water, and re-use of water used in aquaculture. Source substitution projects include the following:

- Conversion of existing and future golf courses in the eastern Coachella Valley from groundwater to Colorado River water;
- Conversion of existing and future golf courses in the western Coachella Valley from groundwater to recycled water and/or Colorado River water via the Mid-Valley Pipeline;
- Conversion of agricultural irrigation from groundwater to Colorado River water, in both the Oasis and Mecca Subareas; and
- Conversion of some municipal use from groundwater to treated Colorado River water.

Examples of effective alternative source substitute efforts include the following:

- CVWD has a non-potable water system that delivers treated recycled water from water reclamation plants, blends it with canal water and delivers it to golf courses, schools, and open spaces for irrigation. Approximately 8,750 AF of recycled water was delivered in 2015;
- CVWD has completed construction of a 54-inch diameter pipeline to deliver Colorado River water to the Mid-Valley area for use with CVWD's recycled water for golf course and open space irrigation. Over 50 golf courses within CVWD's service area now use either recycled or canal water, or a combination of both. This reduces pumping from the groundwater;
- CVWD has secured rights to the Colorado River and participated in the construction of the All-American Canal and the Coachella Branch of the All-American Canal. Beginning in the late 1940's, CVWD worked with the U.S. Bureau of Reclamation and constructed a distribution system to deliver Colorado River water to the farms in the eastern Coachella Valley. This system delivered 245,894 AF of Colorado River water in 2006, and increased deliveries to approximately 342,000 AF in 2015;
- CVWD recharges the Coachella Valley Groundwater Basin with Colorado River water at three locations. The largest recharge program is operated at the Whitewater River GRF. The TEL GRF recharges up to 40,000 AFY in the eastern Coachella Valley;

- CVWD has secured rights to SWP water and negotiated exchange and advanced delivery agreements with the Metropolitan Water District of Southern California (MWD) to exchange CVWD's SWP water for MWD's Colorado River water source. The SWP exchange water is used to recharge the aquifer in the western Coachella Valley. This recharge program was started in 1973 and has replenished the aquifer with almost three million AF of water;
- CVWD plans to utilize treated agricultural drainage water for irrigation purposes. A desalination pilot study was completed in 2007;
- CVWD has worked with an aquaculture farm and developed water efficiency programs that include water treatment and reuse; and
- CVWD intends to implement expansion of the Oasis Subarea irrigation system. This project will reduce groundwater pumping by extending Colorado River water delivery to the Oasis Slope.

3.5.4 CVWD's Conservation Programs

CVWD continues to work with the cities in its service area to limit the amount of water that is used for outdoor landscaping, and maintains an ongoing turf rebate program (when funds are available) to encourage homeowners to replace turf areas with desert-friendly landscaping. As a result of the adoption of Statewide indoor water conservation measures requiring low flush toilets, shower and faucet flow restrictors, and other devices, the amount of water used inside homes has been significantly reduced.

CVWD adopted water budget-based tiered rates in 2010 to discourage excessive water use and implemented a 20 percent urban water use reduction target by 2020. The most current CVWD budget-based tiered rates were adopted in July 2016, under CVWD Ordinance 1430. CVWD is also working with the golf course industry to reduce water use at local courses. In 2014, CVWD began a partnership with the Southern California Golf Association and formed the Golf and Water Task Force to reduce overall golf course water use by 10 percent. Key activities being implemented are the establishment of water budgets to limit golf course groundwater pumping and a region wide golf course turf reduction program. With the large number of new communities constructed, these conservation programs have reduced impacts of new development on the aquifer.

Travertine Specific Plan

Development of the Travertine Specific Plan (Project) will be required to implement CVWD's conservation measures in order to assure the most efficient use of water resources and to meet

and maintain the 2020 water conservation goals, or goals throughout the life of the Project. In addition, the Project will strictly adhere to the provisions in CVWD's Landscape Ordinance.

3.6 Historical Groundwater Use

CVWD's annual *Engineer's Report on Water Supply and Replenishment Assessment 2016-2017*, reviews the historical use of groundwater in the Coachella Valley. In 1936, groundwater use totaled 92,400 AFY and increased steadily to about 376,000 in 1999, and 398,510 AF in 2007. Total groundwater use, including private pumping, has dropped off slightly since 2007, due to a combination of water conservation efforts, source substitution projects and the effects of the ongoing economic recession. In 2014, as a continued result of conservation and source substitution programs, total groundwater use dropped even further to approximately 297,652 AF. In 2015, mostly due to mandatory drought reductions, total groundwater use dropped even further to 261,165 AF. These reductions represent 25 and 34 percent reductions in reported Coachella Valley groundwater pumping respectively since 2007.

3.7 Groundwater Sufficiency Analysis

The 2015 UWMP reports CVWD's actual service area urban water demand at 92,974 AF in 2015. Projected urban water demand in the 2015 UWMP for the year 2040 is anticipated to be 194,300 AF.

Total build-out water demand under the Plan A Option is approximately 1,255.13 acre-feet per year (AFY) or, 1.43 acre-feet (AF) per acre, which represents approximately 0.64 percent of the total water supply number (194,300 AFY) for 2035.

Total build-out water demand under the Plan B Option is approximately 639.46 acre-feet per year (AFY) or, 0.72 AF per acre, which represents approximately 0.32 percent of the total water supply number (194,300 AFY) for 2035.

With almost 30 million AF of combined storage followed by groundwater management planning adopted in the 2015 UWMP and 2010 CVWMP Update, the aquifer has sufficient available water to supply the proposed Project and other present and anticipated needs for normal year, as well as one or more multiple dry years, over the next 20 years.

3.8 Additional Water Sources

Groundwater will provide the primary water supply for the proposed Project. This WSA/WSV focuses on the adequacy of groundwater to meet the water demands of the Project. Additional water sources are considered as a supplement to groundwater in that they are used to recharge the aquifer, serve as a source substitution for groundwater, or are used for irrigation in other locations in the subbasin.

The proposed Project would be able utilize recycled water on site to supplement non-potable water demands.

3.8.1 Colorado River Water

The Coachella Canal is a branch of the All-American Canal that brings Colorado River water into the Imperial and Coachella Valleys. Under the 1931 California Seven Party Agreement, CVWD has water rights to Colorado River water as part of the first 3.85 million AF allocated to California. CVWD is in the third priority position along with the Imperial Irrigation District (IID). This priority is ahead of the 550,000 AF allocation to MWD, which has the lowest priority of the California Seven Parties.

California's Colorado River supply is protected by the 1968 Colorado River Basin Project Act, such that the Colorado River supplies to Arizona and Nevada after 1968 shall be reduced to zero before California's supply will be reduced below 4.4 million AF in any year. It is estimated that this reduction is about 1.5 million AF. This reduction, together with the reduction by California agencies with lower priorities than CVWD, results in a reduction in excess of 2 million AF in Colorado River water available to the Lower Basin States before the Colorado River supply available to CVWD is impacted. This assumes that the California agricultural agencies with rights to Colorado River water are using less than 3.85 million AF.

Historically, CVWD has received approximately 330,000 AFY, the base entitlement, of Priority 3a Colorado River water. Table 14, *Annual CVWD Colorado River Diversions at Imperial Dam (after measured returns)*, shows the diversions of Colorado River water after measured returns at Imperial Dam to CVWD for the period from 1964 through 2015. The 2003 Quantification Settlement Agreement (QSA), involving several of the California Colorado River contactors, provides contractual obligation for the supply to CVWD. A number of lawsuits have unsuccessfully challenged the QSA agreements and transfers in State and federal courts, and thus maintained the validity of the QSA has been upheld.

The 2003 QSA was entered into and between CVWD, IID and the San Diego County Water Authority (SDCWA). The QSA quantifies distribution allotments of Colorado River water rights in California, including CVWD's Colorado River Rights, for the next 75 years. The agreements provide for additional transfer of Colorado River allocations to CVWD from the IID and MWD. Under the QSA as shown in Table 15, *Colorado River Water Budget under the Quantification Settlement Agreement*, CVWD will receive up to 459,000 AFY of Colorado River water.

Water from the Coachella Canal provides a significant supply source for the eastern Coachella Valley. In 1999, the Coachella Canal supplied over 60 percent of the water used in the eastern Coachella Valley, but provided less than 1 percent of the water supply to the western Coachella Valley. Most of the canal water was used for crop irrigation in the eastern Coachella Valley.

Table 14 Annual CVWD Colorado River Diversions at Imperial Dam (after measured returns)

Year	Diversion Volume (AF)	Year	Diversion Volume (AF)
1964	526,417	1990	369,685
1965	524,686	1991	317,563
1966	489,429	1992	309,367
1967	465,053	1993	318,990
1968	478,583	1994	326,102
1969	495,082	1995	326,697
1970	449,263	1996	331,473
1971	470,683	1997	338,466
1972	511,476	1998	337,466
1973	522,356	1999	333,810
1974	558,864	2000	342,871
1975	570,987	2001	329,367
1976	524,800	2002	331,107
1977	508,635	2003	296,808
1978	509,491	2004	318,616
1979	530,733	2005	304,769
1980	531,791	2006	329,322
1981	452,260	2007	311,971
1982	424,868	2008	299,064
1983	362,266	2009	308560
1984	355,789	2010	306141
1985	337,002	2011	309348
1986	339,702	2012	329,576
1987	322,625	2013	331,137
1988	331,821	2014	349,372
1989	359,419	2015	342,068
		2016	356,358

Source: United States Bureau of Reclamation Report for Colorado River Accounting and Water Use Report for calendar year 2016, May 2017.

Note: Records of releases of water through regulatory structures in accordance with Article V(A) of the Decree of the Supreme Court of the United States in Arizona v. California dated March 9, 1964.

In 1995, CVWD began operating the Dike No. 4 pilot recharge facility in La Quinta. As discussed in Section 3.4, this facility successfully demonstrated the adequacy of this site to recharge the aquifer. The Dike No. 4 site was expanded in 2009, put into full operation, and was renamed the Thomas E. Levy (TEL) Groundwater Replenishment Facility (GRF). Future development and associated increases in water demand, as well as quality concerns, are expected to increase use of Colorado River water for domestic purposes. Determining the best way to treat this water in order to substitute for and decrease the area's dependency on groundwater is an important objective of the 2010 CVWMP Update, and the 2015 UWMP. The 2010 CVWMP Update calls for

the annual treatment and distribution of as much as 62,000 AF of Colorado River water for domestic use.

Table 15 Colorado River Water Budget under the Quantification Settlement Agreement

Component	2015 Amount (AFY)	2026-2047 Amount (AFY)
Base Entitlement	330,000	330,000
1988 Metropolitan/IID[1] Approval Agreement	20,000	20,000
Coachella Canal Lining (to SDCWA)[2]	-26,000	-26,000
To Miscellaneous/Indian PPRs[3]	-3,000	-3,000
IID/CVWD First Transfer	36,000	50,000
IID/CVWD Second Transfer	0	53,000
Metropolitan/SWP[4] Transfer	35,000	35,000
CVWD Diversion at Imperial Dam (QSA)	**392,000**	**459,000**
Less Conveyance Losses[3]	-14,000	-14,000
Agreed Upon Deliveries to CVWD	**378,000**	**445,000**

Source: CVWD 2015 UWMP Table 6-3.

Notes:

1. Imperial Irrigation District (IID)
2. San Diego County Water Authority (SDCWA)
3. Indian Present Perfected Rights (PPRs) State Water Project (SWP)
4. Assumed total losses after completion of canal lining projects.

3.8.2 State Water Project Water

CVWD and DWA are SWP contractors for the Whitewater River Subbasin. The SWP includes 660 miles of aqueduct and conveyance facilities extending from Lake Oroville (near Sacramento) in the north to Lake Perris (near Riverside) in the south. The SWP has contracts to deliver 4.1 million AFY to 29 contracting agencies. CVWD's original SWP water right (Table A amount) was 23,100 AFY and DWA's original SWP Table A amount was 38,100 AFY for a combined Table A amount of 61,200 AFY. In 2004, CVWD purchased an additional 9,900 AFY of SWP water from the Tulare Lake Basin Water Storage District located in the central San Joaquin Valley, which brought CVWD's SWP allotment up to 33,000 AFY.

In addition, CVWD and DWA have also negotiated an exchange agreement with MWD for 100,000 AFY of SWP Table A amount. MWD has permanently transferred 88,100 AFY and 11,900 AFY of its SWP Table A amounts annually to CVWD and DWA, respectively. This exchange agreement increases the total SWP Table A amount for CVWD and DWA to 178,100 AFY, with CVWD's portion equal to 126,350 AFY. This agreement provides that CVWD and DWA generally receive this (exchange) water from the SWP during wet years, which allows the two agencies to recharge the

groundwater basin and operate a conjunctive use program, storing water in wet years and pumping the groundwater basin in dry years.

In 2007, CVWD and DWA made a second purchase of SWP water from the Tulare Lake Basin Water Storage District. CVWD purchased 5,250 AFY and DWA purchased 1,750 AFY. In 2007, CVWD and DWA completed the transfer of 12,000 AFY and 4,000 AFY, respectively, from the Berrenda Mesa Water District (southern San Joaquin Valley) for a total SWP Table A amount of 16,000 AFY. Therefore, the total SWP Table A amount for CVWD and DWA is 194,100 AFY, with CVWD's portion equal to 138,350 AFY. Table 16, *State Water Project Water Sources*, summarizes CVWD and DWA total allocations of SWP Table A water to be delivered when available.

Table 16 State Water Project Water Sources

	Original SWP Table A	Tulare Lake Basin 2004 Transfer	Metropolitan Water District 2003 Transfer	Tulare Lake Basin 2007 Transfer	Berrenda Mesa 2007 Transfer	Total
CVWD	23,100	9,900	88,100	5,250	12,000	138,350
DWA	38,100		11,900	1,750	4,000	55,750
Total	61,200	9,900	100,000	7,000	16,000	194,100

Source: 2010 Coachella Valley Water Management Plan Update, Table 4-4.

SWP contractors make annual requests to DWR for water allocations and DWR makes an initial SWP Table A allocation for planning purposes, typically in the last month before the next water delivery year. Throughout the year, as additional information regarding water availability becomes available to DWR, its allocation/delivery estimates are updated. Table 17*, Department of Water Resources State Water Project Table A Water Allocations*, outlines the historic reliability of SWP deliveries, including their initial and final allocations.

Table 17 Department of Water Resources State Water Project Table A Water Allocations

Year	Initial Allocation	Final Allocation
1988	100%	100%
1989	100%	100%
1990	100%	100%
1991	85%	30%
1992	20%	45%
1993	10%	100%
1994	50%	50%
1995	40%	100%
1996	40%	100%
1997	70%	100%
1998	40%	100%
1999	55%	100%
2000	50%	90%
2001	40%	39%
2002	20%	70%
2003	20%	90%
2004	35%	65%
2005	40%	90%
2006	55%	100%
2007	60%	60%
2008	25%	35%
2009	15%	40%
2010	5%	50%
2011	25%	80%
2012	60%	65%
2013	30%	35%
2014	5%	5%
2015	10%	20%
2016	10%	60%
2017	20%	85%
AVERAGE	**43%**	**70%**

Source: California Department of Water Resources, State Water Project, Notices to Water Contractors.

As noted previously, CVWD and DWA do not directly receive SWP water. CVWD and DWA have entered into an exchange agreement with MWD that allows MWD to take delivery of CVWD and DWA SWP Table A water. In exchange, MWD provides an equal amount of Colorado River water that MWD transports through its Colorado River Aqueduct, which crosses the north end of the Coachella Valley near the Whitewater River. The delivery agreement allows for advanced delivery and storage of water, thereby providing better and more efficient water management. Water is only recharged when MWD aqueduct water is available for exchange. The exchange agreement

allows MWD to provide advanced deliveries of up to 800,000 AF and prevents MWD from having a negative delivery balance. The large storage capacity of the Coachella Valley Groundwater Basin, and the large volume of water in storage, allow CVWD and DWA to pump from the aquifer for a number of years without recharging. Large amounts of water can be recharged into the aquifer when the water is available.

3.8.3 Factors Potentially Impacting State Water Project Delivery Capability

DWR issues the State Water Project Delivery Capability Report (SWPDCR) every two years, with the adopted 2015 SWPDCR. This report accounts for impacts to water delivery capability associated with climate change and recent federal litigation (see Appendix B). The 2015 average long-term reliability of future SWP Table A deliveries through 2035 is projected to be 62 percent.

This allocation percentage is based on computer modeling of the State's watersheds, and past hydrology adjusted for factors that affect capability. In considering future water supply needs in the 2010 CVWMP Update, CVWD considered an even lower SWP delivery capability to allow for the uncertainty of future court decisions, State Water Resources Control Board (SWRCB) actions, the State and federal Endangered Species Acts (ESAs) and other restrictions, modeling error levee failure, and relaxation in the Biological Opinions for endangered species as the result of better science.

There are three significant factors contributing to uncertainty in the delivery capability of SWP water: 1) possible effect from climate change and sea level rise; 2) the vulnerability of the Sacramento Delta levees to failure, and 3) greater operation restrictions imposed by the United States Forest Service and National Marine Fishery Service in response to decreasing populations of endangered fish species.

CVWD considers purchases of additional Table A Amounts from SWP contractors as they become available.

3.8.4 Surface Water

Surface water supplies come from several local rivers and streams including the Whitewater River, Snow Creek, Falls Creek, and Chino Creek, as well as a number of smaller creeks and washes that discharge into the Coachella Valley. In 1999, surface water supplied approximately three percent of the total water supply to the western Coachella Valley to meet municipal demand, and virtually none to the eastern Coachella Valley. Because the surface water supply is directly affected by variations in annual precipitation, the annual supply is highly variable. Since 1936, the estimated historical surface water supply has ranged from approximately 1,400 to 9,000 AFY, averaging about 5,800 AFY.

The majority of local surface water is derived from runoff from the San Bernardino and San Jacinto Mountains, with lesser amounts from the Santa Rosa Mountains. This runoff either

percolates in the streambeds, or is captured in mountain-front debris basins, where it recharges the groundwater basin. According to the estimates developed for the 2010 CVWMP Update, since 1993, an average of approximately 60,000 AFY of surface water recharged the Whitewater River Subbasin.

3.8.5 Recycled Water

Wastewater that is highly treated and disinfected can be reused for landscape irrigation, and other purposes. Recycled wastewater has historically been used for irrigation of golf courses and municipal landscaping in the Coachella Valley since the early 1960s. In addition, fish farm effluent is available in localized areas of the eastern Coachella Valley and a portion is being recycled for reuse. Although recycled water is not planned for use in the Project vicinity, the Project will utilize recycled water if it becomes available in the future.

3.8.6 Desalinated Drain Water

The 2010 CVWMP Update identifies desalinated agricultural drain water as a future additional local water supply available for use in the Whitewater River Subbasin. CVWD plans to use treated agricultural drainage water for irrigation purposes. It is planned that agricultural drain water will be desalinated to a quality equivalent to that of canal water for irrigation use. The amount of drain water that would be treated and recycled in the future depends on supply availability of drain flow, the amount of additional water supplies needed, and the cost of treatment and brine disposal. According to the 2010 CVWMP Update the amount of water recovered through drain water desalination could range from 55,000 to 85,000 AFY by 2045.

Treated drain water could be delivered to the canal water distribution system and used as a non-potable supply for agricultural, golf course and landscape irrigation, and potentially for potable water supply. Since the desalinated drain water is local water, it would be available for use throughout CVWD's service area.

A brackish groundwater treatment pilot study and feasibility study was completed in 2008 and recommended a combined source water strategy involving wells and direct connection to the open drain outfalls. Such a combined approach will provide additional flexibility and reliability to this new water supply. This study concluded that agricultural drainage water can effectively be treated for reuse as non-potable water and potentially as new potable water.

3.8.7 Permanent Water Purchases

In order to assist with long-term supply needs, CVWD purchases Table A amounts (allotments) from SWP contractors, as they have become available and meet CVWD's needs. Additional purchases from the SWP and from others with water rights, mainly in the Central Valley of California, will be evaluated as they become available to determine whether they meet CVWD's needs. If they do, CVWD may purchase additional SWP water rights.

3.8.8 Summary of Primary and Additional Water Sources

Table 18, *Existing CVWD Water Sources and Supply Table A Amounts, Water Rights and Water Service Contracts,* shows CVWD's existing water supply entitlements, rights and service contracts.

3.9 Analysis of Water Supply and Demand

The analysis of water supply and demand for full build-out of the Travertine Specific Plan Project (Project) WSA/WSV is based on the 2015 UWMP and the 2010 CVWMP Update. The 2015 UWMP was prepared in accordance with the Urban Water Management Planning Act as most recently amended by SBx7-7, which required a Statewide 20 percent reduction in per capita water use by the year 2020. The purpose of the 2015 UWMP is to document CVWD's projected water demands and its plans for delivering water supplies to CVWD's service area through 2035. The adopted 2015 UWMP revises and extends CVWD urban water demands to 2040.

Table 18 Existing CVWD Water Sources and Supply Table A Amounts, Water Rights and Water Service Contracts

Supply	Source, Conveyance Method, Agreement	Existing Supplies AFY	Entitlement	Right	Contract	Other	Ever Utilized?
Groundwater	Whitewater River Subbasin	Unspecified[1]				X	Yes
Colorado River Water	Coachella Canal 2003 QSA	459,000[2]			X		Yes
SWP Water[3]	SWP Contracts and MWD Exchange Agreement	138,350[4]	X[5]	X			Yes
Recycled Water[6]	CVWD	8,749				X	Yes

Source: CVWD 2015 UWMP

Notes:

1. CVWD shares a common groundwater source that has not been adjudicated.
2. As quantified in the Quantification Settlement Agreement.
3. Imported SWP Exchange Water is not used as a direct water supply source, but rather is used to recharge groundwater supplies in the Coachella Valley.
4. Includes Original SWP Table A Amount, Tulare Agreement and MWD Agreement.
5. Annual Allocation of SWP Table A Amount Water Supply.
6. Total projected recycled water (2015), derived from Table 6-7, *Current and Projected Recycled Water Direct Beneficial Uses Within Service Area (DWR Table 6-4 R),* from the CVWD 2015 UWMP.

In accordance with SBx7-7, CVWD's 2015 UWMP sets interim and final urban water use targets for complying with California's 2020 conservation program based on DWRs defined Target Method No. 1, which provides for an agency goal of 80 percent of baseline demands. The 2015

UWMP relies on and summarizes the water supplies and water supply program details in the 2010 CVWMP Update.

The 2010 CVWMP Update is a 35-year plan to reliably meet current and future water demands in a cost effective and sustainable manner. The Planning Areas for the 2010 CVWMP Update is the Whitewater River Subbasin including Salton City in Imperial County and areas north of the Banning Fault that are within the service areas in Indio and Coachella. The 2010 CVWMP Update evaluates all of the water demand and supplies in the Planning Areas through 2045, for all water users including urban, agricultural and golf, and provides a preferred alternative water supply plan for meeting demands. The 2010 CVWMP Update evaluates long-term risks to water supplies such as reduced SWP capability and reduced SWP supplies, and provides contingencies for addressing these risks. The elements of the preferred alternative are imported water supplies, recharge, source substitution and conservation. The preferred alternative identifies projects and programs that implement these plan elements.

The 2010 CVWMP Update relies on the Riverside County Population Projections 2006 (RCP-06). The 2014 CVWMP Status Report updated the population projections based on the Riverside County Populations Projections 2010 which are lower. The updated projections are relied on in the 2015 UWMP.

In 2005, Riverside County was experiencing rapid growth. Recognizing the need for more accurate growth forecasts, the Riverside County Center for Demographic Research (RCCDR) was established under the joint efforts of the County of Riverside, the Western Riverside Council of Governments, the Coachella Valley Association of Governments, and the University of California Riverside for the development of demographic data and related support products to serve all of Riverside County. The RCCDR was tasked with developing the RCP-2006 growth forecast to provide agencies with a consistent and standard set of population, housing, and employment forecasts. Southern California Association of Governments adopted the RCP-06 for use in their regional growth forecasts.

Although the growth forecast indicated significant future growth for the Coachella Valley, these forecasts were based on potential development that had not yet been approved by the County or by cities within the Coachella Valley. Prior to 2008, there was substantial development pressure to transition from agricultural to urban land uses. As agricultural land converts to urban uses, the characteristic of its water demands and infrastructure will change. The 2010 CVWMP Update reflects these changes in its water demand projections and the ways that water is used in this area. As urban development occurs, land that currently is irrigated with untreated Coachella Canal water could begin utilizing groundwater replenished with canal water, or use treated canal water for indoor use and untreated canal water for outdoor use.

Tribal land in the Coachella Valley makes up over 49,000 acres. While much tribal land in the western Coachella Valley has been developed to varying degrees, a substantial amount of tribal land in the eastern Coachella Valley is undeveloped. An understanding of the timing and degree of development on tribal lands is important. All of the Coachella Valley tribes have developed one or more casinos, which have provided tribes with important economic opportunities. As development continues in the Coachella Valley, it is expected that additional growth will occur on the remaining tribal lands.

In other portions of the Coachella Valley, development of tribal land is closely coordinated with the Coachella Valley cities where they are located. RCP-2006 and RCP-2010 growth forecasts are assumed to include development of these lands.

As shown in Table 19, *Projected Average Urban Water Supply (AFY)*, the 2015 UWMP projects that the percentage of water from each of the current water supply sources will change significantly by 2040, relative to 2015 conditions.

3.9.1 Effects of the 2008-2011 Recession

Riverside County was hit particularly hard by the economic downturn that started in 2008. The recession resulted in a lower than projected growth rate for the Coachella Valley and because the planning period for the 2010 CVWMP Update is through 2045, the effects of the recession on growth in the Coachella Valley have begun, and will continue, to attenuate over the long-term. The 2010 CVWMP Update incorporates these factors as it is assumed that development within the Coachella Valley will continue and that the Riverside County Planning growth forecast is applicable in the long-term.

In CVWD's 2014 CVWMP Status Report, the RCP 2010 population projections were considered and future water demands were re-evaluated. Using RCP 2010 results in an estimated 22 percent lower urban water demand in 2035 and a 13 percent higher agricultural water demand. Overall demand would be about 14 percent lower in 2045. It is important to note that this is not an elimination of demand but a deferral of demand to later years. Growth will continue but at a slightly slower rate.

Water conservation is a major component of future water management. CVWD is committed to reducing its urban water use by 20 percent by 2020. Therefore, CVWD has been conservative in the calculation of 2015 and 2020 urban conservation targets. 2010 U.S. Census Data was not available to be used in the preparation of the 2015 UWMP. CVWD used 2000 census data. Water Code Section 10608.2 allowed urban water suppliers to update 2020 urban targets in the 2015 UWMP based on the availability of 2010 Census Data. Because CVWD's recalculated urban conservation targets were higher than those committed to in the 2010 UWMP, CVWD retained its 2010 targets of 540 gpcd by 2015 and 473 gpcd by 2020 which will result in greater water

savings. CVWD's actual 2015 water use was 383 gpcd. Drought restrictions played a significant role in achieving this reduction.

Table 19 Projected Average Urban Water Supply (AFY)

Water Supply	Additional Detail on Water Supply	Projected Water Supply				
		2020	2025	2030	2035	2040 (opt)
Groundwater	Potable Urban Use	113,400	102,100	112,700	106,600	101,000
Purchased or Imported Water	Treated Canal Water for potable urban use in East Valley[1]	0	18,000	18,000	31,000	40,000
Urban Potable Subtotal		**113,400**	**120,100**	**130,700**	**137,600**	**141,000**
Purchased or Imported Water	Untreated Canal water for non-potable urban use in East Valley[1]	1,200	11,200	17,000	26,300	33,300
Desalinated Water	Desalinated drain water for non-potable urban use	0	5,000	10,000	15,000	20,000
Urban Non-potable Subtotal		**1,200**	**16,000**	**27,000**	**41,300**	**53,300**
Recycled Water	WRP-7[2]	3,400	3,700	4,000	4,300	,600
Recycled Water	WRP-10[2]	10,900	11,300	1,700	12,100	12,500
Recycled Water	WRP-4[2,3]	0	17,700	15,100	17,500	19,200
Recycled Water Subtotal		**14,300**	**27,700**	**30,800**	**33,900**	**36,300**
Total Retail Supply		128,900	163,800	188,500	212,800	230,600
Purchased or Imported Water	Sale of Canal water to IWA for potable use	5,000	10,000	20,000	20,000	20,000
Total Wholesale Supply		5,000	10,000	20,000	20,000	20,000

Source: CVWD, 2015 Urban Water Management Plan, Table 6-12.

Notes:

1. Total Colorado River allotment will increase from 397,000 AF in 2016 to 459,000 AF in 2026. Colorado River water supply does not sum to total right because of nonurban supply not shown on this table and projected wholesale to other agencies.
2. Recycled water safe yield is based on total projected flows at each WRP; surface discharge and percolated wastewater effluent is not included in the reasonably available supply estimates.
3. Assumes tertiary treatment is not available until after 2020 at WRP-4.

The golf industry represents a significant water demand sector in the Coachella Valley and is expected to remain so in the future. CVWD, working in cooperation with the Southern California Golf Association and the local golf community, has established a Golf and Water Task force to reduce overall golf course water use by ten percent.

The 2010 CVWMP Update assumes that the fish farm and duck club growth will be much lower than projected in the 2002 CVWMP. Some of the large fish farms have moved from the traditional fish farming business. The replacement use at these farms is suspected to significantly reduce

the water demand. Based on the available information at this time, further fish farm demand of 8,500 AFY and duck club demand of 2,000 AFY was assumed.

It was also assumed that the growth occurring on tribal land will be similar to other areas in the Coachella Valley, and land uses will be proportional to the growth that occurs on non-tribal land in the eastern Coachella Valley. Corresponding water demands are calculated based on this growth assumption.

The 2010 CVWMP Update increases the water conservation requirement during the next 35 years. A 14 percent reduction in agricultural water use is targeted by 2020. CVWD's Landscape Ordinance 1302.3, updated in 2017, will govern the irrigation demands of new golf courses as well as reduce the demands of existing golf courses by 10 percent.

The 2010 CVWMP Update water demand projections for the Whitewater River Subbasin for the period 2010 to 2030 in five-year intervals increases from 678,000 AFY in 2010 to 783,300 AFY in 2030, or 15 percent. During this same period, using RCP 2006, the population in the Coachella Valley is estimated to increase by over 100 percent, or about four percent per year. In the 2014 CVWMP Status Report, RCP 2010 projections were used and the Whitewater River Subbasin water demand was revised to 691,500 in 2030, a 12 percent reduction.

3.9.2 Groundwater and Groundwater Storage

As supply and demand change, the amount of groundwater in storage changes to make up the difference between the demand and the supply. Other than canal water, recycled wastewater and desalinated agricultural drain water, all water delivered to the urban water users is obtained from the groundwater basin. The groundwater basin has the capacity of approximately 28.8 million AF. It currently contains about 25 million AF and acts as a very large reservoir. It is capable of meeting the water demands of the Coachella Valley for extended periods.

As discussed in the 2010 CVWMP Update, CVWD has many programs to maximize the water resources available to it including groundwater recharge with its Colorado River and SWP supplies, recycled wastewater, desalinated agricultural drain water, substitution of groundwater uses with canal water, and conservation including tiered water rates, a landscaping ordinance, and outreach and education. The 2010 CVWMP Update and CVWD replenishment assessment programs establish a comprehensive and managed effort to eliminate the overdraft.

Exhibit 8, in Section 1.5, illustrates the long-term progression and methods towards eliminating overdraft with successful implementation of the 2010 CVWMP Update and 2015 UWMP programs as previously discussed. These programs allow CVWD to maintain the groundwater basin as its primary water supply and to recharge the groundwater basin as its other supplies are available.

The 2014 CVWMP Status Report evaluated progress to date on eliminating overdraft. The report illustrates the effectiveness of the CVWMP programs and shows that overdraft did not occur in the ten years from 2003 and 2013. The report also shows that with continued implementation of CVWMP programs, overdraft will be eliminated in 2021. The effectiveness of the CVWD's programs is clear and shows that there will be a steady increase in water in storage with limited disruption to this pattern through 2045.

3.9.3 Coachella Canal Water

Colorado River supplies available to CVWD under the 1931 Seven Party Water Priority 43 Agreement and QSA agreement are considered in the 2015 UWMP and 2010 CVWMP Update. CVWD has maximized delivery of these supplies by participating in canal lining projects. In 2008, the canal was fully lined. The annual reporting of CVWD Colorado Diversions at Imperial Dam for the period of 1964 to 2008 was prepared as required by the U.S. Supreme Court decree. CVWD average annual diversion for this 45-year period was 402,702 AFY. CVWD's average annual diversion for the period 1983 to 2008 (26 years of decree records) was 328,698 AFY. The difference of 74,004 AFY is the result of the water conserved by the lining of the first 49 miles of the Coachella Branch of the American Canal by the U.S. Bureau of Reclamation (USBR) under repayment contract with CVWD. The QSA assures that CVWD receives a quantified allotment of Colorado River supplies. The QSA has been unsuccessfully challenged in State and federal courts and remains in effect. In the most recent 6-year period (2008 to 2013), the annual average diversion was 313,971 AFY.

3.9.4 Additional Table A Amounts

DWA and CVWD have increased their SWP supplies from a total of 61,200 AFY in 2002 to a current total of 194,100 AFY in 2014.

3.9.5 State Water Project Capability Report

The 2015 State Water Project Delivery Capability Report (SWPDCR) projections are the result of computer modeling by DWR that reflect the results of adjusting 82 years of hydrology to incorporate the results of climate change models. The 2015 SWPDCR projections also take into consideration the existing physical facilities and the regulatory restrictions, which include the restriction on the SWP and Central Valley Project (CVP) operations in accordance with the Biological Opinions of the US Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) as issued on December 15, 2008 and June 4, 2009, respectively.

The 2015 SWPDCR has also been adjusted to allow for the uncertainty of future court decisions, SWRCB actions, State and federal ESAs and other restrictions, modeling error, levee failure and relaxation of biological opinions as the result of improved scientific research.

Although in recent years uncertainty has resulted in reduced capability, SWP capability has been 100 percent as recently as 2006 and dropped to 5 percent in 2014 with the onset of the California

Drought. SWP capability increased to 20 percent in 2015, and was at 60 percent as of April 21st 2016. CVWD plans for a long-term average capability of 50 percent in the 2010 CVWMP Update and 2015 UWMP.

3.9.6 Metropolitan Water District of Southern California (MWD) Callback

In 1984 MWD, DWA, and CVWD entered into an advanced delivery agreement, which allowed MWD to store water from its Colorado River Aqueduct in the Coachella Valley. Prior to this agreement, DWA and CVWD were exchanging their annual SWP Table A amount with MWD for the same amount of water from MWD's Colorado River Aqueduct. This exchange is necessary because the SWP conveyance system does not extend into the Coachella Valley. The 1984 agreement allows MWD to deliver more water into the Coachella Valley during wet periods, or periods when it has excess water, and to build a credit that it can use to provide the water in exchange for DWA's and CVWD's SWP Table A amounts during dry periods. This ability for advanced delivery and exchange creates a conjunctive use program among the three agencies.

In 2003, MWD, DWA, and CVWD entered into an exchange agreement whereby MWD transferred title to 100,000 AF of its SWP Maximum Table A amount to DWA and CVWD. Under the agreement, MWD obtained the right to callback the SWP water for its use for a maximum number of times in a given period of years. The 100,000 AF was divided into two 50,000 AF blocks. The 2015 UWMP assumes that MWD will periodically exercise its option to callback the 100,000 AFY. This is also in accordance with the 2010 CVWMP Update. The actual callback would depend on availability of MWD's supplies to meet their demands. Since 2003, MWD exercised its callback option one time, in 2005.

3.9.7 Long-Term Average State Water Project Deliveries

The amount of SWP supply that is available to CVWD for its own use was considered as the long-term average SWP supply. The published capability of the SWP water has decreased over time. The factors that could affect the SWP capability considered in the 2015 UWMP and the 2010 CVWMP update are:

- Uncertainty in modeling restrictions associated with Biological Opinions;
- Risk of levee failure in the Sacramento Delta;
- Additional pumping restrictions resulting from biological opinions on new species of revisions to existing biological opinions;
- Impacts associated with litigations such as State and federal ESA lawsuits;
- Climate change impacts.

Due to these factors and the need to plan for higher contingency, the planning assumption in the 2010 CVWMP Update and the 2015 UWMP is that the long-term future average SWP capability

will be at 50 percent until successful completion of the Bay-Delta Conservation Plan and Delta conveyance facilities.

Groundwater basin recharge through direct and in-lieu (indirect) recharge is a major element of CVWD's water management activities. CVWD has spent over $43.5 million on the construction of the TEL GRF in the eastern Coachella Valley, and over $42 million on the construction of the Mid-Valley Pipeline, to move canal water into the northern Coachella Valley for source substitution of groundwater. The protection of the aquifer storage will be addressed through additional water supply purchases, water conservation, and source substitution similar to the ones described in the 2010 CVWMP Update.

The available supplies and water demands for CVWD's service area were analyzed in the water supply conditions of the 2015 UWMP to assess the region's ability to satisfy current and future urban water demands, including those of the proposed Project, under three scenarios: a normal water year, a single dry year, and multiple dry years. According to the 2015 UWMP, the urban water demands in the CVWD service area (retail supply totals) are estimated to grow from 114,600 AFY in 2020 to 194,300 AFY in 2040.

Therefore, the estimated water demand under the Plan A Option (1,255.13AFY, or 1.43 AF/acre) and the Plan B Option (639.46 AFY, or 0.72 AF/acre) represent approximately 1.09 percent (Plan A) and 0.55 percent (Plan B) of the total water supply number (114,600 AFY) for 2020, and would represent 0.64 percent (Plan A) and 0.32 percent (Plan B) of the total water supply number (194,300 AFY) for 2035.

The following tables provide CVWD's projected water supplies and demands in a normal year, single dry year, and multiple dry years. These tables combine retail and wholesale numbers to simplify the presentation. It should be noted that the retail supplies and demands presented in the tables below include recycled water delivered to CVWD's non-urban customers based on DWR's standardized tables and the 2015 UWMP Guidebook. However, as discussed in Sections 4 and 6 of the 2015 CVWD UWMP, recycled water is not considered an urban water supply and is not delivered to CVWD's urban water customers. Instead, recycled water is used to offset the groundwater pumping of private well owners (mainly golf courses) to eliminate overdraft. The wholesale demand and supply listed is the anticipated sale of raw Colorado River water to the Indio Water Authority. These tables indicate that CVWD will be able to meet current and future urban water demand needs through groundwater pumping, recharge with Colorado River water, and distribution of treated Colorado River water during normal, single dry, and multiple dry years.

DWR requires the supply reliability tables to include both potable and recycled water; this is summarized below in Table 20, *Normal Year Supply and Demand Comparison (adapted from DWR Table 7-2 R and DWR Table 7-2 W)*, for the average year.

Table 20 Normal Year Supply and Demand Comparison adapted from DWR Table 7-2 R and DWR Table 7-2 W)

		2020	2025	2030	2035	2040 *(Opt)*
Retail	Supply totals (AF)	128,900	163,800	188,500	212,800	230,600
	Demand totals (AF)	128,900	163,800	188,500	212,800	230,600
	Difference (AF)	0	0	0	0	0
Wholesale	Supply totals (AF)	5,000	10,000	20,000	20,000	20,000
	Demand totals (AF)	5,000	10,000	20,000	20,000	20,000
	Difference (AF)	0	0	0	0	0

Source: CVWD 2015 UWMP, Table 7-3.

CVWD does not use recycled water in its urban water supply, therefore a version of this table without recycled water is presented in Table 21, *Normal Year Supply and Demand Comparison – Urban Supply Only*, which more accurately represents CVWD's urban water supply reliability.

Table 21 Normal Year Supply and Demand Comparison – Urban Supply Only

		2020	2025	2030	2035	2040 *(Opt)*
Retail	Supply totals (AF)	114,600	136,100	157,700	178,900	194,300
	Demand totals (AF)	114,600	136,100	157,700	178,900	194,300
	Difference (AF)	0	0	0	0	0
Wholesale	Supply totals (AF)	5,000	10,000	20,000	20,000	20,000
	Demand totals (AF)	5,000	10,000	20,000	20,000	20,000
	Difference (AF)	0	0	0	0	0

Source: CVWD 2015 UWMP, Table 7-4.

Urban water supplies during a single dry year is fully 100 percent reliable. Thus, the supply and demand comparison for the single dry year, shown in Table 22, *Single Dry Year Supply and Demand Comparison (adapted from DWR Table 7-3 R and DWR Table 7-3* W) is the same as the average year.

Table 22 Single Dry Year Supply and Demand Comparison (adapted from DWR Table 7-3 R and DWR Table 7-3 W)

		2020	2025	2030	2035	2040 *(Opt)*
Retail	Supply totals (AF)	128,900	163,800	188,500	212,800	230,600
	Demand totals (AF)	128,900	163,800	188,500	212,800	230,600
	Difference (AF)	0	0	0	0	0
Wholesale	Supply totals (AF)	5,000	10,000	20,000	20,000	20,000
	Demand totals (AF)	5,000	10,000	20,000	20,000	20,000
	Difference (AF)	0	0	0	0	0

Source: CVWD 2015 UWMP, Table 7-5.

Table 23, *Single Dry Year Supply and Demand Comparison – Urban Only*, presents the urban supply and demand comparison without recycled water.

Table 23 Single Dry Year Supply and Demand Comparison – Urban Only

		2020	2025	2030	2035	2040 *(Opt)*
Retail	Supply totals (AF)	114,600	136,100	157,700	178,900	194,300
	Demand totals (AF)	114,600	136,100	157,700	178,900	194,300
	Difference (AF)	0	0	0	0	0
Wholesale	Supply totals (AF)	5,000	10,000	20,000	20,000	20,000
	Demand totals (AF)	5,000	10,000	20,000	20,000	20,000
	Difference (AF)	0	0	0	0	0

Source: CVWD 2015 UWMP, Table 7-6

Similar to the single dry year, the multiple dry year urban water supply reliability is 100 percent. Table 24, *Multiple Dry Years Supply and Demand Comparison (adapted from DWR Table 7-4 R and DWR Table 7-4 W)*, summarizes the multiple dry year supply and demand comparison.

Table 24 Multiple Dry Years Supply and Demand Comparison (adapted from DWR Table 7-4 R and DWR Table 7-4 W)

			2020	2025	2030	2035	2040 (Opt)
Retail	First year	Supply totals (AF)	128,900	163,800	188,500	212,800	230,600
		Demand totals (AF)	128,900	163,800	188,500	212,800	230,600
		Difference (AF)	0	0	0	0	0
	Second year	Supply totals (AF)	128,900	163,800	188,500	212,800	230,600
		Demand totals (AF)	128,900	163,800	188,500	212,800	230,600
		Difference (AF)	0	0	0	0	0
	Third year	Supply totals (AF	128,900	163,800	188,500	212,800	230,600
		Demand totals (AF)	128,900	163,800	188,500	212,800	230,600
		Difference (AF)	0	0	0	0	0
Wholesale	First year	Supply totals (AF)	5,000	10,000	20,000	20,000	20,000
		Demand totals (AF)	5,000	10,000	20,000	20,000	20,000
		Difference (AF)	0	0	0	0	0
	Second year	Supply totals (AF)	5,000	10,000	20,000	20,000	20,000
		Demand totals (AF)	5,000	10,000	20,000	20,000	20,000
		Difference (AF)	0	0	0	0	0
	Third year	Supply totals (AF)	5,000	10,000	20,000	20,000	20,000
		Demand totals (AF)	5,000	10,000	20,000	20,000	20,000
		Difference (AF)	0	0	0	0	0

Source: CVWD 2015 UWMP, Table 7-7.

Table 25, *Multiple Dry Years Supply and Demand Comparison – Urban Only*, presents the urban supply and demand comparison without recycled water.

Table 25 Multiple Dry Years Supply and Demand Comparison – Urban Only

			2020	2025	2030	2035	2040
Retail	First year	Supply totals (AF)	114,600	136,100	157,700	178,900	194,300
		Demand totals (AF)	114,600	136,100	157,700	178,900	194,300
		Difference (AF)	0	0	0	0	0
	Second year	Supply totals (AF)	114,600	136,100	157,700	178,900	194,300
		Demand totals (AF)	114,600	136,100	157,700	178,900	194,300
		Difference (AF)	0	0	0	0	0
	Third year	Supply totals (AF)	114,600	136,100	157,700	178,900	194,300
		Demand totals (AF)	114,600	136,100	157,700	178,900	194,300
		Difference (AF)	0	0	0	0	0
Wholesale	First year	Supply totals (AF)	5,000	10,000	20,000	20,000	20,000
		Demand totals (AF)	5,000	10,000	20,000	20,000	20,000
		Difference (AF)	0	0	0	0	0
	Second year	Supply totals (AF)	5,000	10,000	20,000	20,000	20,000
		Demand totals (AF)	5,000	10,000	20,000	20,000	20,000
		Difference (AF)	0	0	0	0	0
	Third year	Supply totals (AF)	5,000	10,000	20,000	20,000	20,000
		Demand totals (AF)	5,000	10,000	20,000	20,000	20,000
		Difference (AF)	0	0	0	0	0

Source: CVWD 2015 UWMP, Table 7-8.

3.10 Summary

As summarized below in Table 26, *Impact of Project Demand on Groundwater Supply*, projected water demand associated with the proposed Project under the Plan A and Plan B Options would represent 0.64 percent and 0.55 percent of CVWD's total projected Urban Water demand in 2040.

Per the 2015 UWMP and the 2010 CVWMP Update, CVWD included water for new development that it assumed would occur within its service area. The projected demand for the Project will therefore account for only a small fraction of the projected demands.

Table 26 Impact of Project Demand on Groundwater Supply

Travertine Specific Plan Build-Out	2040[1]
Total Supply	194,300 AFY
Project Demand – Plan A Option	1,255.13 AFY 1.43 AF/Acre
Percent of Supply – Plan A Option	0.64
Project Demand – Plan B Option	639.46 AFY 0.72 AF/Acre
Percent of Supply – Plan B Option	0.55

Source: Total supply extrapolated from the adopted 2015 UWMP, Table 7-4. Project demand extrapolated from Section 2.6, Tables 10 and 11 of this WSA/WSV, based on a 10-year build-out.

Notes:

1. 2030 is the final buildout year for the Travertine Specific Plan Project.

3.11 Conclusions

3.11.1 Coachella Valley Water District Service Area

Based on the information, analysis, and findings documented in this WSA/WSV, there is substantial evidence to support a determination that there will be sufficient water supplies to meet the demands of the proposed Project, and future demands of the Project, plus all forecasted demands in the next 20 years. This is based on the volume of water available in the aquifer, CVWD's Colorado River contract supply, SWP Table A amounts, water rights and water supply contracts, and CVWD's commitment to eliminate overdraft and reduce per capita water use in CVWD's service area. CVWD has committed sufficient resources to further implement the primary elements of the 2010 CVWMP Update and 2015 UWMP, which includes the full utilization of imported water supplies, purchase of additional water supplies, water conservation, and source substitution.

The domestic water supply (potable) for the Project will be from the Whitewater River Subbasin in the Coachella Valley. Groundwater storage will be used in dry years to make up the difference between the demand and the supply. The groundwater basin has a storage capacity of approximately 28.8 million AF, simulating the benefit of a very large reservoir and is capable of meeting the water demands of the Coachella Valley for extended normal and drought periods.

As discussed in the 2010 CVWMP Update, the 2015 UWMP and this WSA/WSV, CVWD has many programs to maximize the water resources available to the CVWD including recharge of the basin using its Colorado River and SWP water supplies, recycled wastewater, desalinated agricultural drain water, conversion of groundwater uses to canal water and water conservation including tiered water rates, the landscaping ordinance, outreach and education.

CVWD's groundwater replenishment programs establish a comprehensive and managed effort to eliminate the overdraft. These programs allow CVWD to maintain the groundwater basin as its primary water supply and to recharge the groundwater basin as its other supplies are available. CVWD has purchased 115,250 AF of additional SWP Table A amount since 2002.

3.11.2 Project Water Requirements

The Project under the Plan A Option would use approximately 1,255.13 acre-feet per year (AFY) or, 1.43 acre-feet (AF) per acre. Plan A water demand represents approximately 1.09 percent of the total water supply number (114,600 AFY) for 2020, and approximately 0.64 percent of the total water supply number (194,300 AFY) for 2035.

The Project under the Plan B Option would use approximately 639.46 acre-feet per year (AFY) or, 0.72 AF per acre. Plan B water demand represents approximately 0.55 percent of the total water supply number (114,600 AFY) for 2020, and approximately 0.32 percent of the total water supply number (194,300 AFY) for 2035.

It is anticipated that the Project will incorporate elements of CVWD's water conservation plan as required by SBx7-7. These include conservation elements for indoor and outdoor use for single-family residential, mixed-use composed of commercial with residential land uses, and community and neighborhood park uses. This may further reduce the ultimate Project demands.

4 Water Supply Verification (WSV)

4.1 General

As discussed in Section 1.4.2, the proposed Travertine Specific Plan (Project) will be subject to the requirements of Senate Bill 221 pursuant to the Subdivision Map Act since more than 500 residential dwelling units are proposed for the project (1,501).

4.2 Water Source

Project domestic water supplies and associated landscape irrigation supplies will be provided from groundwater. The Water Supply Verification (WSV) addresses:

1. Information included in Coachella Valley Water District's (CVWD's) 2010 Coachella Valley Water Management Plan (CVWMP) Update and the 2015 Urban Water Management Plan (UWMP);
2. Issues related to groundwater recharge of non-groundwater sources, namely Colorado River water and State Water Project (SWP) water; and
3. Consideration of historical litigation regarding the Quantification Settlement Agreement (QSA).

4.3 Supporting Documentation

This WSV relies on CVWD's 2010 CVWMP Update. Supporting information is also used from the CVWD 2015 UWMP, as permitted by Government Code Section 66473.7.

4.4 Factors of Capability

4.4.1 General

Government Code Section 66473.7(a) requires that all of the following factors be considered:

1. The availability of the supply over 20 years;
2. The applicability of CVWD's Water Shortage Contingency Analysis;
3. The reduction of water supply to a specific user by ordinance or resolution; and
4. The reasonable amount of groundwater supply that can be relied upon, considering its natural sources as well as the supporting recharge sources within agreements for Colorado River water and SWP water.

4.4.2 Historical Availability of Water Supply

The Coachella Valley has been primarily dependent on groundwater as a source of domestic water for several decades. The 2010 CVWMP Update and the 2015 UWMP both reviewed the historical use of water in the Coachella Valley. In 1936, groundwater use was 92,400 AFY. Current

use is at approximately 317,247 AFY annually (2012). Deliveries of Colorado River water and Metropolitan Water District of Southern California (MWD) SWP transfer water assist in offsetting the groundwater use. The Colorado River water deliveries have averaged approximately 332,301 AFY over the past five years, with MWD deliveries to the Coachella Valley expected to average over 60,000 AFY.

4.4.3 Water Shortage Contingency

Following the governor's drought emergency declaration, CVWD implemented its water shortage contingency plan through a series of ordinances with phased water use restrictions and a drought penalty rate structure:

- Ordinance 1414 – Stage 2 – 10% Mandatory Reduction;
- Ordinance 1419 – Stage 3 – 36% Mandatory Reduction;
- Ordinance 1422 – Stage 3 – Adopt Additional Watering Restrictions; 36% Mandatory Reduction;
- Ordinance 1426 – Stage 3 – Replace Previous Ordinances, 32% Mandatory Reduction

After the State Water Resources Control Board's (SWRCB's) adoption of revised regulations in May 2016, CVWD repealed these ordinances and adopted Ordinance 1422.3 which establishes Stage 2 restrictions that remain in effect until the SWRCB rescinds its emergency regulations. Copies of these ordinances are contained in Appendix E of the 2015 UWMP.

Based on the experiences from the current drought, the Domestic Water Shortage Contingency Plan provides the stages and action levels summarized in Table 27, *Stages of Urban Water Shortage Contingency Plan (DWR Table 8-1 R*).

Table 27 Stages of Urban Water Shortage Contingency Plan (DWR Table 8-1 R).

Stage	Percent Supply Reduction	Water Supply Condition
1	10%	Normal water supplies
2	10%	10% reduction in total groundwater and imported supplies relative to long-term average conditions
3	25%	25% reduction in total groundwater and imported supplies relative to long-term average conditions
4	50%	50% reduction in total groundwater and imported supplies relative to long-term average conditions

Source: 2015 UWMP, Table 8-1.

Notes:

1. Stage 1 is voluntary reduction, stages 2 through 4 are mandatory reductions.
2. The Stage 2 and Stage 3 reduction targets are flexible and may be adjusted by CVWD Board action based on actual supply conditions.

4.4.4 Reduction of Water Supply

No reduction of water supply is expected to any user due to this Project's use of water resources, or due to CVWD's ongoing management of water resources and planning for growth within their service area and throughout the Coachella Valley.

4.4.5 State Water Project and Colorado River Water

CVWD's Colorado River Water rights and SWP Table A allotments will provide supplemental water for direct use and groundwater recharge to the Coachella Valley. CVWD proposes to develop direct treatment of Colorado River water for potable uses in the future. The Coachella Valley Groundwater Basin has the capacity to meet future demands. Based on the information provided in the 2015 SWPDCR, CVWD's Colorado River water rights, recycled water, desalinated drain water and CVWD's water conservation program, water supplies will be sufficient to meet the Project's demands and CVWD's existing and future demands. In the event that additional conservation and/or limitations are necessary, the Project would adhere to any and all limitations associated with this potential reduction in supply.

In addition, the U.S. Bureau of Reclamation (USBR) has developed interim surplus and shortage guidelines for management of the Colorado River water supplies. The USBR preferred alternative provides flexibility for the potential storage of additional conserved Colorado River or non-Colorado River water in Lake Mead. The guidelines that were adopted by the USBR have been updated and extended through 2026. The revised guidelines address the operation of Lake Mead at relatively full elevations, and determine when "surplus" water supplies would be available to water users in southern California, including the Coachella Valley. As currently drafted, the guidelines indicate that water shortages will not negatively impact the Colorado River water supply for the Coachella Valley. CVWD is part of the California agricultural agencies' Colorado River entitlement and is protected by over two million AF of Lower Basin Colorado River entitlements that have a lower priority. The lower priority water would be used to meet shortages before the agricultural entitlements would begin to be impacted.

4.5 Impacts to Other Projects

As discussed earlier, landscaping for the proposed Project will consist of desert efficient, drought tolerant trees and shrubs and xeriscape groundcover. Indoor water efficient devices (i.e., Watersense® toilets, smart irrigation timers, etc.) will be included in each residential dwelling unit to attain the goals of the 2010 CVWMP Update by:

- Meeting current and future water demands with a 10 percent supply buffer;
- Contributing to the elimination of long-term groundwater overdraft;

- Managing and protecting water quality with a project specific Water Quality Management Plan;
- Complying with State of California (State) and federal laws and regulations;
- Managing future costs; and
- Minimizing adverse environmental impacts.

Therefore, full build-out of the Project would not have a significant impact on agricultural, potable, or industrial water users. In addition, the proposed Project would not affect the water supply for future low income housing projects. The Project will comply with CVWD Landscape Ordinance 1302.3. The Project may be responsible for funding the purchase of additional imported water supplies to support its projected demands on the Public Water System (PWS). Based on the findings of the WSV, it is expected that the impacts to the groundwater basin are fully mitigated.

4.6 Rights to Groundwater

CVWD has the legal authority to manage the groundwater basins within its service area under the County Water District Law (California Water Code, Division 12). The Coachella Valley Groundwater Basin is not adjudicated. CVWD has the right to extract the groundwater as needed to supply this Project. In 2015 CVWD has filed a Notice of Election with California Department of Water Resources (DWR) to become a Sustainable Groundwater Management Act (SGMA) Groundwater Sustainability Agency (GSA), and has submitted the 2010 CVWMP Update as the Alternative Groundwater Sustainability Plan (GSP) for the Whitewater River Subbasin.

4.7 Verification

This document provides verification that adequate water supply for this Project is available, as required by California Government Code Section 66473.7.

5 References

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