5.9 HYDROLOGY AND WATER QUALITY

This section of the Draft Environmental Impact Report (Draft EIR) addresses the potential for the proposed Section 31 Specific Plan Project ("Section 31 Specific Plan" or "Project") to impact hydrology and water quality conditions in a local and regional context. More specifically, this section evaluates impacts associated with the Project that may potentially affect the regional and local water quality, surface water hydrology, groundwater hydrology, environmental degradation, and public health and safety. Various federal, State of California (State), regional, and local programs and regulations related to anticipated water quality impacts are also discussed in this section.

A. ENVIRONMENTAL SETTING

1. Existing Conditions

Regional Hydrological Conditions

The Section 31 Specific Plan Area (Project Site) is located in the central portion of the Coachella Valley in the City of Rancho Mirage (City) within Riverside County, California. The Project Site is located in the central part of the Coachella Valley, a low valley sandwiched between the Little San Bernardino Mountains to the north, the Santa Rosa Mountains to the south, and the San Jacinto Mountains to the west. The valley is part of the Colorado Desert Geomorphic Province, an area that includes both sides of the lower Colorado River and the Coachella and Imperial Valleys of California. The topography of the Coachella Valley influences the climatic and hydrologic conditions in the region. The various mountain ranges, particularly the San Jacinto Mountain range, captures the precipitation from strong Pacific storms that pass through, and separate the semi-arid environment to the west from the dry, desert regions to the east. Most of the precipitation occurs during the winter months, primarily between November and March. However, high intensity, short duration tropical storms emanating from the south can occur during the summer months of July through September.

The physical geography of the Coachella Valley has resulted in multiple drainage patterns that co-exist with urban development in the cities. Most of the washes, drainage courses, and some of their surrounding floodplains are still undeveloped and can be considered as existing open space and are utilized as water collection channels in a serious storm event. The general course of drainage within the Coachella Valley runs from the northwest to the southeast, ultimately leading to the Salton Sea.

The Coachella Valley, including the Project Site, lies within the boundaries of the Coachella Valley Planning Area of the Colorado River Basin (Region 7). Region 7 covers approximately 13,000,000 acres (20,000 square miles) in the southeastern portion of California and includes all of Imperial County and portions of San Bernardino, Riverside, and San Diego Counties. It is bounded by the Colorado River to the east, Mexico

to the south, the Laguna, San Jacinto and San Bernardino Mountains to the west, and the New York, Providence, Granite, Old Dad, Bristol, Rodman, and Ord Mountain Ranges to the north.

The Coachella Valley Planning Area consists of the Whitewater River Watershed and East Salton Sea Watershed. The Project Site is located within the Whitewater River Watershed (Watershed), which covers 1,920 square miles in the central portion of Region 7. The Watershed includes a majority of Riverside County and a small portion of southern San Bernardino County, and consists mainly of sparsely populated mountains, desert and agricultural lands. The Watershed is bounded on the south by the San Jacinto and Santa Rosa Mountains, on the west by the Santa Ana Watershed, on the east by the Salton Sea, the Hexie and Cottonwood Mountains, and Southern Mojave Watershed, and on the northeast by the Little San Bernardino Mountains and the Southern Mojave Watershed. The highest elevation (upper reaches) of the Watershed occurs in the San Jacinto Mountains at 10,000 feet above mean sea level amsl, while the lowest elevation of the Watershed occurs at the Salton Sea, at 230 feet below mean sea level.

Drainage

Regional

Regional drainage in the Coachella Valley consists of seasonal precipitation and the snowmelt from the San Bernardino and San Jacinto Mountains. Drainage in the Coachella Valley is primarily conveyed through the northwest–southeast trending drainage course, the Whitewater River. The Whitewater River is typically a channelized desert dry wash, that flows only in periods of intense rain. However, because of diversions and percolation into the basin, the River becomes dry further downstream. A constructed downstream extension of the Whitewater River is the Coachella Valley Stormwater Channel, which is a drainage course for irrigation return flows, treated community wastewater, and stormwater runoff.[1]

The Coachella Valley Water District (CVWD) operates and maintains the stormwater facilities throughout the Coachella Valley. These facilities include the Whitewater River Stormwater Channel, Coachella Valley Stormwater Channel, West and East side dike systems, fifteen Cove Community channels from Rancho Mirage to La Quinta, Cove Community basins, East Valley stormwater channels in the agricultural areas, and detention channels that drain water impounded behind the dikes.[2]

1 California State Water Resources Control Board, *Water Quality Control Plan, Colorado River Basin—Region 7*, amended August 2017, accessed April 2019, available at https://www.waterboards.ca.gov/coloradoriver/water_issues/programs/basin_planning/.

2 Coachella Valley Water District (CVWD), "Stormwater Protection & Flood Control," accessed May 2019, http://www.cvwd.org/165/Stormwater-Protection-Flood-Control.

Local

As previously stated, the Whitewater River is the primary drainage course in the Coachella Valley. The Whitewater River is located approximately 1.60 miles southwest of the Project Site. The Whitewater River has an intricate drainage network of several intermittent, north-flowing streams that drain the Santa Rosa Mountains and empty into the Whitewater River. Water flows northwest to southeast through the City and eventually empties into the Salton Sea. In the urbanized parts of the Coachella Valley, streams have been modified and are now mostly confined to open channels, culverts, and storm drains; however, for most of their length, they remain natural and unmodified.

According to the Master Drainage Plan for the City, there are three local watershed zones (1, 2, and 3) within a 5.4 square mile area of the City. The Project Site is located within Zone 2 (1,645 acres) of the City's Master Drainage Plan. This Zone has the greatest amount of undeveloped land and is divided by the Palm Springs Ridge Line which drains towards the Whitewater River.

Stormwater

Stormwater is defined by the United States Environmental Protection Agency (USEPA) as the runoff generated when precipitation from rain and snowmelt events flows over land or impervious surfaces without percolating into the ground. Stormwater is often considered a nuisance because it mobilizes pollutants such as motor oil and trash. In most cases, stormwater flows directly into water bodies through sewer systems, contributing a major source of pollution to rivers, lakes and the ocean. Stormwater discharges in California are regulated through National Pollutant Discharge Elimination System (NPDES) permits, further discussed below. However, stormwater may also act as a resource and recharge to groundwater when properly managed.[3]

The Coachella Valley Planning Area is located in the East Salton Sea Watershed and the Whitewater River Watershed, under the jurisdiction of the California Regional Water Quality Control Board (RWQCB), Colorado River Basin Region (Region 7) of the State Water Resources Control Board (SWRCB). Region 7 covers approximately 13,000,000 acres (20,000 square miles) in the southeastern portion of California. A watershed is a geographic area that drains into a specified point on a watercourse, usually a confluence of streams or rivers. Watersheds (also referred to as drainage areas, catchments or river basins) are usually bordered and separated from other watersheds by mountain ridges or other naturally elevated areas. The Whitewater River Watershed boundaries to the north and northwest by the mountain ranges of the Colorado Desert, the San Bernardino Mountains, Little San Bernardino Mountains, and Indio Hills.

3 California State Water Resources Control Board, "Storm Water Program," accessed May 2019, https://www.waterboards.ca.gov/water_issues/programs/stormwater/.

The Watershed boundaries to the east and south are meet by the Mecca Hills, Orocopia Mountains, the Salton Sea, and Santa Rosa Mountains. The western boundary is generally defined by the San Jacinto Mountains. As previously stated, the surface drainage within this watershed drains to the Salton Sea.

CVWD is the local jurisdiction and delivers irrigation and domestic (drinking) water, collects and recycles wastewater, provides regional stormwater protection, replenishes the groundwater basin, and promotes water conservation. It operates and maintains approximately 135 miles of multiple stormwater protection facilities in the region. Additionally, CVWD is involved with regional stormwater and flood protection, including planning, maintenance, and construction of drainage improvements for regional flood control facilities, as well as watershed and watercourse protection related to these facilities.

Groundwater

Groundwater is the primary source of municipal water supply in the Coachella Valley, underlain by the Coachella Valley groundwater basin. The California Department of Water Resources (DWR) and the United States Geological Survey (USGS) established subbasins and associated subareas within the Coachella Valley. The four subbasins include the Mission Creek Subbasin, Desert Hot Springs Subbasin, Garnet Hill Subbasin, and the Whitewater River Subbasin (also referred to as the Indio Subbasin). The Whitewater River Subbasin extends from Whitewater in the northwest to the Salton Sea in the southeast. The Whitewater River Subbasin is then subdivided into four subareas which include: Palm Springs subarea, Thousand Palms subarea, Oasis subarea and Thermal subarea. The Project is located in the Thermal subarea within the Whitewater River Subbasin.

The Coachella Valley is geographically separated into a western and eastern portion. The cities of Palm Springs, Cathedral City, Rancho Mirage, Indian Wells, and Palm Desert lie in the western portion, and the unincorporated communities of Thermal, Oasis, Mecca, and North Shore are located in the eastern portion. Soils in the western Coachella Valley primarily consist of sands and gravel, which allow surface water to percolate to the groundwater aquifer. Soils in the eastern Coachella Valley, however, largely consist of impervious clay layers, which do not allow surface water to reach the groundwater aquifers as easily. The only outlets for groundwater in the Coachella Valley are through subsurface outflow under the Salton Sea or through collection in drains and transport to the Salton Sea via the Coachella Valley Stormwater Channel (CVSC).

CVWD obtains groundwater from both Whitewater River and Mission Creek Subbasins, which is shared between CVWD, Desert Water Agency (DWA), Myoma Dunes Water Company, the cities of Indio and Coachella, and numerous private groundwater producers. Both CVWD and DWA have legal authority under the 1992 CVWD-DWA Water Management Agreement to manage the groundwater basins within their respective service areas. Each agency may levy an assessment on groundwater pumping to finance

the acquisition of imported and recycled water supplies and to recharge the groundwater basins, in accordance with legal requirements.

Groundwater Supplies

Groundwater is the main source of water supply in the Coachella Valley, and since the demand for groundwater is higher than the natural rate of replenishment, water is imported to recharge the aquifer in order to reduce groundwater overdraft. DWR Bulletin 108 (1964) and Bulletin 118 (2003) are the most current bulletins published by DWR that specifically investigates the aquifer in the Coachella Valley. In Bulletin 108, DWR noted that the amount of usable supply in the over-drafted aquifer was decreasing, while Bulletin 118 stated that overdraft remains a "primary challenge" in the aquifer. Outflows from the basin consist of pumping, flows to agricultural drainage system, evapotranspiration by native vegetation and subsurface outflow to the Salton Sea.

Historical overdraft in the Coachella Valley had caused groundwater levels to decline in many portions of the East Valley from La Quinta to the Salton Sea, which raised concerns about water quality degradation and land subsidence. In 2009, overdraft for the Coachella Valley was estimated to be 74,812 AFY. The 2009 loss in storage was lower than the historical loss due to increased State Water Project (SWP) Exchange water deliveries at Whitewater River Recharge Facility and increased Canal water recharge at the Thomas E. Levy Groundwater Replenishment Facility (Levy Facility) in the East Valley beginning in 2009.[4]

The City is generally served by the Whitewater River Subbasin. Other sources of domestic water supply include surface run-off from the local mountains and imported water from the Colorado River aqueduct and the SWP. The SWP water supply is limited to groundwater replenishment purposes only.

Groundwater Quality

As stated previously, groundwater is the primary source of domestic water supply for residents and businesses within CVWD's service area. Water quality and the character of groundwater are determined by a number of factors including mineral content of sediments, recharge and drainage patterns, stormwater infiltration, historic land use practices, and casing screening intervals and depths of wells sampled.

The State Water Resources Control Board Division of Drinking Water (DDW) and the USEPA require routine and comprehensive monitoring of drinking water supply, and as required by the California Safe Drinking

4 CVWD, *2010 Urban Water Management Plan Final Report* (July 2011), accessed May 2019, http://www.cvwd.org/ArchiveCenter/ViewFile/Item/325.

Water Act. In accordance with the Safe Drinking Water Act, CVWD employees routinely monitor the public water systems and collect drinking water samples that are tested at CVWD's State-certified laboratory to ensure that domestic water meets State and federal standards. Every year, CVWD is required to analyze a select number of these samples for more than 100 regulated and unregulated substances.[5]

Surface Water Quality

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.

The Project Site is located in the Colorado River Region (Region 7), where the approved Colorado River Basin Water Quality Control Plan (Basin Plan) identifies the beneficial water uses, describes the water quality which must be maintained to support such uses, and describes the programs, projects, and other actions necessary to achieve the standards and protect water quality. The most recent regional Basin Plan was adopted in August 2017.

Regional drainage of this area is conveyed by the Whitewater River, which flows northwest to southeast and passes approximately 1.75 miles south (1.60 miles west) of the Project Site. Due to the natural topography of the region, the Project would indirectly discharge into these receiving waters. The beneficial uses of the downstream receiving waters (Whitewater River, Coachella Valley Storm Water Channel, and Salton Sea) of the Project include but are not limited to agriculture supply, water-contact recreation, and warm freshwater habitat.

The regional Basin Plan establishes water quality standards for surface waters within the Colorado River Region, which include designated beneficial uses of those water bodies and the levels of water quality that must be met and maintained to protect those uses. Water bodies where the assessed water quality does not meet the standards to support beneficial uses are regionally listed pursuant to Section 303(d) of the CWA. The most current 2014 and 2016 Integrated Report (Clean Water Act Section 303(d) List/305(b)) indicates that portions of the CVSC are impaired by Dichlorodiphenyltrichloroethane (DDT), Dieldrin, Indicator Bacteria, Polychlorinated Biphenyls (PCBs), Toxaphene, and Toxicity. The sources of all pollutants causing impairment to the CVSC are unknown, and many of these are linked to substances which are now banned, such as DDT, Dieldrin, PCBs, and Toxaphene.

The Porter-Cologne Act is the principal law governing water quality regulation for surface waters in California. It established a comprehensive program to protect water quality and the beneficial uses of

5 CVWD, *2017-2018 Annual Review* (August 2018), accessed May 2019, available at http://www.cvwd.org/ArchiveCenter/ViewFile/Item/686.

water. Presently, in the State of California, the SWRCB and nine RWQCBs administer the regulation and protection of water quality pursuant to NPDES. The Colorado River Basin Regional Water Quality Control Board (Colorado River Basin RWQCB) is charged by the Porter-Cologne Water Quality Control Act, discussed further below, with the protection of water quality for waters within the region. The Colorado River Basin RWQCB is also responsible for implementing provisions and pollution control requirements that the federal CWA specifies for surface waters of the United States via the Basin Plan.

Water Resources

The principal water sources of the Coachella Valley include local groundwater, recycled water, and imported water either through the State Water Project (SWP) of from the Colorado River via the Coachella Canal, a branch of the All-American Canal. Although Colorado River water and SWP water are percolated into the groundwater supply, and are ultimately used through groundwater pumping, they are considered separate sources of water for CVWD. Local surface water is also present in the Coachella Valley in the form of streams; however, CVWD does not derive any of its direct supply from surface water. Additionally, average precipitation in this arid region is only 3 to 6 inches per year and does not directly provide significant additional water supplies because most of the precipitation evaporates or is consumed by the native vegetation. However, the aquifers are recharged by precipitation and runoff from the local mountains.

CVWD has approximately 107,000 domestic water connections currently, with a groundwater production capacity of 232 million gallons per day. The CVWD service area encompasses roughly 640,000 acres, mostly within Riverside County, but also extends into northern Imperial and San Diego Counties. CVWD serves all of Rancho Mirage, Thousand Palms, Palm Desert, Indian Wells, La Quinta and a portion of Indio and Coachella, as wells as rural communities, including Thermal, Mecca, Oasis, Desert Shores, Salton Sea Beach, Salton City, North Shore, Bombay Beach, and Hot Mineral Springs, as well as other portions of unincorporated Riverside County. CVWD also serves a portion of lands near Desert Hot Springs, the Indio Hills area, and a portion of Cathedral City.

Development throughout the Coachella Valley has been dependent on groundwater as a source of supply. As water demand increases in the Coachella Valley, ongoing overdraft of the groundwater supply becomes an increasing concern. The City of Rancho Mirage projects that as the City continues to develop, it could increase Citywide total domestic water demand to approximately 27 million gallons a day, depending on the type of development, the density in residential development, and the level and type of landscaping and water dependent amenities related to each project. The demand for groundwater has annually exceeded the limited natural recharge of the groundwater basin; therefore, imported water is used to recharge the aquifer and reduce groundwater overdraft. CVWD has also implemented wastewater

reclamation efforts to recharge the aquifer and, since 1973, CVWD and the DWA have replenished approximately 3.5 million acre-feet of water at three replenishment facilities.

Project Site

Topographically, the Project Site generally slopes downward from the northeast to southwest. Surface elevations range from approximately 318.6 feet to approximately 254.6 feet above mean sea level, with the highest point located on the northeast corner of the Project Site. Based on surface topography, drainage across the Project Site generally travels from the northeastern corner of the site towards the southwestern corner at the Frank Sinatra Drive and Bob Hope Drive intersection via sheet flow, following the natural drainage course. The runoff drains into the local storm drain system along Frank Sinatra Drive and Bob Hope Drive, respectively bordering the southern and western boundaries of the Project Site. The Project Site currently contains two small engineered earthen basins on the northern boundary along Gerald Ford Drive, and four stormwater inlets via curb cuts on the eastern boundary along Monterey Avenue. These basins and storm drain inlets are designed to accept surface stormwater flows from the east-bound lanes of Gerald Ford Drive and the south-bound lanes of Monterey Avenue and deposit runoff to percolate on the Project Site.

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Map Number 06065C1595G, effective since August 28, 2008, the Project Site is not located in a designated 100-year flood hazard area. Per the FEMA FIRM Map, the Project Site is located in Zone X, which includes areas determined to be outside the 0.2 percent annual chance floodplain. According to the same map, the area southwest of the Project Site, southwest of the Frank Sinatra Drive and Bob Hope Drive intersection, is designated as a Zone X (Shaded) flood zone. Zone X (Shaded) flood zones are determined as areas of 0.2 percent annual chance flood; areas of 1 percent annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1 percent annual chance flood.

2. Regulatory Setting

Federal

Clean Water Act

The CWA of 1972 was enacted to restore and maintain the chemical, physical, and biological integrity of the Nation's waters by regulating the discharge of pollutants to waters of the US from point sources for the propagation of fish and wildlife. Section 208 of the CWA and the requirements of the Code of Federal Regulations require local water management plans. Preparation of these water management plans is delegated to individual states by the USEPA, which is charged with implementing the CWA.

Section 404 of the CWA establishes a program to regulate the discharge of dredged or fill material into waters of the United States regulated under this program include fill for development and mining projects. Waters of the United States are defined in USACE regulations stating that navigable waters are those that are navigable in the traditional sense and includes adjacent wetlands and tributaries to navigable waters of the US and other waters, the degradation or destruction of which could affect interstate or foreign commerce. Proposed activities are regulated through a permit process, reviewed by the US Army Corps of Engineers (USACE), who evaluates applications under a public interest review, as well as the environmental criteria set forth in the CWA Section 404(b)(1) Guidelines, regulations promulgated by the USEPA.

The CWA requires all states to conduct water quality assessments of their water resources to identify water bodies that do not meet water quality standards. The water bodies that do not meet water quality standards are placed on a list of impaired waters pursuant to the requirements of Section 303(d) of the CWA.

National Pollutant Discharge Elimination System

In 1972, the NPDES was established under Section 402 of the CWA to control the discharge of pollutants to waters of the US. It does so by establishing a variety of measures designed to reduce pollutant discharges through a permitting program. The permit that contains limits on allowable discharge, monitoring and reporting requirements, and other provisions to ensure that the discharge does not pollute water quality or is detrimental to public health. Under the CWA, the NPDES program is managed nationally by the USEPA, who authorizes the NPDES permit program to State, tribal, and territorial governments, enabling them to perform many of the permitting, administrative, and enforcement aspects of the NPDES program.

In the State of California, the SWRCB and nine RWQCBs the regulation, protection and administration of water quality. The Project Site and the City are located within the Colorado River Region (Region 7), which administers the permit program for regulating storm water from construction activities for projects greater than one acre in size in the project areas under the State's General Permit approach, since urban development and construction-related activities have the potential to impact the quality and quantity of runoff to proximate receiving waters. These potential construction-related impacts are mitigated by implementing a Stormwater Pollution Prevention Plan (SWPPP), in compliance with the Construction General Permit (State Water Resources Control Board Order No. 2009-0009-DWQ, as amended by Order No. 2012-006-DWQ, NPDES No. CAS000002) under the NPDES. The SWPPP requires construction sites to develop and implement best management practices (BMPs) in order to mitigate potential runoff contamination from construction activities. Some BMPs include implementing storm drain inlet

protection, concrete washout bins, secondary containment, and proper material storage at construction sites.

To address post-construction runoff impacts, projects are regulated under the Municipal Separate Storm Sewer System (MS4) within the Whitewater River Watershed, otherwise known as the MS4 Permit (Order No. R7-2013-0011 and NPDES No. CAS617002).

State

California Department of Water Resources

The Department of Water Resources (DWR) is responsible for managing and protecting California's water resources, systems, and infrastructure, including the State Water Project (SWP). Some responsibilities of the DWR include preventing and responding to floods, droughts and catastrophic events, informing and educating the public on water issues, developing scientific solutions, restoring habitats, planning for future water needs, climate change impacts, constructing and maintaining facilities, generating power, ensuring public safety, and providing recreational opportunities. The DWR works with other agencies to benefit the State's people and to protect, restore, and enhance the natural and human environments.

Water Boards

California's Water Boards consist of the State Water Resources Control Board (State Water Board) and the RWQCB. The mission of the Water Boards is to preserve, enhance, and restore the quality of California's water resources and drinking water for the protection of the environment, public health, and all beneficial uses, and to ensure proper water resource allocation and efficient use for the benefit of present and future generations. Together they are authorized to implement the federal Clean Water Act in California.

State Water Resources Control Board

The State Water Resources Control Board (State Water Board) was developed in 1967 with the mission to ensure the highest reasonable quality for waters of the State, while allocating those waters to achieve the optimum balance of beneficial uses. The joint authority of water allocation and water quality protection enables the Water Board to provide comprehensive protection for California's waters. In addition to allocating water rights, the State Water Board adjudicates water rights disputes, develops Statewide water protection plans, establishes water quality standards, and guides the Regional Water Quality Control Boards located in the major watersheds of the State.

Regional Water Quality Control Board

The Regional Water Quality Control Boards serve as the frontline for State and federal water pollution control efforts. It is composed of nine control boards, each including seven members. Regional boundaries are based on watersheds and water quality requirements are based on the unique differences in climate, topography, geology, and hydrology for each watershed. Each Regional Board makes critical water quality decisions for its region, including setting standards, issuing waste discharge requirements, determining compliance with those requirements, and taking appropriate enforcement actions. As stated previously, the Project Site is located in Region 7, the Colorado River Region.

Colorado River Regional Water Quality Control Board

The Project Site is located within the 13-million-acre Colorado River Basin, which is governed by the Colorado River Basin RWQCB, i.e. Region 7. The Colorado River Basin RWQCB has adopted a Basin Plan in accordance with criteria contained in the CWA, Porter-Cologne Act, and other pertinent State and federal rules and regulations. The intent of the Basin Plan is to provide definitive guidelines and give direction to the scope of Colorado River Basin RWQCB activities that will optimize the beneficial uses of the State waters within the Colorado River Basin by preserving and protecting the quality of these waters. The intended beneficial use of water determines the water quality objectives. For example, the quality requirements for irrigation water are different from drinking water.

The Colorado River Basin RWQCB implements the Basin Plan by issuing and enforcing waste discharge requirements for appropriate persons and groups; these can include individuals, communities, or businesses whose waste discharges may affect water quality. These requirements can be either State Waste Discharge Requirements for discharge to land, or federally delegated NPDES permits for discharges to surface water. Discharges are required to meet water quality objectives and, thus, protect beneficial uses.

Sustainable Groundwater Management Act

On September 16, 2014, Governor Edmund G. Brown Jr. Signed a three-bill package known as the Sustainable Groundwater Management Act (SGMA). The legislation allows local agencies to customize groundwater sustainability plans to their regional economic and environmental needs. The three bills that make up SGMA are AB 1739, SB 1319, and SB 1668. The SGMA provides for sustainable management of groundwater basins; enhances local management of groundwater consistent with rights to use or store groundwater; establishes minimum standards for effective; continuous management of groundwater; provides local groundwater agencies with the authority; technical and financial assistance needed to maintain groundwater supplies; avoids or minimizes impacts for land subsidence; improves data collection and understanding of groundwater resources and management; increases groundwater storage

and removes impediments to recharge; and empowers local agencies to manage groundwater basins, while minimizing State intervention.

The SGMA allows agencies, a combination of local agencies, or counties to establish a Groundwater Sustainability Agency (GSA), who is responsible for developing and implementing a groundwater sustainability plan (GSP). The GSP considers all beneficial uses and users of groundwater in the basin and create measurable objectives and interim milestones that ensure basin sustainability. CVWD submitted their 2010 Coachella Valley Water Management Plan Update as an alternative to preparing a separate GSP for the Coachella Valley.

Porter-Cologne Act

In 1969, the State Legislature enacted the Porter-Cologne Water Quality Control Act (Porter-Cologne Act) to protect the quality of water. The Porter-Cologne Act grants the Water Boards the authority to implement and enforce water quality laws, regulations, policies and plans to protect the groundwater and surface waters of the State. The goal is to protect and enhance the quality of the waters of the State by defining an enforcement process that addresses water quality problems in the most fair, efficient, effective, and consistent manner.

The Porter-Cologne Act designates the Board as the State water pollution control agency for purposes of the Federal Water Pollution Control Act and other federal legislation requiring various federal agencies to obtain statements or certificates from State water pollution control agencies before undertaking activities affecting water quality. The Regional Water Quality Control Boards control jurisdictional boundaries delineated by the divisions of major watershed and are primarily responsible for the implementation of State policies. The primary function of the regional boards is to ensure the reasonable protection of beneficial uses and the prevention of nuisance through establishment of appropriate water quality objectives in water quality control plans for all areas in this region. The boards protect the waters of the State from excessive discharges of waste through the establishment of waste discharge requirements which must be adhered to by persons discharging or proposing to discharge waste other than into a community sewer system. They are also directed to obtain coordinated action in the prevention and abatement of water pollution.

Regional and Local

Riverside County Municipal Code

Chapter 13 of the Riverside County Municipal Code addresses public services with the County, including stormwater drainage system protection and water wells. Chapter 13.12 codifies stormwater/urban runoff management and discharge control, with the intent to protect and enhance the water quality of county

water courses, water bodies, groundwater, and wetlands in a manner pursuant to and consistent with applicable requirements contained in the Federal Clean Water Act, Porter-Cologne Act, and any applicable State or federal regulations. The main purpose is to reduce pollutants in stormwater discharges to the maximum extent practicable, regulating illicit connections and discharges to the storm drain system, and regulating stormwater discharges to the storm drain system.

Chapter 13.20 addresses water wells and provides minimum standards for construction, reconstruction, abandonment, and destruction of all wells in order to: (a) protect underground water resources, and (b) provide safe water to persons within Riverside County. Pursuant to the authority cited in Chapter 13801(c) of the California Water Code, the Riverside County Department of Environmental Health shall enforce the provisions of this chapter within its jurisdiction. The Project proposes the use of six potential public well sites, therefore, Chapter 13.20 is relevant to Project development. The applicant will be required to dedicate these well sites to CVWD. In addition, at least one private well will provide water for the Crystal Lagoon and water usage will be offset by payment of groundwater replenishment fees.

Whitewater River Region Stormwater Management Plan

The Whitewater River Region Stormwater Management Plan (SWMP) describes activities and programs implemented by the permittees to manage urban runoff to comply with the requirements of the NPDES municipal separate storm sewer system (MS4) permit for the Whitewater River Region. The SWMP emphasizes source control measures and strong public education/outreach efforts as being the most effective way to manage urban runoff in the highly arid Coachella Valley region.

The SWMP discusses program management, detection and elimination of illicit connections and discharges, new and re-development programs, private construction activities, permittee facilities and activities, public education and outreach programs, and monitoring programs. The Whitewater River SWMP also emphasizing reporting and responding to any spills, leaks, and/or illegal discharges including: any sewage spill above 1,000 gallons or that could impact water contact recreation, any oil spill that could impact wildlife, any hazardous material spill where residents are evacuated, any spill of reportable quantities of hazardous waste, any other spill or discharge that is reportable to the California Office of Emergency Services (Cal OES).

According to the Whitewater River Region SWMP, each permittee performing construction activities requires applicable project proponents to obtain coverage under the Construction General Permit as part of standard conditions of project approval; proof of coverage must be furnished prior to the issuance of any building or grading permits. Proponents seeking coverage must file all required documentation to the SWRCB, including their site SWPPP via the Stormwater Multiple Application and Report Tracking System (SMARTS). The Construction General Permit specifies minimum BMPs that site operators must implement

dependent upon their site's calculated risk. The Permittees specify that erosion and sediment controls must be implemented on applicable construction sites through their grading and/or Stormwater Ordinances; construction waste controls can be required through standard conditions of approval, stated in project specifications and/or on standard notes that appear on grading plans.

Coachella Valley Water District

2010 Coachella Valley Water Management Plan Update

CVWD maintains water management policies within its 2010 Coachella Valley Water Management Plan (CVWMP) Update to comprehensively protect and augment the groundwater supply in a cost-effective and sustainable manner. As defined in the 2010 CVWMP Update, CVWD is reducing reliance on groundwater sources by utilizing more Colorado River water, SWP 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 SB7-7. The District anticipates this water use reduction level will be maintained through the remainder of the planning period.

The 2010 CVWMP Update identifies proposed methods and means of meeting future water needs in changing conditions. In order to meet future needs, the 2010 CVWMP Update includes many new features on the areas of water conservation, source substitution, new supplies, and groundwater recharge. The 2010 CVWMP Update's objectives were refined to meet current and future demands with a 10 percent supply buffer, eliminate long-term groundwater overdraft, manage and protect water quality, comply with state and federal laws and regulations, manage future costs, and minimize adverse environmental impacts. Major elements to assist in achieving the 2010 CVWMP Update's objectives includes water conservation, increasing surface water supplies for the Valley from outside sources, substitution of surface water supplies for groundwater (source substitution), groundwater recharge, monitoring and evaluation of subsidence and groundwater levels and quality to provide the information needed to manage the Valley's groundwater resources.

CVWD Urban Water Management Plan

CVWD has completed its 2015 Urban Water Management Plan (UWMP) and it was approved by the State on September 29, 2016. The 2015 UWMP was written 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 2015 UWMP supports long-term water resources planning and ensures adequate water supplies are available to meet existing and future urban water demands. It accomplishes this by planning water supply over a 25-year period in five-year increments, identifying and quantifying adequate water supplies, including recycled water, for existing and future

demands, in normal, single-dry, and multiple-dry years, and implementing conservation and efficient use of urban water supplies.

CVWD water demand projections contained in the 2015 UWMP take into account the increased growth throughout its service area. According to the 2015 UWMP, CVWD's actual service area urban water demand was 92,974 AF in 2015. Projected urban water demand in the 2015 UWMP for the year 2040 is anticipated to be 194,300 AF.

CVWD Landscape Ordinance

CVWD Landscape Ordinance 1302.3 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.

Rancho Mirage 2017 General Plan Update

The Rancho Mirage 2017 General Plan Update states that as Rancho Mirage continues to develop, it could increase citywide total domestic water demand to approximately 27 million gallons a day (mgd) in the City. As demand is generated by continued growth in development, the ongoing overdraft will generate long term impacts on groundwater supply. Therefore, water conservation efforts within the City is essential as both a short-term and long-term resource management strategy.

Landscape design and maintenance is a large contributor of water conservation. The City has adopted CVWD's Landscape Ordinance, as required by State law, which requires that new landscape plans be designed to incorporate more native and locally compatible drought tolerant planting materials and efficient irrigation systems.

The City's 2017 General Plan Update emphasizes that effective future stormwater management will also help protect groundwater and preserve capacity in stormwater facilities. Protection of the major watersheds will assure preservation of a viable long-term source of natural groundwater recharge to the City and the larger subbasin.

According to FEMA's flood zone map, provided in the Rancho Mirage 2017 General Plan Update, a portion of the City is designated in FEMA designated Zone A and X. Zone A is a special flood hazard area inundated by 100-year floods. Zone X flood zones are areas of 500-year flood; areas of 100-year flood with average depth of less than 1 foot or with drainage areas less than 1 square mile; and areas protected from 100-year flood by levees. These zones are located at the base of the Santa Rosa Mountains and expands towards the center of the City. The Project Site is located in a FEMA designated Zone X flood zone, which are areas determined to be outside the 0.2 percent annual chance floodplain.

Rancho Mirage General Plan Update Addendum to the Final EIR

According to the Rancho Mirage General Plan Update Addendum to the Final EIR, adopted in October 2017, The General Plan may alter existing drainage patterns of the Rancho Mirage area by increasing the number of impervious surfaces through the continued development of undeveloped areas. Drainage system impacts can be reduced to below a level of significance through implementation of requirements outlined in the City's Municipal Code.

The Whitewater River subbasin has a limited supply of natural recharge groundwater supply. Continued development in the City could increase citywide domestic water demand. CVWD has indicated that the water district has sufficient water supply to meet anticipated demand through the year 2035. Additional development within the City will create more impervious surfaces and an increased demand for water supplies within CVWD's service area. However, the implementation of water saving and efficient practices and design features to retain on-site stormwater flows will ensure that development in the City does not lead to overdraft of the underground aquifer or increased stormwater flows produced in the City, according to the General Plan Update Addendum to the Final EIR.

City of Rancho Mirage Municipal Code

The Rancho Mirage Municipal Code (RMMC) establishes required on-site retention in on undeveloped properties of one gross acre or more in size and which are located norther of the Whitewater River Channel. Projects fitting this description shall, upon development, provide sufficient on-site stormwater retention for the volume of runoff resulting from a one-hundred-year storm with a time duration which generates the maximum stormwater volume. According to the RMMC, stormwater runoff and volume calculations, retention location and method of storage shall be performed to the satisfaction of the City engineer.[6]

6 City of Rancho Mirage Municipal Code Section 13.05.010.

B. ENVIRONMENTAL IMPACTS

1. Thresholds of Significance

In order to assist in determining whether a project would have a significant effect on the environment, the City finds a project may be deemed to have a significant impact to hydrology and water quality, if it would:

Threshold 5.9-1: **Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.**

Threshold 5.9-2: **Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.**

Threshold 5.9-3: **Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river through the addition of impervious surfaces, in a manner which would:**

i) Result in substantial erosion or siltation on- or off-site;

ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;

iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or

iv) Impede or redirect flood flows.

Threshold 5.9-4: **In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.**

Threshold 5.9-5: **Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.**

2. Methodology

Analysis of pre- and post-Project drainage conditions was included in the evaluation of potential flood hazards associated with regional flows. Additionally, conceptual pre- and post-Project drainage analyses were prepared to address local on-site drainage flood conditions. The following impact analysis related to

flooding is based on information from the City, Riverside County, and CVWD flood control requirements. Water quality impacts are evaluated based on proposed stormwater filtration techniques and requirements under the NPDES and the MS4. Impacts to groundwater recharge were evaluated using information contained in the 2010 CVWMP Update and retention facilities proposed as part of the Project.

3. Project Design Features

The following Project Design Features (PDFs) are incorporated into the Project and would reduce the potential hydrology and water quality impacts of the Project. These features were taken into account in the analysis of potential impacts.

PDF 5.9-1: Landscape plant materials shall consist primarily of plant species that are native, native adaptive, drought-tolerant, and have a low water use requirement.

PDF 5.9-2: Automated, high-efficiency irrigation systems (such as bubbler irrigation and low-angle, low-flow spray heads) shall be installed to reduce water demand and use. Moisture sensors and other similar irrigation technology shall be utilized to ensure that plantings are watered only as needed. The irrigation system will be computer controlled and be designed to communicate with a local weather station so that the frequency and duration of the irrigation will be adjusted in response to hourly changes in the weather.

PDF 5.9-3: Plants with similar water requirements and similar sun exposures will be zoned together, a technique known as hydro zoning. This allows for fine tuning the irrigation delivery methods and results in a highly efficient irrigation system.

PDF 5.9-4: Grey and recycled water infrastructure will be integrated in the irrigation design for common spaces so that grey water or recycled water can be used wherever available and feasible for landscape irrigation.

PDF 5.9-5: Drought-tolerant native or native adaptive evergreen tree species with broad canopies shall be located adjacent to buildings, walls, windows, and paved areas to provide shade and reduce solar heat absorbed by buildings, walls and paved areas.

PDF 5.9-6: Efficient interior water appliances, such as low flush toilets and low flow showerheads and faucets.

PDF 5.9-7: Efficient misting systems and other similar micro-climate cooling techniques should be used along canopies and fascia soffits in common areas such as outdoor dining patios and pedestrian walkways to provide necessary relief from the desert heat during daytime periods of low ambient air humidity.

PDF 5.9-8: All Planning Areas shall optimize the use of landscaped storm water retention/infiltration basins where practicable. Slopes shall be designed to minimize runoff.

PDF 5.9-9: Weather-based smart irrigation controllers shall be required for common areas and strategic use of turf will generally be limited to active recreational spaces for residences and parks.

PDF 5.9-10: The Grand Oasis Crystal Lagoon shall be maintained with proper additives to help minimize the natural evaporation rate.

PDF 5.9-11: The use of water-permeable surfaces is encouraged.

PDF 5.9-12: Stormwater runoff capture is required.

PDF 5.9-13: Water conserving faucets and fixtures shall be included in all buildings.

4. Project Impacts

Threshold 5.9-1: Would the project result in the violation of any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

The Project involves the development of mixed-use, master-planned community with residential, commercial retail, resort hotel, and recreational uses on approximately 618 acres in the City. The Project would include approximately 79.8 acres of mixed-uses, approximately 504 acres of residential uses, and an approximately 34-acre Grand Oasis Crystal Lagoon ("Grand Oasis lagoon"). The proposed drainage pattern for the Project Site would convey surface water flows from the northern portion of the site to the southern portion. Retention areas would be located throughout the Project Site via open space areas and basins. Subsurface retention facilities would also be utilized throughout the Project Site, as needed, in order to collect on-site runoff. The Project design would prevent violations to water quality standards and waste discharge requirements by implementing adequate stormwater management facilities at each stage of development and operation, which are designed to contain Project-related runoff and prevent discharges into any receiving waters. The Project would also be required to obtain the appropriate permit approvals that ensure compliance with NPDES, MS4, and City retention ordinance regulations applicable during construction and operation.

Construction

Prior to the start of construction, the Project Applicant must obtain coverage under the State's most current Construction General Permit (CGP), Order No. 2009-0009-DWQ, as amended by 2010-0014-DWQ

and 2012-0006-DWQ. Compliance with the CGP involves the development and implementation of a Project-Specific SWPPP designed to reduce potential adverse impacts to surface water quality during the period of construction. The required SWPPP must identify the limits of disturbance during each phase of construction with specific locations where activities would require implementation of stormwater BMPs. Stormwater BMPs refer to a schedule of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent, eliminate, or reduce the pollution of waters of the receiving waters. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff spillage or leaks. Consistent with the CGP, SWPPP implementation must include good site management (housekeeping), non-stormwater management, erosion control, sediment controls, run-on and runoff controls, along with inspection, maintenance and repair measures. Other relevant requirements of the SWPPP include proper waste management, proper material handling, and storage within the allowable construction limits. As construction progresses, any on-site proposed storm drain-inlets that become operational would require temporary protection to prevent sediment or pollutants from entering the on-site storm drain system.

During construction, the Project would also be required to comply with the South Coast Air Quality Management District's (SCAQMD) Rule 403 and 403.1, which requires the Project Applicant to prepare and implement a Fugitive Dust (PM10) Control Plan. Implementation of the Fugitive Dust Control Plan primarily pertains to air quality, but also supports water quality protection through the requirement of soil stabilization measures to prevent sediment erosion and track-out. The concurrent implementation of the required SWPPP and Dust Control Plan would prevent potential adverse construction-related impacts to water quality at the Project Site and its surroundings. Impacts would be less than significant.

Operation

As previously stated, the Project proposes a mixed-use, master-planned development with residential, commercial retail, resort hotel, and recreational components on approximately 618 acres in the City. Per the Project design, the Project Site would consist of a mixed-use Town Center Planning Area (Town Center) in the northeastern quadrant of the Project Site. Proposed residential units would be located in the northwestern, southwestern, and southeastern portions of the Project Site Across Planning Areas (PAs) 1, 2, and 3. Development would be oriented around an approximately 34-acre Grand Oasis lagoon proposed near the center of the Project Site.

The Grand Oasis lagoon portion of the Project would include an approximately 34-acre clear body of fresh water at a depth of 12 feet designed, constructed, and operated using Crystal Lagoon technology. This open space and recreational element would accommodate swimming, stand-up paddle boards, kayaks, and other small scale, non-motorized recreational watercraft. Access to the water would be limited to

defined beach locations and designated swimming areas, initially including the public beach park at the Town Center and the resident's Beach Club.

The Crystal Lagoons technology, which would power the Grand Oasis lagoon, utilizes a patented solution consisting of the application of controlled pulses of small amounts of oxidants/microbicides, such as chlorine, into the water in specific patterns and cycles to maintain water quality. The application cycles are determined by the system's algorithms according to the growth cycles of algae and bacteria as well as ambient conditions and the weather. This avoids the need for maintaining a substantial residual chemical level in the water. The application of additives would be coordinated remotely by sensors and injectors/nozzles strategically located throughout the Grand Oasis lagoon. The applied additives would comply with NSF 60 Standards for drinking water treatment. This pulse-based disinfectant system would function to achieve consistent quality and avoid water contamination from external agents, such as swimmers.

Additionally, the Crystal Lagoons technology includes a filtration system, which is achieved by the addition of natural compounds. When the compounds are activated by ultrasonic waves directed into the water, they act as flocculants, causing contaminating particles to agglomerate into larger bodies that settle to the bottom of the water body. Afterwards, the bottom water flow is vacuumed using a patented bottom cleaning device and sent to a filtration system, where bottom water flow is filtered and then reintroduced into the water body. The water quality resulting from the use of Crystal Lagoons' technology complies with the bacteriological requirements for direct contact purposes (US EPA Criteria for Bathing with Full Body Contact Recreational Waters).

Although local operations staff would be trained by Crystal Lagoons® in the daily maintenance needs of the Grand Oasis lagoon related to manual cleaning, bottom cleaning, and filtration system processes, the Grand Oasis lagoon would be monitored, controlled, and operated by a cloud-based telemetry system linked directly to a specialized water quality group. Specially designed measuring systems and sensors continuously report specific physicochemical properties and other testing parameters through a telemetric software platform ensuring continuous and excellent water quality. The control calculators located on site interact with the software to direct the pumping systems, application of additives and the recirculation and injection systems. This makes active on-site management of water quality unnecessary. In the event that the cloud-based telemetry system fails or loses connection with the local injector system, the Grand Oasis lagoon's local additive system would continue to run automatically as programmed. Should the local system lose electric power and not have a backup generator in place, Crystal Lagoons® would provide instructions to local maintenance staff to ensure the appropriate additive dosage is maintained to keep the Grand Oasis lagoon at proper water quality levels.

California has assigned the responsibility to regulate public swimming facilities to the local county or city levels. The enforcing agencies that would evaluate the plans for the Grand Oasis lagoon prior to construction would be the City of Rancho Mirage Building and Safety Division and the Riverside County Department of Environmental Health. Additionally, the Riverside County Department of Environmental Health would provide routine inspections and investigations during operation of the Project to ensure safety and proper sanitation. Regulations that would apply to the Grand Oasis lagoon include management of surface drainage away from the Grand Oasis lagoon, provision of the required number of trained lifeguards, installation of emergency communication equipment, maintenance of water quality and clarity, and management of bathing capacity.

The proposed drainage of the Project Site would remain generally consistent with the natural drainage course of the existing site, largely draining from the north to the south. Grading for the Project Site would direct drainage around the Grand Oasis lagoon and would provide retention throughout the site. Project grading is designed to protect the physical improvements from a 100-year storm, as required by RMMC Title 13, regarding water and sewer. Per the RMMC, undeveloped properties of one gross acre or more in size and which are located northerly of the Whitewater River Channel shall, upon development, provide sufficient on-site stormwater retention for the volume of runoff resulting from a 100-year storm with a time duration which generates the maximum stormwater volume. Stormwater runoff and volume calculation, retention location and method of storage shall be performed to the satisfaction of the City Engineer.[7] Therefore, the Project's drainage design would collect, convey, and retain what occurs within the Project Site boundaries, and retention facilities would be constructed and sized to retain the worst-case flood volume from a 100-year storm event. A majority of the above ground retention areas located throughout the Project Site would be a maximum of 5 feet deep with slopes of five to one, unless erosion control methods are implemented, serving a dual purpose as a retention area and usable open space for residents. Subsurface retention may also be utilized to capture and infiltrate on-site runoff. Project runoff would be percolated on-site, contributing to groundwater recharge.

In addition to the RMMC Section 13.05.010, the Project shall also comply with RMMC Title 7, Chapter 7.03 (Stormwater Management and Discharge Control). Per RMMC Chapter 7.03 the Project would be required to comply with the applicable NPDES regulations, prohibited discharges, and retention requirements. The Project proponent would therefore be required to prepare and implement a Master Project-Specific WQMP that complies with the most current standards of the Whitewater River Region Water Quality Management Plan for Urban Runoff and the Whitewater River Watershed MS4 Permit (Order No. R7-2013-0011). The Master Project-Specific WQMP would apply to the entire Project Site with site design

7 City of Rancho Mirage Municipal Code Section 13.05.010.

and source control measures, including a required operation and maintenance program designed to address post-construction runoff quantity and quality. Future development of specific planning areas may be required to prepare and implement individual Final WQMPs.

The strategy of best management practices identified in a Project-Specific WQMP would be based on a comparative assessment of the potential Project pollutants that are generally known to be produced by the Project's proposed land uses with the known pollutants causing impairments on the receiving waters based on the most recent version of the Clean Water Act Section 303 List of Impaired Water Bodies. The receiving waters of the Project are the Whitewater River and Coachella Valley Storm Water Channel. The Whitewater River is not recognized as an impaired water body, but it drains directly into the Coachella Valley Storm Water Channel, which is impaired by multiple pollutants. The Coachella Valley Storm Water Channel is impaired by pathogens, toxaphene, dieldrin, DDT, and PCBs.

The Project Site is not anticipated to produce many of the listed toxins because they have been banned since at least 1990, including toxaphene, dieldrin, DDT, and PCBs. The Project may have the potential to generate small amounts of pathogens. These pollutants are generally associated with various human activities, but pathogens are also present in natural environments. Types and concentrations of pollutants typically found in urban runoff from residential development tend to be less adverse than other development projects, including restaurants, automotive repair shops, commercial/industrial development, and parking lots. To address the Project's pollutants of concern, the Project would incorporate site design measures that include infiltration BMPs, such as retention basins and/or subsurface facilities. As a result, polluted runoff does not leave the Project, preventing it from entering any downstream stormwater conveyance, including streams. Infiltration BMPs have an adequate pollutant removal effectiveness (medium to high) to address the potential pollutants of concern.

Subsurface retention facilities may be utilized as a method to capture and infiltrate on-site runoff. Subsurface retention facilities may vary in system type; one example is a system of perforated pipes which allow water to exit through small holes. The volume resulting from the on-site runoff would be percolated on-site, contributing to groundwater recharge.

The Project would be required to follow State, regional, and local regulations regarding on-site stormwater retention, so that surface waters and the groundwater aquifer are not contaminated with Project-related pollutants. With the enforcement of the above regulations, the Project would not violate any water quality standards or waste discharge requirements or degrade surface or groundwater quality during Project construction or during the life of the Project.

Threshold 5.9-2: Would the project result in substantially decreased groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Groundwater is the primary source of domestic water supply in the Coachella Valley. The City, including the Project Site, are underlain by the Whitewater River Subbasin, which forms part of the Coachella Valley groundwater basin. The Whitewater River Subbasin encompasses a major portion of the Coachella Valley floor and is shared and managed by CVWD, DWA, Myoma Dunes Mutual Water Company, and the cities of Indio and Coachella. The Project Site and City are within the service area of the CVWD, which is the largest provider of potable water in the Coachella Valley.

Local groundwater resources are managed under the 2015 adopted CVWD Urban Water Management Plan (2015 UWMP) Final Report, dated July 1, 2016. The 2015 UWMP serves as a planning tool that documents actions in support of long-term water resources planning and ensures adequate water supplies are available to meet the existing and future urban water demands. The 2015 UWMP indicates that the Coachella Valley groundwater basin historically has been in a state of overdraft. An overdraft condition occurs when the outflows (demands) exceed the inflows (supplies) to the groundwater basin over a period of time. To address this condition, the water management strategies have combined water conservation measures with groundwater replenishment facilities to stabilize the groundwater levels and eliminate the overdraft. Artificial replenishment, or recharge, is recognized by the water districts as one of the most effective methods available for preserving local groundwater supplies, reversing aquifer overdraft and meeting demand by domestic consumers. According to the CVWD, the CVWD and DWA groundwater replenishment program has percolated 650 billion gallons of water back into the aquifer to date.[8] Individual development projects can contribute to groundwater replenishment by retaining and infiltrating storm water runoff on-site. Local replenishment efforts have also been coupled with a reduction in demand through improved water efficiency use in homes, yards, gardens, and businesses.

The Project Site is currently characterized as vacant land with desert vegetation. The natural topography of the Project Site drains from the northeast to the southwest with the elevations ranging from 318.6 to 255 feet above sea level. In its current condition, the Project Site is pervious, with the primary soil type being Myoma fine sand 0 to 5 percent slopes (MaB), with the second most prevalent soil type being Myoma fine sand 5 to 15 percent slopes (MaD). Both soils have a hydrologic soil group of A, meaning that low runoff potential when thoroughly wet. Development of the Project Site would introduce impervious

8 Coachella Valley Water District, "Groundwater Replenishment & Imported Water," accessed May 2019, http://www.cvwd.org/162/Groundwater-Replenishment-Imported-Water.

surfaces including, concrete sidewalks, buildings, roadways, etc.; therefore, water would not percolate at the same rate as it has in its vacant state. Percolation of water into the groundwater aquifer would occur during Project operation when stormwater collects in the various proposed on-site retention facilities.

Currently the Project Site is not served with water lines. An existing water main is located north of the Project Site along Gerald Ford Drive. The Project proposes to connect to this water main at the following three separate intersections: Gerald Ford Drive and Bob Hope Drive, Gerald Ford Drive and Oasis Way, and Gerald Ford and Monterey Avenue. Project development would be designed with a network of 12-inch and 18-inch water mains within the interior private street system to convey domestic water to residences throughout the Project Site. See **Section 5.16: Utilities and Service Systems** of this Draft EIR for further discussion.

The Grand Oasis lagoon component of the Project includes an approximately 34-acre clear body of water, designed, constructed, and operated using Crystal Lagoons technology. This open space and recreational element will accommodate swimming, stand-up paddle boards, kayaks, and other small scale, non-motorized recreational watercraft. Access to the water will be limited to defined beach locations (designated swimming areas), initially including the public beach park at the Town Center and the resident's Beach Club.

The water source for the Grand Oasis lagoon would be provided by an on-site private well. Once filled, the Grand Oasis lagoon could feature lower water consumption with the use of evaporation control additives that may reduce evaporation rates from the water body. The water body operates in a closed circuit and requires only replacement of water lost due to evaporation. As described in **Section 3.0: Project Description**, Crystal Lagoons® technology uses additives, including a patented solution consisting of the application of controlled pulses of small amounts of oxidants/microbicides, such as chlorine, into the water in specific patterns and cycles. This technology works to maintain water quality and help control evaporation.

Development of the Project would include six public well sites placed throughout the Project Site. For system needs, CVWD would require dedication of public well sites to CVWD. In addition, at least one private well would provide water for the Grand Oasis lagoon. According to the Project design standards, the Project would comply with City water conservation requirements. Per the Project-specific guidelines, the Project would use graywater irrigation systems when available, stormwater runoff capture systems, and water conserving faucets and fixtures shall be included in all buildings. The Project design shall be compatible with CVWD's water efficiency and replenishment goals. According to the Water Supply Assessment/Water Supply Verification (WSA/WSV) prepared for the Project (see **Appendix K**), the

Project's overall water use is not expected to exceed 80 percent of CVWD's 2017 Maximum Applied Water Allowance (MAWA).

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 AFY in 2020 to 194,300 AFY in 2040. Therefore, the estimated Project demands (1,530.24 AFY) represent approximately 1.3 percent of the total water supply number (114,600 AFY) for 2020 and would represent 0.78 percent of the total water supply number (194,300 AFY) for 2035.

Although the aquifer has a sufficient amount of water to serve the Project, the City implements water conserving and water efficient technologies, especially for new development. The 2017 Rancho Mirage General Plan Update establishes goals, policies, and programs in order to conserve water resources. In particular, Policy COS 7.1 encourages the use of drought tolerant landscaping as a means of reducing water demand and Program COS 7.5C encourages the use of low flush toilets and low flow showerheads and faucet for the same purpose. The City has adopted a water-conserving landscape ordinance as required by State law, which requires that new landscape plans be designed to incorporate more native and locally compatible drought tolerant planting materials and efficient irrigation systems (Rancho Mirage Municipal Code 17.24). The Project would comply with these standards as a part of Project design.

As mentioned previously, the Project would be required to comply with the City's water conserving landscape ordinance. Per the Rancho Mirage Municipal Code 17.24.025, the City adopted CVWD's Model Water Efficient Landscape Ordinance which establishes landscape and irrigation system design criteria to ensure sustainable landscape design. This requires that new landscape plans be designed to incorporate more native and locally compatible drought tolerant planting materials and efficient irrigation systems.

With almost 30 million acre-feet 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. Further, the Project would implement or incorporate water conservation and efficiency methods as required by the City and CVWD. However, due to the Project's reliance on groundwater as a water source and the status of water as a precious resource, impacts related to the availability of groundwater supplies would be potentially significant. With the incorporation of Mitigation Measure **MM 5.9-1**, the Project Applicant shall pay groundwater replenishment fees to CVWD to offset

the Grand Oasis lagoon private well water usage. With regulatory compliance and incorporation of **MM 5.9-1**, impacts would be less than significant.

Threshold 5.9-3: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river through the addition of impervious surfaces, in a manner which would:

i) Result in substantial erosion or siltation on- or off-site?

Uses surrounding the Project Site include the Marriott's Shadow Ridge Resort and Golf Course to the east, residential neighborhoods to the north and south (with minor areas of office uses to the southeast), and the Annenberg Foundation's Sunnylands Estate, golf course, visitor center, and gardens ("Sunnylands") and commercial uses to the west. Scattered vacant lots of varying sizes interspersed with development also surround the Project Site to the north, southeast, south, and west. The Project Site is bound by paved roadways on all sides; Gerald Ford Drive to the north, Monterey Avenue to the east, Frank Sinatra Drive to the south, and Bob Hope Drive to the west. These surrounding roadways are paved and direct some stormwater flows into existing retention facilities, including two small on-site retention basins along Gerald Ford Drive and four curb inlets along Monterey Avenue. The Project Site does not currently create on- or off-site erosion or siltation due to the permeable and vegetated surface present on the site.

As stated previously, the Project Site is currently vacant with desert vegetation. The primary soil type on the site includes Myoma fine sand 0 to 5 percent slopes (MaB), with the second most prevalent soil type being Myoma fine sand 5 to 15 percent slopes (MaD). Both soils have a hydrologic soil group of A, meaning that they contain low runoff potential when thoroughly wet. These soil types allow the water to percolate and recharge the aquifer and do not lead to significant on- or off-site erosion or siltation.

The Project proposes the development of a mixed-use, master-planned community on the approximately 618-acre vacant lot. The Project would introduce impervious surfaces including, concrete sidewalks, buildings, roadways, etc., therefore, water will not percolate at the same rate as it does in its vacant state. Project construction and operation would control potential erosion or siltation on- or off-site by adhering to the established water quality and stormwater regulations under the regulatory framework of the NPDES under the Clean Water Act during construction and during the life of the Project.

The containment and control of any potential construction-related erosion and sedimentation would be mitigated through the implementation of the BMPs identified for the Project in the required SWPPP. The SWPPP is applicable to project sites greater than 1 acre in size and is a required plan that would be submitted to the SWRCB. To ensure proper implementation, the SWPPP may only be developed by a

Qualified SWPPP Developer (QSD) and implemented under the responsible charge of a Qualified SWPPP Practitioner (QSP). The purpose of the SWPPP would be to implement BMPs during Project development to ensure that the runoff or contamination potential does not occur by construction activities; however, the plan would also call out BMPs to mitigate erosion and soils entering the storm drain system. These BMPs include, but are not limited to, storm drain inlet protection, concrete washout bins, covering trash enclosures, using secondary containment, and storing materials properly. These BMP examples are used to ensure that construction activities do not pollute the stormwater runoff. The implementation of the SWPPP would reduce the impacts of waterborne and human-related erosion during Project development. Individual SWPPPs would be required for each phase of construction.

Windborne and human-related erosion would be mitigated during construction activities with the implementation of a Fugitive Dust Control Plan, otherwise referred to as the Local Air Quality Management Plan (LAQMP). The release of fugitive dust during wind events and construction activities may impact water quality by siltation or sedimentation. To prevent water quality impacts that may result in fugitive dust, the Project-Specific LAQMP would comply with the regulations of the South Coast Air Quality Management District's (SCAQMD), which include additional BMPs and maintenance. Some BMPs to reduce fugitive dust include, but are not limited to, watering the Project Site, applying a chemical dust suppressant, using wind fencing around the perimeter of a project, and street sweeping. Mitigating fugitive dust on the Project Site would ensure that siltation and erosion does not occur during Project construction. Individual LAQMPs would be required for each phase of construction.

The development of the Project would require the construction of on-site stormwater facilities designed in accordance with the Municipal Separate Storm Sewer System (MS4) within the Whitewater River Watershed (Order No. R7-2013-0011 and NPDES No. CAS617002). Project improvement Plans would include the review and approval of a Final WQMP. The source control, site design, and treatment control BMPs required for the Project would ensure that the proximate receiving waters (Whitewater River and Coachella Valley Stormwater Channel), are not adversely impacted by Project-related erosion.

The Project proposes hardscaped and landscaped areas. These areas would mitigate potential erosion created by the Project Site by stabilizing the surface with grass, turf, decomposed granite, trees and shrubs. Approximately 61 acres of the Project Site would be designated for open space, providing integrated publicly accessible plazas/greenspaces, private parks, paseo corridors, and joint use retention/recreation facilities. The development of the proposed buildings, as well as the paved and concrete surfaces, would also decrease the amount of exposed soil located on-site; therefore, decreasing the exposed soil that may cause fugitive dust.

With the implementation of the SWPPP, LAQMP, and the Project-Specific WQMP, the Project is not anticipated to result in substantial on- and off-site erosion or siltation. Impacts would be less than significant.

ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; or

iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

As previously stated, surrounding uses include the Marriott's Shadow Ridge Resort and Golf Course to the east, residential neighborhoods to the north and south (with minor areas of office uses to the southeast), and Sunnylands and commercial uses to the west. Scattered vacant lots of varying sizes also surround the Project Site. Paved roadways with associated improvements (i.e. curb and gutter) border the Project Site's northern, eastern, southern, and western boundaries. These roads handle most offsite stormwater flows.

The Project Site, in its current condition, is vacant with desert vegetation. The site is covered in sandy soils that are pervious and allow stormwater to percolate on site. The vegetative cover on the Project Site slows the rate of water that may sheet flow during a rain event.

Development in the City, according to the 2017 Rancho Mirage General Plan Update, will increase runoff by creating large areas of impervious surfaces. This increase of runoff can attribute to increased runoff downstream. The Project would enable the development of residential, non-residential, and open space land uses. Project implementation would increase the amount of surface runoff due to the increased impervious area; however, retention facilities throughout the Project Site are designed to have sufficient storage to retain the flood volume from a 100-year storm event, thus meeting the hydrologic requirement established by the City.

Project runoff storage volumes were estimated using the conceptual land use planning areas proposed for the Project. For the Town Center Planning Area (Town Center), a 90 percent impervious cover was assumed. Planning Area 1 (PA 1) was assumed to have a 50 percent pervious cover, which includes the self-contained Grand Oasis lagoon. Planning Area 2 and 3 (PA 2 and PA 3) were assumed a 65 percent pervious cover, including the proposed streets. The estimated design capture volumes for water quality purposes are shown in **Table 5.9-1: Project Storage Volumes**, below.

Surface runoff, according to the Project's Drainage Plan, would not deviate excessively from the Project Site's natural drainage course, generally flowing from north to south. The surface flow would drain from the various high points on the Project Site and continue south to the various on-site retention facilities. Most aboveground retention areas on site would be a maximum of 5 feet deep with slopes of five to one

unless erosion control methods are implemented, making the basins usable recreation areas and open space for future residents. Some subsurface drainage may be required based on future final design of Planning Areas.

Table 5.9-1
Project Storage Volumes

Town Center – MU Core	
Project Tributary Area	79.8 Acres
Impervious Area within Project	71.82 Acres
Impervious Area Ratio	0.9
Runoff Coefficient	0.73
Design Storage Volume (VBMP)	84,005 CF
Total Storage Provided	TBD by Hydrology
PA 1 – Residential	
Project Tributary Area	231.5 Acres
Impervious Area within Project	115.75 Acres
Impervious Area Ratio	0.5
Runoff Coefficient	0.34
Design Storage Volume (VBMP)	117,648 CF
Total Storage Provided	TBD by Hydrology
PA 2 – Residential	
Project Tributary Area	145.8 Acres
Impervious Area within Project	94.77 Acres
Impervious Area Ratio	0.65
Runoff Coefficient	0.45
Design Storage Volume (VBMP)	95,266 CF
Total Storage Provided	TBD by Hydrology
PA 3 – Residential	
Project Tributary Area	160.9 Acres
Impervious Area within Project	104.59 Acres
Impervious Area Ratio	0.65
Runoff Coefficient	0.45
Design Storage Volume (VBMP)	105,132 CF
Total Storage Provided	TBD by Hydrology

As previously discussed, the proposed development reduces its potential to impact surface water quality by adhering to the established water quality and stormwater regulations under the regulatory framework

of the NPDES under the CWA during construction and throughout the life of the Project. This is accomplished through implementation of the SWPPP during construction of the Project, and the Project-Specific WQMP during the life of the Project. Through this required compliance, the Project would prevent adverse impacts to the local receiving waters and avoid Project violations to the established water quality standards and waste discharge requirements.

With the proposed improvements, the Project is not expected to create or contribute to stormwater runoff volumes, which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. Impacts would be less than significant.

iv. Result in the redirection of flood flows?

The regional topography of the Coachella Valley naturally drains from the northwest to the southeast, eventually draining to the Salton Sea. The Project Site similarly drains from the northern to the southern side of the site. The Project Site is currently vacant with scattered vegetation. The northern, eastern, southern, and western Project Site boundaries are met by Gerald Ford Drive, Monterey Avenue, Frank Sinatra Drive, and Bob Hope Drive, respectively. These roadways are paved with curb and gutter improvements. The Project Site is surrounded by existing development and fully improved roadways that intercept and control most offsite storm flows except for volumes that enter the aforementioned existing on-site basins that accept flows from adjacent roadways. Upon implementation of the Project, the Project Site would continue to accept these flows, but these basins and inlets would be functionally replaced by the proposed drainage system.

The FEMA FIRMs serve as the basis for identifying potential hazards and determining the need for and availability of federal flood insurance. The proposed area is covered by FIRM Panel Numbers 06065C1595G, revised August 28, 2008, which indicates the Project area lies within Zone X defined as "areas determined to be outside the 0.2 percent annual chance flood. Insurance purchase is not required in these zones."

The Project proposes the development of a mixed-use, master-planned community with residential, non-residential, and open space uses. As a requirement of RMMC Title 13 (Water and Sewer) Chapter 13.05.010, undeveloped properties of one gross acre or more in size and which are located north of the Whitewater River Channel (including the Project Site), must provide sufficient on-site stormwater retention upon development for the volume of runoff resulting from a 100-year storm with a time duration which generates the maximum stormwater volume. Stormwater runoff and volume calculation, retention location, and method of storage shall be performed to the satisfaction of the City Engineer. Retention facilities throughout the Project Site would ensure that the site would collect, convey, and retain the on-site stormwater. Drainage flow on the Project Site would generally maintain its natural

drainage course from the northern site boundary to the southern site boundary, and into the proposed on-site retention area.

Since the Project Site is currently surrounded by developed land, including off-site stormwater improvements, the Project is not anticipated to result in the redirection of flood flows. All required on-site stormwater runoff would be collected within the Project boundaries in compliance with the RMMC. Impacts would be less than significant.

Threshold 5.9-4: Would the project, in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

As discussed throughout this Draft EIR, the Project proposes the development of approximately 618 acres of vacant land, and would include residential and non-residential uses, as well as an approximately 34-acre Grand Oasis lagoon. The Grand Oasis lagoon would be 12 feet deep and accommodate swimming, stand-up paddle boards, kayaks and other small-scale, non-motorized recreational watercraft. Access to the water would be limited to defined beach locations and designated swimming areas, initially including the public beach park at the Town Center and the resident's Beach Club.

The Grand Oasis lagoon would function using Crystal Lagoons technology, which utilizes a patented solution consisting of the application of controlled pulses of small amounts of oxidants/microbicides, such as chlorine, into the water in specific patterns and cycles to maintain water quality. The application cycles are determined by the system's algorithms according to the growth cycles of algae and bacteria as well as ambient conditions and the weather. This avoids the need for maintaining a significant residual chemical level in the water. The application of additives is coordinated remotely by sensors and injectors/nozzles strategically located throughout the water body. The applied additives comply with NSF 60 Standards for drinking water treatment. This pulse-based system adds disinfectants to the water to achieve consistent quality and avoid water contamination from external agents, such as swimmers.

Additionally, the Crystal Lagoons technology includes a filtration system, which is achieved by the addition of natural compounds into the water. When the compounds are activated by ultrasonic waves directed into the water, they act as flocculants, causing contaminating particles to agglomerate into larger masses that settle to the bottom of the water body. Afterwards, the bottom water flow is vacuumed using a patented bottom cleaning device and sent to a filtration system, where bottom water flow is filtered and then reintroduced into the water body. The water quality resulting from the use of Crystal Lagoons technology would be required to comply with the bacteriological requirements for direct contact purposes (US EPA Criteria for Bathing with Full Body Contact Recreational Waters).

The Grand Oasis lagoon would be monitored, controlled, and operated by a cloud-based telemetry system linked directly to water quality management specialists. Specially designed measuring systems and sensors continuously report specific physicochemical properties and other testing parameters through a telemetric software platform ensuring high water quality. The control actuators located on site interact with the software to direct the pumping systems, application of additives and the recirculation and injection systems. This minimizes on-site management of water quality.

California has assigned the responsibility to regulate public swimming facilities to local County or City Environmental Health Departments, and in this instance, the enforcing agency that would evaluate the plans for the Grand Oasis lagoon prior to construction would be the Riverside County Environmental Health Department and City of Rancho Mirage Building and Safety Division. As described in Mitigation Measure **MM 5.8-1**, provided in **Section 5.8: Hazards and Hazardous Materials** of this Draft EIR, the Project Applicant would be required to submit an operations manual to the Riverside County Department of Environmental Health for review and approval to ensure safety of the Grand Oasis lagoon. Components and procedures for the handling of the Grand Oasis lagoon shall include management of surface drainage away from the Grand Oasis lagoon, provision of the required number of trained lifeguards, installation of emergency communication equipment, maintenance of water quality and clarity, and management of bathing capacity. Further, design and construction of the Project, including the Grand Oasis lagoon component, would be subject to review and approval by the City's Building and Safety Division.

As mentioned previously, the Project Site is not within a FEMA flood hazard zone. The Grand Oasis lagoon would have the potential to accept some direct rainwater; however, it would not function as a retention area during storm events. The stormwater retention facilities would be designed to retain what occurs within the Project Site boundaries. Most aboveground retention areas on site would be a maximum of 5 feet deep with slopes of five to one unless erosion control methods are implemented, making the basins usable recreation areas and open space for future residents. Subsurface systems may be utilized where necessary. Retention areas would be constructed and sized to retain the worst-case flood volume from a 100-year storm event per the hydrologic requirements established by the City. Accordingly, the Project Site is not anticipated to release pollutants due to Project inundation.

The Project's retention facilities would have sufficient storage to retain the flood volume from a 100-year storm event. Additionally, design and construction of the Project, including the Grand Oasis lagoon component, would be subject to regulatory review and approval by the City's Building and Safety Division and operation would be maintained by Crystal Lagoons technology.

Tsunamis are large ocean waves caused by the sudden water displacement that results from an underwater earthquake, landslide, or volcanic eruption that affect low-lying areas along the coastline. The

Project Site is located more than 70 miles east of the Pacific Ocean and is not within a designated tsunami inundation area. Seiches are oscillations generated in enclosed bodies of water, usually as a result of earthquake-related ground shaking. The Project Site is not located near any enclosed body of water and is not subject to inundation by seiche. However, as discussed in **Section 5.6: Geology and Soils**, the Project Site is in a seismically active area and is subject to some level of ground shaking as a result of movement along the major active (and potentially active) fault zones that characterize this region. The Project Site would most likely experience background shaking or potentially moderate to occasionally high ground shaking from faults in the region. However, as identified in **Section 5.6**, the incorporation of Mitigation Measures **MM 5.6-1** through **MM 5.6-4** would reduce impacts related to seismic activity to less than significant levels.

Additionally, as identified in Mitigation Measure **MM 5.9-2** below, the Project's 34-acre Grand Oasis lagoon would be designed with sufficient freeboard to avoid and minimize risk from a seiche condition that may result from seismic activity. Further, the Project would be required to comply with Mitigation Measure **MM 5.8-1** identified above to ensure the Grand Oasis lagoon would be designed, constructed, and maintained to the satisfaction of County requirements. As stated throughout this section, the Project would be required to comply with all applicable City, regional, State, and federal regulations regarding water quality and potential pollutant release during Project construction and operation. With regulatory compliance and incorporation of Mitigation Measure **MM 5.9-2**, impacts would be less than significant.

Threshold 5.9-5: Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

The groundwater management and the conservation of groundwater is a priority for the City. Effective future stormwater management would also help protect groundwater and preserve capacity in stormwater facilities.

On September 16, 2014, Governor Edmund G. Brown Jr. Signed a three-bill package known as the Sustainable Groundwater Management Act (SGMA). The legislation allows local agencies to customize groundwater sustainability plans to their regional economic and environmental needs. The three bills that make up SGMA are AB 1739, SB 1319 and SB 1668. The SGMA provides for sustainable management of groundwater basins; enhances local management of groundwater consistent with rights to use or store groundwater; establishes minimum standards for effective; continuous management of groundwater; provides local groundwater agencies with the authority; technical and financial assistance needed to maintain groundwater supplies; avoids or minimizes impacts for land subsidence; improves data collection and understanding of groundwater resources and management; increases groundwater storage

and removes impediments to recharge; and empowers local agencies to manage groundwater basins, while minimizing State intervention.

The SGMA allows agencies, a combination of local agencies, or counties to establish a Groundwater Sustainability Agency (GSA), who is responsible for developing and implementing a groundwater sustainability plan (GSP). The GSP considers all beneficial uses and users of groundwater in the basin and create measurable objectives and interim milestones that ensure basin sustainability. CVWD submitted their 2010 Coachella Valley Water Management Plan Update as an alternative to preparing a separate GSP for the Coachella Valley.

The 2010 CVWD Water Management Plan Update was established with the purpose to address the state of overdraft in the Coachella Valley groundwater basin and reduce potentially significant adverse effects of overdraft which include groundwater storage reduction, decline in groundwater levels, land subsidence, and degradation in groundwater quality. CVWD and DWA manage groundwater in the Coachella Valley under legal authority established in the California Water Code (CVWD – Water Code Section 31630-31639; DWA—Water Code Appendix Chapter 100). The 2010 CVWMP outlines five major elements that assist in alleviating groundwater use and groundwater overdraft. These elements include water conservation (urban, golf course, and agricultural), increasing surface water supplies for the Valley from outside sources, substitution of surface water supplies for groundwater (source substitution), groundwater recharge, and monitoring and evaluation of subsidence and groundwater levels and quality to provide the information needed to manage the Valley's groundwater resources.

The Project proposes the development of 618 acres of vacant land in the City. The Project would include a variety of residential and non-residential uses and would connect to existing public water lines. Project implementation would also include the development of six on-site wells. One well would be private and serve the 34-acre Grand Oasis lagoon, in which water usage would be offset by payment of groundwater replenishment fees. According to the WSA/WSV prepared for the Project, Project-related water usage is not expected to exceed 80 percent of the 2017 MAWA guidelines imposed by CVWD.

Project-specific water conservation measures were established to ensure that efficient water practices would be implemented on the Project Site. Some of these conservation measures include the following:

- 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.

- In the event recycled water becomes available to the Project, the potential use of tertiary treated water would be reviewed to determine feasibility of its use for on-site landscaped areas to reduce the use of groundwater for irrigation.
- The installation and maintenance of efficient on-site irrigation systems would 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.
- 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.

Additionally, as outlined in Mitigation Measure **MM 5.9-1**, the Project Applicant shall pay groundwater replenishment fees to CVWD to offset the Grand Oasis lagoon private well water usage. Further, as discussed previously, the Project would comply with all applicable federal, State, regional, and City water quality control plans. With regulatory compliance and implementation of mitigation, the Project would not obstruct a water quality control plan or groundwater management plan. Impacts would be less than significant.

5. Cumulative Impacts

The cumulative impact analysis in this Draft EIR considers related development projects in the area. The Colorado River Basin RWQCB has issued a MS4 permit for stormwater discharges. The County, CVWD, and other co-permittees have prepared a stormwater management program addressing requirements for meeting this MS4 permit. The County reviews all plans and developments for compliance with existing ordinances (e.g., grading ordinance) and stormwater management program requirements.

With regard to water quality, the related projects would be required to comply with the NPDES General Construction Permit, including the implementation of a site-specific SWPPP, to prevent polluted runoff from entering local stormwater drainage systems during construction activities. Additionally, each related project would be subject to NPDES requirements after buildout and applicable municipal code requirements such as Stormwater Drainage System Protection Regulations, of the Riverside County Municipal Code.[9] As each related project would be required to comply with NPDES requirements and local regulations designed to prevent polluted runoff from entering local storm drain systems and receiving water bodies during construction and after buildout, the cumulative impact to water quality would be less than significant. Further, as compliance with NPDES and local municipal code requirements would prevent

9 Riverside County, Municipal Code, Section 13.12, Stormwater Drainage System Protection Regulations.

substantial erosion and siltation, the cumulative impact related to erosion and siltation would also be less than significant.

With regard to flooding and storm drain capacity, the related projects would be required to adequately convey stormwater runoff such that flooding does not occur. Projects within Riverside County are subject to the Riverside County Municipal Code, which includes several regulations pertaining to flood control facilities within new development projects.[10] These regulations require that proposed drainage facilities be designed to convey flows associated with a 100-year storm event. Similarly, the Project is designed to convey flows associated with a 100-year event. Compliance by the related projects with applicable municipal code requirements, CVWD regulations, and California Drainage Law would result in less than significant cumulative impacts.

Section 5.16.1: Water Service and Supply of this Draft EIR includes a detailed analysis of the water demand associated with the related projects and the effect on groundwater supply and recharge. As discussed, the Project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.

Groundwater supply and aquifer overdraft are currently being assessed and management plans implemented by CVWD to minimize impacts with increased development on groundwater supplies. Over the next 20 years, groundwater extraction is expected to decrease slightly as groundwater basin management activities are executed and sustainable levels of pumping are achieved. Increased future demands are expected to be met with imported water from the Colorado River and State Water Project, and groundwater management activities are expected to maintain groundwater levels and safe yields. These groundwater management activities will ensure that groundwater supplies are not depleted or degraded. Therefore, the cumulative impacts would be less than significant.

Development projects, including commercial, industrial, and residential, individually and cumulatively will create more impervious surfaces thus reducing the total groundwater recharge area. However, projects located within the local watershed also have the possibility of adding to the Indio groundwater subbasin through the addition of imported and/or recycled water. The water used for irrigation could offset the difference in the reduction of groundwater recharge area to rainfall-related recharge that occurs today. Accordingly, the cumulative impact would be less than significant.

10 Riverside County, Municipal Code, Section 16.36.100, Tract Drainage.

C. MITIGATION MEASURES

Implementation of Mitigation Measure **MM 5.8-1**, provided in **Section 5.8: Hazards and Hazardous Materials** of this Draft EIR, would require the Project Applicant to submit an operations manual to the Riverside County Department of Environmental Health for review and approval to ensure safety of the Grand Oasis lagoon. Components and procedures for the handling of the Grand Oasis lagoon shall include management of surface drainage away from the Grand Oasis lagoon, provision of the required number of trained lifeguards, installation of emergency communication equipment, maintenance of water quality and clarity, and management of bathing capacity. Additionally, implementation of Mitigation Measures **MM 5.6-1** through **MM 5.6-4** identified in **Section 5.6: Geology and Soils**, would reduce potential seismic impacts related to geology and soil conditions to less than significant levels and reduce impacts related to Threshold 5.9-4, discussed above.

In addition to Mitigation Measures **MM 5.8-1**, **MM 5.6-1** through **MM 5.6-4,** and the Project Design Features identified in *Chapter B.3* above, the following Mitigation Measures would reduce hydrology and water quality impacts:

MM 5.9-1: The Project shall pay groundwater replenishment fees to CVWD to offset the Grand Oasis lagoon private well water usage.

MM 5.9-2: The Project's 34-acre Grand Oasis lagoon shall be designed with sufficient freeboard to avoid and minimize risk from a seiche condition that may result from seismic activity.

D. LEVEL OF SIGNIFICANCE AFTER MITIGATION

Following implementation of the Project, mitigation measures discussed in this section and throughout this document, the approximately 618-acre Project is expected to result in less than significant impacts related to hydrology and water quality.

Since the Project would comply with all relevant State and County standards and regulations, it is determined that neither the Project's incremental contribution nor the cumulative effect of water quality impact would be significant. The development of on-site wells, as well as on-site water usage will be offset by a payment of groundwater replenishment fees to CVWD.

Although the Project would create additional impervious surfaces, the proposed retention area improvements would prevent any contribution of urban runoff up to the 100-year rain event. Therefore, cumulative impacts would be less than significant.