

## 6. ALTERNATIVES

---

### 6.1 INTRODUCTION AND PROJECT OBJECTIVES

This chapter presents the CEQA alternatives analysis for the Chromium-6 Water Treatment Facilities Project. Section 15126.6(a) of the CEQA Guidelines state that an EIR must describe and evaluate a reasonable range of alternatives to a project that would feasibly attain most of the project's basic objectives, but that would avoid or substantially lessen any identified significant adverse environmental effects of the project. The EIR should also evaluate the comparative merits of the project. Specifically, State CEQA Guidelines Section 15126.6 set forth criteria for selecting and evaluating alternatives. The EIR concludes that with mitigation, no significant impacts will result from the project.

Pursuant to State CEQA Guidelines Section 15124(b), the project description includes a statement of objectives. These objectives have assisted CVWD in developing a reasonable range of alternatives to evaluate in this EIR. The objectives are intended to demonstrate the underlying purpose of the project, and to aid the decision-makers in preparing findings or a statement of overriding considerations, if necessary.

As described in Section 3.2, the primary objectives of the project include:

- Compliance with the State of California's new regulation for hexavalent chromium [chromium-6] in drinking water, effective July 1, 2014;
- Allow CVWD to continue to meet its top priority of delivering high quality drinking water which meets stringent government regulatory standards, including timeframe for implementing chromium-6 treatment;
- Use of ion exchange technology for chromium-6 treatment methods that are cost-effective and offer flexibility in treating other constituents that may fall under future regulatory requirements; and
- Minimize footprint for treatment facilities and waste streams using a centrally located facility; thereby constructing project facilities with a minimal project footprint and neighborhood impacts.

### 6.2 SIGNIFICANT IMPACTS OF THE PROJECT

In Chapter 4, this EIR found that the project would avoid significant environmental impacts with the implementation of the mitigation measures set forth in that section. This domestic water quality project has been mandated by the State of California to ensure that customers of CVWD are supplied with potable water that contains 10 parts per billion (10 ppb) of chromium-6 or less. Therefore, the proposed project mitigates for an existing environmental hazard and provides substantial environmental benefit to CVWD customers. All the impacts of the proposed project, including the significance determination before and after mitigation, are listed in Table 1-1, Summary of Impacts and Mitigation Measures at the end of Chapter 1, Executive Summary.

### 6.3 ALTERNATIVES CONSIDERED BUT ELIMINATED

As noted at the beginning of this section and in accordance with the CEQA Guidelines, the lead agency is responsible for selecting a range of potentially feasible project alternatives for examination, and must briefly discuss the alternatives it considered and eliminated from detailed consideration. It should be noted that the proposed project is geographically and technologically specific. During the design engineering phase of this project, a variety of alternative projects were considered. Some of these have been included in the proposed project as options that will provide CVWD with flexibility in managing the chromium-6 treatment process. These alternatives are also considered from the perspective of their physical and/or environmental viability.

Alternatives that failed to meet basic project objectives, were infeasible, or did not substantially lessen or avoid significant environmental impacts were considered but not further analyzed in detail in this EIR. The following summarizes the alternatives that were considered but eliminated from further discussion, together with the respective technology and cost factors that supported their elimination from further analysis in this EIR.

As a part of its alternatives study, CVWD conducted an assessment of its supply sources from December 2013 to January 2015 to determine the optimal source of supply and treatment to comply with current, proposed, and reasonably anticipated Federal and State drinking water regulations. This section presents a summary of CVWD's *Domestic Water Source of Supply /Treatment Study Report* (attached as Appendix H and available at [www.cvwd.org](http://www.cvwd.org)).

On July 1, 2014, the California Water Boards Division of Drinking Water (DDW) enacted a new chromium 6 (Cr-6) maximum contaminant level (MCL) of 10 micrograms per liter. CVWD has identified active groundwater wells that exceed the Cr-6 MCL. Other constituents that occur naturally in Coachella Valley groundwater, including arsenic, fluoride, uranium, and salinity, have presented challenges when providing domestic water that meets California's stringent drinking water standards and elevated nitrate levels in some local groundwater has resulted in removing some wells from service. In the future, other constituents of concern may exceed current regulatory levels or new/reduced regulatory levels. The District's assessment considered which constituents may be of greatest concern for current and future compliance, and options for addressing these constituents.

The most immediate need for the CVWD domestic water supply is to achieve compliance with the new Cr6 regulation. The assessment evaluated the options available to CVWD for compliance with this regulation, and with potential future drinking water regulations, including:

1. Non-treatment options
2. Groundwater treatment
3. Colorado River surface water treatment
4. Point-of-use/point-of-entry (POU/POE) treatment

#### **Non-Treatment Options**

Several non-treatment options were evaluated to determine if they could address constituents of concern and provide adequate domestic water supply, including operating without impacted wells, well modifications to minimize constituents of concern, and drilling replacement wells in a less impacted area.

Operating without the 31 Cr-6 impacted wells would cause significant domestic water supply deficiencies in some pressure zones. These deficiencies could not be overcome during peak daily demand periods with storage or transfer from other zones, making this approach infeasible. Because Cr-6 concentrations are uniform with depth in many of the wells, the modification of well screens is also not a feasible compliance strategy for CVWD. Other areas have Cr-6 in older deep groundwater and nitrate in the shallow water. Further, production would be limited if wells were modified to draw water that avoided both constituents.

Drilling replacement wells in an area less impacted by Cr-6 and turning off impacted wells is feasible from a supply and aquifer impact standpoint. Analysis showed that the area least impacted by current regulatory limits was the Date Palm pressure zone, and that the aquifer could sustain the yield required for the replacement wells. However, this approach was eliminated due to the significant demands that this number of wells would have on groundwater in the area and the large diameter and costly pipelines that would be necessary to accommodate such a large portion of the supply coming from one pressure zone. With pipelines, additional wells, and land acquisition, the cost is estimated to be more than 40% greater than the proposed project. See *Domestic Water Source of Supply /Treatment Study Report* (attached as Appendix H and available at [www.cvwd.org](http://www.cvwd.org))

## TREATMENT OPTIONS

### Groundwater Treatment

Several options for implementation of groundwater treatment were evaluated, including wellhead treatment at individual locations and clustered treatment by piping wells together to shared treatment facilities. To determine the optimal groundwater treatment approach for CVWD, costs of treatment and non-cost factors were evaluated. The State of California identifies three Best Available Technologies (BAT) for removing Cr-6:

- Ion exchange - strong base anion (SBA) and weak base anion (WBA)
- Reduction followed by coagulation and filtration - reduction/coagulation/filtration (RCF) or reduction/coagulation/microfiltration (RCMF)
- Reverse osmosis (RO)

BAT and other potential treatment options were evaluated but SBA and WBA were selected as the preferred treatment approach based on costs, waste disposal, operations and maintenance complexity, space requirement and compatibility with neighborhoods, water loss, and flexibility of the technology for removing constituents that are currently regulated or on the regulatory horizon.

SBA was identified as offering the most advantages for groundwater Cr-6 treatment at most CVWD wells. SBA treatment includes pre-filters, resin vessels, final pH adjustment, and disinfection. The SBA resins used for treatment must be regenerated when they reach a target treated water concentration of Cr-6. Evaluation showed resin could be regenerated at a Central Resin Regeneration Facility (CRRF) for cost savings and operational streamlining when compared with a regeneration facility at each site. Resin would be removed from the vessels at a frequency varying from once every few weeks to once every few months (depending on the well site), would be brought to the central facility for regeneration, and would then be loaded back into the resin vessels at the well sites. Regeneration waste can be treated at the CRRF, with non-hazardous liquid waste evaporated in ponds on site or disposed off-site, and hazardous solid waste taken off-site to a licensed disposal facility.

WBA treatment was identified as advantageous at two locations due to higher groundwater sulfate concentrations and the more frequent regeneration that would be necessary if SBA were used at those locations. The WBA process involves pre-filters, carbon dioxide for pH adjustment, resin vessels, aeration for final pH adjustment, and disinfection. WBA resin is not regenerated, but instead is replaced every one to three years. Extended life exceeding one year has been confirmed in CVWD groundwater pilot testing. Economies of scale were found in clustering wells for these two WBA treatment locations.

### **Colorado River Surface Water Treatment**

As described in the CVWD 2010 Water Management Plan (WMP) Update and 2014 WMP Status Report, CVWD plans to use surface water as part of the domestic water portfolio within the next 25 years. The CVWD assessment investigated how surface water treatment could be integrated into the supply to simultaneously achieve goals of Cr-6 compliance and supply diversification. Additional treatment facilities, including a CRRF and well-head treatment at some sites would still be required to implement this solution.

The surface water treatment approach was analyzed based on Colorado River water quality, prior pilot testing results, and treatment experience at other water agencies. Blending of surface water and groundwater, similar to the approach used in the Coachella Valley for the past 40 years at recharge sites, offers advantages in decreasing total dissolved solids (TDS) and Cr-6. Several treatment options were feasible, but cost savings could be realized over conventional treatment by using dissolved air flotation and microfiltration. Granular activated carbon (GAC) was recommended to allow continued use of free chlorine secondary disinfection in the CVWD system.

Eight potential surface water treatment locations were evaluated and two sites were included in the final analysis: Mid-Valley and East Valley. The Mid-Valley location would draw from the Mid-Valley Pipeline in Palm Desert and could be beneficial in supplying an area experiencing groundwater overdraft and many wells impacted by Cr-6. The East Valley location would be next to the Coachella Canal in La Quinta and could be expanded to supply future growth anticipated in that portion of CVWD's system.

#### Mid-Valley Treatment Site

To implement the treated surface water option a potential site was identified on CVWD property on Hovley Lane in Palm Desert and within the boundaries of the existing CVWD Cook Street water reclamation plant (WRP-10). This property is not close to the Coachella Canal. A surface water supply is available from the Mid-Valley Pipeline (MVP), however in the longer term this pipeline is intended to provide irrigation water to golf courses in the Mid-Valley. Using the supply from the MVP to supply a surface water treatment plant would reduce the number of golf courses that could be supplied. This site has the potential to blend water from the Cr6 impacted wells and reduce the TDS level of the treated water to below 500 mg/L.

This plant would use groundwater from five impacted Valley zone wells. Overall production of the plant could be 24 MGD, of which 10 MGD would be surface water and 14 MGD would be groundwater treatment. Treatment of approximately 40% of the groundwater would be necessary to reduce the Cr6 level of the blended water to a treatment goal of 6 µg/L. The surface water from this plant could be used to alleviate the supply deficit in the Valley zone. The remainder of the Valley zone deficit would be supplied from the Sky Mountain and Date Palm zones. A CRRF, wellhead treatment and other facilities would be needed to full implement this solution.

An analysis of the water distribution system for this solution indicates that it would be necessary to replace 1.6 miles of existing mains with larger mains to distribute the flow from the surface water plant. The principal benefit of this site is its strategic location in the Valley zone. This area has a supply deficit and will benefit from the addition of surface water as a supplementary source. Blending water from the two sources will simultaneously eliminate the need to treat surface water to lower TDS and reduce the need to treat groundwater to remove Cr6 via wellhead treatment. The primary drawback of this site is allocation of the Mid-Valley Pipeline for domestic supply rather than its intended use in irrigation. A secondary drawback is that this treatment plant would take up land at the WRP-10 site that might be required for expansion of WRP 10 in the future. Third, WRP 10 effluent discharge limits may preclude its implementation without RO treatment or programs to recycle 100% of the WRP effluent to avoid land disposal.

#### East Valley Sites

Two potential surface water treatment sites were identified within the Lake Cahuilla pressure zone in the east valley area. One of these is on a privately owned site at the northeast corner of Jefferson Street and Avenue 52. The other is on CVWD owned property adjacent to Lake Cahuilla and within the Lake Cahuilla County Park. Both of these sites are adjacent to a source of surface water. The Jefferson site is close to the Coachella Canal while the Lake Cahuilla site could withdraw water from the Lake. Both of these sites would use groundwater from impacted wells in the Lake Cahuilla and La Quinta zones to reduce the TDS of the treated water below 500 mg/L.

Both east valley sites would require the construction of long transmission mains to bring groundwater to the treatment plant and to transfer treated water to the distribution system. The mains required to serve the Lake Cahuilla site would be significantly longer than for the Jefferson site since Lake Cahuilla is farther from the majority of the impacted wells and also from the likely points of connection to the distribution system. A surface water treatment site at one of these east valley locations could serve water to the Lake Cahuilla and La Quinta pressure zones. It would also be well positioned to accommodate future population growth in the Lake Cahuilla and Middleton Road zones.

In one configuration considered, the treatment plant would receive groundwater from three La Quinta zone wells and four Lake Cahuilla zone wells. Total plant production could be 30 MGD, of which 11 MGD would be surface water and the remainder groundwater. Treatment of approximately 33% of the groundwater would be necessary to reduce the Cr6 level of the blended water to a treatment target of 6 µg/L. CVWD evaluated the impacts from a new treatment plant on flows in the existing water distribution system. The analysis indicated that the existing system in the Lake Cahuilla zone could handle the new flow regime without modification. However, upsizing of some pipes in the La Quinta zone would be necessary to avoid excessive velocities and pressure drops.

Both east valley sites have the benefit of being in an area with several high Cr6 wells that would benefit from blending with surface water. The sites are also in close proximity to the Coachella Canal and have easy access to surface water. It is an area that does not have a current supply deficit but is adjacent to future growth areas.

The site at Lake Cahuilla is on CVWD land and would not require purchase of additional land. However, the Lake Cahuilla site is currently developed with an equestrian campground managed as part of Lake Cahuilla County Park. Use of this site also would require construction of additional pipelines (beyond that for the Jefferson site) and is less well positioned to supply the northern part of the pressure zone. The Jefferson site is relatively small and this would make it more difficult to expand the plant in the future to accommodate increases in demand.

### Surface Water Treatment Environmental Issues

There are numerous environmental issues associated with the treated surface water solution, including the continued need for a CRRF, well-head water treatment elsewhere in the service area, and the somewhat reduced environmental burden associated with this solution. From a land use perspective, the Mid-Valley treatment facility would be the most compatible, already currently housing substantial CVWD water treatment facilities. The two east valley sites raise land use compatibility issues, including the gateway location at Avenue 52 and Jefferson Street, and the displacement of existing campground facilities at Lake Cahuilla.

Two of the three treatment plant sites would also be near or even adjacent to sensitive receptors, including residences and public park users, which could also makes these new facilities an aesthetic impact on a key intersection in one case and a county park environment on the other. The application of this solution would not result in any significant reductions in air pollutant emissions or in the generation of GHGs, the intensity of treatment being comparable to the proposed project. To the extent the Lake Cahuilla site is located within sensitive habitat for the federally listed (as endangered) Peninsular bighorn sheep could also complicate the use of this site. While traffic impacts would be limited for the mid-valley site, construction and operations traffic could create incompatibilities at each of the two east valley sites.

### **Point-of-Use Treatment**

Point of Use (POU) devices, including those using reverse osmosis (RO) attached directly to water faucets in customer homes for drinking and cooking are allowed for water systems serving fewer than 200 service connections, systems for which centralized treatment is not feasible within three years, and where centralized treatment costs are higher than certain median household income requirements. The water system or its contractor must own, control, operate, and maintain the POU devices. While the implementation of POU devices are technically feasible, their use would be difficult due to implementation and maintenance requirements and would require regulatory/legislative change.

Assumptions and system requirements associated with the POU treatment approach include minimum of 40 psi water pressure to avoid the need for booster pumps in the household, that viable and cost-effective technology will be available, and that RO brine generated will recombine with sewage flows for no net change in salt loading to the sewerage system.

It is estimated that approximately 142,365 RO units would need to be installed, maintained and water regularly tested. Each RO would also be replaced each year. Installation would be time consuming and this solution could require the addition of totalizing flow meters for each reverse osmosis unit. Staff requirements to implement and maintain the POU solution would be initial and on-going, become a base cost for the District. Approximately 70 additional personnel would be required, as well as approximately 66 new vehicles and other toolkits and equipment.

An installation team would be dedicated to visiting each customer and providing a POU treatment system within a very tight compliance schedule. The installed RO treatment units would be connected to the household water distribution system and placed underneath the kitchen sink with its own separate faucet (or to a drinking fountain for public facilities). A waste water pipe would also be connected to the existing sewage/septic system. An additional cost of installation may include sink replacements in the cases where existing sinks or counters require either significant modification or replacement to accommodate the addition of the RO units.

This level of staffing and POU service would be on-going. During annual operation and maintenance, an administrative staff would be necessary to continue reporting and scheduling with customers for service visits. DDW mandates that records be kept for at least 10 years. In order to meet this requirement, it would be necessary to retain an administrative staff to maintain all records associated with POU RO installation and maintenance.

Routine water sample collecting would also occur during service visits each year; the samples would be tested in a lab to ensure water quality and compliance. The high volume of water sample tests may also require an increase in laboratory capabilities. Due to more frequent visits for maintenance (as opposed to the 5 year compliance schedule for installation), a larger maintenance team, in addition to the initial installation team, would be required to service all POU units each year.

#### POU Environmental Issues

Reverse osmosis systems require a higher volume of water for use and consequent disposal of a waste brine stream where the reject contaminants and dissolved solids are concentrated. Due to increases in water usage to back flush brine from the system, CVWD wastewater treatment facilities would see an increase in sewer flow. Daily district demand for drinking water averages 103 million gallons of water. Taking into account that 1-3% of domestic water is used for drinking and cooking (CDPH Point of Use Compliance Advisory Policy Document, March 2013) and the 3 fold increase in water usage from RO units (low end commercially available RO units typically have a product to waste brine ratio of 1 to 4), CVWD's wastewater treatment facilities can expect an increase of 3 to 9 MGD of brine. However, the concentration of TDS and Cr6 in the waste stream is not expected to have a net increase after the implementation.

Other environmental issues that could be associated with this alternative would be traffic, air quality and greenhouse gas emissions. Not only during the installation period but into the indefinite future CVWD staff would be making at least annual visits to each POU to service the device, take water samples and conduct general system maintenance. Depending on the selected technology, up to 142,365 water treatment cartridges and associated materials would have to be disposed of, with opportunities for recycling certain components.

#### Treatment Option Evaluation

To compare potential treatment approaches, the following six scenarios were developed:

- Scenario 1 – Groundwater treatment at clusters of wells
- Scenario 2 – Groundwater treatment at individual wells
- Scenario 3 – Surface Water Treatment Plant in Mid-Valley with the balance of groundwater treatment at individual wells
- Scenario 4 – Surface Water Treatment Plant in East Valley with the balance of groundwater treatment at individual wells
- Scenario 5 – Point-of-use treatment
- Scenario 6 – Surface Water Treatment Plants in Mid-Valley and East Valley with the balance of groundwater treatment at individual wells

These scenarios were compared based on critical evaluation criteria by the project team in a series of workshops. Sensitivities of weightings for the factors were tested. Evaluation criteria agreed upon included conceptual cost, operational complexity, diversification of CVWD water resources and treatment approaches for domestic supply, public acceptability and environmental acceptability, implementation complexity, operational flexibility, and water quality benefits in addition to Cr-6 treatment now and in the future.

Figure 6-1 presents the conceptual capital cost estimates for each scenario, which have a +50% to -30% accuracy range. Figure 6-2 shows the conceptual costs on an annualized basis, including capital and Operations and Maintenance (O&M) costs over a 20-year life cycle.

Individual well treatment (Scenario 2) represents the lowest overall cost to CVWD for achieving compliance. Economies of scale in clustered treatment facilities (Scenario 1) were not overcome by the extensive pipelines required to cluster wells, distribution system upgrades necessary to redistribute treated water from the clusters, and additional land to house larger facilities since most existing well sites are too small for clustered treatment.

Surface water treatment combined with individual well treatment (Scenarios 3, 4, and 6) would provide domestic supply diversification, but it is significantly more expensive than Scenario 2.

Point-of-use treatment (Scenario 5) was the least favorable of the scenarios due to cost (high annualized cost due to continuing O&M costs), regulatory hurdles, and implementation complexity. While deemed feasible in terms of implementation (though not yet having regulatory approval), POU treatment at each connection was found to be cost prohibitive on a life cycle basis compared with wellhead, clustered, or surface water treatment options.

In summary, Scenario 2 was the recommended option, consisting primarily of SBA treatment at individual well sites with a CRRF. Two WBA clusters were identified that make economic and operational sense. There is also one opportunity to blend well water with distribution system water in an on-site tank to take advantage of existing infrastructure to minimize Cr-6 concentrations. This approach provides CVWD with the most cost-effective and flexible compliance strategy for the current constituent of concern (Cr-6) and future constituents of concern.

The systems and scenario assessments yielded the proposed project analyzed in this EIR.

Figure 6-1. Cost comparison of scenarios – Capital (\$ Millions)

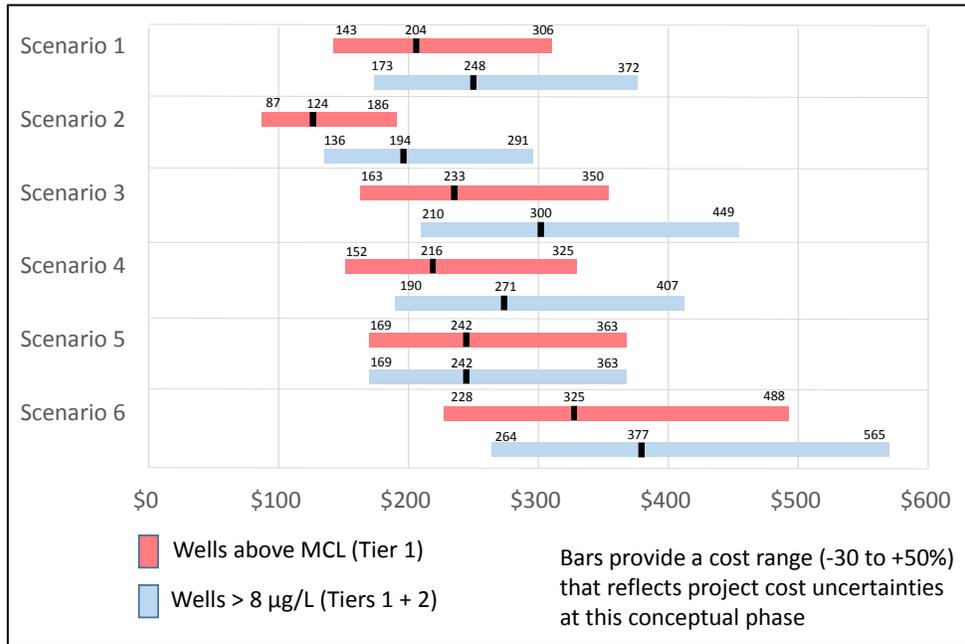
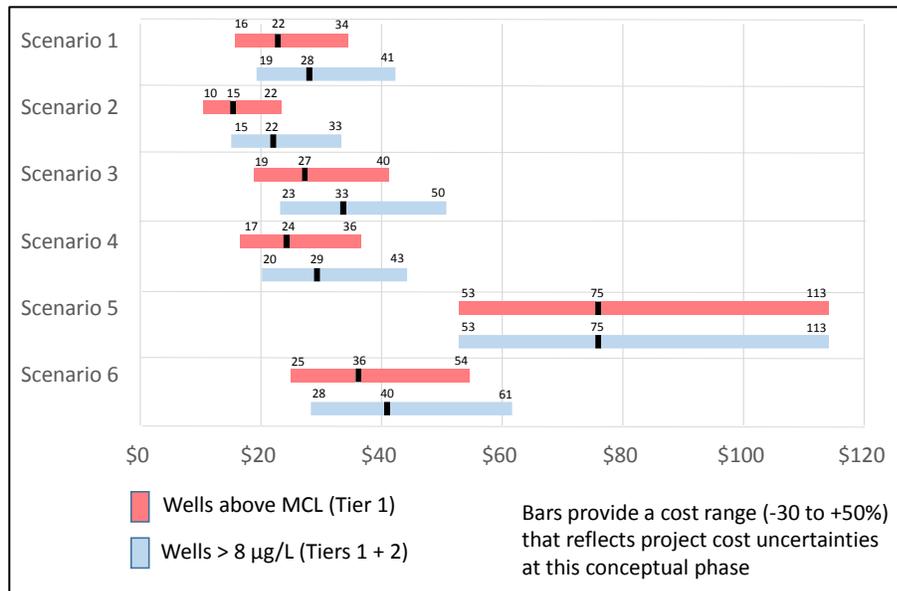


Figure 6-2. Cost comparison of scenarios Annualized Capital and O&M Cost (\$ Millions)



**Implementation of the Proposed Project**

Conceptual designs were prepared for the primary treatment processes selected by CVWD in the series of workshops held throughout the project. The assessment evaluated conceptual designs for each of the components selected for the compliance plan (SBA, WBA, and CCRF). The conceptual design forms the

basis for design of the facilities set forth in the proposed project. Environmental constraints associated with implementing Cr-6 treatment at locations across the Coachella Valley study area were identified in accordance with California Environmental Quality Act (CEQA) Guidelines (i.e., the CEQA Guidelines Appendix G Initial Study Checklist). Impacted areas that may require evaluation and, perhaps, mitigation were highlighted. These sites are not expected to be precluded for development or site improvements.

#### Alternative Site Analysis

Key considerations include determining whether any identified significant and unmitigated effects of the proposed project<sup>1</sup> would be avoided or substantially lessened by putting the project in another location. CEQA states that *only locations that would avoid or substantially lessen any of the significant effects of the project* need be considered for inclusion in the EIR. If the lead agency concludes that no feasible alternative locations exist, it must disclose the reasons for this conclusion, and should include the reasons in the EIR.

The proposed project addresses the treatment and use of essential groundwater supplies from 29 existing wells. The location of treatment wells, local geological conditions, CVWD domestic water service boundaries and other infrastructure supporting the treatment wells constrain alternative locations.

As discussed in section 4.10 of this EIR, groundwater quality in the Coachella Valley varies with depth, proximity to faults and recharge basins, presence of surface contaminants, and other hydrogeologic or human factors. The ID8 well field is located in the extreme northwest corner of the CVWD service area, and within the Mission Creek subbasin, which is bounded on the south by the Banning fault and on the north and east by the Mission Creek fault. These faults are effective barriers to groundwater movement, and the geographic limit of effective storage within the subbasin is relatively confined to the area defined by these faults. Faults also affect groundwater quality, especially north of the Mission Creek fault where groundwater is rich in minerals that have become marketable spa waters but are non-potable. Therefore, access to potable groundwater in the vicinity of the ID8 well field and CVWD's northwest service area is constrained to this area. Therefore, the use of alternative well sites is infeasible based on the geography of where the chromium-6 contaminated groundwater and existing infrastructure is located.

Alternative locations for the proposed CRRF were also considered. The use of a CRRF was based upon consideration of the advantages of a single location of delivery for salt and other treatment chemicals, single location for waste disposal, economies of scale for spent regenerant management, less complexity required at individual SBA well sites by eliminating multiple controls and equipment required for regeneration.

One of the sites considered for CRRF development is a parcel owned by the US Bureau of Reclamation (USBR) and located along Avenue 52 at the eastern margin of the valley. This site is not located near any waste water treatment facilities that could accommodate CRRF process effluent. The USBR site is also located in proximity to the San Andreas Fault Zone and is subject to strong groundshaking and a liquefaction hazard. Land uses adjacent to the USBR property include a Riverside County-designated Coachella Valley Agricultural Preserve and the Canal Regional Park located at Pierce Street and Avenue 54 in Coachella. Currently, the 222± acre park site is largely in a natural state, and a portion is used on a limited basis by a model airplane organization and is considered a sensitive receptor.

---

<sup>1</sup> Note: This Draft EIR has concluded that no significant Impacts will result from the project with the implementation of mitigation measures set forth in this EIR.

The proposed CRRF site is immediately adjacent to and located on a portion of the existing CVWD Water Reclamation Plant No. 4 (WRP-4), which is located adjacent to the Coachella Valley Stormwater Channel. Important system and cost synergies are realized with the CRRF located at this site, including a readily available facility for final stages of wastewater treatment and disposal and access to process make-up water. For these reasons, alternative sites were considered but rejected from further consideration because they failed to meet basic project objectives, were infeasible and/or did not substantially lessen or avoid significant environmental impacts.

## 6.4 SELECTED CEQA ALTERNATIVES

### Introduction and Alternatives Summary

The following is a brief summary of the project alternatives assessed in this EIR.

*Alternative I: “No Project” Alternative* (State CEQA Guidelines, Section 15126(3)). This alternative considers impacts associated with the continued use of the subject wells without further water treatment. CEQA Guidelines Section 15126.6 requires that an EIR include an evaluation of the No Project Alternative to provide decision-makers with the information necessary to compare the relative impacts of approving a project to not approving a project. The No Project Alternative is defined as a continuation of existing conditions, as well as conditions that are reasonably expected to occur in the event that a proposed project is not implemented.

*Alternative II: “More Intense” Project Alternative*. This alternative adds more wells and treatment facilities to increase the extent of the chromium-6 treatment system.

*Alternative III: “Less Intense” Project Alternative*. This alternative would reduce the number of treated wells and eliminate one treatment facility.

To provide a basis for comparison with each of the areas of environmental impact that were analyzed in Section 4, the same areas are considered in this section for each alternative.

In accordance with CEQA requirements, an alternative must meet the following three criteria:

- 1) The alternative would attain most of a project’s basic objectives;
- 2) The alternative would avoid or substantially reduce the significant environmental impacts of the proposed project; and
- 3) The alternative would be feasible.

#### 6.4.1 ALTERNATIVE 1: NO PROJECT ALTERNATIVE

##### Alternative I: “No Project” Alternative

Under the No Project Alternative, the existing 29 wells planned for treatment would, if used, continue to provide groundwater that exceeds the new State of California standard of 10 ppb or less. This alternative assumes that the wells would continue to be used or would be taken entirely out of service. One additional well in the ID8 well field, proposed for abandonment under the proposed project, would continue to be available for production under the No Project Alternative.

The No Project Alternative would not meet the project's objectives and would leave customers who are reliant upon CVWD for domestic water in the areas affected by high levels of chromium-6 to rely on bottled or trucked water to provide water for human consumption. It is assumed that untreated well water could still be used for bathing and washing. This alternative does not provide retrofitted or new infrastructure or conveyances that could allow the subject wells to provide potable water. Failure to address the chromium-6 exceedance could result in adverse health, social and economic impacts on those currently affected by existing wells with chromium-6 levels above 10 ppb.

#### Avoid/Lessen Impacts

Although it might indirectly require the import of significant quantities of bottled or trucked water, which could increase air quality, greenhouse gas and transportation impacts, the No Project Alternative would not result in any new direct environmental impacts. It leaves unaddressed the exposure of thousands of CVWD customers to health risks associated with consumption of potable water with elevated chromium-6 levels.

#### Meeting Project Objectives

The No Project alternative does not meet the goals or objectives of the proposed project and precludes implementation of technologies and process management that would ensure that all potable water in the CVWD service area have safe, high quality sources of potable water.

#### Feasibility of Alternative

The No Project Alternative is "feasible" to the degree adherence to the current groundwater treatment regime does not create any new direct environmental impacts. The No Project Alternative is also feasible in terms of operational and maintenance expenses, carrying costs, etc.; however, it is not viable in the long-term because it has the potential to negatively impact human health..

### **6.4.2 ALTERNATIVE 2: MORE INTENSE ALTERNATIVE**

The "More Intense" Alternative assumes that additional wells and at least one additional WBA treatment facility are constructed, increasing the District's capability to treat otherwise unpotable groundwater in the areas identified for treatment, especially that associated with weak-based anion wells.

Development proposed under the More Intense Alternative is the same as for the proposed project, excepting that WBA wells are doubled, and a third WBA treatment facility is constructed. Hence, the number of WBA wells that exceed the 10 ppb standard that could be treated would total 12, as opposed to the six WBA wells proposed in the proposed project. The location of the third WBA treatment facility would depend upon the rate of population growth and domestic water demand in areas with groundwater with high levels of chromium-6.

Costs associated with the development of the proposed chromium-6 facilities will be substantial, and the District must consider the economies of scale that could be realized by adding six WBA well sites and an additional WBA treatment plant. Practicability and cost feasibility are affected by distance between WBA wells and associated treatment facilities, and consumers.

By intensifying the application of these technologies now rather than at some time in the future when costs may be greater and access to suitable sites may be reduced, CVWD would have more flexibility in the event the projected growth in its service area is exceeded.

#### Avoid/Lessen Impacts

As explained in Section 6.5 below, the More Intense Alternative will increase the impacts associated with the proposed project in almost every area of consideration. Nonetheless, with the exception of potential greenhouse gas emissions, the impacts associated with this alternative could be mitigated to levels of insignificance through the use of the same mitigation measures set forth in Section 4 of this EIR. The construction and especially the operation of additional treatment facilities would generate GHG emissions in excess of the current SCAQMD threshold, as is discussed below.

#### Meeting Project Objectives

The More Intense Alternative would meet CVWD's objectives. However, there are already extraordinary costs associated with the proposed project, and attempting to implement the More Intense Alternative could make the project economically infeasible at this time. Specifically, there would be a need for additional well sites and well improvements, major conveyances, and a third WBA treatment facility. While meeting CVWD objectives, this alternative would result in greater costs. If growth in CVWD's service area is not sufficient to absorb these costs, the alternative may be infeasible.

#### Feasibility of Alternative

The More Intense Alternative is physically feasible, and most or all of its associated impacts could be mitigated. However, the additional costs associated with developing this alternative and uncertainties in how quickly demand will increase makes this alternative infeasible.

### **6.4.3 ALTERNATIVE 3: LESS INTENSE ALTERNATIVE**

The Less Intense Alternative assumes that two WBA wells and the proposed WBA treatment plant planned at the Greg Norman Golf Course would be eliminated from the plan. The Less Intense Alternative would maintain the three existing and one proposed new WBA well sites in the ID8 service area. While this alternative would reduce the extent of WBA well water treatment, it would continue to include the ID8 wells and treatment facility, which are significantly constrained by geological conditions affecting chromium-6 and other contaminant levels in groundwater in this portion of the CVWD service area.

Development under the Less Intense Alternative is the same as for the proposed project, except that high chromium-6 levels in the two non-compliant WBA wells in La Quinta might be mitigated by mixing of supplies already connected to the domestic water system. The feasibility of this means of achieving the 10 ppb chromium-6 threshold is uncertain and would require new conveyance, storage and process. CVWD would need to identify property to construct additional storage and process control facilities in an area of the Coachella Valley where little developable land is available, and land costs are elevated. This alternative would represent a 33 percent decrease in WBA wells and the elimination of one of two WBA treatment sites.

This alternative is driven by two opposing areas of need. In the ID8 area, the availability of potable groundwater is highly constrained by the occurrence of earthquake faults that restrict the movement of groundwater, and increase mineral and metal concentrations in groundwater. Groundwater in the northern portion of the CVWD service area is high in mineral content and is not considered potable. Therefore, CVWD has limited groundwater options in the ID8 and Sky Valley service area.

Conditions in the La Quinta and Thermal areas include widespread agriculture, resort, residential and golf course development, as well as a growing number of middle class and economically disadvantaged neighborhoods. All rely to some degree on groundwater that in some areas has chromium-6 levels as high as 22 ppb. Most agricultural lands and area golf courses are already utilizing canal water and do not rely on groundwater. Also, chromium-6 levels in groundwater are being somewhat diluted by the recharging of the local groundwater at the Thomas Levy Groundwater Replenishment Facility located near the foothills of the Santa Rosa mountains.

Costs associated with the development of the Less Intense Alternative would be somewhat reduced. However, an already impacted population could be required to rely on bottled water for human consumption, while untreated groundwater supplies could continue to be used for bathing and washing. The practicability and cost feasibility of using source mixing to address the WBA-based groundwater supplies would be affected by distance between affected WBA wells, wells with sufficiently low chromium-6 levels, and the availability of suitable sites for additional reservoirs and mixing facilities.

By reducing the application of chromium-6 treatment technologies now, future costs may be greater and access to suitable sites may be reduced. This strategy would give the District less flexibility at a time when substantial projected growth in the La Quinta/Thermal service area is expected. The economy and demographics are changing in the Coachella Valley and CVWD's service area and the southeast portions of the CVWD domestic water service area is expected to see significant future growth.

#### Avoid/Lessen Impacts

As explained in Section 6.5 below,, the Less Intense Alternative will modestly decrease the impacts associated with the proposed project in almost every area of consideration. The impacts associated with this alternative could be mitigated to levels of insignificance through the use of the same mitigation measures set forth in Section 4 of this EIR.

#### Meeting Project Objectives

The Less Intense Alternative would not or would be unlikely to meet all of CVWD's basic objectives for this project. Although there are significant costs associated with the proposed project, the implementation of the Less Intense Alternative would only modestly reduce and probably only defer the costs associated with the proposed chromium-6 project. Specifically, this alternative would leave a sizable existing and future population vulnerable to disproportionate costs associated with providing an alternative source of potable water. While meeting most of CVWD's chromium-6 objectives, this alternative would require an alternative means of providing potable water to all customers in the La Quinta/Thermal area, which is experiencing rapid growth in household formation and other sectors of domestic water demand.

#### Feasibility of Alternative

The Less Intense Alternative includes a reduction in the number of WBA wells to be treated and eliminates one WBA treatment facility. The Less Intense Alternative is physically feasible and its associated impacts can be mitigated. However, the feasibility of securing alternative sources of groundwater that meet the 10 ppb threshold is uncertain and is highly constrained by existing development and a lack of available storage and mixing sites that could serve as an alternative to groundwater treatment.

## 6.5 ALTERNATIVES ANALYSIS

### 6.5.1 Overview

As set forth in section 15126.6 of the State CEQA Guidelines, the purpose of the alternatives analysis is to focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly. CEQA Guidelines Section 15126.6(e)(2) states that if the environmentally superior alternative is the No Project Alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives evaluated. The environmentally superior alternative is generally defined as the alternative that would result in the fewest adverse environmental impacts on the project sites and surrounding areas.

### 6.5.2 Aesthetics

#### Alternative I: No Project Alternative

The No Project Alternative will result in the continuation of existing conditions at each of the project sites. There would be no new facilities at the SBA well sites, and no new treatment facilities at the ID8, La Quinta or WRP-4 area. No long-term aesthetic impacts would occur from the installation of project pipelines. The visual character and quality of surrounding viewsheds, regardless of value, would be unaffected. Under the No Project Alternative, abandonment of currently affected wells could become necessary, and these wells would be held as reserve infrastructure or stranded assets of the District.

#### Alternative II: More Intense Project Alternative

The More Intense Alternative would include one additional WBA treatment facility and six additional WBA wells. The location of the third WBA treatment facility would depend upon the rate of population growth and domestic water demand in areas with groundwater with high levels of chromium-6. The visual impacts associated with development of six additional well sites would likely be associated with development plans for specific projects, and are typically mitigated through the project design review process. The additional wells could occur on sites dedicated to the District through the development process, but not yet built out. These sites would be surrounded by a wall consistent with project walls, as required by each jurisdiction's design review process, and would not impact the visual character of development projects, either existing or future.

A third WBA treatment facility would occupy several acres and would include larger scale facilities than the well sites. These facilities would require sensitive design, screening and landscaping to lessen visual impacts. These design features, however, are typical of the development process in all affected jurisdictions, have been implemented for the WBA treatment sites that are part of the Project, and would not require special conditions or mitigation measures. Similar to the proposed project, aesthetic impacts associated with the More Intense Alternative would be less than significant. However, because more facilities would be constructed, aesthetic impacts associated with the more intense alternative would be marginally greater than the proposed project. Impacts associated with this Alternative would be marginally greater than the Less Intense Alternative, and would have a greater impact than the No Project Alternative.

Alternative III: Less Intense Alternative

The Less Intense Alternative would eliminate one WBA treatment facility and two WBA wells from the La Quinta area. The elimination of a WBA treatment facility would depend upon the ability of the District to mix groundwater containing no or little chromium-6 with water having high levels of chromium-6. The dilution would allow the District to deliver potable water with chromium-6 levels of 10 ppb or less.

A reduction in visual impacts associated with the Less Intense Alternative is largely limited to elimination of the WBA Treatment Facility planned along Airport Boulevard. The subject property is well set back from residences and is along a wide public thoroughfare that provides panoramic views of the mountains to the west. The elimination of this WBA Treatment Facility would result in a modest reduction in visual impacts for nearby residences and for the public traveling on Airport Boulevard as compared to the proposed project. With the elimination of this WBA facility, aesthetic impacts associated with the Less Intense Alternative would be less than significant and slightly less than the proposed project and the More Intense Alternative, and greater than the No Project Alternative.

Summary of Alternatives Analysis

From an aesthetic perspective, the No Project Alternative is environmentally superior to the proposed project and the other project alternatives. The More Intense Alternative could result in greater project impacts than the proposed project, while the Less Intense Alternative would have reduced impacts. Again, it should be noted that there will be no significant impacts to aesthetic resources from implementation and operation of the proposed project.

**6.5.3 Agriculture and Forest Resources**

Alternative I: No Project Alternative

The No Project Alternative will result in the continuation of existing conditions at each of the project sites. There would be no new facilities at the SBA well sites, and no new treatment facilities at the ID8, La Quinta or WRP-4 sites. There will be no changes to existing zoning, land use, or conversion of existing agricultural lands. There will be no impacts to agricultural resources

Alternative II: More Intense Project Alternative

The More Intense Alternative would include one additional WBA treatment facility and six additional WBA wells. The location of the third WBA treatment facility would depend upon the rate of population growth and domestic water demand in areas with groundwater with high levels of chromium-6. The locations of the additional sites are currently unknown.

In comparison to the proposed project, the More Intense Alternative will result in the same potential impacts to agricultural resources associated with SBA wells 6805-1 and 6808-1, and the CRRF and its off-site water pipeline. Any mitigation measures required for the proposed project would also apply to the More Intense Alternative, therefore reducing potential impacts to less than significant levels.

Alternative III: Less Intense Alternative

The Less Intense Alternative would eliminate one WBA treatment facility and two WBA wells from the La Quinta area. However an additional site would be selected for storage and associated pipelines. The location of the additional site is currently unknown. There will be no changes to existing zoning, land use, or conversion of existing agricultural lands.

In comparison to the project, the Less Intense Alternative will result in the same potential impacts to agricultural resources associated with SBA wells 6805-1 and 6808-1, and the CRRF and its off-site water pipeline. Any mitigation measures required for the proposed project would also apply to the Less Intense Alternative, therefore reducing potential impacts to less than significant levels.

#### Summary of Alternatives Analysis

The No Project Alternative is considered environmentally superior from an agriculture and forest resource perspective because there will be no action resulting in changes to existing zoning, land use, or conversion of existing agricultural lands. The project, More Intense Alternative, and Less Intense Alternative have equal potential to impact agricultural resources, assuming the selection of additional alternative sites consistently evaluated impacts to such resources.

#### **6.5.4 Air Quality**

##### Alternative I: No Project Alternative

The No Project Alternative will result in the continuation of existing conditions at each of the project sites. There would be no new facilities at the SBA well sites, and no new treatment facilities at the ID8, La Quinta or WRP-4 sites. Therefore, related construction or operational activities would not occur. There will be no environmental impacts associated with air quality.

##### Alternative II: More Intense Project Alternative

The More Intense Alternative would include one additional WBA treatment facility and six additional WBA wells. The location of the third WBA treatment facility would depend upon where growth in demand occurs, and in the District's access to potable water. For analysis purposes, it was assumed that the new WBA treatment facility and WBA well sites would be similar in size and electricity usage as the existing proposed infrastructure.

#### **Air Quality Plans, Rules, and Regulations**

The More Intense Alternative would be developed in accordance with all applicable air quality management plans. All development within the SSAB is subject to the current SCAQMD Air Quality Management Plan and 2003 PM<sub>10</sub> Coachella Valley State Implementation Plan. These comprehensive plans establish control strategies and guidance on regional emission reductions for air pollutants. While the project could benefit from these strategies and regulations, construction of the project would not prevent the SCAQMD from implementing these actions. The impact to air quality management plans would be less than significant, and consistent with the impacts associated with the project.

#### **Construction**

Construction of the More Intense Alternative will create somewhat greater impacts than those projected for the proposed project. This is due to additional treatment facilities and overall project acreage. For analysis purposes, similar development assumptions (i.e. demolition, grading cut and fill, site acreage) were used for evaluating both the project and More Intense Alternative. The table below shows that SCAQMD daily thresholds will not be exceeded for any criteria pollutant during construction of the More Intense Alternative; however, emissions are slightly higher than those of the proposed project due to an increase in overall acreage, project facilities, paving, and architectural coating surfaces. It should be noted that emissions reflect mitigated conditions, with the same mitigation measures applied to the More Intense Alternative as are applied to the proposed project.

<b>TABLE 6.5.4- 1 MORE INTENSE ALTERNATIVE CONSTRUCTION EMISSIONS SUMMARY MAXIMUM DAILY EMISSIONS (LBS/DAY)</b>						
<b>More Intense Alternative – Mitigated Emissions</b>						
<b>Construction Year</b>	<b>CO</b>	<b>NO<sub>x</sub></b>	<b>ROG</b>	<b>SO<sub>x</sub></b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>
2016	75.98	85.66	11.30	0.14	18.96	7.45
2017	73.37	80.23	10.58	0.10	9.14	6.97
2018	143.40	90.58	73.43	0.24	12.80	7.82
2019	21.37	12.61	73.16	0.03	2.01	1.21
<b>Proposed Project – Mitigated Emissions</b>						
<b>Construction Year</b>	<b>CO</b>	<b>NO<sub>x</sub></b>	<b>ROG</b>	<b>SO<sub>x</sub></b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>
2016	75.98	85.66	11.30	0.14	15.84	7.45
2017	73.37	80.23	10.58	0.10	9.14	6.97
2018	138.76	90.58	67.94	0.24	12.28	7.66
2019	20.93	12.57	67.67	0.03	1.93	1.19
<b>SCAQMD Threshold*</b>	<b>550.00</b>	<b>100.00</b>	<b>75.00</b>	<b>150.00</b>	<b>150.00</b>	<b>55.00</b>
<b>Impact?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>
Source: CalEEMod Version 2013.2. See Appendix B for detailed tables. Value shown represents the average mitigated emissions from summer and winter. Mitigation measures are provided in Section 4 *Source: "SCAQMD Air Quality Significance Thresholds" prepared by South Coast Air Quality Management District, March 2015. Construction thresholds apply to both the South Coast Air Basin and Coachella Valley (Salton Sea and Mojave Desert Air Basins). Thresholds are pounds per day in a single year. Project construction emissions from 2016-2019 are not cumulative.						

### Localized Significance Thresholds

The location of the third WBA treatment facility and new WBA wells has not been determined and would depend upon the rate of population growth and domestic water demand in areas with groundwater with high levels of chromium-6. Therefore, sensitive receptors cannot be identified because the location of the additional facilities is currently unknown. Therefore, impacts will be comparable to the proposed project and less than significant.

### Operation

The table below summarizes the emission projections for criteria pollutants associated with operation at build out of the More Intense Alternative. Under this alternative, air quality emissions will not exceed SCAQMD thresholds for any criteria pollutant during operation. Operation of the More Intense Alternative would generate more criteria pollutant emissions compared to the project, due to increased maintenance and employee commute, and would therefore represent a greater impact, although still less than significant.

<b>TABLE 6.5.4-2: MORE INTENSE ALTERNATIVE OPERATIONAL EMISSIONS OF CRITERIA POLLUTANTS (LBS/DAY)</b>							
<b>CRRF Evaporation Pond Process</b>		<b>CO</b>	<b>NO<sub>x</sub></b>	<b>ROG</b>	<b>SO<sub>x</sub></b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>
	Proposed	6.66	3.52	38.90	0.01	0.55	0.24
	More Intense	7.13	3.64	42.14	0.01	0.61	0.26
	<b>SCAQMD Threshold</b>	<b>550.00</b>	<b>100.00</b>	<b>75.00</b>	<b>150.00</b>	<b>150.00</b>	<b>55.00</b>
	<b>Impact?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>
<b>CRRF Brine Crystallization Process</b>		<b>CO</b>	<b>NO<sub>x</sub></b>	<b>ROG</b>	<b>SO<sub>x</sub></b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>
	Proposed	6.66	3.52	38.90	0.01	0.55	0.24
	More Intense	7.13	3.64	42.13	0.01	0.61	0.26
	<b>SCAQMD Threshold</b>	<b>550.00</b>	<b>100.00</b>	<b>75.00</b>	<b>150.00</b>	<b>150.00</b>	<b>55.00</b>
	<b>Impact?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>
Source: CalEEMod Version 2013.2.2. See Appendix B for detailed tables. Value shown represents average daily unmitigated emission across summer and winter activities.							

### Potential Odors

Construction of the More Intense Alternative has the potential to result in short term odors associated with asphalt paving and use of heavy equipment; however, any such odors would be quickly dispersed below detectable thresholds as distance from the construction site increases. Therefore, this air quality impact would be less than significant.

Operation of the More Intense Alternative would not cause objectionable odors that could affect a substantial number of people, because the project wells would run on electrical power (no direct emissions) and chemicals used for water treatment would be stored in the well facility buildings. In addition, water treatment facilities are not typically a source of odor complaints. Therefore, since there is no odor potential during operation of the More Intense Alternative, this air quality impact would be less than significant.

### Alternative III: Less Intense Alternative

The Less Intense Alternative would eliminate one WBA treatment facility and two WBA wells from the La Quinta area. The elimination of a WBA treatment facility would depend upon the ability of the District to mix lower level chromium-6 groundwater with that having high levels of chromium-6. This alternative could require the construction of additional storage and new pipelines. The appropriate energy demands, building square footage, employee commute, and total acres disturbed were adjusted accordingly to reflect the elimination and addition of the above-mentioned facilities.

### Air Quality Plans, Rules, and Regulations

The Less Intense Alternative would be developed in accordance with all applicable air quality management plans. All development within the SSAB is subject to the current SCAQMD Air Quality Management Plan and 2003 PM<sub>10</sub> Coachella Valley State Implementation Plan. These comprehensive plans establish control strategies and guidance on regional emission reductions for air pollutants. While the project could benefit from these strategies and regulations, construction of the project would not prevent the SCAQMD from implementing these actions. The impact would be less than significant, consistent with that of the project and the More Intense Alternative.

### Construction

Construction of the Less Intense Project Alternative will create reduced impacts compared to those projected for the proposed project, although both remain less than significant. This is due to elimination of the La Quinta WBA treatment facility, two WBA well sites and overall project acreage. For analysis purposes, similar development assumptions (i.e. demolition, grading cut and fill, site acreage) were used for both the project and Less Intense Alternative. The table below shows that SCAQMD daily thresholds will not be exceeded for any criteria pollutant during construction of the Less Intense Alternative, and that emissions are lower than build out of the project. It should be noted that emissions reflect mitigated conditions, with the same mitigation measures applied to the Less Intense Alternative as those proposed for the project.

<b>TABLE 6.5.4-3 LESS INTENSE ALTERNATIVE CONSTRUCTION EMISSIONS SUMMARY MAXIMUM DAILY EMISSIONS (LBS/DAY)</b>						
<b>Less Intense Alternative – Mitigated Emissions</b>						
<b>Construction Year</b>	<b>CO</b>	<b>NO<sub>x</sub></b>	<b>ROG</b>	<b>SO<sub>x</sub></b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>
2016	75.98	85.66	11.30	0.14	12.73	7.45
2017	73.37	80.23	10.58	0.10	9.14	6.97
2018	134.07	89.23	62.45	0.23	11.75	7.50
2019	20.49	12.51	62.18	0.03	1.84	1.17
<b>Proposed Project – Mitigated Emissions</b>						
<b>Construction Year</b>	<b>CO</b>	<b>NO<sub>x</sub></b>	<b>ROG</b>	<b>SO<sub>x</sub></b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>
2016	75.98	85.66	11.30	0.14	15.84	7.45
2017	73.37	80.23	10.58	0.10	9.14	6.97
2018	138.76	90.58	67.94	0.24	12.28	7.66
2019	20.93	12.57	67.67	0.03	1.93	1.19
<b>SCAQMD Threshold*</b>	<b>550.00</b>	<b>100.00</b>	<b>75.00</b>	<b>150.00</b>	<b>150.00</b>	<b>55.00</b>
<b>Impact?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>
Source: CalEEMod Version 2013.2. See Appendix B for detailed tables. Value shown represents the average mitigated emissions from summer and winter. Mitigation measures are provided in Section 4 *Source: "SCAQMD Air Quality Significance Thresholds" prepared by South Coast Air Quality Management District, March 2015. Construction thresholds apply to both the South Coast Air Basin and Coachella Valley (Salton Sea and Mojave Desert Air Basins). Thresholds are pounds per day in a single year. Project construction emissions from 2016-2019 are not cumulative.						

### Localized Significance Thresholds

The location of the new conveyance, storage, and process control facility has not been determined. Therefore, sensitive receptors cannot be identified because the location of the additional facilities is currently unknown. For analysis purposes, it is assumed that site selection would be contingent upon reducing or avoiding significant impacts to sensitive receptors. Therefore impacts will be comparable to the proposed project and less than significant.

### Operation

The table below summarizes the emission projections for criteria pollutants associated with operation at build out of the Less Intense Alternative. Under this alternative, air quality emissions will not exceed SCAQMD thresholds for any criteria pollutant during operation. Operation of the Less Intense Alternative would generate lower criteria pollutant emissions compared to the project due to reduced maintenance and employee commute. This alternative would result in lower impacts than the proposed project.

<b>TABLE 6.5.4-4: LESS INTENSE ALTERNATIVE OPERATIONAL EMISSIONS OF CRITERIA POLLUTANTS (LBS/DAY)</b>							
<b>CRRF Evaporation Pond Process</b>		<b>CO</b>	<b>NO<sub>x</sub></b>	<b>ROG</b>	<b>SO<sub>x</sub></b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>
	Proposed	6.66	3.52	38.90	0.01	0.55	0.24
	Less Intense	6.16	3.40	34.66	0.01	0.48	0.22
	<b>SCAQMD Threshold</b>	<b>550.00</b>	<b>100.00</b>	<b>75.00</b>	<b>150.00</b>	<b>150.00</b>	<b>55.00</b>
	<b>Impact?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>
<b>CRRF Brine Crystallization Process</b>		<b>CO</b>	<b>NO<sub>x</sub></b>	<b>ROG</b>	<b>SO<sub>x</sub></b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>
	Proposed	6.66	3.52	38.90	0.01	0.55	0.24
	Less Intense	6.16	3.40	34.66	0.01	0.48	0.22
	<b>SCAQMD Threshold</b>	<b>550.00</b>	<b>100.00</b>	<b>75.00</b>	<b>150.00</b>	<b>150.00</b>	<b>55.00</b>
	<b>Impact?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>
Source: CalEEMod Version 2013.2.2. See Appendix B for detailed tables. Value shown represents average daily unmitigated emission across summer and winter activities.							

### Potential Odors

Construction of the Less Intense Alternative has the potential to result in short term odors associated with asphalt paving and use of heavy equipment; however, any such odors would be quickly dispersed below detectable thresholds as distance from the construction site increases. Therefore, this air quality impact would be less than significant.

Operation of the Less Intense Alternative would not cause objectionable odors that could affect a substantial number of people, because the project wells would run on electrical power (no direct emissions) and chemicals used for water treatment would be stored in the well facility buildings. In addition, water treatment facilities are not typically a source of odor complaints. Therefore, since there is no odor potential during operation of the Less Intense Alternative, this air quality impact would be less than significant.

### Summary of Alternatives Analysis

From an air quality perspective, the No Project Alternative is environmentally superior because no action would be taken and there would be no emission of criteria pollutants. The More Intense Alternative will generate the highest levels of criteria pollutants at build out, and will have more impacts than the other alternatives and the proposed project. The Less Intense Alternative would result in lower emissions than the project. However, all alternatives, including the proposed project, result in less than significant impacts associated with air quality.

### 6.5.5 Biological Resources

#### Alternative I: No Project Alternative

The No Project Alternative will result in the continuation of existing conditions at each of the project sites. There would be no new facilities at the SBA well sites, and no new treatment facilities at the ID8, La Quinta or WRP-4 facilities. No impacts to biological resources would occur. The character and quality of on-site and surrounding habitats, including those within CVMSHCP Conservation Areas, would be unaffected. Therefore, impacts associated with the No Project Alternative would be less than all other alternatives.

#### Alternative II: More Intense Project Alternative

The More Intense Alternative would add a third WBA treatment facility and six additional WBA wells. The location of the third WBA treatment facility would depend upon the rate of population growth and domestic water demand in areas with groundwater with high levels of chromium-6 and other contaminants. The selection of additional WBA well sites and a third treatment site could also be driven by the limited opportunities for the purchase of land within the District service area affected by chromium-6, and the geologic constraints in the local groundwater basins. If developed in association with larger development master plans, potential impacts to biological resources would typically be mitigated through the project design review process and compliance with all requirements of the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP). The WBA facility could occur outside any CVMSHCP Conservation Area, and would mitigate its impacts to biological resources through consistency with the CVMSHCP and the implementation of the same mitigation measures included in the proposed project. Should it occur in a Conservation Area, the mitigation measures included under the proposed project would apply, and impacts would be equivalent. Biological resource impacts associated with the More Intense Alternative could be mitigated to levels of insignificance but in general would be equal to or greater than those associated with the proposed project.

#### Alternative III: Less Intense Alternative

The Less Intense Alternative would eliminate one WBA treatment facility and two WBA wells from the La Quinta area. The elimination of a WBA treatment facility would depend upon the ability of the District to mix groundwater with no or little chromium-6 with that having high levels of chromium-6. The dilution would allow the District to deliver potable water with chromium-6 levels of 10 ppb or less. This alternative could require the construction of additional storage facilities and new pipelines.

New pipelines would likely occur in existing right of way, and would have no impact on biological resources. If the added storage and mixing facilities were to be developed in association with other development plans, potential impacts to biological resources would typically be mitigated through the project design review process and payment of development impact fees associated with the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP). The storage facilities could occur outside any CVMSHCP Conservation Area, and would mitigate their impacts to biological resources through the payment of these fees and the implementation of the same mitigation measures included in the proposed project. Should they occur in a Conservation Area, the mitigation measures included under the proposed project would apply, and impacts would be equivalent. Therefore, given that the Less Intense Alternative would result in the construction of new storage and pipeline facilities, it is unlikely that this Alternative would reduce project impacts compared to the proposed project.

### Summary of Alternatives Analysis

The No Project Alternative is the environmental superior alternative, since it would have no impact on biological resources. Impacts associated with the other two alternatives and the proposed project would be equivalent, though the type, location and extent of facilities would somewhat differ. Again, it should be noted that there will be no unmitigated significant impacts to biological resources from implementation and operation of the proposed project, with implementation of mitigation measures. Similarly, the Less Intense and More Intense Alternatives would be required to implement the same mitigation measures.

#### **6.5.6 Cultural Resources**

##### Alternative 1: No Project Alternative

The No Project Alternative will result in the continuation of existing conditions at each of the project sites. There would be no new ground disturbance or facilities at the SBA well sites, and no new disturbances or treatment facilities at the ID8, La Quinta or WRP-4 sites. No impacts to cultural resources would occur. The character and quality of on-site and surrounding lands would be unaffected.

##### Alternative II: More Intense Project Alternative

The More Intense Alternative would add a third WBA treatment facility and six additional WBA wells to the proposed project. The location of the third WBA treatment facility would depend upon the rate of population growth, and domestic water demand in areas with groundwater with high levels of chromium-6 and other contaminants. The selection of additional WBA well sites and a third treatment site could also be driven by the limited opportunities for land purchases available within the District service area and the geologic constraints in the local groundwater basins. If developed in association with development plans, potential impacts to cultural resources would typically be mitigated through the site surveys, design review process and implementation of appropriate mitigation plans associated with those development proposals. If developed on lands currently held by the District but undeveloped and outside of proposed development projects, impacts to cultural resources could affect more land than those considered for the proposed project. However, the mitigation measures provided for the proposed project, including the monitoring of ground disturbing activities, would be applied to these sites, resulting in equivalent, and less than significant impacts. Cultural resource impacts associated with the More Intense Alternative would be mitigated to levels of insignificance and would be equal to or greater than those associated with the proposed project, but would be mitigated to less than significant levels.

##### Alternative III: Less Intense Alternative

The Less Intense Alternative would eliminate one WBA treatment facility and two WBA wells from the La Quinta area. The elimination of a WBA treatment facility would depend upon the ability of the District to mix groundwater with no or low levels of chromium-6 with that having high levels of chromium-6. The dilution would allow the District to deliver potable water with chromium-6 levels of 10 ppb or less. This alternative could require the construction of additional storage facilities and new pipelines, in an area that has seen extensive urban development.

New pipelines would likely occur in existing right of way, and would have no impact on cultural resources. The added storage and mixing facilities, if developed in association with development plans, would typically be mitigated through the project design review process conducted under CEQA for those projects. The storage facilities could occur on lands owned by the District but outside development project areas. In this case, impacts to cultural resources would involve more land than considered as part of the proposed project. However, the mitigation measures provided for the proposed project,

including the monitoring of ground disturbing activities, would be applied to these sites, resulting in equivalent, and less than significant impacts. The Less Intense Alternative would have equivalent or somewhat greater impacts than those associated with the proposed project, but these impacts would be mitigated to less than significant levels.

#### Summary of Alternatives Analysis

The No Project Alternative is the environmental superior alternative, since no development would occur and no impacts to cultural resources would result. Impacts associated with the other two alternatives and the proposed project would be roughly equivalent, though the type and extent of facilities would somewhat differ, but both the More Intense and Less Intense Alternatives will result in the disturbance of additional land compared to the proposed project, and the potential for greater impacts to cultural resource. Again, it should be noted that there will be no unmitigated significant impacts to cultural resources from implementation and operation of the proposed project. The Less Intense and More Intense Alternatives would be required to implement the same mitigation measures.

#### **6.5.7 Geology and Soils**

##### Alternative 1: No Project Alternative

Under the No Project Alternative, there would be no ground disturbance at either the existing District properties where facilities are being added, or at the new sites proposed for the CRRF and WBA sites. There would therefore be no potential for the loss of topsoil or soil erosion from wind or water, beyond that which would occur currently. The No Project Alternative would also not result in the construction of facilities in a seismically active area, including the construction of facilities crossing a known earthquake fault, or in areas with a high potential for liquefaction. There would not be any potential for impacts to structures or people as a result of the No Project Alternative. Therefore, impacts associated with geology and soils would be less than those associated with any other alternative.

##### Alternative II: More Intense Project Alternative

The implementation of the More Intense Project Alternative would add a third WBA treatment facility and six additional WBA wells to the proposed project. The location of the third WBA treatment facility would depend upon the rate of population growth, and domestic water demand in areas with groundwater with high levels of chromium-6 and other contaminants. The construction of these additional facilities will result in additional structures of the same type as those analyzed for the proposed project, and would include equivalent soil disturbance seismic hazards, depending on the location of the additional wells and WBA treatment facility. Impacts would, as with the proposed project, result in less than significant impacts, since the same construction techniques and Building Code requirements would apply to these additional facilities. Impacts associated with the More Intense Project Alternative would be equivalent to the proposed project, and would be less than significant.

##### Alternative III: Less Intense Alternative

The Less Intense Alternative would eliminate one WBA treatment facility and two WBA wells from the La Quinta area. The elimination of a WBA treatment facility would depend upon the ability of the District to mix groundwater with no or low levels of chromium-6 with that having high levels of chromium-6. The dilution would allow the District to deliver potable water with chromium-6 levels of 10 ppb or less. This alternative could require the construction of additional storage facilities and new pipelines, in an area that has seen extensive urban development.

The implementation of this alternative could result in the construction of storage facilities and pipelines that would require similar construction activities as those proposed for the proposed project. New facilities, depending on their location, would result in the disturbance of soil, and the construction of structures that would be governed and controlled by current Building Code requirements, including those requirements relating to seismic safety. Impacts associated with this Alternative will result in equivalent, less than significant impacts on geology and soils.

Summary of Alternatives Analysis

The No Project Alternative is the environmentally superior alternative. The No Project Alternative will result in the least impacts, since no development would occur. The More Intense and Less Intense Alternatives would have similar impacts, which would be equivalent to those of the proposed project, insofar as new construction would occur under either alternative. However, as with the proposed project, those impacts would be less than significant.

**6.5.8 Greenhouse Gas**

Alternative 1: No Project Alternative

The No Project Alternative will result in the continuation of existing conditions at each of the project sites. There would be no new facilities at the SBA well sites, and no new treatment facilities at the ID8, La Quinta or WRP-4 sites. Therefore, related construction or operational activities would not occur. There will be no new environmental impacts associated with greenhouse gases.

Alternative II: More Intense Project Alternative

The More Intense Alternative would include one additional WBA treatment facility and six additional WBA wells. Construction of this alternative would generate approximately 3,381.71 metric tons of CO<sub>2</sub>e annually, which is 41.27 metric tons more than construction emissions associated with the project (3,340.44 metric tons per year). This emission level is less than the SCAQMD’s annual 10,000 MT operational threshold; therefore, the construction-related GHG emissions impact is considered less than significant for both the proposed project and the More Intense Alternative.

As shown in Table 6.5.8-1 below, the More Intense Alternative will generate more greenhouse gas emissions than the proposed project under both CRRF process scenarios. The evaporation pond process will not exceed SCAQMD thresholds, however the crystallization process would result in a significant impact. Greenhouse gas emissions offsets could be proposed as mitigation in attempt to reduce the impact significance, however the More Intense Alternative would result in a significant impact with implementation of the Brine Crystallization Process and other components. This impact is greater than the Less Intense Alternative and proposed project, which result in less than significant operational impacts.

<b>TABLE 6.5.8-1 MORE INTENSE ALTERNATIVE TOTAL OPERATIONAL GREENHOUSE GAS EMISSIONS (METRIC TONS/YEAR)</b>		
CRRF Evaporation Pond Process		CO <sub>2</sub> e
	Proposed Project	8,393.88
	More Intense	9,464.55
	<b>Threshold</b>	<b>10,000</b>
	<b>Significant Impact?</b>	<b>No</b>

<b>TABLE 6.5.8-1 MORE INTENSE ALTERNATIVE TOTAL OPERATIONAL GREENHOUSE GAS EMISSIONS (METRIC TONS/YEAR)</b>		
CRRF Brine Crystallization Process		CO2e
	Proposed Project	9,830.55
	More Intense	10,898.61
	<b>Threshold</b>	<b>10,000</b>
	<b>Significant Impact?</b>	<b>Yes</b>
Source: CalEEMod Version 2013.2.2. See Appendix B for detailed tables.		

#### Alternative III: Less Intense Alternative

The Less Intense Alternative would eliminate one WBA treatment facility and two WBA wells from the La Quinta area. The elimination of a WBA treatment facility would depend upon the ability of the District to mix lower level chromium-6 groundwater with that having high levels of chromium-6. This alternative could require the construction of additional storage and new pipelines. The appropriate energy demands, building square footage, employee commute, and total acres disturbed were adjusted accordingly to reflect the elimination and/or addition of the above-mentioned facilities.

Construction of this alternative would generate approximately 3,298.76 metric tons of CO2e annually, which is 41.68 metric tons less than construction emissions associated with the proposed project (3,340.44 metric tons per year). This emission level is less than the SCAQMD's annual 10,000 MT operational threshold; therefore, the construction-related GHG emissions impact is considered less than significant and no mitigation is required.

As shown in Table 6.5.8-2 below, operation of the Less Intense Alternative would generate more than 50% fewer greenhouse gas emissions than the proposed project under both CRRF process scenarios. Neither process would exceed SCAQMD thresholds and mitigation measures are not required. The Less Intense Alternative would result in considerably fewer greenhouse gas emissions than both the More Intense Alternative and proposed project.

<b>TABLE 6.5.8-1 LESS INTENSE ALTERNATIVE TOTAL OPERATIONAL GREENHOUSE GAS EMISSIONS (METRIC TONS/YEAR)</b>		
CRRF Evaporation Pond Process		CO2e
	Proposed Project	8,393.88
	Less Intense	3,203.59
	<b>Threshold</b>	<b>10,000</b>
	<b>Significant Impact?</b>	<b>No</b>
CRRF Brine Crystallization Process		CO2e
	Proposed Project	9,830.55
	Less Intense	4,639.76
	<b>Threshold</b>	<b>10,000</b>
	<b>Significant Impact?</b>	<b>No</b>
Source: CalEEMod Version 2013.2.2. See Appendix B for detailed tables.		

### Summary of Alternatives Analysis

From a greenhouse gas perspective, the No Project Alternative is environmentally superior because no action would be taken, and there would be no additional emission of greenhouse gases. The More Intense Alternative will generate the highest levels of criteria pollutants at build out, resulting in a significant impact, and therefore will have greater impacts than the other alternatives and the proposed project. The Less Intense Alternative would provide the greatest reduction in greenhouse gas emissions compared to the proposed project and the More Intense Alternative. However, both the Less Intense Alternative and proposed project result in less than significant impacts associated with greenhouse gas emissions.

### **6.5.9 Hazards and Hazardous Materials**

#### Alternative 1: No Project Alternative

The No Project Alternative would result in no change in the environment, and no construction at any of the project sites. Under this alternative, there would be no new use of chemicals or other substances, and therefore no potential for release of these substances beyond that which currently is possible at existing well sites. The No Project Alternative would have no impact associated with hazards or hazardous materials.

#### Alternative II: More Intense Project Alternative

The implementation of the More Intense Project Alternative would add a third WBA treatment facility and six additional WBA wells to the proposed project. The location of the third WBA treatment facility would depend upon the rate of population growth, and domestic water demand in areas with groundwater with high levels of chromium-6 and other contaminants. As described in Section 4.9 of this EIR, the construction and operation of the proposed project will result in the use of chemicals, solvents and other materials. The chemical processes involved in the treatment of domestic water will include the use of resin at the WBA treatment facilities. The additional WBA wells will not require the use of chemicals or other hazardous materials, but would include emergency generators.

The impacts associated with hazards and hazardous materials under the More Intense Alternative would be equivalent to those under the proposed project, since the facilities would be the same as those proposed under that alternative. The construction impacts would be equivalent to those described for the project, and the mitigation measures included in this document would be applied to the facilities under this alternative. The WBA well sites would result in six additional emergency generators, which would be subject to the same maintenance and operations regulations as those under the proposed project, including extensive local, regional and state regulations. The resin used at the additional WBA treatment facility would be handled, stored and disposed in the same manner as described for the project. Although implementation of this alternative would result in more facilities on more sites, the impacts would be equivalent to those under the proposed project.

#### Alternative III: Less Intense Alternative

The Less Intense Alternative would eliminate one WBA treatment facility and two WBA wells from the La Quinta area. The elimination of a WBA treatment facility would depend upon the ability of the District to mix groundwater with no or low levels of chromium-6 with that having high levels of chromium-6. The dilution would allow the District to deliver potable water with chromium-6 levels of 10 ppb or less. This alternative could require the construction of additional storage facilities and new pipelines, in an area that has seen extensive urban development.

Under the Less Intense Alternative, the construction of storage and pipeline facilities would be undertaken in the same manner as construction described for the project. Impacts associated with that construction would be subject to the same mitigation measures. The operation of storage facilities would not involve the treatment of domestic water, since under this alternative water with no chromium-6 would simply be mixed with high chromium-6 water sources. There would, therefore, be a marginal reduction in the use of chemicals associated with the operation of this alternative. However, impacts associated with the project are less than significant, as would be impacts under this alternative.

#### Summary of Alternatives Analysis

The No Project Alternative is the environmentally superior alternative. The No Project Alternative would not introduce additional chemicals or other hazardous substances to the environment, and would therefore have no impacts relating to hazardous materials. Both the More Intense and Less Intense Alternatives result in additional construction, and would therefore have impacts equal to those associated with the proposed project during the construction process. For the life of the facilities, the More Intense Alternative would result in a marginal increase in the use of chemicals, as compared to the proposed project, associated with an additional facility, while the Less Intense Alternative would marginally reduce impacts as compared to the proposed project, by eliminating one WBA treatment site.

### **6.5.10 Hydrology and Water Quality**

#### Alternative 1: No Project Alternative

As discussed in Section 4.10 of this EIR, all of the SBA and WBA wells are existing developed wells owned by CVWD. As part of ongoing well operations, SBA and WBA wells are periodically exercised and the pumped water is discharged through onsite blowoff facilities. These blowoff facilities discharge the pumped water either to an onsite beneficial reuse basin for groundwater recharge, or to onsite structures that convey the water to offsite facilities and land uses, such as golf courses, parks and drainage channels. This blowoff process is not anticipated to change at these well sites.

The chromium-6 facilities proposed in the La Quinta area, including the WBA treatment facility site, are located within improved landscaped areas such as the Greg Norman Golf Course; there are no existing stormwater facilities at this site. Rainfall at this site either percolates into the ground or, in the case of extreme storm events, dissipates to the surrounding golf course.

The CRRF site is also currently undeveloped and has been used in the past for agricultural production. There are no surface drainage facilities on this site, and rainfall either percolates into the ground or dissipates by sheet flow to surrounding land. The CRRF site is approximately 1,600 feet west of the CVSC. CVWD is planning the Fillmore Street Irrigation Ditch project that will be located along the Avenue 64 drainage and stormwater channel alignment and adjacent to Fillmore Street. This project is being installed by CVWD to protect WRP-4 from flooding and to convey overland flows from nearby irrigated lands to the CVSC.

The ID8 WBA treatment facility site is currently undeveloped desert land and any rainfall at the site either percolates into the ground or, in the case of extreme storm events, dissipates by sheet flow to the surrounding desert land.

Under the No Project Alternative there would be no increase in runoff, no changes to local or area-wide drainage patterns, and neither groundwater nor surface water quality would be affected.

Alternative II: More Intense Project Alternative

The More Intense Alternative would add a third WBA treatment facility and six additional WBA wells, would increase development on currently vacant lands and would result in a modest increase in surface runoff. The location of the third WBA treatment facility would depend upon where growth in demand occurs, and in the District's access to potable water.

If developed in conjunction with development projects, the potential impacts of this alternative to area drainage and local and regional water quality would typically be mitigated through the site analysis, engineering design and review process for those projects, and the implementation of appropriate retention or detention facilities within these projects. If constructed on lands owned by the District outside of development projects, the facilities proposed under this alternative would be subject to the same NPDES standards as the facilities included in the project, and would be required to conform to those standards, including on-site retention and water quality management planning. The construction of facilities under this alternative would be subject to the same requirements as construction of project facilities, and would be required to implement the same mitigation measures for the reduction of erosion and siltation. Impacts to area drainage and water quality associated with the More Intense Alternative would be equal to or greater than those associated with the proposed project.

As discussed in Section 4.10, drainages in the vicinity of the ID8 site and its proposed treated water pipeline alignment along Dillon Road prompted preparation of a jurisdictional delineation study of these areas. Most of the identified drainages examined were typical of dryland fluvial systems, including sparsely vegetated washes with sand or sand and gravel beds.

Depending on sites selected for additional wells and treatment facilities, the More Intense Alternative could have an equal or greater impact on area drainage and water quality when compared to the proposed project. However, on-site management and that associated with regional drainage and surface water management facilities would reduce impacts to less than significant levels.

Alternative III: Less Intense Alternative

The Less Intense Alternative would eliminate one WBA treatment facility and two WBA wells from the La Quinta area. The elimination of a WBA treatment facility would depend upon the ability of the District to mix lower level chromium-6 groundwater with that having high levels of chromium-6. This alternative could require the construction of additional storage and new pipelines.

Drainage management in the La Quinta area of the project is generally controlled by on-site stormwater detention facilities, and this approach would be applied as necessary to facility sites for the Less Intense Alternative. The construction of facilities under this alternative would be subject to the same requirements as construction of project facilities, and would be required to implement the same mitigation measures for the reduction of erosion and siltation. Impacts to area drainage and water quality associated with the Less Intense Alternative would be equal to those associated with the proposed project.

Summary of Alternatives Analysis

The No Project Alternative is the environmental superior alternative. Impacts associated with the other alternatives and the proposed project would be roughly equivalent though the type and extent of

facilities would somewhat differ. Again, it should be noted that there will be no unmitigated significant impacts to hydrology or water quality from implementation and operation of the proposed project.

#### **6.5.11 Land Use and Planning**

##### Alternative 1: No Project Alternative

The No Project Alternative will result in the continuation of existing conditions at each of the project sites. There would be no new facilities at the SBA well sites, and no new treatment facilities at the ID8, La Quinta or WRP-4 sites. There will be no impacts on existing communities, conflicts with land planning and regulatory programs, or conflicts with habitat conservations plans.

##### Alternative II: More Intense Project Alternative

The More Intense Alternative would include one additional WBA treatment facility and six additional WBA wells. The location of the third WBA treatment facility would depend upon the rate of population growth and domestic water demand in areas with groundwater with high levels of chromium-6. The site selection for the additional facilities will be contingent upon the reduction or avoidance of significant impacts associated with land use and planning. The existing proposed project impacts related to land use and planning would also apply to the More Intense Alternative. The implementation of this alternative would not result in the division of established communities, since facilities would be located on vacant lands in the service area. The additional facilities could occur in a CVMSHCP Conservation Area, and if so located, would be subject to the same mitigation measures as those identified for the ID8 facility. The implementation of these mitigation measures would reduce the impacts associated with conflicts with an existing conservation plan to less than significant level. The implementation of the More Intense Alternative would result in the disturbance of more acreage, but would have equivalent land use impacts as compared to the proposed project.

##### Alternative III: Less Intense Alternative

The Less Intense Alternative would eliminate one WBA treatment facility and two WBA wells from the La Quinta area. This alternative could require the construction of additional storage and new pipelines. The elimination of a LA Quinta WBA treatment facility located on the southern edge of the Greg Normal Golf Course would reduce impacts associated with dividing an established community from “Less Than Significant” to “No Impact.” The construction of storage facilities and pipelines would result in construction of additional facilities in the La Quinta area. These facilities would occur on vacant land, and would not divide an established community. There are no Conservation Areas in the La Quinta area, and therefore there would be no potential for facilities to occur in such an area. Although the Less Intense Alternative would disturb additional acreage, its land use impacts would be equivalent to those associated with the project.

##### Summary of Alternatives Analysis

The No Project Alternative is environmentally superior, since it would not disturb any land, and would not affect a CVMSHCP Conservation Area. Both the More and Less Intense Alternatives would result in equivalent impacts to the proposed project when compared to the project. In all cases, however, land use and planning impacts would be less than significant with the implementation of mitigation measures.

### 6.5.12 Mineral and Energy Resources

#### Alternative 1: No Project Alternative

The No Project Alternative will result in the continuation of existing conditions at each of the project sites. There would be no new demand for fuel or energy, or loss in mineral resources. The No Project Alternative will have no impact on such resources.

#### Alternative II: More Intense Project Alternative

The More Intense Alternative would add a third WBA treatment facility and six additional WBA wells. The location of the third WBA treatment facility would depend upon where growth in demand occurs, and in the District's access to potable water.

#### **Energy**

Based on the current energy demand projections for the WBA treatment facilities (ID8 and La Quinta), adding an additional treatment facility would increase energy demand by 5,500,000-7,500,000 kWh per year. For the WBA well sites, energy demands are typically reduced by approximately 50,000-150,000 kWh per year per well site according to energy demand projections. However the reduction in energy demand created by the six additional WBA wells is minor in comparison to the additional demand created by the WBA treatment facility. Any reduction measures related to fuel or energy proposed for development of the proposed project would also apply to the More Intense Alternative. However, because of the increase in constructed facilities associated with this alternative, impacts to energy resources would be greater than those associated with the proposed project.

#### **Minerals**

The More Intense Alternative proposes additional WBA treatment and well sites. The site selection for the additional facilities will be contingent upon the reduction or avoidance of significant impacts associated with mineral resources. Impacts are not anticipated to be significant, due to the lack of locally important mineral resources recovery sites in the general project area. Impacts are expected to be less than significant. However, due to the increase in overall project acreage, the More Intense Alternative has the potential to increase impacts associated with the loss of mineral resources.

#### Alternative III: Less Intense Alternative

The Less Intense Alternative would eliminate one WBA treatment facility and two WBA wells from the La Quinta area. The elimination of a WBA treatment facility would depend upon the ability of the District to mix lower level chromium-6 groundwater with that having high levels of chromium-6. This alternative could require the construction of additional storage and new pipelines.

#### **Energy**

Elimination of the La Quinta WBA treatment facility and two WBA well sites would reduce overall energy demands by approximately 7,140,000 kWh per year. This alternative would also result in the construction of storage facilities for the mixing of groundwater, which would result in additional equipment associated with pumping. Although specific equipment specifications are not known, it can be assumed that the equipment would be similar to that used at existing well sites. A typical well site uses 530,000 kWh annually. Therefore, the addition of storage facilities could increase energy demand. This increase, however, would be offset by the 7.1 million kWh reduction resulting from the elimination of the WBA wells and treatment facility. Any reduction measures related to fuel or energy proposed for development of the proposed project would also apply to the new facilities required for the Less Intense Alternative. This alternative results in a reduction in energy use of approximately 6.6 million kWh

annually, and would therefore have a lesser impact on energy resources than either the More Intense Alternative or proposed project.

### **Minerals**

Elimination of the La Quinta WBA treatment facility and two WBA well sites would reduce overall project acreage. Some or all of this acreage, however, would be required for the construction of storage facilities. Similar to the proposed project, the Less Intense Alternative would not significantly impact locally important mineral resources, and impacts are expected to be less than significant. Impacts associated with this alternative would be equivalent to the More Intense Alternative, and equivalent to or greater than those associated with the project.

### Summary of Alternatives Analysis

From a mineral and energy perspective, the No Project Alternative is environmentally superior because there will be no added demand for such resources. The More Intense Alternative would result in an increase energy use of 5 to 7 million kWh annually, and therefore would have greater impacts than the proposed project and the other alternatives. The Less Intense Alternative would result in a net reduction of approximately 7.1 million kWh annually from the proposed project, which would represent a lower energy impact. As relates to mineral resources, both the More Intense and Less Intense Alternatives result in some increase in the loss of land as compared to the proposed project, and so could be marginally more impacting than the project. However, all development alternatives would have a less than significant impact on energy and mineral resources, and would not require mitigation.

### **6.5.13 Noise and Vibration**

#### Alternative 1: No Project Alternative

The No Project Alternative would not generate any development, and as a result would not result in any noise beyond that already occurring at existing well sites. Under this alternative, there would be no La Quinta WBA facility, so neither construction nor operational noise in the vicinity of residential receptors, would occur. Other facilities proposed for the project, including the ID8 site and the CRRF site, are proposed in areas with sparse development that would not be disturbed under this alternative. Although impacts associated with noise and the project are less than significant with the implementation of mitigation measures, the No Project Alternative would have the least impact on noise.

#### Alternative II: More Intense Project Alternative

The More Intense Alternative would add a third WBA treatment facility and six additional WBA wells. The location of the third WBA treatment facility would depend upon where growth in demand occurs, and in the District's access to potable water. Under this alternative, construction noise would occur at an additional location which could be in the vicinity of sensitive receptors, particularly residents. This construction activity would result in noise levels equivalent to those described for the proposed project, and would exceed acceptable noise levels. The construction of the WBA facility would be required to implement the same mitigation measures as the project, and would have less than significant impacts on the environment surrounding this added facility. The added facility would also result in an operational noise source at one additional location. The WBA facility, however, would be consistent in terms of design and equipment with the other planned facilities for the project, and would generate identical noise levels, which would result in less than significant impacts to adjacent receptors, if there were any. Therefore, the More Intense Alternative would result in marginally greater noise impacts by adding one location to the project, but the noise impacts would remain less than significant.

Alternative III: Less Intense Alternative

The Less Intense Alternative would eliminate one WBA treatment facility and two WBA wells from the La Quinta area. The elimination of a WBA treatment facility would depend upon the ability of the District to mix lower level chromium-6 groundwater with that having high levels of chromium-6. This alternative could require the construction of additional storage and new pipelines. The elimination of the La Quinta WBA facility would reduce noise levels at that site, both during construction and operation of the facilities. In this regard, the impacts of this alternative would be less than those associated with the project. This alternative would also result in the need for storage facilities in this portion of the District's service area, which could occur at the WBA location or elsewhere. Although the exact type of equipment that would be required at a storage facility is not known, it can be expected that the equipment, and associated noise levels, would be equivalent to those of an active well site. As described in Section 4.13, these noise levels are well within the operational noise thresholds established by La Quinta, should the storage occur there; or the other jurisdictions in this portion of the District's service area. Therefore, it can be expected that the noise impacts associated with this alternative would result in equivalent or somewhat lesser impacts relating to noise, as compared with the project.

Summary of Alternatives Analysis

The No Project Alternative would be the environmentally superior alternative, because no new facilities would be constructed and no new noise would occur. The More Intense Alternative would result in the addition of facilities which would add noise sources, and have a somewhat greater impact on the noise environment as compared to the proposed project. The Less Intense Alternative would add a facility and remove another, and therefore would result in equivalent noise impacts when compared to the project. However, in all cases, the impacts associated with noise remain less than significant with the implementation of mitigation measures for construction activities.

**6.5.14 Population and Housing**Alternative 1: No Project Alternative

The No Project Alternative will result in the continuation of existing conditions at each of the project sites. There would be no new facilities at the SBA well sites, and no new treatment facilities at the ID8, La Quinta or WRP-4 locations. The project does not result in population growth, but instead responds to it. Under this alternative, however, natural population increases occurring in each affected jurisdiction in the project area would not have access to domestic water supplies with acceptable levels of chromium-6. Increased numbers of people would need to rely on bottled water for drinking and cooking. Under this alternative, indirect impacts to greater population in the valley would be more significant than the implementation of the project or any of the alternatives.

Alternative II: More Intense Project Alternative

The More Intense Alternative would add a third WBA treatment facility and six additional WBA wells. The location of the third WBA treatment facility would depend upon where growth in demand occurs, and in the District's access to potable water. Additional treatment facilities and treated wells will not result in a population increase or increase demand for housing. However, the natural increases in population occurring over time would have greater access to treated water, and the District would be able to provide a greater supply of water with low levels of chromium-6 to this increased population. This alternative, therefore, would have lower indirect impacts associated with population growth in the service area as compared to the proposed project.

Alternative III: Less Intense Alternative

The Less Intense Alternative would eliminate one WBA treatment facility and two WBA wells from the La Quinta area. The elimination of a WBA treatment facility would depend upon the ability of the District to mix lower level chromium-6 groundwater with that having high levels of chromium-6. This alternative could require the construction of additional storage and new pipelines. The elimination of treatment facilities and treated wells, or the addition of storage facilities for mixing water will not result in a population increase or increase demand for housing. However, the natural increases in population occurring over time would have the same level of access to treated water under this alternative as it would under the proposed project, and the District would be able to provide water with low levels of chromium-6 to this increased population. This alternative, therefore, would have equivalent indirect impacts associated with population growth in the service area.

Summary of Alternatives Analysis

None of the project alternatives will have a direct impact on population or housing, consistent with the project. However, in this case, the No Project Alternative will have the greatest potential indirect impact, since no treated water would be available to existing or future populations in the service area. Both the More Intense and Less Intense Alternatives would have equivalent and beneficial indirect impacts, since both, and the proposed project, would provide treated water to affected people and households.

**6.5.15 Public Services**

Alternative 1: No Project Alternative

The No Project Alternative will result in the continuation of existing conditions at each of the project sites. There would be no new facilities at the SBA well sites, and no new treatment facilities at the ID8, La Quinta or WRP-4 sites. There would be no additional population increase or demand for public services. Therefore, there will be no impact to these resources.

Alternative II: More Intense Project Alternative

The More Intense Alternative would add a third WBA treatment facility and six additional WBA wells. The location of the third WBA treatment facility would depend upon where growth in demand occurs, and in the District's access to potable water. Additional facilities would marginally increase demand for public services in the event of a fire or request for police services at those sites. Therefore, the More Intense Alternative would result in slightly greater impacts than the proposed project.

Alternative III: Less Intense Alternative

The Less Intense Alternative would eliminate one WBA treatment facility and two WBA wells from the La Quinta area. The elimination of a WBA treatment facility would depend upon the ability of the District to mix lower level chromium-6 groundwater with that having high levels of chromium-6. This alternative could require the construction of additional storage and new pipelines. This alternative would result in no net change in the number of facilities, since the WBA facility would be replaced by a storage facility. Therefore, although the location for public services might change, the impacts associated with this alternative would be equivalent to those of the project.

Summary of Alternatives Analysis

From a public services perspective, the No Project Alternative is the environmentally superior alternative to the proposed Project and the other project alternatives, since there would be no increase in demand for public services. As compared to the proposed project, the More Intense Alternative could

result in a minor increase in demand for emergency services, while the Less Intense Alternative would have reduced impacts. As identified in Section 4.15, impacts associated with public services will be less than significant in all cases.

#### **6.5.16 Recreation**

##### Alternative I: No Project Alternative

The No Project Alternative will result in the continuation of existing conditions at each of the project sites. There would be no new facilities at the SBA well sites, and no new treatment facilities at the ID8, La Quinta or WRP-4 sites. The project has no impact on recreational resources, and this alternative would not impact these resources either.

##### Alternative II: More Intense Project Alternative

The More Intense Alternative would include one additional WBA treatment facility and six additional WBA wells. The location of the third WBA treatment facility would depend upon the rate of population growth and domestic water demand in areas with groundwater with high levels of chromium-6. Additional treatment facilities and treated wells will not result in a population increase or increase demand for recreational resources. Therefore, there will be no impact to these resources.

##### Alternative III: Less Intense Alternative

The Less Intense Alternative would eliminate one WBA treatment facility and two WBA wells from the La Quinta area. The elimination of a WBA treatment facility would depend upon the ability of the District to mix lower level Chromium-6 groundwater with that having high levels of chromium-6. The dilution would allow the District to deliver potable water with Cr-6 levels of 10 ppb or less. Eliminating treatment facilities and treated wells will not result in a population increase or increase demand for recreational resources. Therefore, there will be no impact to these resources.

##### Summary of Alternatives Analysis

Due to the nature of the proposed project and project alternatives, no impacts would occur related to recreation and therefore there would be no differences in impacts between the proposed project and the alternatives. There is no environmentally inferior or superior alternative.

#### **6.5.17 Traffic and Transportation**

##### Alternative 1: No Project Alternative

The No Project Alternative will result in the continuation of existing conditions at each of the project sites and adjacent and nearby roadways and intersection. There would be no new access taken to sites from public roads for construction or operations, and all current operations and maintenance traffic would have the same impacts as they currently generate. No additional impacts to local or regional transportation facilities, including transit and other multi-modal facilities, would occur.

##### Alternative II: More Intense Project Alternative

The More Intense Alternative would add a third WBA treatment facility and six additional WBA wells, would increase development on currently vacant lands and would result in a modest increase in construction and O&M traffic. Construction traffic associated with the improvements necessary at the added WBA facility and the wells would be consistent with construction traffic described in Section 4.17. The same mitigation measures, requiring the implementation of traffic management plans would be applied to this alternative, resulting in less than significant impacts. As noted in Section 4.17, O&M

traffic volumes associated with this project are very low, essentially negligible. The location of the third WBA treatment facility would depend upon where growth in demand occurs and in the District's access to potable water; however, impacts associated with the addition of one WBA facility and associated O&M traffic would be less than significant. Overall, impacts associated with the More Intense Alternative would be equivalent or slightly greater to those of the project, and would be less than significant, as with the project.

Alternative III: Less Intense Alternative

The Less Intense Alternative would eliminate one WBA treatment facility and two WBA wells from the La Quinta area. The elimination of a WBA treatment facility would depend upon the ability of the District to mix lower level chromium-6 groundwater with that having high levels of chromium-6. This alternative could require the construction of additional storage and new pipelines. Based on the assumed alternative treatment method (blending), there would be roughly comparable construction traffic but less O&M traffic associated with this alternative, because of a reduction in overall equipment needs, and associated maintenance. Therefore, the Less Intense Alternative would reduce project impacts to traffic and transportation facilities compared to the proposed project.

Summary of Alternatives Analysis

The No Project Alternative is the environmentally superior alternative as it relates to traffic impacts, since no change in traffic patterns would occur. Impacts associated with construction and operation of the other alternatives and the proposed project would be roughly equivalent and are less than significant (with the implementation of the mitigation measure associated with construction), though the type and extent of facilities and the type and amount of traffic they generate would somewhat differ. Generally, the impacts associated with the More Intense Alternative would potentially be the greatest compared to the proposed project. Again, it should be noted that there will be no unmitigated significant impacts to traffic or transportation systems from implementation and operation of the proposed project.

**6.5.18 Utilities and Service Systems**

Alternative 1: No Project Alternative

The No Project Alternative would not include any construction or additions to existing facilities, and as a result would not generate construction waste or excavated soil, and would therefore have no impact on landfills. This alternative would also not require any additional water for the start up or on going operation of facilities. The No Project Alternative, therefore, will have no impact on utilities or service systems.

Alternative II: More Intense Project Alternative

The More Intense Alternative would add a third WBA treatment facility and six additional WBA wells. The location of the third WBA treatment facility would depend upon where growth in demand occurs, and in the District's access to potable water. Implementation of this alternative would result in construction of an additional WBA facility, and modifications at six existing well sites, which would result in an increase in construction waste generated by the project. However, as with the project, the quantity of construction waste is expected to be small, and local landfills have capacity to accommodate it.

The implementation of this alternative would also result in the need for start up and operational domestic water at one additional WBA treatment facility. As described in Section 4.18, the water

required for start up would range from 1.2 to 1.7 million gallons, which would be continuously recycled, and approximately 1,300 gallons per year for employee facilities such as toilets and water fountains. The processed water would become part of the domestic water supply that the District will use to serve its customers, and would not be in addition to the water demand in the service area.

Overall, the More Intense Alternative would result in one additional treatment facility which would marginally increase the solid waste generation associated with the project, and with domestic water supply for the project. This alternative would have somewhat greater impacts on utilities and service systems.

#### Alternative III: Less Intense Alternative

The Less Intense Alternative would eliminate one WBA treatment facility and two WBA wells from the La Quinta area. The elimination of a WBA treatment facility would depend upon the ability of the District to mix lower level chromium-6 groundwater with that having high levels of chromium-6. This alternative could require the construction of additional storage and new pipelines. Under this alternative, the construction of one facility would be replaced with another, so construction waste generated and requiring disposal would be equivalent to that of the proposed project. The elimination of the WBA treatment facility would reduce the amount of water needed for that facility at start up, but would be expected to be required to fill the storage facility. Therefore, the Less Intense Alternative is expected to have impacts equivalent to those of the proposed project as they relate to utilities and service systems.

#### Summary of Alternatives Analysis

The No Project Alternative would be the environmentally superior alternative, since it would result in no impact to utilities or service systems. The More Intense Alternative would have somewhat greater impacts than the proposed project, while the Less Intense Alternative would have equivalent impacts to the proposed project. However, under all development alternatives, impacts will be less than significant and will not require mitigation.

## **6.6 ENVIRONMENTALLY SUPERIOR ALTERNATIVE**

The CEQA Guidelines Section 15126.6(e) requires that an environmentally superior alternative be identified among the alternatives considered. According to CEQA Guidelines Section 15126.6(e)(2), if the environmentally superior alternative is the No Project Alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives evaluated. The environmentally superior alternative is generally defined as the alternative that would result in the fewest adverse environmental impacts on the project sites and surrounding areas.

In this case, the No Project Alternative is the environmentally superior alternative, insofar as it would result in no direct impacts on the environment. However, the No Project Alternative would not meet any of the project objectives, and would not allow the District to meet State mandates for reduced levels of chromium-6 in potable water. In addition, the No Project Alternative could result in other impacts associated with residents of the District's service area having to either buy or truck in potable water for consumption.

The Less Intense and More Intense Alternatives generally have similar impacts when compared to the proposed project, all of which result in projects with less than significant impacts, with the exception of impacts associated with greenhouse gas emissions. In that case, the Less Intense Alternative, which

would eliminate one WBA treatment facility and replace it with a storage and mixing facility, would result in half the operational greenhouse gas emissions when compared to the proposed project. The Less Intense Alternative would also meet the project objectives, insofar as the storage and mixing of domestic water would still allow the District to provide safe, low or no chromium-6 domestic water for its service area consumers in the La Quinta area. It is important to note that the proposed project and Less Intense Alternatives both result in greenhouse gas emissions that are less than significant, based on SCAQMD thresholds. However, the Less Intense Alternative represents the environmentally superior alternative.