# 4.16 | WATER SUPPLY + WASTEWATER

## INTRODUCTION

As set forth in Section 3.0 above, the proposed project is the General Plan 2035 for the City of Coachella. The General Plan Update is a long-term development plan for the City and its Sphere of Influence, such that the proposed project will serve as the primary guiding document for the physical development of the City over the next 20 to 25 years. The General Plan Update is essentially the City's blueprint and is comprised of goals, policies and actions that will provide the City's decision makers with a foundation for making future decisions related to land use, development, economic development, community wellbeing and related topics.

This Section is presented in four main sections: First, the regulatory setting is described in terms of laws, regulations and policies that are relevant to the water resources that will be used to serve the proposed project. Second, the existing environmental setting is analyzed in terms of current and projected water supplies and demands of the City and surrounding areas, along with a description of the many water supply programs and projects identified in local and regional planning documents to ensure a sufficient and reliable water supply throughout the City and its Sphere of Influence for the next 20-year projection and beyond. Third, information and analyses are provided regarding the major sources of current and projected water supplies available to serve the proposed project, and the various factors having the potential to affect those supplies over the near, intermediate and long term horizons. Thereafter, a detailed analysis is provided to address the potential environmental impacts of the proposed project on water resources in relation to applicable thresholds of significance and related legal standards.

Consistent with other Sections of the Draft EIR, this Section provides a programmatic level of review under CEQA that is suitable to the broad and long-term planning nature of the proposed General Plan Update. Moreover, and as further explained in the regulatory setting below, because no specific development or land use entitlements are proposed as part of the project, the Water Supply Assessment requirements of Water Code § 10910 et seq. (Senate Bill 610) and the Written Verification requirements of Government Code § 66473.7 (Senate Bill 221) do not apply to this analysis.

In accordance with California Government Code section 65302.2 and related provisions, the water supply analysis for the proposed project has been prepared by utilizing and relying in part upon the water supply and demand information contained in the most recently adopted regional

and local Urban Water Management Plans prepared by the Coachella Water Authority (CWA) and the Coachella Valley Water District (CVWD). In addition, the information, analyses and conclusions contained herein are based upon and rely in part on the information, analyses and conclusions set forth in other water supply planning documents, including but not limited to, the 2010 Coachella Valley Integrated Regional Water Management Plan, CVWD's 2010 Coachella Valley Water Management Plan Update (2010 CVWMP), the 2011 Subsequent Programmatic Environmental Impact Report for the 2010 CVWMP (2011 SPEIR), the California Department of Water Resources 2013 Draft State Water Project Delivery Reliability Report (DWR 2013 Draft Report), the Metropolitan Water District of Southern California 2010 Regional Urban Water Management Plan (MWD 2010 RUWMP), and the Metropolitan Water District of Southern California 2010 Integrated Resources Plan.[1]

As set forth in greater detail below, the City and CVWD maintain and carefully manage a diversified water supply portfolio to ensure long-term water supply sufficiency and reliability throughout the City and its Sphere of Influence. The water supply and demand analyses undertaken as part of the City's 2010 UWMP, CVWD's 2010 UWMP, CVWD's 2010 CVWMP Update, and CVWD's 2011 SPEIR are the best available information for use in preparing the water supply analysis for the proposed project, as those UWMPs and other water supply analyses are the most recently prepared water supply planning documents adopted pursuant to the requirements of the Urban Water Management Planning Act (Water Code § 10610 et seq.), the Water Conservation Act of 2009 (Water Code § 10608 et seq.) and CEQA. The information and analyses utilized herein are based on 20-year projections and beyond (in some cases through the year 2045), and specifically account for normal, single-dry and multiple-dry year periods throughout the planning horizon. Indeed, the water supply planning documents utilized in preparing this analysis fully recognize that California will experience variable hydrologic conditions, including multi-dry year periods, and they account for that variability in the projected supply forecasts. As detailed in later portions of this Section, the supporting water supply planning analyses and documentation also include specific responses to potential water supply reductions, ranging from water supply allocation plans, to ordinances that impose indoor and outdoor water budgets, tiered-rate structures, landscape and agricultural efficiencies, and other measures to achieve extraordinary conservation. These types of measures manage demand during dry periods while specifically allowing for forecasted growth to occur. As shown herein, the water demands associated with proposed project are part of demands that have been forecasted and accounted for by the applicable local and regional water supply agencies, namely the City and CVWD.

The end result of this Section is a comprehensive, robust and candid evaluation which ensures that the City's decision-makers have all of the necessary, current and relevant information at hand to understand the potential water resource-related consequences of their decisions and to

1 Copies of these documents are made part of the record in support of this analysis and are incorporated and included herein as Appendix 11.6.

provide a framework for implementing programmatic measures, if necessary, to reduce potential environmental impacts to water resources that may be associated with the proposed project in accordance with applicable CEQA standards.

# WATER EXISTING CONDITIONS

## REGULATORY FRAMEWORK

### Federal Laws, Regulations and Policies.

As further set forth in this Section and other Sections of the Draft EIR, the federal Endangered Species Act (ESA), the federal Clean Water Act (CWA) and other federal laws can have direct and indirect impacts on water resource issues in California. For example, Colorado River supplies that are available to the Coachella Valley are governed in part by federal laws, regulations and policies (see discussion below), but those laws do not apply directly to the City of Coachella as the retail water provider for the proposed project. Similarly, State Water Project supplies that are available to the Valley via exchange agreements with the Metropolitan Water District of Southern California (see discussion below) are subject to the ESA, but those requirements apply at the permitting level administered by the California Department of Water Resources (DWR), and do not apply directly to the City or CVWD. Accordingly, the discussion of regulatory setting for purposes of this Section focuses primarily on State law requirements.

### Federal Safe Drinking Water Act (42 U.S.C Section 300f et seq.).

The Federal Safe Drinking Water Act (SDWA) is intended to protect public health by regulating the nation's public drinking water supply. The SDWA authorizes the United States Environmental Protection Agency (EPA) to set national standards for drinking water supplied by public water systems to protect against both naturally occurring and human-made contaminants. These National Primary Drinking Water Regulations set enforceable maximum contaminant levels for particular contaminants in drinking water or required ways to treat water to remove contaminants. Each standard also includes requirements for water systems to test for contaminants in the water to make sure standards are achieved. National Secondary Drinking Water Regulations are non-enforceable guidelines regulating contaminants that may cause cosmetic effects (such as skin or tooth discoloration) or aesthetic effects (such as taste, odor, or color) in drinking water. The EPA recommends secondary standards to water systems, but does not require systems to comply. The most direct oversight of water systems is conducted by State drinking water programs. States can apply to the EPA for "primacy" authority to implement the SDWA within their jurisdictions. California has received primacy authority, and the California Department of Public Health (CDPH) has the primary responsibility for implementing the SDWA and related California drinking water laws and regulations. Title 22 of the California Code of Regulations (CCR Division 4, Chapter 15, Domestic Water Quality and Monitoring Regulations) provides the regulatory requirements for potable water quality in California.

## STATE LAWS, REGULATIONS AND POLICIES

### General Planning Law (Cal. Government Code Section 65302 et seq.).

California's general planning law includes several provisions which show a key relationship between the general planning process and information developed by local water supply agencies, particularly Urban Water Management Plans (UWMPs). For instance, Government Code Section 65352 provides that prior to action by a city or county to adopt or substantially amend its general plan, the agency must refer the proposed action to various local entities, including public water systems that serve water to customers within the area covered by the proposed general plan action. (Govt. Code § 65352(a)(7).) Section 65352.5 requires public water systems that receive notification of a proposed general plan action under Section 65352 must provide the city or county with specific information regarding projected water supplies and demands. In particular, Section 65352.5 directs water agencies to provide copies of their current UWMPs and capital improvement plans. (Govt. Code § 65352.5(c).) Similarly, Section 65302.2 provides that, when adopting or revising its general plan, a city or county must utilize as a source document any UWMP that is submitted to it by a water agency. (Govt. Code § 65302.2.)

### Urban Water Management Planning Act (Cal. Water Code Section 10610 – 10656).

The Urban Water Management Planning Act, Water Code section 10610 et seq. (UWMP Act), is "intended to provide assistance to water agencies in carrying out their long-term resource planning responsibilities to ensure adequate water supplies to meet existing and future demands for water." (Water Code § 10610.2(b).) The UWMP Act requires every "urban water supplier" to prepare and adopt an updated UWMP at least once every five years by December 31st in years ending in five and zero. For purposes of the UWMP Act, an "urban water supplier" is defined as "a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually." (Water Code § 10617.) Pursuant to the Water Conservation Act of 2009 (as further discussed below), the time for urban water suppliers to prepare and adopt their 2010 UWMPs was extended to July 1, 2011.

An UWMP must address, among other things, projected water use, the reliability of water supply sources, the potential for using reclaimed water and desalinated water, water shortage contingency planning, comparisons of supply and demand, and water conservation efforts. (See Water Code §§ 10631-10635.) Specifically, the UWMP Act requires urban water suppliers to document water supplies available during normal, single-dry, and multiple-dry water years in five-year increments over a 20-year period or more, and the existing and projected future water demands associated with forecasted population increases throughout the water provider's service territory over the same minimum 20-year period. (Water Code § 10631(a)-(e).) An UWMP must describe the service area of the supplier, including current and projected population, climate, and other demographic factors affecting the supplier's water management planning. (Water Code § 10631(a).) The UWMP must quantify past and current water use, over 5-year increments, and projected water use, identifying the uses among various water use sectors, including single-family residential, multifamily, commercial, industrial, institutional and

governmental, landscape, sales to other agencies, seawater intrusion barriers, groundwater recharge, conjunctive use, or any combination thereof, and agricultural. (Water Code § 10631(e)(1).) An UWMP must also describe the reliability of the water supply and its vulnerability to seasonal and climatic shortage, and provide data, to the extent practicable, for average, single-dry, and multiple-dry water years. (Water Code § 10631(c)(1).) Notably, Section 10631(k) of the UWMP Act allows agencies to "rely" on information and analyses provided by wholesale water agencies regarding the availability and reliability of water supplies during normal, single-dry and multiple-dry year periods over the 20-year planning horizon.

Given the level of detail and information required in an UWMP, these documents can significantly reduce the burden of preparing a water supply analysis for purposes of CEQA. (Vineyard Area Citizens for Responsible Growth v. City of Rancho Cordova (2007) 40 Cal.4th 412, 434.) As indicated above, the UWMP Act requires urban water suppliers to prepare and adopt an updated UWMP at least once every five years. Both the City and CVWD have adopted their most recent UWMPs in 2011, and those UWMPs along with other current water supply planning analyses have been utilized in preparing this Section. Accordingly, and particularly for purposes of Government Code section 65302 et seq. above (i.e., instructing the City to use the most recently adopted UWMPs as source documents when adopting or revising a general plan), the water supply analyses contained in this Section are based on the best and most current information available regarding long-term water supply sufficiency in the areas affected by the proposed Project.

**Water Conservation Act of 2009 (Cal. Water Code Sections 10608 – 10608.64).**

The Water Conservation Act of 2009 (often referred to as "SBx7-7" or the "20% by 2020 law") establishes the goal of achieving a 20 percent reduction in statewide urban per capita water use by December 31, 2020, and the interim goal of achieving a 15 percent reduction by 2015. In an effort to achieve those goals, SBx7-7 requires urban retail water suppliers to develop technical information (e.g., baseline daily per capita water use, water use targets, and interim water use targets) and to report that information in their UWMPs. As further discussed below, two of the primary calculations required by SBx7-7 are Base Daily Per Capita Water Use (average gallons per capita per day [gpcd] used in prior years), and Compliance Water Use Targets (gpcd targets for 2015 and 2020). The Base Daily Per Capita Water Use calculation is based on gross water use by an agency in each year and can be based on a 10-year average ending no earlier than 2004 and no later than 2010, or on a 15-year average if 10 percent of the agency's 2008 municipal demand was met by recycled water. Using this Base Daily Per Capita Water Use figure, an urban retail water supplier must then determine its urban water use target for 2020 and its interim water use target for 2015, both in terms of "gpcd." Section 10608.20(b) of SBx7-7 establishes four alternative methods for calculating the Compliance Water Use Targets. Generally, the alternative methods are: (1) 80 percent of Base Daily Per Capita Water Use; (2) adherence to certain water use performance standards; (3) 95 percent of the applicable State hydrologic region target as set forth in the State's draft 20 by 2020 Water Conservation Plan; or (4) the provisional target method and procedures developed

by the Department of Water Resources pursuant to SBx7-7.[2] Importantly, per capita reductions under SBx7-7 can be accomplished through any combination of increased water conservation, improved water use efficiency, and increased use of recycled water to offset potable demands. Potable demand offsets can occur through direct reuse of recycled water, such as for irrigation, or indirect potable reuse through groundwater recharge and reservoir augmentation. SBx7-7 provides additional flexibility by allowing compliance on an individual agency basis or through collaboration with other agencies in a region. The City of Coachella's compliance with and application of SBx7-7 requirements are further discussed below.

### SB 610: Water Supply Planning (Cal. Water Code Sections 10910 – 10915; Cal. Pub. Res. Code Section 21151.9).

Signed into law October 9, 2001, SB 610 resulted in additions and amendments to Water Code Sections 10910 to 10915 and Public Resources Code Section 21151.9. As noted above, SB 610 provides that when a city or county determines that a "project" as defined in Section 10912 is subject to review under CEQA, the city or county must identify the water supply agency that would provide retail water service to the project and request that water supplier to prepare a Water Supply Assessment (WSA).

Pursuant to Water Code Section 10912(a)-(b), a "project" is specifically defined as development meeting any of the following criteria:

- A proposed residential development of more than 500 dwelling units;
- A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space;
- A proposed commercial office building employing more than 1,000 persons or having more than 250,000 sf of floor space;
- A proposed hotel or motel, or both, having more than 500 rooms;
- A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 sf of floor area;
- A mixed-use project that includes one or more of the projects specified in Section 10912(a);
- A project that would demand an amount of water equal to, or greater than, the amount of water required by a 500-dwelling unit project; or
- In areas where the public water system has fewer than 5,000 service connections, any proposed residential, business, commercial, hotel or motel or industrial development that would account for an increase of 10 percent or more in the number of the public water system's existing service connections, or a mixed-use project that would demand an

2 CWC Section 10608.20(b).

> amount of water equivalent to, or greater than, the amount of water required by residential development that would represent an increase of 10 percent or more in the number of the public water system's existing service connections.

The "projects" defined in Section 10912 are geared toward specific development proposals and land use entitlements. General plan amendments and zone changes, which merely set the stage for later project-specific proposals, are not specifically defined as "projects" in Section 10912. In relation to the City's General Plan Update, no application is being considered to develop a "project" as defined in Section 10912, and therefore a WSA is not required to be prepared at this time. Notwithstanding, the information and analyses in this Section are based upon and cover the elements of SB 610 and applicable CEQA standards.

### SB 221: Water Supply Planning (Cal. Business and Professions Code Section 11010 and Cal. Government Code Sections 65867.5, 66455.3 and 66473.7).

SB 221 requires the legislative body of a city, county or local agency to include as a condition in any tentative tract map or development agreement that includes a subdivision (defined as a residential development containing 500 or more residential dwelling units) a requirement that a sufficient water supply is or will be available to serve the subdivision.[3] The availability of a sufficient water supply must be based on a written verification from the public water system that will provide water service to the proposed project.[4] As with the standard provided by SB 610, above, a "sufficient water supply" under SB 221 is the total water supplies available to the water provider during normal, single dry and multiple dry years over a 20-year projection that will meet the projected demand of the proposed subdivision in addition to existing and planned future uses, including agricultural and industrial uses.[5] The water provider's verification must be based on substantial evidence such as water supply contracts, capital outlay programs, and regulatory permits and approvals regarding the water provider's right to and capability of delivering the project supply.[6] In accordance with SB 221, the approval of any development agreement or tentative tract map for the project that includes a subdivision must be conditioned on obtaining a written verification from the Coachella Water Authority. As noted above, the City's General Plan Update does not include an application to develop a "project" under SB 610 or a "subdivision" under SB 221, and therefore the need to prepare a written verification or to condition the project on obtaining a written verification does not apply at this time.

[3] Govt. Code Section 66473.7.

[4] Ibid.

[5] Ibid.

[6] Ibid.

### Water Conservation in Landscaping Act (Cal. Government Code Section 65591 et seq).

In September 2008, the Water Conservation in Landscaping Act was amended in accordance with Assembly Bill (AB) 1881. Among other things, AB 1881 required the Department of Water Resources to update the Model Water Efficient Landscape Ordinance (Model Ordinance) in accordance with specified standards to reflect the recommendations of the Landscape Task Force. In addition, AB 1881 required local agencies, no later than January 1, 2010, to adopt the updated Model Ordinance or a local landscape ordinance that is at least as effective as the updated Model Ordinance in conserving water for specified landscape applications. If a local agency fails to adopt the Model Ordinance or its own local landscape ordinance, the Model Ordinance becomes applicable within that jurisdiction as a default measure.

The Office of Administrative Law (OAL) approved the Department of Water Resources' updated Model Ordinance on September 10, 2009. The landscape ordinances and policies that have been adopted by the City of Coachella and CVWD are discussed in further detail below.

### Water Reuse (Cal. Water Code Sections 13550 – 13557).

These sections of the Water Code provide that recycled water should be used for nonpotable uses such as cemeteries, golf courses, parks, highway landscaped areas, and industrial and irrigation uses if suitable recycled water is available for such uses according to certain statutory standards.

### Water Recycling in Landscaping Act (Cal. Government Code Sections 65601 – 65607).

Under the Water Recycling in Landscaping Act, if a recycled water producer determines that within 10 years it will provide recycled water within the boundaries of a local agency that meets all of the conditions described in Water Code Section 13550, the recycled water producer must notify the local agency, and identify the area that is eligible to receive the recycled water and the necessary infrastructure that the recycled water producer or retail water supplier will provide to support the delivery of recycled water.

### California Administrative Code.

Title 24 of the California Administrative Code includes the California Building Standards, which in turn include the California Plumbing Code (Part 5), which promote water and water-related energy conservation. Section 25352 of the California Administrative Code addresses pipe insulation requirements that reduce the amount of energy needed to heat water and maintain water temperature before it reaches equipment and fixtures. Title 20, Section 1601(b) addresses public utilities and energy and includes appliance and efficiency standards that promote water conservation. In addition, a number of State laws require water-efficient plumbing fixtures in structures.

### 2010 California Green Building Standards Code (CALGreen Code Section 4.304) Irrigation Controllers.

Beginning in 2011, the CALGreen Code requires new residences to install weather or soil moisture irrigation controllers. Studies have shown that such controllers can result in an additional 13 percent water savings for outdoor landscape irrigation.

### 2010 California Green Building Standards Code for Non-Residential.

The 2010 CALGreen Code also includes standards for non-residential buildings. Separate meters or metering devices must be installed to help reduce indoor water use. For example, for buildings in excess of 50,000 square feet, separate submeters must be installed for each individual leased, rented, or other tenant space within the building projected to consume more than 100 gallons per day (gpd). Submeters must also be installed for spaces used for laundry or cleaners, restaurant or food service, medical or dental office, laboratory, or beauty salon or barber shop projected to consume more than 100 gpd.

### California Urban Water Conservation Council Memorandum of Understanding.

The California Urban Water Conservation Council (CUWCC) was created to increase efficient water use statewide through partnerships among urban water agencies, public interest organizations, and private entities. The CUWCC's goal is to integrate urban water conservation Best Management Practices (BMPs) into the planning and management of California's water resources. The CUWCC MOU was signed by nearly 100 urban water agencies and environmental groups in December 1991. Since then the CUWCC has grown to 389 members. The MOU is a policy document that establishes guidelines to achieve a baseline water conservation level in given water service areas. Signers of the MOU agree to set goals in an effort to meet standards established by the MOU. The City became a signatory to the MOU in November 2000. As further set forth below, the City has established programs to reduce water demands, including residential water audits, residential plumbing retrofits, and large landscape ordinances.

### Legal Decisions Regarding Water Supply Analyses under CEQA.

It is important to recognize that the California courts have provided specific guidance with respect to the requirements of a water supply analysis that is undertaken for a long-range development project or other long-range land use planning decision such as a general plan update. In particular, the courts have drawn a clear distinction between initial, long-term planning decisions, on the one hand, and short-term project-specific approvals and land use entitlements, on the other hand. In drawing this distinction, the courts have consistently upheld the rule that far less water supply certainly is required at the early stages of planning and development in comparison to the higher degree of certainty that is required at the point of authorizing a specific land use entitlement such as a tentative tract map.

In this regard, the California Supreme Court has stated: "Requiring certainty when a long-term, large-scale development project is initially approved would likely be unworkable, as it would require water planning to far outpace land use planning. Examination of other state statutes specifically addressing the coordination of land use and water planning supports our conclusion

[that] CEQA should not be understood to require assurances of certainty regarding long-term future water supplies at an early phase of planning for large land development projects." (*Vineyard Area Citizens for Responsible Growth v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 432.) The Court further stated: "[T]he burden of identifying likely water sources for a project varies with the stage of project approval involved; the necessary degree of confidence involved for approval of a conceptual plan is much lower than for issuance of building permits." (*Vineyard* at 434.) According to the Court, "[t]o interpret CEQA itself as requiring such firm assurances of future water supplies at relatively early stages of the land use planning and approval process would put CEQA in tension with these more specific water planning statutes." (*Id.*) In light of these rules, the State Supreme Court has established the following rule: "CEQA does not demand such certainty at the relatively early planning stage involved here … to satisfy CEQA, an EIR for a specific plan need not demonstrate certainty regarding the project's future water supplies." (*Id.* at 437-438.) These standards articulated by the *Vineyard* decision apply to the water supply analysis in this Section that has been prepared for the City's General Plan Update process, as the planning efforts contained in the proposed Project are even more preliminary than the specific plan approvals that were being considered in that case.

In the more recent case of *Watsonville Pilots Association v. City of Watsonville* (2010) 183 Cal.App.4th 1059, the EIR for the Watsonville Vista 2030 General Plan was challenged on various grounds, including water supply. Quoting from the *Vineyard* decision (above), the Court of Appeal upheld the water supply analysis on various grounds, and determined that "[t]he burden of identifying likely water sources for a project varies with the state of project approval involved; the necessary degree of confidence involved for approval of a conceptual plan is much lower than for issuance of building permits." (*Watsonville Pilots*, 183 Cal.App.4th at 1090.) The EIR in that case acknowledged that water supply for the general plan area would be provided from an already overdrafted groundwater basin. The court found that the EIR contained considerable information and discussion of how the overdraft may be addressed in the future, and stated: "It is not necessary for an EIR for a general plan to establish a likely source of water. Such a conceptual EIR need only adequately address … the reasonably foreseeable impacts of supplying water to the project, note any uncertainties that preclude the identification of future water sources, and discuss the reasonably foreseeable alternatives and environmental impacts of those alternatives." (*Watsonville Pilots* at 1092.) The Court of Appeal held that the EIR satisfied CEQA because the water supply analysis identified the likely source of water for new development in the affected general plan area (i.e., groundwater); noted the uncertainties related to the basin's overdraft condition; discussed the various measures that were being undertaken to address the long-term overdraft situation; and concluded that water demands resulting from the new development would be offset by conservation, conversion of agricultural lands to urban uses, and other measures. (*Watsonville Pilots* at 1094.)

In another recent case, *Sonoma County Water Coalition v. Sonoma County Water Agency* (2010) 189 Cal.App.4th 33, the Court of Appeal upheld the legal sufficiency of a 2005 UWMP prepared by the Sonoma County Water Agency. In that case, the court likened the long-range water supply planning function of an UWMP to the long-range development plan reviewed in *Vineyard* (above). The Court of Appeal reasoned: "[S]ome level of uncertainty is a permanent, inherent feature of modern water management. It arises from a wide range of scientific and

legal regulatory factors that cannot be avoided. Water management is subject to the vagaries of climate, competing demands from agricultural, industrial and residential uses, environmental constraints, and overlapping regulatory regimes at both the federal and state levels." (*Sonoma County*, 189 Cal.App.4th at 46.) The court noted that, for purposes of preparing a long-term water supply analysis, there is an implicit legislative recognition that such planning and analysis "involves expectations and not certainties." (*Sonoma County* at 52-53.) Thus, while future water supply sources always have the *possibility* of not materializing, water agencies must have some ability to reasonably rely on planned future water projects and programs, and a long-term water supply analysis is not required to assume or analyze contingencies upon contingencies for theoretical circumstances that might never arise. (*Sonoma County* at 52-53.)

### Local and Regional Plans and Policies

As discussed throughout this Section, water resources in the Coachella Valley are subject to comprehensive planning and management efforts. At the regional level, such efforts are carried out in cooperation with the CVWD and the Desert Water Agency. At the subregional and local level, and more specifically in and around the City of Coachella, water resources are cooperatively managed by regional and retail water agencies such as CVWD, the Coachella Water Authority, the Indio Water Authority, and others.

In accordance with the UWMP Act (above), the Integrated Water Resources Management Planning Act (Water Code Sections 10530 – 10550), CEQA and other laws and policies, several water supply planning documents have been prepared and adopted to ensure a sufficient and reliable long-term water supply within CVWD, including the City and its Sphere of Influence (SOI). Those planning documents include, but are not limited to:

- City of Coachella 2010 Urban Water Management Plan (City 2010 UWMP);
- Coachella Valley Water District 2010 Urban Water Management Plan (CVWD 2010 UWMP);
- Coachella Valley Water District 2010 Coachella Valley Water Management Plan Update (2010 CVWMP Update);
- Coachella Valley Water District Coachella Valley Water Management Plan Update Final Subsequent Programmatic Environmental Impact Report (2011 SPEIR); and
- Final Coachella Valley Integrated Regional Water Management Plan (2010 IRWMP).

In particular, the City 2010 UWMP, the CVWD 2010 UWMP, the 2010 CVWMP Update and the 2011 SPEIR are each discussed in greater detail below as part of the Environmental Setting for the proposed project.

### City of Coachella General Plan Conservation Element (196)

The following goals, objectives, and policies related to water supply are applicable to the proposed project:

- **Goal:** The City shall protect surface and groundwater resources.

- **Objective:** The City shall promote conservation efforts in order to provide an adequate supply of domestic water.
- **Policy:** Domestic water supplies should be conserved through use of Colorado River water and reclaimed water for irrigation purposes.

The City is in compliance with the goal to protect surface and groundwater resources and is providing an adequate water supply to its inhabitants through the implementation of its 2010 UWMP and participation in the 2010 CVWMP as analyzed in the 2011 SPEIR. The City's 2010 UWMP establishes procedures with voluntary and mandatory provisions to reduce water demands in accordance with the Urban Water Management Planning Act and SBx7-7 (both described above).

## ENVIRONMENTAL BASELINE SETTING

### WATER SUPPLIER

The City of Coachella's Coachella Water Authority (CWA) was established in 1957, and is administered and managed by the Utilities General Manager under direct supervision of the City Manager. The City is responsible for providing water service to its residents, and will be the water supplier for the entire City service area and Sphere of Influence (SOI) under the proposed project.

As a public water supplier in the Coachella Valley, the City maintains a close and cooperative relationship with CVWD. CVWD was formed in 1918 to protect and conserve local water sources. Since then, the district has grown into a multi-faceted agency that delivers irrigation and domestic water (including drinking water), collects and recycles wastewater, provides regional storm water protection, replenishes the groundwater basin and promotes water conservation. CVWD is a special district established by the state legislature and governed by a five-member Board of Directors. While a large part of CVWD's history is in agricultural irrigation, today it meets the water-related needs of more than 107,000 homes and businesses across 1,000 square miles in various areas of service, including: domestic water; groundwater replenishment and imported water; wastewater treatment; recycled water; stormwater protection and flood control; agricultural irrigation and drainage, and water conservation. (Additional information regarding CVWD is provided below.)

The demands associated with the proposed Project have mostly been accounted for as part of CVWD's regional water supply planning efforts, which specifically include population projections within the City and the City's SOI through the year 2045 in accordance with the Riverside County Center for Demographic Research RCP 06 planning process. (See 2010 CVWMP, pp. 3-4 to 3-5.) The General Plan Update considered the RCP 10 population projections, an updated version of the RCP 06 population projections, when generating the population projections used herein, with some modifications to account for the proposed General Plan Update changes in housing densities. Therefore, and as set forth herein, the projected water demands associated with the proposed project have already been considered in preparing and

adopting CVWD's 2010 CVWMP and 2011 SPEIR. These and other documents are described in more detail below.

For the water supply analysis provided in this Section, the baseline condition is the on-the-ground condition at the project site at the time of release of the Notice of Preparation (NOP). As indicated above, the proposed project involves the General Plan 2035 for the City of Coachella. The General Plan Update is a long-term development plan for the City and its SOI, such that the proposed project will serve as the primary guiding document for the physical development of the City over the next 20 to 25 years. The General Plan Update would serve as the City's blueprint and is comprised of goals, policies and actions that will provide the City's decision makers with a foundation for making future decisions related to land use, development, economic development, community wellbeing and related topics.

As noted above, the City's CWA, which is part of the City's Utilities Department, serves as the public water system throughout the City and maintains a close and cooperative relationship with CVWD.

In September 2009, CVWD and the City signed a Memorandum of Understanding (2009 MOU) to assist in ensuring a sufficient and reliable water supply for development projects within the City and its SOI in a manner consistent with CVWD's CVWMP as amended from time to time.[7] Under the terms of the 2009 MOU, various means are identified by which the City can provide for the supply of supplemental water to offset the demands associated with development projects approved by the City. For instance, under the 2009 MOU the City can participate in funding CVWD's acquisition of supplemental water supplies to offset demands associated with newly approved projects within the City's SOI. (See, e.g., CVWD 2010 CVWMP, p. 3-3.) In February 2013, CVWD and the City signed a Memorandum of Understanding (2013 MOU) regarding implementation of the 2009 MOU.[8] Among other things, the 2013 MOU further specifies the mechanism by which the City can finance and acquire supplemental water supplies from CVWD to meet the projected demands of new development projects, and establishes a process for preparing and adopting Water Supply Assessments and Written Verifications for such projects. As further set forth below, the 2013 MOU expressly acknowledges and applies to the City's existing services area and SOI, and the supplemental water supplies referred to in the 2013 MOU have been considered by CVWD as part of the 2010 CVWMP Update and related 2011 SPEIR.

7 A copy of the 2009 MOU between the City and CVWD is incorporated herein and included within Appendix 11.6.

8 A copy of the 2013 MOU between the City and CVWD is incorporated herein and included within Appendix 11.6.

## REGIONAL AND LOCAL WATER SUPPLY PLANNING AND MANAGEMENT SETTING

As indicated above, water resources in the Coachella Valley are subject to comprehensive planning and management efforts. At the regional level, such efforts are carried out in cooperation with CVWD and the Desert Water Agency. For the areas within and around the City, several water supply planning documents have been prepared and adopted to ensure a sufficient and reliable long-term water supply.

### CITY OF COACHELLA 2010 URBAN WATER MANAGEMENT PLAN

As indicated above, the City has completed and adopted its 2010 UWMP. At the time the City's 2010 UWMP was prepared, the City had been hit hard by the economic recession. As such, demand projections contained in the City's 2010 UWMP were very conservative and did not expressly anticipate the increased growth generated by the General Plan Update in the immediate future. Population and housing projections had dropped from a high of 15% in 2006 to a low of 1% in 2009. The modified projections included in the City's 2010 UWMP followed a more conservative path into 2015, then increased more rapidly up to 2035, falling in line with both the RCP 06 and RCP 10 projections. Notably, however, the water demands associated with the General Plan Update have been accounted for as part of CVWD's water supply planning efforts and have been analyzed in CVWD's 2010 CVWMP Update and 2011 SPEIR, which are further discussed below.

Although the City's 2010 UWMP included very modest growth projections, the Plan emphasized the City's ability to accommodate development through careful long-term water supply planning and aggressive demand management. Indeed, water conservation efforts are allowing water agencies to plan for growth in new and improved ways, where State law now requires water agencies to do more with less. SBx7-7 (sometimes referred to as the new "20% by 2020" law) is one of four policy bills enacted as part of the November 2009 Comprehensive Water Package (see California Water Code section 10608 et seq.). Among other things, SBx7-7 established the goal of achieving a 20 percent reduction in statewide urban per capita water use by the year 2020, and the interim goal of achieving a 10 percent reduction by 2015. In an effort to achieve those goals, SBx7-7 requires each urban retail water supplier to determine technical information, such as existing baseline water consumption, to establish future water use reduction targets (in gallons per capita per day (gpcd)), and to report that and other information in their 2010 UWMPs. SBx7-7 also requires each urban wholesale water supplier to include in its UWMP an assessment of its present and proposed future measures, programs, and policies to help retail water agencies achieve the water use reductions required by SBx7-7. These new reporting requirements began with the 2010 UWMPs. Under SBx7-7, an urban retail water supplier is defined as a water supplier that directly provides potable municipal water to more than 3,000 end users or that supplies more than 3,000 acre-feet of potable water annually at retail for municipal purposes. An urban wholesale water supplier is defined as a water supplier that provides more than 3,000 acre-feet of water annually at wholesale for potable municipal purposes.

The two primary calculations required by SBx7-7 are (1) the Base Daily Per Capita Water Use Calculation (average gpcd used in past years), and (2) Compliance Water Use Targets (targets for gpcd in 2015 and 2020). The Base Daily Per Capita Water Use Calculation is based on gross water use by an agency in each year and can be based on a ten-year average ending no earlier than 2004 and no later than 2010, or a 15 year average if ten percent of 2008 demand was met by recycled water. As indicated above, an urban retail water supplier must then set a 2020 water use target and a 2015 interim water use target in terms of gpcd. SBx7-7 establishes four alternative methods for water agencies to use in calculating their Compliance Water Use Targets, as follows: (1) 80% of Base Daily Per Capita Use; (2) adherence to specified performance standards; (3) 95% of the applicable state hydrologic region target as set forth in the State's 20x2020 Water Conservation Plan; or (4) the provisional target method and procedures developed by DWR pursuant to SBx7-7.

In accordance with SBx7-7, the City will strictly manage its per capita water use throughout the year 2020 and beyond, and those management activities will substantially enhance the City's ability to ensure sufficient and reliable water supplies and accommodate long-term growth. As set forth in Section 3 below, the City's base daily per capita water use for purposes of SBx7-7 was calculated as 191 gpcd, and its 2015 and 2020 targets were established as 186 gpcd and 181 gpcd respectively. In addition to SBx7-7, the 2009 Comprehensive Water Package also included new laws that require increased monitoring of groundwater basins, the development of agricultural water management plans, and a stricter reporting regime for water diversions and uses in the Delta.

The City's 2010 UWMP includes various water supply planning data, future projects, and basin management activities that are geared toward meeting the 20 percent reduction in per capita water consumption under SBx7-7. For example, the City has prepared a draft Water Treatment Plant Feasibility Study to evaluate alternative supply sources such as the Coachella Branch of the All American Canal (the Canal). The City also participates in groundwater recharge activities with CVWD through replenishment assessments, and has implemented a variety of water use efficiency programs, including demand management measures and a Water Shortage Contingency Plan that can be executed by the City Council during water shortages. The purpose of the Plan is to provide procedures with voluntary and mandatory provisions to minimize the effect of a water shortage to the City's service area. The four stage approach to reducing demand ranges from a voluntary 10 percent reduction in water use to a mandatory 50 percent reduction.

The City of Coachella universally acknowledges and embraces the importance of water issues, and as such is managing 14 cost-effective demand management measures (DMMs). These DMMs include technologies and methodologies that have been sufficiently documented in multiple demonstration projects and result in more efficient water use and conservation (e.g., residential plumbing retrofits, system water audits, leak detection, and repair, large landscape conservation programs and incentives, and public information and school education programs).

The City of Coachella has adopted a landscape irrigation policy as part of the City's "Landscape Guidelines" that address all landscaping for public parkways, median islands, and

common area landscaping improvements for residential and commercial developments in the City. The City worked with the Coachella Valley Association of Governments and adopted the Coachella Valley "Model Landscape Ordinance" as a policy document. The guidelines used by the City encourage minimal turf areas, use of native plant materials reminiscent of the "desert wash" plant palette which are used in all of the newer residential common areas including retention basins, parkways and perimeter landscaped planters. The City has also implemented a model of sustainability in landscaping its largest public parks with smart irrigation systems and permeable pavers. The newly constructed Rancho Las Flores Park, the expanded Bagdouma Park, and the re-designed De Oro Park all incorporate a blend of native and drought-tolerant plants, trees and ground covers into an attractive, low-maintenance, water-saving resource for the community. Additionally, the Coachella Water Authority offers three water conservation programs to its residents. These include the Turf Removal Rebate Program, the Indoor/Outdoor Water Fixture Kits, and the Toilet Rebate Program.

Further, the City understands the need to investigate future water projects to meet demands associated with projected growth. As indicated above and as further discussed in this analysis, the City is evaluating and will continue to evaluate various source substitution projects to reduce overall demands on native groundwater supplies, such as the use of treated canal water for municipal purposes. The City's Water Master Plan and Capital Improvement Program (CIP) will continue to be updated to identify and implement future projects as they become needed to serve new demands within the City.

### Coachella Valley Water District 2010 Urban Water Management Plan

CVWD has also completed its 2010 UWMP in accordance with the UWMP Act. The 2010 UWMP shows that CVWD has instituted various planning efforts regarding water supply and infrastructure opportunities. As discussed throughout this analysis, a key component of CVWD's water management strategy is the acquisition of additional imported water supplies to augment existing resources. As further set forth in CVWD's 2010 CVWMP Update, CVWD may seek to acquire up to 50,000 acre-feet per year (AFY) of additional water supplies through either long-term leases or entitlement purchases from willing parties. CVWD may also pursue water transfers and exchanges, and has identified possible ways to develop new sources of water. CVWD also anticipates the future use of local desalinated water as part of its water supply portfolio, whereby CVWD could use treated agricultural drainage water for irrigation purposes. Such projects would either make additional potable supplies available for municipal purposes or help offset groundwater pumping in the basin. (CVWD 2010 UWMP, p. 4-21.)

CVWD's 2010 UWMP identifies recycled water as another significant local resource that can be used to supplement the water supply of the Coachella Valley. Wastewater that is highly treated and disinfected can be reused for a variety of landscape irrigation and other purposes. Recycled water has been used for irrigation of golf courses and municipal landscaping in the Coachella Valley since 1968. It is expected that golf course irrigation will remain the largest use of recycled water in the future. Current and projected future uses of recycled water include irrigation of urban landscape and golf course lands. Recycled water use is limited by the lack of urban development in the east valley. As urbanization occurs in the future, a recycled water

distribution system will be developed to serve recycled water for urban golf course irrigation and municipal irrigation. (CVWD 2010 UWMP, p. 4-23.)

Further, CVWD and DWA operate groundwater recharge programs in the upper Whitewater River and Mission Creek subbasins. As part of the CVWMP, CVWD intends to significantly expand its groundwater recharge program in the Whitewater River subbasin. CVWD recently completed construction the Thomas E. Levy (Levy) Groundwater Replenishment Facility in the East (Lower) Whitewater River Subbasin with a capacity to 40,000 AFY. CVWD is also conducting pilot recharge tests in the East (Lower) Whitewater River subbasin at the Martinez Canyon Pilot Recharge Facility. CVWD is presently recharging approximately 32,500 AFY at this facility. CVWD completed construction of a pilot recharge facility and several monitoring wells in the Martinez Canyon alluvial fan in March 2005. This facility is designed to recharge approximately 3,000 AFY. According to the 2010 CVWMP (see further discussion below), CVWD plans to construct a full-scale facility at Martinez Canyon to recharge 20,000 AFY by 2025. (CVWD 2010 UWMP, p. 3-12.)

As set forth throughout CVWD's planning documents, water demands in the Coachella Valley will continue to be met in a sustainable manner by using the groundwater basin as a conjunctive use resource. In practice, that involves the use of groundwater wells to produce amounts that are continually supplemented and recharged with Colorado River, State Water Project, and local water supplies. As an overall water supply system, CVWD's service area (including the City) is uniquely insulated from drought conditions and is capable of ensuring sufficient and reliable water supplies to meet demand because of the large storage volume of the basin (about 25 million AF). As noted herein, CVWD is also planning ways to deliver treated Colorado River water directly to the urban distribution system, and untreated Colorado River water directly for landscape irrigation and other non-potable uses, both of which will further reduce the need to rely on the groundwater basin. (CVWD 2010 UWMP, p. 4-31.)

As with the City, CVWD's water conservation efforts are a critical component of its water management strategy. CVWD has had a water conservation program since the 1960s and recognizes the importance of conserving water to reduce demand on the groundwater supply and decrease reliance on imported supplies. With the enactment of SBx7-7, CVWD's demand management measures (DMMs) have become even more comprehensive. As noted above, SBx7-7 establishes the goal of achieving a 20 percent reduction in statewide urban per capita water use by the year 2020, and the interim goal of achieving a 10 percent reduction by 2015. As a retail water supplier, CVWD complies with SBx7-7 by establishing and implementing per capita water use reduction targets, and by identifying present and future measures, programs, and policies to help achieve the water use reductions required by SBx7-7. Among various other actions, CVWD carries out the following DMMs:

- Water survey program for single-family and multi-family residential customers;
- Metering with commodity rates for all new connections and retrofit of existing connections program;
- Large landscape conservation programs and incentives program

- Public information program;
- School education program;
- Conservation programs for CII accounts program;
- Conservation pricing program;
- Water conservation coordinator program;
- Water waste prohibition program.

As noted in its 2010 UWMP, CVWD will continue existing water conservation programs and implement new programs to enhance water conservation and meet reduced urban per capita water consumption. (CVWD 2010 UWMP, p. 6-3.) While the City of Coachella is not within CVWD's retail service area, the foregoing discussion of CVWD's 2010 UWMP and the information below regarding CVWD's Water Management Plan are provided to illustrate the extraordinary water supply planning and demand management efforts that are undertaken by the District in its role as an urban water supplier.

### 2010 Coachella Valley Water Management Plan

The 2010 CVWMP serves as a 35-year blueprint for wise water management and the basis for all CVWD's efforts to preserve the valley's groundwater resources. The basic goal of the CVWMP remains similar to that of previous WMPs: "to reliably meet current and future water demands in a cost-effective and sustainable manner." New factors facing water resources managers throughout California have led to refined objectives. The programs and projects identified in the 2010 CVWMP Update are based on the following objectives:

- meet current and future water demands with a 10 percent supply buffer;
- eliminate long-term groundwater overdraft;
- manage water quality;
- comply with state and federal regulations;
- manage future costs; and
- minimize potential adverse environmental impacts.

The 2010 CVWMP calls for a multifaceted approach to water management and water conservation, including:

- increased water conservation by all types of water users;
- increased imported water supply from the Coachella Canal and State Water Project;
- increased use of the imported supply and recycled water, instead of groundwater, for irrigation; and
- expanded groundwater replenishment efforts, especially in the East Valley.

The 2010 CVWMP Update identifies several water conservation measures with the goal to reduce overall water consumption by 20 percent by 2020, and the goal to maintain this level of reduction through 2045. These measures include water efficient landscaping and irrigation controls, water efficient plumbing, tiered or seasonal water pricing, public information and

education programs, alternative water supplies, water restrictive municipal development policies, appointing a CVWD conservation coordinator, and refining the maximum water allowance budgets for landscaped and recreational areas. The 2010 CVWMP Update shows reduced reliance on groundwater sources over the long term by utilizing more Colorado River water, SWP water and recycled water, by expanding source substitution, and through increased water conservation. (2010 CVWMP, pp. 6-3 to 6-13.)

The 2010 CVWMP Update emphasizes cooperation with municipalities, local water agencies, and tribes in regional planning and implementation. The following are among some of the recommended activities outlined in the update for the board of directors to consider over the next 35 years:[9]

- Provide incentives and support to agricultural customers to conserve water, such as through converting from flood/sprinkler irrigation to more efficient micro-sprinkler/drip systems;
- Encourage existing golf courses to convert landscaping to meet the 2007 Landscape Ordinance, requiring no more than 4 acres of grass per hole and 10 acres of grass per practice area;
- Expand landscape conversion rebates for domestic customers to encourage less grass and more desert appropriate landscaping;
- Complete construction on subsequent phases of the Mid-Valley Pipeline system to provide a blend of recycled and Colorado River water to up to 50 golf courses in lieu of groundwater;
- Turn the pilot Martinez Canyon replenishment facility into a full-scale facility with a capacity of up to 40,000 acre-feet of replenishment annually;
- Implement East Valley source substitution projects such as expansion of the Canal water distribution system in the Oasis area to serve agricultural operations that are not currently served with Canal water, this system is expected to deliver about 27,000 AFY of Canal water to offset groundwater pumping.

The 2010 CVWMP Update shows that CVWD has many current and future programs that are designed to maximize the water resources available to the region, such as recharge of its Colorado River and SWP supplies, expanded use of recycled water, desalinated agricultural drain water, conversion of groundwater uses to Canal water and water conservation measures, including tiered water rates, landscaping ordinance, outreach and education. The 2010 CVWMP Update and CVWD's Replenishment Assessment Programs establish a comprehensive and managed effort to eliminate overuse of local groundwater while ensuring a sufficient and sustainable water supply to meet projected demands. These programs allow CVWD to maintain

9 Coachella Valley Water District, 2010 Coachella Valley Water Management Plan Update (January 2012).

the groundwater basin as its primary urban water supply and to recharge the groundwater basin as its other supplies are available.

The 2010 CVWMP Update presented a number of recommended programs and features to enhance water supply development and reduce groundwater overdraft. The continuation and expansion of existing projects and programs is summarized below. (See also, 2010 CVWMP Section 8.)

- An agricultural conservation program including elements such as: training, system upgrades and retrofits, economic incentives, and regulatory programs that can achieve up to a 14 percent reduction in consumptive use by 2020.
- An urban conservation program including elements such as: installing automated meters, extending landscape ordinances, implementing water budget-based tiered water rates, and various rebate programs, all of which are aimed at achieving the State's requirement for a 20 percent reduction in per capita use by 2020.
- Continue and expand the golf course conservation program that is expected to achieve a savings of 11,600 AFY by 2045.
- Additional water supply development programs such as: acquisition of additional imported supplies, increased recycled water use, and development of desalinated drain water. Groundwater recharge will increase over time at the existing Whitewater and Thomas E. Levy Groundwater Replenishment Facilities, and the construction of the proposed Martinez Canyon Recharge Facility.
- Source substitution will continue to be an important element for offsetting groundwater use. Examples of new projects and programs include: using canal water for urban irrigation, implementing groundwater recharge in the Indio area, investigating groundwater storage opportunities with IID, pursuing additional groundwater treatment for arsenic, developing a salt/nutrient management plan, improved brine disposal, mitigation of canal water losses, maintaining and developing improved drainage control, increasing stormwater capture and recharge, and developing local groundwater supplies for non-potable use.

As further set forth below, the 2010 CVWMP serves as a blueprint for ensuring a sufficient and sustainable water supply to meet the needs of projected growth throughout the Coachella Valley, including the City and the City's SOI, for the next 30 years and beyond.

### 2011 Coachella Valley Water Management Plan Subsequent Program Environmental Impact Report and 2012 Final Subsequent Program Environmental Impact Report

As noted above, CVWD first adopted the Coachella Valley Water Management Plan and the related Program Environmental Impact Report (PEIR) in September 2002. The CVWMP is a multi-faceted plan to allow CVWD to meet its responsibilities for securing and protecting Coachella Valley water supplies into the future. The CVWD Board of Directors recognizes the need to update the Plan periodically to respond to changing external and internal conditions. The 2010 CVWMP Update has been prepared to meet that need. The 2010 CVWMP defines how the project goals will be met given changing conditions and new factors affecting water

supply reliability, water demands and evolving federal and state regulations. The planning time horizon for the 2010 CVWMP Update is 35 years, from 2010 to 2045. As with the 2002 CVWMP, CVWD analyzed the potential environmental impacts associated with implementing the 2010 CVWMP pursuant to the California Environmental Quality Act (CEQA). That document is the 2011 Subsequent Program EIR (2011 SPEIR) (State Clearinghouse (SCH) No. 1999041032, SCH No. 2000031027). (2011 SPEIR, pp. 1-1 and 2-1.)

As shown in Table 1-2 of the 2011 SPEIR, it has been determined that, overall, the 2010 CVWMP will have less than significant environmental impacts, and in certain key respects will have beneficial effects. For example, in addressing regional groundwater overdraft issues, the 2010 CVWMP will result in decreasing annual overdraft conditions in the West and East Valley areas, and water levels will change at a slower rate than under current condition and will increase in some areas. (2011 SPEIR, p. 1-25.)

The goal of the 2010 CVWMP is to allow CVWD and other water agencies in the Valley to reliably meet current and future water demands within their service areas in a cost effective and sustainable manner for the period 2010 to 2045. As noted above, the programs and projects identified in the 2010 CVWMP fulfill this goal by meeting the following objectives: meet current and future water demands with a 10 percent supply buffer; reduce/eliminate long-term groundwater overdraft; manage and protect water quality; comply with state and federal laws and regulations; manage future costs; and minimize adverse environmental impacts. The 2010 CVWMP differs from the 2002 CVWMP in that a 10 percent supply buffer is applied to the projected water demands while eliminating overdraft. This buffer compensates for potential uncertainties such as demands higher than forecast or supplies that cannot be implemented or do not deliver as much water as planned. The supply buffer would be established through a combination of additional supplies and water conservation measures. (2011 SPEIR, pp. 1-2 and 2-12.)

The 2011 SPEIR identifies various external factors that have affected or may affect water supplies available to the Coachella Valley. Key factors include: annual fluctuation in imported State Water Project (SWP) supplies due to drought and environmental needs in the Sacramento-San Joaquin Delta (Delta); recent environmental rulings to protect sensitive fish species in the Delta that restrict the State's ability to move water through the Delta to the SWP; preparation of the Bay-Delta Conservation Plan, which is intended to restore the Delta's ecosystem and improve water supply reliability; the Quantification Settlement Agreement (QSA), signed in 2003 to allocate California's allotment of Colorado River water and meet its contractual limitation; litigation concerning the QSA; and effects of climate change on the long term availability and reliability of SWP and Colorado River water supplies. (2011 SPEIR, p. 1-2.) These factors are fully addressed in the 2011 SPEIR and are further described in this Section.

The 2010 CVWMP Update identifies approaches for meeting future water needs in the study area in light of changing environmental conditions and other water supply factors. To meet revised future needs, the CVWMP includes new features in the areas of water conservation, source substitution, new supplies and groundwater recharge. (2011 SPEIR, p. 1-7.) The 2010

CVWMP incorporates both a "bookends" approach and "building block" approach to deal with potential uncertainties in future demands and supplies. The Plan also incorporates enhanced cooperation and implementation among cites, local water agencies, and tribes in the Coachella Valley. (2011 SPEIR, p. 1-7.) For example, the 2010 CVWMP Update includes an aggressive program of water conservation for urban, golf course and agricultural water users. However, there are limits in terms of cost, effectiveness and acceptability of water conservation activities. As those limits are reached, other Plan elements for meeting future needs also can be adjusted. One source of supply is desalination of drain water, the most expensive alternative for providing new supplies. This approach only will be implemented as other sources of supplies reach practical limits. Therefore, the Plan includes a range of 55,000 to 80,000 AFY for desalination of drain water. The actual amount of water from this source will depend upon how much can be obtained first from other, lower cost sources. (2011 SPEIR, p. 1-8.)

The 2010 CVWMP Update has the same five major elements as the 2002 CVWMP, but with a building block approach of implementing elements to better respond to changes in the planning environment. As indicated above, a key element is water conservation (urban, agricultural and golf, but at higher rates than in the 2002 Plan). Urban measures are water efficient plumbing and landscape water use audit programs. For golf, measures are scientific irrigation scheduling, water audits and monitoring of maximum water allowance compliance, turf limitations for new course as well as water audits. Agricultural water conservation methods include scientific irrigation scheduling, salinity management, salinity field mapping, conversion to micro-irrigation, distribution uniformity evaluations, grower training and engineering evaluations of irrigation efficiency. Another element is additional water sources, including increasing surface supplies for the Valley from outside sources (Colorado River and SWP transfers and leases), exchanges, dry-year purchases, water development projects, stormwater capture, and desalination. A third element is source substitution of surface water supplies for groundwater. This may involve providing recycled water or Canal water or other sources to additional urban, golf and agricultural users to reduce groundwater pumping. Source substitution can also involve additional use of the Mid-Valley Pipeline Project, Phase I of which was completed in 2009. The fourth element is groundwater recharge, including: constructing and operating recharge basins to augment stored groundwater; continued and increased recharge at the Whitewater Recharge Facility; construction and operation of a new facility at Martinez Canyon; increased recharge at the Levy facility; and a possible new City of Indio recharge facility at Posse Park. The fifth element is monitoring and data management, which includes monitoring and evaluation of subsidence and groundwater levels and quality to provide the information needed to manage the Valley's groundwater resources. (2011 SPEIR, p. 1-8.)

In developing the 2010 CVWMP, CVWD utilized the latest population projections developed by Riverside County and adopted by the Southern California Association of Governments (SCAG) in 2008. CVWD does not develop population growth projections for use in water management planning. The 2008 SCAG projections could not have taken into account the current recession, which has slowed growth and will continue to have negative effects on growth in the near term. Over the long term, growth will continue; however, population projections will need to be adjusted in terms of the timing of growth. These realities necessitate adjustment of Plan implementation to meet actual near term needs and continued updates of the CVWMP in the

future to reflect revised population projections. (2011 SPEIR, pp. 1-8 to 1-9; see also Table 1-1, Summary of the 2010 Water Management Plan Update and Implementation Plan, pp. 1-9 to 1-13.)

Riverside County embarked on major revisions to the County's General Plan and General Plan EIR (Riverside County, 2009). In the absence of these completed documents, CVWD has been required to make assumptions in the 2010 CVWMP Update regarding the effects of projected growth on land use, particularly the conversion of agricultural land to urban use in the East Valley. Consequently, the 2010 CVWMP Update projects a reduction in agricultural water demand combined with a significant increase in urban water demand. Increased urbanization also increases domestic wastewater generation in the East Valley. Expansion of the CVWMP planning area to include land annexed or within the spheres of influence of the cities of Coachella and Indio also adds to the potential for growth in the Valley. Although the 2007 Riverside County/CVAG growth forecasts did not anticipate significant growth in this area, the potential for development could result in additional population growth and water demand during the 2010 CVWMP Update planning period. While there has been an economic slowdown over the past two years, these projected population and land use changes are anticipated to be fulfilled in the long term, but at a slower pace. (2011 SPEIR, p. 3-2.)

Agricultural water demands are projected to decrease, while urban demands will increase in response to anticipated population growth. Factoring potential variations in future land use and growth forecasts into these demand projections, water demands in 2045 could range from 793,600 AFY to 971,500 AFY with a mid-range planning value of 885,400 AFY. These projections incorporate reduced outdoor water use for new development as required by the CVWD-CVAG water efficient Landscape Ordinance (2009). In the absence of this ordinance and other on-going conservation measures, water demands in the Valley would be nearly 1,040,000 AFY by 2045. (2011 SPEIR, pp. 3-3 to 3-4.)

Implementation of the 2010 CVWMP Update has been divided into near-term elements and long-term elements. Even with the current recession and lack of growth, continuation of existing elements and several new elements are needed to reduce overdraft and its potential effects. Ongoing elements that will continue are: recharge at Whitewater Recharge Facility with SWP Exchange water and SWP purchases; implementation of the QSA; levy facility recharge at current levels of 32,000 AFY; Martinez Canyon recharge at current Pilot Facility Level of 3,000 AFY; water conservation programs at current levels, including implementation of the Landscape Ordinance; effluent recycling in the West Valley; increased use of Canal water by golf courses with existing Canal water connections to reduce groundwater pumping; conversion of East Valley agriculture to Canal water, as opportunities arise, to reduce groundwater pumping; groundwater level/quality monitoring; and subsidence monitoring. (2011 SPEIR, p. 1-14.)

Assuming that the Coachella Valley study area growth rate remains relatively low, during the next five years CVWD will focus on three new or expanded activities to preserve and protect groundwater resources, such as: increased use of the Mid-Valley Pipeline project to reduce overdraft in the West Valley by connecting golf courses and reducing groundwater pumping by those courses; implementation of additional water conservation measures, including the

Landscape Ordinance, to meet the State's requirement of 20 percent conservation by 2020; and preparation of a salt/nutrient management plan for the Valley by 2014 to meet SWRCB Recycled Water Policy requirements to improve implementation of wastewater effluent recycling. (2011 SPEIR, p. 1-14.)

Due to potential variability associated with imported water supplies from the Colorado River and the SWP, which are further discussed below in this Section, the 2010 CVWMP Update evaluates an array of water supply scenarios to determine a likely range of future supply needs. These scenarios assume different combinations of a Delta conveyance solution and QSA validity to determine the future amount of imported water available to the Valley. (2011 SPEIR, p. 3-7.) Based upon the scenarios, additional water supplies and conservation would be required to meet projected demands in 2045 while providing 10 percent supply buffer, eliminating groundwater overdraft and improving the salt balance of the basin. (2011 SPEIR, p. 3-7.) The 2010 CVWMP Update evaluates a wide range of water conservation and supply options based on potential yield, reliability, cost, water quality and other feasibility factors. Based on this evaluation, a range of water supply mixes was established for each planning scenario. Each scenario maximizes the use of local sources and recycled water. Water conservation and drain water desalination are variable, based on the availability of existing and future imported water supplies including potential water transfers and acquisitions. (2011 SPEIR, pp. 3-8 to 3-9.)

Water conservation is a major component of water management in the Coachella Valley. As a desert community heavily reliant upon imported water supplies, the Coachella Valley must use its water resources as efficiently as possible to meet California Water Code requirements and State legislation such as SBx7-7 (discussed above, establishing a statewide 20 percent per capita water use reduction by the year 2020), as well as to maintain eligibility for State funding opportunities through compliance with Assembly Bill (AB) 1420 demand management measures required in Urban Water Management Plans. (2011 SPEIR, p. 3-9.) According to the 2010 CVWMP, agricultural water conservation remains the most cost-effective approach for extending the existing water supplies of the Valley. Under the 2010 CVWMP, an agricultural conservation program will be implemented that achieves up to a 14 percent reduction in consumptive use by 2020. The savings would be achieved using a staged approach. Initially, low cost, voluntary programs would be initiated followed by increasingly more expensive and mandatory programs. (2011 SPEIR, pp. 3-9 to 3-10.)

The following building blocks have been identified for implementation: grower education and training (grower meetings and training programs combined with confidential grower audits funded by the District); District-provided services (including scientific irrigation scheduling, scientific salinity management, moisture monitoring and farm water distribution evaluations funded by the District); irrigation system upgrades/retrofits (partial or full funding and/or financial support of growers that convert from flood/sprinkler to micro-sprinkler/drip irrigation systems); economic incentives (such as tiered pricing, water budget pricing, or seasonal pricing); and regulatory programs (regulations that support and provide for agriculture conservation, including farm management plans, mandatory drip/micro-spray systems for new permanent crops, and conversion of existing crops over time). (2011 SPEIR, pp. 3-9 to 3-10.)

These program features will be incrementally expanded until the target reduction is achieved. To achieve the maximum return on investment from conservation activities, initial emphasis will be placed on those agricultural operations with the lowest irrigation efficiency. The agricultural conservation program is anticipated to save about 39,500 AFY of water by 2020. The savings are projected to decrease to approximately 23,300 AFY by 2045 as agricultural land transitions to urban uses. CVWD is developing methods for tracking the effectiveness of agricultural water conservation. These methods will include determining average water use per acre of farmed land and average irrigation efficiency. The methods will reflect variations in annual/seasonal evapotranspiration and cropping patterns. Progress toward meeting agricultural conservation goals will be evaluated and reported annually. (2011 SPEIR, p. 3-10.)

Urban conservation is also critical. Under the 2010 CVWMP, the urban water conservation program will be expanded and enhanced to meet the State's requirement of a 20 percent reduction in per capita use by 2020 (SBx7-7). The baseline for this reduction is the 10-year average per capita usage for the period of 1995 through 2004. This will be accomplished by: continued public education and outreach programs promoting water conservation; improved landscape irrigation scheduling and efficiency; implementation of irrigation system retrofit rebates; implementation of appropriate water rate structures that provide the economic incentives needed to encourage efficient water use; coordinated regional water conservation programs involving Valley water purveyors, cities and Riverside County; continued implementation of the CVWD Valley-wide Landscape Ordinance (Ordinance 1302-1; revised Ordinance 1374); installation of automated or "smart" water meters; extension of the Landscape Ordinance to include all landscaping regardless of size (current limit is 5,000 square feet or larger for homeowner furnished landscaping); further decreases in the water allocations for landscape irrigation consistent with good irrigation practices and desert landscaping; landscape retrofit rebates (i.e., economic incentives for replacing high water use landscaping, also known as "cash for grass"); restrictions on the total amount of turf allowed; audits of new development to assure continued compliance with the Landscape Ordinance; plumbing retrofits for existing properties including mandatory retrofit (ultra-low flush toilets, showerhead replacement, etc.) prior to sale of property; conservation rebates for high-efficiency clothes washers; compliance with California Green Building Code Standards (California Code of Regulations Title 24, Part 11, 2010); and water distribution system audits and loss reduction programs. (2011 SPEIR, p. 3-10 to 3-11.)

Once the conservation targets are achieved, continued implementation of those measures will result in even greater savings per capita as new growth occurs. Projections indicate that continued implementation of these measures in conjunction with the State's 2010 CalGreen Building Code requirements will result in per capita water use reduction of nearly 40 percent compared to the baseline per capita use defined in SBx7-7. This could potentially result in additional water savings of 55,000 AFY by 2045 if growth occurs as projected. To provide the water supply buffer, this target is increased to 73,500 AFY by 2045. Additional water conservation beyond this amount will be implemented if needed to offset unanticipated reductions in other water supplies during the planning period. Pursuant to SBx7-7, Valley water agencies will track the effectiveness of urban water conservation. Progress toward achieving the urban water conservation goals will be evaluated annually and reported in UWMPs prepared on

five-year intervals. If progress shows that additional conservation is being achieved, then the water supply needs will be reassessed. (2011 SPEIR, p. 3-11.)

The 2011 SPEIR identifies golf course conservation as another key component of the management plan. Under the 2010 CVWMP, Valley water agencies are expected to do the following: implement a water conservation program to achieve a 10 percent reduction in water use by existing golf courses (built prior to 2007) by 2020 (this would be accomplished through golf course irrigation system audits and soil moisture monitoring services); encourage existing golf courses to reduce water use by reducing their acreage of turf; implement the 2009 CVWD/CVAG Landscape Ordinance objectives for all new golf courses (built in 2007 and later); conduct landscaping and irrigation system plan checks to verify compliance; and develop and implement methods to evaluate the effectiveness of golf course water conservation such as measuring water use per irrigated acre. These measures are expected to achieve a savings of 11,600 AFY by 2045. Conservation by future courses has been incorporated into the water demand projections. Progress toward meeting golf course conservation goals will be evaluated and reported annually. (2011 SPEIR, pp. 3-11 to 3-12.)

The 2010 CVWMP Update strategy for water supply development consists of a balanced portfolio that retains flexibility to adapt to future changes in supply reliability. Sufficient water supplies are planned to provide a 10 percent buffer on an average basis to meet unanticipated reductions in existing supplies or difficulties in developing new supplies. The additional supplies needed to provide the buffer would be implemented when required based on an on-going analysis of projected demands and supplies. (2011 SPEIR, p. 3-12.) A summary of the water supply development efforts of the 2010 CVWMP is set forth below.

## ACQUISITION OF ADDITIONAL IMPORTED SUPPLIES

Additional imported water supplies will be used to address groundwater overdraft and meet the future demands of the Valley. The 2002 CVWMP established an average water supply target of 140,000 AFY from the SWP, of which about 103,000 AFY would be used for recharge at Whitewater and 35,000 AFY would supply the Mid-Valley Pipeline (MVP) project. CVWD and DWA have made significant progress since 2002 toward achieving these targets with the acquisition of SWP Table A entitlement water from Metropolitan (100,000 AFY), Tulare Lake Basin Water Storage District (16,900 AFY) and Berrenda Mesa Water District (16,000 AFY).

This has increased the Valley's SWP Table A Amounts from 61,200 AFY to 194,100 AFY. In addition, periodic one-time purchases of water totaling 50,200 AF have been made after 2002. As described in the 2011 SPEIR, given recent factors affecting the California water supply picture, the average amount of additional imported supply required is in the range of 45,000 to 80,000 AFY. The higher value assumes successful implementation of the BDCP and Delta conveyance facilities while the lower value is based on reduced future SWP reliability (to 50 percent). (2011 SPEIR, p. 3-12.)

Additional supplies will be obtained through the following actions: acquire additional imported water supplies through long-term lease or purchase where cost effective; continue to purchase

SWP Turnback Pool and SWP Article 21 (Interruptible) waters; continue to purchase supplemental SWP water under the Yuba River Accord Dry Year Water Purchase Program as available; work with Metropolitan to define the frequency and magnitude for SWP Table A call-back under the 2003 Water Transfer Agreement, and continue to play an active role with U.S. Bureau of Reclamation (Reclamation), DWR, the State Water Contractors and other agencies in developing the BDCP and Delta Habitat Conservation and Conveyance Program. (2011 SPEIR, p. 3-13.)

### Increased Recycled Water Use

The 2002 CVWMP had a recycled water use target of 30,000 AFY for the West Valley and 8,000AFY for the East Valley in 2035. Essentially all available recycled water in the West Valley is currently being put to beneficial use either through direct non-potable uses like urban and golf course irrigation or through percolation. As urban growth occurs, the following activities will be implemented under the 2010 CVWMP Update: in the West Valley, implement a joint agency goal to increase recycling of all generated wastewater for non-potable irrigation from 60 percent to at least 90 percent where feasible; in the East Valley, maximize the use of recycled water generated by future growth for irrigation as development occurs and customers become available by constructing tertiary treatment and distribution facilities at the CVWD Water Reclamation Plant No. 4 (WRP-4), City of Coachella and Valley Sanitary District (VSD) facilities; evaluate the feasibility of delivering recycled water in the existing Coachella Canal water distribution system while avoiding potential conflicts with future urban water treatment and use of Canal water; determine the minimum amount of recycled and other water flow that must be maintained in the CVSC to support riparian and wetland habitat; and fully utilize all wastewater generated by development east of the San Andreas Fault for irrigation uses to meet demands in that area and reduce the need for additional imported water supplies. (2011 SPEIR, p. 3-13.)

Based on these recommendations, up to 34,500 AFY of recycled water would be used in the West Valley, up to 33,000 AFY of recycled water would be used in the East Valley and up to 10,800 AFY of recycled water would be used in the area east of the San Andreas fault for direct non potable uses by 2045, for a total of 78,300 AFY. (2011 SPEIR, p. 3-14.)

### Develop Desalinated Drain Water

The 2002 CVWMP had a planning target of 11,000 AFY of desalinated drain water usage by 2035. Measures will include: developing a program to recover, treat and distribute desalinated drain water and shallow (semi-perched) groundwater for non-potable and potable uses in the East Valley; developing a disposal system to dispose of brine generated by the desalination process; and constructing a demonstration facility to gain operational experience in drain water desalination and brine disposal. Under the 2010 CVWMP Update, the amount of water recovered through drain water desalination may range from 55,000 to 85,000 AFY by 2045, depending on the effectiveness of water conservation measures and the availability of other supplies. The lower end of the range reflects the successful implementation of the BDCP and Delta conveyance facilities. The high end of the range is close to the maximum amount of drain water expected to be generated in the Valley and would be implemented if SWP Exchange water reliability remains low. The desalination program will be phased so that it can be

expanded in response to future water supply conditions and needs of the Valley. (2011 SPEIR, p. 3-14.)

### Groundwater Recharge Programs

The 2002 CVWMP had a planning target of 103,000 AFY of SWP water at the Whitewater Recharge Facility and 80,000 AFY of Canal water recharge at East Valley recharge facilities by 2035. Whitewater recharge varies annually, but the SWP Exchange supply can currently provide about 77,700 for recharge. Canal water recharge is currently 32,000 AFY at the Levy Facility and 3,000 AFY at the Martinez Canyon Pilot facility. Groundwater recharge continues to be a significant component of water management in the Coachella Valley. Existing and proposed recharge activities identified in the 2002 CVWMP will continue with the modifications identified below. (2011 SPEIR, p. 3-14.)

### Whitewater Recharge Facility

The Whitewater Recharge Facility is a series of earthen recharge basins and distribution channels fed by the Whitewater River, into which CVWD and DWA recharge SWP Exchange water (see discussion below). The 2010 CVWMP Update includes the following elements regarding the Whitewater Recharge Facility: continued operation of the Whitewater Recharge Facility to recharge SWP Exchange water, at least 100,000 AFY over a long-term (20-year) average; transfer and exchange any unused desalinated drain water and SWP water obtained through the QSA for CRA water delivered to Whitewater for recharge; and use of additional acquired water transfers or leases to supplement the existing SWP Exchange water. (2011 SPEIR, p. 3-15.)

### Thomas E. Levy Groundwater Replenishment Facility

CVWD operated a pilot recharge facility at Dike 4 near Avenue 62 and Madison in the City of La Quinta beginning in 1997. Construction of the 180-acre, full scale Levy facility was completed inmid-2009 and has an estimated average recharge capacity of 40,000 AFY. Currently the capacity is limited by hydraulic and water delivery constraints within the Canal water distribution system to a long-term average of about 32,000 AFY. Consequently, construction of an additional pipeline and pumping station from Lake Cahuilla may be required in the future. The 2010 CVWMP Update includes the following elements regarding the Levy Replenishment Facility: continued operation of the Levy Facility and recharge 40,000 AFY on a long-term basis as system conveyance capacity allows; monitoring groundwater levels in shallow and deep aquifers for signs of rising shallow groundwater; develop operating criteria to minimize chances for shallow groundwater mounding; and if the existing conveyance system is not capable of sustaining 40,000 AFY of deliveries for recharge at the Levy facility, constructing a second pumping station and pipeline from Lake Cahuilla to provide a supplemental supply. (2011 SPEIR, p. 3-15.)

### Martinez Canyon Recharge

The Martinez Canyon recharge facility is a pilot project underway since 2005. Upon completion of a full-scale facility, estimated to be 240 acres in area, this project is expected to recharge 20,000to 40,000 AFY on average. The recharge facility would be located adjacent to the pilot

facility west of the community of Valerie Jean in the East Valley, at the Martinez Canyon alluvial fan between Avenues 74 and 76. (2011 SPEIR, p. 3-15.)

The 2010 CVWMP Update includes the following elements regarding the Martinez Canyon Recharge Facility: conducting siting and environmental studies, land acquisition and design for the full-scale Martinez Canyon facility with a design capacity of up to 40,000 AFY; completing construction of the Martinez Canyon facilities in phases such that the facility can be initially operated at 20,000 AFY, with potential future expansion to as much as 40,000 AFY based on groundwater overdraft conditions and implementation of East Valley source substitution projects; and coordinating pipeline and pumping station construction with expansion of the Canal distribution system in the Oasis area. (2011 SPEIR, p. 3-16.)

### Source Substitution Programs

Source substitution also continues to be an important means to reducing groundwater overdraft. Due to the expected changes in water use patterns in the Valley as a result of continued development, source substitution will receive increased emphasis in the future. The following source substitution actions are proposed in the 2010 CVWMP Update. (2011 SPEIR, p. 3-16.)

### Mid-Valley Pipeline

The MVP is a pipeline distribution system to deliver Canal water to the Mid-Valley area for use with CVWD's recycled water for golf courses and open space irrigation in lieu of groundwater pumping for these uses. Construction of the first phase of the MVP from the Coachella Canal in Indio toWRP-10 (6.6 miles in length) was completed in 2009. MVP Canal water is blended with WRP-10 recycled water for golf course irrigation. Implementation of later phases will expand the MVP to serve approximately 50 golf courses in the Rancho Mirage - Palm Desert - Indian Wells area that currently use groundwater as their primary source of supply with a mixture of Colorado River water and recycled water as anticipated in the 2002 CVWMP. (2011 SPEIR, p. 3-16.)

The 2010 CVWMP Update continues to include the MVP project, which will serve about 37,000 AFY of imported water and 15,000 AFY of WRP-10 recycled water on average by 2045. The MVP will meet approximately 72 percent of the West Valley golf course demand by 2045. Under the 2010 CVWMP Update, it is proposed to: prepare a MVP system master plan to lay out the future pipeline systems; implement near-term (next five years) project expansions to connect 14 golf courses along the MVP alignment and extensions of the existing non-potable distribution system; and complete the construction of the remaining phases of the MVP system to provide up to 37,000 AFY of Canal water and 15,000 AFY of WRP-10 recycled water on average to West Valley golf courses. (2011 SPEIR, pp. 3-16 to 3-17.)

### Conversion of Agricultural and Golf Course Uses to Canal Water

The 2010 CVWMP Update includes the following elements regarding conversion of agricultural and golf course uses to Canal water: working with existing East Valley golf courses to increase Canal water use to 90 percent of demand; connecting new East and West Valley golf courses having access to Canal water and meet 80-90 percent of demand; working with large agricultural groundwater pumpers to provide access to Canal water and encourage them to

reduce their groundwater pumping; revising and update the Oasis distribution system feasibility study, considering possible future conversion to urban use; and upon completion of cost-effectiveness feasibility analyses, designing and constructing the Oasis distribution system to deliver up to 27,000 AFY of Canal and desalinated drain water by 2020. These projects will deliver up to 71,000 AFY of additional Canal water to reduce groundwater pumping. (2011 SPEIR, p. 3-17.)

### Treatment of Colorado River Water for Urban Use

The Plan includes treatment of Canal water for urban uses: CVWD, the City of Coachella and Indio Water Authority (IWA) will develop coordinated plans to treat Canal water for urban use in the East Valley; conduct a feasibility study to determine the economic tradeoffs between large-scale centralized treatment facilities and small scale satellite treatment facilities including potential delivery from the MVP system; evaluate opportunities for regional water treatment projects among CVWD, the City of Coachella and IWA to capture economies of scale, and determine the amount of Canal water desalination needed to minimize taste, odor and corrosion. These projects will deliver up to 90,000 AFY of treated Canal water for urban use by 2045 to reduce existing and future groundwater pumping. (2011 SPEIR, pp. 3-17 to 3-18.)

### New Projects and Programs

In addition to those programs identified in the 2002 CVWMP that will continue or be expanded, the following projects and programs are elements of the 2010 CVWMP: Canal water use for urban irrigation; groundwater recharge in the Indio area; investigation of groundwater storage opportunities with IID; additional groundwater treatment for arsenic; development of a salt/nutrient management plan; desalination brine disposal; evaluation of Canal water loss reduction; drainage control; evaluation of stormwater capture feasibility; and development of local groundwater supplies for non-potable use. (2011 SPEIR, p. 3-18.)

### Canal Water Use for Urban Irrigation

As development proceeds in the East Valley, CVWD and the other Valley water purveyors will require new development to install dual piping systems for distribution of non-potable water (Canal or recycled water) for landscape irrigation. This program will offset the reduced Canal water use by agriculture as land use transitions to urban development. It will also reduce groundwater pumping for urban use. From at least two-thirds to as much as 80 percent of the landscape demand of new development will be connected to non-potable water delivery systems. This will result in the utilization of 91,000 to 108,000 AFY of non-potable water by 2045. This program is essential to continued full use of the Valley's Colorado River water supplies as agricultural land use declines. (2011 SPEIR, p. 3-18.)

### Groundwater Recharge in the Indio Area

The City of Indio is evaluating the feasibility of constructing a groundwater recharge project within its service area. Pursuant to the Indio-CVWD settlement agreement (2009), CVWD will work with the City of Indio to evaluate the feasibility of developing a groundwater recharge project that reduces groundwater overdraft in the Indio area. Indio has no water rights, so the supply will be Canal water, either purchased from CVWD or purchased from another rights holder and exchanged for Canal water. The 2010 CVWMP Update assumes that an Indio area

groundwater recharge project could offset pumping by 10,000 AFY. The actual amount will depend on the feasibility study results. (2011 SPEIR, pp. 3-18 to 3-19.)

### Investigation of Groundwater Storage Opportunities with IID

As part of the QSA, CVWD and IID signed an agreement that allows IID to store surplus Colorado River water in the Coachella Valley groundwater basin. Under the agreement, CVWD will store water for IID, subject to available storage space, delivery and recharge capacity and the prior storage rights of CVWD, DWA and Metropolitan. Stored water would incur a 5 percent recharge loss and a 5 percent per year storage loss. IID may also request CVWD to investigate and construct additional locations for direct or in-lieu recharge facilities and possible water extraction facilities. IID is currently investigating several sites in the East Valley near the Coachella Canal. Because of the uncertain nature of the facilities, the potential impacts of this water storage program are not evaluated in the 2010 CVWMP and SPEIR but would be considered in a separate, project-level document if a storage program is determined to be feasible. (2011 SPEIR, p. 3-19.)

### Additional Groundwater Treatment for Arsenic

The quality of Coachella Valley groundwater generally is high and most of the groundwater delivered to urban customers receives only disinfection. Currently, the only other groundwater treatment is for arsenic removal in a portion of the East Valley. Naturally-occurring arsenic is found in the eastern Coachella Valley groundwater from Mecca to Oasis and appears to be associated with local faults and geothermal activity. CVWD identified six of its domestic water wells with arsenic levels above the revised federal maximum contaminant limit (MCL) of 0.01mg/L. In early 2006, CVWD completed construction of three groundwater treatment facilities that use an ion-exchange process with a brine minimization and treatment process to remove arsenic. The facilities can be expanded to treat additional wells in the future. In response to elevated arsenic levels in private wells (chiefly serving mobile home and recreational vehicle (RV) parks and certain tribal wells), CVWD is pursuing federal grants to fund a portion of the cost to extend the potable water system to serve these affected communities. CVWD is also assisting the communities in connecting to the potable water system to the extent feasible. CVWD is evaluating the feasibility of treating Colorado River water (Coachella Canal water) for delivery to urban water users. To the extent Canal water is used for urban indoor use, additional arsenic removal will not be needed for those areas. However, as required to meet future demands and provide adequate redundancy, CVWD may need to expand its existing arsenic treatment facilities or construct new facilities to treat water from additional wells. (2011 SPEIR, p. 3-19.)

### Development of Salt/Nutrient Management Plan

The State Water Resources Control Board (SWRCB) Recycled Water Policy (adopted February 11, 2009) requires every region in the State to develop a salt/nutrient management plan by 2014. The goal of the plans is to responsibly increase the use of recycled water. The salt/nutrient management plans are intended for management of all sources contributing salt/nutrients on a basin-wide basis to ensure that ground and surface water quality objectives are achieved. The Coachella Valley plan will assess the salt contributions of imported water,

including that used for groundwater recharge and evaluate the feasibility of reducing salt in recharge water. The Coachella Valley Regional Water Management Group (CVRWMG), of which the City of Coachella and CVWD are a member, has taken the lead in developing a salt/nutrient management plan with participation from interested Tribes and other parties that meets the SWRCB requirements to increase cost-effective recycling of municipal wastewater in the Valley. (2011 SPEIR, pp. 3-19 to 3-20.) The Coachella Valley Water District, Coachella Water Authority, Desert Water Agency, and Indio Water Authority are working collaboratively on completion of a salt/nutrient management plan for the Coachella Valley via a transparent stakeholder process.

### Brine Disposal

The 2010 CVWMP Update proposes desalination of agricultural drain water from the CVSC for use in the East Valley. Desalination of Canal water may also be required for East Valley potable water delivery. Treatment to potable levels would produce large volumes of brine, which would need to be disposed of in a cost-effective and environmentally sound manner and in compliance with State and Federal regulations. At the same time, groundwater treatment for arsenic and for nitrate removal, if pursued, requires a salt brine to regenerate the treatment resins, a potential use for the desalination brine. In addition, creation of salt or brackish water wetlands near the Salton Sea may also use the brine on a pass-through basis. Consequently, a brine disposal system is required to safely convey salts to an acceptable point of disposal. Concepts for brine conveyance and disposal and their feasibility will be evaluated in conjunction with the salt/nutrient management plan described above. (2011 SPEIR, p. 3-20.)

### Canal Water Loss Reduction

Allocated losses and unaccounted-for water in the All-American Canal, the Coachella Canal and the distribution system are due to seepage, leakage and evaporation and may be as high as 31,000AFY. Under the 2010 CVWMP Update, to increase the amount of water delivered to the Coachella Valley, CVWD will conduct a study to determine the amount of water lost to leakage in the first 49 miles of the Coachella Canal and evaluate the feasibility of corrective actions to capture the lost water. This may require the installation of additional flow metering locations along the Canal. If feasible, CVWD will implement the recommendations of this study and work with IID to develop a transparent system for allocating losses along the All-American Canal. (2011 SPEIR, p. 3-20.)

### Drainage Control

Both basin management (shallow groundwater level control and salt export) and the prevention of adverse impacts to shallow groundwater require that CVWD's existing agricultural drainage system be maintained in some form or replaced as urban development proceeds to prevent water logging of clayey soils. Funding will be needed to replace, expand, enhance and maintain the drainage system for urban development in the future. CVWD is evaluating alternative methods for funding the drainage system and will undertake a study of the improvements needed to continue system operation in the future. (2011 SPEIR, p. 3-20.)

### Stormwater Capture

Stormwater capture has been identified in the 2010 CVWMP Update as a viable method for increasing the amount of local water available for either groundwater recharge or direct use. The amount of additional stormwater that could be captured and used has not been documented. Based on this, CVWD will undertake the following measures: conduct a feasibility study to investigate the potential for additional stormwater capture in the East Valley; and if cost effective, implement stormwater capture projects in conjunction with flood control facilities as development occurs in the East Valley.

Proposals to capture stormwater will only be considered to offset groundwater pumping or provide replenishment if they can clearly demonstrate that the water captured is "new water" that otherwise would have been lost to the Salton Sea or evapotranspiration, rather than water already considered in the Valley water balance. (2011 SPEIR, pp. 3-20 to 3-21.)

### Development of Local Groundwater Supplies for Non-Potable Use

An investigation of groundwater development in the Fargo Canyon Subarea of the Desert Hot Springs Subbasin will be conducted to determine the available supply and suitability for use in meeting non-potable demands of future development east of the San Andreas Fault. CVWD will propose that a study be performed jointly with the cities of Coachella and Indio. Preliminary estimates prepared for the 2010 CVWMP Update indicate that up to 10,000 AFY of local groundwater supply, which includes returns (excess) from irrigation use, might be developed, depending upon the ultimate level of development in this area. (2011 SPEIR, p. 3-21.)

### Potential Future CVWMP Elements

Several programs and projects have been identified for possible inclusion in future updates to the CVWMP, pending the results of feasibility studies and environmental compliance documents. These include: SWP Extension (Construction of a pipeline to convey SWP water directly to the Coachella Valley); Desalination of Recharge Water (Construction of desalination facilities to reduce the salt load of imported water used for groundwater recharge); Nitrate Treatment (Pumping and treatment of high nitrate groundwater to reduce the potential for basin contamination); and Seawater Desalination (Participation in a future coastal seawater desalination project and delivery of water to the Coachella Valley through water exchanges or transfers.) Although feasibility studies of some of these projects are underway, none of the projects have advanced sufficiently through the implementation process to be included in the 2010 CVWMP Update. Consequently, they were not specifically evaluated in the SPEIR. (2011 SPEIR, p. 3-21.)

### Other Programs

Other water management programs in the Coachella Valley are monitoring and data management activities, well management programs, and stakeholder input. These are presented in CVWD's 2010 CVWMP for information purposes, but were not subject to CEQA review. (2011 SPEIR, p. 3-22.)

#### Monitoring and Data Management

According to the 2010 CVWMP, the following new programs/projects should be implemented to improve monitoring and data management in the Valley: develop water resources database to facilitate data sharing among participating agencies and Tribes; construct additional monitoring wells in conjunction with new recharge facilities; develop a water quality assessment that identifies on-going monitoring activities in the basin; update and recalibrate Coachella Valley groundwater model based on current data and conduct a peer review of updated model; develop a new planning interface and database that can be linked with land use plans and agricultural activities to better distribute pumping and return flows to the model; develop and calibrate a water quality model capable of simulating the changes in salinity and possibly other conservative water quality parameters in conjunction with the salt/nutrient management plan; and develop a coordinated approach among the water purveyors and CVAG for calculating urban per capita water usage. (2011 SPEIR, pp. 3-22 to 3-23.)

#### Implementation Plan

The implementation strategy for the 2010 CVWMP is a function of water needs and the feasibility of specific programs. CVWD, in conjunction with the Tribes and the other Valley water districts as appropriate, will implement new Plan elements on an established schedule. (2011 SPEIR, p. 3-23.)

#### Near Term Projects to Meet Water Management Needs

Even with recessionary forces and slowed growth, existing and planned CVWMP projects will continue to be implemented. Ongoing actions that will continue include: Whitewater recharge with SWP Exchange water and SWP purchases; implementation of the QSA; Levy Facility recharge at current levels of 32,000 AFY; Martinez Canyon recharge at current pilot level of 3,000 AFY; water conservation programs at current levels, including implementation of the adopted Landscape Ordinance and recycling in the West Valley; increased use of Canal water by golf courses with Canal water connections; conversion of East Valley agriculture to Canal water as opportunities arise; groundwater level/quality monitoring; and subsidence monitoring. (2011 SPEIR, p. 3-23.)

# ADDITIONAL PROJECT DESCRIPTION

## PLANNING AREA DESCRIPTION

The proposed 2035 growth projections include approximately 33,406 dwelling units across the City's 17 planning areas. The 17 planning areas are located within the City limits and Sphere of Influence (SOI). The Coachella Water Authority (CWA), which is part of the City's Utilities Department, will serve as the public water system for the planning areas. Figure 4.16-1 shows the 17 planning areas location within the City and surrounding Coachella Valley region.

## PLANNING AREA LAND USE SUMMARY

The 17 planning areas include a mixture of single and multi-family residential development, retail and commercial development, office and research development, industrial development, and open space conservation land. Table 4.16-1 provides a summary of the proposed land uses for the various planning areas. Table 4.16-2 provides a more detailed breakdown of projected development in each of the 17 planning areas.

**Table 4.16-1: Planning Area Proposed Land Use Summary**

| Land Use | Units | Area (Acres) |
|---|---|---|
| Single Family Residential | 15,218 | 2,573 |
| Multi-Family Residential | 18,188 | 988 |
| Retail/Commercial | - | 239 |
| Office/Business | - | 86 |
| Industrial | - | 120 |
| Parks/Recreation | - | 341 |
| Total: | 33,406 | 4,349 |

[1] Based on growth projections prepared by Raimi and Associates, March, 2014.

**Table 4.16-2: Planning Area Land Use Breakdown**

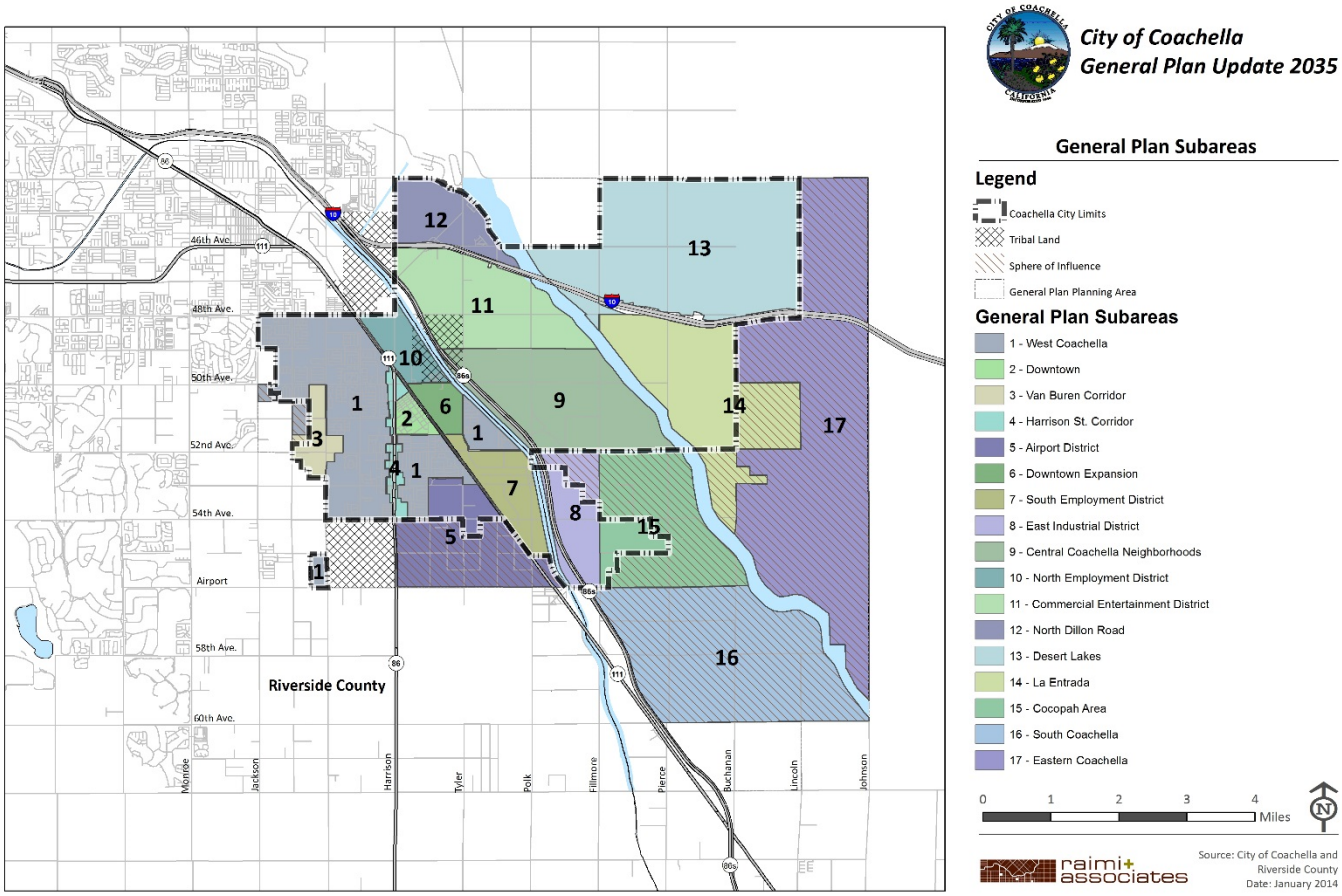
| Sub-Area | Percent of Max Capacity | | SF (DUs) | SF (Acres) | MF (DUs) | MF (Acres) | Ret/Com (sq. ft.) | Off/R&D (sq. ft.) | Ind (sq. ft.) |
|---|---|---|---|---|---|---|---|---|---|
| | Resi-dental | Non-Resi | | | | | | | |
| 1 | 70% | 50% | 2,423 | 333 | 2,821 | 122 | 1,183,506 | 36,261 | 0 |
| 2 | 40% | 50% | 29 | 2 | 212 | 7 | 293,967 | 98,549 | 0 |
| 3 | 40% | 20% | 214 | 21 | 571 | 62 | 568,036 | 2,667 | 0 |
| 4 | 50% | 50% | 12 | 2 | 604 | 23 | 587,248 | 54,460 | 0 |
| 5 | 0% | 15% | 0 | 0 | 0 | 0 | 201,827 | 1,517,281 | 1,837,357 |
| 6 | 40% | 20% | 14 | 3 | 1,875 | 54 | 116,961 | 1,052,652 | 0 |
| 7 | 0% | 30% | 0 | 0 | 0 | 0 | 0 | 0 | 1,564,779 |
| 8 | 0% | 10% | 0 | 0 | 0 | 0 | 0 | 0 | 1,178,304 |
| 9 | 50% | 35% | 3,261 | 498 | 3,483 | 159 | 2,483,200 | 22,207 | 0 |
| 10 | 20% | 25% | 20 | 8 | 0 | 0 | 0 | 0 | 639,672 |
| 11 | 50% | 30% | 2,127 | 244 | 4,686 | 302 | 2,681,682 | 718,129 | 0 |
| 12 | 45% | 20% | 568 | 77 | 618 | 111 | 1,004,947 | 0 | 0 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 13 | 10% | 5% | 680 | 136 | 0 | 0 | 40,285 | 0 | 0 |
| 14 | 100% | 100% | 5,683 | 1,068 | 3,317 | 149 | 1,259,516 | 244,494 | 0 |
| 15 | 10% | 5% | 186 | 174 | 0 | 0 | 0 | 0 | 0 |
| 16 | 5% | 100% | 0 | 6 | 0 | 0 | 10,136 | 0 | 0 |
| 17 | 0% | 0% | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Totals | | | 15,218 | 2,573 | 18,188 | 988 | 10,431,311 | 3,746,700 | 5,220,112 |
| Multipliers (avg hh size or jobs per 1000) | | | 3.5 | | 2.25 | | 1.5 per 1000 | 2 per 1000 | 1 per 2000 |
| Population and Jobs | | | 53,263 | | 40,923 | | 15,647 | 7,493 | 2,610 |

[1] Based on growth projections prepared by Raimi and Associates, March 2014.

[2] The above excludes existing development and approved projects in Sub-Area 1.

Figure 4.16-1: Planning Areas



## SERVICE AREA DESCRIPTION

The City, incorporated in 1946, encompasses approximately 32 square miles in Riverside County. The area is known as the Lower or East Coachella Valley. Existing land uses within the City consists primarily of single and multi-family homes. There is a commercial/light industrial zone along the freeway and 86-S Expressway corridors, agricultural zone east of Highway 86/111, and a heavier industrial zone in the southern part of the City. The population of the small, stable community has a young median age. Full build-out of the City's SOI, for a total service area of approximately 53 square miles, is not anticipated until sometime after 2050. The City's water supply service area is shown in Figure 3-1, which includes the service area outside the city limits, but within the SOI.

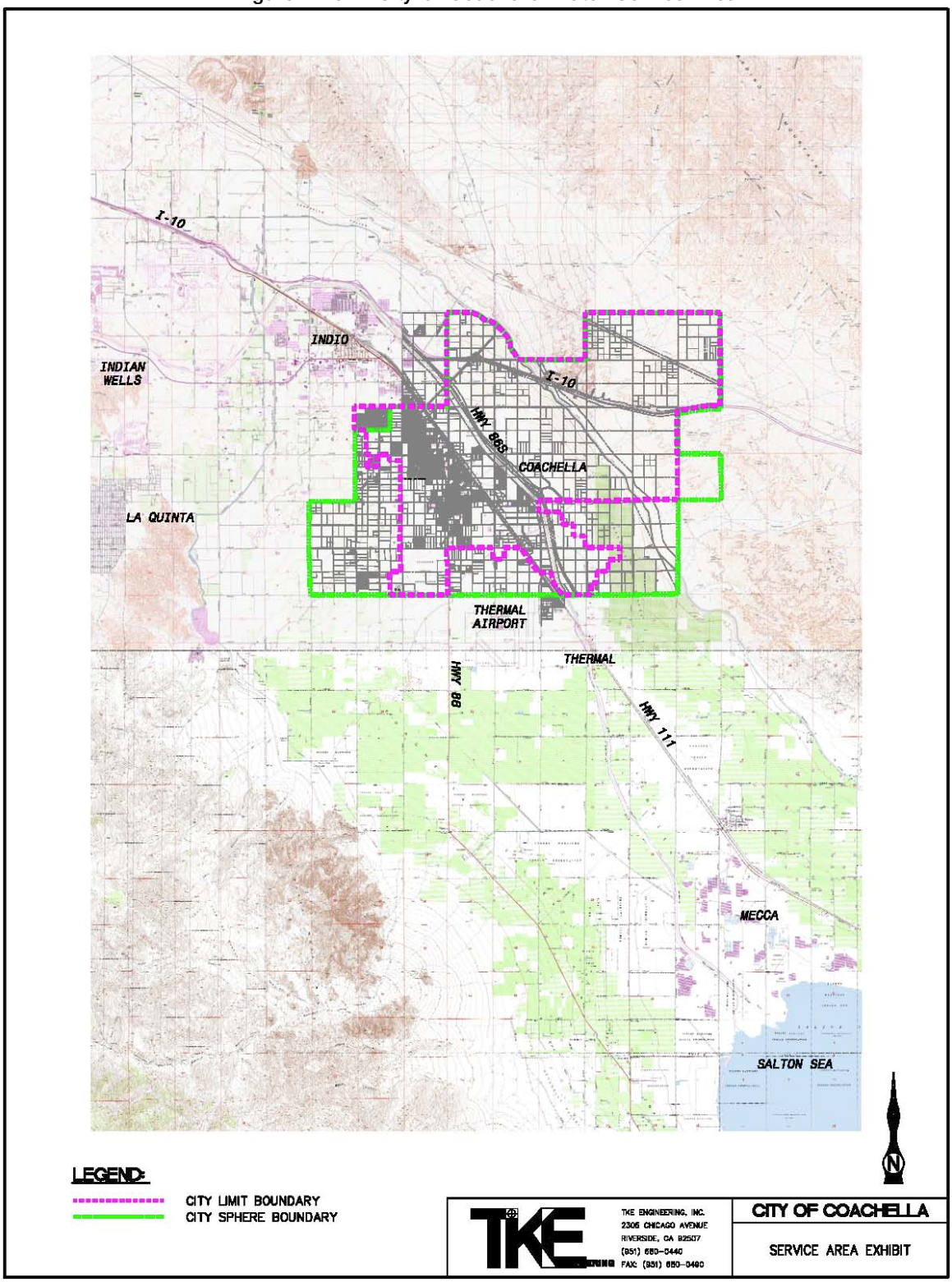
## FACILITIES

The City utilizes the Coachella Valley Groundwater Basin, Indio Subbasin; Basin Number 7-21.01 (also referred to as the Whitewater River Subbasin) to meet all of its water supply needs. As discussed throughout this Section, the Basin includes native supplies, and recycled water and imported supplies that are recharged to the Basin to replenish native supplies. The Basin is not adjudicated. The City presently uses approximately three to five percent of the total volume of water withdrawn from the Basin each year. The City supplies 100 percent of its potable water from City owned and operated wells. The City presently operates eight (8) active groundwater wells, Well Nos. 7, 10, 11, 12, 16, 17, 18, and 19, with a total production capacity of approximately 12,500 gallons per minute (gpm) or 18 million gallons per day (MDG). In 2010, annual production was approximately 2,700 million gallons or 8,200 acre-feet. Water provided by these wells is of excellent quality and requires no treatment, other than chlorination, to maintain quality requirements of the California Department of Public Health.

The City is intersected by the Coachella Branch of the All-American Canal (Coachella Canal) and the Colorado River Aqueduct. The Coachella Canal is owned by the United States Bureau of Reclamation and is operated and maintained by the Coachella Valley Water District (CVWD). The Colorado River Aqueduct is owned, operated and maintained by the Metropolitan Water District of Southern California (MWD). The Coachella Canal bisects the City starting in the south and moving in a northwesterly direction. The Colorado River Aqueduct passes through the northeastern portion of the City's service area through a closed conduit to prevent losses during conveyance. These waters are used for irrigation and groundwater recharge, respectively.

The City operates a secondary-treatment wastewater facility with a 2.4 MGD capacity and currently processes approximately 1.7 MGD of wastewater. Wastewater effluent is conveyed to the Salton Sea via the storm water channel. The existing treatment plant can be upgraded to a tertiary treatment plant in the future which would permit recycled water to be used for direct non-potable purposes, as further discussed in below.

Figure 4.16-2: City of Coachella Water Service Area



## CLIMATE

The City is located in the Coachella Valley. The climate is arid with the majority of precipitation occurring as rainfall in the winter months between November and March. The average rainfall for the Coachella area is approximately 4 inches per year. The only known measurable snowfall occurred on January 31, 1979.

Winter temperatures are generally between the low 40's and the mid 70's. Summer temperatures are generally between mid 70's and the low 100's. Table 4.16-3 shows the average monthly evapotranspiration rate (ETo), rainfall, and temperature for the City of Coachella area.

**Table 4.16-3: City of Coachella Area Climate**

| | | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Total or Average |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Monthly Average ETo[1] | | 1.59 | 2.54 | 4.03 | 5.67 | 7.81 | 8.74 | 9.28 | 8.42 | 6.26 | 4.39 | 2.36 | 1.59 | 62.68 |
| Average Temperature (Fahrenheit)[2] | Max | 71 | 76 | 80 | 86 | 94 | 102 | 107 | 106 | 101 | 92 | 80 | 72 | 88.9 |
| | Min | 40 | 45 | 50 | 57 | 64 | 71 | 77 | 77 | 70 | 60 | 47 | 38 | 58.0 |
| Average Rainfall (inches)[3] | | 0.60 | 0.50 | 0.40 | 0.10 | 0.10 | 0.00 | 0.30 | 0.50 | 0.40 | 0.30 | 0.40 | 0.40 | 4.00 |

[1] California Irrigation Management Information System, Department of Water Resources, Office of Water Use Efficiency, Monthly Average ETo Report for Station 200, Indio 2, Imperial/Coachella Valley – all other nearby stations are inactive or too new; [on-line] http://www.cimis.water.ca.gov/cimis/frontMonthlyEToReport.do

[2] [3] [on-line] http://countrystudies.us/united-states/weather/California/indio.htm (closest to Coachella and similar to CIMIS Station 200 Indio 2 report)

## SERVICE AREA POPULATION

The City's service area population is expected to increase steadily in the future, according to population projections provided by the California Department of Finance and Riverside County Transportation and Land Management Agency (RCTLMA). The General Plan Update includes its own set of population projections that are more tailored to the City and specific policies included in the General Plan Update. For instance, the General Plan Update takes into account changes to housing densities for future development and land use changes. The General Plan Update population projections are similar to the RCTLMA, with no difference in the 2035 population projection and an average of 5 percent difference in the incremental five-year periods. Table 4.16-4 shows the City's service area population since 2005 and estimates the population increase through the year 2035 in five-year increments based on General Plan Update data.

**Table 4.16-4: City of Coachella Population Projections**

| | 2005 | 2010 | 2015 | 2020 | 2025 | 2030 | 2035 |
|---|---|---|---|---|---|---|---|
| Service Area Population | 29,754 | 40,704 | 51,287 | 71,802 | 92,624 | 113,928 | 134,890 |

[1] Based on growth projections prepared by Raimi and Associates, August 2012

## WATER DEMANDS

### City Past and Current Water Use

As previously stated, the City's service area population was trending upward until 2007, when growth trends leveled off due to economic downturn. As such, the City saw a much greater increase in the number of metered accounts leading up to 2007 and a relatively small increase between 2008 and 2010. However, as indicated above, population in the City will continue to increase over time. It should be noted that water deliveries and metered account growth rates do not directly reflect population growth since population growth is estimated from County data and the metered accounts are a direct representation of accounts added by the City over the same time period. The principal influencing factor is the various types of development that were built (i.e., single-family residential households generally have a lower number of persons per unit compared to multi-family residential development). Additionally, approximately 49.6 percent of households in the City had at least 5 people. Table 4.16-5 show the past and complete data set representative of current water use for the City's water service area shown by water use sectors.

**Table 4.16-5: Past and Current Water Deliveries**

| Water use sectors | 2005 | 2010 |
|---|---|---|
| Units: Millions gallons per year | Volume | Volume |
| Single family | 946 | 1,426 |
| Multi-family | 222 | 307 |
| Commercial/Institutional | 179 | 376 |
| Industrial | 137 | 43 |
| Landscape Irrigation | 139 | 312 |
| Agriculture Irrigation | 0 | 0 |
| Other | 692 | 227 |
| Total | 2,315 | 2,691 |

### City Water Demand Projections

The projected water use for the City over the next 20 years is generally expected to increase at a similar rate to that of the projected population increase within the City and its SOI; provided, however, that per capita water use reductions achieved pursuant to SBx7-7 (see discussion herein) may be expected to affect the relationship between increased population and increases in total water use. The City Development Services Department show active processing for several proposed and recently approved development projects, ranging in size from 10 residential units to mixed-use developments such as La Entrada with over 7,800 residential units. The total number of residential units associated with these proposed and recently approved projects is approximately 20,000. These units are included in the City's SOI, which is not anticipated for full build out until after 2050. Thus, many of these development projects are either in the preliminary planning stages or may have been put on hold by applicants during the economic downturn. Projected water use for 2015 through 2035 in five-year increments is provided in Table 4.16-6. These demand projections are based on projected population and per capita water use, as shown in Table 4.16-7. The population projections are based on General Plan Update data as presented in the previous section. Per capita water use was calculated in the City's 2010 UWMP. As presented in the City's 2010 UWMP, the water use is currently 191 gallons per capita per day (gpcd), with a projected reduction to 186 gpcd by 2015 and 181 gpcd by 2020 and beyond in accordance with the requirements of SBx7-7. The estimated increase in annual water use from 2010 to 2035 is 6,074 million gallons or 18,642 acre-feet.

**Table 4.16-6: Future Per Capita Water Use**

| Year | Total Population | Per Capita Water Use (gpcd) | Total per Capita Water Use (gpcd) | Annual Water Use (MG) | Percent Increase |
|---|---|---|---|---|---|
| 2010 | 40,704 | 191[1] | 7,774,464 | 2,838 | - |
| 2015 | 51,287 | 186 | 9,539,382 | 3,482 | 23% |
| 2020 | 71,802 | 181 | 12,996,162 | 4,744 | 36% |
| 2025 | 92,624 | 181 | 16,764,944 | 6,119 | 29% |
| 2030 | 113,928 | 181 | 20,620,968 | 7,527 | 23% |
| 2035 | 134,890 | 181 | 24,415,090 | 8,912 | 18% |

[1] As presented in the City's 2010 UWMP, Table 3.2-3, the base daily per capita water use 5-year average is 191 gpcd. It should be noted that this is a planning number and varies slightly from actual metered sales presented in Table 4.16-5 (2,691 MG Actual Sales versus 2,838 MG Planning Estimate).

**Table 4.16-7: Project 2015, 2020, 2025, 2030, and 2035 Water Deliveries**

| | 2015 | 2020 | 2025 |
|---|---|---|---|
| Water use sectors | Volume | Volume | Volume |
| Single family | 1,844 | 2,513 | 3,241 |
| Multi-family | 397 | 541 | 698 |
| Commercial/Institutional | 487 | 663 | 856 |
| Industrial | 56 | 77 | 99 |
| Landscape Irrigation | 403 | 549 | 709 |
| Agriculture Irrigation | 0 | 0 | 0 |
| Other | 294 | 400 | 516 |
| Total (million gallons per year): | 3,482 | 4,744 | 6,119 |
| Total (acre-feet per year): | 10,686 | 14,559 | 18,781 |
| | 2030 | 2035 | |
| Water use sectors | Volume | Volume | |
| Single family | 3,987 | 4,721 | |
| Multi-family | 859 | 1,017 | |
| Commercial/Institutional | 1,053 | 1,246 | |
| Industrial | 122 | 144 | |
| Landscape Irrigation | 872 | 1,032 | |
| Agriculture Irrigation | 0 | 0 | |
| Other | 635 | 752 | |
| Total (million gallons per year): | 7,527 | 8,912 | |
| Total (acre-feet per year): | 23,101 | 27,351 | |

As indicated above, Riverside County was hit particularly hard by the last economic downturn. The County experienced some of the highest rates of foreclosures and unemployment in the country. Due to these conditions, growth in the County has significantly decreased over the last two to three years. The Riverside County Planning growth forecasts were developed and adopted in late 2006 and early 2007, before the onset of the widespread recession. Therefore, the slowdown in the housing market, which was one of the primary components of the recession, was not accounted for in the forecasts, which resulted in a lower than projected growth rate for the Valley. The timing and extent of this reduced growth rate cannot be accurately predicted. Because the planning period for the 2010 CVWMP Update is through 2045 and the General Plan Update is through 2035, it is expected that the effect of the recession on growth in the Valley will attenuate over the long term. For the purpose of CVWD's 2010 CVWMP Update, it is assumed that development within the Valley will continue and that the Riverside County Planning growth forecasts are applicable throughout the planning period. That assumption results in a particularly conservative analysis for purposes of the 2010 CVWMP and the General Plan Update because the actual growth and the actual increases in water demand associated with growth are

likely to be much lower than the forecasts that have been used for long term water supply planning purposes.

### Regional and Local Water Supply Setting

As indicated in the City 2010 UWMP, the CVWD 2010 UWMP, the 2010 CVWD CVWMP Update and the 2011 SPEIR discussed above, the Coachella Valley relies on a combination of local groundwater, Colorado River (CR) water, State Water Project (SWP) water, surface water, recycled water, and other developed supplies to meet current and projected water demands.

As explained throughout this analysis, the City produces its water supplies from the Coachella Valley Groundwater Basin, specifically, the East (Lower) Whitewater River Subbasin, which is continuously replenished at the local and regional level pursuant to a variety of water supply projects and programs. The East (Lower) Whitewater River Subbasin is regionally managed by CVWD and other entities. CVWD has statutory authority to replenish local groundwater supplies and collect assessments necessary to support a groundwater replenishment program as provided in the County Water District Law. As indicated in the referenced CVWD 2010 UWMP, CVWD 2010 CVWMP and CVWD 2011 SPEIR, the Coachella Valley groundwater basin area serves as an expansive conjunctive use resource that is capable of ensuring a sufficient and sustainable water supply to serve existing uses and projected growth during normal, single-dry and multiple-dry years over an extended planning horizon, currently established as the year 2045. Not only does the basin contain vast reserves of local groundwater (approximately 25 million AF), it has substantial available storage space that has been utilized and will continue to be utilized to store millions of acre-feet of supplemental supplies that become available during normal and above-normal years. Those surplus supplies are recharged to the basin for later use during dry periods.

In 2002, CVWD prepared a Water Management Plan to provide a road map for meeting future water demand throughout its service area, including the City. It included recommendations for water conservation, additional imported supplies, source substitution, and groundwater recharge elements. CVWD successfully implemented an urban water conservation program, acquired additional SWP supplies, constructed the initial phase of the Mid-Valley Pipeline, and constructed the Thomas E. Levy Groundwater Replenishment Facility. CVWD updated the Plan in 2010. The new 2010 CVWMP recommends greater conservation (agricultural conservation, additional urban conservation, and golf course conservation), supply development (acquisition of additional imported water supplies, recycled water use, and desalinated drain water), groundwater recharge program enhancements, and source substitution programs. A number of new projects and programs are recommended and presented in Section 8 of the 2010 CVWMP.[10] (See above for an overview discussion of the 2010 CVWMP and related 2011 SPEIR that has been adopted and certified pursuant to CEQA.)

10 See also: CVWD 2010 CVWMP, Section 4, Existing Water Supplies.

### Groundwater

Groundwater[11] is the principal source of municipal water supply in the Coachella Valley. The main groundwater source for the entire valley is the Coachella Valley Groundwater Basin, Indio Subbasin, Basin Number 7-21-01, also known as the Whitewater River Subbasin, as shown in Figure 4.16-3. The east (lower) portion of the Whitewater River Subbasin is shared by CVWD, Indio Water Authority, Coachella Water Authority (City), and numerous private groundwater producers.

### Basin Description

The Whitewater River Subbasin underlies a major portion of the valley floor and encompasses approximately 400 square miles. Beginning approximately one mile west of the junction of State Highway 111 and Interstate 10, the Subbasin extends southeast approximately 70 miles to the Salton Sea. It is bordered on the southwest by the Santa Rosa and San Jacinto Mountains and is separated from other basins by the Garnet Hill and San Andreas faults. The 2010 CVWMP provides a more comprehensive description and discussion of the Subbasin, which is incorporated herein.[12]

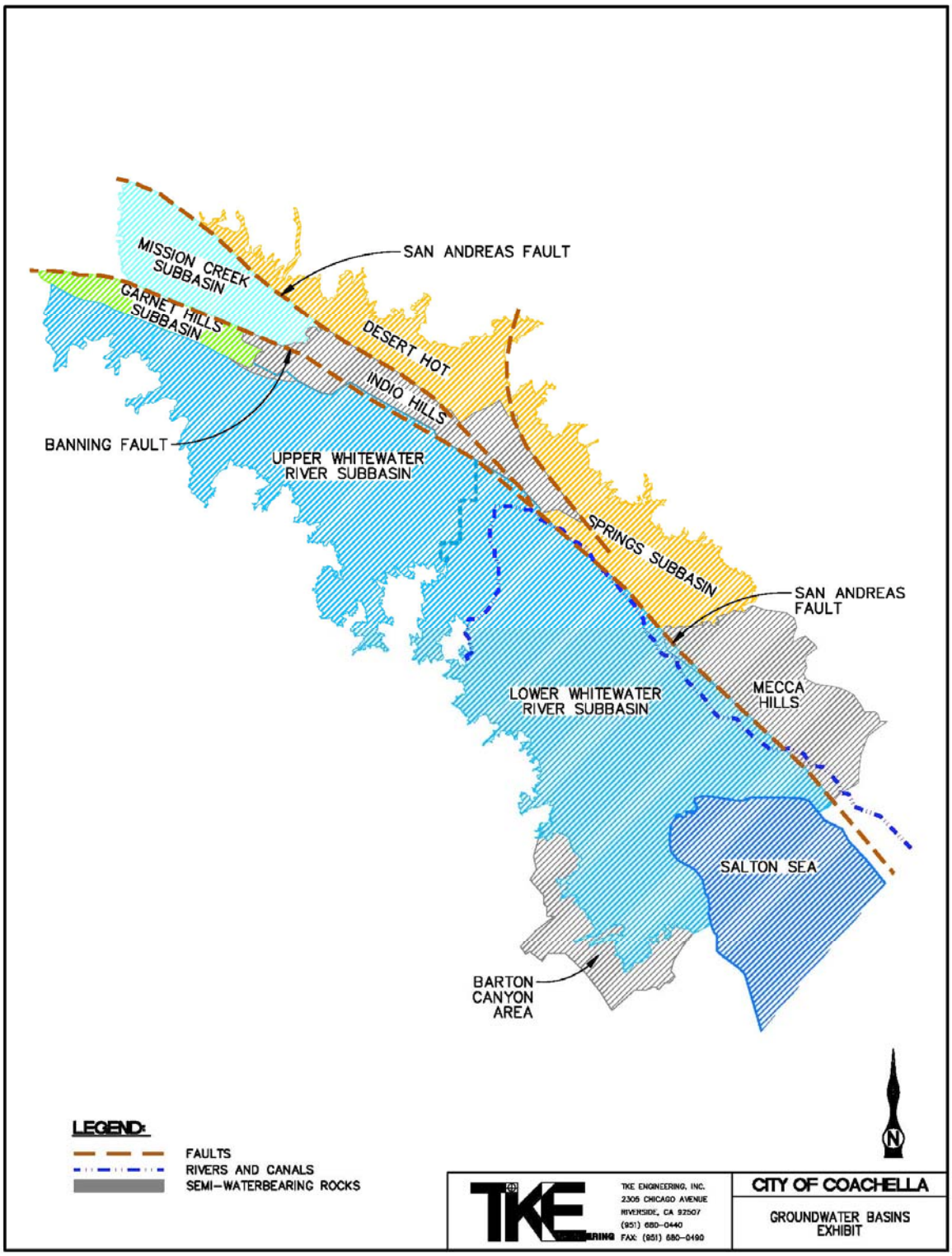
### Public Water System Use Rights

As noted by DWR Bulletin 118, the basin is not adjudicated. As such, there are no specifically established limitations on the rights of the City to withdraw water. Bulletin 118 notes that groundwater management in the basin is a local responsibility, and therefore decisions regarding basin conditions and controlled overdraft are the responsibility of local agencies. With specific regard to the Whitewater River Subbasin and surrounding areas, CVWD, one of the region's SWP contractors, developed the 2002 CVWMP and 2010 CVWMP Update for the long-term management of groundwater resources. As detailed in those Plans and discussed in this Section, CVWD has determined that the total projected water supplies available to the basin area, including the City and its SOU, during normal, single-dry and multiple-dry periods throughout the year 2045 are sufficient to meet the needs of existing uses and projected growth. (See, e.g., 2010 CVWMP, pp. 7-2 to 7-12; 2011 SPEIR, pp. 3-4 to 3-9.) Moreover, the potential environmental effects of implementing the projects and programs contained in the 2010 CVWMP have been analyzed in accordance with CEQA, and the determination has been made that implementation of the 2010 CVWMP will have a beneficial effect on groundwater resources. (See, e.g., 2010 CVWMP, pp. 7-18 to 7-31; 2011 SPEIR, pp. 3-23 to 3-33.) CVWD, with assistance from other water agencies including the City's Coachella Water Authority, have been implementing water supply projects, programs and related management actions of the CVWMPs since 2002. A notable requirement under the CVWMP is that the City (and other agency producers) must pay a replenishment assessment charge (RAC) for each acre-foot of groundwater produced. The current RAC is $24 per acre-foot of groundwater pumped. In 2010, the City produced approximately 8,340 acre-feet of groundwater and paid approximately $200,000 in RAC. In addition to the CVWMP process, in December 2010 the Coachella Valley Integrated Regional Water Management Plan (IRWMP) was

11 As indicated throughout this analysis, the term groundwater refers to local groundwater and imported, recycled and other supplies that are continuously recharged to the basin and extracted from groundwater wells.

12 See 2010 CVWMP, Section 4.1.1, Whitewater River Subbasin.

Figure 4.16- 3: Groundwater Basins




developed to promote a regional approach for addressing water management issues and to enhance the region's eligibility for state funding opportunities for water resource projects. The IRWMP was created

by the Coachella Valley Regional Water Management Group (CVRWMG), which is a partnership of CWA, CVWD, DWA, Indio Water Agency, and the Mission Springs Water District.

### Status of Groundwater Basin

As noted above, the 2010 CVWMP Update and 2011 SPEIR conclude that the total projected water supplies available to the basin area, including the City and its SOI, during normal, single-dry and multiple-dry periods throughout the year 2045 are sufficient to meet the needs of existing uses and projected growth. (See, e.g., 2010 CVWMP, pp. 7-18 to 7-31; 2011 SPEIR, pp. 3-23 to 3-33.) Along with those conclusions, the 2010 CVWMP states that the demand for groundwater in the Basin has annually exceeded the natural recharge of the groundwater basin and that condition has caused groundwater levels to decrease in portions of the Lower Valley and has raised concerns about water quality degradation and land subsidence. If left unaddressed and unmanaged, such groundwater conditions could result in increased groundwater pumping costs, continued decline of groundwater levels, and water quality degradation in the Basin. Because of the difficult nature of quantifying overdraft, CVWD has based its assessment of the issue on the change in freshwater storage in the Basin. For 2014, the latest report available, there was a gain in storage which was opposite from the losses experienced in previous years and was estimated at 3,636 AF.[13] Importantly, and as noted throughout this Section and the water supply planning and CEQA documents that support its analysis, Basin conditions have been and will continue to be fully addressed and comprehensively managed. Consistent with the conclusions of CVWD's 2010 CVWMP Update and 2011 SPEIR, it is expected that continued implementation of CVWMP recommendations will improve overdraft conditions and have a beneficial effect on the groundwater basin.

### Groundwater Management Efforts

As presented above, CVWD is successfully implementing an urban water conservation program, has acquired additional SWP supplies, and has constructed the Thomas E. Levy Groundwater Replenishment Facility, among a host of other water management programs and actions. The 2010 CVWMP Update recommends greater conservation (agricultural conservation, additional urban conservation, and golf course conservation), supply development (acquisition of additional imported water supplies, recycled water use, and desalinated drain water), groundwater recharge program enhancements, and source substitution programs as means of improving basin conditions while ensuring a sufficient and sustainable source of water supply for existing and projected uses throughout the region. In addition to the information and analyses presented in this Section, other descriptions of the projects and programs within the City and CVWD service areas are set forth in the City 2010 UWMP, CVWD 2010 UWMP, CVWD 2010 CVWMP and 2011 SPEIR, which discussions are incorporated herein by reference.[14]

13 CVWD Engineers Report on Water Supply and Replenishment Assessment, East (Lower) Whitewater River Subbasin Area of Benefit, 2014-2015.

14 See discussion above regarding management efforts to ensure water supply sufficiency and improved groundwater conditions.

### Historical Use of the Basin

The City of Coachella currently operates eight groundwater wells. In 2013, the City produced approximately 7,900 AF of groundwater. The operating conditions and controls for the wells vary, with some wells operating year-round and some turned on only seasonally. The system is controlled by a Supervisory Control and Data Acquisition (SCADA) system to ensure maximum efficiency of groundwater resources. The City presently uses approximately five percent of the total volume of water withdrawn from the East (Lower) Whitewater River Subbasin each year. Table 4.16-8 shows the City's annual groundwater production in the Subbasin over the past 14 years. Table 4.16-9 shows estimated total groundwater production in the Subbasin over the past 15 years.

**Table 4.16-8: City of Coachella Historic Well Production**

| Year | Well Production | |
|---|---|---|
| | (MG) | (AFY) |
| 2000 | 1,786.4 | 5,483 |
| 2001 | 1,882.4 | 5,777 |
| 2002 | 1,901.3 | 5,835 |
| 2003 | 2,111.8 | 6,481 |
| 2004 | 2,168.7 | 6,656 |
| 2005 | 2,314.8 | 7,104 |
| 2006 | 2,895.2 | 8,886 |
| 2007 | 2,827.8 | 8,679 |
| 2008 | 2,728.1 | 8,373 |
| 2009 | 2,715.5 | 8,334 |
| 2010 | 2,691.8 | 8,261 |
| 2011 | 2,530.0 | 7,765 |
| 2012 | 2,604.4 | 7,993 |
| 2013 | 2,586.9 | 7,939 |

Source: City of Coachella Public Water Statistic Sheets

**Table 4.16-9: Estimated Groundwater Production East (Lower) Whitewater River Subbasin**

| Year | Acre-feet |
|---|---|
| 1999[1] | 168,300 |
| 2002[2] | 166,700 |
| 2003 | 199,800 |
| 2004 | 172,300 |
| 2005 | 172,000 |
| 2006 | 172,000 |
| 2007 | 172,000 |
| 2008 | 172,000 |
| 2009 | 160,000 |
| 2010 | 150,000 |
| 2011 | 145,000 |
| 2012 | 120,064 |
| 2013 | 119,194 |

[1] From the 2002 CVWMP, Table 3-2, Summary of Historical Water Supplies in 1936 and 1999.

[2] 2002 through 2013 base on Table 2, Engineer's Report on Water Supply and Replenishment Assessment, East (Lower) Whitewater River Subbasin Area of Benefit 2014-2015.

As indicated herein, substantial regional efforts are ongoing, led by CVWD, to recharge the Whitewater River Subbasin with imported water and other supplies. Those efforts are made possible in large part because CVWD is a SWP contractor. Notably, however, the Coachella Valley does not have a direct physical connection to the SWP system. Therefore, CVWD has entered an agreement with the Metropolitan Water District of Southern California (MWD), whereby MWD delivers Colorado River supplies to CVWD in exchange for like amounts of CVWD's SWP supplies. The Colorado River deliveries are made through MWD's Colorado River Aqueduct, which crosses the Coachella Valley near Whitewater. Among other things, the exchange agreement allows for advanced delivery and storage of Colorado River water in the Coachella Basin, thereby providing flexible and efficient water management opportunities. The large storage capacity of the Basin and the large volume of water in storage allow CVWD and other local water providers, such as the City, to pump needed supplies from the Basin during dry years, where large amounts of water can be recharged in normal and above normal years.

### Projected Groundwater Use

As presented above, total projected water demand for the General Plan Update Planning Areas is estimated at approximately 6,074 million gallons per year or 18,642 AFY. For additional information regarding estimated water use for the Planning Areas, please refer to the discussion above. A detailed description and analysis of the amount and location of groundwater and recharged groundwater that is projected to be produced by the City from the Lower Whitewater Subbasin of the Coachella

Groundwater Basin are provided above. For purposes of this analysis, the facilities to be used by the City are also described herein.

### Sufficiency of the Groundwater Basin

As detailed and analyzed throughout this Section and in the City's 2010 UWMP, CVWD's 2010 CVWMP Update and CVWD's 2011 SPEIR, substantial evidence demonstrates that the groundwater and recharged groundwater supplies of the Coachella Valley Groundwater Basin are and will continue to be sufficient during normal, single-dry and multiple dry years over the 20-year projection and beyond to meet the projected demand associated with the General Plan Update , in addition to other existing and planned future uses within the City and CVWD service areas.

### Other Factors Related to the Groundwater Basin

On or about May 14, 2013, the Agua Caliente Band of Cahuilla Indians filed a federal court lawsuit against CVWD and DWA, requesting the court to "judicially recognize, declare, quantify and decree" the Tribe's right to sufficient water underlying the Coachella Valley as necessary to fulfill the purposes of the Tribe. The lawsuit contends that the development of groundwater by CVWD and DWA has adversely affected the quantity and quality of groundwater supplies underlying the Coachella Valley and the Agua Caliente Reservation, and thus has injured and infringes upon the rights of the Tribe and its members. Among other things, the lawsuit seeks the following: an injunction to prevent CVWD and DWA from withdrawing groundwater from the Upper Whitewater and Garnet Hill subbasins of the Coachella Valley Groundwater Basin underlying the Agua Caliente Reservation; an injunction to prevent CVWD and DWA from overdrafting the Upper Whitewater and Garnet Hill subbasins; an injunction to prevent CVWD and DWA from recharging the Upper Whitewater and Garnet Hill subbasins with imported water of lesser quality than pre-existing groundwater without first treating the imported water; and an injunction preventing CVWD and DWA from infringing on the Tribe's "ownership interest" in the storage space underlying the Reservation that is used to store the Tribe's water rights.

The potential for the Agua Caliente lawsuit to affect the water supplies available to the City of Coachella to serve the General Plan Update cannot be specifically determined at this time and are too speculative to evaluate in relation to the General Plan Update project. However, several factors suggest that the lawsuit will not affect the availability, reliability or overall sufficiency of water supplies available to the City. For example, the rights that the Tribe alleges to hold have not been quantified, defined, substantiated or proven from an engineering or legal standpoint, and thus the potential impacts to CVWD and DWA operations are very speculative at this preliminary stage of the lawsuit. Second, as noted above, the City is not a party to the lawsuit and no injunctions are sought against the City's water production or any other water related activities conducted by the City. Third, the lawsuit concerns groundwater production and storage activities in the Upper Whitewater and Garnet Hill subbasins, whereas the City and the Planning Areas are located in the Lower Whitewater subbasin, which is far south of the Agua Caliente Reservation and separate from the Upper Whitewater and Garnet Hill subbasins. (See Figure 4.16-3 above.) Fourth, assuming only for the sake of argument that the lawsuit was successful, it does not seek to prohibit the recharge of imported and supplemental water in the Upper Whitewater and Garnet subbasins (which, again, the City does not utilize). Rather, the lawsuit demands that imported water of "inferior quality" be treated before it is recharged to the Upper Whitewater or Garnet Hill subbasins. For these and other reasons, it does not appear likely that the Agua Caliente lawsuit has the potential to affect the availability, reliability or overall sufficiency of water

supplies available to the City of Coachella to serve the General Plan Update as set forth in this analysis.

### State Water Project (SWP)

The SWP delivers water supplies from the Sacramento Delta to areas throughout the State, including Southern California. The system includes 660 miles of aqueduct and conveyance facilities extending from Lake Oroville in the north to Lake Perris in the south.

### SWP Contracts

The California Department of Water Resources (DWR) holds direct contracts to deliver SWP supplies to 29 contracting agencies that hold particular allotments to the annual yield of the SWP. These contracts run until 2035, with terms for renewal, and form the basis for the construction, operation and maintenance of the SWP. There are several different SWP Contract Water types including Table A. Table A water is delivered in accordance with contractual allotments and is given first priority for delivery.

CVWD and DWA are both State Water Contractors. CVWD's original right to SWP supply (Table A Allotment) was 23,100 acre-feet per year (ac-ft/yr) and DWA's original SWP Table A allotment was 38,100 ac-ft/yr, for a combined Table A allotment of 61,200 ac-ft/yr. In 2004, CVWD purchased an additional 9,900 ac-ft/yr of SWP water from the Tulare Lake Basin Water Storage District, which brought CVWD's SWP Table A Allotment to 33,000 ac-ft/yr. In 2007, CVWD and DWA made a second purchase of SWP water from the Tulare Lake Basin Water Storage District. CVWD purchased 5,250 ac-ft/yr and DWA purchased 1,750 ac-ft/yr. Also in 2007, CVWD and DWA completed the transfer of 12,000 ac-ft/yr and 4,000 ac-ft/yr, respectively, from the Berrenda Mesa Water District. These acquisitions brought CVWD's annual SWP Table A Allotment to 50,250 ac-ft/yr, and DWA's annual SWP Table A Allotment to 43,850 ac-ft/yr. In addition to these amounts, CVWD and DWA have entered an agreement with MWD whereby MWD has permanently transferred 88,100 ac-ft/yr and 11,900 ac-ft/yr of SWP Table A Allotments to CVWD and DWA, respectively. Generally, the agreement enables MWD to call back certain amounts during dry and critical dry years, where in other years CVWD and DWA recharge the SWP supplies within the Coachella Valley Groundwater Basin. In sum, and as further provided by the discussions herein, up to 138,350 ac-ft/yr of SWP Table A Allotment is available to CVWD, and up to 55,750 ac-ft/yr is available to DWA. Table 4.16-11 summarizes the CVWD and DWA total allocations of Table A SWP water.

In addition to the SWP allotments discussed above, CVWD and DWA secured additional rights to SWP supplies pursuant to a 2003 exchange agreement with Metropolitan. Historically, Metropolitan has not made full use of its SWP Table A Amounts in normal and wet years. Under the 2003 exchange agreement, CVWD and DWA acquired 100,000 AFY of Metropolitan's SWP Table A water as a permanent transfer, commencing in 2005. The terms of the agreement provide that Metropolitan has the option to call back the transferred water under certain conditions. This option must be exercised no later than April 30 of each year. Metropolitan's callback options are to be exercised in two 50,000 AF blocks. To estimate conservatively the average supply from this transfer, two scenarios are considered – without and with call-back. Without call-back, CVWD and DWA can receive SWP exchange water based on the estimated DWR reliability (see discussion below). With call-back, it is assumed that Metropolitan would exercise its option to callback the 100,000 AFY in four wet years out of every 10 years and the amount of water called back would be deducted from average SWP exchange deliveries.

The actual frequency of callback would depend on the availability of Metropolitan's water supplies to meet its demands, the price of the callback water, and the ability of Metropolitan to store or use the callback water. Since 2005, Metropolitan has exercised its call-back option only once in 2005.

**Table 4.16-10: State Water Project Water Sources (AFY)**

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

Source: 2010 CVWMP Update, Table 4-4

[1]CVWD purchase of Table A water from the Tulare Lake Basin Water Storage District in 2004.

[2]CVWD and DWA purchase of Table A SWP water from Tulare Lake Basin in 2007.

[3]CVWD and DWA acquired Metropolitan's SWP Table A water as a permanent transfer Under the 2003 Exchange Agreement.

[4]CVWD and DWA transfer of Table A water from the Berrenda Mesa Water District in 2007.

CVWD and DWA, as SWP contractors, have the ability to purchase additional SWP supplies on an interruptible basis as the opportunity presents. Contractors may choose to offer their allocated Table A water in excess of their needs, designated Turnback Pool water, to other contractors through two pools (A and B) in February and March of a given year. This water can be purchased for 50 percent (Pool A) or 25 percent (Pool B) of the Delta Water Charge plus the Variable OMP&R Transportation and Off-Aqueduct Power Charges. The first significant purchase by CVWD and DWA occurred from 1996 through 1999 when large amounts of Turnback Pool water were available. Available Turnback Pool water is allocated between interested parties based on their Table A amounts. During that period, CVWD and DWA purchased 276,000 acre-feet of water for recharge at Whitewater.[15]

SWP contractors may also receive water under Article 21 of their contracts. Article 21 water is water that SWP contractors may receive on a short-term basis in addition to their Table A water, if they request it. Article 21 water is used by many SWP contractors to help meet demands when allocations are less than 100 percent. (See DWR 2013 Draft SWP Delivery Reliability Report, p. 10.) Notably, Article 21 water is typically available only in wet years and when aqueduct capacity is available. Article 21 water is apportioned to those contractors requesting it in the same proportion as their Table A water. According to DWR, Article 21 water is available to a SWP contractor only if the following conditions are

15 Mission Creek-Garnet Hill Subbasins Water Management Plan, Final Report, January 2013.

met: "Excess water" is flowing through the Delta; the contractor is able to use the surplus water directly, such as by offsetting the use of groundwater that would otherwise occur, or can store it in its own system; and delivering the water will not interfere with Table A allocations, other SWP deliveries, or SWP operations. (DWR 2013 Draft Report, pp. 38-39.) The cost of Article 21 water is the Variable OMP&R Transportation and Off-Aqueduct Power Charges and any incremental DWR power cost. CVWD and DWA purchased 35,600 acre-feet of Article 21 water in 2000 and 800 acre-feet in 2002 and 2003.[16] According to DWR, the estimated long-term average availability of Article 21 water is 58,000 acre-feet per year under current conditions and 62,000 acre-feet per year under future conditions, with variations according to average, dry-period and wet-period conditions. (DWR 2013 Draft Report, pp. 44, 50.)

Another potentially available, intermittent source of SWP water to the Coachella Valley is the Yuba River Accord Dry Year Water Purchase Program. In March 2008, CVWD and DWA entered into separate agreements with DWR for the purchase and conveyance of supplemental SWP water under the Yuba River Accord Dry Year Water Purchase Program, which provides dry year supply through a water purchase agreement between DWR and Yuba County Water Agency (YCWA). The agreement was part of the Lower Yuba River Accord, which settled long stranding operational and environmental issues over instream flow requirements for the lower Yuba River. Yuba Accord water transfers include both surface water and groundwater substitution transfers for an estimated total of up to 140,000 AFY. The available water is allocated among participating SWP contractors based on their Table A Amounts. It is estimated that CVWD and DWA may be able to purchase up to 4 percent of Table A or 5,600 AFY, and 1.3 percent or 1,820 AFY, respectively, for a total of 7,420 AFY. The amount of water available for purchase in a given year varies and will be based on DWR's determination of the Water Year Classification. These agreements provide for the exchange of these supplies with Metropolitan for CRA water in accordance with existing exchange agreements. CVWD and DWA obtained 1,836 AF in 2008 and 3,482 AF in 2009 from this program. (2011 SPEIR, p. 3-7.)

### Historic Initial and Final Allocations and Historic Deliveries

Table 4.16-11 summarizes the historic initial and final allocations of SWP Table A water starting in 1991 and extending to 2013. Table 4.16-11 also shows imported water deliveries to the East (Lower) Whitewater Subbasin.

16 Mission Creek-Garnet Hill Subbasins Water Management Plan, Final Report, January 2013.

**Table 4.16-11: Department of Water Resources - Table A Water Allocations, 1991-2011**

| Year | Initial Allocation[1] | Final Allocation[1] | Deliveries[2] |
|---|---|---|---|
| 1991 | 85% | 30% | N/A |
| 1992 | 20% | 45% | N/A |
| 1993 | 10% | 100% | N/A |
| 1994 | 50% | 50% | N/A |
| 1995 | 40% | 100% | N/A |
| 1996 | 40% | 100% | N/A |
| 1997 | 70% | 100% | 415 |
| 1998 | 40% | 100% | 1,364 |
| 1999 | 55% | 100% | 2,802 |
| 2000 | 50% | 90% | 1,813 |
| 2001 | 40% | 39% | 3,572 |
| 2002 | 20% | 70% | 2,360 |
| 2003 | 20% | 90% | 1,671 |
| 2004 | 35% | 65% | 3,450 |
| 2005 | 40% | 90% | 4,743 |
| 2006 | 55% | 100% | 2,648 |
| 2007 | 60% | 60% | 5,775 |
| 2008 | 25% | 35% | 7,473 |
| 2009 | 15% | 40% | 21,735 |
| 2010 | 5% | 50% | 37,401 |
| 2011 | 25% | 80% | 32,417 |
| 2012 | 60% | 65% | 33,166 |
| 2013 | 30% | 35% | 35,192 |
| AVERAGE: | 39% | 71% | **11,647** |
| TOTAL: | | | **197,997** |

[1]Source: California Department of Water Resources, Water Contract Branch within the State Water Project Analysis Office, Notices to State Water Contractors, 1991 – 2013.

[2]Source: CVWD Engineers Report on Water Supply and Replenishment Assessment, East (Lower) Whitewater River Subbasin Area of Benefit, 2014-2015, Table 4

### MWD Exchange Agreements

Since currently there is no conveyance facility to deliver SWP water to the Coachella Valley, CVWD and DWA cannot directly receive their SWP supplies. Instead, pursuant to certain exchange agreements, the CVWD and DWA SWP water is delivered to Metropolitan, which in turn delivers an equal amount of CRA water to CVWD and DWA to be recharged at the Levy, Whitewater and Mission Creek recharge facilities. CVWD and DWA are required to pay for their respective SWP costs and MWD is required to pay for its CRA costs. The original exchange agreements were entered in 1967. In 1983, the agreements were extended to 2035 (CVWD-Metropolitan, 1983; DWA-Metropolitan, 1983).

CVWD has operated a pilot recharge facility at Dike 4 near Avenue 62 since 1997. Construction of the full scale Levy facility was completed in mid-2009. Thereafter, substantially more recharge has occurred in the Lower Whitewater Subbasin. The Levy facility has an estimated capacity to recharge 40,000 AFY. In addition to the Levy facility, CVWD is planning construction of the Martinez Canyon recharge facility that is expected to recharge between 20,000 and 40,000 AFY on an average basis. The 2010 CVWMP considers alternative recharge scenarios to effectively recharge imported water at Whitewater, Levy, and Martinez to provide the greatest benefit for the Basin.

### SWP Reliability

DWR issues the State Water Project Delivery Reliability Report every two years, with the most recent draft version issued in December 2013 (the DWR 2013 Draft Report). In its last several updates, DWR has projected reductions in average SWP water deliveries in comparison to 2005. The 2013 Draft Report identifies several factors that have the potential to affect the availability and reliability of SWP supplies. Although the 2013 Draft Report presents an extremely conservative projection of SWP delivery reliability, it remains the best available information concerning the SWP. Following is information and a brief summary of several factors identified in the 2013 Draft Report as having the potential to affect the availability and reliability of SWP supplies. An additional analysis of factors having the potential to affect the availability and reliability of SWP deliveries is included within Appendix 11.6.

### FWS and NMFS Biological Opinions

In December 2008 and June 2009, respectively, the United States Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS) issued biological opinions (BiOps) setting forth each agency's conclusions regarding the effects that the proposed long-term coordinated operations of the SWP and Central Valley Project (CVP) would have on threatened and endangered fish species in the Delta.[17] Both BiOps conclude that the operation of the SWP and CVP as proposed by DWR and the Bureau of Reclamation would jeopardize the continued existence of the protected species. Because FWS and NMFS reached "jeopardy" conclusions, each was required by the federal Endangered Species Act (ESA) to develop a Reasonable and Prudent Alternative (RPA) to the proposed project, and to include that RPA in its respective BiOp. According to their terms, the RPAs developed and adopted by FWS and NMFS impose various new restrictions and requirements on SWP and CVP operations.

As applied to the SWP, the RPAs included in the BiOps have the potential to result in substantially reduced water exports from the Delta. Preliminary estimates prepared by DWR have indicated that, in comparison to the level of SWP exports from the Delta that previously were authorized under State Board Decision 1641 (D-1641),[18] the FWS BiOp could reduce SWP deliveries by 18 to 29 percent

[17] The December 15, 2008 FWS BiOp evaluated impacts to the delta smelt. The June 4, 2009 NMFS BiOp evaluated impacts to winter-run and spring-run Chinook salmon, steelhead, green sturgeon, and resident killer whales.

18 D-1641 implements the objectives of the 1995 Bay-Delta Plan and imposes flow and water quality objectives to assure protection of beneficial uses in the Delta. The requirements of D-1641 address, among other things, standards for fish and wildlife protection, municipal and industrial water quality, agricultural water quality, and salinity. D-1641 imposed a new operating regime for the Delta, including measures such as X2, an export/inflow ratio, and the Vernalis Adaptive Management Program (VAMP). The standards under D-1641 are accomplished through requirements and conditions imposed on the water right permits for the SWP, the CVP and others. (See, California Water Plan Update 2009, Regional Reports Volume 3, Sacramento-San Joaquin River Delta at DB-6.)

during average and dry conditions, respectively, and the NMFS BiOp could reduce SWP deliveries by an additional 10 percent (for an aggregate reduction of 28 to 39 percent). Those potential reductions, however, cannot be predicted with certainty because the RPA restrictions are dependent upon highly variable factors such as hydrologic conditions affecting Delta water supplies, flow conditions in the Delta, migratory and reproductive patterns of the protected species, and numerous other non-project factors that impact the health and abundance of fish species and their habitats. As further discussed below, the RPA restrictions contained in the BiOps have been expressly accounted for in DWR's 2011 Report and future projections of SWP deliveries. Moreover, several legal challenges have been filed against the FWS and NMFS BiOps, and should a court conclude the RPA restrictions are invalid, SWP exports could return to higher levels.

### FWS BiOp Litigation

In early 2009, the State Water Contractors, the San Luis Delta-Mendota Water Authority, and several individual water agencies holding contracts for SWP and CVP supplies filed legal challenges against the FWS BiOp regarding delta smelt. (The Consolidated Delta Smelt Cases, E.D. Cal. 1:09-CV-00407-OWW-GSA.) In November 2009, the Federal District Court of the Eastern District of California granted summary judgment on the claim made by several plaintiffs that the federal defendants violated the National Environmental Policy Act (NEPA) by failing to perform NEPA analysis prior to provisionally adopting and implementing the FWS BiOp and RPA. Further, in May 2010, the court issued Findings of Fact and Conclusions of Law on a motion for preliminary injunction, which confirmed the court's prior NEPA ruling and also determined that plaintiffs were likely to prevail on their claims that FWS violated the federal ESA and the Administrative Procedure Act (APA) in adopting the RPA for delta smelt. Thereafter, the parties filed motions for summary judgment to obtain a final ruling in the cases, and those motions were argued in early July 2010. In March 2011, the court issued a final decision that invalidated the FWS BiOp and RPA in several respects and ordered FWS to prepare a new BiOp. FWS and others appealed that decision to the Ninth Circuit Court of Appeals. In March 2014, the Court of Appeals issued an opinion that reversed the District Court decision and determined that the FWS BiOp and RPA did not violate the ESA or the APA. The Court of Appeals ruled, however, that the Bureau of Reclamation (BOR) must prepare an Environmental Impact Statement under the National Environmental Policy Act to evaluate the effects of the BiOp. At this point, several parties have indicated they may petition the United States Supreme Court to review the decision issued by the Ninth Circuit Court of Appeals. In the meantime, FWS, DWR and BOR continue to use the RPA measures as a guideline for restricting SWP and CVP operations to protect delta smelt.

### NMFS BiOp Litigation

After issuance of the NMFS BiOp in June 2009, the State Water Contractors and other water agencies filed legal challenges against the BiOp. (*The Consolidated Salmon Cases*, E.D. Cal. 1:09-CV-1053-OWW-DLB.) In May 2010, the Federal District Court for the Eastern District of California ruled that the federal defendants violated NEPA by failing to analyze the impact of the BiOp and RPA on humans and the human environment. The court also ruled that plaintiffs were likely to prevail on their claims that NMFS violated the federal ESA and the APA in adopting the RPA. As with the delta smelt litigation, the parties also filed motions for summary judgment to obtain a final ruling in the cases. In September 2011, the court issued a final decision that invalidated the NMFS BiOp and RPA and ordered NMFS to prepare a new BiOp. NMFS and others appealed that decision to the Ninth Circuit Court of Appeals. Briefing of the appeal has been completed, although a decision has not yet been issued by the Court. In December 2012, NMFS, DWR and others filed a joint motion with the court requesting an additional

three years for FWS to prepare a new BiOp concerning delta smelt, which otherwise would be due in or around 2016. Meanwhile, NMFS, DWR and the Bureau of Reclamation (BOR) continue to use the RPA measures as a guideline for restricting SWP and CVP operations to protect listed anadromous species.

### Consistency Determination Litigation

Because the delta smelt and salmon species that are the subject of the FWS and NMFS BiOps are also protected under the California Endangered Species Act (CESA), the SWP and CVP are required to obtain take authorization for project operations from the California Department of Fish and Wildlife (DFW, formerly Department of Fish and Game). In July 2009 and September 2009, respectively, DFG issued "consistency determinations" which found that SWP and CVP operations do not violate CESA to the extent that such operations are in compliance with the RPAs set forth in the FWS and NMFS BiOps. Because the consistency determinations are issued under state law, and thus could remain in effect even if the federal BiOps are overturned, the State Water Contractors and the Kern County Water Agency filed legal challenges against the consistency determinations. The cases are currently stayed pending the final outcome of *The Consolidated Delta Smelt Cases* and *The Consolidated Salmon Cases*, which as indicated above are both pending on appeal before the Ninth Circuit.[19]

### Longfin Smelt Protections

Regulatory actions related to longfin smelt also have the potential to affect the availability and reliability of SWP supplies. In February 2008, longfin smelt were listed as a "candidate" species under CESA, and DFW imposed certain interim restrictions on SWP operations for the protection of longfin smelt and its critical habitat. In February 2009, shortly before longfin smelt were officially listed as a "threatened" species under CESA, DFW issued Incidental Take Permit No. 2081-2009-001-03 (the Permit) to DWR, which imposes various terms and conditions on the ongoing and long-term operations of SWP facilities in the Delta. The operating restrictions under the Permit are based in large part on the restrictions imposed on the SWP by the 2008 FWS BiOp for delta smelt (see above). The resulting water supply reductions under the Permit depend on several variable factors, such as Delta hydrology, migratory and reproductive patters of longfin smelt, and other factors affecting species abundance in the Delta. Notably, DWR has not indicated whether any particular reductions in SWP exports are likely to result from the Permit. In March 2009, a legal challenge was filed against the Permit.[20] Although that litigation is currently stayed pursuant to a stipulation of the parties, the challenge puts DFW's ability to enforce the Permit into question.

19 See, e.g., State Water Contractors v. Cal. Dept. of Fish and Game, Sac. Sup. Ct. Case No. 34-2010-80000552; State Water Contractors v. Cal. Dept. of Fish and Game, Sac. Sup. Ct. Case No. 34-2010-80000560.

20 See State Water Contractors v. California Dept. of Fish and Game, et al., Sac. Sup. Ct. Case No. 34-2009-80000203.

### Development of Delta Plan and Delta Flow Criteria Pursuant to New State Laws

In November 2009, the California Legislature enacted SBx7-1 as part of a comprehensive package related to water supply reliability, ecosystem health, and the Delta.[21] Among other things, SBx7 1 creates the Delta Stewardship Council (Council) and directs the Council to develop a management plan for the Delta by January 1, 2012 (the Delta Plan). In May 2013, the Council approved and certified a Final Programmatic Environmental Impact Report (PEIR) for the proposed Delta Plan. Various agencies and organizations have filed legal challenges against the PEIR. The litigation is expected to take many years to resolve, and at this point the potential outcome of the litigation or its related effects are too speculative to determine or meaningfully evaluate. In addition, the State Board was directed to develop flow criteria for the Delta to protect public trust resources, including fish, wildlife, recreation and scenic enjoyment, and DFW was required to identify quantifiable biological objectives and flow criteria for species of concern in the Delta.

In August 2010, the State Board adopted Resolution No. 2010-0039 approving its report entitled "Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem" (Flow Criteria). The State Board report concludes that substantially higher flows are needed through the Delta than in have occurred in previous decades in order to benefit zooplankton and various fish species.[22] Separately, in September 2010, DFW issued a draft report entitled "Quantifiable Biological Objectives and Flow Criteria for Aquatic and Terrestrial Species of Concern Dependent on the Delta" (DFW Report). The DFW Report is based on similar biological objectives and recommends Delta flows similar to those set forth in the State Board's Flow Criteria.[23] Notably, both the State Board and DFW recognize that their recommended flow criteria for the Delta do not balance the public interest or the need to provide an adequate and reliable water supply, and thus the recommendations may not be consistent with the public trust doctrine.[24] Also of importance, both the State Board and DFW acknowledge that their recommended flow criteria do not have any regulatory or adjudicatory effect, although they may be used to inform the Council as it prepares the Delta Plan, and may be considered as the Bay Delta Conservation Plan (BDCP) process moves forward.[25]

### DWR Draft 2013 SWP Delivery Reliability Report

DWR continues to evaluate the issues affecting SWP exports from the Delta and how those issues may affect the long-term availability and reliability of SWP deliveries to water agencies that hold SWP contracts. As indicated above, in December 2013, DWR released its Draft 2013 SWP Delivery Reliability Report. According to the 2013 Draft Report, the average delivery of contractual SWP Table A supply is projected to be 62 percent under current conditions and 58 percent under future conditions over the 20-year projection.[26] Within that long-term average, SWP Table A deliveries can range from

21 SBX7-1 became effective February 3, 2010 and adds Division 35 to the California Water Code (commencing with Section 85300). Division 35 is referred to as the Sacramento-San Joaquin Delta Reform Act of 2009.

22 Flow Criteria at 5-8.

23 DFW Report at 13.

24 Flow Criteria at 4; DFW Report at 16.

25 Flow Criteria at 3, 10; DFG Report at ES-4.

26 DWR 2013 Draft Report at 40-42, 47-48, Tables 5-3, 5-4, 6-2, and 6-3.

12 percent (single dry year) to 97 percent (single wet year) of contractual amounts under current conditions, and from 11 percent (single dry year) to 98 percent (single wet year) under future conditions.[27] Under current conditions, contractual amounts are projected to range from 28 to 31 percent during multiple-dry year periods, and from 75 to 94 percent during multiple wet periods.[28] Under future conditions, contractual amounts are projected to range from 24 to 31 percent during multiple-dry year periods, and from 70 to 95 percent during multiple wet periods.[29]

To ensure a conservative analysis, the DWR 2013 Draft Report expressly assumes and accounts for the institutional, environmental, regulatory, and legal factors affecting SWP supplies, including but not limited to: water quality constraints, fishery protections, other D-1641 requirements, and the operational limitations imposed by the FWS and NMFS BiOps that are discussed above. The 2013 Draft Report also considers the potential effects of Delta levee failures and other seismic or flood events.[30] Notably, the 2013 Draft Report assumes that all of these restrictions and limitations will remain in place over the next 20-year period and that no actions to improve the Delta will occur, even though numerous legal challenges, various Delta restoration processes, and new legal requirements for Delta improvements are currently underway (i.e., Bay Delta Conservation Plan, Delta Vision, Delta Plan, etc.). Finally, DWR's long-term SWP delivery reliability analyses incorporate assumptions intended to account for potential supply shortfalls related to global climate change.[31] These and other factors result in DWR presenting an extremely conservative projection of SWP delivery reliability in its 2013 Draft Report.

DWR's most recently published SWP Delivery Reliability Report (2013) demonstrates that the projected long-term average delivery amounts of contractual SWP Table A supplies are essentially the same as those projected in the final 2011 Report (e.g., 60%). As noted, the projections developed by DWR are predicated on extremely conservative assumptions, which make the projections useful from a long-range urban water supply planning perspective.[32] Indeed, recent legal rulings and other factors described above, among others, support higher estimates of average annual SWP deliveries than projected in the 2013 Draft Report. While this may lead DWR to increase its projections in its next scheduled Report, the 2013 Draft Report remains the best available information concerning the long-term delivery reliability of SWP supplies.

Even though the DWR 2013 Draft Report demonstrates an average 58 percent delivery reliability for SWP Table A supplies over the next 20-year projection, the 2010 CVWMP is even more conservative in its assumption of 50 percent. Indeed, notwithstanding the 2013 Draft Report, the 2010 CVWMP assumes future SWP Table A deliveries to the Coachella Valley to be only 50 percent of Table A to

27 DWR 2013 Draft Report at 40-42, 47-48, Tables 5-3, 5-4, 6-2, and 6-3.

28 DWR 2013 Draft Report at 40-42, Tables 5-3 and 5-4.

29 DWR 2013 Draft Report at 47-48, Tables 6-2, and 6-3.

30 See, e.g., DWR 2013 Draft Report at 25-28.

31 See, e.g., DWR 2013 Report at 16-18, and Technical Addendum.

32 See, e.g., Sonoma County Water Coalition v. Sonoma County Water Agency (2010) 189 Cal.App.4th 33; Watsonville Pilots Association v. City of Watsonville (2010) 183 Cal.App.4th 1059; Vineyard Area Citizens for Responsible Growth v. City of Rancho Cordova (2007) 40 Cal.4th 412.

account for potential water reductions that could occur in the absence of programs to balance Delta environmental concerns and water supply needs, the DWR 2013 Draft Report was not available during the CVWMP preparation.[33] In light of the SWP reliability discussion presented above, in particular the BDCP implementation program, the CVWMP 50 percent reliability assumption is extremely conservative.

### Colorado River Water

Colorado River supplies are important to the Coachella Valley for two primary reasons. First, and as further discussed below, a substantial portion of California's share of Colorado River water is allocated directly to CVWD. Second, much of the replenishment supplies used in the Valley come from MWD's allocation of Colorado River water, via the exchange agreement for SWP supplies as discussed above.

Colorado River water has been a major source of supply for the Coachella Valley since 1949 with the completion of the Coachella Canal. (2010 CVWMP, pp. 4-13.) The Colorado River is managed and operated in accordance with the *Law of the River,* the collection of interstate compacts, federal and state legislation, various agreements and contracts, an international treaty, a U.S. Supreme Court decree, and federal administrative actions that govern the rights to use of Colorado River water within the seven Colorado River Basin states. The *Colorado River Compact*, signed in 1922, apportioned the waters of the Colorado River Basin between the Upper Colorado River Basin (Colorado, Wyoming, Utah, and New Mexico) and the Lower Basin (Nevada, Arizona, and California). The Colorado River Compact allocates 15 million AFY of Colorado River water: 7.5 million AFY to the Upper Basin and 7.5 million AFY to the Lower Basin, plus up to 1 million AFY of surplus supplies. The Lower Basin's water was further apportioned among the three Lower Basin states by the *Boulder Canyon Project Act* in 1928 and the 1964 U.S. Supreme Court decree in *Arizona v. California*. Arizona's basic annual apportionment is 2.8 million AFY, California's is 4.4 million AFY, and Nevada's is 0.3 million AFY. California has been diverting up to 5.3 million AFY in recent years, using the unused portions of the Arizona and Nevada entitlements. Mexico is entitled to 1.5 million AFY of the Colorado River under the *1944 United States-Mexico Treaty for Utilization of Waters of the Colorado and Tijuana Rivers and of the Rio Grande*. However, this treaty did not specify a required quality for water entering Mexico. In1973, the United States and Mexico signed Minute No. 242 of the International Boundary and Water Commission requiring certain water quality standards for water entering Mexico. (2010 CVWMP, pp. 4-13.)

California's apportionment of Colorado River water is allocated by the 1931 *Seven Party Agreement* among Palo Verde Irrigation District (PVID), Imperial Irrigation District (IID), CVWD and Metropolitan. The three remaining parties, the City and the County of San Diego and the City of Los Angeles, are now part of Metropolitan. The allocations defined in the *Seven Party Agreement* are shown in Table 4.16-12 below. In its 1979 supplemental decree in the *Arizona v. California* case, the United States Supreme Court also assigned "present perfected rights" to the use of river water to a number of individuals, water districts, towns and Indian tribes along the river. These rights, which total approximately 2,875,000 AFY, are charged against California's 4.4 million AFY allocation and must be satisfied first in times of shortage. Under the 1970*Criteria for Coordinated Long-Range Operation of the*

33 2010 CVWMP Update, Section 4.3.3, SWP Deliveries; see also 2011 SPEIR, pages 3-6 to 3-7.)

*Colorado River Reservoirs* (Operating Criteria), the Secretary of the Interior determines how much water is to be allocated for use in Arizona, California and Nevada and whether a surplus, normal or shortage condition exists. The Secretary may allocate additional water if surplus conditions exist on the River (see additional discussion below). (2010 CVWMP, p. 4-13.)

**Table 4.16-12: Priorities and Water Delivery Contracts - California Seven Party Agreement of 1931**

| Priority | Description | Acre-ft/year |
|---|---|---|
| 1 | Palo Verde Irrigation District gross area of 104,500 acres of Coachella Valley lands | 3,850,000 |
| 2 | Yuma Project (Reservation Division) not exceeding a gross area of 25,000 acres within California | |
| 3(a) | IID, CVWD and lands in Imperial and Coachella Valley's to be served by the All American Canal | |
| 3(b) | Palo Verde Irrigation District – 16,000 acres of mesa lands | |
| 4 | Metropolitan Water District of Southern California for use on coastal plain | 550,000 |
| | Subtotal – California Basic Apportionment | 4,400,000 |
| 5(a) | Metropolitan Water District of Southern California for use on coastal plain | 550,000 |
| 5(b) | Metropolitan Water District of Southern California for use on coastal plain | 112,000 |
| 6(a) | IID and lands in the Imperial and Coachella Valley's to be served by the All American Canal | 300,000 |
| 6(b) | Palo Verde Irrigation District – 16,000 acres of mesa lands | |
| | Total | 5,362,000 |

Sources: United States Bureau of Reclamation, http://www.usbr.gov; Coachella Valley Water Management Plan Update, January 2012, p. 4-14, Table 4-2.

California's Colorado River supply is protected by the 1968 Colorado River Basin Project Act, which provides that in years of insufficient supply on the main stream of the Colorado River, supplies to the Central Arizona Project shall be reduced to zero before California will be reduced below 4.4 million AF in any year. This assures full supplies to the Coachella Valley except in periods of extreme drought. As further described below, delivery analyses performed for the Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lakes Powell and Mead indicated that that California would only experience shortages if the total shortage in the Lower Basin exceeds 1.7 million AFY. (2010 CVWMP, p. 4-14.)

The Coachella Canal (Canal) is a branch of the All-American Canal that brings Colorado River water into the Imperial and Coachella Valleys. Historically, CVWD received approximately 330,000 AFY of Priority 3A Colorado River water delivered via the Coachella Canal. The Canal originates at Drop 1 on the All-American Canal and extends approximately 122 miles, terminating in CVWD's Lake Cahuilla. The service area for Colorado River water delivery under CVWD's contract with Reclamation is defined

as Improvement District No. 1 (ID-1) which encompasses most of the East Valley and a portion of the West Valley north of Interstate 10. Under the 1931 California Seven Party Agreement, CVWD has water rights to Colorado River water as part of the first 3.85 million AFY allocated to California. CVWD is in the third priority position along with IID. (2010 CVWMP, p. 4-14.)

### Quantification Settlement Agreement

Although the rights and relative priorities to Colorado River supplies as discussed above remain established under the *Law of the River*, an additional framework applies in California. In 2003, CVWD, IID and Metropolitan successfully completed negotiation of the Quantification Settlement Agreement (QSA). The QSA quantifies the Colorado River water allocations of California's agricultural water contractors for the next 75 years and provides for the transfer of water between agencies.

Specific programs under the QSA include lining portions of the All-American and Coachella Canals, which conserve approximately 96,000 acre-feet annually. As a result, about 80,000 acre-feet of conserved water is delivered to the San Diego County Water Authority ("SDCWA") by exchange with Metropolitan. Metropolitan also takes delivery of 16,000 acre-feet annually that will be made available for the benefit of the La Jolla, Pala, Pauma, Rincon and San Pasqual Bands of Mission Indians, the San Luis Rey River Indian Water Authority, the City of Escondido and the Vista Irrigation District, upon completion of a water rights settlement, expected in 2013. An amendment to the 1988 Conservation Agreement between Metropolitan and IID and an associated 1989 Approval Agreement among Metropolitan, IID, CVWD and PVID, extended the term of the 1988 Conservation Agreement and limited the single year amount of water used by CVWD to 20,000 acre-feet. Also included under the QSA is the Delivery and Exchange Agreement between Metropolitan and CVWD that provides for Metropolitan to deliver annually up to 35,000 acre-feet of Metropolitan's State Water Project contractual water to CVWD by exchange with Metropolitan's available Colorado River supplies. In calendar year 2011, under a supplemental agreement with CVWD, Metropolitan delivered 105,000 acre-feet which consisted of the full 35,000 acre-feet for 2011 plus advance delivery of the full contractual amounts for 2012 and 2013. (MWDSC 2013 Preliminary Official Statement, Water Revenue Refunding Bonds, Appendix A, p. A-16.)

Under the QSA, CVWD has a base allotment of 330,000 AFY. In accordance with the QSA, CVWD has entered into water transfer agreements with Metropolitan and IID that increase CVWD supplies by an additional 129,000 AFY as shown in Table 4.16-13 below. (2010 CVWMP, p. 4-15.)

**Table 4.16-13: CVWD Deliveries under the QSA**

| Component | 2010 Amount (AFY) | 2045 Amount (AFY) |
|---|---|---|
| Base Allotment | 330,000 | 330,000 |
| 1988 MWD/IID Approval Agreement | 20,000 | 20,000 |
| Coachella Canal Lining (to SDCWA) | -26,000 | -26,000 |
| To Miscellaneous/Indian PPRs | -3,000 | -3,000 |
| IID/CVWD First Transfer | 12,000 | 50,000 |
| IID/CVWD Second Transfer | 0 | 53,000 |
| MWD/SWP Transfer | 35,000 | 35,000 |
| Total Diversion at Imperial Dam | 368,000 | 459,000 |
| Less Conveyance Losses[1] | -31,000 | -31,000 |
| Total Deliveries to CVWD | 337,000 | 428,000 |

[1] Assumed losses after completion of canal lining projects.

Source: Coachella Valley Water Management Plan Update, January 2012, p. 4-15, Table 4-3

As of 2010, CVWD receives 368,000 AFY of Colorado River water deliveries under the QSA (See Table 4.16-13 above). This includes the base entitlement of 330,000 AFY, Metropolitan/IID Approval of 20,000 AFY, 12,000 AFY of IID/CVWD First transfer, and 35,000 AFY of Metropolitan/SWP transfer. It also includes the 26,000 AFY transferred to San Diego County Water Authority (SDCWA) as part of the Coachella Canal lining project and the 3,000 AFY transfer to Indian Present Perfected Rights (PPRs). CVWD's allocation will increase to 459,000 ac-ft/yr of Colorado River water by 2026 and remain at that level for the 75 year term of the QSA. After deducting conveyance and distribution losses, approximately 428,000 AFY will be available for CVWD use. (2010 CVWMP, p. 4-15.) As further discussed below, legal challenges were filed against the QSA in 2003. While several of the issues have been resolved, the litigation continues and will likely take several more years to complete.

### Factors Affecting Colorado River Supplies

Several important factors have the potential to affect the long-term availability and reliability of Colorado River supplies in the Coachella Valley. Among those factors are drought conditions in the Colorado River Basin; water requirements for endangered species and habitat protection; climate change; and lawsuits challenging the validity of the QSA. A detailed discussion of these factors is presented below.

### Drought Conditions and Interim Guidelines

Drought conditions in the Colorado River Basin are well documented. The period from 2000 through 2007 was the driest eight-year period in the 100-year historical record of the Colorado River. This drought in the Colorado River Basin reduced Colorado River system storage, while demands for Colorado River water supplies continued to increase. From October 1, 1999 through September 30, 2007, storage in Colorado River reservoirs decreased from 55.8 million AF (approximately 94 percent of capacity) to 32.1 million AF (approximately 54 percent of capacity), and was as low as 29.7 million AF (approximately 52 percent of capacity) in 2004. In November 2010, Lake Powell and Lake Mead

were at 62 percent and 38 percent of their storage capacities, respectively (Reclamation, 2010b). As of June 2014, Lake Powell and Lake Mead were at 50 percent and 40 percent of their respective storage capacities.[34] Although slightly above normal snowpack conditions existed in the Colorado River basin in 2008, the years 2009 and 2010 saw a return of below normal runoff conditions. Consequently, the potential for continued drought conditions exists. (2010 CVWMP, p. 4-27.)

In January 2001, the Secretary of the Interior adopted guidelines (the "Interim Surplus Guidelines") for use through 2016 in determining if there is surplus Colorado River water available for use in California, Arizona and Nevada. The Interim Surplus Guidelines were amended in 2007, with the new Guidelines extending through 2026. The Interim Surplus Guidelines contain a series of benchmarks for reductions in agricultural use of Colorado River water within California by set dates. (2010 CVWMP, p. 4-28.)

The purposes of the Guidelines are to: (1) improve Reclamation's management of the Colorado River by considering trade-offs between the frequency and magnitude of reductions of water deliveries, and considering the effects on water storage in Lake Powell and Lake Mead, where Reclamation will also consider the effects on water supply, power production, recreation, and other environmental resources; (2) provide mainstream United States users of Colorado River water, particularly those in the Lower Division states, a greater degree of predictability with respect to the amount of annual water deliveries in future years, particularly under drought and low reservoir conditions; and (3) provide additional mechanisms for the storage and delivery of water supplies in Lake Mead to increase the flexibility of meeting water use needs from Lake Mead, particularly under drought and low reservoir conditions. (2010 CVWMP, p. 4-28.)

As a result of the interim guidelines, recipients of Colorado River water, including CVWD, will receive deliveries with a higher degree of reliability. Information presented in the Bureau of Reclamation's 2007 Final Environmental Impact Statement ("EIS") for the Interim Guidelines indicates that California would only experience shortages if the total shortage in the Lower Basin exceeds 1.7 million AF. Due to California's Colorado River priority system, all delivery shortages would be borne by Metropolitan, which has a lower priority than CVWD (Reclamation, 2007). Consequently, no reduction in CVWD's Colorado River supplies is projected at this time. (2010 CVWMP, p. 4-28.)

### Protected Species and Other Environmental Issues

Federal and state environmental laws protecting fish species and other wildlife species have the potential to affect Colorado River operations. A number of species that are on either "endangered" or "threatened" lists under the ESAs are present in the area of the Lower Colorado River, including among others, the bonytail chub, razorback sucker, southwestern willow flycatcher and Yuma clapper rail. To address this issue, a broad-based state/federal/tribal/private regional partnership that includes water, hydroelectric power and wildlife management agencies in Arizona, California and Nevada have developed a multi-species conservation program for the main stem of the Lower Colorado River (the Lower Colorado River Multi-Species Conservation Program or "MSCP"). The MSCP allows

34 Lower Colorado Region Available Reservoir Elevations and Contents. Available at: http://www.usbr.gov/lc/region/g4000/hourly/levels.html

Metropolitan to obtain federal and state permits for any incidental take of protected species resulting from current and future water and power operations of its Colorado River facilities and to minimize any uncertainty from additional listings of endangered species. The MSCP also covers operations of federal dams and power plants on the river that deliver water and hydroelectric power for use by Metropolitan and other agencies. The MSCP covers 27 species and habitat in the Lower Colorado River from Lake Mead to the Mexican border for a term of 50 years. Over the 50 year term of the program, the total cost to Metropolitan will be about $88.5 million (in 2003 dollars), and annual costs will range between $0.8 million and $4.7 million (in 2003 dollars). (MWDSC 2013 Preliminary Official Statement, Water Revenue Refunding Bonds, Appendix A, pp. A-20 to A-21.)

The non-profit conservation organization Grand Canyon Trust filed litigation in December 2007 against the Bureau of Reclamation in the United States District Court for the District of Arizona, alleging that the Bureau of Reclamation's planning for, and operation of, the Glen Canyon Dam in the Upper Basin of the Colorado River system (which impounds Lake Powell) does not comply with requirements of NEPA and the Federal ESA. Metropolitan, IID, the seven basin states, and several water and energy agencies intervened in this case. On March 29, 2011, the trial court issued a final judgment upholding the Bureau of Reclamations' prior decisions for Glen Canyon Dam operations. The Grand Canyon Trust appealed. On August 13, 2012, the United States Court of Appeals for the Ninth Circuit affirmed the decision of the Arizona district court. (MWDSC 2013 Preliminary Official Statement, Water Revenue Refunding Bonds, Appendix A, p. A-21.)

### Potential Climate Change Impacts

Climate change has the potential to affect imported water supplies. Potential effects of global warming could also increase water demand within the Coachella Valley. Precise estimates of potential future impacts of climate change on runoff throughout the Colorado River basin are not currently available.[35] These impacts may include decrease in annual flow and increased variability, including more frequent and more severe droughts. Furthermore, even without precise knowledge of the effects, increasing temperatures alone would likely increase losses due to evaporation and sublimation, resulting in reduced runoff. (2010 CVWMP, pp. 5-15 to 5-16.)

According to DWR, increased air temperature will result in earlier snow melt runoff and a greater proportion of runoff due to rainfall. Because reservoir storage in the Colorado River basin is so large in comparison to annual basin runoff (roughly four times average runoff), a change in the timing of annual runoff would not be expected to significantly affect basin yield.[36] Potential changes in the amount of precipitation received by the Colorado River basin could affect basin yield. Warmer temperatures could also be expected to increase water demands and increase evaporation from reservoirs and canals. While changes in any particular location will likely be small, the aggregate change for the basin could

35 Colorado River Interim Guidelines for East Basin Shortages and Coordinated Operations for Lakes Powell and Mead, U.S. Bureau of Reclamation, 2007.

36 Progress on Incorporating Climate Change into Management of California's Water Resources, Technical Memorandum Report, California Department of Water Resources, October 2006.

be significant because so much land is involved. No reliable quantitative estimates of potential changes in precipitation (or increased demand) are available, according to the referenced 2007 BOR guidelines.

Potential climate changes impacts were evaluated in the Environmental Impact Study (EIS) on the referenced BOR guidelines. The guidelines extend through 2026, providing the opportunity to gain valuable operating experience through the management of Lake Powell and Lake Mead, particularly for low flow reservoir conditions, and to improve the bases for making additional future operational decisions during the interim period and thereafter.

The shortage sharing guidelines are crafted to include operational elements that would respond if potential impacts of climate change and increased hydrologic variability occur. The guidelines include coordinated operational elements that allow for adjustment of Lake Powell releases to respond to low average storage conditions in Lake Powell or Lake Mead. In addition, the guidelines enhance conservation opportunities in lower basin and retention of water in Lake Mead. (2010 CVWMP, pp. 5-15 to 5-16.)

While impacts from climate change cannot be quantified at this time, the interim guidelines should provide additional protection against impacts of shortage sharing at least through 2026, and likely for extended periods. Coachella Valley water supplies are uniquely protected from potential impacts of climate change and corresponding shortages by (1) California's first priority for Colorado River water supplies in the lower Colorado River basin, and (2) Coachella's high priority for Colorado River supplies among California users of Colorado River water. (2010 CVWMP, p. 5-16.)

### QSA Litigation

On November 5, 2003, IID filed a validation action in Imperial County Superior Court, seeking a judicial determination that thirteen agreements associated with the IID/SDCWA water transfer and the QSA are valid, legal and binding. Other lawsuits also were filed contemporaneously challenging the execution, approval and implementation of the QSA on various grounds. All of the QSA cases were coordinated in Sacramento Superior Court. Between early 2004 and late 2009, a number of pretrial challenges and dispositive motions were filed by the parties and ruled on by the court, which reduced the number of active cases and narrowed the issues for trial, the first phase of which began in November 2009 and concluded in December 2009. One of the key issues in this first phase was the constitutionality of the QSA Joint Powers Agreement, pursuant to which IID, CVWD and SDCWA agreed to commit $163 million toward certain mitigation and restoration costs associated with implementation of the QSA and related agreements, and the State agreed to be responsible for any costs exceeding this amount. A final judgment was issued on February 11, 2010, in which the trial court held that the State's commitment was unconditional in nature and, as such, violated the appropriation requirement and debt limitation under the California Constitution. The trial court also invalidated eleven other agreements, including the QSA, because they were inextricably interrelated with the QSA Joint Powers Agreement. Lastly, the trial court ruled that all other claims raised by the parties, including CEQA claims related to the QSA Programmatic EIR and the IID Transfer Project EIR, were moot. (2010 CVWMP, pp. 4-28 to 4-29; MWDSC 2013 Preliminary Official Statement, Water Revenue Refunding Bonds, Appendix A, p. A-18.)

In March 2010, Metropolitan, IID, CVWD, SDCWA, the State and others filed notices of appeal challenging various aspects of the trial court's ruling. On December 7, 2011, the Court of Appeal issued

its ruling reversing, in part, the trial court's ruling. In particular, the Court held that while the State's commitment to fund mitigation costs in excess of $163 million was unconditional, actual payment of such costs was subject to a valid appropriation by the Legislature, as required under the California Constitution. Moreover, the State's commitment did not create a present debt in excess of the State Constitution's $300,000 debt limit. Thus, the QSA Joint Powers Agreement was held to be constitutional. The Court of Appeal also rejected other challenges to this agreement, including that it was beyond the State's authority, there was no "meeting of the minds," and there was a conflict of interest. In light of its ruling, the court of appeal remanded the matter back to the trial court for further proceedings on the claims that had been dismissed as moot, including the CEQA claims.

On June 4, 2013, the trial court issued its ruling on remand, validating the QSA and eleven related agreements while denying the remaining legal challenges that were brought against the QSA. Among other important rulings, the court upheld the CEQA review that was prepared for the QSA. Among its decisions on specific environmental issues, the court determined that the potential air quality impacts to the Salton Sea were adequately analyzed under CEQA. The court also found that the use of a baseline consisting of existing and predicted future conditions of the Salton Sea was appropriate to measure the impacts of the long-term water transfers. It denied project opponents' arguments that more alternatives should have been considered and found that the water agencies' conclusion that use and transfer of water to the San Diego area would not induce growth was supported by record evidence. The court also addressed the nature of changes made to the agreements after the environmental documentation was completed and the procedural decision of water districts to designate themselves as "co-lead agencies" under CEQA, finding that these decisions did not violate CEQA. As a result, the court concluded that the record supported the lead agencies' conclusions relating to CEQA and upheld the validity of the QSA and eleven related agreements.

In January 2010, a separate complaint was filed by the County of Imperial and the Imperial County Air Pollution Control District alleging that execution and implementation of three QSA-related agreements violate the federal National Environmental Policy Act (NEPA) and the federal Clean Air Act (CAA). The complaint named the Department of the Interior, Secretary of the Interior, Bureau of Reclamation and Commissioner of Reclamation as defendants, and Metropolitan, CVWD, IID and SDCWA as real parties in interest. With respect to NEPA, the complaint alleged that the environmental impact statement prepared by the Bureau of Reclamation failed to adequately analyze potential impacts on the Salton Sea and on land use, growth and socioeconomics; improperly segmented various project components; failed to address cumulative impacts; and failed to address mitigation of potential impacts. With respect to the CAA, the complaint alleged that the Bureau of Reclamation failed to conduct a conformity analysis as required under the Act and Imperial County Air Pollution Control District's own rules. In April 2012, the court ruled against the plaintiffs and in favor of the defendants on all claims. The court held that the plaintiffs lacked standing to pursue NEPA and CAA claims and that the NEPA claims lacked merit. In May 2012, the plaintiffs filed a notice of appeal and the non-federal defendants filed a notice of cross-appeal. Briefing on all appeals was completed in 2013, and in May 2014 the United States Court of Appeals for the Ninth Circuit issued a decision that upheld the District Court ruling and found that no violations of NEPA or the CAA occurred in connection with the QSA.

### Colorado River Basin Study

In December 2012, the Bureau of Reclamation (BOR) issued its Colorado River Basin Water Supply and Demand Study (2012 Study). According to BOR, the 2012 Study was prepared against the

backdrop of challenges and complexities of ensuring a sustainable water supply and meeting future demand in the Colorado River system. Notably, the 2012 Study recognizes that because of the Colorado River system's ability to store approximately 60 million acre-feet of water (or nearly four years of average natural flow of the River), all requested deliveries have been met in the Lower Basin, despite recently experiencing the worst 11-year drought in the last century. (2012 Study, Executive Summary, p. ES-1.) The 2012 Study concludes that, without additional future water management actions among the Upper and Lower Basin states, a wide range of future imbalances is plausible, primarily due to uncertainties inherent in future water supply. (Id, p. ES-6.) Comparing the median long-term water supply projections against the median long-term water demand projections, and factoring in the myriad factors having the potential to affect the availability and reliability of River supplies and demands (such as climate change, species and other environmental issues, social trends, economic and legal forces, and technical capabilities), the 2012 Study shows that a long-term projected imbalance of 3.2 million acre-feet or more could occur by the year 2060. (Id.) To address such potential long-term imbalances, the 2012 Study identifies and discusses a broad range of potential options to resolve the differences between water supply and demand. During the study period, over 150 options were received and organized into four groups: (1) those that increase Basin water supplies; (2) those that reduce Basin water demands; (3) those that focus on modifying operations; and (4) those that focus primarily on Basin governance. (Id., p. ES-7.) Moreover, recognizing that no single option is likely sufficient to resolve potential water supply and demand imbalances, the 2012 Study developed groups and portfolios of options to reflect different adaptive strategies. (Id., p. ES-11.) Importantly, the 2012 Study recognizes that *complete* elimination of Basin vulnerability is not likely obtainable, yet concludes that implementation of various adaptive management options results in a significant reduction in vulnerability (e.g., the percentage of future scenarios resulting in Lake Mead elevations being less than 1,000 feet msl is reduced from 19 percent to only 3 percent). (Id., p. ES-14.). Indeed the 2012 Study states that implementation of management portfolios are projected to be successful in significantly improving the resiliency of Basin resources to vulnerable hydrologic conditions. (Id.) Similar to the extraordinary conservation and management efforts being undertaking throughout the Coachella Valley, the 2012 Study concludes that supply augmentation, water reuse and conservation will be critical tools in managing potential supply and demand imbalances. (Id.)

### Transfer and Exchange Opportunities

Water transfers involve the temporary or permanent sale or lease of a water right or contractual water supply between willing parties. Water can be made available for transfer from other parties through a variety of mechanisms.

#### City

The City is exploring opportunities to exchange non-potable groundwater for water from the Coachella Canal. Certain groundwater in the Lower Coachella Valley has higher levels of dissolved solids and fluoride, and thus is not suitable for potable purposes. However, that supply may be suitable for irrigation and other non-potable uses. In turn, Canal water that is currently used only for irrigation purposes could be treated or left untreated and used for potable or non-potable urban uses. (City 2010 UWMP, pp. 4-12 to 4-13.)

#### CVWD

CVWD, DWA and the City of Indio are considering the acquisition of additional imported water supplies to augment existing supplies. Under the 2010 CVWMP, CVWD plans to acquire up to 50,000 AFY of additional water supplies through either long-term leases or entitlement purchases from willing parties. Potential sources might include the Delta Wetlands Project which would store surplus water at two Delta islands for later delivery, Sacramento Valley irrigation water transfers, or purchase(s) of additional Table A water from other SWP contractors. Notably, developments within CVWD's retail service area are required to pay a supplemental water supply charge. These amounts can be used to acquire additional water supplies to serve the needs of specific development projects. Supplemental supplies can be transferred to the Coachella Valley and delivered via the SWP, Metropolitan's Colorado River Aqueduct or the Coachella Canal. Further analysis of transfer and exchange opportunities is provided in the 2010 CVWMP and CVWD 2010 UWMP. (2010 CVWMP, pp. 8-4 to 8-7; CVWD 2010 UWMP, pp. 4-19 to 4-21.)

### Desalinated Water Opportunities

As described in the Coachella Valley IRWMP, desalination processes are being developed for reuse of agricultural drainage flows in the Coachella Valley. The Valley has a large network of drains and open channels that transport irrigation drainage flows and stormwater. In East Valley areas of agriculture, a high groundwater table and concentration of salts in irrigated soils makes this system a requirement. Desalinated agricultural drain flows can be applied to any number of irrigation and domestic purposes, and thus can serve as an important component of the Valley's water supply portfolio.

#### City

The City of Coachella does not anticipate the future use of desalinated water within its service area, as the backbone facilities and infrastructure needed for desalination are not economically feasible. However, the City believes that desalinated water makes sense at the regional level. With a regional approach, desalination of local agricultural drain water could become a viable and economical alternative to potable water and Coachella Canal water. (City 2010 UWMP, p. 4-14.)

#### CVWD

CVWD plans to use treated agricultural drainage and other brackish water for irrigation purposes. A brackish water treatment pilot study and feasibility study was completed in 2008. A variety of treatment technologies, brine management approaches and source water supply combinations were compared and assessed over a range of treatment capacities. The treatment alternatives compared reverse osmosis (RO) with dew evaporation, and RO was the chosen technology. Source water supply options consist of the collection of agricultural drainage water at select outfall locations and the installation of a well field to extract groundwater in the upper part of the aquifer influencing the agricultural runoff water. The amount of drain water that would be treated and recycled depends on supply availability (the amount of drain flow occurring), the overall supply mix (the amount of additional water needed), and the cost of treatment and brine disposal. CVWD's CVWMP considers up to 10,000 AFY of desalinated drain water by the year 2035 for urban use. Further analysis is provided in the 2010 CVWMP and CVWD 2010 UWMP.

In addition to drain water, the CVWMP also analyzes desalinated ocean water. Coastal communities in southern California are conducting feasibility studies and developing plans to desalinate ocean water as

a water supply source. However, desalinating ocean water has relatively high costs due to the energy required to operate reverse osmosis facilities and potential environmental impacts associated with seawater intakes supplying the plant and disposal of brine. Since the Coachella Valley is located a significant distance from the ocean, desalinated ocean water would need to be exchanged with an imported water source (SWP or Colorado River water) for delivery to the Valley. The amount of water that could be developed through ocean water desalination and exchange is likely to be limited by economics of the physical capacity to deliver desalinated ocean water into the coastal water delivery systems and water quality. Further analysis is provided in the 2010 CVWMP and CVWD 2010 UWMP. (2010 CVWMP, pp. 8-6 to 8-13; CVWD 2010 UWMP, pp. 4-21 to 4-23.)

### Recycled Water Opportunities

Recycled water is a significant resource that can be used to help expand the local and regional water supply portfolio. Wastewater that has been highly treated and disinfected can be reused for landscape irrigation, certain agricultural applications, and a variety of other purposes. Recycled water has historically been used for irrigation of golf courses and urban landscaping in the Coachella Valley. City and CVWD recycled water opportunities are described below.

#### City

Currently, the City does not have infrastructure in place to recycle water. However, the City is in the process of updating its sewer master plan, which will include a feasibility study on implementing a recycled water program. If the treatment system upgrade feasibility study produces a favorable result, and tertiary treatment is added to the facility, potential uses of recycled water could be implemented, including non-potable water systems for larger developments. In addition, the City has begun negotiations with Valley Sanitation District to acquire wastewater effluent from its treatment plant located north and uphill of the City. The investigation includes determining treatment plant improvements required to meet applicable recycled water quality standards. (City 2010 UWMP, pp. 4-16 to 4-19.)

#### CVWD

Urban growth is expected to increase the amount of wastewater generated, and thus will make additional recycled water available for reuse, primarily in the East Valley. As discussed in the 2010 CVWMP, with water conservation measures, recycled water supplies in the East Valley are projected to total about 67,000 AFY by 2045.

In addition, growth is expected to occur in areas that are not currently served by wastewater treatment facilities. It is expected that the wastewater agency serving these areas will extend their wastewater collection systems as development occurs. For the areas within the cities of Coachella and Indio and their respective spheres of influence that are northeast of the San Andreas Fault, it is expected that one or more satellite treatment facilities will be constructed to treat wastewater generated in these areas. That recycled water can be reused for outdoor use within those developments to reduce the need for additional local potable and imported water supplies. Based on estimates of water demands and wastewater flows, recycled water could meet as much as 12,000 AFY of non-potable demand in this area by 2045. Further analysis is provided in the 2010 CVWMP and CVWD 2010 UWMP. (2010 CVWMP, pp. 8-5 to 8-10; CVWD 2010 UWMP, pp. 4-23 to 4-31.)

### Future Water Projects

The City and CVWD continue efforts to meet water demand through development of future water projects. Each are discussed in the following paragraphs.

### City

The City understands the need to develop additional sources of supply to meet demands associated with projected growth. The City will continue to evaluate the use of Canal water as a source substitution for drinking water supplies obtained from groundwater. Upon completion of necessary agreements, treatment facilities, and infrastructure, the City estimates that it could derive approximately 15 percent of its drinking water from the Canal. As part of its water master plan process, the City will continue to design water system improvements to enhance conservation, identify additional water supplies and potential source substitutions, and enhance local groundwater recharge. In addition, City financing plans will be developed to implement the capital improvement program. (City 2010 UWMP, p. 4-19.)

### CVWD

CVWD will continue to implement recommendations provided in the 2010 CVWMP. As outlined in Chapter 1 above, and as described throughout this Section, CVWD water supply projects and programs include greater conservation (agricultural conservation, additional urban conservation, and golf course conservation), supply development (acquisition of additional imported water supplies, recycled water use, and desalinated drain water), groundwater recharge program enhancements, and source substitution programs. In addition to the information provided in this Section, Section 8 of the 2010 CVWMP Update provides a detailed discussion of the many new projects and programs that are recommended for implementation. (2010 CVWMP, pp. 8-13 to 8-15; CVWD 2010 UWMP, pp. 4-31 to 4-34.)

## WASTEWATER EXISTING CONDITIONS

The Planning Area receives its wastewater conveyance and treatment services through the Coachella Sanitary District (CSD) and Valley Sanitary District (VSD) for flows generated within the incorporated boundary. The Thermal Sanitary District (TSD) serves the unincorporated community of Thermal.

### Environmental Baseline Setting

The Coachella Sanitary District was established in 1936 and maintains approximately 340,000 linear feet of wastewater conveyance pipeline, powered by two pump stations and serviced by a 4.9 MGD capacity wastewater treatment plant (WWTP) and currently serves an average daily demand of approximately 2.9 MGD. The Coachella Sanitary District is the primary service provider for the incorporated area of the City. The CSD currently serves 6,500 Equivalent Dwelling Units (EDUs) and approximately 3,500 customers via its wastewater conveyance network. This constituency base consists primarily of residential development with a light mix of commercial, industrial and some agricultural customers. The City also provides domestic treatment capacity to the TSD, which is collected at a lift station and delivered by force main from TSD to the WWTP. Except for Thermal, sewer service to all unincorporated areas of the City of Coachella is handled by VSD.

In measuring wastewater flows it is important to attribute volume to individual user types and differentiate between residential, agricultural and commercial flows. To accomplish this breakdown

customer demand is measured in EDUs. This EDU is determined to be a typical residential service connection and represents the usage and flow generation created by one single-family residence. All other user types are measured by applying an EDU value to each service connection based on land use and specific user characteristics. The current EDU flow generation factor is 270 gallons per day (gpd) per EDU for Coachella, but for planning purposes and to build in a safety buffer a generation factor of 300 gpd is utilized. The generation factor for other local agencies range from 250 gpd/EDU to 300 gpd/EDU.

### Infrastructure

The Coachella Sanitary District's sole Wastewater Treatment Plant (WWTP) is located in the southern most portion of the City on 54th Avenue. This location takes advantage of the natural gravity flow that runs from north to southeast. The WWTP consists of head works with influent wet well, screening, and raw sewage lift station; two modified activated sludge units with secondary clarifiers; an effluent metering station; a chlorine contact chamber; a dechlorination station prior to discharge to the White Water Storm Water Channel along with a series of sludge dewatering beds. The ponds also have the capacity of pumping effluent to irrigated pastures south of the plant.

The District currently operates two lift stations: the High School Lift Station and the Thermal Lift Station. The High School Lift Station is located on the High School Campus at the intersection of Van Buren Street and Airport Boulevard. It handles wastewater flows from the Coachella Valley High School, Westside Elementary School, and portions of the Thermal area, and is estimated by District personnel to be near maximum capacity with an estimated flow of approximately 125,000 gpd.

The WWTP currently operates two independent treatment processes. The first (and oldest plant), consists of two circular activated sludge treatment tanks and the second is an aeration pond system. These two process systems may be used in series or in parallel. Currently they are used in parallel and monitored separately.

Influent wastewater is conveyed to the WWTP via a 24-inch diameter interceptor line that empties into the headworks of the facility. The headwork is comprised of a wet well, comminutor with four conveyor pumps, three 1,500 gpm Allis Chalmers pumps and a 1500 gpm Gorman Rupp pump. Flow diversion to the treatment process ponds is accomplished through manual valve activation.

In addition to this WWTP, the Coachella Sanitary District operates an Agricultural Wash Water Treatment Facility with a peak processing capacity of 175,000 GPD. The District operates this 12-acre site primarily to manage the flows from several agricultural processing facilities including the following plants: Sun Date, Great Date and the Sun World Processing Plant. Wastewater conveyed to this facility by diversion pipelines is processed by means of furrow irrigation pasture.

### Coachella Valley Sanitary District (VSD)

The unincorporated areas within the City's Sphere of Influence that are not served by the Coachella Sanitary District are served by Coachella Valley Water District, which provides wastewater conveyance and treatment services. The one exception is of Thermal, which is serviced by Coachella Sanitary District. Two pump stations located within the Planning Area serve as conduits for City customer's wastewater flow conveyance to the District's various WWTPs.

The VSD processes 6.5 MGD wastewater through its Water Reclamation Facility. The treatment plant treats approximately 6.5 MGD of wastewater. The wastewater is treated through one of three individual treatment processes:

- Activated Sludge process
- Oxidation Ponds
- Biological Wetlands

The activated sludge process treats a majority of the wastewater that inters the treatment plant which is currently 6.0 MGD. The activated sludge process currently has a maximum treatment capacity of 7.5 MGD. The oxidation ponds currently receives all of the waste solids and approximately 0.5 million gallons of wastewater each day. Currently the water leaving the oxidation pond system enters the wetlands. The maximum treatment capacity of the oxidation ponds are currently 2.5 MGD. The wetlands process provides a habitat for the local wildlife and treats approximately 1.0 million gallons of wastewater per day. The maximum capacity of the wetlands is 1.0 MGD. The three treatment processes combined give the treatment plant a total treatment capacity of 11.0 MGD, giving the plant an approximate additional capacity of 4.5 MGD. The treated wastewater is discharged into the whitewater storm channel and becomes a source of freshwater replenishment to the Salton Sea.[37]

### STORMWATER

Coachella Valley Water District (CVWD) provides regional flood protection within its stormwater service area (which includes the City of Coachella) intercepting and conveying regional flood flows through the Coachella Valley to the Salton Sea. This regional stormwater conveyance system consists of the 50-mile Whitewater River/Coachella Valley Stormwater Channel (WWRSC/CVSC) and related tributary stormwater facilities. Portions of the WWRSC/CVSC has been channelized to handle flood flows of up to 80,000 cubic feet per second and drains water into the Salton Sea, south of the Planning Area. The Whitewater River, which originates on the southern slopes of the San Bernardino Mountains, flows southeast through the Coachella Valley to the Salton Sea.

[37] Valley Sanitation District Website, retrieved June 24, 2014. www.valley-sanitary.org/Departments/TreatmentOperations/TreatmentPlant.aspx

# WATER ENVIRONMENTAL IMPACTS AND MITIGATION

## THRESHOLDS OF SIGNIFICANCE

The following thresholds of significance criteria are based on Appendix G of the *CEQA Guidelines*. Based on these thresholds, implementation of the proposed project would not have significant adverse impacts related to water supply unless the project would:

- Not have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed;
- Require or result in the construction of new water or wastewater treatment or collection facilities or expansion of existing facilities, the construction of which could cause significant environmental effects; or
- 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 (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).

## WATER SUPPLIES

*Impact 4.16.1-1: Will the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?*

*Impact 4.16.1-2: Will the proposed project 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 (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).*

**Significance: Less than significant.**

As set forth above, the proposed project is the City's General Plan Update. The General Plan Update is a long-term development plan for the City and its Sphere of Influence (SOI), which will serve as the primary guiding document for the physical development of the City over the next 20 to 25 years. The General Plan Update will serve as the City's blueprint and is comprised of goals, policies and actions that will provide the City's decision makers with a foundation for making future decisions related to land use, development, economic development, community wellbeing and related topics.

As indicated above, the water demands associated with the proposed project have already been accounted for as part of CVWD's local and regional water supply planning process and determinations

of water supply sufficiency for the City and its SOI.[38] Consistent with the general requirements of the 2010 CVWMP, the City is committed to meeting and maintaining its own water conservation goals, as well as conservation goals of the 2010 CVWMP, both of which are in concurrence with SBx7-7. Those goals are further manifested in the 2009 MOU and 2013 MOU between the City and CVWD as discussed above. In the 2009 MOU, the City expressly agrees to undertake measures effective to satisfy the water conservation goals of the CVWMP. The 2013 MOU provides that the City may participate in the funding of CVWD's supplemental water supplies to offset water demands of new development, provided that the City implements the water conservation goals of the CVWMP, as required by the 2009 MOU. The supplemental water supplies and entitlements contemplated by the 2009 MOU and 2013 MOU have been identified and analyzed by CVWD as part of its 2010 UWMP, 2010 CVWMP and 2011 SPEIR.

As a general policy matter, new development projects within the City must ensure the efficient use of water resources and meet and maintain the goals of the 2010 CVWMP. Following are examples of project specific water conservation measures that are practiced throughout the City:

- To the greatest extent practicable, native plant materials and other drought-tolerant plants will 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;
- Potential use of the Coachella Canal for construction water and project landscaping may further reduce project demand for potable water. This will be reviewed for feasibility and subject to agreements between the City and CVWD since the project lies outside of the ID-1 boundary;
- In the event recycled water becomes available to the project, the potential use of tertiary treated water will be reviewed to determine feasibility of its use for on-site landscaped areas to reduce the use of groundwater for irrigation;
- The installation and maintenance of efficient on-site irrigation systems will minimize runoff and evaporation, and maximize effective watering of plant roots. Drip irrigation and moisture detectors will be used to the greatest extent practicable to increase irrigation efficiency; and
- 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.

In addition to these practices, the General Plan Update establishes several long-term goals and policies for managing and protecting the City's natural resources. The Coachella Valley's arid and sunny climate poses challenges, but also great opportunities for the City to use its vital water resources wisely. With the planned development of agricultural lands into communities, the City will seek to ensure that water use in new neighborhoods does not exceed water use associated with historic land uses. To implement this transition effectively, the City will conserve water by instituting new, efficient building design standards and incorporating xeriscaping into landscape design requirements. Following is a summary of

38 See, e.g., 2010 CVWMP, pp. 3-3 to 3-4.

policies established in the General Plan Update to ensure the ongoing and ever-improving practices of efficient water use throughout the City and its SOI:

### Land Use + Community Character

**2.6 Climate-appropriate design.** Require architecture, building materials and landscape design to respect and relate to the local climate, topography, history, and building practices.

**5.14 Shaded Sidewalks.** Strive to design and build neighborhoods to provide shade over at least 30 percent of the length of sidewalks on streets within the project. Trees must provide shade within 10 years of landscape installation and should be as water efficient as possible.

**14.1 Sustainable Development Leadership.** Establish City as a regional leader in sustainable development and encourage compact, higher-density development that conserves land resources, protects habitat, supports transit, reduces vehicle trips, improves air quality, conserves energy and water and diversifies the housing stock in the Coachella Valley.

**14.4 Regional Governance.** Plan an active role in the Coachella Valley Association of Governments, the Southern California Association of Governments and other regional agencies to protect and promote the interests of the City.

### Sustainability and Natural Environment

**1.17 Reduced Water Supplies.** When reviewing development proposals, consider the possibility of constrained future water supplies and require enhanced water conservation measures.

**1.19 Designing for Changing Precipitation Patterns.** Periodically evaluate stormwater control strategies and systems for sensitivity to changes in precipitation regimes and consider adjusting those strategies to accommodate future precipitation regimes.

**3.1 Conservation Performance Targets – New Construction.** Require new construction to exceed the state's Green Building Code for water conservation by an additional 10 percent.

**3.2 Water Conservation Technologies.** Advocate and promote indoor and outdoor water conservation and reuse practices including water recycling, grey water (also known as on-site water recycling).

**3.3 Grey-Water.** Support the use of greywater and establish criteria and standards to permit the safe and effective use of grey water (also known as on-site water recycling).

**3.4 Low Impact Development.** Require the use of low impact development strategies to minimize urban run-off, increase site infiltration, manage stormwater, and recharge groundwater supplies.

**3.5 Recycled Water.** Use impact fees to set up tertiary water treatment infrastructure to use recycled water for "non-potable" uses.

**3.6 Education.** Support and expand programs to educate and incentivize the community on water conservation practices for landscaping.

3.7 **Landscape Design.** Encourage the reduction of landscaping water consumption through plant selection and irrigation technology and increase the use of recycled water for landscaping.

3.8 **Groundwater Infiltration.** Encourage the use of above-ground and natural stormwater facilities in new development and redevelopment, such as grassy or vegetated swales, permeable paving, and rain gardens.

5.5 **Water-Efficient Agriculture.** Promote agricultural crops and methods that require limited or no irrigation.

Infrastructure + Public Services

2.1 **Water Rights.** Exercise and protect City water rights and entitlements in perpetuity.

2.5 **Water Supply Planning.** Prepare, implement, and maintain long-term, comprehensive water supply plans, like the Urban Water Management Plan.

2.6 **Water Supply for New Development.** Ensure that water supply capacity and infrastructure capacity is in place prior to granting building permits for new development.

2.7 Expanding Water Supply. If water supply is not adequate to supply new development, require new water supplies be secured prior to granting building permits for new development.

2.8 **Long-Term Water Supply.** Ensure the provision of water services is consistent with the growth planned for the General Plan area, including the Sphere of Influence.

2.10 **Water Supply Source Protection.** Protect local groundwater resources from localized and regional contamination sources such as septic tanks, underground storage tanks, industrial businesses and urban runoff.

2.12 **Water Conservation.** Implement water conservation programs aimed at reducing demands from new and existing development.

2.13 **Water Conservation Promotion.** Promote water conservation through municipal applications, public education, incentive programs, and standards for new and retrofitted development.

2.14 **Water-Efficient Landscaping.** Require the use of water-efficient landscaping in all new development.

2.15 **Grey-Water.** Strongly encourage new development to utilize on-site water systems.

2.16 **Reclaimed Water.** Expand the use of reclaimed water for irrigation and other applications.

2.17 **Reclaimed Water Infrastructure.** As existing water distribution infrastructure is replaced, consider adding reclaimed water distribution systems to minimize construction costs. To the extent feasible, the replacement should be concurrent with major infrastructure or development projects within the City.

**2.18 Reclaimed Water Use.** To promote water conservation and increase the use of reclaimed water, use reclaimed water in City-owned parks, plazas, landscaped medians and other public spaces and in privately-owned open spaces wherever feasible.

**2.19 Groundwater Replenishment.** Cooperate with CVWD and other agencies to develop groundwater replenishment programs which will ensure viability of the groundwater aquifer in the lower Whitewater basin.

The City and CVWD recognize that water is a limited resource and that water conservation and water use efficiency should be actively pursued throughout the Coachella Valley. Both the City and CVWD have implemented and will continue to expand and implement water conservation programs to achieve the goal of realizing a statewide 20 percent reduction in per capita water use by the year 2020, and the interim goal of realizing a 10 percent per capita reduction by 2015, pursuant to SBx7-7.

The California Urban Water Conservation Council (CUWCC) Memorandum of Understanding (MOU) regarding Urban Water Conservation in California sets guidelines to achieve a baseline level of water conservation in given water service areas (CUWCC, 2004). Signers of the MOU agree to set goals to meet the standards outlined in the MOU. As further discussed above in this Section, on November 2, 2000, the City of Coachella became a signatory to the MOU, and the City has remained committed to demand management throughout its service area. For example, the City's applies a tiered water rate schedule that is conducive to voluntary conservation. The City has also adopted a landscape irrigation policy as part of the City's "Landscape Guidelines" that address all landscaping for public parkways, median islands, and common area landscaping improvements for residential and commercial developments in the City. The City worked with the Coachella Valley Association of Governments and adopted the Coachella Valley "Model Landscape Ordinance" as a policy document. The guidelines used by the City encourage minimal turf areas, use of native plant materials reminiscent of the "desert wash" plant palette which are used in all of the newer residential common areas including retention basins, parkways and perimeter landscaped planters.

Additionally, the City has implemented a model of sustainability in landscaping its largest public parks with smart irrigation systems and permeable pavers. The newly constructed Rancho Las Flores Park, the expanded Bagdouma Park, and the re-designed De Oro Park all incorporate a blend of native and drought-tolerant plants, trees and ground covers into an attractive, low-maintenance, water-saving resource for the community. Further, the CWA offers three water conservation programs to its residents. These include the Turf Removal Rebate Program, the Indoor/Outdoor Water Fixture Kits, and the Toilet Rebate Program. The City also promotes water conservation and other resources in coordination with CVWD, Imperial Irrigation District (IID), and other energy utilities. The City distributes public information through bill inserts, brochures, and community events.[39]

The discussion below addresses Thresholds 4.16.1-1 and 4.16.1-2 together because the standards are closely related in regard to how water service is provided in the City of Coachella. As noted above, the Coachella Water Authority (CWA) utilizes groundwater produced from the Coachella Valley Groundwater

39 Coachella Valley Integrated Regional Water Management Plan, January 2012.

Basin (specifically, the East (Lower) Whitewater River Subbasin) to serve water within the City (Threshold 4.16.1-1). At the same time, however, the City's 2010 UWMP, the CVWD 2010 UWMP, CVWD 2010 CVWMP and 2011 SPEIR all demonstrate that the groundwater basin and supplies that are used by CWA are cooperatively managed by the City, CVWD and others as an expansive conjunctive use resource, where the City and CVWD use entitlements to imported water and other resources to replenish local groundwater supplies on an ongoing basis to ensure protection of local and regional groundwater resources (Threshold 4.16.1-2).

The analysis provided herein regarding potential water supply impacts under Thresholds 4.16.1-1 and 4.16.1-2 adheres to the standards established by the California Supreme Court in Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova (2007) 40 Cal.4th 412, and by the Courts of Appeal in Watsonville Pilots Association v. City of Watsonville (2010) 183 Cal.App.4th 1059 and Sonoma County Water Coalition v. Sonoma County Water Agency (2010) 189 Cal.App.4th 33. As noted above, Vineyard provides that CEQA does not require the same assurances of certainty regarding future water supplies at the early stages of project planning and approval that are required at later stages, such as approval of a subdivision map or construction permits.[40] The Court found that requiring water supply certainty at an initial approval stage of a long-term, large-scale development project would likely be unworkable because water planning would far outpace land use planning.[41] In the Watsonville Pilots case, the Court of Appeal determined that "[t]he burden of identifying likely water sources for a project varies with the state of project approval involved; the necessary degree of confidence involved for approval of a conceptual plan is much lower than for issuance of building permits." (Watsonville Pilots, 183 Cal.App.4th at 1090.) There, the EIR prepared for a proposed general plan update acknowledged that water supply would be provided from an already overdrafted groundwater basin. The court found that the EIR satisfied CEQA because the water supply analysis noted the uncertainties related to the basin's overdraft condition; discussed the various measures that were being undertaken to address the long-term overdraft situation; and concluded that water demands resulting from the new development would be offset by conservation, conversion of agricultural lands to urban uses, and other measures. (Watsonville Pilots at 1094.) In Sonoma County, the Court of Appeal confirmed the practical standard that applies to long-term water supply planning. The court determined that such analyses "involve expectations and not certainties." (Sonoma County at 52-53.) Thus, while future water supply sources always have the possibility of not materializing, water agencies must have some ability to reasonably rely on planned future water projects and programs, and a long-term water supply analysis is not required to assume or analyze contingencies upon contingencies for theoretical circumstances that might never arise. (Sonoma County at 52-53.)

With these principles in mind, the *Vineyard* case establishes four principles that apply when conducting a water supply analysis for purposes of CEQA: (1) an EIR cannot ignore or assume a solution to water supply; (2) an EIR cannot limit the water supply analysis to the first stage of a project; (3) future water supplies identified and analyzed must bear a likelihood of actually being available; and (4) if the uncertainties inherent in long-term land use and water planning make it impossible to confidently identify

40 Vineyard, 40 Cal.4th at 432, 438.

41 Vineyard, 40 Cal.4th at 432.

future water supply sources, the EIR should discuss the uncertainty of the future water supply sources, reasonably foreseeable alternatives (including alternative water sources and the option of restricting future phases of development if sufficient water is not available for future phases), and the significant foreseeable environmental impacts of each alternative water supply source and related mitigation measures to reduce each impact, if any.[42] The information and analyses of this Section address and comport with each of these principles from the *Vineyard* case in analyzing the potential water supply impacts of the proposed project.

In accordance with the first principle of *Vineyard*, the water supply analysis provided herein does not ignore or assume a solution to water supply. As noted above, the main source of supply for the City's CWA is the Coachella Valley Groundwater Basin, specifically the East (Lower) Whitewater River Subbasin, which is continuously replenished at the local and regional level pursuant to a variety of water supply projects and programs discussed above and in the Section. The information and analyses in the City's 2010 UWMP, the CVWD 2010 UWMP, the 2010 CVWMP and 2011 SPEIR show that the Coachella Valley Groundwater Basin area serves as an expansive conjunctive use resource that is capable of ensuring a sufficient and sustainable water supply to serve existing uses and projected growth during normal, single-dry and multiple-dry years over an extended planning horizon, currently established as the year 2045. Not only does the basin contain vast reserves of local groundwater (approximately 25 million acre-feet), it has substantial available storage space that has been utilized and will continue to be utilized to store millions of acre-feet of supplemental supplies that become available during normal and above-normal years. Those surplus supplies are recharged to the basin for later use during dry periods.

More specifically, as discussed herein, CVWD has determined that the total projected water supplies available to the East (Lower) Whitewater River Subbasin area during normal, single-dry and multiple-dry periods throughout the year 2045 are sufficient to meet the water needs of existing uses and projected growth, specifically including the future water needs within the City and its SOI.[43] Indeed, demands associated with the proposed project have been accounted for as part of CVWD's regional water supply planning efforts and conclusions of water supply sufficiency through the year 2045.[44]

CVWD, with assistance from other water agencies including the CWA, have been implementing water supply projects, programs and related management actions of the CVWMPs since 2002. A notable requirement under the CVWMP is that the City (and other agency producers) must pay a replenishment assessment charge (RAC) for each acre-foot of groundwater produced. The current RAC is $24 per acre-foot of groundwater pumped. RAC funds are utilized, for instance, to purchase SWP entitlements already held by CVWD and other supplemental supplies for which entitlements previously have been established, including but not limited to additional SWP supplies, Colorado River water, recycled water supplies, desalinated agricultural drain water, and Coachella Canal water. As discussed above, key components of the water management actions also include various urban and irrigation conservation

42 Vineyard, 40 Cal.4th at 431-434.

43 See, e.g., 2010 CVWMP, pp. 7-2 to 7-12; 2011 SPEIR, pp. 3-4 to 3-9.

44 2010 CVWMP, pp. 3-3 to 3-4.

measures, tiered water rates, landscaping ordinances and policies, outreach and education. The CVWD groundwater replenishment programs establish a comprehensive and managed effort to eliminate overuse of local groundwater resources. These programs allow the City, CVWD and others to maintain the groundwater basin as a primary water supply and to recharge the basin to meet existing and projected demands and eliminate the overuse of local groundwater supplies. A complete discussion on existing and planned groundwater recharge facilities is included within the 2010 CVWMP, which is hereby incorporated by reference.[45]

Importantly, the potential environmental impacts of securing additional water supplies and entitlements, and implementing the water supply projects and programs contained in the 2010 CVWMP have been analyzed in accordance with CEQA, and the determination has been made that implementation of the 2010 CVWMP will have a beneficial effect on groundwater resources.[46] Among other things, the 2011 SPEIR also concluded that: primary health-based drinking water quality standards would not be exceeded due to implementation of the 2010 CVWMP projects and programs; impacts to Colorado River flows, erosion, siltation, and salinity will be less than significant; the volume of water delivered through the Coachella Canal will increase to a minor degree, but will remain within Canal capacity, and impacts will be less than significant; and impacts on SWP supplies will be less than significant, although the Department of Water Resources will be responsible for evaluating and approving future water transfers in subsequent CEQA documents. The City considered the 2011 SPEIR as a responsible agency under CEQA, and accordingly the 2011 SPEIR discussion and analyses are incorporated herein by reference.[47]

CVWD's supplemental water supplies and entitlements, as analyzed in its 2010 CVWMP and 2011 SPEIR, are specifically available to the proposed project. As mentioned above, CVWD and the City signed a Memorandum of Understanding in September 2009 (the 2009 MOU) to assist in ensuring a sufficient and reliable water supply for development projects within the City and its SOI. Under the terms of the 2009 MOU, various means are identified by which the City can provide for the supply of supplemental water to offset the demands associated with new development projects approved by the City. In particular, the City can participate in funding CVWD's acquisition of supplemental water supplies to offset demands associated with newly approved projects within the City's SOI.[48] Also discussed above, CVWD and the City signed an additional Memorandum of Understanding in February 2013 (the 2013 MOU) regarding implementation of the 2009 MOU. Among other things, the 2013 MOU further specifies the mechanism by which the City can finance and acquire supplemental water supplies from CVWD to meet the projected demands of new development projects throughout the City and its SOI.

Specifically, the 2013 MOU states: "For new development projects under consideration by the City that will rely on [supplemental water supplies] pursuant to the [2009 MOU], the City will impose on the

45 2010 CVWMP, pp. 3-11; 4-13 thru 4-14.

46 See, e.g., 2010 CVWMP, pp. 7-19 to 7-32; 2011 SPEIR, pp. 3-23 to 3-33 (State Clearinghouse No. 2007091099).

47 Copies of the EIR documents and technical appendices are available on the Coachella Valley Water District website and at the District offices at 5-995 Avenue 52, Coachella; and 75-515 Hovley Lane East, Palm Desert, California.

48 See, e.g., CVWD 2010 CVWMP, p. 3-3.

project, as a condition of recordation of a final subdivision map or parcel map, or prior to the first water meter connection, whichever comes first, the City's then current [supplemental water supply charge] through an approved phasing plan that is comparable to CVWD fee-collection policies in effect at that time. Within 30 days of receiving a [supplemental water supply charge] payment from developer, City will remit CVWD's portion of the [supplemental water supply charge] to CVWD."[49] Furthermore, the 2013 MOU provides: "Any [supplemental water supply charge] funds remitted by the City to CVWD shall be deemed used for the acquisition of [supplemental water supplies] needed to supply the demands of the development project for which the [supplemental water supply charge] is paid. CVWD will hold entitlement and deliver such [supplemental water supplies] for the benefit of the City as the retail water supplier for the project."[50] As explained above, the supplemental water supplies and entitlements referred to in the 2013 MOU have been identified and analyzed by CVWD as part of the 2010 CVWMP and related 2011 SPEIR.

In accordance with the second *Vineyard* principle, the water supply analysis provided herein does not limit the water supply analysis to the first stage of a project. To the contrary, the analyses expressly assume that the entire buildout of the Planning Area will occur, and, accordingly, the analyses are based on a total projected water demand in 2035 of approximately 27,351 acre-feet per year for the proposed project. As indicated above, the 2010 CVWMP also assumes that the full buildout of the City's SOI/Planning Areas will occur, and the projected water demand associated with the proposed project has already been specifically accounted for as part of CVWD's water supply planning efforts and conclusions of short and long-term water supply sufficiency within the City and its SOI. Using the total projected water demand figure of 27,351 acre-feet per year at full buildout, this analysis concludes that the total projected water supplies available to the City during normal, single dry and multiple dry water years during a 20-year projection are sufficient to meet the projected water demand associated with the proposed project in addition to the City's existing and planned future uses, including agricultural and manufacturing uses.

Pursuant to the third *Vineyard* principle, the water supply analyses contained herein demonstrate that the existing and future water supplies identified and analyzed as part of the 2010 CVWMP bear a likelihood of actually being available. Taken together, the City's 2010 UWMP, the CVWD 2010 UWMP, the 2010 CVWMP, the 2011 SPEIR and this Section provide an exhaustive set of information and analyses regarding the projected availability and reliability of local groundwater supplies, and SWP supplies, Colorado River water, recycled water, agricultural drain water, Canal water, and other sources used to supplement and recharge the East (Lower) Whitewater River Subbasin of the Coachella Valley Groundwater Basin. Indeed the 2011 SPEIR analyzed the potential impacts associated with the groundwater production and recharge plan set forth in the 2010 CVWMP. That analysis was adopted and certified in accordance with CEQA and was not challenged. As indicated above, the *Vineyard* case establishes that lesser degree of water supply certainty is required for this type of analysis, wherein the proposed Project is merely a General Plan Update and only a programmatic EIR is being prepared at this time. Nevertheless, the information and analyses provided in support of this Section demonstrate

49 2013 MOU, Section 1(c).

50 2013 MOU, Section 1(d).

with a substantial degree of certainty that the existing and future water supplies identified and analyzed as part of the 2010 CVWMP bear a likelihood of actually being available.

Under the fourth *Vineyard* principle, based on the comprehensive information and analyses of the City's 2010 UWMP, the CVWD 2010 UWMP, the 2010 CVWMP, the 2011 SPEIR and this Section, there are not inherent uncertainties in the long-term land use and water planning record that make it impossible to confidently identify future water supply sources for the proposed project in addition to other existing and planned future uses. Thus, in accordance with *Vineyard*, this analysis is not required to identify reasonably foreseeable alternatives (including alternative water sources and the option of restricting future phases of development if sufficient water is not available for future phases), and the significant foreseeable environmental impacts of each alternative water supply source and related mitigation measures to reduce any such impact. As noted above, CVWD has determined that the total projected water supplies available to the East (Lower) Whitewater River Subbasin area during normal, single-dry and multiple-dry periods throughout the year 2045 are sufficient to meet the water needs of existing uses and projected growth, specifically including the future water needs within the City and its SOI.[51] Moreover, the potential environmental impacts of securing additional water supplies and entitlements, and implementing the water supply projects and programs contained in the 2010 CVWMP have been identified analyzed in accordance with CEQA, and the determination has been made that implementation of the 2010 CVWMP will have a beneficial effect on groundwater resources.[52] In addition to these determinations, a key feature of the 2010 CVWMP is that it has been developed to ensure the City, CVWD and other water suppliers within CVWD are able to meet current and future water demands with a 10 percent supply buffer. The buffer serves as one of several conservative mechanisms that support the water supply sufficiency conclusions prepared by the City and CVWD.

Based on the foregoing, the proposed project would not substantially deplete groundwater such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. Water supplies and entitlements needed to support implementation of the 2010 CVWMP have been identified and analyzed, and it has been shown that that the total projected water supplies available to the City during normal, single dry and multiple dry water years during a 20-year projection are sufficient to meet the projected water demand associated with the proposed project in addition to the City's existing and planned future uses, including agricultural and manufacturing uses. Furthermore, the project would incorporate elements of both the City and CVWD water conservation plans. These include conservation elements for indoor and outdoor use for both multifamily residential and mixed-use development, and as demonstrated in the project's sustainable design features, the proposed project would not interfere with groundwater recharge. In addition, pursuant to SB 610 and SB 221, any future "projects" within the City or its SOI that are defined within Water Code section 10912 will require the preparation of a Water Supply Assessment, and any future approval of a development agreement or tentative tract map within the City or its SOI that includes a subdivision must be conditioned on obtaining a Written Verification from the Coachella Water Authority. Accordingly, potential impacts of the proposed project related to

51 See, e.g., 2010 CVWMP, pp. 7-2 to 7-12; 2011 SPEIR, pp. 3-4 to 3-9.

52 See, e.g., 2010 CVWMP, pp. 7-19 to 7-32; 2011 SPEIR, pp. 3-23 to 3-33.

groundwater levels and sufficient water supplies and entitlements would be less than significant, and no mitigation is required.

**Mitigation Measures**

No Mitigation Measures are necessary.

## WATER AND FACILITIES

*Impact 4.16.2: Would the project require or result in the construction of new water treatment or collection facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?*

**Significance: Less than significant.**

As noted above, the supply and demand analyses for the proposed project are based in part on the City's 2010 UWMP, CVWD's 2010 UWMP and CVWD's 2010 CVWMP and 2011 SPEIR. The UWMPs were prepared in accordance with the Urban Water Management Planning Act, as most recently amended by SBx7-7. Among other analyses, the UWMPs and the 2010 CVWMP and 2011 SPEIR identify total projected water demands in the area, and demonstrate that total projected water supplies will be sufficient to meet those demands through 2035 and beyond. As noted above, the proposed project and ultimate buildout of the City and its SOI are identified in CVWD's 2010 CVWMP, and the water demands associated with the proposed project have been accounted for as part of CVWD's regional water supply planning efforts and water supply sufficiency conclusions, which include population projections within the City and the City's SOI through the year 2045.[53] Also discussed above, through the 2009 and 2013 MOUs the City and CVWD have identified ways to ensure that sufficient water supplies will be available to serve growth throughout the City's service area, including its SOI.

Although substantial growth has been forecasted for the Coachella Valley, the rate of growth has slowed in recent years due to widespread economic downturn. As the economy recovers and as development returns, other changes may occur in the region. For example, the area may continue to experience a transition from agricultural to urban land uses. As agricultural land converts to urban uses, the characteristics of water demands and infrastructure will also change. The 2010 CVWMP Update specifically accounts for these changes and the different ways that water will be used. The analyses show that as urban development occurs, Canal water that is currently used for irrigation could be used for groundwater replenishment to serve urban uses, could be treated for direct indoor use, or left untreated for urban non-potable use. As outlined above, water conservation is a major component of future water management in the Coachella Valley. Both the City and CVWD are committed to reducing their per capita urban water demand in accordance with SBx7-7, and agricultural conservation will also be a focus within CVWD.

Other than Canal water, recycled water and desalinated agricultural drain water, all water delivered to end users is obtained from the groundwater basin, which is continuously recharged with supplemental

53 2010 CVWMP, pp. 3-3 to 3-4.

imported supplies as discussed above. Also noted above, the groundwater basin has a capacity of approximately 28.8 million acre-feet and currently contains about 25 million acre-feet and acts as a very large conjunctive use reservoir. As provided throughout this Section, and in the 2010 CVWMP and 2011 SPEIR, the managed basin is capable of ensuring a sufficient and sustainable water supply to meet existing water demands and the demands associated with projected growth throughout the region (specifically including the City and its SOI) during normal, single-dry and multiple-dry periods throughout the 20-year projection and beyond. Moreover, it has been determined in accordance with CEQA that implementation of the 2010 CVWMP will have a beneficial effect on groundwater resources.[54] The 2010 CVWMP and CVWD replenishment assessment programs, in which the City fully participates, establish a comprehensive and managed effort to eliminate the overuse of local groundwater supplies. The analysis herein evaluates whether the total projected water supplies available to the Coachella Water Authority, by virtue of its membership and participation in the regional efforts of the 2010 CVWMP, are sufficient to meet the water demands of the proposed Project in addition to other existing and planned future uses within the City, including agricultural and manufacturing uses.

**Table 4.16-14: Normal Water Years 2010-2035 (AFY)**

| | 2010 | 2015 | 2020 | 2025 | 2030 | 2035 |
|---|---|---|---|---|---|---|
| Supply Totals | 8,260 | 10,686 | 14,559 | 18,781 | 23,101 | 27,351 |
| Demand Totals | 8,260 | 10,686 | 14,559 | 18,781 | 23,101 | 27,351 |
| Difference | 0 | 0 | 0 | 0 | 0 | 0 |
| Difference as % of Supply | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Difference as % of Demand | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |

**Table 4.16-15: Single-Dry Water Years 2010-2035 (AFY)**

| | 2010 | 2015 | 2020 | 2025 | 2030 | 2035 |
|---|---|---|---|---|---|---|
| Supply Totals | 8,260 | 10,686 | 14,559 | 18,781 | 23,101 | 27,351 |
| Demand Totals | 8,260 | 10,686 | 14,559 | 18,781 | 23,101 | 27,351 |
| Difference | 0 | 0 | 0 | 0 | 0 | 0 |
| Difference as % of Supply | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Difference as % of Demand | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |

54 See, e.g., 2010 CVWMP, pp. 7-19 to 7-32; 2011 SPEIR, pp. 3-23 to 3-33.

**Table 4.16-16: Multiple-Dry Water Years 2010-2035 (AFY)**

| | | 2010 | 2015 | 2020 | 2025 | 2030 | 2035 |
|---|---|---|---|---|---|---|---|
| Multiple-Dry Year First Year Supply[1] | Supply totals | 8,260 | 10,686 | 14,559 | 18,781 | 23,101 | 27,351 |
| | Demand totals | 8,260 | 10,686 | 14,559 | 18,781 | 23,101 | 27,351 |
| | Difference | 0 | 0 | 0 | 0 | 0 | 0 |
| | Difference as % of Supply | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| | Difference as % of Demand | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Multiple-Dry Year Second Year Supply[2] | Supply totals | 7,847 | 10,152 | 13,831 | 17,842 | 21,946 | 25,984 |
| | Demand totals | 7,847 | 10,152 | 13,831 | 17,842 | 21,946 | 25,984 |
| | Difference | 0 | 0 | 0 | 0 | 0 | 0 |
| | Difference as % of Supply | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| | Difference as % of Demand | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Multiple-Dry Year Third Year Supply[3] | Supply totals | 7,021 | 9,083 | 12,375 | 15,964 | 19,636 | 23,248 |
| | Demand totals | 7,021 | 9,083 | 12,375 | 15,964 | 19,636 | 23,248 |
| | Difference | 0 | 0 | 0 | 0 | 0 | 0 |
| | Difference as % of Supply | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| | Difference as % of Demand | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |

[1] No demand reductions are expected during a typical single dry year event. Typically, there are no demand reduction measures during single dry years. Instead back to back dry years more commonly trigger the implementation of extraordinary demand reduction measures.

[2] Based on an assumed 5% reduction in demand based on Stage I Water Alert.

[3] Based on an assumed 15% reduction in demand based on Stage II Water Alert.

Based on the information, analysis, and conclusions documented in this analysis, substantial evidence supports a determination that the total projected water supplies available to the City's CWA during normal, single dry, and multiple dry water years during a 20-year projection (and beyond) are sufficient to meet the projected water demand associated with the proposed project. This conclusion is based on, among other things, the volume of water available in the regional aquifer, the City's current and planned local water management programs and projects, and CVWD's current and planned local and regional management programs and water supply projects to supplement and sustain regional groundwater supplies. Furthermore, as set forth in this analysis, the proposed Project will incorporate various water conservation elements adopted by the City and/or CVWD in accordance with SBx7-7. These include conservation elements for indoor and outdoor uses throughout the proposed project.

### Current Drought Conditions

California's current drought conditions and Gov. Brown's recent declarations of a statewide drought emergency (January 17, 2014 and April 25, 2014) do not change or otherwise impact the water supply analyses or conclusions that have been reached for the General Plan Update. The amount of recent media coverage regarding drought conditions is understandable, as the Governor's declarations indicate that 2014 could become the State's driest year on record if current hydrologic patters persist. However, such drought conditions, including extraordinary single dry year events, are the very type of factors that have been anticipated, discussed and analyzed in the various documents that support the water supply sufficiency conclusions for the General Plan Update, including but not limited to the City's 2010 Urban Water Management Plan, the 2010 Coachella Valley Integrated Regional Water Management Plan, CVWD's 2010 Coachella Valley Water Management Plan Update (2010 CVWMP), the 2011 Subsequent Programmatic Environmental Impact Report for the 2010 CVWMP (2011 SPEIR), the California Department of Water Resources 2013 Draft State Water Project Delivery Reliability Report (DWR 2013 Draft Report), the Metropolitan Water District of Southern California 2010 Regional Urban Water Management Plan (MWD 2010 RUWMP), and the Metropolitan Water District of Southern California 2010 Integrated Resources Plan.

As indicated throughout the EIR and other supporting analyses for the General Plan Update, drought conditions and extraordinary dry year events are an implicit part of the legal standard used under CEQA to evaluate water supply sufficiency and potential water supply impacts of projected growth. Recognizing that vast portions of the State's population exist and will continue to expand in arid, semi-arid, and desert regions, California law establishes a practical, long-term approach to evaluating water supply sufficiency for long-term land use planning forecasts. That approach is manifest in the standards set forth by the General Plan statutes, the Urban Water Management Planning Act, and CEQA. As applied to the General Plan Update, these standards provide for an evaluation of whether the total projected water supplies available to the City over a 20-year projection during normal, single-dry, and multiple-dry year periods, are sufficient to supply the water demands associated with projected growth within the City and its Sphere of Influence (SOI) as set forth in the General Plan Update.

It is important to note that drought conditions are not new to the City or the Coachella Valley area. In fact, during the last Administration, Gov. Arnold Schwarzenegger issued a proclamation of statewide drought conditions (June 4, 2008), a state of drought emergency in several counties (June 12, 2008), and a statewide water supply emergency (February 27, 2009) due to record low rainfall and multiple consecutive years of drought. Then, like now, the Governor's emergency declaration directed state agencies led by DWR to engage a statewide water conservation and education campaign, called upon local water suppliers and municipalities to implement their local water shortage contingency plans, and urged all Californians to reduce their individual water usage. While the current drought emergency is a serious matter throughout the State, severe dry events and potential water supply shortfalls have been accounted for and analyzed in the EIR and other supporting documentation for the General Plan Update. Now more than ever before water agencies and municipalities are equipped to implement aggressive water conservation and pricing measures to ensure reliable water service and accommodate growth during shortage conditions.

As indicated above, water demands associated with projected growth in the City have already been accounted for as part of CVWD's local and regional water supply planning process and determinations

of water supply sufficiency for the City and its SOI.[55] Consistent with the general requirements of the 2010 CVWMP, the City is committed to meeting and maintaining its own water conservation goals, as well as the conservation goals of the 2010 CVWMP. Those goals are further implemented by the 2009 MOU and 2013 MOU between the City and CVWD as discussed in this EIR. In the 2009 MOU, the City expressly agrees to undertake measures effective to satisfy the water conservation goals of the CVWMP. The 2013 MOU provides that the City may participate in the funding of CVWD's supplemental water supplies to offset water demands of new development, provided that the City implements the water conservation goals of the CVWMP, as required by the 2009 MOU. The supplemental water supplies and entitlements contemplated by the 2009 MOU and 2013 MOU have been identified and analyzed by CVWD as part of its 2010 UWMP, 2010 CVWMP and 2011 SPEIR.

In response to Gov. Brown's declaration of statewide drought emergency, CVWD issued a recent press release to remind regional and local residents of the many ways they can reduce water use, and the many resources offered by CVWD to help residents and business owners conserve water in their homes and outdoor landscapes, such as rebate programs, workshops and educational material. Notably, CVWD officials do not anticipate the need to impose water restrictions or rationing, stating: "The Coachella Valley is best served by a long-term water management approach that includes action during both wet and dry years, not through reactionary measures during statewide drought years." (www.cvwd.org.)

The City's response to drought conditions is in lockstep with CVWD. First, and as a general policy matter, new development projects within the City must ensure the efficient use of water resources and meet and maintain the goals of the 2010 CVWMP. As provided in previous sections, project specific water conservation measures are practiced throughout the City. In addition to these practices, the General Plan Update establishes several long-term goals and policies for managing and protecting the City's water resources, discussed herein.

The City and CVWD recognize that water is a limited resource and that water conservation and water use efficiency must be actively pursued throughout the Coachella Valley. As further explained herein, both the City and CVWD have implemented and will continue to expand and implement water conservation programs to reduce water demands in the agricultural and industrial sectors, and to reduce per capita water use in the urban sector in accordance with SBX7-7 (e.g., 20 percent by 2020).

The California Urban Water Conservation Council (CUWCC) Memorandum of Understanding (MOU) regarding Urban Water Conservation in California sets guidelines to achieve a baseline level of water conservation in given water service areas. Signatories to the MOU agree to set goals to meet the standards outlined in the MOU. In November 2000, the City of Coachella became a member of the MOU, and has remained committed to extraordinary demand management throughout its service area. For example, the City's applies a tiered water rate schedule that is conducive to voluntary conservation. The City has also adopted a landscape irrigation policy as part of the City's "Landscape Guidelines" that address all landscaping for public parkways, median islands, and common area landscaping

55 See, e.g., 2010 CVWMP, pp. 3-3 to 3-4.

improvements for residential and commercial developments in the City. The City worked with the Coachella Valley Association of Governments and adopted the Coachella Valley "Model Landscape Ordinance" as a policy document. The guidelines used by the City encourage minimal turf areas and the use of native plant materials for residential common areas, retention basins, parkways and other landscaped areas.

Additionally, the City has implemented a model of sustainability in landscaping its largest public parks with smart irrigation systems and permeable pavers. The newly constructed Rancho Las Flores Park, the expanded Bagdouma Park, and the re-designed De Oro Park all incorporate a blend of native and drought-tolerant plants, trees and ground covers into an attractive, low-maintenance, water-saving resource for the community. Further, the City offers various water conservation programs to its residents, such as the Turf Removal Rebate Program, the Indoor/Outdoor Water Fixture Kits, and the Toilet Rebate Program. The City also promotes water conservation programs in coordination with CVWD, the Imperial Irrigation District, and other agencies throughout the Coachella Valley. The City distributes public information through bill inserts, brochures, community events, and website content.

As thoroughly explained in this EIR and other supporting water supply documentation for the General Plan Update, the City and CVWD have planned for normal, single-dry, and multiple-dry periods to occur over the 20-year projection and have developed a managed approach and set of mechanisms for ensuring water supply availability and reliability throughout the region and the City, even during the driest times. During this particular dry cycle and in the face of new constraints on imported supplies from the SWP and the Colorado River, the City and CVWD have implemented both new and previously-identified conservation measures to ensure that long-term water supply availability and reliability is sustained throughout the 20-year projection and beyond to allow for projected growth to occur as outlined in the General Plan Update. Thus, the existence of dry conditions and temporary reduction in imported supplies do not require a finding of water supply insufficiency under the standards and approach set forth by the General Plan laws, the Urban Water Management Planning Act, and CEQA.

#### Mitigation Measures

No Mitigation Measures are necessary.

## WASTE WATER AND STORMWATER ENVIRONMENTAL IMPACTS AND MITIGATON

### Significance Criteria

In accordance with Appendix G of the *CEQA Guidelines* a significant effect to the environment would occur based on the following:

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board;
- Require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;

- Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects; or
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

### WASTEWATER TREATMENT REQUIREMENTS

*Impact 4.16.3: Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?*

**Significance: Less than significant.**

Adequate and regulated treatment of wastewater ensures safe water discharge to any natural waterway receiving treated wastewater. Failure to properly treat waste water could compromise water quality of natural waterways, and affect natural habitat and populations living near waste waterways and final wastewater output. Lakes, rivers, and other water users rely on properly treated wastewater under regulations outlined by local jurisdiction. It is important for development to comply with these regulations to ensure safety and health of all environments in contact with wastewater.

Wastewater treatment requirements within the City's jurisdiction must comply with regulations outlined by the Colorado River Basin Regional Water Quality Control Board (CRBRWQCB). Violation of such requirements could result in water quality, treatment or discharge practices. Increased development and increased wastewater generation under the General Plan Update would also increase the potential for possible violation of local wastewater treatment requirements without proper oversight, or ability to manage increased wastewater volumes.

The City's wastewater treatment facilities are managed by the Coachella Sanitary District, and are under the CRBRWQCB. In order for wastewater treatment facilities to be in operation, they must comply with all requirements of the CRBRWQCB with annual reporting to monitor treatment practices. This regulatory framework ensures that wastewater treatment facilities that will be used to service the development under the City's General Plan Update will comply with wastewater treatment requirements of the Regional Water Quality Control Board. In addition to the regulatory system, policies proposed in the CGPU require that adequate wastewater treatment capacity exist or be online before new development can be completed. Ensuring this additional capacity is in place prior to the occupation of new development would prevent plant overdemand and overflows of untreated wastewater into local waterways, preventing the exceedance of any requirements for treatment of wastewater and the associated environmental impacts associated with such. In the event that a wastewater treatment facility exceeds applicable requirements, new development will have to ensure a wastewater treatment facility that can handle the growth from new development before construction, either through the upgrades of additional facilities or the construction of new facilities. Applicable City Policies under the Public Utilities and Infrastructure Element are:

> **3.1 Wastewater treatment capacity.** Provide sufficient wastewater conveyance, storage and pumping capacity for peak sanitary sewer flows.

3.4 **Wastewater treatment capacity for new development.** Ensure that wastewater treatment and conveyance capacity is in place before to granting building permits for new development.

These policies will ensure development under the CGPU will use wastewater treatment facilities that do not exceed requirements outlined by the applicable regulations from the CRBRWQCB. Based on the regulatory framework, the impacts on wastewater treatment facilities is considered less than significant.

#### Mitigation Measures

No mitigation measures are necessary.

### WASTEWATER TREATMENT FACILITIES

*Impact 4.16.4-1: Would the project require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?*

*Impact 4.16.4-2: Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?*

#### Significance: Less than significant.

As discussed above, the CSD WWTP has a current capacity of approximately 2.0 MGD. The VSD has a current capacity of approximately 4.5 MGD, providing a current capacity of approximately 6.5 MGD per day. According to the 2007 CVAG Demographic Project, which presents the most recent projection at wastewater treatment demand for the three city area of La Quinta, Coachella, and Indio, the three city area will have an ultimate demand of approximately 300,000 and demand approximately 35 MGD of wastewater treatment capacity. This indicates there is an ultimate deficit of 19.1 MGD that will need to be addressed over the course of the next twenty years. While it is not possible to do more than speculate which areas of the City would be served by CSD or VSD, for the purposes of this analysis, it is assumed that all new development within the incorporated areas of the City would ultimately be served by CSD. As the growth under the General Plan Update is expected increase population to approximately 135,000, the wastewater treatment capacity will need to more than triple the current 4.5 mgd capacity. It is estimated that to support a population of 135,000, WWTPs will require a capacity of 18 mgd. The increased demand will spur planning for additional WWTPs or increased capacity of the existing WWTP on 54$^{th}$ Ave. Construction of a new waste water treatment plant or expansion of an existing plant will require new piping, excavation, and access to a local waterway or groundwater recharge areas to dispense treated wastewater, unless otherwise planned for recycled water use. The highest potential for environmental impacts from WWTPs comes from the new sludge and water discharge that may end up in rivers, streams, and other local waterways. However, the site development impacts are very similar to those of any land development effort and fall within the broad, programmatic analysis of the development of the City under the CGPU analyzed in this DEIR.

The Whitewater Stormwater Channel will most likely be the discharge waterway for all future treated wastewater from the City. However, the CGPU directs the City to use development impact fees to develop a recycled irrigation program and associated infrastructure. Not only would such a program prevent potential impacts associated with discharge of tertiary treated water to the Whitewater

Stormwater Channel, it would also help offset demands for potable water. The following policies from the Infrastructure and Public Services Element also address adequate wastewater treatment and impact reduction on the existing environment.

1.1 **Provision of service.** Continue to provide and maintain adequate water, wastewater and stormwater drainage utility services to areas currently receiving these services from the City. Shall provide and maintain adequate water, wastewater, and stormwater drainage utility services to areas in the City that do not currently receive these services upon funding and construction of the infrastructure necessary to provide these services.

1.2 **Service standards.** Establish and maintain service standards for water, wastewater, stormwater drainage and solid waste services.

3.1 **Wastewater treatment capacity.** Provide sufficient wastewater conveyance, storage and pumping capacity for peak sanitary sewer flows.

3.2 **Sewer Master Plan.** Adopt and maintain a Sewer Master Plan with defined infrastructure and facilities, capital improvement schedules and funding sources.

3.3 **Facility design.** Ensure that public facilities and infrastructure are designed and constructed to meet ultimate capacity needs to avoid the need for future upsizing. For facilities subject to incremental upsizing, initial design shall include adequate land area and any other elements not easily expanded in the future. Infrastructure and facility planning should discourage oversizing of infrastructure which could contribute to growth beyond what was anticipated in the General Plan.

3.4 **Wastewater treatment capacity for new development.** Ensure that wastewater treatment and conveyance capacity is in place before to granting building permits for new development.

3.5 **Fair-share costs.** Require new development fund fair-share costs associated with the provision of wastewater service through the collection of development impact fees and connection fees to ensure all development has adequate infrastructure for a wastewater collection and treatment system.

3.7 **Long-term wastewater treatment capacity.** Ensure the provision of wastewater treatment capacity is consistent with the growth planned for the General Plan area, including the Sphere of Influence.

3.8 **Illegal wastewater disposal.** Abate illegal onsite wastewater disposal systems within the incorporated area of the City and coordinate with the County and affected property owners to remediate inadequate or substandard onsite wastewater disposal systems within unincorporated areas.

3.9 **Sewer system connections.** Require connection to the sewer system of all new development at densities of one unit per acre or greater. New development at rural densities or in areas with extremely difficult and/or expensive sewer construction, for example the Mecca Hills, may be accommodated by private septic systems provided there are no negative health and safety impacts and subject to review and approval by the City Council, the Coachella Sanitary District, the Riverside County Environmental Health Department, the Coachella Valley Water District, and the Regional Water Quality Control Board.

Increasing capacity of a WWTP to serve Coachella could potential have environmental impacts. Though there is a need for additional treatment capacity, the size and scope of additional facilities, or existing facility expansion cannot be determined at this time and would require additional impact assessment during the time of planning and permit for new construction. The policies proposed in the General Plan Update, as listed above, are intended to prevent or reduce the potential impacts of new wastewater treatment demand to prevent significant impacts relative to treatment demand. Construction of new facilities as the City grows is reasonably expected and the environmental footprints of such facilities are generally covered in the programmatic analysis of this EIR.

In the event of constructing new wastewater facilities, the City will determine and assess detailed information of new facilities. On a project by project case, the City can evaluate if there will be any significant environmental impacts of the new facilities, and if there are any mitigation strategies to reduce environmental impact.

#### Mitigation Measures

No mitigation measures are necessary.

### Storm Drain Facilities

*Impact 4.16.5: Would the project require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?*

#### Significance: Less than significant.

Storm water drainage facilities allow for controlled flow and treatment of stormwater flows. These facilities capture, treat, and store random and varied volumes of flow and properly discharge or reuse water as to prevent harm to any existing environment. Storm water drainage facilities also provide a level of service that aims to provide adequate drainage patterns to prevent flooding or sediment water that could ultimately cause irreversible impacts.

The primary regional stormwater drainage facility within the Coachella Valley is the WWRSC/CVSC, a portion of the Whitewater River that has been channelized to handle flood flows of up to 80,000 cubic feet per second and drains water into the Salton Sea, south of the Planning Area. The WWRSC/CVSC is a regional facility designed and constructed to handle regional stormwater flows and the 80,000 cubic feet per second is larger than the standard 100-year flood volume projections within the City. As such, it is expected to adequately support stormwater drainage for the development of the City's General Plan Update (refer to Section 4.7, Hydrology and Water Quality, for analysis regarding flooding). Based on the capacity of the existing stormwater channel, there is no need for additional

regional stormwater drainage facilities to keep water flowing through the Planning Area. However, as development grows under the General Plan Update, site specific stormwater drainage facilities and City-wide facilities will be needed to address onsite stormwater treatment and conveyance to the larger regional drainage system of the Coachella Valley Stormwater Channel. The following policies under the Infrastructure and Public Utilities Element and Sustainability and Natural Environment Element of the General Plan Update provide explicit direction to reduce impact associated with local stormwater flows by requiring continual monitoring, maintenance, and concurrent upgrades to system capacity.

### Infrastructure + Public Services

1.1 **Provision of service.** Continue to provide and maintain adequate water, wastewater and stormwater drainage utility services to areas currently receiving these services from the City. Shall provide and maintain adequate water, wastewater, and stormwater drainage utility services to areas in the City that do not currently receive these services upon funding and construction of the infrastructure necessary to provide these services.

1.2 **Service standards.** Establish and maintain service standards for water, wastewater, stormwater drainage and solid waste services.

1.6 **Remedying inadequate capacities.** Develop and implement a financing strategy and assess fees to construct needed water, wastewater, stormwater drainage, and solid waste facilities to maintain established service levels and to mitigate development impacts to these systems (e.g., pay capital costs associated with existing infrastructure that has inadequate capacity to serve new development). The City shall also assist developers in identifying funding mechanisms to cover the cost of providing utility services in infill areas.

4.1 **Drainage System Master Plan.** Adopt and maintain a Drainage System Master Plan with defined infrastructure and facilities, capital improvement schedules and funding sources.

4.2 **New stormwater facilities.** Ensure all new drainage facilities are adequately sized and constructed to accommodate stormwater runoff in urbanized areas.

4.3 **Regional stormwater facilities.** Coordinate efforts with Riverside County and other agencies in the development of regional stormwater facilities.

4.4 **Fair-share costs.** Require new development fund fair-share costs associated with the provision of stormwater drainage to ensure all development has adequate stormwater drainage protection.

4.5 **New development.** Require the preparation of drainage studies that evaluate adherence to City stormwater design requirements and incorporate measures to prevent on- or off-site flooding with all new development applications.

4.6 **Stormwater Pollution Prevention.** Cooperate in regional programs to implement the National Pollutant Discharge Elimination System program.

4.7 **Stormdrain monitoring.** Routinely monitor and evaluate the effectiveness of the storm drain system and make adjustments as needed.

4.8 **Agricultural tile lines.** Coordinate with CVWD to identify existing agricultural tile lines to ensure the continued viability of the system.

4.9 **Property dedication.** Require the dedication of real property and improvements of that property when new stormwater drainage facilities are required to serve a developments of new stormwater drainage facilities.

### Sustainability + Natural Environment

7.1 **Pollution prevention.** Limit the amount and concentration of pollutants released into the City's waterways.

7.2 **Development impacts.** When considering development applications, require consideration of onsite detainment of stormwater runoff and require the incorporation of appropriate stormwater treatment and control measures.

The policies under the General Plan Update require the City to properly manage stormwater facilities. These policies also require the City to develop a Drainage System Master Plan, coordinate local and regional stormwater facilities with CVWD, and require the provision of adequate infrastructure concurrently with new development. Fair-share costs, development impacts fees, and monitoring will all help prevent impacts related to inadequate capacity of stormwater drainage facilities. Based on the existing capacity conditions of the Coachella Valley Stormwater Channel and City policies, impacts of new stormwater drainage facilities are considered less than significant.

### Mitigation Measures

No mitigation measures are necessary.

## CUMULATIVE IMPACTS

The cumulative impact area for water demand and supply includes the service territory of the City and its SOI and CVWD. The planned future uses within the City and CVWD over the next 20-year period and beyond have decreased due to economic slowdown and related market factors. Thus, the water demand associated with those uses is much less than the forecasted demand associated with projected growth rates in population as set forth in CVWD's 2010 planning documents and in regional and county forecasts. Nevertheless, this Section provides the most conservative analysis of water supply sufficiency by comparing the City's and CVWD's total projected water supplies to forecasted demand associated with projected population increases.

Based on the conclusions documented in this analysis, the total projected water supplies available to the City during normal, single-dry, and multiple-dry water years during buildout of the Planning Areas are sufficient to meet the projected water demand associated with the proposed project. In addition, CVWD has concluded in its 2010 CVWMP and 2011 SPEIR that the total projected water supplies available to the East (Lower) Whitewater River Subbasin area during normal, single-dry and multiple-dry periods throughout the year 2045 are sufficient to meet the water needs of existing uses and

projected growth throughout CVWD, specifically including the future water needs within the City and its Sphere of Influence.[56]

These conclusions are based on, among other things, the volume of water available in the regional aquifer, the City's current and planned local water management programs and projects, and CVWD's current and planned local and regional management programs and water supply projects to supplement and sustain regional groundwater supplies. CVWD analyzed the potential environmental impacts associated with implementing the 2010 CVWMP pursuant to CEQA. (State Clearinghouse (SCH) No. 1999041032, SCH No. 2000031027). The 2011 SPEIR concludes that implementation of the 2010 CVWMP will have a beneficial effect on groundwater resources.[57] In addition to these determinations, a key feature of the 2010 CVWMP is that it has been developed to ensure the City, CVWD and other water suppliers within CVWD are able to meet current and future water demands with a 10 percent supply buffer. The buffer serves as one of several conservative mechanisms that support the water supply sufficiency conclusions prepared by the City and CVWD.

Because the proposed project is a CGPU, which takes into account existing and potential development over approximately the next twenty years, the analysis of wastewater-related impacts contained within this chapter of the EIR is already cumulative in nature. As discussed above, the three-city area of Coachella, Indio, and La Quinta are projected to have a combined population of 300,000 and exceed regional wastewater treatment capacity by approximately 19.1 MGD in approximately 20 years. The policies of the proposed CGPU would require concurrent development of Citywide wastewater treatment facilities with new development to ensure there is adequate capacity for wastewater treatment. Given this policy and the ability, cumulative impacts would be considered less than significant. Similarly, the regional WWRSC/CVSC is a regional facility designed and constructed to handle regional stormwater flows. As development occurs within Coachella, it will be required to have adequate stormwater control facilities in place prior to issuance of permits. Additionally, the City will be required to coordinate facility capacities with CVWD. These efforts will ensure no cumulative impacts would occur as development would be prohibited should adequate capacity not be available. Thus, cumulative impacts related to stormwater facilities would be considered less than significant.

### Significant and Unavoidable Impacts

The proposed Project would not result in a significant unavoidable adverse impact related to water supply and demand, wastewater treatment, or stormwater facilities.

56 See, e.g., 2010 CVWMP, pp. 7-2 to 7-12; 2011 SPEIR, pp. 3-4 to 3-9.

57 See, e.g., 2010 CVWMP, pp. 7-19 to 7-31; 2011 SPEIR, pp. 3-23 to 3-33.

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