CORAL MOUNTAIN RESORT

DRAFT EIR

SCH# 2021020310

TECHNICAL APPENDICES

Coral Mountain Specific Plan Final Water Supply Assessment & Revision Approval Letter Appendix M

June 2021

WATER SUPPLY ASSESSMENT
and
WATER SUPPLY VERIFICATION

for the Proposed

Coral Mountain Specific Plan

Prepared for:

Coachella Valley Water District
P.O. Box 1058
Coachella, California 92236

Prepared by:

MSA Consulting, Inc.
34200 Bob Hope Drive
Rancho Mirage, California 92270

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EXECUTIVE SUMMARY

This Water Supply Assessment and Water Supply Verification (WSA/WSV) is intended to document the sufficiency of the local water supply to meet the demand of development that could occur under the proposed project, "The Coral Mountain Specific Plan" (Project). The Project site was previously a part of The Andalusia at Coral Mountain Specific Plan which is currently undergoing a 5th Amendment to separate the "Andalusia" plan area east of Madison Avenue from the land area west of Madison Avenue. This Coral Mountain Specific Plan will dictate the development of the area west of Madison Avenue into a boutique resort with a wave lagoon and master-planned residential community.
The Project consists of twelve parcels totaling approximately 384.55 acres of vacant land located at the southwest corner of Madison Street and Avenue 58 in the City of La Quinta, Riverside County.

At project buildout, the Project could accommodate approximately 7.77 acres of Neighborhood and Wave Farm Commercial uses; 232.07 acres of Low Density Residential; 117.70 acres of Hotel/Resort uses comprised of the hotel, the Wave Lagoon, attached residential uses and various resort related amenities; and 27.01 acres of Open Space. The low-density residential land use will include 496 units of detached residential. The hotel resort land use proposes 150 hotel keys, 104 attached resort residential units and 55,000 square feet of commercial uses.

The public water supplier for the Project will be the Coachella Valley Water District (CVWD).
The domestic water supply (potable) for the Project will be the Indio Subbasin in the Coachella Valley Groundwater Basin via CVWD's potable water distribution system. This Project proposes the development of the following building floor areas over a phased twenty-year buildout:

- 5,000 square feet of Neighborhood Commercial Uses
- 5,000 square feet of Wave Resort Farm Commercial Uses
- 150 Hotel Rooms and 55,000 square feet of Hotel complimentary related Commercial Uses
- 104 Resort Residential Units
- 496 Single Family Detached Homes, Short-Term Rentals

Based upon this analysis, the estimated total domestic water demand for indoor and outdoor use is approximately 941.03 acre-feet per year (AFY), or 2.45 acre-feet per acre. The residential indoor demand estimate is 97.22 AFY, the non-residential indoor use estimate is 42.34 AFY, and the outdoor estimate is 801.47 AFY.

Estimates are based on the California Water Code performance use standards for indoor residential water demand, the American Water Works Association Research Foundation Commercial and Institutional End Uses of Water, and CVWD's Landscape Ordinance No. 1302.4.

This document examines the current condition of the Indio Subbasin of the Coachella Valley Groundwater Basin and finds the water supply from the Indio Subbasin, the State Water Project

(SWP), the Colorado River, and other sources adequate to supply the Project in accordance with California Water Code Section 10910 et seq. This document also verifies the ability of the water supplies from the Indio Subbasin, the SWP, the Colorado River, and other sources to serve the Project in accordance with the California Government Code Section (GCS) 66473.7.
The GCS defines the Project as a subdivision subject to the California Environmental Quality Act (CEQA). The GCS requires that a WSA be completed by the Public Water System (PWS) to ensure that adequate supplies exist to complete CEQA compliance. A written WSV is required pursuant to the Subdivision Map Act.

This WSA/WSV provides an assessment and verification of the availability of sufficient water supplies during normal, single-dry, and multiple-dry years over a 20-year projection to meet the projected demands of the Project, in addition to existing and planned future water demands of CVWD, as required by Senate Bill 610 (SB 610), SB 221, and SB 1262. This WSA/WSV also includes identification of existing water supply entitlements, water rights, water service contracts, or agreements relevant to the identified water supply for the Project and quantities of water received in prior years pursuant to those entitlements, rights, contracts, and agreements.

This WSA/WSV has been prepared in compliance with the requirements under SB 610, SB 221, and SB 1262 by CVWD in consultation with the City of La Quinta. This WSA/WSV does not constitute an endorsement of the Project or relieve the Project from complying with all applicable state, county, city, and local ordinances or regulations including the CVWD Landscape Ordinance, and indoor water use performance standards provided in the California Water Code. This WSA/WSV will be reviewed every five years, or in the event that the water planning assumptions have changed, until the Project completes construction to ensure it remains accurate and no significant changes to either the Project or available water supply has occurred. The Project applicant shall notify CVWD when construction begins. 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 WSA/WSV provided by this document will become invalid.

1.0 INTRODUCTION

The environmental review of The Coral Mountain Specific Plan (Project) is being prepared in compliance with the California Environmental Quality Act (CEQA) process. The City of La Quinta (City) is the Lead Agency for the planning and environmental review of the proposed Project. The City has identified the Coachella Valley Water District (CVWD) as the Public Water System (PWS) that will supply water for the proposed Project. Because the Project is subject to CEQA and includes a subdivision as defined by the California Government Code Section 66473.7, it is required to secure approval of a Water Supply Assessment (WSA) and a Water Supply Verification (WSV).

The Project is an approximately 384.55-acre, master planned mixed-use development comprised of 7.77 acres of neighborhood commercial uses, 232.07 acres of low-density residential and recreational uses, 117.70 acres of hotel resort and commercial uses, and 27.01 acres of open space.

- 5,000 square feet of Neighborhood Commercial Uses
- 5,000 square feet of Wave Resort Farm Commercial Uses
- 150 Hotel Rooms and 55,000 square feet of Hotel complimentary related Commercial Uses
- 104 Resort Residential Units
- 496 Single Family Detached Homes, short-term rentals

1.1 PROJECT DESCRIPTION

1.1.1 Regional Setting

The Project is situated in the easterly portion of the Coachella Valley within the corporate limits of the City of La Quinta, Riverside County. The Project community will be accessible from Interstate 10 by way of Monroe Street with immediate access to Avenue 58 to the north as shown in **Figure 1:** ***Regional Location Map.***

1.1.2 Community Setting

The Project site was previously a part of The Andalusia at Coral Mountain Specific Plan which is currently undergoing a 5th Amendment to separate the "Andalusia" plan area east of Madison Avenue from the land area west of Madison Avenue. The Project is surrounded on the north and west by developed residential land within the City of La Quinta's jurisdiction. Vacant land, including Coral Mountain, lies east of the Project, and scattered residential and vacant land lies south of the Project. The Project and the surrounding properties all are situated within the jurisdictional boundaries of the City of La Quinta. The Project is bounded by Madison Street on the west and Avenue 58 on the north. **Figure 2:** ***Andalusia Vicinity Map***

1.1.3 Specific Plan Overview

The Coral Mountain Specific Plan ("Specific Plan"), will dictate the development of approximately 384.55 acres of vacant land, within the City of La Quinta. The original Specific Plan for this project was adopted in 1988 by the Riverside County Board of Supervisors. Since the project's annexation into the City of La Quinta, there have been multiple amendments and entitlement activities associated with the property. Amendment V of the Coral Mountain Specific Plan bifurcates the "Andalusia" plan area east of Madison Avenue from the land area west of Madison Avenue. This "Coral Mountain Specific Plan", will dictate the development of the area west of Madison Avenue into a boutique resort and master-planned residential community.

This Specific Plan is intended to incorporate the development of a master planned community and boutique surf resort with a surf wave basin and lagoon that will serve as the focal point of the development. The proposed land use plan is presented in **Figure 3: *Site Plan***. The proposed Project will feature approximately 496 residential units and associated facilities, amenities and infrastructure. The Project also includes a 150-room resort hotel and 104 resort residential units with ancillary resort amenities, the development of the wave lagoon as a recreational surfing wave amenity, community farm, and variety of neighborhood/resort commercial uses. The Project site would total approximately 384.55 acres as is shown in **Table 1.0-1: Specific Plan Conceptual Land Use Summary.** Total buildout of the Project is expected to take approximately 4-6 years. Construction is set to begin in 2021 with full buildout of the project by 2026.

Table 1.0-1
Specific Plan Conceptual Land Use Summary

LAND USE LEGEND

Planning Area	Land Use	Area	Units	Density / Acre
PA I	Neighborhood Commercial	7.77 Ac.	N/A	N/A
PA II	Low Density Residential (1)	44.09 Ac.	26 Units (Detached Residential)	0.59 Du/Ac.
	Low Density Residential (2)	46.61 Ac.	118 Units (Detached Residential)	2.53 Du/Ac.
	Low Density Residential (3)	37.66 AC.	94 Units (Detached Residential)	2.50 Du/Ac.
	Low Density Residential (4)	54.50 Ac.	136 Units (Detached Residential)	2.50 Du/Ac.
	Low Density Residential (5)	49.21 Ac.	122 Units (Detached Residential)	2.48 Du/Ac.
	Low Density Residential Subtotal	232.07 Ac.	496 Units (Detached Residential)	N/A
PA III	Resort (1) - Hotel	8.57 Ac.	150 Hotel Keys	17.50 Du/Ac.
	Resort (2) - The Wave	27.82 Ac.	N/A	N/A
	Resort (3) - The Farm	11.06 Ac.	N/A	N/A
	Resort (4) - Residential	29.50 Ac.	66 Units (Attached Residential)	2.24 Du/Ac.
	Resort (5) - Residential	14.20 Ac.	38 Units (Attached Residential)	2.68 Du/Ac.
	Resort (6) - Hosting Area	26.55 Ac.	N/A	N/A
	Resort Subtotal	117.70 Ac.	104 Units (Attached Residential)	N/A
PA IV	Open Space (Recreation)	27.01 Ac.	N/A	N/A
	Total	384.55 Ac.	750 Units	N/A

Note:
1. Planning Areas VII & IX will have a combined allowable retail area of 60,000 sf.
2. All planning areas will distribute the overall total unit allowance based on market demand.

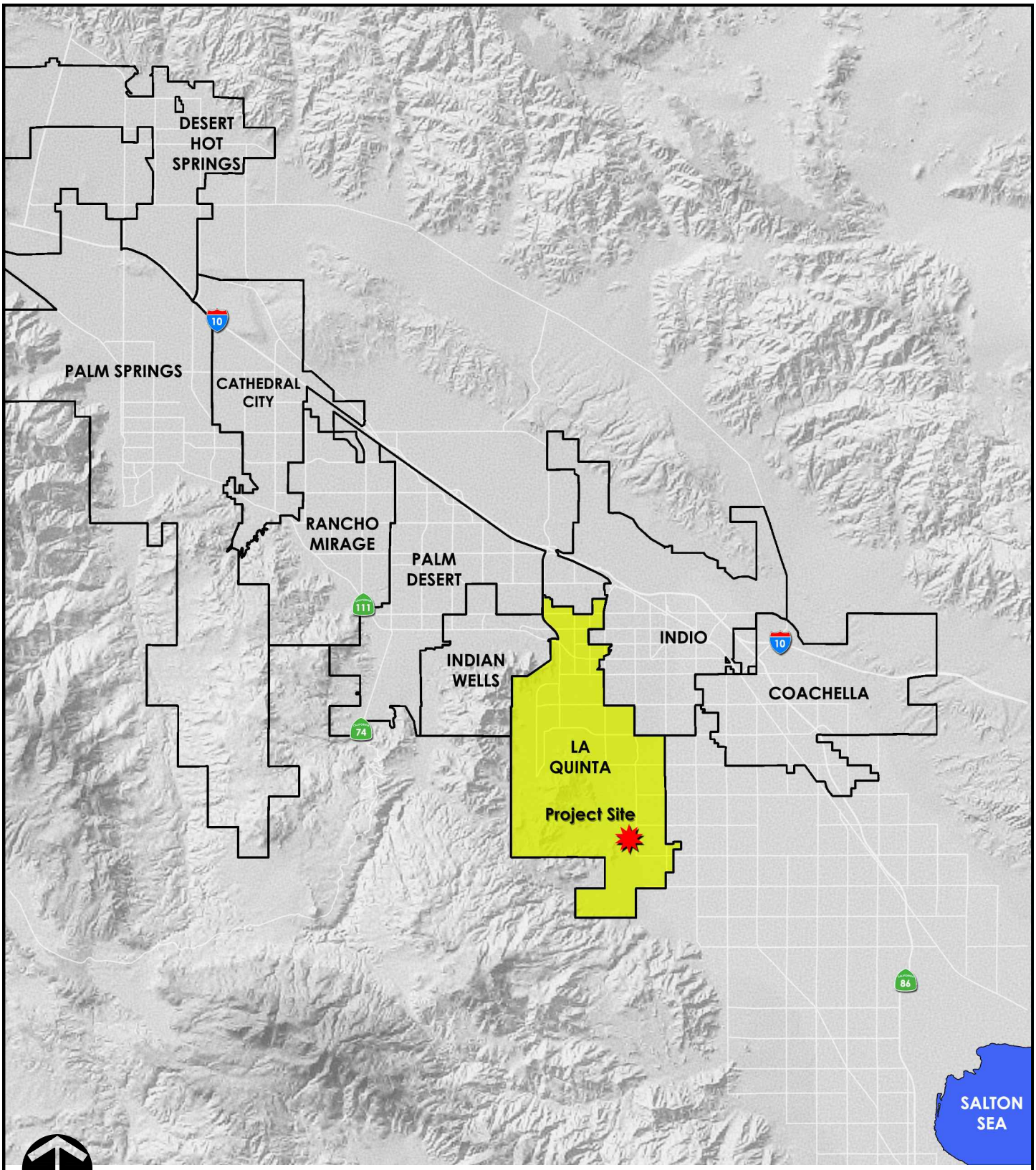
1.2 REGULATORY REQUIREMENTS

The Project is subject to the CEQA process and is a subdivision as defined by the California Government Code Section 66473.7. The City of La Quinta as the Lead Agency, and CVWD as the PWS, for the Project requires a WSA to complete CEQA compliance, and that a written WSV will be 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 and most recently amended by Senate Bill x7-7, which requires a 20 percent reduction in per-capita water use by 2020. The CVWD also maintains a separate water management planning document, the 2010 Coachella Valley Water Management Plan (CVWMP) Update. The two planning documents are considered the primary reference documents for this WSA/WSV. The 2010 CVWMP Update discusses the Quantification Settlement Agreement (QSA), which allocates Colorado River water resources. The QSA and related agreements were signed in 2003. A number of lawsuits have unsuccessfully challenged the QSA in state and federal courts.

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 2017 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 2017 SWPDCR, the average capability of State Water Project (SWP) Table A deliveries through 2035 has remained the same as the 2015 SWPDCR and 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, Senate Bill 1262 (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 by DWR. The water supply for this project will come from the Indio Subbasin, an unadjudicated, medium-priority subbasin. CVWD is a Groundwater Sustainability Agency (GSA) in the Indio Subbasin and has submitted the 2010 CVWMP Update to DWR as the Alternative to a Groundwater Sustainability Plan (Alternative Plan) for the Indio Subbasin. On July 17, 2019, the DWR determined that the Alternative Plan for the Indio Subbasin satisfies the objectives of SGMA and notified CVWD that the Alternative Plan was approved, and that they would be required to submit an assessment and update of the Alternative Plan pursuant to the SGMA by January 1, 2022, and every five years thereafter. The 2022 Alternative Plan Update for the Indio Subbasin is in progress.



MSA CONSULTING, INC.
> PLANNING > CIVIL ENGINEERING > LAND SURVEYING
34200 Bob Hope Drive, Rancho Mirage, CA 92270
760.320.9811 **msaconsultinginc.com**

REGIONAL LOCATION MAP

Coral Mountain
Water Supply Assessment

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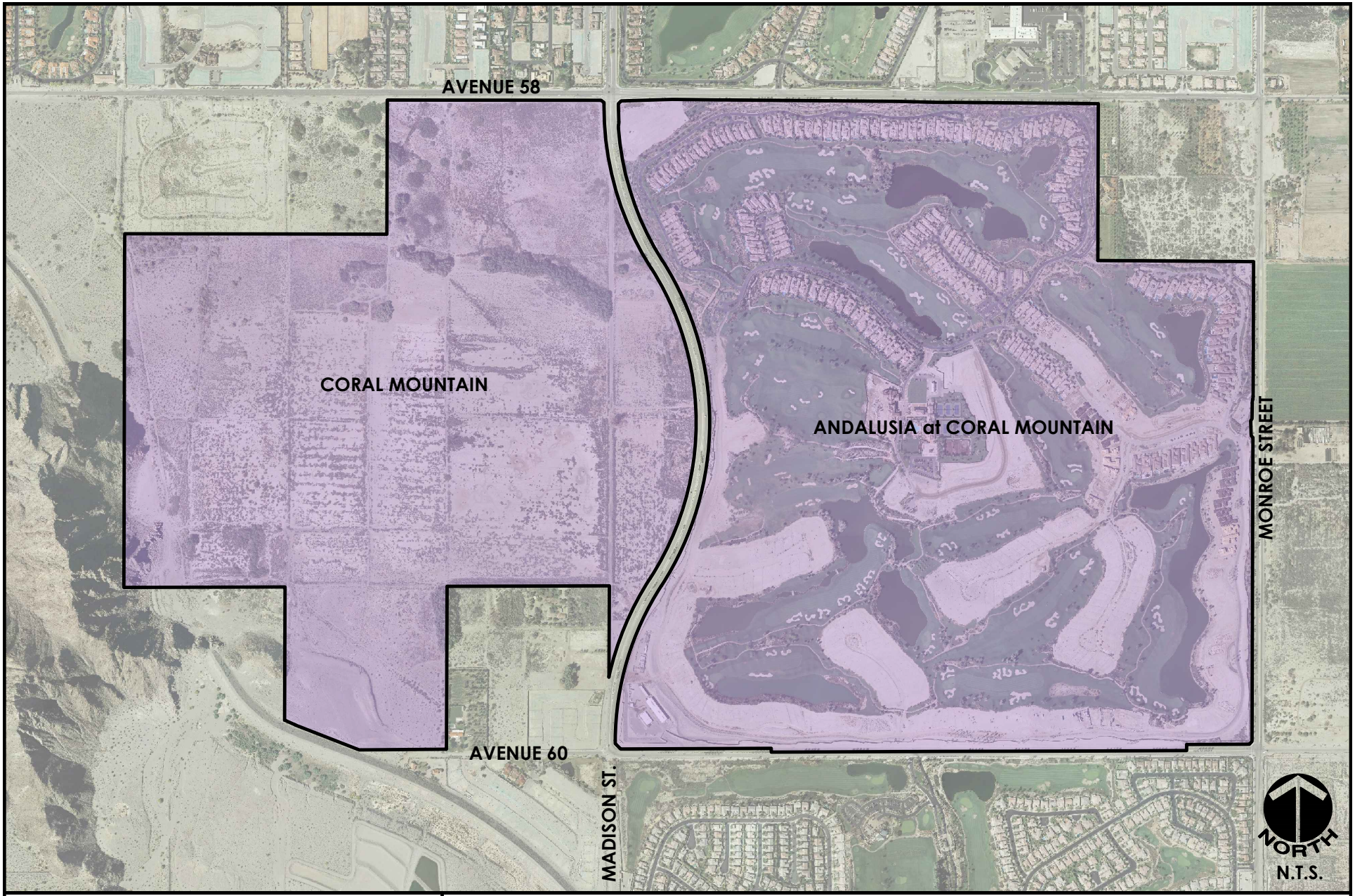

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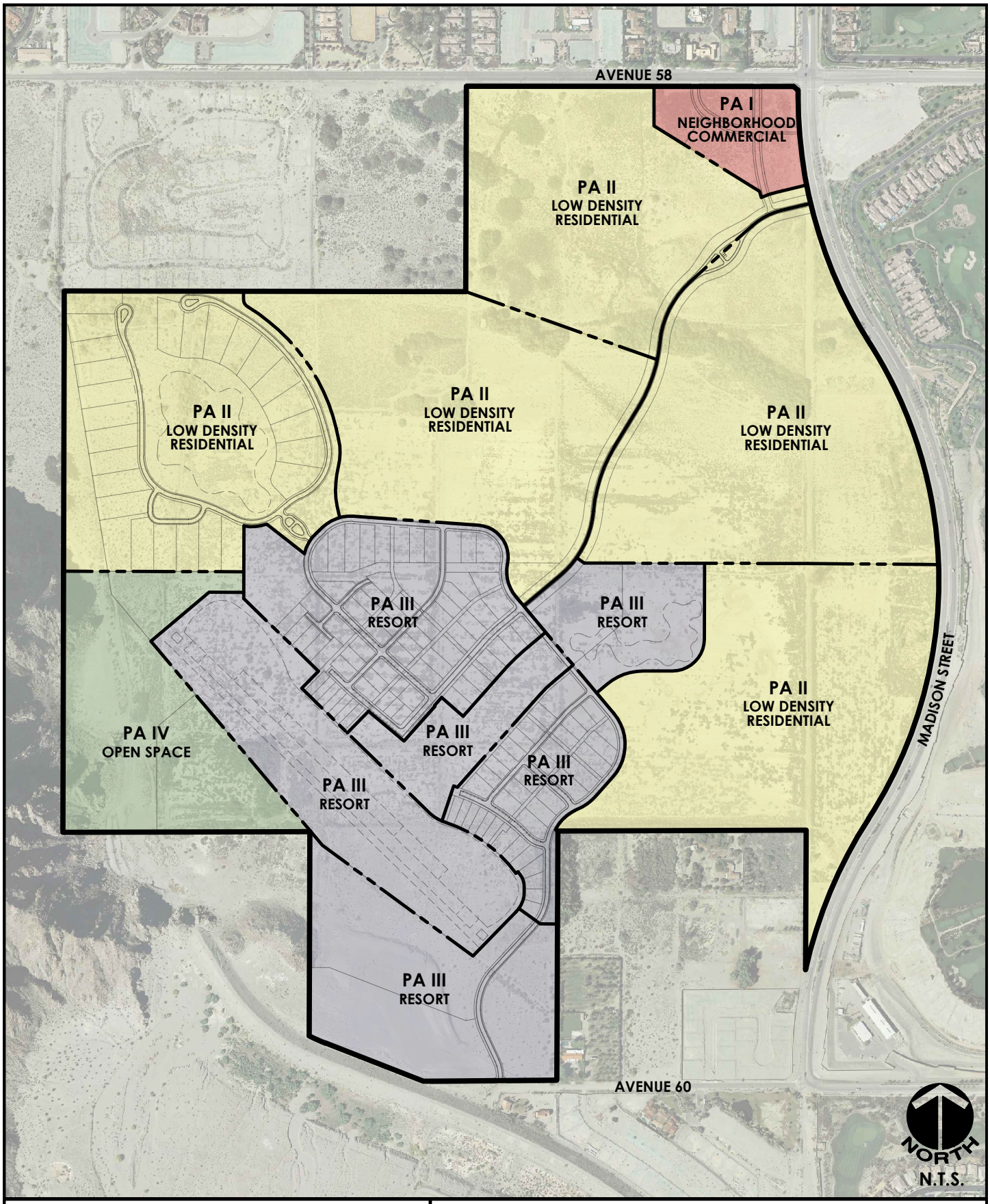
ANDALUSIA VICINITY MAP

Coral Mountain
Water Supply Assessment



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SITE PLAN

Coral Mountain
Water Supply Assessment

1.3 Purpose and Validity of Document

CVWD, as a Public Water System (PWS), is required by law to provide a WSA document during the CEQA process and is required by law to provide a WSV following approval of the Tentative Map for the residential portion of the Project. This information is included in the CEQA documentation and it becomes evidence used in the approval process for the proposed development.

This WSA/WSV provides an assessment and verification of the availability of sufficient water supplies during normal, single-dry, and multiple-dry years over a 20-year projection to meet the projected demands of the Project, in addition to existing and planned future water demands of CVWD, as required by Senate Bill 610 (SB 610), SB 221, and SB 1262. This WSA/WSV also includes identification of existing water supply entitlements, water rights, water service contracts, or agreements relevant to the identified water supply for the Project and quantities of water received in prior years pursuant to those entitlements, rights, contracts, and agreements.

This WSA/WSV has been prepared in compliance with the requirements under SB 610, SB 221, and SB 1262 by CVWD in consultation with the City of La Quinta. This WSA/WSV does not constitute an endorsement of the Project or relieve the Project from complying with all applicable state, county, city, and local ordinances or regulations including the CVWD Landscape Ordinance, and indoor water use performance standards provided in the California Water Code.

The WSA/WSV will be reviewed every five years, or in the event the water planning assumptions have changed, until the Project completes construction to ensure it remains accurate and no significant changes to either the Project or available water supply has occurred. The Project applicant shall notify CVWD when construction has begun. 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 WSA/WSV provided by this document 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. It requires cities and counties and other CEQA lead agencies 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.

The Water Code requires a WSA be prepared for any project that consists of one or more of the following:

- A proposed residential development of more than 500 dwelling units
- A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space
- A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space
- A proposed hotel or motel, or both, having more than 500 rooms
- 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
- A mixed-use project that includes one or more of the projects specified above
- 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
- For public water systems with fewer than 5,000 service connections, a project that meets the following criteria: any proposed residential, business, commercial, hotel or motel, or industrial development that would account for an increase of 10 percent or more in the number of public water system's existing service connections, or a mixed-use project that would demand an amount of water equivalent to, or greater than, the amount of water required by residential development that would represent an increase of 10 percent or more in the number of the public water system's existing service connections.

The proposed development is a "Project" as defined by Water Code Section 10912 and requires a WSA because it proposes over 500 dwelling units.

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 Project will use groundwater from the Indio Subbasin, which is designated medium-priority by DWR and is not adjudicated. CVWD is a GSA in the Indio Subbasin and has submitted the 2010 CVWMP Update to DWR as an Alternative Plan for the Indio Subbasin. On July 17, 2019, the DWR determined that the Alternative Plan for the Indio Subbasin satisfies the objectives of SGMA and notified CVWD that the Alternative Plan was approved, and that they would be required to submit an assessment and update of the Alternative Plan pursuant to the SGMA by January 1, 2022, and every five years thereafter. The 2022 Alternative Plan Update for the Indio Subbasin is in progress.

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 Sections 66455.3, 66473.7, and Section 65867.5 of the Government Code. SB 221 establishes the relationship between the WSA prepared for a project and the project approval under the Subdivision Map Act. Pursuant to California Government Code Section 65865.5 and 66473.7, the approval of a development agreement or tentative map that includes a subdivision for a project including more than 500 units shall be conditioned to obtain a WSV.

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 project. Therefore, a WSV is required since this 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 public water supplier for the Project will be the CVWD. The domestic water supply (potable) for the Project will be the Indio Subbasin in the Coachella Valley Groundwater Basin via CVWD's potable water distribution system. All of 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 and commercial tenant within the Project.

Recycled water facilities of CVWD do not currently extend to the Project vicinity. The potable system is currently the only water delivery system for the Project from CVWD. The Project proposes to utilize an existing irrigation line for common area lakes and for irrigation of common areas around the development.

1.4.2 Water Supply

CVWD is the PWS that will provide water for the proposed Project following Project approval. Established in 1918 under the County Water District Act provisions of the California Water Code, CVWD provides water related services for domestic water, wastewater collection and treatment, recycled water, agricultural irrigation water, drainage management, imported water

supply, groundwater replenishment, stormwater management, and flood control and water conservation.

CVWD currently has approximately 109,714 domestic water connections and provided approximately 87,959 AF of water in 2018. CVWD serves all of Rancho Mirage, Thousand Palms, Palm Desert, Indian Wells, La Quinta, and a portion of Indio and Coachella. Other 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 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 and Imperial Counties.

The CVWD service area encompasses approximately 640,000 acres, mostly within Riverside County, but also extends into northern Imperial and San Diego Counties; however, CVWD provides no urban water services to San Diego County. The Coachella Valley is bordered on the west and north by high mountains, which provide an effective barrier against coastal storms, and which greatly reduce the contribution of direct precipitation to recharge of the Coachella Valley Groundwater Basin. The majority of natural recharge comes from runoff from the adjacent mountains.

1.4.3 Historical Context

The need to enhance the public water supply in the Coachella Valley has been recognized for many years. The formation of CVWD in 1918 was a direct result of the concern of local residents about a plan to export water from the Whitewater River to Imperial County. Early on, Coachella Valley residents also 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 Coachella Valley. As a result, CVWD entered into an agreement for the construction of the Coachella Branch of the All American Canal in order to bring Colorado River water to the Coachella Valley. Since 1949, the Coachella Branch Canal has been providing water for irrigation use in the area that generally encompasses the Cities of Indio and La Quinta southerly to the Salton Sea. Colorado River water is delivered by an underground irrigation distribution piping system from the approximately 120-mile canal to farms and a growing number of golf courses in the Coachella Valley. Since 2009, CVWD began recharging the aquifer in the eastern Coachella Valley with this source.

The need for additional water supplies was recognized due to the onset of development in the western Coachella Valley. As a result, in 1963 CVWD and the Desert Water Agency (DWA), whose boundaries include the Palm Springs area, a portion of Cathedral City, and the City of Desert Hot Springs, entered into separate contracts with the State of California in order 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 (CRA), which crosses the upper portion of the Coachella Valley near Whitewater. Since 1973, in exchange for their SWP water, CVWD and DWA have been

receiving Colorado River water from MWD's CRA turnout located at Whitewater Canyon to replenish groundwater in the western Coachella Valley.

In addition, CVWD has recognized the need to provide other sources of water to meet the needs of the Coachella Valley. 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 for golf course and greenbelt irrigation in the cities of Palm Desert, Indian Wells, and Indio, thereby reducing demand on groundwater in the basin.

1.5 EXISTING WATER MANAGEMENT PLANS

1.5.1 Coachella Valley Water Management Plan 2010 Update

CVWD initiated the first water management planning process in the early 1990s to address the overdraft conditions in the aquifer and to ensure that there would be adequate water supplies in the future. The plan is a 35-year blueprint for wise water management and the basis for all of CVWD's efforts to preserve the Coachella Valley's groundwater source.

The CVWMP was adopted by the CVWD Board in September 2002. The goal of the CVWMP is to reliably meet current and future water demands in a cost effective and sustainable manner. The CVWD 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 State Water Project
- Increased use of the imported supply and recycled water, instead of groundwater, for irrigation
- Expanded groundwater replenishment efforts, especially in the eastern Coachella Valley

The 2010 CVWMP Update identifies several water conservation measures with the goal to reduce overall municipal water consumption by 20 percent by 2020, and the goal to maintain this level of reduction through 2045. These measures included 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 utilizing more Colorado River water, SWP Exchange water and recycled water over the long term.

The 2010 CVWMP Update 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 2010 CVWMP 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, requiring no more than 4 acres of grass per hole and 10 acres of grass per practice area.

- Expand landscape conversion rebates for domestic customers to encourage less grass and more desert appropriate landscaping.

- Complete construction of subsequent phases of the Mid-Valley Pipeline system to provide a blend of recycled and Colorado River water for up to 50 golf courses in-lieu of groundwater.

The 2010 CVWMP Update recognizes that groundwater storage makes up the difference between demand and supply, particularly during dry years. Other than canal water for irrigation and groundwater recharge, and recycled water, all water delivered to the end users is obtained from the Coachella Valley Groundwater Basin. The Coachella Valley Groundwater Basin has a capacity of approximately 39.2 million acre-feet (AF). It is capable of meeting the water demands of the Coachella Valley for extended periods.

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

- Recharge of Colorado River and SWP Exchange supplies

- Recycled wastewater, desalinated shallow semi-perched brackish groundwater, and conversion of groundwater uses to canal water; and

- Water conservation including tiered water rates, landscape ordinance, outreach and education.

The 2010 CVWMP Update and CVWD's Replenishment Assessment Program establishes a comprehensive and managed effort to eliminate groundwater overdraft. These programs allow

CVWD to maintain the groundwater basin as its primary water supply and to recharge the groundwater basin as other supplies become available.

CVWD prepared the 2014 and 2016 CVWMP Status Reports to evaluate the effectiveness of the 2010 CVWMP Update, including progress on eliminating groundwater overdraft. Both Status Reports demonstrated that the 2010 CVWMP Update is working and that continued implementation ensures that groundwater overdraft will be eliminated by approximately 2022. The status of the Annual Change in Storage is updated annually in the Indio and Mission Creek Subbasin SGMA Annual Reports by Water Year. Since 2009, there has been an increase in groundwater storage mainly as a result of increases in urban conservation and increases in imported water deliveries to the Coachella Valley. Between 2014 and 2016, 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 Coachella Valley. However, water levels are still declining in some areas of the Mid-Coachella Valley near Rancho Mirage, Palm Desert and Indian Wells. Groundwater levels in this area will continue to decline until full implementation of Mid-Coachella Valley programs that reduce pumping take effect. These Mid-Coachella Valley Programs include urban conservation, source substitution programs including non-potable water system expansion to golf courses and landscaping, and additional groundwater recharge. The Palm Desert Groundwater Replenishment Facility began operation in early 2019 to recharge Colorado River water in this area. The 2014 and 2016 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

CVWD has completed its 2015 Urban Water Management Plan (UWMP) and it 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 water demand projections contained in the 2015 UWMP take into account the increased growth throughout its service area.

In November 2009, SB x7-7 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-San Joaquin River Delta.

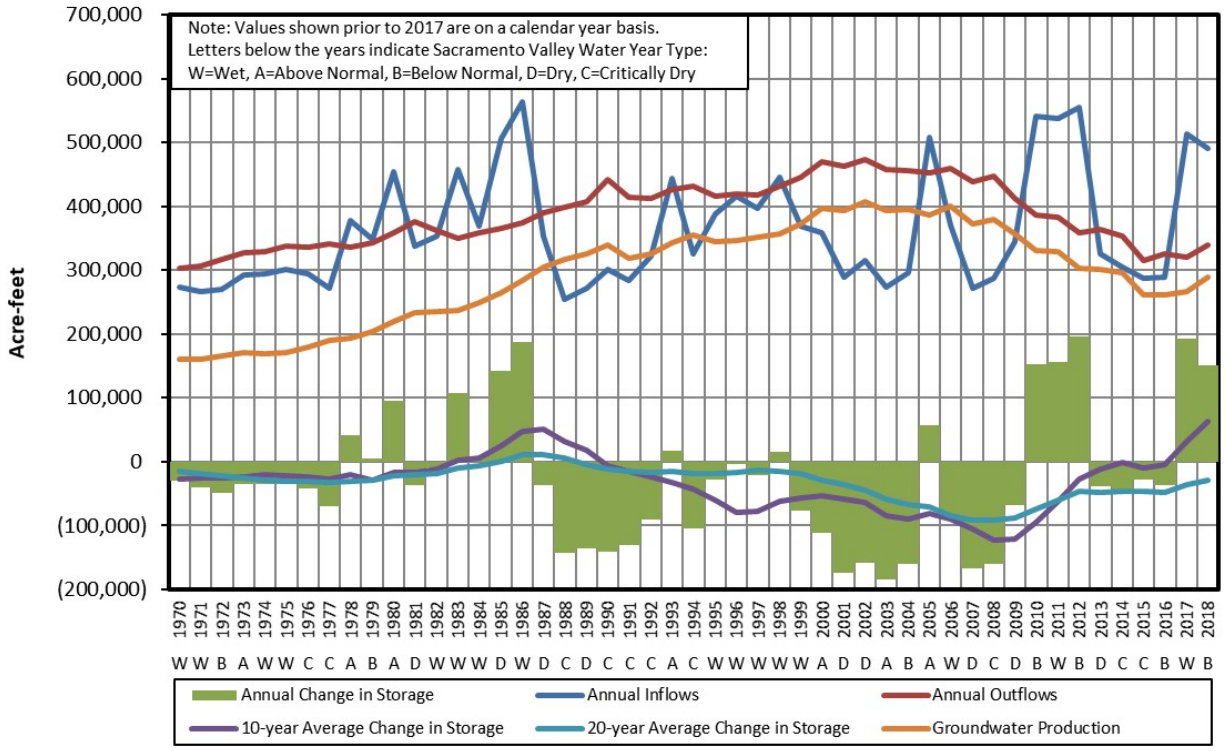
SB x7-7 creates a framework of future planning and actions by urban and agricultural water suppliers to reduce California's water use. This bill requires the development of agricultural

water management plans and requires urban per capita water consumption to be reduced by 20 percent by the year 2020. CVWD is not required to prepare an agricultural water management plan as it receives Colorado River water as a primary source of irrigation water, and instead filed an Agriculture Water Conservation Plan to the U.S. Bureau of Reclamation.

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).

Since the CVWMP was adopted in 2002, increased imported water recharge combined with reduced pumping due to water conservation and source substitution are expected to bring the basin into a long-term balance. CVWD evaluates groundwater balance using ten-year (purple line) and twenty-year (teal line) historical periods as shown on **Figure 4: *Historical Annual Change in Groundwater Storage in the Indio Subbasin.*** Since 2009, there has been an increase in groundwater storage. Implementation of the programs recommended in the 2010 CVWMP Update is expected to result in elimination of overdraft by about 2022, assuming average hydraulic conditions.

Figure 4
Historical Annual Change in Groundwater Storage in the Indio Subbasin



On January 17, 2014, Governor Brown proclaimed a State of Emergency due to severe drought conditions. 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 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 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 Southern California, Governor Brown issued Executive Order B-37, in May 2016. This Executive Order 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 ensure 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

The Coachella Valley Integrated Regional Water Management (IRWM) Plan serves as a combined plan that addresses the requirements of the DWR. The IRWM program presents a regional approach for addressing local water management issues through a process that identifies and involves water management stakeholders, individuals, and groups; and attempts to address the issues and different 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); and in 2010, they adopted the Coachella Valley IRWM Plan. The Coachella Valley IRWM Plan was updated in 2014, and a 2018 update has been completed, which includes a Stormwater Resource Plan. These efforts demonstrate the cooperative and collaborative approach that the CVRWMG has adopted to 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 all of the region. Since its formation, the CVRWMG has added Valley Sanitary District as member and has provided this opportunity to other planning partners.

1.5.4 Sustainable Groundwater Management Act Alternative Plan

In September 2014, Governor Brown signed three bills into law, Assembly Bill 1739 (AB 1739), SB 1319, and SB 1168, that became collectively known as the Sustainable Groundwater Management Act (SGMA), creating a framework for sustainable management of groundwater throughout California, primarily by local authorities.

The SGMA was adopted by the California Legislature in 2014 in response to the severe overdrafting of groundwater in what was then the third year of a historic drought. The final legislation created a framework that requires the most heavily used groundwater basins in the

state (127 of 515 basins identified by the DWR in its Bulletin 118 Groundwater Update) to be managed sustainably by 2042 (or 2040 for the most critically overdrafted basins). SGMA was amended in 2015 by SB 13.

SGMA requires local agencies to establish a new governance structure, the Groundwater Sustainability Agency (GSA), and to develop Groundwater Sustainability Plans (GSPs) for groundwater basins or subbasins that are designated as medium- or high-priority. SGMA established a process for local agencies to develop an alternative in-lieu of a GSP (See Water Code Section 10733.6) for evaluation by DWR. According to the SGMA, an Alternative to a GSP (Alternative Plan) is required to be submitted to DWR for review no later than January 1, 2017, and every five years thereafter. In general, Alternative Plans must be consistent with one of the following (Water Code Section 10733.6(b))

- A plan developed pursuant to Part 2.75 (commencing with Section 10750) or other law authorizing groundwater management;

- Management pursuant to an adjudication; or

- An analysis of basin conditions that demonstrates that the basin has operated within its sustainable yield over a period of at least 10 years.

The Indio, Mission Creek, and San Gorgonio Pass Subbasins of the Coachella Valley Groundwater Basin have been designated by DWR as medium priority subbasins. Pursuant to California Water Code section 10723.8 of the SGMA, CVWD filed a notice on November 6, 2015 of its election to serve as a GSA for the portions of the Indio Subbasin (DWR Sub-Basin No. 7-21.01) underlying the CVWD boundary. CVWD did not elect to be the GSA for those portions of the subbasin within the water service boundaries of DWA, Indio Water Authority (IWA), and Coachella Water Authority (CWA).

DWA, CWA, and IWA separately filed a notice of election to serve as the GSA for the portions of the Indio Subbasin underlying their service boundaries.

CVWD, DWA, CWA, and IWA jointly submitted the 2010 CVWMP Update with a supporting Bridge Document to DWR as the Alternative Plan for the Indio Subbasin on December 29, 2016. On February 1, 2018, DWR notified all GSAs who submitted Alternative Plans that they would be required to submit annual reports pursuant to SGMA by April 1, 2018, and every year thereafter. CVWD, CWA, DWA, and IWA have collaboratively prepared and jointly submitted the Indio Subbasin Annual Report for Water Years 2016-2017, and 2017-2018. On July 17, 2019, DWR determined that the Alternative Plan for the Indio Subbasin satisfies the objectives of SGMA and notified the CVWD, DWA, CWA, and IWA that the Alternative Plan was approved, and that they would be required to submit an assessment and update of the Alternative Plan pursuant to the SGMA by January 1, 2022, and every five years thereafter. The 2022 Alternative Plan Update for the Indio Subbasin is in progress.

2.0 WATER DEMANDS

2.1 Project Specific Water Demand Estimate

The unit water usage for this Water Supply Assessment/Water Supply Verification (WSA/WSV) are based on indoor water use performance standards as provided in the California Water Code for residential water demand Water Code Section 10910 approved November 10, 2009, codified in California Water Code section 10608.20 (b)(2)(A), the American Water Works Association Research Foundation's (AWWARF's) Commercial and Institutional End Uses of Water, and the Coachella Valley Water District's (CVWD's) Landscape Ordinance No. 1302.4.

The overall goal of CVWD's Landscape Ordinance 1302.4 is to reduce landscape water use, reduce or eliminate runoff in streets, and limit turf. Specific landscape design for the Coral Mountain Specific Plan (Project) is unknown at this time. CVWD's Maximum Applied Water Allowance (MAWA), as outlined in Appendix D of CVWD's Landscape Ordinance No. 1302.4, is used to estimate outdoor landscape irrigation usage. The MAWA complies with Division 2, Title 23, California Code or Regulation, Chapter 7, Section 702. CVWD's Estimated Total Water Use (ETWU), as outlined in Appendix D of CVWD's Landscape Ordinance No. 1302.4, is used to estimate usage by water features. Any water applied to the landscape for non-irrigation or decorative purposes, including fountains, streams, ponds, and lakes are considered water features. Water features use more water than efficiently irrigated turf grass and are assigned a plant factor of 1.1 for a stationary body of water and 1.2 for a moving body of water.

CVWD recycles more than 2 billion gallons of wastewater each year. Recycled/non-potable water is a safe alternative when the guidelines are followed and is used for its intended purpose. CVWD's recycled water facilities do not currently extend to the Project vicinity. However, the Project is proposing to utilize an existing irrigation line for common area lakes and for irrigation of common area around the development. This could provide a source substitution of recycled water.

The Project planning area includes a total of approximately 384.55 acres and the estimated water demand is 941.03 acre-feet per year (AFY), or 2.45 acre-feet per acre. To provide an accurate estimate of the Project's water demand, a site-specific analysis was completed. Potable water demand was calculated for all indoor and outdoor uses based on Project specific estimates.

The following factors are pertinent to the Project:

- Indoor Residential (Multi-family) = 55 gallons per day (gpd) per person
- City of La Quinta density per home is 2.63 people per home (CA Dept. of Finance) = 144.65 gpd per home
- Outdoor landscape irrigation based on CVWD's MAWA
- Indoor non-residential (retail, grocery, office, restaurant) based on AWWARF
- Water feature demand based on CVWD's ETWU

Indoor Residential Demand

Project water demand is distinguished between indoor and outdoor usage. **Table 2.01 Indoor Residential Water Demands** summarized below outlines the water demand of the indoor residential portion of the Project.

Table 2.0-1 Indoor Residential Water Demands

Residential Water Demand				
Land Use	**Units**	***gpd/Unit**	**Demand (gpd)**	**Indoor Residential Annual Consumption (AFY)**
Residential 7				
Low Density Residential	496	144.65	71,746.40	80.37
Wave Resort - Residential	104	144.65	15,043.60	16.85
Grand Total	**600**	**144.65**	**86,790.00**	**97.22**

*0-55 gpd/person x 2.63 persons/unit = 144.65 gpd/unit
2.63 persons/unit derived from 2018 CA Dept of Finance Population Estimate for the City of La Quinta

Indoor Non-Residential Demand

For the purposes of this WSA/WSV, the AWWARF's Commercial and Institutional End Uses of Water (2000) was used to estimate indoor non-residential water use. In the absence of documented local indoor non-residential usage factors that would accurately represent water use trends, the AWWARF document provides water use data applicable to mixed use commercial development projects of desert areas within southern California and Arizona and sets water efficiency benchmarks for specific commercial uses. Based on these benchmarks, usage factors for the distinct uses of Hotel, Office Building, Restaurant, and Supermarkets were developed for the Project. **Table 2.0-2 Indoor Non-Residential Water Demand** summarizes indoor non-residential demands.

Table 2.0-2 Indoor Non-Residential Water Demand

Non-Residential Water Demand					
Row Labels	**Units**	**Building Area (sf)**	***gpd/Unit **gpd/sf/year**	**Demand (gpd)**	**Indoor Non-Residential Annual Demand (AFY)**
Hotel					
Wave Resort - Hotel	150		115	17,250.00	19.32
Office Building					
Open Space - Back of House		10,000	35	958.90	1.07
Restaurant					
Neighborhood Commercial		5,000	331	4,534.25	5.08
Wave Resort - The Farm		5,000	331	4,534.25	5.08
Supermarkets					
Neighborhood Supermarket		55,000	64	9,643.84	10.80
Wave Resort - Commercial		5,000	64	876.71	0.98
Grand Total	**150**	**80,000**		**37,797.95**	**42.34**

AWWA Non-Residential Rates:
*115 gpd/Unit applies to Hotel units
** Other:
35 gpd/sf/year for Office
64 gpd/sf/year for Supermarket

Outdoor Landscape Irrigation and Water Feature Demand

The Coachella Valley receives an annual rainfall of less than 6 inches, and experiences extremely high temperatures with a wide daily temperature range. Several maximum monthly average temperatures exceed 100 degrees Fahrenheit. **Table 2.0-3 Outdoor Water Demand** summarizes outdoor demands.

The total potential evapotranspiration (ETo) is well above the total rainfall and is due to the high temperatures and abundant sunlight. The Coachella Valley rarely experiences a water surplus condition with respect to precipitation versus ETo. Prime ETo sites in the Coachella Valley are well watered lawns, lakes, decorative water fountains, and golf courses.

Landscape water demand for the Project is based on the estimated landscape irrigation area and water usage equations of the CVWD's Landscape Ordinance No. 1302.4. Although the landscape design is unknown, this method ensures that a sufficient budget is provided to have a sustainable landscape that meets the criteria established in CVWD's Landscape Ordinance. Therefore, the MAWA equation for the Project was used to estimate the Project's outdoor landscape irrigation demand. The equation uses the estimated area in square feet, a reference ETo rate of 64.22 inches per year (CVWD Zone 3), and an ETo adjustment factor (ETAF) of 0.45.

Outdoor water feature demand for the Project is based on the ETWU equation of the CVWD's Landscape Ordinance No. 1302.4. The equation uses the estimated area in square feet, a reference ETo rate of 64.22 inches per year (CVWD Zone 3), and a Plant Factor of 1.10 for a stationary body of water, and 1.20 for a moving body of water.

Project landscaping may need to be modified to ensure that the entirety of the Project is meeting the MAWA established in CVWD's Landscape Ordinance or other applicable regulations; such an analysis is beyond the scope of this WSA/WSV.

Table 2.0-3 Outdoor Water Demand

Outdoor Water Demand				
Land Use	**Total Acreage (AC)**	**Max of Outdoor Landscaped Area (%)**	**Outdoor Landscaped Area (sf)**	**Total Outdoor Annual Consumption (AFY)**
Hotel				
Wave Resort - Hotel	8.57	30%	111,993	6.16
Office Building				
Open Space - Back of House	6.85	100%	298,386	16.41
Open Space				
Open Space - Pop-Up Village	18.77	100%	817,621	44.96
Open Space - Golf (1/4 of 9 holes)	48.00	100%	2,090,880	114.98
Wave Resort - The Wave Perimeter	9.10	100%	396,396	21.80
Residential 7				
Low Density Residential	177.50	65%	5,025,735	276.37
Wave Resort - Residential	43.70	65%	1,237,322	68.04
Restaurant				
Neighborhood Commercial	2.00	40%	34,848	1.92
Wave Resort - The Farm	2.00	40%	34,848	1.92
Supermarkets				
Neighborhood Supermarket	5.77	40%	100,536	5.53
Wave Resort - Commercial	6.74	30%	88,078	4.84
Open Space 2				
Open Space - Pop-Up Village	27.94	100%	1,217,066	66.93
Lake 2				
Low Density Residential - Lake	6.57	100%	286,189	38.47
Wave Resort - The Wave	18.72	100%	815,443	119.58
Wave Resort - The Farm Lake	2.32	100%	101,059	13.58
Grand Total	**384.55**		**12,656,401.56**	**801.47**

**Residential Rate 7: Estate 1/4 ac Conventional Large SFD, 10,000 sf lot, 35% lot coverage, 65% outdoor water use
Planning area III Resort (2), IV Open Space, and III Resort (6) will combine water usage. The combined usages total 81.38 acres. It is anticipated the water usage for The Wave water body will be shared among the below areas:
- Planning Area IV - Open space (Pop-Up Villages) -27.01 acres
- Planning Area III Resort (6) - 26.55 acres,
- Wave Resort - The Wave Perimeter - 9.10 acres
- Wave Resort - The Wave - 18.77 acres
Total of 81.38 acres

The following language is an excerpt of standards included in the Project's Specific Plan and shall be implemented throughout the Project.

"The theme of the landscape architecture of the Specific Plan project is to create a lush desert character of visual variety and textural interest while complying with water conserving techniques based on plant selection and technical irrigation system design. Consistent with this goal, use of drought tolerant plant material is a primary consideration in the development of the plant palette to further aid in the conservation of water while promoting this lush desert theme in the prevailing landscape image".

Summary

The Project would have a total water demand of 941.03 AFY, or 2.45 AF per acre. The residential indoor water demand is 97.22 AFY, the non-residential indoor demand is 42.34 AFY, and the outdoor water demand is estimated to be 801.47 AFY. This estimation includes indoor and outdoor use for the Residential and Non-Residential areas. This quantity is approximately 0.49-percent of the total project water supplied by the CVWD in 2035 (194,000 AFY).

Table 2.0-4, Estimated Project Water Service Demands for Residential, Commercial, and Other Uses, provides a summary breakdown of the water demand that would need to be provided to the Project.

Table 2.0-4, Estimated Project Water Service Demands for Residential, Commercial, and Other Uses

Land Use	AFY
Residential Indoor Demand	97.22
Non-Residential Indoor Demand	42.34
Outdoor Demand	801.47
Total Project Demand	**941.03**

2.2 Water Conservation Measures

CVWD has made a significant effort to provide private and public consumers of local water resources with information to help conserve these resources through the use of drought tolerant desert plants and efficient irrigation systems. In addition, the City of La Quinta (City) has adopted Landscape Ordinance 544 and requires that development within the City be water efficient.

The 2010 Coachella Valley Water Management Plan (CVWMP) Update identifies several conservation measures with the goal of reducing urban water demand by 20 percent by 2020. The 2010 CVWMP Update includes water efficient landscaping and irrigation, water efficient plumbing and appliances, tiered or budget-based water pricing, public information and education programs, alternative water supplies, water restrictive municipal development policies and maximum water allowance for landscaped and recreational areas. CVWD employs a full-time conservation coordinator with sufficient staffing to review all new landscape plans for compliance with CVWDs Landscape Ordinance.

2.2.1 Desert Landscaping/Native and Drought Tolerant Plants

The need for progressive water conservation and control of landscape maintenance costs has also prompted the greater use of native and non-native drought-tolerant planting materials within the Project. The Coachella Valley and CVWD have been a leader in the promotion of these desert landscape materials and design themes, most notably in CVWD Landscape

Ordinance 1302.4. As a result, thoughtful and conservative management and use of water resources have guided development of this Project landscape plan.

2.2.2 Project Specific Water Conservation Measures

An Initial Study/Mitigated Negative Declaration (MND) is being prepared for the Project, and a broad range of design components and mitigation measures have been included in the MND to address the Project's potential impacts on water resources.

Project developers shall be required to implement the following measures in order to assure the most efficient use of water resources and to meet and maintain the 2010 CVWMP Update goals throughout the life of the Project:

1. To the greatest extent practicable, native plant materials and other drought-tolerant plants shall be used in all non-turf areas of Project landscaping. Large expanses of lawn and other water-intensive landscaped areas shall be kept to the minimum necessary and consistent with the functional and aesthetic needs of the Project, while providing soil stability to resist erosion.

2. In the event recycled water becomes available to the Project, the potential use of tertiary treated water will be reviewed to determine feasibility of its use for on-site landscaped areas to reduce the use of groundwater for irrigation.

3. The installation and maintenance of efficient on-site irrigation systems will minimize runoff and evaporation and maximize effective watering of plant roots. Drip irrigation and moisture detectors will be used to the greatest extent practicable to increase irrigation efficiency.

4. The use of low-flush toilets and water-conserving showerheads and faucets shall be required in conformance with Section 17921.3 of the Health and Safety Code, Title 20, California Code of Regulations Section 1601(b), and applicable sections of Title 24 of the State Code.

5. Project developers will pay any required CVWD groundwater replenishment fees for the purpose of buying additional supplies of water for importation into the basin.

3.0 WATER SUPPLY ASSESSMENT

3.1 General

Having established that the 2010 Coachella Valley Water Management Plan (CVWMP) Update and 2015 Urban Water Management Plan (UWMP) are applicable to this Wave at Coral Mountain (Project), the next requirement of a Water Supply Assessment (WSA) is to identify and describe the water supply sources of the Public Water System (PWS) that will serve the Project. State Water Code Section 10910(d) requires a WSA to identify and describe the existing water supply sources available to the Coachella Valley Water District (CVWD) that will serve the Project. State Water Code Section 10910(d) requires a WSA to include identification of any existing water supply State Water Project (SWP) Table A amounts, water rights, or water service contracts relevant to the identified water supply for the proposed Project. The WSA shall include a description of the quantities of water received in prior years by the PWS. According to the 2015 UWMP, the aquifer and other sources of supply are adequate for an average year, single dry year and also multiple dry years, for a 20-year period (UWMP, Section 5.)

3.2 IDENTIFICATION OF WATER SOURCES

3.2.1 Primary Water Sources

The primary source of water supply in the Coachella Valley, and for this Project, is the Indio Subbasin in the Coachella Valley Groundwater Basin via the Coachella Valley Water District's (CVWD's) potable water distribution system. Colorado River water via the Coachella Branch of the All American Canal supplies water for irrigation of the eastern Coachella Valley. The proposed Project is located in the eastern Coachella Valley which does not currently have access to Colorado River water. The Mid-Valley Pipeline Project, when completed, will deliver recycled water and Colorado River water via the Coachella Canal in the Indio Subbasin.

3.2.2 Additional Water Sources

In addition to Colorado River water and groundwater, CVWD and the Coachella Valley have additional sources of water that include imported SWP Exchange water, recycled water, and a limited amount of surface water. These sources are described in the following analysis of the Water Supply section. In the future, shallow, semi-perched brackish groundwater in the eastern Coachella Valley could be treated and used to meet non-potable uses as described in the 2010 CVWMP Update. Colorado River water is also available for potential domestic use if treated. The area within the Project is planned for access to recycled water when it becomes available for source substitution.

3.3 ANALYSIS OF WATER SUPPLY

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 is also used to supply water for crop irrigation, fish farms, duck clubs, golf courses, greenhouses, and industrial uses in the Coachella Valley.

California Water Code Section 10910 requires that cities and counties conduct a WSA for projects that are subject to CEQA. If the water supply for the proposed Project includes groundwater, the WSA is required to include additional information such as a description of the groundwater basin, the rights of the PWS to use the groundwater basin, the overdraft status of the groundwater basin, any past or planned overdraft mitigation efforts, historical use of the groundwater basin by the PWS, projected use of the groundwater basin by the Project, and a sufficiency analysis of the groundwater basin.

3.3.2 ANNUAL RECHARGE DELIVERIES

The annual amounts of water delivered for recharge in the East Whitewater River Subbasin Area of Benefit are shown in **Table 3.0-1 East Whitewater River Subbasin Area of Benefit Groundwater Replenishment Facility Annual Recharge Deliveries** on the following page.

Table 3.0-1
East Whitewater River Subbasin Area of Benefit Groundwater Replenishment Facility Annual Recharge Deliveries

Calendar Year	Colorado River Water Delivered (AF)
1997	415
1998	1,364
1999	2,802
2000	1,813
2001	3,572
2002	2,360
2003	1,671
2004	3,450
2005	4,743
2006	2,648
2007	5,775
2008	7,473
2009	21,735
2010	37,401
2011	32,417
2012	33,166
2013	35,192
2014	36,030
2015	37,262
2016	37,495
2017	34,614
2018	33,348
Total	**376,746**

3.3.3 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 both sides of the Salton Sea in the Imperial Valley. CVWD obtains water from both the Indio Subbasin and the Mission Creek Subbasin of the Coachella Valley Groundwater Basin. A common groundwater source, the Indio Subbasin, is shared by CVWD, Desert Water Agency (DWA), Indio Water Authority (IWA), Coachella Water Authority (CWA), Myoma Dunes Water Company, and numerous private groundwater users.

The Coachella Valley Groundwater Basin, as described by the California Department of Water Resources (DWR) in Bulletin 118 is bound on the north and east by non-water bearing crystalline rocks of the San Bernardino and Little San Bernardino Mountains, and on the south and west 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 subbasins present in the Coachella Valley Groundwater Basin are the Mission Creek, Desert Hot Springs, San Gorgonio Pass, and Indio. The Indio Subbasin in 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 Indio Subbasin includes five subareas: Palm Springs, Garnet Hill, Thermal, Thousand Palms and Oasis. The Palm Springs Subarea is in the forebay or main area of recharge to the subbasin, and the Thermal Subarea comprises the pressure or confined area within the subbasin. The other three 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 formations, which readily yield the stored groundwater through water wells and offer natural reservoirs for the regulation of water supplies.

The Indio Subbasin comprises the major portion of the floor of the Coachella Valley and encompasses approximately 400 square miles. The historical fluctuations of water levels within the Indio Subbasin indicate a steady decline in the levels throughout the subbasin prior to 1949. After 1949, levels in the eastern Thermal Subarea (south of Point Happy) where imported Colorado River water is used for irrigation rose sharply, although water levels continued to decline elsewhere in the subbasin. With the use of Colorado River water from the Coachella Canal, the demand on the groundwater subbasin declined in the eastern Coachella Valley (generally east and south of Washington Street below Point Happy). Water levels in the deeper aquifers rose from 1950 to 1980. However, water levels in this area declined due to increasing urbanization and groundwater usage from 1980-2010. Recharge in the eastern Coachella Valley has resulted in water levels rising in the past few years.

The Indio 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 south. A bedrock constriction separates the Indio Subbasin from the San Gorgonio Pass Subbasin on the northwest. The Salton Sea is the eastern boundary and 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 part of the Indio 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 southeast part of the subbasin and some wells historically delivered artesian flow.

From a management perspective, the Indio Subbasin is commonly divided into west and east Areas of Benefit (AOBs), with the dividing line extending from Point Happy in La Quinta to the northeast and terminating at the San Andreas Fault and the Indio Hills at Jefferson Street. The West Whitewater River Subbasin AOB is defined generally as that portion of the Thermal Subarea west of this line and includes the Palm Springs and Thousand Palms Subareas.

The Indio Subbasin is recharged naturally with runoff from the San Jacinto, Santa Rosa, and San Bernardino Mountains. Since the 1950s, groundwater extractions in the Indio Subbasin have exceeded the long-term natural recharge, placing the subbasin in a state of overdraft and resulting in declining groundwater levels.

Groundwater Storage

As shown in **Table 3.0-2 Groundwater Storage Capacity of the Coachella Valley Groundwater Basin**, the DWR estimated in 1964 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 the groundwater 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. DWR has calculated the storage capacity of the Indio Subbasin to be 29.8 million AF.

Table 3.0-2 Groundwater Storage Capacity of the Coachella Valley Groundwater Basin

Area	Storage (AF) [1]
Indio Subbasin	
Palm Springs Subarea	4,600,000
Thousand Palms Subarea	1,800,000
Oasis Subarea	3,000,000
Garnet Hill Subarea	1,000,000
Thermal Subarea	19,400,000
Subtotal Indio Subbasin	29,800,000
San Gorgonio Pass Subbasin	2,700,000
Mission Creek Subbasin	2,600,000
Desert Hot Springs Subbasin	4,100,000
Total Coachella Valley Groundwater Basin:	**39,200,000**

1. First 1,000 feet below ground surface. DWR estimate (DWR, 1964).

Groundwater Levels

The rate of groundwater level decline has increased since the early 1980s due to increased urbanization and increased groundwater use by domestic water purveyors, farmers, golf courses and public parks.

Although water 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 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 Groundwater Replenishment Facility (TEL GRF).

The historic declining water table in the eastern portion of the Indio Subbasin led to the determination that a management program is required to stabilize water levels and prevent other adverse effects such as water quality degradation and land subsidence. CVWD's Groundwater Replenishment Program is reducing declining water levels in this subbasin. Groundwater recharge in the eastern portion of the Indio Subbasin began in 1997, and the benefits of recharge can be seen in recent groundwater level measurements.

Direct replenishment with imported water from the Colorado River Aqueduct began in 1973 at the Whitewater River Groundwater Replenishment Facility (GRF). A total of approximately 3.5 million AF of imported water from the Colorado River Aqueduct has been delivered to the Whitewater River GRF for replenishment of the Management Area. During the last 10 years, groundwater levels have increased up to about 180 ft around the Whitewater River GRF.

Groundwater levels observed at monitoring wells throughout the West Whitewater River Subbasin AOB have demonstrated the benefit and effectiveness of the Ground Water Replenishment Program (GRP) in sustaining the groundwater supplies.

The Palm Desert Groundwater Replenishment Facility began operation in early 2019 to recharge Colorado River water in the middle portion of the Indio Subbasin.

Water surface elevations in the western area of the Coachella Valley are highest at the northwest end of the subbasin, illustrating the regional groundwater flow is from the northwest to the southeast in the Coachella Valley.

Groundwater Production

CVWD's total groundwater production in the West Whitewater River Subbasin Management Area, as shown in **Table 3.0-3 Groundwater Production within the West Whitewater River Subbasin Management Area**, was estimated to be 154,755 AF in 2018. Annual water production within the West Whitewater River Subbasin Management Area (groundwater extractions plus surface water diversions) for all producers, has averaged 160,496 acre-feet per year (AFY) for the past 6 years (2013-2018), down from the 191,638 AFY average from the previous 5-year period (2008-2012). Based on production records, approximately 22 to 25 percent of annual water production within the West Whitewater River Subbasin Management Area is allocable to DWA, and the remaining 75 to 78 percent is allocable to CVWD.

Table 3.0-4 Groundwater Production within the East Whitewater River Subbasin Area of Benefit shows the annual water production from 1999 to 2018. The 1999 production value is from the CVWMP, Table 3-2, Summary of Historical Water Supplies in 1936 and 1999 (CVWD, 2002a). Production values for the years 2002-2011 were determined from reported and estimated unreported groundwater production. Beginning in 2005, when the replenishment assessment became effective in the East Whitewater River Subbasin AOB, groundwater pumpers extracting greater than 25 AFY were required to meter and report their production. Reported production has been used since 2012.

In 2018, the assessable production was 120,935 AF. This represents a 3 percent increase from 2017 and 6.7 increase from 2016. Assessable production excludes groundwater production from minimal pumpers who extract 25 AFY or less and tribal uses.

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 2017 was 155,543 AF, and for 2018 was 154,755 AF. Groundwater production within the East Whitewater River Subbasin AOB was estimated to be 168,300 AF during 1999. The reported production for 2017 was 177,444 AF and 120,935 AF for 2018. The 2018 total production for both the East and West Whitewater River Subbasin AOBs is 275,690 AF.

Table 3.0-3 Groundwater Production and Surface-Water Diversions within the West Whitewater River Subbasin Management Area

Calendar Year	Production within CVWD AOB[1] (AF)	Production within DWA AOB[2,3] (AF)	Surface-Water Diversions[4] (AF)	Total Production (AF)
1977	67,696	18,661	7,000	93,357
1978	61,172	28,100	8,530	97,802
1979	72,733	29,393	7,801	109,927
1980	84,142	32,092	7,303	123,537
1981	86,973	33,660	7,822	128,455
1982	83,050	33,382	6,512	122,944
1983	84,770	33,279	6,467	124,516
1984	104,477	38,121	7,603	150,201
1985	111,635	39,732	7,143	158,510
1986	115,185	40,965	6,704	162,854
1987	125,229	44,800	5,644	175,673
1988	125,122	47,593	5,246	177,961
1989	129,957	47,125	5,936	183,018
1990	136,869	45,396	5,213	187,478
1991	126,360	42,729	4,917	174,006
1992	128,390	42,493	4,712	175,595
1993	131,314	41,188	6,363	178,865
1994	134,223	42,115	5,831	182,169
1995	134,583	41,728	5,809	182,120
1996	137,410	45,342	5,865	188,617
1997	137,406	43,658	5,626	186,690
1998	142,620	41,385	7,545	191,550
1999	157,148	44,350	6,941	208,439
2000	161,834	44,458	6,297	212,589
2001	125,122	47,593	4,928	208,807
2002	129,957	47,125	4,221	213,410
2003	156,185	43,463	4,627	204,275
2004	159,849	48,093	4,758	212,700
2005	153,462	46,080	4,799	204,341
2006	160,239	48,967	4,644	213,850
2007	157,487	50,037	3,490	211,014
2008	161,695	45,405	3,593	210,693
2009	155,793	41,913	1,443	199,149
2010	141,481	39,352	1,582	182,415
2011	141,028	40,071	1,724	182,823
2012	141,379	39,507	2,222	183,108
2013	143,108	37,730	1,802	182,640
2014	136,027	36,372	1,787	174,186
2015	115,588	30,332	1,539	147,459
2016	115,659	30,705	2,031	148,395
2017	120,383	33,164	1,996	155,543
2018	119,250	33,873	1,632	154,755

Notes:

1 – Excludes production by minimal pumpers who extract 25 AFY or less and other users exempt from the RAC.
2 – Excludes production by minimal pumpers who extract 10 AFY or less and other users exempt from the RAC.
3 – Production within DWA AOB includes production within DWA's Garnet Hill Subbasin AOB (starting 2016).
4 – Whitewater Mutual Water Company, Chino Creek, Snow Creek, and Falls Creek (DWA AOB).

Table 3.0-4 Groundwater Production within the East Whitewater River Subbasin Area of Benefit

Calendar Year	Groundwater[1,2] Production (af)
1999	168,300
2000	166,700
2001	199,800
2002	172,300
2003	172,000
2004	172,000
2005	172,000
2006	172,000
2007	172,000
2008	172,000
2009	160,000
2010	150,000
2011	145,000
2012	120,064
2013	119,194
2014	123,465
2015	113,706
2016[3]	113,333
2017	117,444
2018	120,935

Notes:
1 – Excludes production by minimal pumpers who extract 25 afy or less and other users exempt from the RAC.
2 – The 1999 production value is from the CVWMP, Table 3-2, Summary of Historical Water Supplies in 1936 and 1999. The CVWMP did not include production values for 2000 and 2001. Production values for the years 2002 through 2012 were estimated from reported and projected unreported groundwater production. The production values for 2012 through 2018 are equal to the reported groundwater production during those calendar years.
3 – The 2016 production amount was updated with data reported after publication of the 2017-2018 Engineer's Report.

Groundwater Inflows and Outflows

Total inflows and outflows to the Indio Subbasin for the water year (WY) 2017-2018 are summarized in **Table 3.0-5 Annual Groundwater Balance in the Indio Subbasin for Water Year 2017-2018**. Indio Subbasin inflows from outside the Indio Subbasin consist of underflow from the San Gorgonio Pass area and flows across the Banning fault. Historically, these inflows are estimated to range from 7,000 AFY to 13,000 AFY. The 2010 CVWMP Update estimated inflow was approximately 11,405 AFY. This is less than 3 percent of the water balance and does not change significantly with time. The estimated net subsurface inflow from the Salton Sea is 1,102 AF for WY 2017-2018. Recharge of imported water at the Whitewater GRF was 247,812 AF and recharge at the TEL GRF was 30,842 in 2017-2018, for a total of recharge amount of 278,654 AF.

During WY 2017-2018, there was 288,308 AF of groundwater pumped. The annual balance of the Indio Subbasin is the total inflow less the total outflow for a gain of approximately 151,659 AF of water storage in the subbasin for WY 2017-2018.

Indio Subbasin inflows are variable due to the nature of imported water replenishment deliveries. High inflows occurred in the mid-1980s when the Metropolitan Water District of Southern California (MWD) started large scale advanced deliveries to the Indio Subbasin. Other years of high inflows are due to wet years on the SWP when increased deliveries occurred. In the late 1980s and 1990s, growth led to increased groundwater production which caused lower groundwater levels and reduced drain flows. After extended periods of decline, the ten and twenty-year running average change in storage shows upward trends since 2009 and the 10-year running average is positive.

Table 3.0-5 Annual Groundwater Balance in the Indio Subbasin for Water Year 2017-2018

Component	Flows (AF)
Inflows	
Infiltration of natural runoff	45,953
Subsurface inflows from adjacent basins	11,405
Infiltration of applied irrigation water	151,721
Wastewater percolation	6,078
Septic tank percolation	3,536
Artificial recharge	278,654
Salton Sea intrusion	1,651
Total Inflow	**+ 498,998**
Outflows	
Groundwater pumping	-288,308
Net drain flow to Salton Sea	-47,866
Evaporative losses	-5,756
Evapotranspiration from the shallow aquifer	-4,769
Subsurface outflow to adjacent basins	-640
Total Outflow	**– 347,339**
Change in Groundwater Storage[1]	**+ 151,659**

Notes:
1 This annual increase in groundwater storage equals about 0.5 percent of the subbasin's estimated storage capacity of 29,800,000 AF in WY 2017-2018.

Surface runoff, surface inflow, and artificial replenishment are significant sources of recharge to the Indio Subbasin. Annual deliveries of Colorado River water through the Coachella Canal of approximately 300,000 AFY are a significant component of southeastern Coachella Valley hydrology. Direct groundwater replenishment within the West Whitewater River Subbasin AOB, which began in 1973, has so far replenished the western portion of the Indio Subbasin with a cumulative total of approximately 3,447,907 AF of imported water. Imported water in the amount of 385,994 AF and 129,725 AF was delivered to the Whitewater River GRF during 2017 and 2018, respectively. Direct replenishment within the East Whitewater River Subbasin AOB, which began in 1997, has so far replenished the eastern portion of the Indio Subbasin with a cumulative total of approximately 376,746 AF of imported water. Imported water in the amount of 34,614 AF and 33,348 AF was delivered to the TEL GRF during 2017 and 2018, respectively.

Aquifer Adjudication

The Indio Subbasin has not been adjudicated. From a management perspective, CVWD divides the portion of the Indio Subbasin within its service area into two AOBs designated as the West Whitewater River Subbasin AOB and the East Whitewater River Subbasin AOB. The dividing line between these two areas is an irregular line trending northeast to southwest between the Indio Hills north of the City of Indio and Point Happy in La Quinta. The West Whitewater River Subbasin Management Area is jointly managed by CVWD and DWA under the terms of the 2014 Whitewater Management Agreement. The East Whitewater River Subbasin AOB is managed by CVWD.

Overdraft Status of the Aquifer

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. Continued groundwater replenishment will be necessary to eliminate or reduce overdraft in the future.

Direct groundwater replenishment within the West Whitewater River Subbasin AOB began in 1973 and has so far replenished the western portion of the Indio Subbasin with a cumulative total of 3,447,907 AF of imported water. Imported water in the amount of 129,725 AF was delivered to the Whitewater River GRF during 2018. Direct groundwater replenishment within the East Whitewater River Subbasin AOB began in 1997 and has so far replenished the eastern portion of the Indio Subbasin with a cumulative total of 376,746 AF of imported water. Imported water in the amount of 33,348 AF was delivered to the TEL GRF during 2018.

CVWD and DWA request their full amount of SWP Table A amounts each year, for a combined total of 194,100 AF, and continue to exchange their SWP for Colorado River water with the MWD. Given that water demand and groundwater extractions are expected to increase in the future, the current Groundwater Replenishment Program will need to be continued and possibly increased in the future to eliminate overdraft.

Projected water requirements through 2040 for the Indio Subbasin are based on the water balance model utilized in the 2010 CVWMP Update, and the 2014 and 2016 Status Reports for the 2010 CVWMP Update. The Project requirements are largely offset by potable supplies; however, on a long-term basis, water requirements are likely to continue to place demands on groundwater storage. Implementation of the programs recommended in the 2010 CVWMP Update is expected to result in elimination of storage losses by about 2022, assuming average hydrologic conditions.

Overdraft Mitigation Efforts

Coachella Valley Water Management Plan Update

In addition to the requirements for the 2015 UWMP, CVWD maintains water management policies within its 2010 CVWMP Update to comprehensively protect and augment the groundwater supply. As defined in the 2010 CVWMP Update, CVWD is reducing reliance on groundwater sources by utilizing more Colorado River water, SWP Exchange water, and recycled water. Per this plan, CVWD also implements source substitution and conservation measures to reduce demands on the aquifer. The goal is to reduce the overall water demand by 20 percent by 2020 pursuant to SB x7-7. The CVWD anticipates this water use reduction level will be maintained through the remainder of the planning period.

CVWD Landscape Ordinance

CVWD Landscape Ordinance 1302.4 required a series of reduction methods, including requirements that new developments install weather-based irrigation controllers that automatically adjust water allocation. Additional requirements included 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 the CVWD 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.

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 Plant (WRP)-7, WRP 10, and the City of Palm Springs Wastewater Treatment Plant, Colorado River water, and potentially in the future, desalinated shallow semi-perched brackish groundwater and re-use of aquaculture water. Source substitution projects include:

- 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 area

- 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 treats recycled water from two water reclamation plants, blends in with canal water and delivers to golf courses, schools, and open spaces for irrigation. Approximately 9,525 AF of recycled water was delivered to customers in water year 2017-2018.

- CVWD has completed construction of a 54-inch diameter pipeline to deliver Colorado River water to the Mid-Coachella Valley area for use with CVWD's recycled water for golf course and open space irrigation. This will reduce pumping from the groundwater basin for these uses.

- 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 (USBR) and constructed a distribution system to deliver Colorado River water to the farms in the eastern Coachella Valley. This system delivered 335,035 AF of Colorado River water in 2018.

- CVWD has recharged the eastern Coachella Valley with up to 37,495 AFY of Colorado River water at the TEL GRF, and has completed the construction of Phase I of the Palm Desert GRF that will expand the recharge program to the Mid-Coachella Valley with an additional 15,000 AFY of recharge. The largest recharge program is operated at the Whitewater River GRF in the western Coachella Valley and has recharged up to 385,994 AFY.

- CVWD has secured rights to SWP water and negotiated exchange and advanced delivery agreements with the 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 over three million AF of water.

- CVWD plans to utilize treated shallow semi-perched brackish groundwater for irrigation purposes. A desalination pilot study was completed in 2007.

- CVWD intends to implement expansion of the Oasis area irrigation system. This project will reduce groundwater pumping by extending Colorado River water delivery to the Oasis Slope. The Oasis system would deliver Canal water and desalinated shallow semi-perched brackish groundwater to serve urban non-potable water uses such as irrigation.

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. 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. With the large number of new homes constructed, these conservation programs have reduced impacts of new development on the aquifer. Also, in 2016 CVWD adopted Water Budget based tiered rates to discourage excessive water use.

The Project will be required to implement the CVWD conservation measures in order to assure that the most efficient use of water resources and to meet and maintain the 2020 water conservation goals throughout the life of the Project. In addition, the Project will strictly adhere to CVWD's Landscape Ordinance 1302.4.

Historical Groundwater Use

CVWD's annual Engineer's Report on Water Supply and Replenishment Assessment 2019-2020, reviews the historical use of groundwater in the Coachella Valley. In 1936, groundwater use In the Indio Subbasin totaled 92,400 AF and increased steadily to about 369,798 AF in 1999 and 379,524 AF in 2007. Total groundwater use in the Indio Subbasin, 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 in the Indio Subbasin dropped even further to approximately 295,864 AF. In 2015, mostly due to mandatory drought reductions, total groundwater use dropped even further to 259,626 AF. These reductions represent 25 and 34 percent reductions in reported Indio Subbasin groundwater pumping, respectively, since 2007.

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 buildout water demand of the Project is estimated to be approximately 941.03 AFY, or 2.45 AF per acre, which represents approximately 0.49 percent of the total anticipated urban demand of 194,300 AF in CVWD's urban water system projected for 2040.

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 Project and other present and anticipated needs for normal year, as well as one or more multiple dry years, over the next 20 years.

3.3.4 ADDITIONAL WATER SOURCES

As stated previously, groundwater provides the water supply for the Project via CVWD's potable water distribution system. This WSA focuses on the adequacy of groundwater to meet the water demands of this 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.

Colorado River Water

The Coachella Canal is a branch of the All-American Canal, which brings Colorado River water into the Imperial and Coachella Valleys. The service area for Colorado River water delivery under CVWD contract with the United States Bureau of Reclamation (USBR) is defined as Improvement District No. 1 (ID-1). Under the 1931 California Seven Party Agreement, CVWD has high priority water rights to Colorado River water as part of the first 3.85 million AF of the 4.4 million AF allocated to California.

California's Colorado River supply is protected by the 1968 Colorado River Basin Project Act, which provides that the Colorado River supplies to Arizona and Nevada projects constructed after 1968 shall be reduced to zero before California will be reduced below 4.4 million AF in any year. This provision assures full supplies to the Coachella Valley except in periods of extreme drought.

Historically, CVWD has received approximately 330,000 AFY of Priority 3A Colorado River water delivered via the Coachella Canal. The 2003 Quantification Settlement Agreement (QSA) among some 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 court.

Table 3.0-6 Annual CVWD Colorado River Diversions at Imperial Dam – 1964 to 2018

Year	Diversion Volume (ac-ft)	Year	Diversion Volume (ac-ft)	Year	Diversion Volume (ac-ft)	Year	Diversion Volume (ac-ft)
1964	526,417	1979	530,733	1993	318,990	2008	299,064
1965	524,686	1980	531,791	1994	326,102	2009	322,730
1966	489,429	1981	452,260	1995	326,697	2010	251,249
1967	465,053	1982	424,868	1996	331,473	2011	265,270
1968	478,583	1983	362,266	1997	338,466	2012	329,576
1969	495,082	1984	355,789	1998	337,466	2013	331,137
1970	449,263	1985	337,002	1999	333,810	2014	349,372
1971	470,683	1986	339,702	2000	342,871	2015	342,074
1972	511,476	1987	322,625	2001	325,097	2016	356,358
1973	522,356	1988	331,821	2002	331,107	2017	335,321
1974	558,864	1989	359,419	2003	296,808	2018	335,035
1975	570,987	1990	369,685	2004	318,616		
1976	524,800	1991	317,563	2005	304,769		
1977	508,635	1992	309,367	2006	329,322		
1978	509,491	1992	318,990	2007	311,971		

Source: U.S. Department of the Interior, Bureau of Reclamation Lower Colorado Region, Colorado River Accounting and Water Use Reports for Arizona, California, and Nevada for years 1964 through 2018.

The QSA was entered into and between CVWD, Imperial Irrigation District (IID), MWD, 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. As of 2015, CVWD receives 378,000 AFY of Colorado River Water. CVWD's allocation of Colorado River Water will increase to 419,000 AFY in 2018, and 459,000 AFY in 2026, then reduce to 456,000 AFY in 2048 and remain at the level for the remaining 75-year term of the QSA.

Table 3.0-7 CVWD Deliveries
Under the Quantification Settlement Agreement

Component	2015 Amount (AFY)	2026-2047 Amount (AFY)	2048-2077 Amount (AFY)
Base Entitlement	330,000	330,000	330,000
Less Coachella Canal Lining (to SDCWA)	-26,000	-26,000	-26,000
Less Miscellaneous/Indian PPRs	-3,000	-3,000	-3,000
1988 MWD/IID Approval Agreement	20,000	20,000	20,000
First IID/CVWD Transfer	36,000	50,000	50,000
Second IID/CVWD Transfer	0	53,000	0
MWD/CVWD Replacement Water[1]	0	0	50,000
MWD/CVWD SWP Transfer[2]	35,000	35,000	35,000
Total Allocation	**392,000**	**459,000**	**456,000**
Less Conveyance Losses and Regulatory Water[3]	-14,000	-14,000	-14,000
Total Deliveries to CVWD	**378,000**	**445,000**	**442,000**

NOTES:
1 MWD assumes the obligation to provide 50,000 AFY of replacement water after 2048.
2 The 35,000 AFY may be delivered at either Imperial Dam or Whitewater River and is not subject to SWP or Colorado River reliability.
3 Conveyance losses and regulatory water based on 2009-2014 averages.

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 one 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.

In 1997, CVWD began operating the Dike No. 4 pilot recharge facility in the City of La Quinta. As discussed previously in Source Substitution, this facility has successfully demonstrated the adequacy of this site to recharge the aquifer. This site is now known as the TEL GRF as the Dike No. 4 site was expanded in 2009 and put into full operation.

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 2015 UWMP. The 2010 CVWMP Update calls for the treatment and distribution of as much as 62,000 AF of Colorado River water for domestic use annually.

3.3.5 State Water Project Water

CVWD and DWA are SWP contractors for the Indio Subbasin. The SWP includes 660 miles of aqueduct and conveyance facilities extending from Lake Oroville in the north to Lake Perris 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, which brought CVWD's SWP allotment 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 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 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 for a total 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 3.0-8, State Water Project Water Sources**, summarizes CVWD and DWA total allocations of Table A SWP water to be delivered when available.

Table 3.0-8 State Water Project Water Sources (AFY)

Agency	Original SWP Table A	Tulare Lake Basin Transfer #1	Tulare Lake Basin Transfer #2	MWD Transfer	Berrenda Mesa Transfer	Total
	AFY					
CVWD	23,100	9,900	5,250	88,100	12,000	138,350
DWA	38,100	0	1,750	11,900	4,000	55,750
Total	**61,200**	**9,900**	**7,000**	**100,000**	**16,000**	**194,100**

SWP contractors make annual requests to the 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 3.0-9, Department of Water Resources SWP Table A Water Allocations**, outlines the historic reliability of SWP deliveries, including their initial and final allocations.

Table 3.0-9, Department of Water Resources SWP Table A Water Allocations

Year	Water Year Type [1]	Initial Allocation	Final Allocation
1988	Critical	100%	100%
1989	Dry	100%	100%
1990	Critical	100%	100%
1991	Critical	85%	30%
1992	Critical	20%	45%
1993	Above Normal	10%	100%
1994	Critical	50%	50%
1995	Wet	40%	100%
1996	Wet	40%	100%
1997	Wet	70%	100%
1998	Wet	40%	100%
1999	Wet	55%	100%
2000	Above Normal	50%	90%
2001	Dry	40%	39%
2002	Dry	20%	70%
2003	Above Normal	20%	90%
2004	Below Normal	35%	65%
2005	Above Normal	40%	90%
2006	Wet	55%	100%
2007	Dry	60%	60%
2008	Critical	25%	35%
2009	Dry	15%	40%
2010	Below Normal	5%	50%
2011	Wet	25%	80%
2012	Below Normal	60%	65%
2013	Dry	30%	35%
2014	Critical	5%	5%
2015	Critical	10%	20%
2016	Below Normal	45%	60%
2017	Wet	60%	85%
2018	Dry	20%	35%

Source: DWR, Water Contract Branch within the State Water Project Analysis Office, Notices to State Water Contractors, 1988-2018.

1 Water year designation based on Sacramento Valley Water Year Hydraulic Classification which is based on the sum of the unimpaired runoff in the water year as published in the DWR Bulletin 120 for the Sacramento River at Bed Bridge, Feather River Inflow to Oroville, Yuba River to Smartville and American River to Folsom reservoir.

As noted previously, CVWD and DWA do not directly receive SWP water. Rather, CVWD and DWA have entered into an exchange agreement with MWD that allows MWD to take delivery of CVWD's and DWA's 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 Coachella Valley near Whitewater. The exchange agreement allows for advanced delivery

and storage of water, thereby providing better and more efficient water management. Water is only recharged when SWP Exchange water is available. The large storage capacity of the Coachella Valley Groundwater Basin and the large volume of water in storage allows 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.

Factors Potentially Impacting SWP Delivery Reliability

DWR issues the State Water Project Delivery Reliability Report every two years. The Final State Water Project Availability Report, 2017 (Final 2017 SWP Report), accounts for impacts to water delivery reliability associated with climate change and recent federal litigation. This allocation percentage is based on computer modeling of the state's watersheds, and past hydrology adjusted for factors that affect reliability. In considering future water supply needs in the 2010 CVWMP Update, CVWD considered an even lower SWP delivery reliability to allow for the uncertainty of future court decisions, State Water Resources Control Board actions, Endangered Species Act (ESA) and other restrictions, modeling error, levee failure and relaxation in the biological opinions (BO) as the result of better science.

There are three significant factors contributing to uncertainty in the delivery reliability of the SWP: 1) possible effect from climate change and sea level rise; 2) the vulnerability of the Sacramento-San Joaquin River Delta levees to failure, and 3) greater operation restrictions imposed by the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) in response to decreasing population of endangered fish species.

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

3.3.6 Surface Water

CVWD does not currently use or intend to use any local surface water (non-imported surface water) as part of its urban water supply. Local runoff is captured and used for groundwater recharge.

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. In 1999, surface water supplied approximately three percent of the total water supply to the western Coachella Valley to meet municipal demand, and none to the eastern Coachella Valley. Because surface water supplies are affected by variations in annual precipitation, the annual supply is highly variable.

3.3.7 Stormwater

The Coachella Valley drainage area is approximately 65 percent mountainous and 35 percent typical desert valley with alluvial fan topography buffering the valley floor from the steep

mountain slopes. The mean annual precipitation ranges from 44 inches in the San Bernardino Mountains to less than 3 inches at the Salton Sea. Three types of storms produce precipitation in the drainage area: general winter storms, general thunder storms and local thunderstorms. Longer duration, lower intensity rainfall events tend to have higher recharge rates, but runoff and flash flooding can result from all three types of storms. Otherwise, there is little to no flow in most of the streams in the drainage area.

Significant amounts of local runoff are currently captured at the Whitewater River GRF and in the debris basins and unlined channels of the western Coachella Valley. Additional stormwater will be captured when the Thousand Palms Flood Control Project is completed and when the flood control is constructed in the Oasis area. However, limited data exists to estimate the amount of additional stormwater that could be captured by new facilities in the Coachella Valley. Consequently, large scale stormwater capture is not expected to yield sufficient water to be worth the investment as a single purpose project. Small scale stormwater retention systems located in areas of suitable geology to allow percolation could capture small intensity storms as well as street runoff. The potential yield of these systems is not known at this time, and stormwater capture should be considered in conjunction with projects that construct stormwater and flood control facilities (CVWD, 2012).

3.3.8 Wastewater and Recycled Water

Wastewater that has been highly treated and disinfected can be reused for landscape irrigation and other purposes; however, treated wastewater is not suitable for direct potable use. Recycled wastewater has historically been used for irrigation of golf courses and municipal landscaping in the Coachella Valley since the 1960s. As growth occurs in the eastern Coachella Valley, the supply of recycled water is expected to increase, creating an additional opportunity to maximize local water supply.

CVWD operates five water reclamation plants (WRPs), two of them (WRP-7 and WRP-10) generate recycled water for irrigation of golf courses and large landscaped areas. WRP-4 became operational in 1986 and serves the communities from La Quinta to Mecca. WRP-4 effluent is not currently recycled; however, it will be in the future when the demand for recycled water develops and tertiary treatment is constructed. The other two WRPs serve isolated communities near the Salton Sea. A sixth WRP (WRP-9) was decommissioned in July 2015.

Table 3.0-10 Current and Projected Recycled Water Direct Beneficial Uses within CVWD's Service Area

Beneficial Use Type	General Description of Uses	Level of Treatment	2015	2020	2025	2030	2035	2040 (opt)
Agricultural irrigation	Served by WRP-4	Tertiary	0	0	12,700	15,100	17,500	19,200
Landscape irrigation (excludes golf courses)	HOAs and one high school served by WRP-10	Tertiary	387	400	400	400	400	400
Golf course irrigation	Served by WRP-7 and WRP-10	Tertiary	8,282	13,900	14,600	15,300	16,000	16,700
Golf course irrigation	Served by WRP-9	Secondary, Disinfected - 23	80	0	0	0	0	0
		Total	**8,749**	**14,300**	**27,700**	**30,800**	**33,900**	**36,300**
NOTES: WRP-9 was taken offline on July 15, 2015 and has been decommissioned.								

3.3.9 Desalinated Shallow Semi-Perched Brackish Groundwater

The CVWD 2015 UWMP identifies CVWD's plan to use treated shallow semi-perched brackish groundwater for irrigation purposes. It is planned that shallow semi-perched brackish groundwater will be desalinated to a quality equivalent to Canal water for irrigation use. The amount of shallow semi-perched brackish groundwater that would be treated and recycled depends on supply availability, the overall supply mix (the amount of additional water needed), and the cost of treatment and brine disposal. According to the 2010 CVWMP Update the amount of water recovered through desalination of shallow semi-perched brackish groundwater will range from 55,000 AFY to 85,000 AFY by 2045.

Product water would be delivered to the Canal distribution system for non-potable use. This supply would offset groundwater pumping in the subbasin.

Treated shallow semi-perched brackish groundwater could be delivered to the Canal water distribution system and used as a non- potable supply for agricultural, golf course and landscape irrigation. Since the desalinated shallow semi-perched brackish groundwater is local water, it could be used anywhere within the CVWD service area.

A brackish groundwater treatment pilot study and feasibility study was completed in 2008 (Malcolm-Pirnie, 2008a and 2008b). The 2008 study 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 shallow semi-perched brackish groundwater can effectively be treated for reuse as non-potable water and potentially as new potable water.

3.3.10 Purchases, Exchanges or Transfers

To further help meet its long-term supply needs, CVWD purchases SWP Table A Amounts from SWP contractors as they have become available and meet CVWD's needs. Additional purchases from the SWP and from other agencies 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.

3.4 Analysis of Water Supply and Demand

The analysis of supplies and demands for the Project WSA/WSV is based on the 2015 UWMP and the 2010 CVWMP Update. In accordance with SB x7-7, CVWD's 2015 UWMP sets interim and final urban water use targets for complying with California's 2020 conservation program based on DWR's 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 Indio Subbasin including Salton City and areas north of the Banning Fault that are within the service areas in the Cities of Indio and Coachella. The 2010 CVWMP Update evaluates all of the water demand and supplies in the planning area 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 reliability and reduced Colorado River 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-2006). The 2014 CVWMP Status Report updated the Population Projections based on the Riverside County Population Projections 2010 (RCP-2010) which are lower. The updated projections are relied upon 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. The RCP-2006 was adopted by the Southern California Association of Governments 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 cities and county. 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 using groundwater replenished with the 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 major casinos, which have provided them 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 growth forecasts are assumed to include development of these lands.

As shown in **Table 3.0-11, 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.

Table 3.0-11, Projected Average Urban Water Supply (AFY)

Water Supply	Additional Detail on Water Supply	Projected Water Supply (AF)				
		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	11,000	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	4,600
Recycled Water	WRP-10 [2]	10,900	11,300	11,700	12,100	12,500
Recycled Water	WRP-4 [2,3]	0	12,700	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**

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 WWTP; 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.

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 per capita targets of 540 gallons per capita per day (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.

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, future 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. For urban water use, CVWD's Landscape Ordinance 1302.4, which was updated in 2019, 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 Indio Subbasin for the period of 2010 to 2030 in five-year intervals increases from 678,000 AF in 2010 to 783,300 AF 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 Indio Subbasin water demand was revised to 691,500 AF in 2030, a 12 percent reduction.

Groundwater and Groundwater Storage

As supply and demand changes, the amount of groundwater in storage changes to make up the difference between the demand and the supply. Other than Canal water and recycled wastewater, all water delivered to the end users is obtained from the groundwater subbasin. The Indio Subbasin has the capacity of approximately 29.8 million AF. It acts as a very large reservoir and 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 recharge of its Colorado River and SWP Exchange supplies, recycled wastewater, desalinated shallow semi-perched brackish groundwater, conversion of groundwater uses to 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 overdraft.

The 2014 CVWMP Status Report evaluated progress to date on eliminating overdraft. The report illustrates the effectiveness of the CVWMP programs. The report also shows that with continued implementation of CVWMP programs, overdraft will be eliminated by approximately 2022. The effectiveness of the CVWMP'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.

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, which reduces loss from water transport. In 2008, the Coachella Canal was fully lined. The annual reporting of CVWD Colorado Diversions at Imperial Dam for the period 1964 to 2008 were 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 All-American Canal by the US Bureau of Reclamation (USBR) under repayment contract with CVWD. In the most recent 6-year period (2008 to 2013), the annual average diversion was 313,971 AFY. The QSA assures that CVWD receives a quantified allotment of Colorado River water. The QSA has been unsuccessfully challenged in state and federal courts and remains in effect.

Additional SWP Table A Amounts

DWA and CVWD have increased their SWP contract supplies from a total of 61,200 AFY in 2002 to a current total of 194,100 AFY in 2018.

State Water Project Reliability

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 data 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 USFWS and 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, 60 percent in 2016, 85 percent in 2017, and was at 35 percent in 2018 for a 20-year average of 62 percent. CVWD plans for a long-term average capability of 50 percent in the 2010 CVWMP Update and 2015 UWMP.

Metropolitan Water District of Southern California Advanced Delivery

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 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 and 2010 CVWMP Update assume that MWD will periodically exercise its option to callback the 100,000 AF. 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.

Long-Term Average SWP 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 are 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-San Joaquin River Delta,

- Additional pumping restrictions resulting from biological opinions on new species or revisions to existing biological opinions,
- Impacts associated with litigations such as the California ESA lawsuit, and
- 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 annual 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 recharged at the Whitewater River GRF since 1973. 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 western Coachella Valley for source substitution of groundwater. The Palm Desert GRF was completed in 2018 and began operation in early 2019. 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 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 AF in 2020 to 194,300 AF in 2040. Therefore, the estimated Project demands (941.03 AFY) represent approximately 0.82 percent of the total water supply number (114,600 AF) for 2020 and would represent 0.49 percent of the total water supply number (194,300 AF) 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 CVWD’s 2015 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 over at least the next 20 years.

DWR, requires the supply reliability tables to include both potable and recycled water; this is summarized below in **Table 3.0-12: Normal Year Supply and Demand Comparison (AF)** (adapted from DWR Table 7-2 R and DWR Table 7-2 W), for the average year.

Table 3.0-12 Normal Year Supply and Demand Comparison (AF)

		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

CVWD does not use recycled water in its urban water supply; therefore, a version of this table without recycled water is presented in **Table 3.0-13: Normal Year Supply and Demand Comparison (AF) – Urban Supply Only**, which more accurately represents CVWD's urban water supply reliability.

Table 3.0-13 Normal Year Supply and Demand Comparison (AF) - 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

Urban water supplies during the single dry year are 100% reliable. Thus, the supply and demand comparison for the single dry year, shown in **Table 3.0-14 Single Dry Year Supply and Demand Comparison (AF)** (adapted from DWR Table 7-3 R and DWR Table 7-3 W) is the same as the average year.

Table 3.0-14 Single Dry Year Supply and Demand Comparison (AFY)

		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

Table 3.0-15 Single Dry Year Supply and Demand Comparison (AF) – Urban Supply Only, presents the urban supply and demand comparison without recycled water.

Table 3.0-15 Single Dry Year Supply and Demand Comparison (AF) - 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

Similar to the single dry year, the multiple dry year urban water supply reliability is 100 percent. **Table 3.0-16 Multiple Dry Years Supply and Demand Comparison (AF)** (adapted from DWR Table 7-4 R and DWR Table 7-4 W), summarizes the multiple dry year supply and demand comparison.

Table 3.0-16 Multiple Dry Years Supply and Demand Comparison (AF)

			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

Table 3.0-17: Multiple Dry Years Supply and Demand Comparison (AF) – Urban Supply Only, presents the urban supply and demand comparison without recycled water.

Table 3.0-17 Multiple Dry Years Supply and Demand Comparison (AF) – Urban Supply Only

			2020	2025	2030	2035	2040 (Opt)
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

Summary

As summarized below **in Table 3.0-18 Impact of Project Demand on Groundwater Supply**, projected water demand associated with the Project represents 0.49 percent of CVWD's total projected urban water demand in 2040.

Per the 2015 UWMP and the 2010 CVWMP Update, CVWD included water demand from 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 3.0-18 Impact of Project Demand on Groundwater Supply

Andalusia West Specific Plan	**2035**
Total CVWD Supply	**194,000 AF**
Total Project Demand	**941.03**
Total Project Demand	**2.45 AF/Acre**
Percent of CVWD Supply	**0.49**
Source: Total supply extrapolated from 2015 UWMP, Table 7-4. Project demand extrapolated from data Table 7 of this WSA, based on a 20-year build-out. Note: 2040 is the projected final buildout year for the Project and completion of the Project.	

3.5 Conclusions

Based on the information, analysis, and findings documented in this WSA for the Project, there is substantial evidence to support a determination that there will be sufficient water supplies to meet the demands of the Project, as well as for 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 groundwater from the Indio Subbasin in the Coachella Valley Groundwater Basin via CVWD's potable water distribution system. Groundwater storage will be used in dry years to make up the difference between the demand and the supply. The Indio Subbasin has a storage capacity of approximately 29.8 million AF within the first 1,000 feet below ground surface, simulating the benefit of a very large reservoir, and is capable of meeting the water demands of the Coachella Valley for normal and extended drought periods.

As discussed in the 2010 CVWMP Update, the 2015 UWMP, and this WSA, CVWD has many programs to maximize the water resources available to the CVWD including recharge of the subbasin using its Colorado River and SWP Exchange supplies, recycled wastewater, desalinated shallow semi-perched brackish groundwater, conversion of groundwater uses to canal water and water conservation including tiered water rates, landscaping ordinance, and outreach and education.

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

Project Water Requirements

As shown in this WSA analysis, the projected demand for the Project will be 941.03 AFY, or 2.45 AF per acre, and accounts for approximately 0.49 percent of the total projected growth in water demands presented in the 2015 UWMP for 2040.

It is anticipated that the Project will incorporate elements of CVWD's water conservation plan as required by SB X7-7. These include conservation elements for indoor and outdoor use for residential units, the mixed-use town center, and open space uses. This may further reduce the ultimate Project demands.

4.0 WATER SUPPLY VERIFICATION

4.1 General

As discussed previously, the Andalusia at Coral Mountain Specific Plan, Amendment V (Project) is subject to a Water Supply Verification (WSV) subject to the requirements of Senate Bill 221 (SB 221) pursuant to the Subdivision Map Act because more than 500 residential dwelling units are proposed.

4.2 Water Source

Project domestic water supplies and associated landscape irrigation supplies will be provided from groundwater from the Indio Subbasin in the Coachella Valley Groundwater Basin via Coachella Valley Water District's (CVWD's) potable water distribution system. The WSV addresses: (1) Information included in the CVWD's 2010 Coachella Valley Water Management Plan (CVWMP) Update and CVWD's 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) Exchange water; and (3) consideration of historical litigation regarding the 2003 Quantification Settlement Agreement (QSA).

4.3 Supporting Documentation

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

4.4 Factors of Reliability

4.4.1 General

Government Code Section 66473.7(a) requires that all of the following factors be considered: (1) The availability of the water supply over 20 years; (2) the applicability of CVWD's Water Shortage Contingency Analysis found in the 2015 UWMP; (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 of SWP Exchange water and Colorado River water.

4.4.2 Historical Availability of Supply

As discussed previously in the Water Supply Assessment (WSA), the Coachella Valley has been primarily dependent on groundwater as a source of domestic water supply since the early part of the 20th century. The 2010 CVWMP Update and the CVWD 2015 UWMP review the historical use of water in the Coachella Valley. In 1936, groundwater use was 92,400 acre-feet

(AF), and usage increased steadily to about 376,000 AF in 1999. The groundwater use in 2009 dropped to 358,700 AF due to a combination of water conservation efforts, source substitution projects, and effects of the ongoing economic recession.

Groundwater use in the Indio Subbasin is currently 288,308 AF as shown in the Indio Subbasin Annual Report for Water Year 2017-2018. Deliveries of Colorado River water and Metropolitan Water District of Southern California (MWD) SWP Exchange water help offset groundwater use. The Colorado River water deliveries have averaged approximately 343,632 acre-feet per year (AFY) over the past five years.

4.4.3 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.

4.4.4 SWP 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 2017 State Water Project Reliability Report (March, 2018), CVWD's Colorado River rights, recycled water, desalinated water, and CVWD's conservation program, water supplies will be sufficient to meet the Project's needs and CVWD's existing and future demands in the event that additional conservation and/or supply limitations are necessary. The Project will adhere to any and all limitations associated with their potential reduction in supply.

In addition, the United State 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 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 eastern Coachella Valley. As currently drafted, the guidelines indicate water shortages will not negatively impact the Colorado River water supply for the Coachella Valley. CVWD benefits from California's agricultural entitlement for Colorado River water, which is protected by an overall entitlement of two million AF of Lower Basin Colorado River water with lower priority.

4.5 Impacts on Other Projects

This Project is within the goals of the 2010 CVWMP Update, and should not have a significant impact on agricultural, urban, or industrial users. In addition, this Project should not affect the water supply for future low-income housing projects.

The Project will comply with CVWD Landscape Ordinance 1302.4. 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 subbasin 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 filed a Notice of Election with the California Department of Water Resources (DWR) to become a Groundwater Sustainability Agency (GSA) for the Indio Subbasin in accordance with the Sustainable Groundwater Management Act (SGMA). CVWD has submitted the 2010 CVWMP Update to DWR as the Alternative to a Groundwater Sustainability Plan (Alternative Plan) for the Indio Subbasin, and DWR has determined that the Alternative Plan satisfies the objectives of the SGMA and has approved the Alternative Plan for the Indio Subbasin, and that they would be required to submit an assessment and update of the Alternative Plan pursuant to the SGMA by January 1, 2022, and every five years thereafter. The 2022 Alternative Plan Update for the Indio Subbasin is in progress.

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.

5.0 LIST OF ACRONYMS

AB	Assembly Bill
AF	Acre-feet
AFY	Acre-Feet per Year
AOB	Area of Benefit
CEQA	California Environmental Quality Act
CFS	Cubic Feet per Second
CVSC	Coachella Valley Stormwater Channel
CVWD	Coachella Valley Water District
CVRWMG	Coachella Valley Regional Water Management Group
CVWMP	Coachella Valley Water Management Plan
CWA	Coachella Water Authority
DWA	Desert Water Agency
DWR	California Department of Water Resources
EIR	Environmental Impact Report
ESA	Endangered Species Act
ETAF	Evapotranspiration Adjustment Factor
gpcd	gallons per capita per day
gpd	gallons per day
GRF	Groundwater Replenishment Facility
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan

ID-1	CVWD's Improvement District No. 1
IID	Imperial Irrigation District
IRWMP	Integrated Regional Water Management Plan
IWA	Indio Water Authority
KC	Conversion Factor
MAWA	Maximum Applied Water Allowance
MGD	million gallons per day
MSWD	Mission Springs Water District
MWD	Metropolitan Water District of Southern California
QSA	Quantification Settlement Agreement
RCP	Riverside County Projections
SB	Senate Bill
SDCWA	San Diego County Water Authority
SGMA	Sustainable Groundwater Management Act
SWSC	Supplemental Water Supply Charge
SWP	State Water Project
SWRCB	State Water Resources Control Board
USFWS	U.S. Fish and Wildlife Service
UWMP	Urban Water Management Plan
WRP	Water Reclamation Plant
WSA	Water Supply Assessment
WSV	Water Supply Verification

6.0 REFERENCES

2010 Coachella Valley Water Management Plan Update. Prepared by MWH Americas Inc., and Water Consult, January 2012.

2015 Urban Water Management Plan. Prepared for Coachella Valley Water District (CVWD), July 2016.

CVWD Landscape Ordinance 1302.4 *Landscape and Irrigation System Design Criteria*, Adopted by the Board of Directors of the Coachella Valley Water District, February 12, 2019.

2017 Final State Water Project Delivery Capability Report. Prepared by State of California Natural Resources Agency, Department of Water Resources, March 2018.

Coachella Valley Water District (CVWD), *2018-19 Annual Review.*

Coachella Valley Water District (CVWD*), Coachella Valley Water Management Plan 2016 Status Report,* February 2017.

U.S. Department of the Interior Bureau of Reclamation Lower Colorado Region, Boulder Canyon Operations Office. *Colorado River Accounting and Water Use Report: Arizona, California, and Nevada Calendar Year 2016.* May 2017.

U.S. Department of the Interior Bureau of Reclamation Lower Colorado Region, Boulder Canyon Operations Office. *Colorado River Accounting and Water Use Report: Arizona, California, and Nevada Calendar Year 2017.* May 2018.

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Coachella Valley Water District (CVWD), Coachella Water Authority (CWA), Desert Water Agency (DWA), and Indio Water Authority (IWA). *Indio Subbasin Annual Report for Water Year 2016-2017.* Prepared by Stantec Consulting, Inc., March 2018.

Coachella Valley Water District (CVWD), Coachella Water Authority (CWA), Desert Water Agency (DWA), and Indio Water Authority (IWA). *Indio Subbasin Annual Report for Water Year 2017-2018.* Prepared by Stantec Consulting, Inc., April 2019.

Coachella Valley Water District (CVWD). E*ngineer's Report on Water Supply and Replenishment Assessment 2016-2017.* Prepared by Krieger & Stewart Engineering Consultants and MWH Americas Inc., April 2016.

Coachella Valley Water District (CVWD). E*ngineer's Report on Water Supply and Replenishment Assessment 2018-2019.* Prepared by Stantec Consulting, Inc. and Krieger & Stewart Engineering Consultants, April 2018.

Coachella Valley Water District (CVWD). *2019-2020 Engineer's Report on Water Supply and Replenishment Assessment.* Prepared by Wildermuth Environmental, Inc., April 2019.

Coachella Valley Water District (CVWD) *Indio Subbasin Annual Report for Water Year 2017-2018.* Prepared by Stantec March 2019.

COACHELLA VALLEY WATER DISTRICT
Established in 1918 as a public agency

GENERAL MANAGER
Jim Barrett

ASSISTANT GENERAL MANAGER
Robert Cheng

September 29, 2020

Nicole Vann
Planner
MSA Consulting, Inc.
34-200 Bob Hope Drive
Rancho Mirage, CA 92270

Dear Ms. Vann:

Subject: Water Supply Assessment/Water Supply Verification, Coral Mountain Specific Plan

The subject Water Supply Assessment and Water Supply Verification (WSA/WSV) for the Coral Mountain Specific Plan (Project) was approved by the Coachella Valley Water District (CVWD) Board of Directors in its regular meeting of April 4, 2020. On September 28, 2020, CVWD received your letter documenting a revision of the Project's commercial uses to include an increase from 80,000 square feet up to 117,000 square feet to account for the hotel commercial and ancillary building uses, resulting in an increase of 17.6 acre-feet per year of water demand.

CVWD staff has reviewed the additional information provided by MSA Consulting, see attachment. Based on the information provided, CVWD staff determined that the increase is not a significant change and does not impact the determination of sufficient water supplies during normal, single-dry, and multiple-dry years over a 20-year projection to meet the projected demands of the Project, in addition to existing and planned future water demands of CVWD. Therefore, a new or revised WSA/WSV for the Project will not be required for approval.

Approval of the WSA/WSV does not constitute an approval of the Project or relieve the Project from complying with all applicable existing and future state, county, city, and local ordinances or regulations including, but not limited to, the City of La Quinta and CVWD landscape ordinances, and indoor water use performance standards provided in the California Water Code.

CVWD will continue to review this WSA/WSV every five years, or in the event that the water planning assumptions have changed, until the Project completes construction to ensure it remains accurate and no significant changes to either the Project or available water supply has occurred. The Project applicant shall notify CVWD when construction begins. If neither the Project applicant nor the lead agency contact CVWD within five years of approval of this WSA/WSV, it will be assumed that the Project no longer exists and the WSA/WSV provided by this document will become invalid.

Sincerely,

Steve Bigley
Director of Environmental Services

Coachella Valley Water District
P.O. Box 1058 Coachella, CA 92236
Phone (760) 398-2651 Fax (760) 398-3711

www.cvwd.org

cc: Cheri Flores
Planning Manager
City of La Quinta
78-495 Calle Tampico
La Quinta, CA 92253

MN: ms\Env Srvs\WR\2020\September\Coral Mountain Specific Plan_WSA_WSV_Revision Approval Ltr.docx
File: 0483.05, 0421.2

ec: Steve Bigley
Zoe Rodriguez del Rey
Michael Nusser
Melanie Garcia

MN: ms\Env Srvs\WR\2020\September\Coral Mountain Specific Plan_WSA_WSV_Revision Approval Ltr.docx

MSA CONSULTING, INC.
> PLANNING > CIVIL ENGINEERING > LAND SURVEYING

September 28, 2020

Mr. Mike Nusser
Water Resource Associate
Coachella Valley Water District
PO Box 1058
Coachella CA, 92236

Subject: Revision to the Water Supply Assessment/Water Supply Verification, Coral Mountain Resort Project

Dear Mike,

On April 4, 2020, the Coral Mountain SP WSA/WSV located in the City of La Quinta was approved by the CVWD Board of Directors. Since this time, the applicant has refined the project's commercial uses, and the City of La Quinta has suggested we follow up with CVWD to ensure these changes do not require an update to the WSA. The project's Updated Conceptual Land Use Summary for the Specific Plan is shown below. The total square footage for the Non-Residential Buildings for PA I-IV has increased from 80,000 SF to 117,000 SF to account for the hotel commercial and ancillary building uses.

Updated Coral Mountain Resort Specific Plan Conceptual Land Use Summary

Planning Area	Land Use Category	Gross Land Area (Acres)	Non-Residential Building (SF)	Max. Dwelling Units (DU)	Max. Hotel/Resort Units (DU)
PA I	GC	7.8	60,000[1]		
PA II	LDR	232.1		496	
PA III	TC	121.1	57,000[2]	104	150
PA IV	OS-R	23.6			
TOTAL		384.6[3]	117,000	600	150

Key: GC = General Commercial, LDR = Low Density Residential, TC = Tourist Commercial, OS-R = Open Space - Recreation

Notes:

1. *Consisting of retail commercial uses available to the general public.*
2. *Consisting of private resort-serving uses available only to residents and hotel guests.*
3. *Excluding 1.5 acres dedicated to perimeter public ROW.*

As shown in Table A (Table 2.0-4 of the approved WSA), the total project water demand currently approved in the WSA is 941.03 AFY or 2.45 acre-feet per acre.

Table A

Original Coral Mountain Resort Estimated Project Water Service Demands for Residential, Commercial, and Other Uses

Land Use	AFY
Residential Indoor Demand	97.22
Non-Residential Indoor Demand	42.34
Outdoor Demand	801.47
Total Project Demand	**941.03**

AFY/ac	ac
2.44709351	384.55

There are no changes to the Indoor Residential Water Demand of the Coral Mountain Resort as shown in Table B (Table 2.0-1 of the approved WSA).

Table B

Original Coral Mountain Resort Indoor Residential Water Demand

	Residential Water Demand			
Land Use	**Units**	***gpd/Unit**	**Demand (gpd)**	**Indoor Residential Annual Consumption (AFY)**
Residential 7				
Low Density Residential	496	144.65	71,746.40	80.37
Wave Resort - Residential	104	144.65	15,043.60	16.85
Grand Total	**600**	**144.65**	**86,790.00**	**97.22**

*0-55 gpd/person x 2.63 persons/unit = 144.65 gpd/unit
2.63 persons/unit derived from 2018 CA Dept of Finance

The revisions for the increase are found in the Non-Residential Water Demand, shown below in Table C. The commercial square footage has increased under the "Office Building and Restaurant" categories for consistency with the Specific Plan. The new total water demand for Non-Residential use is 59.94 AFY vs. the approved Non-Residential Water Demand of 42.34 AFY. The result is an increase 17.6 AFY from the water demand in the approved WSA.

Table C

Updated Coral Mountain Resort Non-Residential Water Demand

Non-Residential Water Demand					
Row Labels	**Units**	**Building Area (sf)**	***gpd/Unit **gpd/sf/year**	**Demand (gpd)**	**Indoor Non-Residential Annual Demand (AFY)**
Hotel					
Wave Resort - Hotel	150		115	17,250.00	19.32
Office Building					
Open Space - Back of House		12,000	35	1,150.68	1.29
Wave Resort - The Wave Commercial		15,000	35	1,438.36	1.61
Wave Resort - The Farm - Commercial		5,000	35	479.45	0.54
Restaurant					
Neighborhood Commercial		5,000	331	4,534.25	5.08
Wave Resort - The Farm		6,000	331	5,441.10	6.09
Wave Resort - Hotel Bar & Restaurant		14000	331	12,695.89	14.22
Supermarkets					
Neighborhood Supermarket		55,000	64	9,643.84	10.80
Wave Resort - Commercial		5,000	64	876.71	0.98
Grand Total	**150**	**117,000**		**53,510.27**	**59.94**

AWWA Non-Residential Rates:
*115 gpd/Unit applies to Hotel units
** Other:
35 gpd/sf/year for Office
64 gpd/sf/year for Supermarket
331 gpd/sf/year for Restaurant

There are no changes to the Outdoor Water Demand of the Coral Mountain Resort as shown in Table D (Table 2.0-3 of the approved WSA).

Table D

Original Coral Mountain Resort Outdoor Water Demand

Land Use	Outdoor Water Demand			
	Total Outdoor Acreage (AC)	Max of Outdoor Landscaped Area (%)	Outdoor Landscaped Area (sf)	Total Outdoor Annual Consumption (AFY)
Hotel				
Wave Resort - Hotel	8.57	30%	111,993	6.16
Office Building				
Open Space - Back of House	6.85	100%	298,386	16.41
Wave Resort - The Wave Commercial	-	1	0	0.00
Wave Resort - The Farm - Commercial	-	0.4	0	0.00
Open Space				
Open Space - Pop-Up Village	18.77	100%	817,621	44.96
Open Space - Golf (1/4 of 9 holes)	48.00	100%	2,090,880	114.98
Wave Resort - The Wave Perimeter	9.10	100%	396,396	21.80
Residential 7				
Low Density Residential	177.50	65%	5,025,735	276.37
Wave Resort - Residential	43.70	65%	1,237,322	68.04
Restaurant				
Neighborhood Commercial	2.00	40%	34,848	1.92
Wave Resort - The Farm	2.00	40%	34,848	1.92
Wave Resort - Hotel Bar & Restaurant	-	0.3	0	0.00
Supermarkets				
Neighborhood Supermarket	5.77	40%	100,536	5.53
Wave Resort - Commercial	6.74	30%	88,078	4.84
Open Space 2				
Open Space - Pop-Up Village	27.94	100%	1,217,066	66.93
Lake 2				
Low Density Residential - Lake	6.57	100%	286,189	38.47
Wave Resort - The Wave	18.72	100%	815,443	119.58
Wave Resort - The Farm Lake	2.32	100%	101,059	13.58
Grand Total	**384.55**		**12,656,401.56**	**801.47**

**Residential Rate 7: Estate 1/4 ac Conventional Large SFD, 10,000 sf lot, 35% lot coverage, 65% outdoor water use Planning area III Resort (2), IV Open Space, and III Resort (6) will combine water usage. The combined usages total 81.38 acres. It is anticipated the water usage for The Wave water body will be shared among the below areas:

- Planning Area IV - Open space (Pop-Up Villages) -27.01 acres
- Planning Area III Resort (6) - 26.55 acres,
- Wave Resort - The Wave Perimeter - 9.10 acres
- Wave Resort - The Wave - 18.77 acres

Total of 81.38 acres

Table E shows the revised sum of the projected water use at 958.63 AFY and 2.49 acre-feet per acre.

Table E
<u>Updated</u> Coral Mountain Resort Estimated Project Water Service Demands for Residential, Commercial, and Other Uses

Land Use		AFY
Residential Indoor Demand		97.22
Non-Residential Indoor Demand		59.94
Outdoor Demand		801.47
Total Project Demand		**958.63**

AFY/ac	ac
2.492861409	384.55

We respectfully request your review of these revisions and whether this increase would result in a significant change that would require an updated WSA/WSV. Feel free to contact me with any questions.

We look forward to hearing back with your determination.

Sincerely,

Nicole Vann

Nicole Vann
Planner

c: Cheri Flores, City of La Quinta
Nicole Criste, Contract Planner, City of La Quinta
Garrett Simon, Meriwether Co.